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OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

VOLUME CLVIII.

SEPTEMBER,

1910.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1910.

ERRATA.

969,272, page 27, in heading, assignment, name of assignee, for "Nye and Fredick Company" read *Nye and Tredick Company*.

969,292, page 49, in claim, line 1, for the compound word "nose-head" read *rose-head*.

969,707, page 189, in heading, after residence of inventor insert *assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania*.

969,787, page 242, first claim, line 5, for the word "outlet" read *outer*.

969,858, page 267, in heading, assignment, name of assignee, for "Ventura Alarm Company" read *Venturi Alarm Company*.

970,075, page 342, strike out all after number—heading, drawing, and claims—and insert the word WITHDRAWN.

970,094, page 348, in heading, assignment, name of assignee, for "United Special Machine Company" read *Union Special Machine Company*.

970,195, page 382, in heading, assignment, strike out the words "of fifty one-hundredths."

970,586, page 535, first claim, line 2, before the word "two" insert the article *the*.

970,871, page 635, strike out all after number—heading, drawing, and claims—and insert the word WITHDRAWN.

970,983, page 670, strike out all after number—heading, drawing, and claims—and insert the word WITHDRAWN.

971,007, page 678, in heading, assignment, name of assignee, for "The Union Telegraph Company" read *The Union Lithograph Company*.

971,432, page 845, in heading, assignment, name of assignee, for "R. M. Sunasack" read *R. W. Sunasack*.

CONTENTS.

	Page.
PATENTS AND DESIGNS GRANTED, September 6, 13, 20, 27	3, 235, 489, 709
TRADE-MARKS PUBLISHED AND REGISTERED, September 6, 13, 20, 27	217, 471, 691, 875
LABELS AND PRINTS REGISTERED, September 6, 13, 20, 27	226, 480, 700, 882
DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS, September 6, 13, 20, 27	227, 481, 701, 883
INDEX TO THE DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS	889
ALPHABETICAL LIST OF PATENTEES AND INVENTIONS	i-xliv

ANNOUNCEMENTS.

	Page.
APPLICATIONS—	
Access to pending	2, 488
Condition of pending	2, 234, 488, 706
ATTORNEYS—	
Powers of attorney to be accompanied by appearance in writing	707
DRAWINGS—	
Photographic copies of	487
INTERFERENCE NOTICES—	
Bond's Soap Company, Limited	232
Goodbar, White, Branch & Company	232
H. L. Berry Company, The	232, 486, 706, 888
Hard & Pike	232
Mangis, Luin F	486, 706, 887
Meyberg, Maud	486, 706, 887
Nelson, William Johnson	486, 706, 888
Reed, Walsh & Lange	232
Washburn, George J	486, 706, 888
MAIL-MATTER—	
Regulations relative thereto	1, 233
OFFICIAL GAZETTE—	
Decision leaflets, Trade-mark portion, price of	234, 487, 706
PATENTS—	
List of adjudicated	232, 485, 706, 887
RENEWAL OF FORFEITED CASES	1, 233

Patents Nos. 969,150 to 969,763.

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CONTENTS.

	Page.
ISSUE OF SEPTEMBER 6, 1910	1
REGULATIONS IN RELATION TO MAIL-MATTER	1
RENEWAL OF FORFEITED CASES	1
APPLICATIONS UNDER EXAMINATION	2
ACCESS TO PENDING APPLICATIONS	2
PATENTS GRANTED	3
REISSUES	211
DESIGNS	212
TRADE-MARKS—REGISTRATION APPLIED FOR	217
TRADE-MARKS—REGISTERED	223
TRADE-MARKS CANCELED	225
LABELS AND PRINTS	226
COMMISSIONER'S DECISIONS—	
Ex parte Noyes	227
Landa *v.* Kavle	228
James Chadwick & Brother, Limited, *v.* Fabrique de Soie Artificielle d'Obourg	228
Ex parte Granger	229
DECISIONS OF THE U. S. COURTS—	
Safety Car Heating & Lighting Co. *v.* Consolidated Car Heating Co	230
ADJUDICATED PATENTS	232
INTERFERENCE NOTICES	232

ISSUE OF SEPTEMBER 6, 1910.

Patents	614	No. 969,150 to No. 969,763, inclusive.
Designs	18	No. 40,857 to No. 40,874, inclusive.
Trade-Mark	76	No. 79,383 to No. 79,458, inclusive.
Labels	6	No. 15,313 to No. 15,318, inclusive.
Prints	1	No. 2,637.
Reissues	2	No. 13,149 to No. 13,150, inclusive.
Total	717	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	.....	Ohio	48	4
Arkansas	3	.....	Oklahoma	4	.....
California	23	3	Oregon	6	1
Colorado	19	.....	Pennsylvania	60	4
Connecticut	12	3	Rhode Island	3	.....
Delaware	.....	.....	South Carolina	3	.....
Florida	1	1	South Dakota	4	.....
Georgia	2	1	Tennessee	5	.....
Idaho	3	.....	Texas	13	1
Illinois	41	3	Utah	.....	.....
Indiana	13	.....	Vermont	3	.....
Iowa	14	.....	Virginia	4	1
Kansas	9	.....	Washington	6	1
Kentucky	3	2	West Virginia	5	2
Louisiana	3	1	Wisconsin	15	1
Maine	5	1	Wyoming	1	.....
Maryland	6	9			
Massachusetts	31	9	Alaska, District of	.....	.....
Michigan	11	2	Arizona Territory	1	.....
Minnesota	12	.....	District of Columbia	5	.....
Mississippi	2	.....	Hawaii Territory	1	.....
Missouri	23	3	New Mexico Ter't'y	3	.....
Montana	1	.....	Panama	.....	.....
Nebraska	5	.....	Philippine Islands	.....	.....
Nevada	1	.....	U. S. Army	.....	.....
New Hampshire	5	.....	U. S. Navy	.....	.....
New Jersey	24	3			
New York	104	15	Total to citizens of the United States	572	71
North Carolina	2	.....			
North Dakota	2	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	.....	.....	Netherlands	1	.....
Austria-Hungary	2	1	Newfoundland	.....	.....
Belgium	3	.....	New South Wales	.....	.....
Brazil	1	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	12	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	1	.....
Chile	.....	.....	Russia	.....	.....
China	.....	.....	Scotland	4	.....
Colombia	1	.....	South Australia	.....	.....
Costa Rica	.....	.....	Spain	.....	.....
Cuba	.....	.....	Sweden	1	1
Denmark	1	.....	Switzerland	.....	.....
Ecuador	.....	.....	Tasmania	.....	.....
England	13	3	Transvaal, South Africa	.....	.....
France	3	2	Victoria	1	.....
Germany	16	3	Western Australia	.....	.....
Ireland	.....	.....			
Italy	.....	.....	Total to citizens of foreign countries	60	12
Japan	.....	1			
Mexico	.....	1			

Regulations in Relation to Mail-Matter.

In order to insure the ready identification of the division from which mail-matter emanating from this Office was sent, and the prepayment of any foreign postage thereon, as well as to prevent the retention for general delivery in the post-office of the city of any wrongly-addressed letter when this Office could supply a fuller or more accurate address, it is directed that the following regulations be observed with reference to all mail-matter forwarded from this Office:

Each envelop forwarded from any division will be stamped or marked in the upper left-hand corner with the division number or letter, as the case may be.

Each envelop addressed to a foreign country must be forwarded to the mail-room and the proper stamps affixed thereto before mailing.

Such mail as is to be delivered in this city shall be directed "Washington, D. C." If a letter addressed to a person in this city and not marked for general delivery be returned to this Office, it will be promptly remailed with an accurate and full local address supplied, if possible. In remailing, the envelop should be marked or stamped "Hold in General Delivery," but no envelop should be thus marked until the address thereon is as full and accurate as the Office can supply. A letter to a person in this city will not be filed "Undelivered" until it is returned to this Office in an envelop thus addressed and marked.

Renewal of Forfeited Cases.

A petition for the renewal of a forfeited application need not be signed by the inventor or assignee, but may be signed by the attorney.

A power of attorney in the original application authorising an attorney to transact all business in the Patent Office in connection with the application construed to be of sufficient scope to include the signing of a petition for renewal and the subsequent prosecution of the application. (*Ex parte Agee*, 101 O. G., 1609.)

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business August 30, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	July 28	July 28	274
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	July 25	July 15	182
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Sept. 1	Aug. 17	167
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	July 20	July 18	416
167	5. Bookbinding; Harvesters; Jewelry; Music.	June 3	June 16	507
315	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	July 5	July 27	279
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	July 12	July 11	452
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Aug. 1	Aug. 4	273
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	June 1	July 15	421
235	10. Carriages and Wagons	July 1	July 8	504
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	July 15	July 13	290
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	July 9	July 14	617
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	June 16	July 7	551
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	July 25	July 21	317
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	July 1	July 14	560
109	16. Telegraphy; Telephony	June 16	June 23	255
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	July 18	July 27	209
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	July 18	July 15	266
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	July 7	July 26	387
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Aug. 1	July 27	195
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	July 5	July 12	350
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	May 3	July 1	560
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	July 7	July 1	406
144	24. Apparel; Apparel Apparatus; Electricity, Medical and Surgical; Sewing-Machines; Surgery.	July 6	July 5	617

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Aug. 3	Aug. 12	100
106	26. Electricity, Generation; Motive Power.	July 1	July 8	171
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Aug. 1	Aug. 1	288
65	28. Internal-Combustion Engines	July 1	July 8	448
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	July 15	July 15	304
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	July 5	July 15	382
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Aug. 1	July 26	186
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	July 8	July 15	208
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	July 6	July 12	344
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	July 13	July 20	388
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Aug. 1	Aug. 1	509
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	June 21	July 14	581
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	June 30	July 2	442
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	June 24	July 15	501
321	39. Water Distribution	June 21	June 20	294
220	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	July 30	July 30	372
126	41. Railway Draft Appliances; Resilient Tires and Wheels.	May 6	June 25	523
279	42. Electric Railways; Electric Signaling; Railway Signaling; Signals.	May 26	May 29	639
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	July 2	July 11	272

Oldest new case, May 3; oldest amended, May 29.
Total number of applications awaiting action..... 16,212

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	July 20	Aug. 8	753
	Designs	Aug. 1	Aug. 18	86
	Labels and Prints	Aug. 20	Aug. 29	18

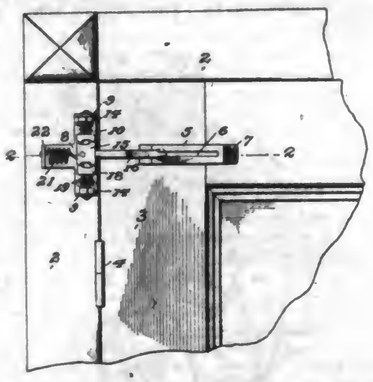
Access to Pending Applications.

Hereafter no person except the applicant, the assignee whose assignment is of record, or the attorney of record will be permitted to have access to the file of any application, except as provided for under the interference rules, unless written authority from the applicant, assignee, or attorney, identifying the application to be inspected, is filed in the case to become a part of the record thereof, or upon the written order of the Commissioner, which will also become a part of the record of the case.

PATENTS

GRANTED SEPTEMBER 6, 1910.

969,150. DOOR CHECK AND CLOSER. FREDERICK E. ANDERSEN, Red Wing, Minn. Filed Mar. 29, 1909. Serial No. 486,439.



1. In a door check and closer, the combination with a base plate adapted to be attached to a door frame and a supporting member thereon, of relatively stationary and rotatable contact members mounted on the supporting member, and provided with co-acting cam faces, means for resiliently urging one of said contact members against the other contact member, an arm on the rotatable member adapted to engage the face of a door, and a spring resisting the rotation of the rotatable member in one direction and by its reaction causing the rotation of said member in the reverse direction to close the door.

2. A door check and closer comprising, in combination, a base, a fixed shaft mounted therein, a rotatable sleeve on said shaft having an arm engaging with a door, said sleeve having opposed cam faces on the ends thereof, of opposed longitudinally yielding contact members engaging with said cam faces, springs for forcing said contact members into engagement with the sleeve, means for regulating the tension of said springs and means for yieldingly resisting the opening of the door and acting to close it.

3. In a door check and closer, the combination with a base, a fixed shaft mounted therein, a rotatable sleeve on said shaft and having an arm projecting therefrom and engaged with a door, said sleeve having opposed cam faces on its ends, of opposed longitudinally yielding contact members surrounding the shaft and having cam faces formed on their inner ends adapted to engage with the cam faces of the sleeve, springs for forcing said contact members into engagement with the sleeve, nuts on the shaft for regulating the tension of the springs and means for yieldingly resisting the opening of the door and acting to close it.

4. In a door check, a base plate, a transverse shaft mounted on the base plate, a rotatable member having a cam face on the end thereof and mounted on said shaft, an arm projecting from the member and engaged with a door, a contractile spring fast at one end to said base and at its other end engaged with said rotatable member and acting to resist the rotation thereof in one direction and by its reaction causing the rotation of said member in a reverse direction, a nonrotatable contact member mounted upon said shaft and engaged against the cam-faced end of the rotatable member, and a spring forcing the said nonrotatable contact member into engagement with the rotatable member.

5. In a door check, the combination with a base having outwardly turned ends, a fixed shaft mounted in the base and screw-threaded at its ends, and a rotatable sleeve mounted on the middle of said shaft and having cam faces on its ends, of an arm projecting from the sleeve adapted to engage at its other end with a door, opposed contact members longitudinally movable on the shaft and having inner cam faces adapted to engage with the cam faces of the sleeve, springs surrounding the shaft and forcing said contact members inward against the ends of the rotatable member, and nuts on the screw-threaded portions of the shaft and bearing against the ends of said springs for regulating the tension thereof.

[Claims 6 to 8 not printed in the Gazette.]

969,151. FUEL-CARTRIDGE. THOMAS D. BAUSHER, Reading, Pa. Filed Jan. 10, 1910. Serial No. 537,300.



A longitudinally elastic fuel cartridge of cylindrical form, made of a series of loosely woven wire strands forming an open mesh, the free ends of said wire strands being located at the open end, said cartridge being closed at one end which closed end is semi-spherical in form, and whose open end may be closed by joining together the free ends of the wire strands, a binder for tying said free ends together in closed position and a filler composed of combustible fuel particles of varied sizes.

969,152. RAILWAY-TRACK CONSTRUCTION. JOSEPH W. BLOWER, Columbus, Ohio. Filed Jan. 10, 1910. Serial No. 537,134.

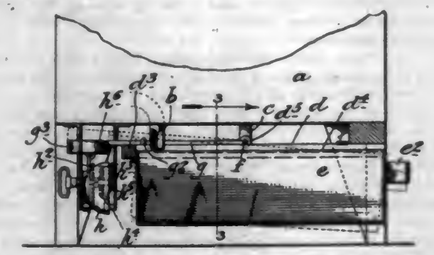


In a railway track construction, the combination with a tie, formed of a section of track rail, the tread portion of said rail being horizontally split longitudinally for the short distance from each end thereof, said split portions being turned back to form hoop portions, openings formed vertically through the said tread portion, said openings being longitudinally spaced a suitable distance from said hoop portions, that portion of the web of the rail at the base of each of said openings being beveled, and split spikes adapted to pass through the said tread portion and to have their lower portions spread by contact with said beveled portions of the web, substantially as shown and described.

969,153. DRIP-ALARM DEVICE FOR REFRIGERATORS. EDWARD J. BROPHY, Brooklyn, N. Y. Filed Nov. 18, 1908. Serial No. 463,241.

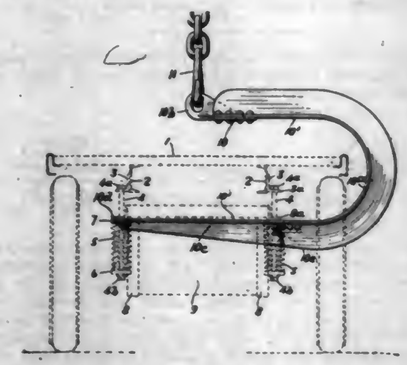
1. A drip alarm for refrigerators comprising a frame, means for pivoting said frame beneath the bottom of a refrigerator and whereby said frame is adapted to swing

vertically, a drawer mounted in said frame and removable therefrom and forming a drip pan, said frame being adapted to be tilted when a predetermined amount of water enters said pan, a mechanical alarm device supported rearwardly of said frame beneath the refrigerator and provided with a releasing arm for normally holding said device out of operation, and devices connected with said frame and resting on said arm when said frame is in its normal position to hold the arm in locking position with respect to the alarm mechanism and released from said arm when said frame is tilted.



2. The combination with a refrigerator of a drip alarm apparatus comprising a frame pivoted to the bottom of the refrigerator and adapted to swing vertically, a drawer mounted in said frame and removable therefrom and forming a drip pan, said frame being adapted to be tilted when a predetermined amount of water enters said pan, a mechanical alarm device supported rearwardly of said frame beneath the refrigerator and provided with a releasing arm for normally holding said device out of operation, and devices connected with said frame and resting on said arm when said frame is in its normal position to hold the arm in locking position with respect to the alarm mechanism and released from said arm when said frame is tilted.

969,154. BATTERY-TRANSFER MECHANISM. TRACY V. BUCKWALTER, Altoona, Pa. Filed Dec. 9, 1909. Serial No. 532,206.



1. In a battery transfer mechanism, the combination of a battery frame having oppositely extending members projecting from ends thereof, with a yoke having arms which are adapted for engaging said projections.

2. In a battery transfer mechanism, a frame having a substantially U-shaped member at the top thereof, said member having parts projecting beyond the ends proper of the frame required for holding the battery.

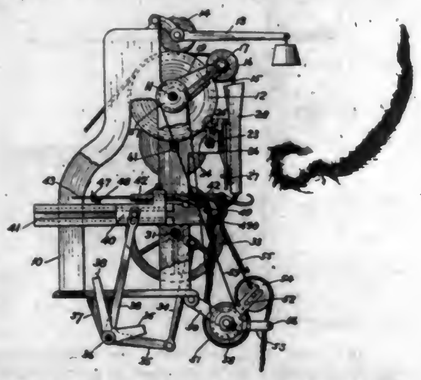
3. In a battery transfer mechanism, a frame having a member provided with an outwardly extending flange containing an outwardly opening slot, in combination with a suspending member passing through said slot and means carried by said member upon which said flange rests.

4. In a battery transfer mechanism, a frame having projecting parts respectively comprising an outwardly extending flange containing an outwardly extending slot, suspending members passing through the respective slots, and a yoke adapted for engaging said projecting parts.

5. In a battery transfer mechanism, a yoke comprising a pair of bows having members diverging from a connection and substantially parallel members extending oppositely to the direction of said members first named, in combination with a battery frame having members adapted for the engagement of said bows.

[Claims 6 and 7 not printed in the Gazette.]

969,155. MACHINE FOR LINKING WARPS. GEORGE B. COCKER, Philadelphia, Pa. Filed Nov. 13, 1908. Serial No. 462,380.



1. In a machine for linking warps, the combination with the warp link-forming mechanism, of a positively actuated feed-drum, positively actuated delivery means in advance of the feed drum tending to deliver the warp to the link-forming mechanism at a higher speed than the feed-drum is adapted to feed to the delivery roller, and means coacting with the feed-drum to control the feed of the warp therefrom.

2. In a machine for linking warps, the combination with a feed-drum, of a delivery roller in advance of the feed-drum, means to actuate the delivery roller and the feed-drum, a tension roller between which and the feed-drum the warp is fed toward the delivery roller, and link-forming mechanism adapted to receive the warp from the delivery roller.

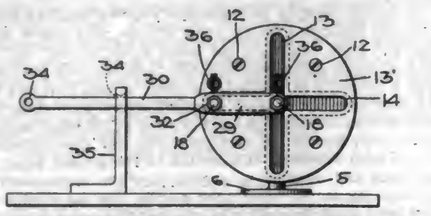
3. In a machine for linking warps, the combination with feeding mechanism, of linking-needle mechanism, a tube adapted to receive warp from the feed mechanism and deliver it to the linking-needle mechanism, said tube gradually decreasing in width substantially throughout its length from its upper to its lower end, and means to reciprocate said tube horizontally.

4. In a machine for linking warps, the combination with feeding mechanism, of linking-needle mechanism, a tube adapted to receive warp from the feed mechanism and deliver it to the linking-needle mechanism, means to reciprocate the tube in a substantially right line horizontally the distance between opposite walls of the tube in the direction in which the same is adapted to reciprocate gradually increasing from its lower part to its receiving mouth.

5. In a machine for linking warps, the combination with feeding mechanism, of linking-needle mechanism, a tube adapted to receive warp from the feed mechanism and deliver it to the linking-needle mechanism, and means to reciprocate said tube horizontally, said tube having a receiving mouth of a width in the direction of its reciprocation, substantially equal to the length of its reciprocating movement, and relatively narrow measured in a direction at right angles thereto.

[Claims 6 to 11 not printed in the Gazette.]

969,156. TRAMMEL. ANDREW B. COOPER, Okdee, Okla. Filed Oct. 22, 1909. Serial No. 524,068.



1. The combination with a supporting standard, of a drive shaft, a disk carried by said shaft, a face plate having two splayed slots of equal length crossing each other at right angles, a pitman, two pins extending from said pitman each having an enlarged head and a central bore with two lateral outlets, two frusto-conical wiper rollers held upon each pin and reciprocating within said slots, one of said lateral outlets emptying between said rollers, a collar carried upon each pin, nuts upon each pin to clamp said pitman head against said collars, and oil cups carried by said pitman and communicating with said remaining lateral outlet.

2. The combination with a supporting standard, of a drive shaft, a disk carried by said shaft, a face plate detachably secured to said disk and having two splayed slots crossing each other at right angles and terminating short of the peripheral edge of the face plate, a pitman, two pins detachably secured to said pitman, each of said pins having an enlarged head, frusto-conical wiper rollers rotatably journaled on said pins and retained in position over said enlarged heads, said pins also having a central bore communicating with said rollers and oils cups carried by said pitman and having connection with said bores.

969,157. FLOOR-SWEEP. FRANCIS H. DAY, Minneapolis, Minn. Filed Dec. 7, 1908. Serial No. 466,298.



1. The combination, with an upright pipe extending through the floor of a building and having an open lower end for the discharge of relatively heavy material and having an opening in its wall opposite said floor, through which mixed grain, dust and light material may be swept from said floor through said opening into said pipe, of means for creating an upward current of air through said pipe in the opposite direction to the flow of relatively heavy material therethrough to carry off light material separated from the heavy material, substantially as described.

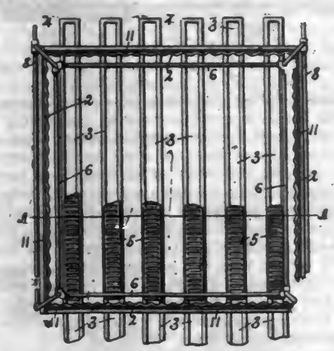
2. The combination, with an upright pipe extending through one or more floors of a building and having an open lower end for the discharge of relatively heavy material and having an opening in its wall opposite each of said floors, through which mixed grain, dust and light material may be swept from any floor through the corresponding opening into said pipe, of means for creating an upward current of air through said pipe in the opposite direction to the flow of the relatively heavy material, and means for closing each of said openings, substantially as described.

3. The combination, with an upright pipe extending through one or more floors of a building and having an open lower end for the discharge of relatively heavy material and means for introducing mixed material, such as grain and dust, into said pipe, of means for creating an upward current of air through said pipe in the opposite direction to the flow of the relatively heavy material, whereby the grain or heavier material falls through the open lower end of the pipe while the dust and light material is removed in the opposite direction by the upward current of air, substantially as described.

4. The combination, with an upright pipe extending through several floors of a building, and having an open lower end for the discharge of relatively heavy material, and means located opposite each floor for sweeping into said pipe mixed material, such as grain and dust, of means for creating an upward current of air through said pipe in the opposite direction to the flow of the relatively heavy material, whereby the grain or heavier material will drop through the open lower end of the pipe while the dust or light material is carried away in the opposite direction by the upward current of air, substantially as described.

5. The combination, with an upright pipe having an open lower end for the discharge of relatively heavy material, and having an opening in its wall for sweeping into said pipe, mixed material, such as grain and dust, of means for creating an upward current of air through said pipe in the opposite direction to the flow of the relatively heavy material whereby the grain or heavier material will drop through the open lower end of the pipe, while the dust and light material is carried away by the upward current of air, substantially as described.

969,158. SAWMILL-REFUSE BURNER. ARTHUR B. DIPLOCK, North Vancouver, British Columbia, Canada. Filed May 7, 1910. Serial No. 559,892.



1. As a burner or destructor for saw mill refuse, an inclosure walled with corrugated sheet metal, means for delivering water on the walls, and trenches extending across the ground surface which is inclosed by the wall, said trenches being extended laterally beyond the walls.

2. As a means for the purpose specified, a wall inclosure of corrugated sheet metal the corrugations of which are vertically arranged, a water pipe located at the top of the walls said pipe being perforated to deliver a spray against them, trenches formed of brick extending across the surface of the ground which is inclosed by the walls said trenches being extended laterally beyond the walls, and gratings over the trenches within the inclosure.

3. As a means for the purpose specified, a walled inclosure of corrugated sheet metal, means for spraying

water against the inner surface of the walls, relatively narrow trenches formed of brick across the bottom of the inclosure and extending laterally beyond its walls the lower part of said trenches being lined with sheet metal.

4. As a means for the purpose specified, a walled inclosure of corrugated sheet metal forming a combustion chamber, metal bars extending across the corrugations on the outside which bars are secured at intervals to the corrugated sheet metal, means for spraying water against the inner surface of the walls and means for delivering air to the ground area within the inclosure.

969,159. METHOD OF TREATING GLYCERIN. SAMUEL HENRY FLEMING, Camden, N. J., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed May 27, 1909. Serial No. 498,749.

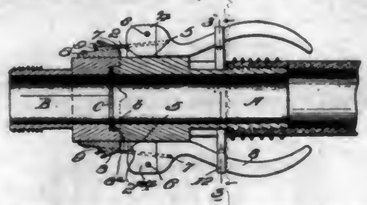
1. The hereinbefore described method of treating glycerin, which consists in mixing with the glycerin an acetate and subjecting the mixture to heat.

2. The hereinbefore described method of treating glycerin, which consists in mixing with the glycerin an acetate, and subjecting the mixture to heat, the acetate being in quantity from one-half to one per cent. of the weight of the glycerin.

3. The hereinbefore described method of treating glycerin, which consists in mixing with the glycerin sodium acetate, and subjecting the mixture to heat.

4. The hereinbefore described method of treating glycerin, which consists in mixing with the glycerin sodium acetate, and subjecting the mixture to heat, the sodium acetate being in quantity from one-half to one per cent. of the weight of the glycerin.

969,160. HOSE-COUPLING. JOSEPH H. HARDY, Ipswich, Mass. Filed Sept. 7, 1909. Serial No. 516,335.

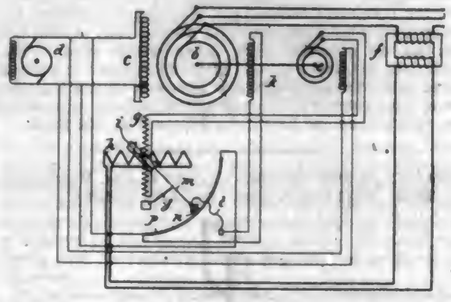


1. A hose coupling consisting of opposed pipe sections, one having a socket and the other an end fitting in said socket, one of said sections being provided with opposed ears, the rear edge of each ear being provided with a plurality of notches, the other of said sections having opposed clamping levers pivoted thereon, each lever having an enlarged head pivoted at its outer margin to the pipe section, and an elongated bail freely pivoted to the head, rearward and inward of the pivotal point of the head, and adapted to engage over the corresponding notched lug of the other pipe section, the inner edge of said head being straight and adapted to engage along its entire extent with the face of the pipe section when the lever is turned into its retracted position.

2. A hose coupling consisting of opposed pipe sections, one having a socket and the other an end fitting in said socket, one of said sections being provided with opposed ears, the rear edge of each ear being provided with a plurality of notches, the other of said sections having opposed clamping levers pivoted thereon, each lever having an enlarged head pivoted at its outer margin to the pipe section, and an elongated bail freely pivoted to the head, rearward and inward of the pivotal point of the head, and adapted to engage over the corresponding notched lug of the other pipe section, the inner edge of said head being straight, and adapted to engage along its entire extent with the face of the pipe section when the lever is turned into its retracted position, the end of the clamping lever beyond the head being outwardly curved, and opposed clamping fingers located on the pipe section and adapted to resiliently clasp the levers when they are turned against the pipe.

3. A pipe coupling including two opposed coupling members, the adjacent ends of which are enlarged, one of said enlarged ends fitting in the other enlarged end, one of said members being provided with opposed ears provided with a plurality of notches, the other of said members being provided with opposed clamping levers, each clamping lever having an enlarged head pivoted at its outer margin to the pipe section, an elongated oval bail freely pivoted to the head rearward and inward of the pivotal point of the head and adapted to engage over the corresponding notched lug on the other pipe section, the inner edge of said head being straight and adapted to engage along its entire length with the face of the pipe section when the lever is turned into its retracted position, the end of each clamping lever beyond the head being outwardly curved and extending beyond the enlarged end of the coupling section, and clamping fingers projecting from the reduced portion of the coupling section and adapted to resiliently engage said clamping levers, when they are turned into their retracted position.

969,161. DYNAMO. LOUIS ANTHYME HEBDT, Montreal, Quebec, Canada, assignor of one-half to Julien Dalemont, Montreal, Canada. Filed Dec. 19, 1908. Serial No. 468,297.



1. The combination with an alternator and exciting means therefor, of means maintaining a current in such exciting means, means generating no-load electro-motive-force proportional to the electro-motive-force of the alternator when the said alternator is carrying no load, and means varying such exciting current in proportion to the angle between the said no-load electro-motive force and the load current.

2. The combination with an alternator and exciting means therefor, of means maintaining a current in such exciting means, means generating no-load electro-motive-force proportional to the electro-motive-force of the alternator when the said alternator is carrying no load, and automatic means varying such exciting current in proportion to the angle between the said no-load electro-motive force and the load current.

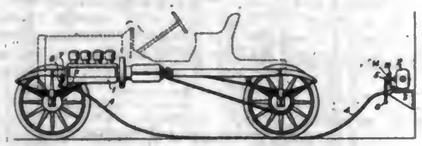
3. The combination with a three phase alternator an exciting coil therefor, and means maintaining a direct current in such exciting coil, of means generating no-load electro-motive force proportional to the electro-motive-force of the alternator when the said alternator is carrying no load, and means automatically varying the exciting current proportionally to the angle between the load current and the said no-load electromotive force of the alternator.

4. The combination with a three phase alternator an exciting coil therefor, and means maintaining a direct current in such exciting coil, of means generating no-load electro-motive-force proportional to the electro-motive-force of the alternator when the said alternator is carrying no load, and means automatically carrying the exciting current proportionally to the load current and the angle between the said load current and the said no-load electromotive force of the alternator.

5. The combination with a three phase alternator, exciting coils on the magnet cores thereof, and means maintaining a direct current in such exciting coils, of means generating no-load electro-motive-force proportional to the electro-motive-force of the alternator when the said alternator is carrying no load, and means automatically varying the exciting current proportionally to the load current and the angle between the said load current and the no-load electromotive force of the alternator.

[Claims 6 to 8 not printed in the Gazette.]

969,162. ENGINE-STARTING DEVICE. PERCY W. HODGKINSON, Rochester, N. Y., assignor of one-half to Joseph Dupont, Rochester, N. Y. Filed Mar. 3, 1910. Serial No. 547,172.



1. An engine-starting device having, in combination with a stationary source of energy and a vehicle provided with a non-self-starting engine, flexible means for connecting the source of energy with said engine to supply energy for starting the engine, said means comprising a coupling separable by the movement of the vehicle away from the source of energy.

2. An engine-starting device having, in combination with a stationary source of power and a vehicle provided with a non-self-starting engine, flexible mechanical connections for connecting the source of power with said engine to actuate the engine, said means comprising a coupling separable by the movement of the vehicle away from the source of power.

3. An engine-starting device having, in combination with a stationary source of power, flexible means for connecting the source of power mechanically with the engine of a motor-vehicle to actuate the engine, said means comprising a coupling automatically separable upon a tendency in the engine to run faster than it is driven by said source of power.

4. An engine-starting device having, in combination with a stationary source of energy, flexible means for connecting the source of energy with the engine of a motor-vehicle to supply energy for starting the engine, and means operating automatically to deënergize said connecting means upon the attainment of a predetermined speed by the engine.

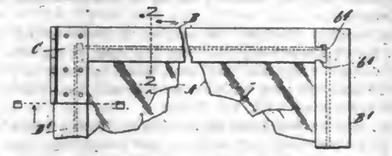
5. An engine-starting device having, in combination with a stationary source of energy, flexible means for connecting the source of energy with an engine of a motor-vehicle to supply energy for starting the engine, said means comprising a coupling separable by the movement of the vehicle away from the source of energy, and means operating automatically to deënergize said connecting means upon the attainment of a predetermined speed by the engine.

[Claims 6 to 9 not printed in the Gazette.]

969,163. PANEL CONSTRUCTION. DAVID E. HUNTER, Cambridge, Mass., assignor to Library Bureau, Boston, Mass., a Corporation of New Jersey. Filed Oct. 20, 1909. Serial No. 523,571.

1. In combination, a panel piece, a channeled frame engaging the edges of the panel piece, an adhesive packing within the channel of the frame in contact with one surface of the panel piece, and a spring between the wall of the channel and the adhesive packing adapted to press the latter into close frictional engagement with said panel piece.

2. In combination, a panel piece, a channeled frame engaging the edges of the panel piece, an adhesive packing on each side of the panel piece within the channel of the frame in contact with both surfaces of the panel piece, and a spring between the wall of the channel and one of the adhesive packings adapted to press said packings into close frictional engagement with said panel piece.



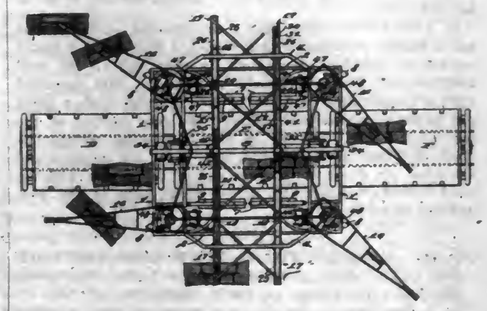
3. In a panel construction, a panel piece, and a pair of channel metal frame members, each comprising a pair of webs or walls overlying and embracing the panel piece at its border and lying substantially parallel thereto, and connected by a transverse web extending across the edge of the panel piece, one at least of said webs overlying the border of the panel piece being formed into a dovetail tenon at its end and the adjacent web of the other frame member having therein near its end a mortise engaging said tenon, the mortise and tenon corner-joint thereby formed adapted to be separated when the panel piece is removed by moving said frame members relatively in a direction perpendicular to the plane of the frame formed by said members, and said panel piece adapted to hold said mortise and tenon in interlocked relation when the parts are assembled.

4. In a panel construction, a pair of channeled frame members each having a face wall forming one of the legs of the channel and extending in the opposite direction beyond the web forming the bottom of the channel, the face walls of one of said frame members formed into a dovetail tenon and the face wall of the other of said frame members provided with a corresponding dovetail mortise, said mortise and tenon forming a corner joint between said members.

5. In a panel construction, a pair of channeled frame members each having a face wall forming one of the legs of the channel and extending in the opposite direction beyond the web forming the bottom of the channel, the face walls of one of said frame members formed into a dovetail tenon, part of which lies on one side and part on the other side of the web forming the bottom of the channel, and the face wall of the other of said frame members provided with a corresponding dovetail mortise, said mortise and tenon forming a corner joint between said members.

[Claims 6 to 10 not printed in the Gazette.]

969,164. CANE-LOADING MACHINE. WILSON F. JOHNSTONE, Honolulu, Hawaii. Filed June 9, 1909. Serial No. 501,024.



1. A loading machine comprising a frame having connected arch-shaped end sections, trucks movably supported

from the frame and having horizontal swinging movement, wheels carried by the trucks, and load conveying means associated with the frame.

2. A loading machine comprising a frame which consists of arch-shaped end sections and connecting side sections, bracket arms pivoted at opposite sides of the frame, a truck carried by each bracket arm and in turn carrying traction wheels, and load conveying means associated with the frame.

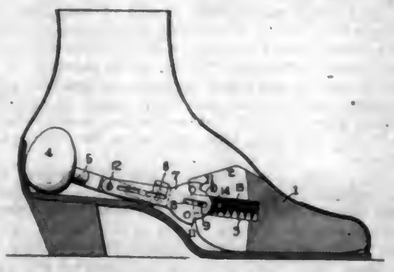
3. A loading machine comprising a frame which consists of arch-shaped end sections and connecting side sections, trucks supported for movement between the side sections and carrying traction wheels and load conveying means associated with the frame.

4. A loading machine comprising a frame which consists of arch-shaped end sections and connecting side sections, vertically pivoted bracket arms arranged for swinging movement between the side sections, a truck carried by each bracket arm and in turn carrying traction wheels and load conveying means associated with the frame.

5. A loading machine comprising a frame, traction wheels for supporting the frame, means carrying the traction wheels and movable to positions whereby the traction wheels may rest on the track or may be free of the track, connecting means for a pair of opposed traction wheel carrying means, and load conveying means associated with the frame.

[Claims 6 to 19 not printed in the Gazette.]

969,165. SHOE-FORM. CLEMENTS B. KOSTERS, Buffalo, N. Y. Filed Jan. 26, 1909. Serial No. 474,298.

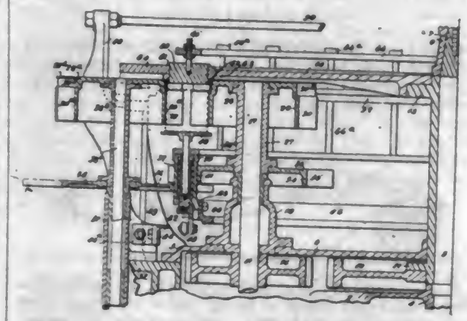


1. A shoe tree comprising a toe member having a rearwardly extending longitudinal slot and socket, a spring in said socket, a heel member having a stem provided with a laterally bent forward portion and a connecting member pivoted at its rear end to the heel member in the rear of the laterally bent forward portion and having a longitudinal slot and a curved front edge, a pivot pin passing transversely through the rear portion of the toe member and the longitudinal slot in the connecting member to pivot the front portion in the slot of the toe member and a headed pin fitted in the rear end of the spring with its head bearing against the curved front edge of the connecting member.

2. A shoe tree comprising a toe member having a slot and a socket, a spring in said socket, a heel member and a connecting member pivoted at its rear end to the heel member and having a fairly wide front part provided with a longitudinal slot and a curved front edge, a pivot pin passing transversely through the rear portion of the toe member and the slot in the connecting member to pivot the front portion in the slot of the toe member and a headed pin fitted in the rear end of the spring with its head bearing against the curved front edge of the connecting member.

969,166. MACHINE FOR CLOSING CANS AND LIKE RECEPTACLES. CHARLES TIBBIT LACK, Impington, England. Filed Dec. 17, 1909. Serial No. 533,555.

1. A can closing machine comprising a fixed annular body formed in two parts, one of said parts having its inner edge suitably formed for bending the metal, while the other forms a connection between the ends of the first part and forms a bridge piece, rollers having peripheral projections adapted to coact with the said annular body and disposed in the interior of the closure, means for pressing the rollers against the peripheral wall of the closure, said means coacting with the annular body to support the rollers, spring pressed plungers carrying supports for the cans, and moving in a circular path concentrically to the annular folding body, means for depressing the plungers against the springs, means for receiving the cans and presenting them to the folding body and the rollers coacting therewith.

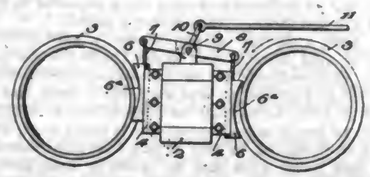


2. A can closing machine comprising a fixed annular body formed in two parts, one of said parts having its inner edge suitably formed for bending the metal, while the other forms a connection between the ends of the first part and forms a bridge piece, rollers having peripheral projections adapted to coact with the said body and disposed in the interior of the closure, means for pressing the rollers against the peripheral wall of the closure, said means coacting with the annular body to support the rollers, means for maintaining the rollers at a proper distance apart during their rotation, spring pressed plungers carrying supports for the cans, and moving in a circular path concentrically to the annular folding body, means for depressing the plungers against the springs, and means for receiving the cans and presenting them to the folding bodies.

3. A can closing machine comprising an annular body formed in two parts of which one forms a bridge piece, said annular body being adjustably mounted upon a support carried by brackets mounted upon the base plate of the machine and having upon the inner circumference of one portion thereof, a projecting lip adapted to bend the material at the mouth of the can, rollers having peripheral projections designed to coact with the said lip upon the annular body, and disposed within the interior of the closure, a revolving disk driven through gearing and engaging said rollers between other peripheral projections thereon whereby in conjunction with the lip aforesaid and bridge piece said rollers are supported, a ring carrying pins engaging the holes formed in the rollers whereby the proper spacing of said rollers is maintained during their rotation, spring pressed plungers contained within casings attached to an annular body supported from the ring for spacing the rollers, pins revolubly mounted in said plungers and provided with plates for supporting the cans, a roller upon each plunger, a plate adapted to engage said roller to depress the plunger, means for counteracting the downward thrust of the plate, means for effecting the movement of the can supports and means for receiving the cans and presenting them to the folding body and roller coacting therewith.

4. A can closing machine comprising an annular body formed in two parts, of which one forms a bridge piece, said annular body being adjustably mounted upon a support carried by brackets mounted upon the base plate of the machine and having upon its inner circumference of one portion thereof a projecting lip adapted to bend the metal at the mouth of the can, rollers having peripheral projections designed to coact with the said lip upon the annular body, and disposed within the interior of the closure, a revolving disk driven through gearing and engaging said rollers between other peripheral projections thereon, whereby in conjunction with the lip aforesaid and bridge piece, said rollers are supported, ring carrying pins engaging holes formed in the rollers and whereby the proper spacing of said rollers is maintained during their rotation, spring pressed plungers contained within casings attached to an annular body supported from the ring for spacing the rollers, pins revolubly mounted in said plungers and provided with plates for supporting the cans, a roller upon each plunger, a plate adapted to engage said roller to depress the plungers, means for counteracting the downward thrust of the plate, a disk having a depending wall in which is formed semicircular recesses adapted to engage the plunger casings and mounted upon a sleeve upon a shaft driven by gearing from the main shaft, a second disk also recessed and adapted to engage the casings and thereby transmit motion to a sleeve upon a second spindle, disks upon each of the sleeves having semicircular recessed walls and designed to receive the cans and present them to the annular body and the rollers coacting therewith.

969,167. BRAKE. JOHN A. LANDERS, Jackson, Mich. Filed Oct. 26, 1909. Serial No. 524,604.



1. In a brake, the combination of a pair of wheels, a pair of brake shoes designed to engage said wheels, respectively, the faces of the brake shoes having a concave formation and being spaced from the wheels when in an intermediate position, but having a wedging engagement with the wheels when moved in one direction, and means for simultaneously moving said brake shoes in opposite directions.

2. In a brake, the combination with a pair of wheels, a pair of vertically disposed guides supported between the wheels, a pair of oppositely facing brake shoes mounted upon the guides and formed with concave faces which clear the wheels when the brake shoes are in an intermediate position, but have a wedging engagement with the same when moved in one direction, and means for moving said brake shoes in opposite directions.

3. In a brake, the combination of a truck, a pair of wheels journaled upon the truck, a pair of guides supported upon the truck between the wheels, a brake shoe slidably mounted upon each of the guides, the said brake shoes being formed with concave faces which clear the wheels when the brake shoes are in an intermediate position but have a wedging engagement with the same when the brake shoes are moved in one direction, a rock shaft mounted upon the truck, and arms projecting from the rock shaft and having an operative connection with the brake shoes to admit of the same being moved in opposite directions by moving the rock shaft in either direction.

4. In a brake, the combination of a truck, a pair of wheels journaled upon the truck, a pair of guide members supported upon the truck between the wheels, brake shoes slidably mounted upon the guide members and formed with concave faces which clear the wheels when the brake shoes are in an intermediate position but have a wedging engagement with the same when the brake shoes are moved in one direction, a rock shaft having an operative connection with the brake shoes for moving them in opposite directions, means for manually moving the rock shaft in either direction, and means for moving the rock shaft by power.

5. In a brake, the combination of a car body, a pair of trucks upon which the car body is supported, a pair of wheels journaled upon each of the trucks, a pair of guide members supported upon each of the trucks between the wheels, brake shoes slidably mounted upon the guide members and formed with concave faces which clear the wheels when the brake shoes are in an intermediate position but have a wedging engagement therewith when the brake shoes are moved in one direction, a rock shaft upon each of the trucks and having an operative connection with the brake shoes for moving them in opposite directions, a pair of brake levers, a rod connecting the brake levers, connecting means between the brake levers and the rock shafts, and means coöperating with the brake levers to turn the shafts.

[Claim 6 not printed in the Gazette.]

969,168. CEMENT-APPLIER. WILLIAM F. LAUTENSCHLAGER, Cincinnati, Ohio, assignor to Lorenz Muther, Denver, Colo. Filed Dec. 11, 1907. Serial No. 406,057.



1. In a cement applier, the combination of a cement-feeding part, and a stock-opposing part therefor, the said parts having projections and depressions between them, the projections of one normally being in the depressions of the other and arranged for being separated by the stock being cemented.

2. In a cement applier, the combination of a cement-feeding part, a stock-opposing part therefor, said parts provided with projections and depressions between them, the said projections of one of said parts normally registering with the depressions of the other of said parts, and means for causing adjustment between said parts laterally for adjusting said registry.

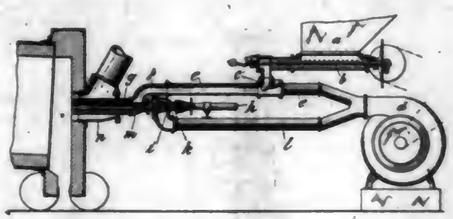
3. In a cement applier, the combination of a cement-pot, a cement-feeding part, and a stock-opposing part for said cement-feeding part, said parts having projections and depressions between them and further having a cement-conduit having connection with said cement-pot and terminating at said projections and depressions, the projections of one of said parts normally being in the depressions of the other of said parts and arranged for being separated by the stock being cemented, substantially for the purpose described.

4. In a cement applier, the combination of a feeding-foot, a support in which the same has movement, said foot having a feeding aperture, there being a cement-feeding opening between said foot and support having connection with said aperture and arranged to be opened and closed by the movement of said foot, a stock-support under said foot, said foot and support having apposite and opposite projections and depressions between them normally located in each other's lateral planes, and a stock-gage adjustable at the side of said foot, substantially for the purpose described.

5. In a cement applier, the combination of a support, a cement-applying part and a stock-opposing part for said cement-applying part, said cement-applying part having movement in said support occasioned by the passage of stock between said parts, said cement-applying part being provided with a cement-feeding aperture, there being a cement-feeding opening between said cement-applying part and support having connection with said aperture arranged to be controlled by the said movement of said cement-applying part, and said cement-applying part being provided with a plurality of projections and depressions arranged side by side crosswise of the path of travel of the stock between said cement-applying part and stock-opposing part therefor for spreading the cement laterally which passes through said cement-feeding aperture, substantially for the purpose described.

[Claims 6 to 16 not printed in the Gazette.]

969,169. PROCESS OF BURNING CEMENT AND OTHER MATERIALS. POUL T. LINDHARD, New York, N. Y., assignor to F. L. Smidth & Co., New York, N. Y., a Corporation of New Jersey. Filed Nov. 2, 1907. Serial No. 400,359.



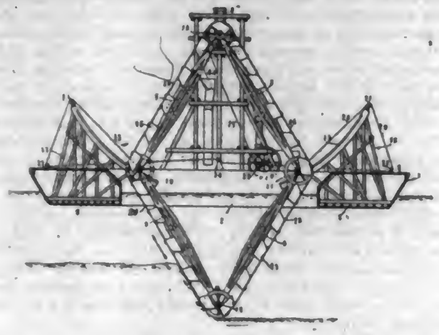
The process of burning cement and other materials which consists in introducing into the kiln or combustion chamber a mixture of previously formed gas and air, a mixture of powdered coal and air around the mixture of gas and air, and additional air around the other two mixtures, to constitute the fuel of combustion.

969,170. STEAM-SEPARATOR. JOHN T. LINDSTROM, Allentown, Pa. Filed Oct. 25, 1909. Serial No. 524,422.



A steam separator comprising a casing having a steam inlet at the top and an escape opening at the bottom, and an outlet tube projecting upwardly through the bottom of the casing, said tube having a hollow enlarged knob-shaped head at the top, the outer surface of said head being smooth and convex on both upper and under sides the upper side being imperforate and the under side being provided with openings therein, and the interior of said head being unobstructed, for the passage of fluid therethrough.

969,171. UNIVERSAL DREDGING-MACHINE. THOMAS F. LONNEY, Brooklyn, N. Y., assignor to George Upington, Brooklyn, N. Y. Filed Nov. 10, 1906, Serial No. 342,781. Renewed Apr. 10, 1909. Serial No. 489,183.



1. A stationary derrick, a pair of depending trusses pivoted to the upper end of said derrick, an inextensible link system hinged to and connecting the free ends of said trusses, and an endless excavating chain mounted to travel around the periphery of the aforesaid parts.

2. A float, a derrick carried thereby, a pair of trusses pivoted to said derrick, each being adapted to be moved with or independently of its companion, trusses hinged to the lower portions of said swinging trusses and converging to form a toe, and an endless chain of buckets mounted to travel around the aforesaid frame work, whereby upon swinging one or both of said swinging trusses the toe of said frame work may be raised or lowered to excavate at different depths.

3. An excavating apparatus comprising, in combination, a vehicle, a plurality of trusses carried thereby and converging upwardly therefrom to form an apex, said apex being fixed in position relative to said vehicle, each of said trusses being arranged to independently swing about said apex as a center, a segmental track carried by said vehicle and supporting the lower end of each swinging truss, and an endless excavating chain mounted to travel around the periphery of said trusses.

4. An excavating apparatus comprising, in combination, a vehicle, a pair of trusses converging upwardly to form an apex, said trusses being hinged at said apex and adapted to swing thereabout, a track carried by said vehicle upon which the lower ends of said trusses are supported, and an excavating means adapted to be guided in its travel around said trusses and arranged to discharge material in proximity with the apex.

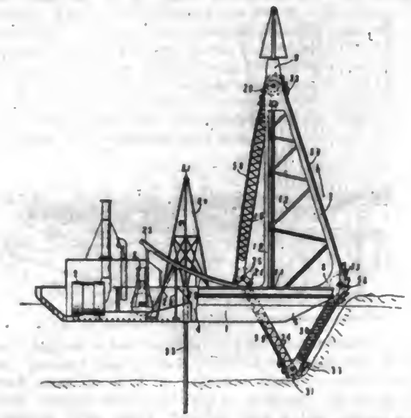
5. An excavating apparatus comprising, in combination, a vehicle, a pair of trusses carried thereby and converging to form an upper hinged joint about which each of said trusses may swing, a segmental track arranged to support the lower end of each truss, said track having a curvature described by the bearing end of the swinging truss, and an excavating means mounted to travel around said trusses and discharge material adjacent the upper hinged joint thereof.

[Claims 6 to 35 not printed in the Gazette.]

969,172. EXCAVATING-MACHINE. THOMAS F. LONNEY, Brooklyn, N. Y., assignor to George Upington, Brooklyn, N. Y. Filed Nov. 10, 1906, Serial No. 342,782. Renewed June 29, 1910. Serial No. 569,581.

1. An excavating apparatus comprising in combination a plurality of trusses hinged together to form a collapsible polygonal framework, one of said trusses being stationary, and an endless train of excavating buckets mounted to travel around said framework.

2. An excavating apparatus comprising in combination a collapsible framework comprising a plurality of hinged trusses, one of said trusses being immovable and providing at each end a fixed pivot about which another of said trusses may swing, and an endless train of excavating buckets mounted to travel around said framework.



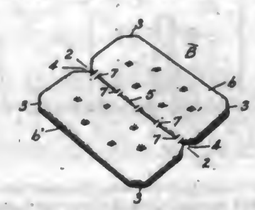
3. An excavating apparatus comprising in combination a stationary derrick, a pair of depending trusses pivoted at the upper and lower ends of said derrick respectively, an inextensible link hinged to and connecting the free ends of said trusses, and an endless excavating chain mounted to travel around the periphery of the aforesaid parts.

4. An excavating apparatus comprising in combination a plurality of trusses hinged at adjacent ends to form a collapsible polygonal framework, one of said trusses being immovable and forming a stationary derrick and extending upwardly, and an endless excavating chain mounted to travel around said framework and discharge debris near the summit thereof.

5. An excavating apparatus comprising in combination a plurality of trusses hinged at adjacent ends to form a collapsible polygonal framework, one of said trusses being stationary and slanting upwardly and terminating to form a fixed apex about which a companion truss may swing, and an excavating chain mounted to travel around said framework.

[Claims 6 to 35 not printed in the Gazette.]

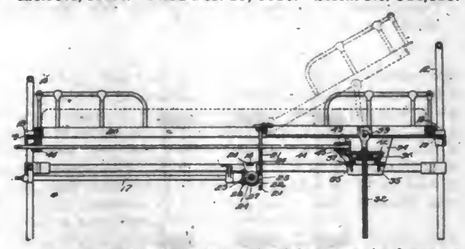
969,173. FOOD PRODUCT. JACOB L. LOOSE, Kansas City, Mo., assignor to Loose-Wiles Biscuit Company, Kansas City, Mo., a Corporation of Missouri. Filed Aug. 26, 1909. Serial No. 514,701.



1. As an article of commercial food, a unitary, thin, substantially rectangular biscuit provided with a substantially diametrical breaking zone of weakness forming separable, substantially equal biscuit parts, said breaking zone consisting of a film-like bond positioned about mid-depth of the biscuit and a series of reinforcing, connecting bars spanning said film-like bond and presenting an unbroken surface thereto, a pair of said bars being arranged adjacent opposite edges of said biscuit, said bars merging into the bodies of said biscuit parts at opposite sides of and substantially remote from said zone of weakness, so as to afford strengthening, bridge-like members of substantial length, said breaking zone terminating in open, marginal, breaking notches 4 to provide smooth corners for the segregated biscuit parts, said film-like bond being of such thinness that when broken, the edges of said biscuit parts formerly joined by said bond, present substantially smooth or unbroken surfaces, thus simulating original, unbroken biscuits.

2. As an article of commercial food, a unitary, thin biscuit provided with a transecting, breaking zone of weakness forming separable biscuit parts, said breaking zone consisting of a film-like bond and a series of reinforcing, connecting bars spanning said film-like bond and presenting an unbroken surface thereto, said bars merging into the bodies of said biscuit parts at opposite sides of and substantially remote from said zone of weakness, so as to afford strengthening, bridge-like members of substantial length, said film-like bond being of such thinness that when broken, the edges of said biscuit parts formerly joined by said bond, present substantially smooth or unbroken surfaces, thus simulating original, unbroken biscuits.

969,174. INVALID-BEDSTEAD. ANGUS MACDONALD, Melrose, Mass. Filed Feb. 19, 1910. Serial No. 544,815.



1. An adjustable bedstead comprising a main frame, a bed frame pivoted to the main frame and adapted to be transversely tipped, said bed frame having a rigidly attached downwardly projecting arm at its central portion, a screw threaded shaft journaled in bearings on the main frame and extending crosswise of the latter, an operating shaft also journaled in bearings on the main frame and extending lengthwise of the latter to one of its ends, gearing connecting said shafts, a nut engaging the thread of the transverse shaft and having a sliding engagement with the said arm, and complemental guide members affixed respectively to the nut and the main frame, whereby the nut while permitted to move on the transverse shaft is prevented from rotating therewith.

2. An adjustable bedstead comprising a main frame, a bed frame composed of a body portion, and a head section hinged to the body portion and adapted to be inclined relatively thereto, a screw threaded brace pivoted to the head section, a nut engaged with the thread of said brace, and a nut holder rotatively engaged with the body portion of the bed frame and coupled to the nut, said holder and nut having provisions for permitting the nut to tip relatively to the said body portion and head section.

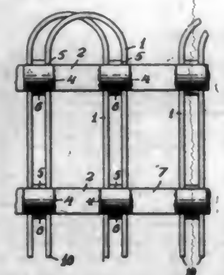
3. An adjustable bedstead comprising a main frame, a sectional bed frame adapted to be transversely tipped relatively to the main frame, and composed of a body portion and a head section hinged to the body portion, a screw threaded brace pivoted to the head section, a nut holder rotatively supported by the body portion, a nut having a universal joint connection with said holder, and engaged with the brace, and means for rotating the holder.

4. An adjustable bedstead comprising a main frame, a sectional bed frame adapted to be transversely tipped relatively to the main frame, and composed of a body portion and a head section hinged to the body portion, a screw threaded brace pivoted to the head section, a nut holder rotatively supported by the body portion, and formed as a gear wheel, a nut having a universal joint connection with said holder and engaged with the brace, and an operating shaft journaled in bearings on the body portion and geared to the nut holder.

5. An adjustable bedstead comprising a main frame, a sectional bed frame adapted to be transversely tipped relatively to the main frame and composed of a body portion and a head section hinged to the body portion, the said body portion having a rigidly attached, downwardly projecting arm, means supported by the main frame for moving said arm to transversely tip the bed frame, said means including an operating shaft journaled in bearings on the main frame and extending to one end of the latter, a screw threaded brace pivoted to the head section, and means supported by the body portion of the bed frame for moving said brace to impart a swinging adjustment to the head section, said means including a nut holder rotatively mounted on the said body portion, a nut having a universal joint connection with the said holder and engaged with said brace, and an operating shaft journaled in bearings on the body portion, and extending to one end of the main frame, said shaft being geared to the nut holder.

[Claim 6 not printed in the Gazette.]

969,175. FENCE. FRANK MARTIN, Worcester, Mass., assignor to Wright Wire Company, Worcester, Mass., a Corporation of Massachusetts. Filed Feb. 26, 1908. Serial No. 417,895.



1. A fence, comprising a series of longitudinal and a series of transverse members, with a portion of each member of one series arranged to be hollow, inclosing a space parallel with the axis of said member, with a member of the other series passing through said space, and with one side of each hollow member bent inward, thereby imparting a bend to the member of the other series as it passes through said space.

2. A fence, having a rail, with a portion of said rail hollow, inclosing a space parallel with the axis of the rail, a transverse picket passing through said space, with one side of the hollow portion of said rail bent inward to impart a bend to said picket as it passes through said space.

3. A fence, having a rail inclosing a space parallel with the axis of the rail, said space open on one side, a transverse picket passing through said space, and flanges or wings adjoining the open side of said space and arranged to be folded into said space and impart a bend to the picket as it passes through said space.

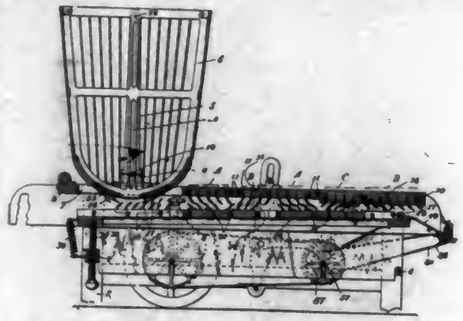
4. A fence, having a transversely bendable rail with successive pockets, each pocket inclosing a space parallel with the axis of the rail, a transverse picket passing through each space, and with one side of each pocket bent inward to impart a bend to the picket as it passes through said space.

5. A fence, having a transversely bendable rail with successive depressions with parallel sides at right angles to the plane of said rail, each pair of said sides having opposite openings to receive a transverse picket.

[Claims 6 to 9 not printed in the Gazette.]

960,176. COTTON OPENING AND GINNING MACHINE. FRANCIS JOSEPH MAUBORGNE, New York, N. Y. Filed Apr. 30, 1906. Serial No. 314,568.

1. The combination with a carriage and a hopper connected to the same, of carrier-, picking and opening-, and delivery-hooks mounted on said carriage, fixed taking-hooks for removing staple from the hopper, fixed carding-hooks, and a grid through which said delivery-hooks draw staple.



2. The combination with a carriage and a hopper connected to the same, of carrier-, picking and opening-, recall-, and delivery-hooks mounted on said carriage, fixed taking-hooks for removing staple from said hopper, fixed carding-hooks, and a grid through which said delivery-hooks draw staple.

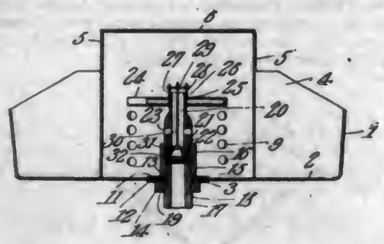
3. The combination with a carriage and a hopper connected to the same, of carrier-, picking and opening-, and delivery-hooks mounted on said carriage, fixed taking-hooks for removing staple from said hopper, fixed carding- and ground-hooks, and a grid through which said delivery-hooks draw staple.

4. The combination with a carriage and a hopper connected to the same, of carrier-, picking and opening-, recall-, and delivery-hooks mounted on said carriage, fixed taking-hooks for removing staple from said hopper, fixed carding- and ground-hooks, and a grid through which said delivery-hooks draw staple.

5. The combination with a carriage and a hopper connected to the same, of carrier-, picking and opening-, and delivery-hooks connected to said carriage, fixed taking-hooks for removing staple from said hopper, fixed carding-hooks, and ground-hooks interspersed among said fixed hooks.

[Claims 6 to 37 not printed in the Gazette.]

969,177. STOCK-FOUNTAIN. ADISON MOORE, Helena, Okla. Filed Oct. 22, 1909. Serial No. 524,052.



1. In a stock fountain, the combination with a receptacle having a flat bottom perforated at its center, a housing surrounding said perforation, and drinking compartments in communication with the interior of the housing; of reinforcing disks above and below said bottom around its perforation, a pipe section passing through the latter and the disks, a nut around the section in contact with the lower disk, a second pipe section around the first and in contact with the upper disk, a third pipe section engaging the second and constituting a valve seat, a valve within the second pipe section between the ends of the other two, and means for moving the valve.

2. In a stock fountain, the combination with a receptacle having a flat bottom perforated at its center, a housing surrounding said perforation, and drinking compartments in communication with the interior of the housing; of an inlet pipe leading through said perforation, means for clamping it in place relatively to said bottom, a smaller pipe section having its lower end enlarged and perforated, connections between this end and said inlet section whereby said end forms a valve seat, a valve therefor, a link leading upward from the valve, a hollow annular float whose top and bottom walls have a central orifice secured around the reduced portion of the upper pipe section, arms rising from the upper wall, and a pin connecting them and engaging said link.

969,178. HAIR-PIN. HARRY MORRIS, Chicago, Ill. Filed Jan. 27, 1910. Serial No. 540,425.



1. In a device of the class described, a hair pin comprising two relatively large curved prongs projecting from a common base, and a comb having a base rigidly secured to the base of the hair pin and provided with a plurality of smaller teeth which are reversely curved to and spaced from said prongs and arranged to form therewith a tapering space.

2. In a device of the class described, a hair pin comprising two relatively large curved prongs projecting from a common base, and a comb having a base rigidly secured to the base of the hair pin and provided with a plurality of smaller and closely spaced teeth which are displaced laterally from their base and curved reversely to and away from the said prongs, to form therewith a space which diminishes in opposite directions toward its extremities.

969,179. MEANS FOR SCOURING PIPE. DANIEL HAYES MURPHY, New Castle, Pa. Filed Mar. 24, 1909. Serial No. 485,860.



1. In a machine for scouring pipes, supports for the pipes, means for rotating the pipes, a scrubbing member extending over each side of said pipes, and means for supplying abrading material between such scrubbing members.

2. In a machine for scouring pipes, supports for the pipes, means for rotating the pipes, a scrubbing unit on each side of said pipes, means for bringing said scrubbing units into engagement with the pipes, and means for shifting such units in their own planes relatively to the supports.

3. In a machine for scouring pipes, supports for the pipes, means for rotating the pipes, a scrubber on each side of said pipes, means for bringing scrubbers into engagement with the pipes, means for shifting such scrubbers in their own planes relatively to the supports, and means for supplying abrading material and water to such scrubbers.

4. In a machine for scouring pipes, supports for the pipes, means for rotating the pipes, means for bringing scrubbers into engagement with the pipes, and means for moving such scrubbers transversely of the pipes.

5. In a machine for scouring pipes, supports for the pipes, means for rotating the pipes, means for bringing scrubbers into engagement with the pipes, and means for moving such scrubbers longitudinally and transversely of the pipes.

[Claims 6 to 33 not printed in the Gazette.]

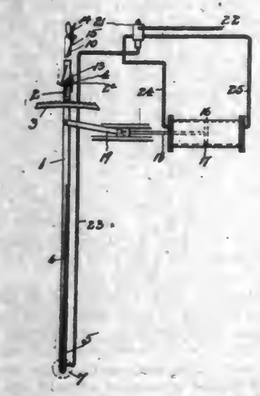
969,180. KEY-RING. LEOPOLD MYERS, Birmingham, England. Filed June 2, 1909. Serial No. 499,663.



1. A key ring formed of two sheet metal blanks each having a hole laterally therethrough near one end and a lateral tongue at its other end, one of the tongues being passed through one of the holes and bent over to form a hinge and the other tongue curved to form a hook, and a spring carried by one of the parts and engaging with said hook, said hook being adapted to engage with the hole in the other member so that the parts are pivotally connected at both ends.

2. A key ring formed of two sheet metal blanks, each having a hole at one end, and a tongue at the other, one tongue passing through one hole and being bent over to form a hinge so that the blanks may be folded together face to face and the other tongue being bent to form a hook to engage with the other hole, and a leaf spring secured to the member carrying the hook and engaging with the end of the said hook.

969,181. REVERSE-LEVER-OPERATING MECHANISM FOR LOCOMOTIVES. JAMES L. MCGEE, La Junta, Colo., assignor to The McGee Six-Way Valve Company, a Corporation of Colorado. Filed Sept. 2, 1909. Serial No. 515,823.

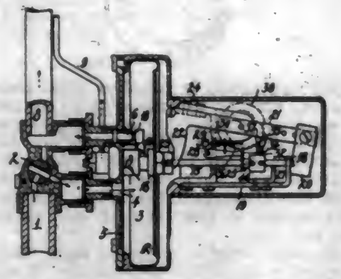


1. A valve for controlling motors comprising a casing, inlet and exhaust ports in the sides of said casing and on different planes, tubes tapped into the sides of said casing, a tube tapped into the end of the casing, a piston revolubly mounted in the casing, the piston formed with a longitudinal central bore and lateral bores on the same

planes as the inlet and exhaust ports, and ducts in the surface of the piston connecting the inlet and exhaust ports with the tubes in the sides of the casing, substantially as shown and described.

2. A valve for controlling motors comprising a casing, inlet and exhaust ports in the sides of said casing and on different planes, tubes tapped into the sides of said casing, a tube tapped into the end of the casing, a piston revolubly mounted in the casing, the piston formed with a longitudinal central bore and lateral bores on the same planes as the inlet and exhaust ports, a rod slidably mounted in the longitudinal bore and having a tubular portion, said tubular portion provided with a lateral opening adapted to register with the lateral bore on the plane with the inlet, a lever secured to the valve-piston, and a second lever fulcrumed on the first-mentioned lever and secured to the rod, substantially as shown and described.

960,182. AUTOMATIC APPARATUS FOR LIGHTING AND EXTINGUISHING GAS-LAMPS. NORMAN SINCLAIR MCNAB, Caulfield, and JOSEPH SELBY LINK, Melbourne, Victoria, Australia. Filed Sept. 27, 1909. Serial No. 519,885.



1. The combination, with a valve; of an operating rod therefor; means tending to move said rod in one direction; current-pulsation operated means for moving said rod in the other direction; a member operated by the second named movement of said rod; a toothed member operated by the actuation of the first named member; and a pawl arranged for engagement with said toothed member and with said rod, for controlling the first-named movement of the latter.

2. The combination, with a valve; of an operating rod therefor; means tending to move said rod in one direction; current-pulsation operated means for moving said rod in the other direction; a member operated by the second named movement of said rod; a member operated by the actuation of the first named member and provided with series of notches of different depths; and a pawl arranged for engagement in said notches and with said rod, for controlling the first-named movement of the latter.

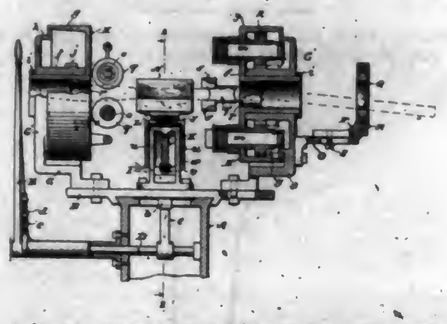
3. The combination, with a valve; of an operating rod therefor; means tending to move said rod in one direction; current-pulsation operated means for moving said rod in the other direction; a collar carried by said rod; a member engaged with said collar and operated by the same during the second named movement of said rod; a toothed member operated by the actuation of the first named member; and a pawl arranged for engagement with said toothed member and with said collar, for controlling the first-named movement of the rod.

4. The combination, with a valve; of an operating rod therefor; means tending to move said rod in one direction; current-pulsation operated means for moving said rod in the other direction; a collar carried by said rod; a member engaged with said collar and operated by the same during the second named movement of said rod; a toothed member operated by the actuation of the first named member; and a pawl arranged for continuous engagement with said toothed member and for movement into and out of engagement with said collar consequent upon such continuous engagement, to control the first-named movement of said rod.

5. The combination, with a valve; of an operating rod therefor; means tending to move said rod in one direction; current-pulsation operated means for moving said rod in the other direction; a ratchet wheel rotated by the second named movement of said rod; and a pawl engaged with said wheel, to retain and release said rod, for controlling the first-named movement of the same.

[Claims 6 to 16 not printed in the Gazette.]

969,183. ABRADING-MACHINE. JOHN M. NASH, Wauwatosa, Wis. Filed Aug. 12, 1907. Serial No. 388,148.



1. In a machine comprising an abrading device, spring-controlled oscillative feed-rollers and means for imparting planetary movement to the rollers; a spring-controlled work-support arranged to have automatic sliding yield in the direction of an inclined plane radial to the axis of the work thereon to compensate for varying thickness of said work opposed to the abrading device.

2. In a machine comprising an abrading device, spring-controlled oscillative feed-rollers and means for imparting planetary movement to the rollers; an independently adjustable spring-controlled work-support arranged to have automatic sliding yield in the direction of an inclined plane radial to the axis of the work thereon to compensate for varying thickness of said work opposed to the abrading device.

3. In a machine comprising an abrading device, spring-controlled oscillative feed-rollers and means for imparting planetary movement to the rollers; a stationary inclined rest, and a work-support in spring-controlled sliding connection with the rest to have automatic yield in the direction of the incline of said rest radial to the axis of the work upon said support in opposition to the abrading device.

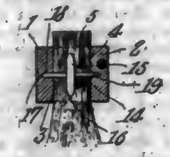
4. In a machine comprising an abrading device, spring-controlled oscillative feed-rollers and means for imparting planetary movement to the rollers; a stationary inclined rest, a plate in spring-controlled sliding connection with the rest, and a work-support in connection with the plate to yield therewith in the direction of the incline of said rest radial to the axis of the work upon said support in opposition to the abrading device.

5. In a machine comprising an abrading device, spring-controlled oscillative feed-rollers and means for imparting planetary movement to the rollers; a stationary inclined rest, a plate in spring-controlled sliding connection with the rest, and a work-support in independently adjustable connection with the plate longitudinally of the same, to yield therewith in the direction of the incline of said rest radial to the axis of the work upon said support in opposition to the abrading device.

[Claims 6 to 10 not printed in the Gazette.]

969,184. SCRUBBING-BRUSH. JOHN LEWIS PATE, Madisonville, Ky. Filed Mar. 22, 1910. Serial No. 551,001.

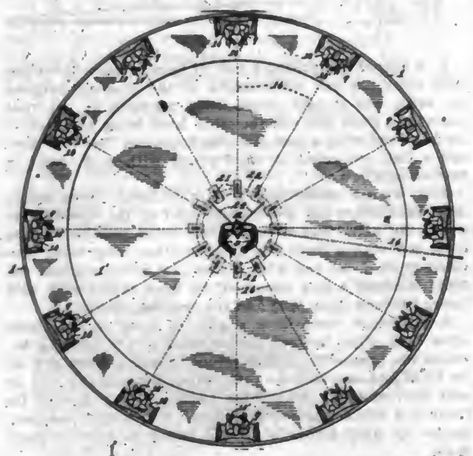
1. A broom consisting of oppositely disposed heads having alined notches defining a bristle-holding socket; and a spreader consisting of a shank secured at one end to one head within the contour of the notch therein, and a transverse arm upon the shank.



2. A broom consisting of oppositely disposed heads having alined notches defining a bristle-holding socket; and a spreader consisting of a shank adapted at one end to be secured to one head within the contour of the notch therein, and at the other end adapted to form a seat for itself within the contour of the notch in the other head, and a transverse arm upon the shank intermediate its ends.

3. As an article of manufacture, a spreader for broom heads, consisting of a shank threaded at one end and pointed at the other end, the shank being provided, intermediate its end, with a straight transverse arm having pointed ends.

969,185. TOY. SARAH S. PETE, Chicago, Ill. Filed Dec. 1, 1909. Serial No. 530,794.



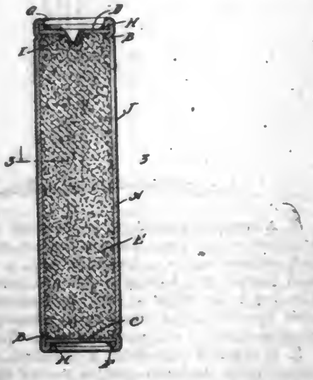
1. A toy comprising a suitable casing; a movable figure arranged in the center thereof in representation of a performer; figures arranged around the sides of said casing in representation of an audience, each of said audience figures being arranged to move in imitation of applause; and means for operating said performer and audience figures, substantially as described.

2. A toy comprising a suitable casing; a movable figure arranged in the center thereof in representation of a performer; figures arranged around the sides of said casing in representation of an audience, each of said audience figures being arranged to move in imitation of applause; and means for operating said performer and audience figures independently of each other, substantially as described.

3. A toy comprising a suitable casing; a figure therein in representation of a performer, the said figure being provided with arms and legs composed of helical wire springs; means for imparting motion to said performer; a set of figures in said casing in representation of an audience, each of said figures being provided with a movable arm the lower portion of which consists of a helical wire spring; and means for moving said arms of said audience figures simultaneously, substantially as described.

4. A toy comprising a suitable casing; a figure therein in representation of a performer, the said figure being provided with arms and legs composed of helical wire springs; means for imparting motion to said performer figure; a set of figures in said casing in representation of an audience, each of said figures being provided with a pivoted arm the lower portion of which consists of a helical wire spring; a ratchet wheel on said arm pivot; a pawl engaging said ratchet wheel; tripping mechanism for releasing said pawl upon movement thereof; a spring adapted to operate said arm; a stop adapted to limit the operative movement of said arm; and means for simultaneously operating all of said pawls, substantially as described.

969,186. BLASTING-CARTRIDGE. GERSHOM MOORE PETERS, Cincinnati, Ohio. Filed Dec. 6, 1907. Serial No. 405,321.



1. In a blasting cartridge the combination of a tube for the explosive, and a closure inserted within one end of the tube and provided with a partial puncture for the insertion of a primer or fuse.

2. In a blasting cartridge the combination of a tube for containing the explosive, a closure inserted in the end of the tube for holding the explosive in place and having a partial puncture for the insertion of a fuse or primer, the end of the tube being extended beyond the closure and doubled back upon itself to form a rigid projection for holding a rammer aloof from the closure.

3. In a blasting cartridge the combination of a tube for the explosive, and a non-perforated wad inserted in the end of the tube at a distance from the extremity thereof for retaining the explosive in place, the extremity of the tube being reamed inwardly toward the wad and a quantity of sealing material connecting the reamed extremity of the tube with the outer face of the wad.

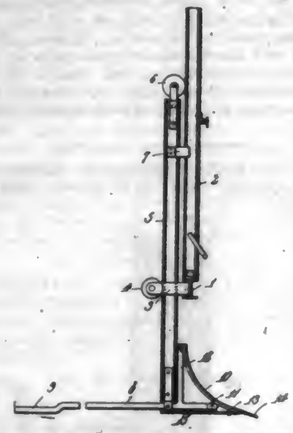
4. In a blasting cartridge the combination of a tube for the explosive, wads in the ends of the tube pressed against interior supports formed in the tube, one of said wads being indented for the introduction of a primer, an explosive contained within the tube between said wads, the ends of the tube being reamed inwardly against the wads, and an exterior coating of impervious material completely enveloping the tube and wads and said indentation.

5. In a blasting cartridge, the combination with a paper tube grooved near the ends to form inner shoulders or supports, wads in the ends of said tube, one of said wads being indented or partially perforated and the extremities of said tube being crimped against the said wads to retain the same in position against said supports, an explosive material in said tube, and waterproofing material entirely enveloping the casing formed by the tube and closures.

969,187. CRUMBER. MICAJAH L. POULTER, Stockport, Iowa. Filed June 21, 1909. Serial No. 503,524.

1. A crumber comprising a standard, a runner pivotally attached to the lower portion thereof and having its rear extremity terminating in a depressed heel, a share attached to the forward portion of said runner, said share

having a forward pointed end, and runners attached to the share behind the forward end portion thereof and lying at the opposite sides of the first said runner.



2. A crumber comprising a standard, a runner pivotally attached to the lower portion thereof and having its rear end terminating in a depressed heel, a share attached to said runner and having a forward pointed end, runners attached to the share at points behind the forward pointed ends thereof, and a cross strut connecting the last said runners together and lying under the first said runner.

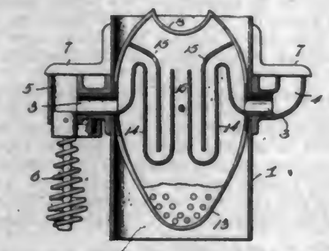
3. A crumber comprising a standard, a runner pivotally connected to the lower portion thereof and having its rear end terminating in a depressed heel, a share mounted upon the forward end of said runner and having a forward pointed end, a brace interposed between the forward portion of said runner and the upper end of said share, supplemental runners connected with the said share at points behind its pointed end, and a cross strut connecting the supplemental runners together and lying transversely under the forward portion of the first said runner.

4. In combination with a ditching machine having guiding means a vertically disposed standard mounted for longitudinal movement in the guiding means, and a crumber attached to the lower end of the standard.

5. In combination with a ditching machine having guiding means a vertically disposed standard mounted for longitudinal movement in the guiding means, and a crumber pivotally attached to the lower end of the standard.

[Claims 6 and 7 not printed in the Gazette.]

969,188. DAMPER. NORMAN PRUITT, Washington, D. C. Filed Apr. 17, 1908. Serial No. 427,731.

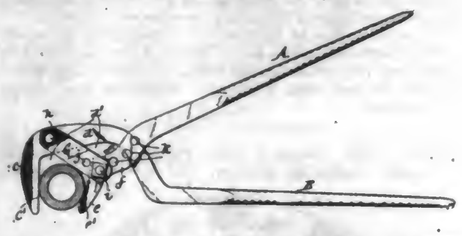


1. The combination of a pivoted damper, and a flue controlled by said damper and provided with a hollow outward extension having its inner side open and in line with the edge of the damper when closed, said extension being located above the axis of the damper and constituting a by-pass directly around the free edge of the damper when closed.

2. The combination with a flue having a hollow offset, of a hand operated damper controlling the main body of the flue and provided with a recess in its edge which in connection with the offset in the flue wall forms a draft opening around the free edge of the damper when closed, and means independent of the said damper for regulating the size of said shaft opening.

3. The combination with a main damper, of a flue having a hollow outward extension having the inner side thereof open and forming a by-pass directly around the edge of the damper when closed, and an auxiliary hand-operated damper operable independently of the main damper and controlling such by-pass.

969,189. WRENCH. FRANK A. RADEMACHER, Forks, N. Y. Filed Jan. 12, 1910. Serial No. 537,749.



1. A wrench comprising a pair of hand levers which cross each other but are disconnected at the crossing between the same, one of said levers being provided at its front end with a front jaw and the other lever being provided at its front end with a rear jaw which opposes the front jaw, and a link connected by fixed pivots with said levers in rear of said jaws.

2. A wrench comprising a pair of hand levers which cross each other but are disconnected at the crossing between the same, one of said levers being provided at its front end with a front jaw and the other lever being provided at its front end with a rear jaw which opposes the front jaw and a link connected by fixed pivots with said levers between their jaws and the crossing thereof.

3. A wrench comprising a pair of hand levers which cross each other but are disconnected at the crossing between the same, one of said levers having a front jaw at its front end and an outwardly off-set portion adjacent to said jaw, and the other lever having a rear jaw at its front end which opposes said front jaw, and a link connected by fixed pivots with said levers in rear of their jaws.

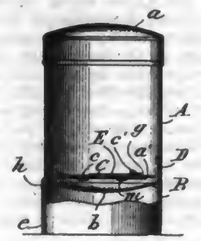
4. A wrench comprising a pair of hand levers which cross each other, one of said levers having a front jaw at its front end and an outwardly off-set portion adjacent to said jaw, and the other lever having a rear jaw at its front end which opposes said front jaw and an outwardly off-set portion adjacent to said rear jaw, and a link connecting the off-set portions of said levers.

5. A wrench comprising a pair of hand levers which cross each other but are disconnected at the crossing between the same, one of said levers having a front jaw and the other a rear jaw, and a link connected by fixed pivots with said levers and composed of two sections arranged on opposite sides of the levers.

969,190. POWDER HOLDING AND DISPENSING CONTAINER. MEYER L. RHEIN, New York, N. Y., and MARCUS O. ANTHONY, Englewood, N. J. Filed Oct. 21, 1908. Serial No. 458,878.

1. In a dispensing container, a reservoir, a receptacle, said reservoir and the receptacle having substantially the same cross sectional area and being relatively movable, a valve mechanism carried by and movable with the reservoir, said valve mechanism being operated by a relative movement of the reservoir to the receptacle.

2. In a dispensing container, a reservoir, a receptacle connected to said reservoir for movement relative thereto on an axis parallel to or coincident with that of said reservoir, and movable valve mechanism in the bottom of said reservoir adapted to be operated by such relative turning movement of the parts.



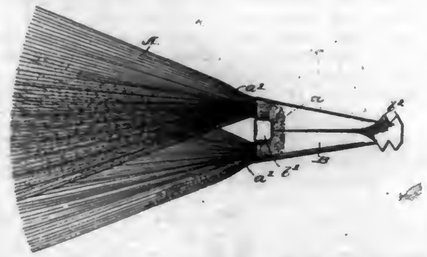
3. In a dispensing container, a reservoir, a receptacle movable relative thereto, and a spring-actuated valve adapted to be operated when one of said parts is turned relative to the other part.

4. In a dispensing container, a reservoir, a receptacle movable relative thereto, a valve carried by the reservoir and separate from the receptacle, and means on the valve coöperating with the receptacle whereby the valve is opened when the container is closed.

5. In a dispensing container, a reservoir, a receptacle movable relative thereto, and a spring-actuated valve carried by the reservoir and provided with means adapted to coöperate with the receptacle for opening the valve when one of the aforesaid parts is turned relative to the other of said parts.

[Claims 6 to 9 not printed in the Gazette.]

969,191. WIRE BRUSH. EDWARD E. RICE, New Durham, N. H., assignor to The Osborn Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 12, 1908. Serial No. 467,261.



1. In a brush of the character described, a ferrule; a doubled-over bunch of wires having the bight inserted in said ferrule, the latter being flattened to spread the wires into corresponding flattened form; and a fastening closing said ferrule between the respective divergent portions of said bunch of wires.

2. In a brush of the character described, a metallic ferrule; and a doubled-over bunch of wires having the bight inserted in said ferrule, the latter being flattened to spread the wires into corresponding flattened form, and the end of said ferrule being formed with an integral clip adapted to be bent back to close such end between the respective divergent portions of said bunch of wires.

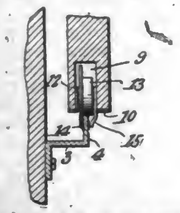
3. In a brush of the character described, a ferrule; and a doubled-over bunch of wires having the bight secured in said ferrule, the latter being flattened to spread the wires into corresponding flattened form and the respective portions of such wires crossing each other, substantially as set forth.

4. In a brush of the character described, a ferrule; a doubled-over bunch of wires having the bight inserted in said ferrule, the latter being flattened to spread the wires into corresponding flattened form; and a clip closing the end of said ferrule between the respective divergent portions of said bunch of wires, such portions crossing each other, substantially as set forth.

5. In a brush, the combination of a terminally slotted handle; a ferrule; a bunch of wires secured in said ferrule, the latter being flattened to spread the wires into corresponding flattened form and to permit of the insertion of said ferrule in the slot of said handle; and means for securing said ferrule in place when thus inserted.

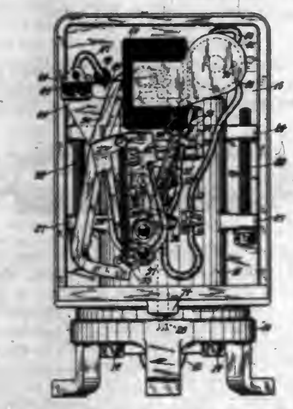
[Claims 6 to 11 not printed in the Gazette.]

969,192. SLIDING DOOR. ORLANDO RICHARDS, Bristol, Wis. Filed Mar. 29, 1909. Serial No. 486,435.



The combination with a structure having a door opening, and parallel rails disposed above and below the opening and extending to one side thereof, each of said rails provided close to one side of the doorway with a curved portion extending toward the structure and its terminals being curved and secured to the structure; of a door interposed between the rails, flanged rollers housed in its lower corners and projecting below it so as to travel on the lower rail, said rollers being spaced apart a distance equal to the distance between each curved terminal portion of the rail and the intermediate curved portion thereof, retaining tongues depending from the door and lapping the lower rail on the opposite side thereof from the flanges of said rollers, and means carried by the top of the door for slidably engaging the upper rail.

969,193. GOVERNOR. WALTER JOSEPH RICHARDS, Milwaukee, Wis., assignor to National Brake & Electric Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Apr. 26, 1909. Serial No. 492,301.



1. A governor for air pumps and the like, comprising a casing, a dished plate secured to the casing, a plunger head working within the recess of the dished plate and provided with lugs projecting through openings in the dished plate, a pressure flexed diaphragm bearing on the plunger head, a spring pressed plate within the casing bearing on the ends of the lugs of the plunger head, and a movable circuit controller having connection with the plunger head to be operated thereby.

2. A governor for air pumps and the like, comprising a cylindrical casing, a dished plate fitting in the end thereof, a plunger head working in the recess of the dished plate and provided with lugs extending through openings in the dished plate, a pressure flexed diaphragm bearing on the plunger head, a spring contained within the casing, a spring plate bearing on the ends of the lugs of the plunger head and engaging the end of the spring, a yoke member passing through openings in the sides of the casing and bearing on the end of the spring, adjusting screws engaging the casing and the ends of the yoke member for adjusting the compression of the spring, and a circuit controller having connection with the plunger head to be operated by the movements thereof.

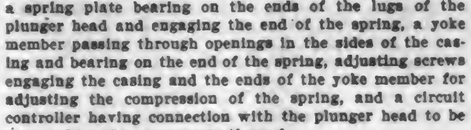
3. A governor for air pumps and the like, comprising a casing, a pressure flexed diaphragm, a plunger head bearing on the diaphragm, a coil spring within the casing for applying pressure to the plunger head, a yoke member projecting through openings in the casing and bearing on the spring, adjusting screws engaging the casing and the ends of the yoke member to vary the compression of the spring, a stem connected to the plunger and passing through the yoke member, and a movable circuit controller actuated by the movements of the stem.

4. A governor for air pumps and the like, comprising a plunger sensitive to variations in air pressure, a suitably fulcrumed lever having connection with the plunger stem, a spring carried by the longer end of the lever, a pivoted hammer member to which the spring is connected, a pivoted switch member in the path of the hammer member to be struck thereby and forcibly moved to or from its closed position, and a stationary switch member coöperating with the pivoted switch member to constitute a circuit controller therewith.

5. A governor for air pumps, and the like, comprising a plunger sensitive to variations in air pressure, a casing through which the stem of the plunger passes, a lever fulcrumed on the casing and having connection with the plunger stem, a spring carried by the longer end of the lever, a pivoted hammer member to which the spring is connected at such a point that the axis of the spring will cross the axis of the hammer member during the movements of the lever and thereby cause the hammer member to swing, a pivoted switch member in the path of the hammer member to be struck thereby and forcibly moved from its closed position, and a stationary switch member coöperating with the pivoted switch member to constitute a circuit controller therewith.

[Claims 6 and 7 not printed in the Gazette.]

969,194. SHUTTER-OPERATING APPARATUS FOR PHOTOGRAPHIC LENSES. SIEGMUND ROSSNER, Chicago, Ill. Filed Mar. 31, 1910. Serial No. 552,568.



1. An automatic timer for initiating the operation of the shutter-actuating means of a photographic lens, comprising, in combination, a separate cylinder, a movable piston in said cylinder; an air-escape opening leading from said cylinder to permit air to escape from said cylinder into the atmosphere; a further escape opening leading from said cylinder to said shutter-actuating means, a valve adapted to close the latter opening during the initial movement of said piston; means on said piston adapted to move said valve laterally to open said latter escape opening to cause an escape of air from said cylinder to said shutter-actuating means, as described.

2. An automatic timer for initiating the operation of the shutter-operating means of photographic lenses, comprising in combination, an independent cylinder, a piston in said cylinder, means in said cylinder adapted to move said piston in one direction only, an escape orifice leading from said cylinder into the atmosphere, a further escape opening leading from said cylinder to said shutter-actuating means, a valve adapted to close the latter opening during the first part of the stroke of said piston and to open the same during the remainder of the stroke of said piston.

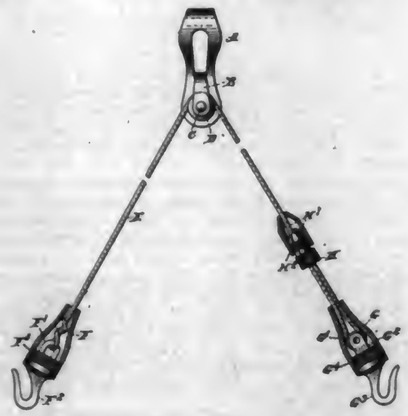
3. An automatic timer for initiating the operation of the shutter-operating means of a photographic lens, comprising, in combination, an independent cylinder, a piston in said cylinder, a spring in said cylinder adapted to move said piston in one direction, a tubular piston rod to which said piston is attached, there being an escape opening in said piston rod, means whereby the operative area of said escape opening may be regulated, a tube in said cylinder, there being an escape opening in said tube, a valve upon said tube adapted to open and close said latter escape opening, and means in said piston adapted to engage said valve and move the same laterally upon said tube.

4. In a device of the nature described, the combination of a cylinder, a piston in said cylinder, a tubular piston rod to which said cylinder is affixed, a collar at the outer end of said piston rod, there being a discharge orifice in said collar and means adapted to increase and decrease the operative area of said orifice, means adapted to move said piston in one direction only, a cylinder head at one end of said cylinder, a tube in said cylinder head secured thereto, there being a discharge opening in said tube, and a valve on said tube adapted to open and close said discharge opening, there being a clutch in said piston adapted to engage said valve.

5. The combination, of a cylinder, a piston in said cylinder, a clutch in said piston, a tubular piston rod to which said piston is attached, there being a discharge orifice from said tubular piston rod, and means in said discharge opening adapted to regulate the operative area thereof, a spiral spring in said cylinder adapted to move said piston in one direction, a cylinder head at one end of said cylinder, a tube in said cylinder said tube being attached to said cylinder head, there being a discharge opening in said tube, and a valve upon said tube adapted to open and close said discharge opening by a lateral movement upon said tube, a clutch in said piston adapted to embrace said valve, said valve being moved in one direction by said piston, and in the opposite direction by said clutch, said clutch being adapted to release said valve after the latter has closed said discharge opening.

[Claims 6 to 13 not printed in the Gazette.]

969,195. DEVICE FOR HANGING PICTURES AND SIMILAR ARTICLES. SAMUEL ROTHSTEIN, New York, N. Y. Filed Dec. 26, 1908. Serial No. 469,442.



1. A suspending device comprising a supporting hook, a stud projecting upwardly from said hook, a roller journaled on said stud, members adapted to be secured to the article to be suspended, a flexible connection between said members arranged to travel over said roller, and sleeves engaging said members to conceal the points of engagement of the flexible connection with said members.

2. A suspending device comprising suspending members arranged to engage the article to be suspended, a flexible connection between them, removable devices on said flexible connection arranged to engage the suspending members for concealing the points of connection of the suspending members with the flexible connection.

3. A suspending device comprising a suspending member, a flexible support having its one end secured to said member, a device adjustably mounted on said flexible support to vary the length thereof and to which the other end of said flexible support is secured, a second suspending member and a roller journaled on said second suspending member over which said flexible support is adapted to travel as the said device is adjusted to vary the length of said flexible support.

4. A suspending device comprising a flexible support arranged to engage the article to be suspended and a resilient device through which said support passes and in which one end of said support is secured and means for clamping said device in position on said support.

5. A suspending device comprising a member adapted to engage the article to be suspended, a flexible support movably engaging said member and a clamping device slidably mounted on said support to move the same relatively to said member to vary the length of the flexible support, said clamping device comprising a resilient tubular member in which the one end of said support is secured and a clamp for clamping said device in position.

[Claims 6 and 7 not printed in the Gazette.]

969,196. ANKLE-JOINT FOR ARTIFICIAL LIMBS. JAMES F. ROWLEY, Chicago, Ill. Filed Mar. 2, 1906. Serial No. 303,844.

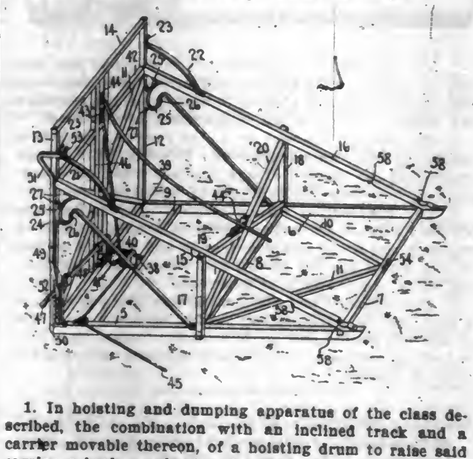
1. In an artificial limb, the combination of a shin section, having a socket at its lower end, a member having a bulb which serves as a fulcrum therefor seated in said socket and adapted to have a limited rotation therein, and a stirrup extending around below said bulb and upwardly at each side of said shin section, the upwardly extending parts of said stirrup being separately fastened to opposite sides of said shin section for holding said bulb in said socket.

2. In an artificial limb, the combination of a shin section having a concave socket at its lower end, a stirrup rigidly fastened thereon and having therein a concave socket opposed to the socket on said shin section, and a foot member interposed between said stirrup and shin section and having convex portions seated in said sockets and together forming a fulcrum for said foot member.

3. In an artificial limb, the combination of a shin section having a concave socket at its lower end, a stirrup rigidly fastened thereon and having therein a concave socket opposed to the socket on said shin section, and a foot member interposed between said stirrup and shin section and having convex portions seated in said sockets and together forming a fulcrum about which said foot member turns with respect to said shin-section; said foot member and shin section being each extended forward and rearward of said fulcrum, and a resilient cushion interposed between each pair of said extensions.

4. In an artificial limb, the combination of a shin section having a concave socket at its lower end, a foot member having a bulb seated in said socket and serving as a fulcrum about which said foot-member turns with respect to said shin-section, a removable concave lining plate in said socket interposed between the shin section and bulb, and a stirrup secured to said shin section and extending around below said bulb for holding the same in said socket, all arranged to permit a limited movement of said foot member on the shin section.

969,197. HAY-STACKER. WALTER H. SABIN, Crookston, Minn. Filed Mar. 13, 1909. Serial No. 483,247.



1. In hoisting and dumping apparatus of the class described, the combination with an inclined track and a carrier movable thereon, of a hoisting drum to raise said carrier, a brake mechanism for the hoisting drum, a lever to operate said brake mechanism and a trip lever having means for engaging and releasing said brake lever, said trip lever extending into the path of said carrier and being movable by an element of the carrier to cause said trip lever to release the brake lever when the carrier reaches the upper limit of its movement.

2. In a hoisting and dumping apparatus the combination with a hoisting drum, a friction brake combined therewith, and a lever for operating said brake, of an inclined track, a carrier provided with wheels and movable along said track, a trip lever having a latch at one end for engaging the said brake lever and its opposite end extending to the upper end of said inclined track, and operable by said wheels to release said brake lever.

3. In a hoisting and dumping apparatus the combination with a hoisting drum having a friction brake combined therewith, and a lever for operating said friction brake, of an inclined track, a carrier movable along said track and deflectors at the upper end of the latter operating on said wheels and causing the said carrier to assume a vertical position, a trip having one end in engagement with said brake lever and its opposite end disposed adjacent one of said deflectors and operable by a wheel of said carrier to release said friction lever.

4. In a hoisting and dumping apparatus, an inclined track provided adjacent its end with notches, a carrier having wheels to run on said track and enter said notches whereby movement of said carrier in one direction will be prevented, a keeper combined with said track, and a pivoted spring pressed latch carried by said carrier to override said keeper on the downward movement of the carrier and serving to prevent upward movement of the latter while being loaded.

5. In a hoisting and dumping apparatus, an inclined track provided adjacent its lower end with notches, a carrier having wheels to run on said track and enter said notches, whereby movement of said carrier in one direction will be prevented, a keeper combined with said track, and a pivoted spring pressed latch carried by said carrier

to override said keeper on the downward movement of the carrier and prevent upward movement of the latter while being loaded, and means for moving the latch from engagement with the carrier before the upward movement of the carrier.

969,198. RESERVOIR-PEN. WILLIAM W. SANFORD, Newark, N. J., assignor to Sanford & Bennett Company, New York, N. Y., a Corporation of New York. Filed Apr. 9, 1909. Serial No. 488,993.



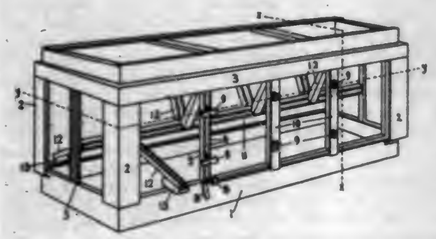
1. The combination with a reservoir pen and pen section, of a cap, a plug therein, and an auxiliary cap swiveled in said plug and adapted to seat on said pen section and prevent leakage of ink, substantially as described.

2. The combination with a cap for reservoir pens, of a chambered plug, an auxiliary cap provided with a stem swiveled in the chamber of said plug and with a part having a valve surface, substantially as described.

3. The combination with a reservoir pen and section provided with an air feeding orifice, of a main cap and an auxiliary cap freely rotatable therein and adapted to seat on the end of the pen section and to close said air feeding orifice, substantially as described.

4. In a reservoir pen, the combination of a pen section, a main cap, an auxiliary cap seating upon the outer end of said pen section and freely rotatable in said main cap, and an ink-holding chamber in said auxiliary cap, substantially as described.

969,199. COMBINED SKYLIGHT AND AUTOMATIC VENTILATOR. CHARLES SAUNDERS, Saginaw, Mich. Filed Feb. 1, 1909. Serial No. 475,481.



1. An automatic ventilator comprising a frame having a frangible portion, a movably supported weight adapted to burst the frangible portion, and means for normally retaining the weight removed from the frangible portion of the frame such means adapted to be affected by excessive heat to release the weight.

2. An automatic ventilator comprising a frame having a frangible portion, a swinging arm, a weight carried by such arm, the frangible portion of the frame lying in the path of movement of the weight, and a fusible link normally retaining the weight removed from the frangible portion of the frame.

3. An automatic ventilator comprising a frame having a frangible portion, a gravity-actuated weight, and means for normally maintaining the weight removed from the frangible portion such means adapted to be affected by excessive heat to release the weight.

4. An automatic ventilator for building shafts, comprising a frame having a frangible portion, a gravity-actuated weight suitably housed within the frame and adapted to burst the frangible portion, and a fusible member for normally retaining the weight removed from the frangible portion.

5. An automatic ventilator comprising a frame, two opposite walls of the frame being frangible, suitably supported swinging arms arranged in pairs, adapted for movement in opposite directions to burst the opposite frangible walls, and a fusible member normally connecting the arms in pairs.

[Claims 6 to 12 not printed in the Gazette.]

969,200. OCEAN AIRSHIP. REINHOLD SCHMIECHEN, Ledyard, Iowa. Filed May 20, 1909. Serial No. 497,363.



1. An ocean-air ship comprising a body adapted to hold gas in gas-tight cells, said body being of substantially semi-circular transverse section and having an independent, pointed, head, said head being hinged to said body at the forward end, means for raising and lowering said head; a series of means for propelling said body, said means being adapted to operate independently of one another, and aeroplanes projecting from the lower side of said body, said aeroplanes being hollow bodies adapted to hold gas.

2. An ocean-air ship comprising a body adapted to hold gas in gas-tight compartments therein, said body being substantially semi-circular in transverse section; a series of approximately hemispherical shells in said body, said shells having spirally corrugated walls, one member of said corrugations being approximately horizontal and the other substantially vertical; fixed axles in said shells; motor wheels in said shells adapted to revolve around said fixed axles; means for inclining said fixed axles forwardly and rearwardly, and means for rotating said motor wheels in said shells.

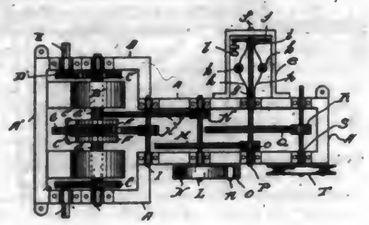
3. An ocean-air ship comprising a body adapted to hold gas in gas-tight compartments in said body, said body being approximately semi-circular in cross section, a series of approximately hemispherical shells in said body and forming a part thereof, said shells having spirally-corrugated walls; fixed axles in said hemispherical shells; fan-wheels in said shells and mounted upon said fixed axles; means for separately inclining said fixed axles and means for separately and connectedly operating said fan-wheels.

4. An ocean-air ship comprising a body adapted to hold gas in gas-tight compartments in said body, said body being substantially semi-circular in cross section, a series of approximately hemispherical shells forming a part of said body and open on their lower ends, said shells having spirally corrugated inner walls; tubular axles in said shells; a cylindrical shell in each of said hemispherical shells; tubular members surrounding said axles; shafts within said tubular members; means for revolving said shafts separately and connectedly, said means including arched members having horizontally-disposed tubular sleeves; transmission-shafts within the last-mentioned sleeves; bevel-gears in said arched members and connecting said shafts and the transmission-shafts; gearing on the free ends of the horizontally-disposed tubular sleeves; gearing on the adjacent ends of the transmission shafts; driving means engaging the gears on the horizontal tubular sleeves; clutch-mechanism adapted to reverse the movement of the horizontally disposed tubular sleeves, and clutch-mechanism adapted to engage and disengage the transmission shafts in said horizontally disposed tubular sleeves.

5. In an ocean-air ship, means for propelling the ship in air, and means for propelling the same in water, said latter means including spirally-corrugated, approximately hemispherical shells, ship's propellers in said shells; means for forwardly and rearwardly inclining said ship's propellers; means for rotating said ship's propellers separately and connectedly, and means for disconnecting the ship's propellers from the means that operate the air-propellers.

[Claims 6 to 8 not printed in the Gazette.]

969,201. SPRING-MOTOR. ZEPHANIAH C. SNEDERS, Pilot Point, Tex. Filed July 28, 1908. Serial No. 445,831.



A spring motor, consisting of a rectangular frame, studs mounted in the frame and having ends adapted to receive a winding crank, pinions on the inner ends of the studs, a shaft journaled in the frame, sleeves mounted on the shaft, gear wheels carried by the sleeves in mesh with the said pinions, springs having one end connected to the frame and the other to one of the sleeves and adapted to be wound on the sleeves, ratchet wheels on the inner ends of the sleeves, a gear wheel on the shaft between said ratchet wheels, pawls carried by the gear wheel for engaging the ratchet wheels, a series of shafts bearing gear and pinion wheels mounted in the frame, the main gear wheel being in mesh with the first pinion and the gear wheel on each shaft being in mesh with the pinion of the succeeding shaft, a speed governor and a brake carried by extensions of certain of the shafts, and a shaft bearing a sheave and having a pinion in mesh with the final gear wheel.

969,202. PROCESS OF MAKING PLASTIC MATERIAL. WILLIAM R. SEIGLE, Nashua, N. H. Filed Dec. 20, 1909. Serial No. 534,186.

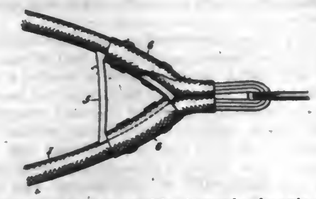
1. The process of manufacturing articles composed principally of asbestiform fiber and cement which consists in making a pulp of asbestiform fiber and cement with water, subjecting the wet pulp to filtration pressure sufficient to insure the concrete integrity of the mass while insufficient to produce such density in the mass as will prevent it from subsequently absorbing water to a substantial degree, then causing the compressed mass to absorb water, then altering the shape of the mass and finally allowing it to set in the desired final shape.

2. The process of manufacturing articles composed principally of asbestiform fiber and cement which consists in making a pulp of one part fiber, one part cement, and two parts water, by weight, subjecting the wet pulp to filtration pressure sufficient to insure the concrete integrity of the mass while insufficient to produce such density in the mass as will prevent it from subsequently absorbing water to a substantial degree, then causing the compressed mass to absorb water, then altering the shape of the mass and finally allowing it to set in the desired final shape.

3. The process of manufacturing articles composed principally of asbestiform fiber and cement which consists in making a pulp of asbestiform fiber and cement with water, subjecting the wet pulp to a filtration-pressure of about one thousand pounds to the square inch, then causing the compressed mass to absorb water, then altering the shape of the mass and finally allowing it to set in the desired final shape.

4. The process of manufacturing articles composed principally of asbestiform fiber and cement which consists in making a pulp of one part fiber, one part cement, and two parts water, by weight, subjecting the wet pulp to a filtration-pressure of about one thousand pounds to the square inch, then causing the compressed mass to absorb water, then altering the shape of the mass and finally allowing it to set in the desired final shape.

969,203. HOPPLE. WILLIAM E. SELL, Canton, Ohio, assignor to The Sell Horse Goods Company, Canton, Ohio, a Corporation of Ohio. Filed May 21, 1910. Serial No. 562,730.



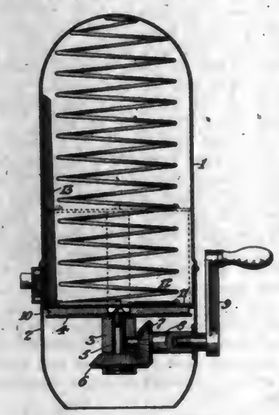
1. In a hopple, the combination of a hopple ring, a body strap secured to said hopple ring, a spreader connected to said hopple ring, the faces abutting against the hopple ring concaved and means for connecting the spreader to the hopple ring, substantially as and for the purpose specified.

2. The combination of a hopple ring or band, a triangled spreader provided with attaching strips, said attaching strips securely connected to the triangled spreader and means for clamping the attaching strips around and upon the hopple ring, substantially as and for the purpose specified.

3. In a hopple, a hopple band or ring, a body strap secured to said hopple band or ring, a spreader of triangular form located in the ring or band at the juncture of the body strap therewith, and means for connecting said triangular spreader to the hopple band or ring, substantially as and for the purpose specified.

4. A triangular spreader for hopples, a hopple ring, said spreader located in the hopple ring, means for securing said triangular spreader to the hopple ring, the faces of the spreader adapted to abut against the hopple ring being concaved, substantially as and for the purpose specified.

969,204. SOAP-DISPENSING MACHINE. GEORGE F. SHAVER, New York, N. Y., assignor to Hygienic Soap Granulator Company, a Corporation of New Jersey. Filed July 2, 1906. Serial No. 324,471.

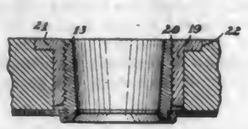


1. In a soap dispensing machine, the combination with a vertical cylindrical casing adapted to receive a cake of soap of substantially the same diameter as the interior of said casing, of a comminuting device located in the lower portion of said casing against which said cake of soap may rest and adapted to operate upon the cake of soap resting thereon, a supporting member extending transversely of the casing upon which said comminuting device rotates in engagement therewith, a shaft extending upward through said support and attached to said com-

minuting device, a beveled gear mounted upon said shaft, a horizontal shaft extending through the casing and having its inner end journaled in said support, a beveled gear upon said last mentioned shaft which meshes with said first mentioned gear, and a handle upon said first mentioned shaft exteriorly of the casing.

2. In a soap dispensing machine, the combination of a vertical cylindrical casing open at the bottom and closed at the top, said casing being adapted to receive a cake of soap of substantially the same diameter as the interior of said casing, of means for reducing the soap comprising a comminuting device located in the lower portion of the casing against which said cake of soap may rest, a supporting member upon which said comminuting device rests secured to the side walls of the casing and extending transversely thereacross, a vertical shaft extending through said support and connected to said comminuting device, a beveled gear carried by the lower end of said vertical shaft, a horizontal shaft extending through said casing and having its inner end journaled in said supporting member, a beveled gear upon the horizontal shaft which meshes with the beveled gear upon the vertical shaft, a handle carried by the horizontal shaft exteriorly of the casing, a follower for pressing the cake of soap against the comminuting device, and an extensile spring interposed between said follower and the top wall of the casing.

969,205. BARREL. GEORGE SHIELDS, Brooklyn, N. Y., assignor, by mesne assignments, to The Glass Enameled Package Co., Westchester county, N. Y., a Corporation of New York. Filed Sept. 28, 1909. Serial No. 520,025.



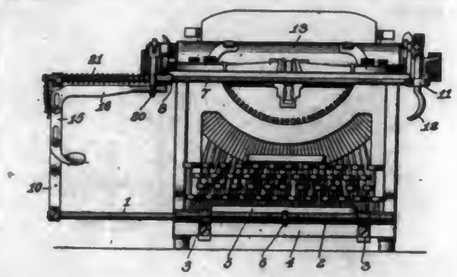
1. In a barrel, the combination of a metal lining member having at the bung aperture an integral flange extending inwardly, a sleeve member having at its inner end the bore tapering and reduced externally at such end to form a shoulder a short distance back of the end, the shouldered end of the sleeve being fitted into said flanged aperture of the lining and said members united at their engaging portions, and an inner vitreous coating fused on the lining member and on the exposed portion of the flange portion of the lining and also covering the said inner tapering end of the bore of the sleeve.

2. In a barrel, the combination of a metal lining member having at the bung aperture an integral flange extending inwardly, a sleeve member having at its inner end the bore tapering and reduced externally at such end to form a shoulder a short distance back of the end, the shouldered end of the sleeve being fitted into said flanged aperture of the lining and said members united at their engaging portions, an inner vitreous coating fused on the lining member and on the exposed portion of the flange portion of the lining and also covering the said inner tapering end of the bore of the sleeve, said sleeve being externally screw-threaded, and an internally screw-threaded bushing screwing onto said sleeve and having a flange at its outer portion arranged to secure a casing to the said lining member.

969,206. TYPE-WRITER ATTACHMENT. FREDERIC C. SHOBERT, Pittsburg, Pa. Filed Mar. 20, 1909. Serial No. 484,678.

1. The combination of a typewriting machine with means arranged in front of the bank of keys for rotating the platen, and means carried by the platen rotating means for releasing the carriage.

2. The combination of a typewriting machine with a frame supported by the frame of the typewriting machine in front of the bank of keys and movable with the carriage and having an arm adapted to engage the line spacing lever.



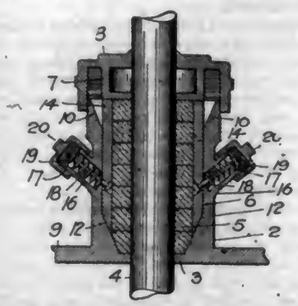
3. The combination of a typewriting machine with a frame movably supported by the frame of the machine in front of the bank of keys, and provided with an arm adapted to engage the line spacing lever and a slide mounted on the movable frame and adapted to engage the carriage release lever.

4. An attachment for typewriting machines having in combination a guide adapted to be detachably secured to the frame of the machine and a two armed frame having one arm movably carried by the guide and the other arm adapted to engage the line spacing lever.

5. An attachment for typewriting machines having in combination a guide adapted to be detachably secured to the frame of the machine, a two armed frame having one arm supported by said guide and the other arm connected to the carriage of the machine and adapted to engage the line spacing lever, and a slide movably mounted on the frame and adapted to shift the carriage latch or lever.

[Claims 6 and 7 not printed in the Gazette.]

969,207. STUFFING-BOX. WALTER C. SHORT, Denver, Colo. Filed Feb. 15, 1910. Serial No. 544,007.



1. A stuffing-box comprising in combination with a suitable container, a compressible, cylindrical packing spaced from the interior surface thereof, a radially contractible element interposed between the said packing and the said surface, and an adjustable gland operatively engaging the said element.

2. A stuffing box comprising in combination with a suitable container, a compressible, cylindrical packing therein, a radially contractible element engaging the circumferential surface of said packing and a means adapted to actuate the said element.

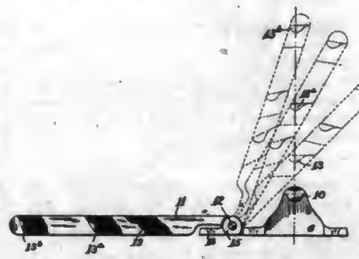
3. A stuffing box comprising a suitable container whose interior, cylindrical surface is formed with a circumferentially extending oblique face, a packing spaced from the said surface a contractible element within the said space and composed of a plurality of members each having a beveled portion conforming with the said face, and means to impart a longitudinal movement simultaneously to the said members, whereby they are forced inwardly along the said face and against the circumferential surface of the said packing.

4. A stuffing box comprising a suitable container whose interior, cylindrical surface is formed with a circumferentially extending oblique face, a packing spaced from the said surface a contractible element within the said space and composed of a plurality of members each having a beveled portion conforming with the said face, and a gland movably mounted on the said container in engagement with the ends of the said members whereby, when the said gland is actuated, the said members are impelled to move along the said face and toward the circumferential surface of the said packing.

5. A stuffing box comprising a suitable container whose interior, cylindrical surface is formed with a circumferentially extending oblique face, a packing spaced from the said surface, a contractible element within the said space and composed of a plurality of members each having a beveled portion conforming with the said face, and elastic elements constructed and arranged to resiliently maintain said members in their normal position, and means to impart a longitudinal movement simultaneously to the said members, whereby they are forced inwardly along the said face and against the circumferential surface of the said packing.

[Claims 6 to 12 not printed in the Gazette.]

969,208. SASH-FASTENER. ALEXANDER F. SMITH, Reading, Pa. Filed Mar. 9, 1910. Serial No. 548,200.



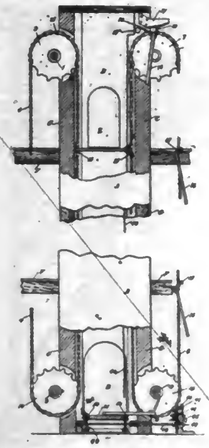
1. The combination with a fastener member for one sash comprising a base-plate and a cam-lever pivoted thereto, of a strike member for the outer sash comprising a base-plate having an integrally formed keeper-hook for engaging said cam-lever, and a pivotally mounted notched keeper-bar arranged to swing in the plane of said keeper-hook and to assume varying angles for engaging one or other of its notches with the cam-lever.

2. The combination with a fastener member for one sash comprising a base-plate and a cam-lever pivoted thereto, of a strike member having an integrally formed keeper-hook, and a keeper-bar support having a keeper-bar pivotally secured thereto, said strike member and keeper-bar support being adapted for side-by-side attachment to the other sash.

969,209. FIRE-ESCAPE. BENJAMIN SMITH, Utica, N. Y. Filed Oct. 15, 1908. Serial No. 457,780.

1. A device of the character described comprising a plurality of sprocket chains mounted in pairs, a series of platforms adapted to be passed from the top to the bottom of the device by support thereof on the said chains, a laterally moving walk at the bottom of the device, gear mechanism operating the said chains synchronously and controlling the moving walk at the base of the escape, adjustable governing mechanism limiting the speed of operation of the device and means for retarding the action of the device independent of the governing mechanism, substantially as described.

2. In a device of the character described, a series of sprocket wheels mounted at the top and bottom of the device, sprocket chains supported on the said wheels, platforms supported on the chains at one side of the device, means at the top of the device whereby the platforms are thrown into a horizontal position to be supported by the chains on the opposite side of the device, a movable walk at the base of said escape, gear mechanism connected with the series of sprocket wheels and operating said walk, and means for controlling the speed of action of the device, substantially as described.



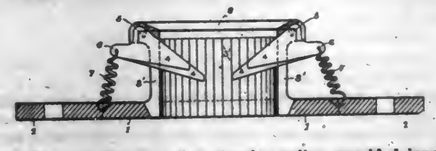
3. In a fire escape the combination of gear wheels arranged in pairs, chains running on said gear wheels, one pair of chains having secured thereto pivotally mounted platforms and the opposite pair of chains having secured thereto bars to engage and hold said platforms in a horizontal position while descending; said gears and chains acting synchronously and a movable walk at the base of said escape operated thereby and a governing device for controlling the movement of said mechanism, substantially as described.

4. In an automatic fire escape, the combination of sprocket wheels arranged in pairs, sprocket chains riding thereon, platforms pivotally mounted on one pair of sprocket chains, bars mounted on the opposite pair of chains, a movable walk at the foot of the fire escape operatively connected with and synchronously acting with the said platforms, and an adjustable governing device for controlling said mechanism, substantially as described.

5. In a fire escape, the combination of sprocket wheels arranged in pairs, sprocket chains thereon, platforms pivotally mounted on one pair of chains, bars secured to the opposite pair of chains to support the outer edge of the platforms, and means swinging the said edge of the platforms into position for such support, the same comprising a fixed bracket, a lug on the platform engaging with the bracket, an arm on the platform and a bearing stud engaging the arm whereby to swing the platform into supported position, substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

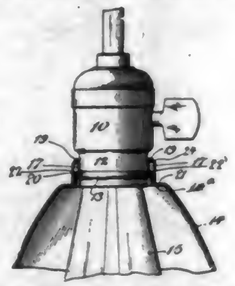
969,210. SLITTER FOR CORN-CUTTERS. FRANK W. SMITH, Portland, Me. Filed Feb. 19, 1909. Serial No. 478,980.



1. The combination of a circular collar provided longitudinally with equidistant slots, the planes of which radiate from a common center, knives pivoted within said slots, means whereby the rear portion of the cutting edge of each knife normally rests under tension against the end of said respective slots, substantially as described.

2. The combination of a circular collar provided longitudinally with equidistant slots, the planes of which radiate from a common center, knives pivoted within said slots, means whereby the rear portion of the cutting edge of each knife normally rests under tension against the end of said respective slots, together with means whereby an ear of corn may be fed between the cutting edges of said knives, all substantially as described.

969,211. SHADE-HOLDER. THEODORE SMITH, Chicago, Ill. Filed Jan. 2, 1909. Serial No. 470,465.



1. In a shade holder, the combination of a support having a circumferential shoulder for limiting the movement of the holder upon a lamp socket in one direction, and outwardly diverging, spring pressed jaws having flanges on their ends, and shoulders intermediate their ends for limiting the movement of the holder upon the socket in the opposite direction, and a clamping ring confined between the support and flanges and having jaw engaging cams adapted to crowd the jaws upon the socket by a partial rotation of the ring.

2. In a shade holder, the combination of a shade support having a shoulder forming an abutment against the lamp socket upon which the holder is to be attached and having outwardly springing jaws formed with outwardly extending flanges, and a clamping ring confined between the support and flanges and having an inwardly extending flange formed with cam shaped edges for engagement with said jaws.

3. In a shade holder, the combination of a shade supporting ring having outwardly springing jaws formed with shoulders adapted for engagement with the bead of an ordinary lamp socket, a clamping ring having means for crowding said jaws inwardly against the bead, and locking mechanism for preventing rotation of the clamping ring relative to the jaws.

4. In a shade holder, the combination of a shade supporting ring having clamping jaws which are provided with shoulders for engagement with the bead of an ordinary lamp socket, a ring having cams for engagement with said jaws, and locking means for locking the ring against movement upon the jaws.

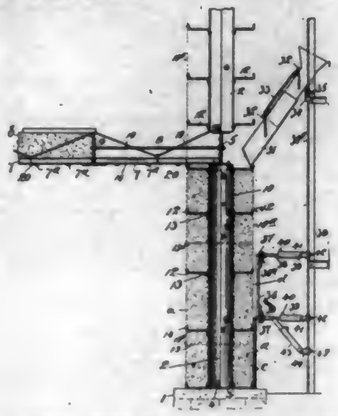
5. In a shade holder, the combination of a shade support having spring jaws, a clamping ring having cams for engagement with said jaws, a lock bar secured to one of said jaws, a threaded pin having a sliding connection with said lock bar and projecting out through the ring, and a nut threaded upon said pin and bearing on the outer face of the ring.

[Claims 6 to 8 not printed in the Gazette.]

969,212. MONOLITHIC CONSTRUCTION. ELI SOBEL, New York, WILLIAM GOLD, Woodhaven, and JOSEPH STRETCH, Freeport, N. Y. Filed Dec. 26, 1908. Serial No. 469,267.

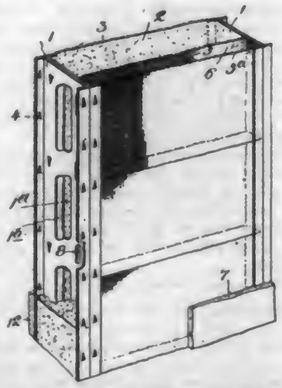
1. The combination of a scaffold, a mold plate, telescopic brackets one above the other adjustably connected with the mold plate and with the scaffold, and telescopic braces pivotally connected with the lower brackets and adjustably connected with the scaffold.

2. The combination of a scaffold, a mold plate, brackets one above the other adjustably connected with the scaffold, horizontally disposed irons one above the other connected with the brackets, means on the upper and lower parts of the mold plate to engage said irons, and telescopic braces movably connected with the brackets and adjustably connected with the scaffold.



3. A scaffold supported independently of and adjacent to a structure, a mold plate having downwardly and upwardly projecting clips, brackets adjustably connected with said scaffold, and horizontal angle irons connected with the brackets, the mold plate being received between horizontal parts of said irons and said clips engaging vertical parts of said irons.

969,213. MONOLITHIC CONSTRUCTION. ELI SOBEL, New York, WILLIAM GOLD, Woodhaven, and JOSEPH STRETCH, Freeport, N. Y. Filed Feb. 24, 1909. Serial No. 479,759.

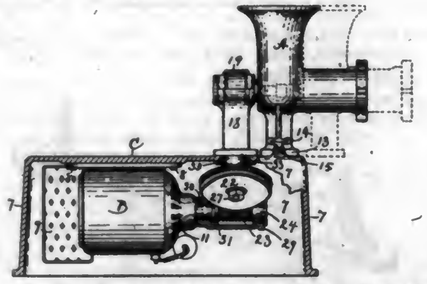


1. The combination of a plurality of studs spaced apart to form a skeleton of a wall, foraminous material secured to said studs, box-like members formed of foraminous material interposed between the studs and superimposed, the first named foraminous material being spaced away from the box-like members, fireproof material filled in the space between the first mentioned foraminous material and said members and entering the interstices of said material, and a finishing later applied upon the exterior of the first named foraminous material and upon the exterior of said members providing an air space at one side of said fireproof material.

2. The combination of a plurality of vertically disposed studs spaced apart and provided with openings, sheets of foraminous material attached to said studs and spaced apart providing spaces between the studs communicating through the openings in the studs, fireproof material filled in said spaces and passing in monolithic form through the openings in and embedding the studs, and entering the interstices of said foraminous material, foraminous material at a distance from one of the first named sheets of foraminous material providing an air space at the side of said fireproof material, and a finishing layer on the second named foraminous material.

3. The combination of a plurality of studs spaced apart to form a wall, concrete filled in the space between and embedding portions of said studs, double walls of foraminous material at one side of the concrete, and a layer of plaster attached to the outer foraminous material providing an air space between said layer and the concrete, said studs having openings communicating with said air space.

969,214. POWER-TRANSMISSION MECHANISM. HERBERT W. SPELLMAN and CLARENCE E. OLMSTED, New Britain, Conn., assignors to Landers, Frary and Clark, New Britain, Conn., a Corporation. Filed Mar. 18, 1909. Serial No. 484,123.



1. In combination, a power transmission mechanism comprising a base plate and transmission gearing, a machine, and a locking screw, said base plate being provided with a threaded hole adapted to receive said locking screw, said machine being provided with a recess adapted to register and engage with the said locking screw and thereby secure said machine to said base.

2. In a power transmission mechanism, a base plate adapted to receive a motor on the bottom side and a machine on the top side having their axes of revolution in the same plane, and transmission gearing adapted to operatively connect said motor and said machine, and comprising a counter shaft constituting a part of said gearing and located diagonally across said plane.

3. In a power transmission mechanism, gearing, and a shaft, the end of said shaft having three parts, respectively an inner cylindrical part of relatively large diameter, an intermediate part with squared sides, and an outer cylindrical part of small diameter, the said gearing adapted to receive the said end of said shaft and engage with the said part with squared sides.

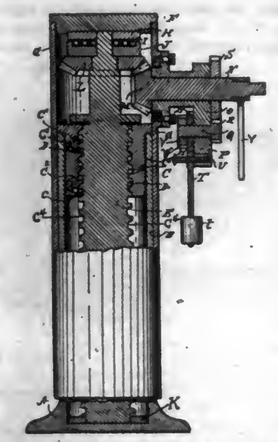
4. In a power transmission mechanism, a hollow driving gear, the hollow interior of which has three parts respectively an outer cylindrical part of relatively large diameter, an intermediate part with squared sides and an inner cylindrical part of relatively small diameter.

5. In a power transmission gearing, a driving gear comprising a shell-like structure having an exterior made up of three parts, respectively two cylindrical bearing parts, one at each end, and a gear proper intermediate thereto, and having an interior provided with means for operative connection with a shaft.

[Claims 6 to 11 not printed in the Gazette.]

969,215. SCREW-JACK. CALVIN T. STARBUCK, Birmingham, Ala. Filed May 25, 1909. Serial No. 498,184.

1. In a lifting jack, a base and casing, a sleeve slidable on the casing, a nut in the casing, a screw threaded in the nut, a bearing head in the end of the sleeve, a connection between the bearing head and screw whereby the bearing head is elevated, means for rotating the screw, and an escapement connected to the screw rotating means whereby the movement of the screw rotating means is regulated.



2. In a lifting jack, a base and casing, a sleeve slidable on the casing, a nut in the casing, a screw threaded in the nut, a bearing head in the end of the sleeve, a connection between the bearing head and screw whereby the bearing head is elevated, a shaft for rotating the screw, a rotating member geared to the shaft, and an escapement for controlling the rotating member.

3. In a lifting jack, a base and casing, a sleeve slidable on the casing, a nut in the casing, a screw threaded in the nut, a bearing head in the end of the sleeve, a connection between the bearing head and screw whereby the bearing head is elevated, a shaft for rotating the screw, a rotating member geared to the shaft, a brake, and an adjustable escapement for regulating the movement of the rotating member.

4. In a lifting jack, a base and casing, a sleeve slidable on the casing, a nut in the casing, a screw threaded in the nut, a bearing head in the end of the sleeve, a connection between the bearing head and screw whereby the bearing head is elevated, a shaft for rotating the screw, a second shaft geared to the first mentioned shaft, an escapement wheel and a friction wheel on the second shaft, a friction band on the friction wheel, means for adjusting the friction band, and an escapement operating in conjunction with the escapement wheel.

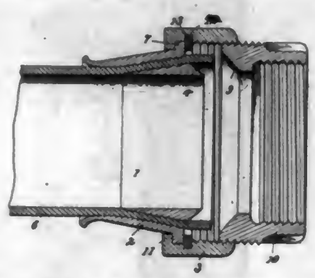
5. In a lifting jack, the combination with a base, and casing, a sleeve slidable on the casing, a nut in the casing, said nut having a channel adapted to receive balls, a screw threaded in the nut, and a bearing head in the end of the sleeve, of a connection between the bearing head and the screw whereby said head is elevated, means for rotating the screw, a rotating member geared to said means, a brake, and an escapement for regulating the movement of said rotating member.

[Claim 6 not printed in the Gazette.]

969,216. HOSE-COUPLING. JOHN H. STEPHENS, Vernon, Tex. Filed June 16, 1908. Serial No. 438,789.

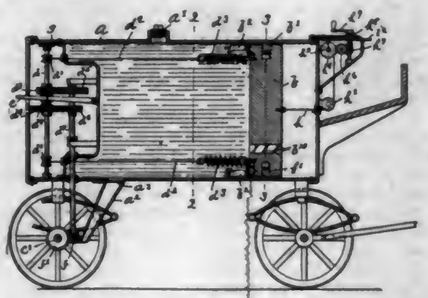
In a coupling of the character described, the combination of a hose pipe, a ring mounted within the end of the pipe, with the pipe projecting beyond the outer end of the ring, said ring being enlarged from its inner end toward its outer end and formed at such outer end with a beveled exterior wall, a coupling member encircling the hose pipe and coacting with the ring to tightly clamp the hose between the coupling member and the ring, said coupling member being formed at its outer end with an

exterior annular flange, a swivel connector formed at its inner end with an inturned flange taking over the flange of the coupling member, said swivel connector being formed with an interior annular groove, a split ring mounted within the groove and holding between it and the flange of the swivel connector the flange of the coupling member, the inner circumferential wall of said split ring being spaced from the hose pipe, and another coupling member adapted to screw into the swivel connector



and formed at its outer end with a beveled interior wall corresponding to the beveled exterior wall of the first named ring, said two walls binding between them the projecting end portion of the hose pipe, the apex of the beveled wall of the first named ring registering with the inner groove of the swivel connector whereby the hose pipe will be permitted to expand in the space between said apex and the inner circumferential wall of the split ring, as and for the purpose set forth.

969,217. STREET-FLUSHING APPARATUS. WILLIAM H. STEWART, St. Louis, Mo. Filed Dec. 12, 1907. Serial No. 406,227.

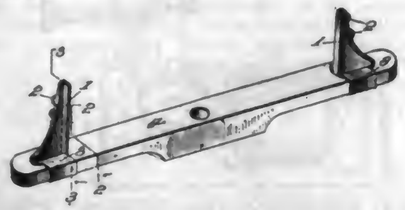


1. In a street flushing apparatus, the combination of a water-containing reservoir, a piston movable therein, actuating-mechanism connected with said piston for moving it to produce a pressure on the water contained in the reservoir, a revolving-member on the truck-frame, means for connecting the actuating-mechanism with and disconnecting it from said revolving member, means for locking said actuating-mechanism and for holding the piston in any position it may occupy to maintain the pressure on the water when the actuating-mechanism is disconnected from the revolving-member, a device for disengaging said locking means, permitting return of the piston, and actuating means connected with the piston for returning it to its normal position, substantially as described.

2. In a street flushing apparatus, the combination of a water-containing reservoir, a piston movable therein, two-speed actuating mechanism connected with the piston for moving it at different speeds to produce a variable pressure on the water contained in the reservoir, a revolving member on the truck-frame, means for connecting said actuating mechanism with and disengaging it from said revolving member, whereby the piston may be moved at different speeds or remain idle, means for locking said actuating mechanism and for holding the piston in any position it may occupy to maintain the pressure on the water when the actuating mechanism is disengaged from the revolving member, a device for disengaging said locking means, permitting the return of the piston and actuating mechanism connected with the piston for returning it to its normal position, substantially as described.

3. In a street flushing apparatus, the combination of a water-containing reservoir having a chamber at one end, a piston movable in said reservoir, actuating mechanism contained in the chamber and connected through the wall thereof with the piston for moving it to produce a pressure on the water contained in the reservoir, a revolving member on the truck-frame, means for connecting said actuating mechanism with and disconnecting it from said revolving member, means for locking said actuating mechanism and for holding the piston in any position it may occupy to maintain the pressure on the water when the actuating mechanism is disconnected from the revolving member, a device for disengaging said locking means, permitting the return of the piston, and actuating means arranged at the forward end of the reservoir, which is connected with the piston for returning it to its normal position, substantially as described.

969,218. WAGON-STANDARD. ARTHUR D. STERNHEIM, Charlestown, Ind. Filed Oct. 21, 1909. Serial No. 523,885.



1. A standard comprising a body portion, a foot carried by said portion and adapted to extend around the edge of a bolster from the upper face to the lower face thereof, means for pivotally connecting the extremity of said foot to the lower face of the bolster, and means for locking said standard in an upright position.

2. A standard comprising a body portion provided at its base with a foot adapted to extend around the edge of a bolster, means carried by said foot for pivotally connecting the extremity thereof to the under side of the bolster, a laterally extending plate provided at the base of the standard opposite the foot and means for locking said standard in an upright position.

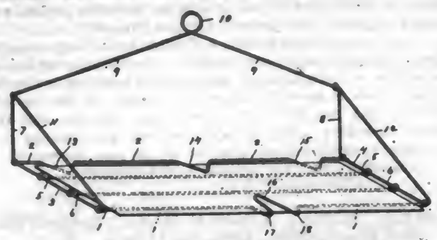
3. A standard comprising a body portion provided on one side of its base with a foot adapted to extend around the edge of a bolster, a laterally extending plate formed on the base of the standard opposite said foot and provided with an aperture, means for pivotally connecting the extremity of said foot to the under side of the bolster and a spring pressed locking key carried by said bolster and adapted to engage the aperture of the plate.

4. A standard comprising a body portion, a foot carried by said portion adapted to extend around the edge of a bolster, means for pivotally connecting the extremity of said foot to the under side of the bolster, a laterally extending plate arranged at the base of the standard opposite said foot, and means carried by the bolster for automatically engaging said plate.

5. A standard comprising a body portion, a foot carried by said portion and adapted to extend around the edge of a bolster, said foot being coiled at its extremity to receive a staple adapted to engage the under side of the bolster, a laterally extending plate arranged at the base of the standard opposite said foot and means carried by the bolster for automatically locking the standard in an upright position.

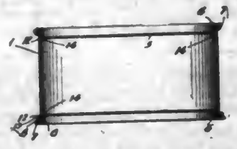
[Claims 6 and 7 not printed in the Gazette.]

969,219. FLY-PAPER HOLDER. CHRISTIAN F. STONER and FRANK B. TROUT, Lancaster, Pa. Filed June 16, 1909. Serial No. 502,421.



As an article of manufacture, a fly-paper holder, comprising a paper supporting frame composed of front, back and side rods, intermediate longitudinal supporting rods secured to said side rods, a suspending frame formed with sustaining means and integral with said supporting frame and at right angles, inwardly projecting paper retaining loops formed in the back rod of said supporting frame, and a paper retaining hook comprising an outwardly and upwardly projecting pair of loops and an inwardly projecting hook formed in the front rod of said supporting frame.

969,220. ROLL-SIDE KEY-OPENING CAN. WILLIAM E. TAYLOR, Eastport, Me., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 10, 1910. Serial No. 543,064.



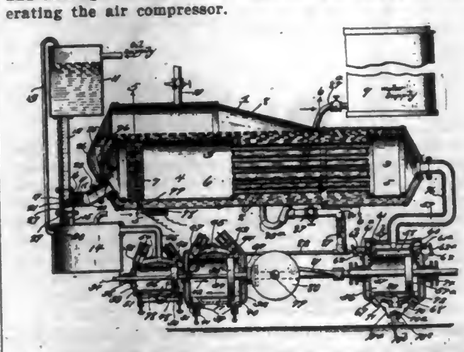
1. A roll side key opening can comprising a can body, can heads having countersunk walls fitting inside the can body, external double seams uniting the can heads to the can body, said can body having a roll side, and at each edge of said roll side a weakened line between the adjacent inner face of one of said can heads and the double seam uniting such head to the can body, said countersunk walls and said double seams supporting the metal of the can body on opposite sides adjacent to said weakened lines, substantially as specified.

2. The combination with can heads having countersunk walls, of a can body provided with a roll side wider than the space between the can heads, said can body having scores at the edges of said roll side, said can body and can heads having external double seams closely adjacent to said scores, said countersunk walls and said double seams supporting the metal of the can body on opposite sides adjacent to said weakened lines, and said roll side of the can body having an externally projecting lip at one extremity thereof adjacent to the side seam of the can body, substantially as specified.

969,221. ENGINE. ANDREW J. THOMPSON, Aneta, N. D. Filed Feb. 16, 1910. Serial No. 544,274.

1. In a gas engine of the type set forth, a steam boiler having an inner and an outer casing provided with heating flues, said inner casing having a combustion chamber provided with a partition of material designed to become incandescent, in combination with an air reservoir and an oil fuel tank, a mixing chamber for the air and the fumes from the oil having a deflector for breaking the oil into small particles, an air compressor for compressing and forcing air into the reservoir, and means for operating said last-named means.

2. In a gas engine of the type set forth, a steam boiler having an inner and an outer casing provided with heating flues, said inner casing having a combustion chamber provided with a partition of material designed to become incandescent, in combination with an air reservoir and an oil fuel tank, a mixing chamber for the air and the fumes from the oil having a deflector for breaking the oil into small particles, an air compressor for compressing and forcing air into the air reservoir, and means for operating the air compressor.



3. In a gas engine of the type set forth, a steam boiler having an inner and an outer casing provided with heating flues, said inner casing having a combustion chamber provided with a partition of material designed to become incandescent, in combination with an air reservoir and an oil fuel tank, a mixing chamber for the air and the fumes from the oil having a deflector for breaking the oil into small particles, an air compressor for compressing and forcing air into the air reservoir, a power cylinder for furnishing power to the air compressor, and means for assisting the power cylinder and the air compressor in their operations.

4. In a gas engine of the type set forth, a steam boiler having an inner and an outer casing provided with heating flues, said inner casing having a combustion chamber provided with a partition of material designed to become incandescent, in combination with an air reservoir and an oil fuel tank, a mixing chamber for the air and the fumes from the oil having a deflector for breaking the oil into small particles, an air compressor for compressing and forcing air into the air reservoir comprising a low compressor cylinder and a high compressor cylinder having an external pipe connection therebetween to convey the air compressed by the low compressor cylinder into the high compressor cylinder, and means for operating the air compressor.

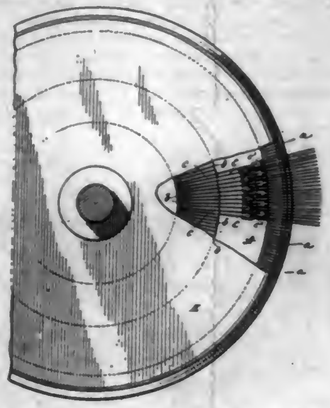
5. In a gas engine of the type set forth, a steam boiler having an inner and an outer casing provided with heating flues, said inner casing having a combustion chamber provided with a partition of material designed to become incandescent, in combination with an air reservoir and an oil fuel tank, a mixing chamber for the air and the fumes from the oil having a deflector for breaking the oil into small particles, an air compressor for compressing and forcing air into the air reservoir comprising a low compressor cylinder and a high compressor cylinder having an external pipe connection therebetween to convey the air compressed by the low compressor cylinder into the high compressor cylinder, a power cylinder for furnishing power to the air compressor, and means for assisting the power cylinder and the air compressor in their operations.

[Claims 6 to 9 not printed in the Gazette.]

969,222. NEEDLE AND JACK STRUCTURE FOR KNITTING-MACHINES. ELI TIFFANY, Bennington, Vt., assignor to Nye and Fredick Company, a Corporation of Delaware. Filed Feb. 24, 1909. Serial No. 479,771.

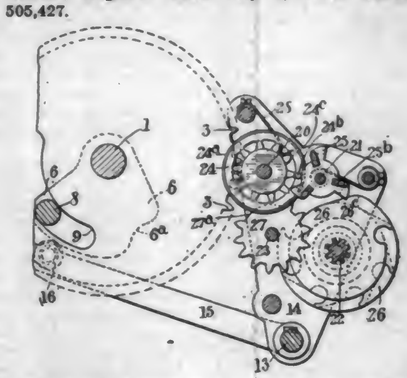
In a knitting machine and in combination with a needle bed provided with radiating grooves, needle jacks provided with enlargements or heads having a plurality of needles connected to each and mounted in said grooves and ar-

ranged therein in two groups, the needles of one group being shorter than the needles of the other group, and



the jack-heads carrying the needles of the shorter group being arranged in advance of the other jack heads.

969,223. ADDING-MACHINE. JOHN MEANY TOURTEL, London, England. Filed July 1, 1909. Serial No. 505,427.



1. In an adding machine, a plurality of toothed sectors, a totalizing counter normally out of contact with said sectors, means for bringing said counter into engagement with said sectors, sector racks, one for returning to their normal positions those of said toothed sectors previously set, and the other sector rack arranged to effect a "carry" of "transfer," a suitable cam for operating said sector racks, and a shaft for operating said cam and capable of movement through a complete rotation.

2. In an adding machine, a plurality of toothed sectors, a cradle, a counting mechanism carried by said cradle and normally out of contact with said sectors, and a handle and connections whereby said cradle is moved to bring said counting mechanism alternately into and out of contact with the toothed sectors, the said counting mechanism comprising a series of counter wheels, rotatable transfer devices adapted to be engaged by said counter wheels, and a series of rotatable wipers adapted to bring the transfer devices to their normal positions.

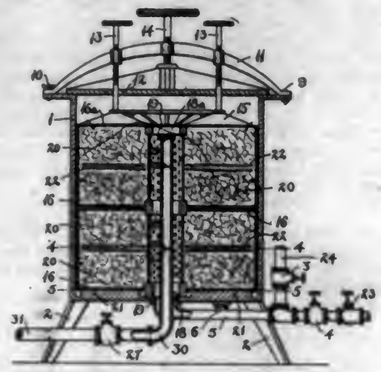
3. In an adding machine, a plurality of toothed sectors, a totalizing counter normally out of contact with said sectors, and means for bringing said counter into engagement with said sectors, in combination with transfer devices having grooves, with means for operating said devices and provided with pins for passing through the grooves aforesaid.

4. In an adding machine, a plurality of toothed sectors, a totalizing counter having wheels normally out of contact with said sectors, transfer means for engaging the wheels aforesaid, a multigrooved pinion, transfer wipers of cam shape having projecting noses and serrated openings by which they are set in echelon upon the pinion, said noses engaging the transfer devices aforesaid.

5. In an adding machine, a counter mechanism comprising a transfer wiper cam having a projecting nose and an aperture in front thereof, said cam also having a circular edge which is normally nearer the center of the transfer device than the extremity of the teeth thereon, and said edge extending partly around the cam and leading to a segmental extension terminating at the nose aforesaid.

[Claims 6 and 7 not printed in the Gazette.]

969,224. FILTER. FERDINAND TUREK, Cleveland, Ohio. Filed Sept. 2, 1909. Serial No. 515,916.



1. A filter comprising a casing having an inlet and an outlet, and a series of trays containing filter mass superposed in said casing, the trays having perforated inner and outer side walls, the former forming a central conduit with perforations throughout the full length thereof and directly opposite the filter mass and the latter being spaced slightly from the sides of the casing, whereby liquid may flow through said side walls and the filter mass therebetween.

2. A filter comprising a casing having an inlet and an outlet, and a series of trays having perforated bottoms and sides and containing filter mass, placed one above the other in said casing, the trays being alternately inverted with the bottom of one adjacent the bottom of the other, the outer sides of the trays being spaced from the sides of the casing, and a central conduit having perforated sides, extending through the trays.

3. A filter comprising a casing having therein a series of filter units with central openings forming a conduit through said units, and a pipe extending through the end of the casing and projecting into said conduit and having spray holes in the sides.

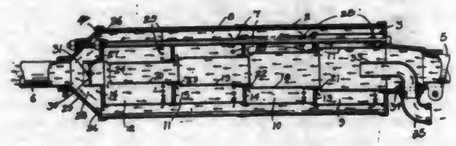
4. A filter comprising a casing having therein a series of filter units with a central perforated tube extending through said units, and a spray pipe extending through the casing wall and into said tube and having laterally directed spray holes.

5. A filter comprising a casing, and a pair of units therein each consisting of a tray with a perforated bottom and sides and a filling of filter mass, the bottom having a central opening, and a perforated tube extending through said units and in line with the said openings, the trays being placed together with their bottoms at opposite ends of the structure.

[Claim 6 not printed in the Gazette.]

969,225. MUFFLER FOR EXPLOSIVE-ENGINES. AXEL M. WALSTROM, Minneapolis, Minn. Filed Oct. 28, 1909. Serial No. 525,177.

1. An engine exhaust muffler comprising a suitable casing having an inlet opening in one end and an outlet opening in the other end, a number of short tubes placed end to end forming a continuous passage connecting said openings and each of said tubes being successively decreased in diameter from said inlet to said outlet opening, annular ports formed at the adjacent ends of said tubes by their difference in diameter and each of said tubes presenting a comparatively thin edge to the incoming flow of exhaust gases for the purpose of dividing the stream of said gases without checking or retarding the same.



2. An engine exhaust muffler comprising a suitable casing having an inlet opening in one end and an outlet opening in the other end, a continuous passage connecting said openings and composed of a number of short tubes of unequal diameters placed end to end, each of said tubes being successively decreased in diameter from said inlet to said outlet opening and each presenting a comparatively thin edge to the incoming flow of exhaust gases, annular ports formed at the adjacent ends of said tubes by their difference in diameter, a valve provided within said casing and adapted to close said passage at a point near said outlet opening and thereby compelling the gases in said passage to enter the interior of said casing through said annular ports, or, said valve is adapted to be opened to allow part of said gases to escape directly into said outlet opening.

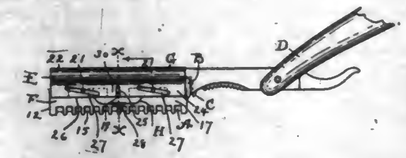
3. An engine exhaust muffler comprising a cylindrical casing having an inlet opening in one end and an outlet opening in the other end, a central passage within said casing extending from said inlet opening to a point near said outlet opening, transverse plates dividing the interior of said casing into a series of chambers, ports in the wall of said central passage connecting said passage with each of said chambers, ports connecting each of said chambers with said outlet opening.

4. An engine exhaust muffler comprising a cylindrical casing having an inlet opening in one end and an outlet opening in the other end, a central passage within said casing connecting said inlet and outlet openings, a valve provided in said passage and adapted to open or close the same at a point near said outlet opening, a concentric wall dividing the interior of said casing into an outer and an inner longitudinal annular space, transverse plates dividing said inner annular space into a series of chambers, ports in the wall of said central passage connecting said passage with each of said chambers, ports in said concentric wall connecting each of said chambers with said outer annular space, ports connecting said outer annular space with said outlet opening.

5. An engine exhaust muffler comprising a cylindrical casing, an engine exhaust pipe entering one end and an outlet opening provided at the other end, a central passage within said casing forming a continuation of said exhaust pipe and extending to a point near said outlet opening, transverse plates dividing the interior of said casing into a series of chambers, ports in the wall of said central passage connecting said passage with each of said chambers, ports connecting each of said chambers with said outlet opening, a valve provided near said outlet opening and adapted to open or close said central passage at that point and thereby, either, allowing the exhaust gases to pass through said central passage directly into said outlet opening, or, compelling said exhaust gases to simultaneously enter all of said chambers through the ports in the wall of said central passage.

[Claims 6 and 7 not printed in the Gazette.]

969,226. RAZOR. ALONZO A. WARNER, New Britain, Conn., assignor to Landers, Frary and Clark, New Britain, Conn., a Corporation. Filed Dec. 17, 1909. Serial No. 533,614.



1. A safety razor having a blade, a guard plate provided with a guard and a clamp member having means for clamping said guard plate on said blade, and comprising means of adjustment of the said guard plate relatively to the said blade consisting of a longitudinal way on said guard plate, diagonal slots on said clamp member, guide pins having ends, and means whereby the said guide pins may be removed back and forth and the inner ends of the said guide pins being engaged with the said way and the outer ends engaged with the said diagonal slots.

2. A safety razor having a blade, a guard plate provided with a guard, a clamp member having means for holding said guard plate on the said blade, and means of adjustment of the said guard plate relatively to the said blade comprising a longitudinal way on said guard plate, diagonal slots on said clamp member and guide pins fitting and engaged with the said way and slots, a slide plate carrying the said guide pins and serving as means whereby the same may be moved back and forth relatively to the said way and slots.

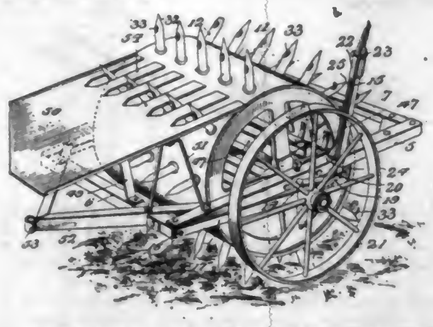
3. A safety razor having a blade, a guard plate provided with a guard, and a clamp member having means for clamping said guard plate to the said blade comprising front and back clamping wings, means of adjustment of the said guard plate relatively to the said blade comprising a longitudinal way in the said guard plate, diagonal slots in the said front clamping wing, and guide pins each receivable in the said way and slots and provided with means whereby they may be moved to different positions therein.

4. A safety razor having a blade, a guard plate provided with a guard, and a clamp member having means for holding the said guard plate on the said blade, comprising a front clamping wing, means of adjustment of the said guard plate relatively to the said blade comprising a longitudinal way on the said guard plate, diagonal slots on the said front clamping wing, guide pins receivable in the said way and slots, and provided with means whereby they may be moved back and forth relatively to the said way and slots, means for maintaining constant the longitudinal relation of the said guard plate and blade, the said last means comprising a guide pin in said guard plate and a crosswise slot in said front clamping wing in engagement with the said latter pin.

5. A safety razor having a blade and a guard plate provided with a guard, a pair of clamping wings united by a tubular back serving to hold said guard plate in position on the said blade, the said tubular back fitting the back of the said blade, a slide plate interposed between the said guard plate and one of the said clamping wings, the said guard plate provided on the outer side with a guide pin centrally located and a longitudinal way near the back edge, the said wing adjacent the said side plate provided with parallel diagonal slots and a crosswise slot fitting and adapted to receive the said guide pin, the said side plate provided with a pair of guide pins, the said guide pins penetrating the said slide plate, the inner ends fitting and received in the said longitudinal way, and the outer ends fitting and received in the said diagonal slots, and an operating handle, rigid with the said slide plate, whereby the said plate may be operated back and forth so as to change the relative position of the said guard plate and the said blade.

[Claim 6 not printed in the Gazette.]

969,227. ROTARY MANURE-LOADER. EDWARD M. WASSENFELTZ, Funkstown, Md. Filed Nov. 10, 1909. Serial No. 527,274.



1. In a machine of the class described including a truck, a drum mounted for rotation on the truck and provided with peripheral spurs, and load retaining fingers operating within the spurs.

2. In a machine of the class described including a truck, a drum mounted for rotation on the truck and provided with peripheral spurs, and load retaining devices operating within the spurs and movable to operative position at predetermined intervals.

3. In a machine of the class described including a truck, a drum mounted for rotation on the truck and provided with peripheral spurs, load engaging devices housed within the spurs and movable to operative position on one side of the spurs at predetermined intervals, and means for raising and lowering the drum.

4. In a machine of the class described including a truck, a drum mounted for rotation on the truck and provided with peripheral gathering members, and load retaining fingers yieldably supported within the gathering members and movable to operative position at predetermined intervals.

5. In a machine of the class described including a truck, a drum mounted for rotation on the truck and provided with peripheral gathering members, load retaining fingers slidably mounted within the gathering members, and a stationary actuating member adapted to move the load retaining fingers to extended position at predetermined intervals.

[Claims 6 to 16 not printed in the Gazette.]

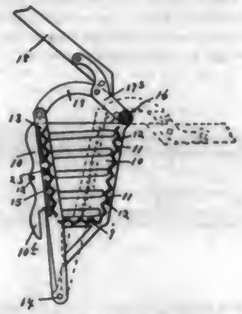
969,228. DRILL-HOLDER. JOHN W. WELLS, Everett, Mass. Filed October 27, 1909. Serial No. 524,973.



An improved drill holder, comprising a plate, upon which are mounted two or more arms hinged together at one end, each arm having a series of perforations, and having numbers indicating the size of said perforations, and a cover or case to encompass said holder, substantially as described herein.

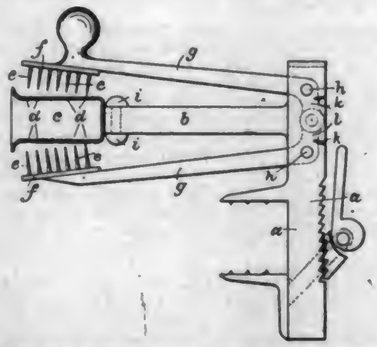
969,229. MOP-WRINGER. WILLIS H. WETMORE, Oneida, N. Y. Filed May 18, 1908. Serial No. 433,409.

1. The combination, in a mop wringer, of end frames having downward extensions to engage the inner wall of the bucket or pail and hooks to retain the device on the bucket or pail, a fixed presser side between the end frames arranged at the opposite side from the hooks which engage the pail, swinging levers hinged at their lower ends to the downward extensions of the end frames and located immediately inside the end frames respectively and projecting upwardly above the upper edges thereof, a movable presser board mounted between said levers, a rock shaft mounted in bearings in the end frames above the upper end of the fixed presser side and having rigid crank arms, curved links connecting said crank arms with the upper ends of said swinging levers, and a lever handle connected with the rock shaft, substantially as set forth.



2. The combination, in a mop wringer, of the end frames having at one side means for attachment to a pail, and downward extensions adapted to fit against the inner side of a pail, a fixed presser side arranged between the end frames at the opposite side from that having the means for attachment to the pail, said fixed side having a narrow bottom extension, swinging levers pivoted to the end frame extensions at their lower ends and projecting above the edges of the end frames and movable in the spaces afforded by said narrow bottom extension, a movable presser board secured to the upper swinging portions of said levers, a rock-shaft mounted in bearings at the upper edge of the fixed presser side and having upwardly projecting cranks, a handle for rocking the shaft, and curved draw links connecting the upper ends of the swinging levers with the rigid crank arms on the said rock-shaft, substantially as set forth.

969,230. APPARATUS OR DEVICE FOR PIERCING SAUSAGES AND THE LIKE. CHARLES HART WHITLOCK, Chatham, England. Filed Mar. 9, 1910. Serial No. 548,217.



1. The apparatus or device for piercing sausages and the like, consisting of a framing provided with a pair of spring arms hinged or pivoted thereto and furnished with plates at their open ends fitted with pins for piercing the sausage or the like, in combination with a suitably drilled holder for the sausage or the like fitted to the framing aforesaid; substantially as hereinbefore described and shown.

2. An apparatus for piercing sausage and the like, comprising in combination, a frame provided with means for attachment to a support, a perforated holder having one end closed and the other open for receiving the sausage, and perforating means arranged to enter the holder through its perforation to pierce the sausage.

3. An apparatus for piercing sausage and the like, comprising in combination, a frame, a holder or receiver mounted on said frame for receiving the sausage and provided with small perforations, and pivotally mounted perforating means arranged on said frame to enter the perforations of said holder or receiver to pierce the sausage.

4. An apparatus for piercing sausage and the like, comprising in combination, a receiver for the sausage provided with openings, and pivotally mounted devices arranged to enter the openings in said receiver for piercing the sausage, said devices being connected with each other whereby actuation of one of said devices serves to operate the other thereof.

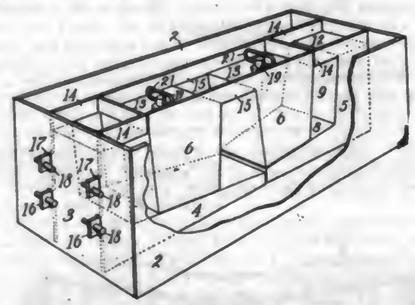
5. An apparatus for piercing sausage or the like comprising in combination, a frame, a receiver on the frame closed at one end and open at its other end and having perforations in its wall, and perforating devices mounted on said frame and arranged for movement into said receiver through said perforations to perforate the sausage.

969,231. WIRE-FASTENER. GERSHOM C. WILKISON, Rosewood, Ohio. Filed Apr. 30, 1909. Serial No. 493,144.



As a new article of manufacture, the herein described wire fastener for fence posts, the same consisting of an integral structure returned upon itself at a middle point to form a cross bar 8 and parallel fingers 6 spaced from each other, said fingers having angular portions near the cross bar and having angular opposite ends, the free extremities of said fingers being arranged to be bent angularly to the last named angular portion, and each of said fingers being formed on that angular portion thereof which is contiguous to the cross bar with a substantially perpendicularly disposed lug, said lugs extending from corresponding sides of the fingers.

969,232. MOLD FOR CEMENT BLOCKS. ABRAM W. WINTERFIELD, St. Paul, Minn. Filed Aug. 23, 1907. Serial No. 389,802.



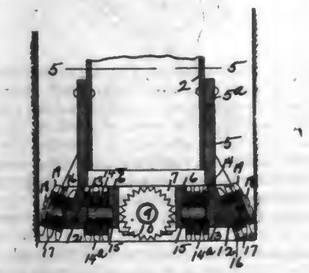
1. A mold for concrete blocks, comprising, in combination, an open ended flask, and a plurality of cores occupying an intermediate longitudinal substantially parallel sided space from end to end of said flask, said cores consisting of end members having top and bottom arms projected inwardly, and an inner arch member coöperating with said top and bottom arms to provide substantially central web spaces extending from side to side of the mold said top and bottom arms abutting and underlying said arch member to form inclosed web cores.

2. In a mold of the class described, in combination, a flask, a pair of L-shaped cores centrally arranged therein with their bottom legs extending toward each other, a plurality of inner cores resting on said bottom legs and shaped so as to allow of upward withdrawal, and a key passing revolubly through each inner core and the bottom leg of the supporting outer core, the key being formed at the top with a flange to abut against the top of the inner core and at the bottom with oppositely inclined cam flanges, and the bottom of the outer core being formed on its under face with oppositely inclined and disposed cams in position to be engaged by the cam flanges of the key.

3. A mold for concrete blocks comprising in combination, a collapsible open ended flask, a plurality of core-members carried by said flask and having longitudinally extended bases, upwardly extended flanges formed on said core-members to register with the plane of the upper edge of the flask, other core-members resting on said bases and extending upwardly to the same level as the flanges of said first mentioned cores, said flanged cores and second mentioned cores coöperating to mold a block having substantially parallel longitudinal sides, and cross bands connecting said sides to leave lateral passages and upper and lower longitudinal passages.

4. A mold of the class described, comprising a collapsible flask, a pair of endwise removable and oppositely disposed L-shaped outer cores, a plurality of upwardly removable inner cores resting upon the bottom legs of the outer cores, the inner face of the upwardly extending leg of each outer core being inclined downwardly and inwardly, and all of the cores being interspaced from each other and from the side walls of the flask, and strips carried by the cores in line with their side walls and extending over the spaces between them and adjacent cores, whereby the side walls of the block to be formed may be built up above the cross bonds thereof.

969,233. DRILLING MECHANISM. WILLIAM F. WITTICH, Erie, Pa. Filed May 21, 1908. Serial No. 434,070.



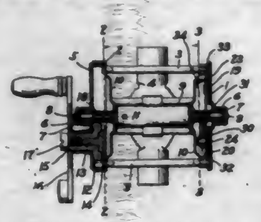
1. In a drilling mechanism, the combination of a rotative head; means for driving said head; a frame having the longitudinal bars therein; a shaft secured between said bars; cutters on said shaft; a supplemental frame extending laterally from said longitudinal bars and carrying a shaft lying in the plane at right angles to the axis of the head, and a shaft inclined to said plane; and cutters on said shafts.

2. In a drilling mechanism the combination of a head; a frame thereon having longitudinal bars extending diametrically across the head; cross pieces connecting said bars; a shaft on the cross pieces; cutters on said shaft; ears extending radially from the longitudinal bars; auxiliary frames secured between the ears and extending to the longitudinal bars; inclined pins extending from the auxiliary frame; and cutters on the inclined pins.

969,234. REEL. ANDREW WOLLENSAK, Rochester, N. Y., assignor to Wollensak Optical Company, Rochester, N. Y., a Corporation of New York. Filed Sept. 13, 1909. Serial No. 517,518.

1. In a reel, the combination of a frame; a spool revolubly supported thereby; retarding devices for said spool carried by said frame; and a manually-operable rotary disk concentric with the spool, and carrying parts adapted, respectively, to operate one of said retarding devices

when said disk is rotated in one direction, and the other retarding device when said disk is rotated in the other direction.



2. In a reel, the combination of a frame; a spool revolubly supported therein; retarding devices for said spool carried by said frame; and a manually-operable disk revolubly supported at one side of and exterior to said frame and having lateral projections adapted, respectively, to operate one of said retarding devices when said disk is rotated in one direction, and the other retarding device when said disk is rotated in the other direction.

969,235. FISHING-REEL. ANDREW WOLLENSAK, Rochester, N. Y., assignor to Wollensak Optical Company, Rochester, N. Y., a Corporation of New York. Filed Mar. 9, 1910. Serial No. 548,297.



1. In a reel, the combination of a frame whose back is perforated; a spool revolubly supported thereby; a retarding device for the spool, attached to the inside of the back of the frame; and a lever pivoted on the inside of the back of the frame adapted to operate the retarding device, and having a resilient operating arm that is sprung outwardly through the perforation in the back of the frame and projects radially beyond it.

2. In a reel, the combination of a frame consisting of a shell, open in front, having a slot in its back, and having a spindle diametrically located within it; a spool adapted to revolve on the spindle; a retarding device for the spool, attached to the inside of the back of the frame; and a lever pivoted on the inside of the back of the frame, adapted to operated the retarding device, and having a resilient operating arm that projects laterally through and is movable in the slot.

969,236. LOCK. HORACE W. WOODRUFF, New Orleans, La. Original application filed Oct. 23, 1909, Serial No. 524,182. Divided and this application filed Jan. 6, 1910. Serial No. 536,646.

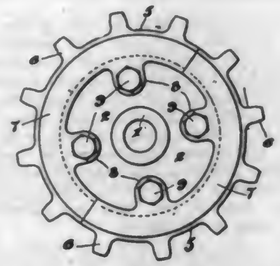


1. The combination with a casing, rotatable tumblers, a spring-actuated slidable bolt and a dog attached to the bolt and adapted to engage said tumblers, of a spring-actuated movable device adapted to project into the path of said dog to prevent retraction of the bolt save when actuated by the tumblers, substantially as described.

2. The combination with a casing, rotatable tumblers, a spring-actuated slidable bolt and a dog pivoted to said bolt within the casing and having a nose adapted to engage the notched tumblers, of a spring-actuated movable device adapted to project into the path of the dog, and a spring-actuated support for said device, said support being adapted to hold said device in retracted position and out of engagement with the dog, the free end of the support lying in the path of the dog so that when the bolt and dog are pushed inward, the support is disengaged from the movable device, which is thus left free to project into engagement with the nose of the dog and hold the dog against retraction, substantially as described.

3. The combination with a casing, a slidable spring-actuated bolt having a beveled nose, a series of rotatable notched tumblers, a dog pivoted to said bolt within the casing and having a nose adapted to engage notches of the tumblers, a slidable bar serving as a safety stop for the bolt, the same being arranged at right angles to the dog and having a pin projecting through and accessible from the outer side of the casing, guides fixed on the inner side of the casing between which said bar is guided, a spring acting on said bar, a support adapted to hold said bar in its retracted position, said support consisting of a pivoted spring-actuated hook whose free end is adapted to engage the bar, and is arranged in the path of the dog in the manner set forth.

969,237. SECTIONAL SPROCKET-WHEEL. CHARLES WOOLNOUGH and GEORGE F. WHEELER, Montreal, Quebec, Canada. Filed May 20, 1910. Serial No. 562,433.



A sectional sprocket wheel comprising a hub provided with a flange having an offset rim or shoulder said rim or shoulder being provided with dove tail mortises toothed rim sections provided with flanges having perforated ears said rim sections being adapted to be seated on the shoulder of the aforesaid flange of the aforesaid hub and being provided with dove tail tenons adapted to coöperate with the aforesaid dove tail mortises and means for securing said rim sections in operative position.

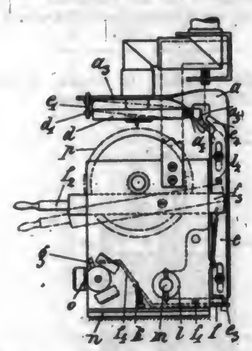
969,238. PROCESS OF SCALDING AND WASHING VEGETABLES. GEORGE E. WRIGHT, Aberdeen, Md. Filed Nov. 18, 1909. Serial No. 528,772.



The method of treating vegetables for canning which consists in subjecting them to the action of live steam, washing and then treating them with drying fluid.

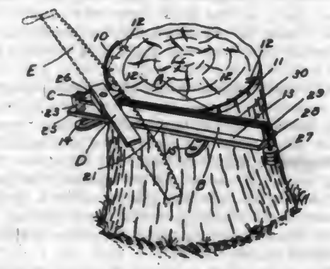
969,239. TALKING-MACHINE. MAX OSCAR ARNOLD, Neustadt, near Coburg, Germany. Filed Nov. 4, 1909. Serial No. 526,319.

In a talking machine with cylindrical record, a bell crank lever, a clock work, a regulator thereon, a stop pin on said regulator, periodically coöperating with said bell crank lever, an angular carrier, a reproducer pivoted thereto, a spring influenced slide on said carrier, coöperating above with said reproducer and below with said bell crank lever, the latter serving to alternately hold said slide in the raised and lowered position respectively, means for



raising said slide, and means for traveling said carrier from one end position into the other with raised reproducer and back again with the reproducer in contact with the record, substantially as and for the purpose set forth.

969,240. SAW GUIDING AND FEEDING DEVICE. GODFREY HUGH MASSY BAKER, Ottawa, Ontario, Canada. Filed June 19, 1909. Serial No. 503,146.



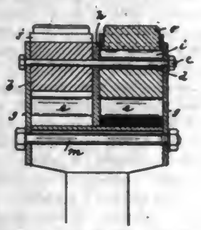
1. In a saw guiding and feeding device, a guideway, means for connecting the same to a tree or the like, a guide block slidable on the guide-way, a guide plate pivotally connected to the guide block and formed with a flat surface adapted to support the underside of the saw, and with means to slidably engage the rear edge of the saw in such a manner as to cause the guide-plate to swing with the saw during its operation.

2. In a saw guiding and feeding device clamping tongs adapted to engage a tree or the like, one member of the tongs having a slot in the extremity, a guiding and feeding device having clamping means extending through said slot and having means connecting the same with the other member of the tongs to that in which the slot is formed.

3. In a saw guiding and feeding device, a pair of clamping tongs adapted to engage a tree or the like having a slot formed in the outer extremity of one member and a series of perforations in the outer extremity of the other member, and a guiding and feeding device having clamping means adapted to extend through the perforations and slot, respectively.

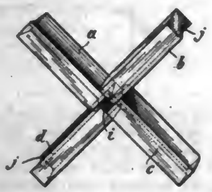
4. In a saw guiding and feeding device, a guideway, means for connecting the same to a tree or the like, a guide block slidable on the guideway, a guide plate pivotally connected to the guide block and formed with a flat plate adapted to support the underside of the saw and with an upturned flange adapted to slidably engage and guide the rear edge of the saw, and means for feeding the guide block along the guideway.

969,241. VEHICLE-WHEEL. TOM WILLIAM BAKER, London, England. Filed May 2, 1907. Serial No. 371,385.



The combination, with a wheel rim, of side plates carried thereby, an intermediate flange arranged between the side plates and forming channels therewith, tread blocks arranged in said channels, the tread blocks in one channel breaking joints with those in the other, dividing blocks alternating with the tread blocks in each channel, bolts penetrating said side plates and the flange and each also penetrating a tread block in one channel and a dividing block in the other channel, each tread block having a radially arranged slot receiving the bolt, and a resilient bed for the tread blocks, substantially as described.

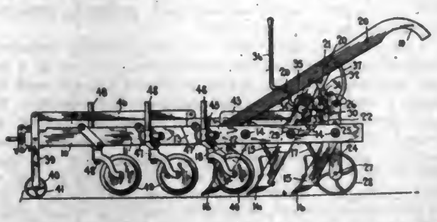
969,242. TOOL FOR POINTING NAILS AND SIMILAR ARTICLES. GOTTLOB BITZER, Dusseldorf, Germany. Filed Apr. 9, 1910. Serial No. 554,336.



1. A device of the character described, comprising a series of opposed overlapping dies having longitudinal grooves and tapered cutting heads, the cutting head of any one die being adapted to engage the groove of the adjoining die.

2. A device of the character described, comprising a pair of jaws adapted to be moved at right angles to each other, a pair of diagonal recesses in each of said jaws, dies seated within said recesses and having longitudinal grooves and tapered cutting heads, the cutting head of any one die being adapted to engage the groove of the adjoining die.

969,243. PLOW. JAMES T. BOYD, Springville, Miss. Filed Mar. 11, 1909. Serial No. 482,726.

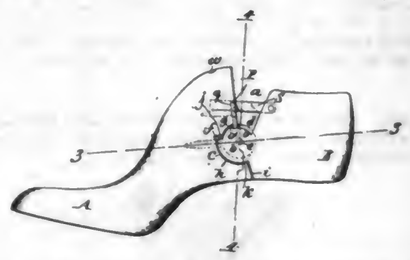


1. The combination with a plow beam having handles fixed to the rear end thereof; of a front wheel, a standard carrying said wheel pivoted to the front of said beam, a shaft rotatably mounted at the rear of said beam, a hand lever fixed on said shaft to form means to rotate the same, a rock lever fixed on said shaft, a reach rod connected to the rock lever and extending forward along said beam, a bar connected to the free end of the reach rod

and projecting forward therefrom, a guide for said bar fixed to said beam, and a second reach rod connecting the forward end of the bar to the pivoted standard.

2. The combination with a plow beam having handles fixed to the rear end thereof; of a front wheel, a standard carrying said wheel pivoted to the front of said beam, a shaft rotatably mounted at the rear of said beam, a hand lever fixed on said shaft to form means to rotate the same, a rock lever fixed on said shaft, a reach rod connected to the rock lever and extending forward along said beam, a bar connected to the free end of the reach rod and projecting forward therefrom, a guide for said bar fixed to said beam, a second reach rod connecting the forward end of the bar to the pivoted standard, a rear wheel, a second standard at the rear of said beam carrying said rear wheel, and means connected to said shaft to raise or lower the rear wheel as the shaft is rotated.

969,244. LAST. RUDOLF CARL, Buffalo, N. Y. Filed Mar. 16, 1910. Serial No. 549,686.



1. A last comprising front and rear pivotally connected sections, one of said sections having a circular knuckle and the other a circular socket which receives said knuckle said sections being constructed from a single block and the joint between said sections comprising a part which is cut and another part which is broken.

2. A last comprising front and rear pivotally connected sections, one of said sections having a circular knuckle and the other a circular socket which receives said knuckle said sections being constructed from a single block and said sections having some parts thereof in the joint between the same engaging with each other while other parts in said joint are out of engagement with each other.

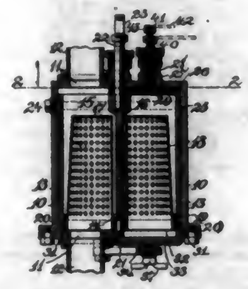
3. A last comprising front and rear pivotally connected sections, said sections being separated at the top by a gap and said rear sections having a curved knuckle and the front a curved socket which receives said knuckle, the joint between said sections comprising a curved cut terminating below the pivotal connection between said sections, an upright cut extending upwardly from the bottom of the last, and a broken part extending from the curved cut to said upright cut.

4. A last comprising front and rear pivotally connected sections, said sections being separated at the top by a gap and said rear sections having a curved knuckle and the front a curved socket which receives said knuckle, the joint between said sections comprising an opening arranged in front of the pivotal connection between said sections, an upper curved cut extending from the front side of said gap downwardly and terminating in rear of said opening, a broken part extending from the lower end of said upper curved cut to said opening, a lower curved cut extending downwardly from said opening to a point below the pivotal connection between the last sections, an upright cut extending from the bottom of the last upwardly, and a broken part extending from the rear end of said lower cut to the upper end of said upright cut.

5. A last comprising two pivotally connected sections which are separated at the top by a gap and one of said sections having a curved knuckle which is provided with a shoulder adjacent to said gap, and the other section having a curved socket which receives said knuckle, and a plate secured to the last section having the socket and adapted to be engaged by the shoulder of the knuckle in the unfolded position of the last sections.

[Claims 6 to 12 not printed in the Gazette.]

969,245. FILTER. JOSEPH H. CLARK, Newark, N. J. Filed Oct. 4, 1909. Serial No. 520,950.



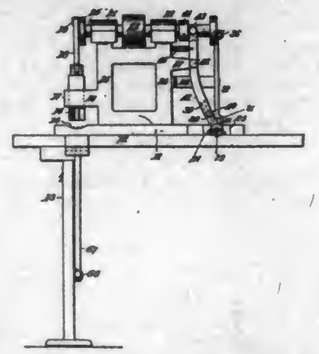
1. A filter comprising a casing having pipe openings on one side, a sleeve arranged to rotate in the casing, a partition in the sleeve forming chambers, a basket in each chamber, means for rotating the sleeve, a plate for the sleeve except for the portion containing the basket to receive the current between the pipe openings, means for forcing the plate on the sleeve from the exterior of the casing, the casing having an opening to uncover a basket in the chamber closed by the plate, and a cover for the opening.

2. A filter comprising a casing having pipe openings on one side, a sleeve arranged in the casing, a partition in the sleeve, baskets in the partitions, a plate, means for forcing the plate onto the sleeve and for relaxing the pressure thereon, a rod projecting from the sleeve through the casing, means on the rod for its manual manipulation, the casing having an opening through which a basket can be withdrawn, a lid for the last mentioned opening, means for securing the lid, and an outlet valve for draining the chamber closed by the lid.

3. A filter comprising a casing, a sleeve arranged to rotate in the casing, a partition in the sleeve to divide the sleeve into chambers, baskets arranged in the chambers, the casing having pipe openings on one side, a plate on the side of the sleeve opposite the pipe openings, manually operated means on the exterior of the casing for preventing the rotation of the plate and to force the same toward the sleeve, the forcing means having a vent passing through, means for operating the sleeve from the exterior of the casing to rotate the sleeve, the casing having an opening beneath the plate, a cover for the opening, means for securing the cover, and an outlet valve for draining the chamber confined between the cover and the plate.

4. A filter comprising a casing having pipe openings on one side, a sleeve rotatably arranged in the casing, a rod projecting from the sleeve and through the casing for rotating the sleeve, a partition in the sleeve to form chambers, baskets in the chambers, a plate to fit on the sleeve to cover the sleeve except for the basket adapted to receive the current between the pipe openings, the plate having a perforation therein, a screw in screw-threaded engagement with the casing having a shoulder to fit on the plate and a reduced portion to fit the perforation in the plate, the screw having a longitudinal vent, a cover for the vent, a handle for rotating the screw, the casing having an opening in its bottom beneath the plate, a cover for the last mentioned opening, a bar pivoted to the casing adapted to swing thereon, a hook for receiving the end of the swinging bar, a screw on the bar adapted to bear on the cover, and an outlet valve in the cover.

969,246. OYSTER-OPENING MACHINE. FRANK S. CLARKSON, Baltimore, Md. Filed Dec. 7, 1909. Serial No. 533,810.



1. In a machine of the character described, a die having a hollowed out oyster seat and a reëntrant V-shaped front cutting edge, in combination with a punch having a correspondingly formed cutting edge.

2. In a machine of the character described, a horizontal die having a front cutting edge to sever the front edges of the oysters, and converging cutting edges at the ends of the front cutting edges and at angles thereto to trim the sides of the oysters, in combination with a vertically movable die having similarly shaped cutting edges coacting with the cutting edges of the die.

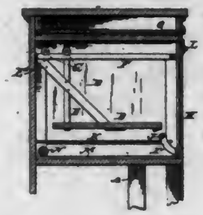
3. In a machine of the character described, the combination of a reciprocating punch, having a reëntrant V-shaped front cutting edge and converging side cutting edges, and a die having a similar front cutting edge and converging side cutting edges.

4. In a machine of the character described, a die having a curvilinear resilient oyster-seat and a V-shaped front cutting edge, in combination with a die with a correspondingly formed cutting edge.

5. In a machine of the character described, a die having a curvilinear resilient oyster-seat and a V-shaped front cutting edge and inclined cutting sides, in combination with a die with a correspondingly formed cutting edge and inclined cutting sides.

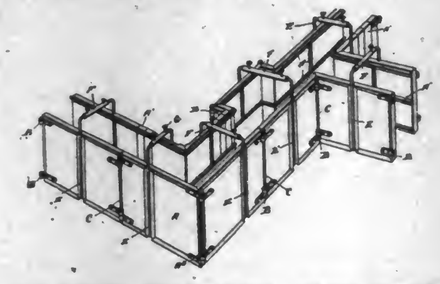
[Claims 6 to 32 not printed in the Gazette.]

969,247. COMBINED BOOK AND TYPE-WRITER STAND. BENJAMIN A. DAVIS, Elwood, Iowa. Filed Aug. 9, 1909. Serial No. 512,026.



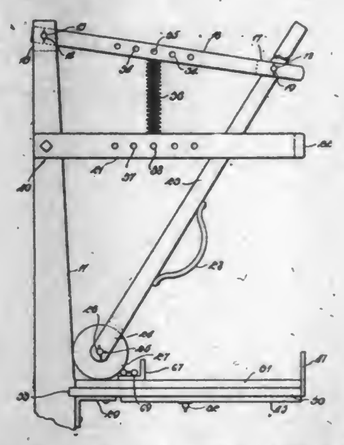
The combination of a revolving book-case having an upper compartment adapted to receive a type-writer, supporting rails therein, brackets depending therefrom, said brackets being provided with travelers to run on the rails, and having abutting terminals to engage the under side of the rails when the platform is depressed, and a platform attached to said brackets.

969,248. MOLD FOR CONCRETE WALLS. GREEN B. DAVIS and JOHN A. MCFARLAND, Linn Creek, Mo. Filed Nov. 6, 1908. Serial No. 461,366.



In a mold, the combination with a plurality of sections, said sections being each provided on their outer faces with plates having eyes projecting from the sides of the sections, said eyes being adapted to receive a rod for pivotally securing adjacent sections together, the sections also having vertically disposed grooves formed in their outer faces and vertical and horizontal ridges formed on their inner faces out of alinement with and independent of said grooves, the edges of certain of the sections being beveled to enable their inner edges to make a tight joint when the sections are set at an angle to each other, of supplemental sections adapted to be inserted between the main sections for slightly increasing the length of the mold, and tubular metal members adapted to be inserted between the opposite sides of the members to form fine openings, said tubular members being each provided with a bail or handle for removing the same.

969,249. ROLLING AND SEAMING MACHINE. PERCY E. DEATON, Mooresville, N. C., assignor of one-half to A. W. Colson, Mooresville, N. C. Filed Sept. 17, 1909. Serial No. 518,263.



1. In a device of the kind described, a standard, an arm pivoted thereto, means normally urging said arm downward, a lever pivoted to said arm, a die roll mounted on said lever, and a die plate supported beneath and coacting with said roll.

2. In a device of the kind described, a standard, an arm pivoted thereto, a guide rigidly fixed to said standard below said arm, a tension spring connecting said arm and guide, a lever pivotally mounted on said arm and held to move along said guide, a die roll mounted on said lever, and a die plate supported beneath and coacting with said die roll.

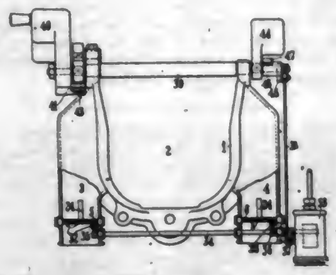
3. In a device of the kind described, a standard, an arm pivoted thereto, a pair of spaced guide arms rigidly fixed to said standard, a tension spring connecting said pivoted arm and guide arms, means to vary the tension of said spring, a lever pivotally mounted on the pivoted arm and passing between said guide arms, a die roll mounted on said lever, and a die plate supported beneath and coacting with said die roll.

4. In a device of the kind described, a standard, an arm pivoted thereto, a pair of spaced guide arms rigidly fixed to said standard, a tension spring connecting said pivoted arm and guide arms, means to vary the tension of said spring, a lever pivotally mounted on the pivoted arm and passing between said guide arms, a die roll mounted on said lever, a die plate supported beneath and coacting with said die roll, and a work supporting table held adjacent to and level with said die plate.

5. In a device of the kind described, a standard, an arm pivoted thereto, means normally urging said arm downward, a lever pivoted to said arm, a die roll mounted on said lever, a die plate supported beneath and coacting with said roll, and a work supporting table held adjacent to and level with said die plate.

[Claims 6 to 9 not printed in the Gazette.]

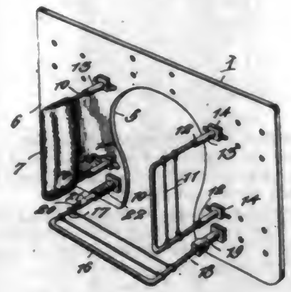
969,250. BOILER-FURNACE. GUSTAV DE GRAHL, Zehlendorf, near Berlin, Germany. Filed June 10, 1909. Serial No. 501,293.



1. In apparatus for automatically regulating the draft in boiler-furnaces the combination of a door-frame having lateral flues, said flues communicating at their lower ends with the free atmosphere and at their upper ends with the fire-box, flap valves closing said flues and adapted to open automatically when the partial vacuum in the combustion chamber exceeds a certain limit, the pivotal axis of said flap valves being between the center of the same and one edge thereof, a shaft revolubly mounted on the door-frame, a fire door rigidly attached to said shaft, a weighted lever having a projection rigidly attached to one end of said shaft, a sleeve revolubly mounted on said shaft and being provided with a shoulder, the projection of said weighted lever abutting against the shoulder of said sleeve when the fire door is opened, a cataract, a piston in said cataract, a second shaft revolubly mounted on the door frame, means for transmitting the motion of said piston to said second shaft and the motion of said second shaft to said piston means for transmitting the rotation of said sleeve to said second shaft and vice versa and means for transmitting the rotation of said second shaft to said flap valves.

2. In apparatus for automatically regulating the draft in boiler furnaces the combination of a door frame having lateral flues, said flues communicating at their lower ends with the free atmosphere and at their upper ends with the fire-box of the flap valves closing said flues and being adapted to open the same automatically when the partial vacuum in the combustion chamber exceeds a certain limit, the pivotal axis of said flap valves being between the center line of the same and one edge thereof, a shaft revolubly mounted on the door frame, a fire-door rigidly attached to said shaft, a weighted lever having a projection rigidly attached to one end of said shaft, a sleeve revolubly mounted on said shaft having a shoulder, the projection of said weighted lever abutting against the shoulder of said sleeve when the fire-door is opened, a cataract having a piston, a second shaft revolubly mounted on the door-frame means for transmitting the motion of said piston to the second shaft and vice-versa, levers attached to said second shaft and in engagement with said flap valves and to open the same as soon as the latter shaft rotates and raises the levers.

969,251. HEAD-REST. JACOB DENZER, Strasburg, Ohio. Filed Apr. 11, 1910. Serial No. 554,672.



1. A device of the character described comprising a body, head rests thereon, a neck rest, a swiveled connection between one end of said neck rest and the body, and a detachable connection between the other end of said head rest and the body.

2. A device of the character described comprising a body, head rests thereon, a neck rest, a member swiveled on the body, a hinged connection between said swiveled member and one end of the neck rest and a detachable pin and socket connection between the other end of said neck rest and the body.

969,252. PYROTECHNIC COMPOUND. BERNARD J. DEVER and BERTRAM J. DELZEIT, Philadelphia, Pa. Filed Oct. 25, 1909. Serial No. 524,513.

1. A pyrotechnical compound consisting of white phosphorus, chlorate of potash, clay, sulfid of antimony, gum arabic, bichromate of potash.

2. A pyrotechnical compound consisting of one part white phosphorus, two and one-half parts chlorate of potash, three parts clay, one and one-half parts black sulfid of antimony, six parts gum arabic, and one-quarter part bichromate of potash, all of said parts being mixed and applied as set forth.

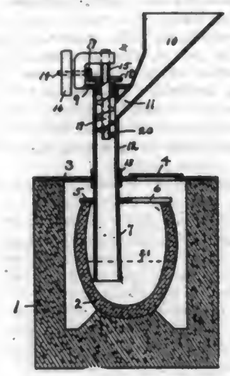
969,253. PROCESS FOR RECOVERING METAL. ARCHIBALD W. DIACK, Detroit, Mich. Filed June 8, 1910. Serial No. 565,802.

1. The process of recovering light metals, which consists in mechanically feeding particles of the same down through a conveying tube whose lower end is submerged in a mass of molten metal.

2. The process of recovering metals from a mixture of metals and oxids of the same, which consists in mechanically feeding the mixture down through a tube whose lower end is submerged in a mass of molten metals of a higher specific gravity than the metals recovered.

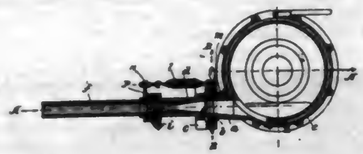
3. The process of separating metals from a mixture of the same and impurities, which consists in mechanically feeding the mixture down a tube having its lower end submerged in molten metals and permitting the impurities to rise to the surface.

4. The process of recovering metals, which consists in mechanically feeding particles of the same down into a mass of molten metals while protecting the same from oxidation by the flame which keeps up the temperature of the mass of the molten metals.



5. The process of recovering easily-oxidized metal from impurities which consists in feeding particles of the same into a mass of molten metal through a conveyer which is filled with a non-oxidizing gas.

969,254. APPARATUS FOR CHARGING THE RETORTS OF ZINC AND OTHER ANALOGOUS FURNACES. EMILE DOR-DELATTRE, Liege, Belgium. Filed May 6, 1910. Serial No. 559,857.



1. An appliance for charging the retorts of zinc and other analogous furnaces comprising a charging tube connected to the casing containing the propeller or feed wheel, by means of hinges or joints permitting of the angular displacements of the tube, when same encounters an obstacle, both in a vertical and in a lateral direction, and means acting to automatically return said tube to normal position after passing an obstacle.

2. An appliance for charging retorts comprising a charging tube connected to a suitable supply device, by means of two vertical hinges and a horizontal hinge, so that the tube can pivot or swing to one side or downward, in combination with a spring maintaining the charging tube in its normal position.

3. An appliance for charging retorts comprising a charging tube connected to the casing containing the propeller or feed wheel, by means of hinges or joints permitting of the angular displacements of the tube, in combination with an intermediate coupling piece interposed between the discharge branch of the casing and the charging tube proper, this coupling being connected to the discharge branch by means of a pivot and a pin capable of being readily removed.

4. An appliance for the purpose described comprising a charging tube, a suitable supply device, connected with the tube by means permitting the latter to move either vertically or laterally, and a spring acting to maintain the tube in normal position, and to restore it to such position after it has been deflected in any direction.

5. An appliance for the purpose described comprising a casing, a charging tube supported from the casing by means permitting it to move to and from alinement with an outlet from the casing, and means acting to retain the tube in alinement with said outlet.

[Claim 6 not printed in the Gazette.]

969,255. ROD-PACKING. PARMER DORSEY, Hutchinson, Kans. Filed Dec. 11, 1909. Serial No. 532,637.



1. The combination with a rod and a stuffing box having an inclined shoulder, of a divided metal ring made in two separable halves surrounding the rod within the stuffing box and having a rounded base contacting said shoulder.

2. The combination with a rod and a stuffing box having an inclined shoulder, of a metal ring surrounding the rod within the stuffing box and having a rounded base contacting said shoulder and having an enlarged tapered bore adapted to receive packing.

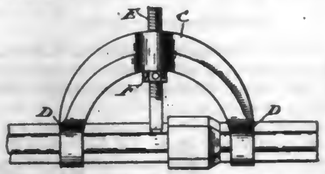
3. The combination with a rod and a stuffing box having an inclined shoulder, of a metal ring surrounding the rod within the stuffing box and having a rounded base contacting said shoulder, having an enlarged tapered bore adapted to receive packing, and its exterior diameter increasing from the base end to the opposite end.

4. In a stuffing box, a metal ring having a substantially triangular cross section and having a base rounded in cross section.

5. In a rod packing, a ring adapted to seat against one end of a stuffing box, said ring being divided diametrically into two sections, said sections being peripherally grooved, and keys fitted in said grooves.

[Claims 6 to 16 not printed in the Gazette.]

969,256. RAIL-BREAKING DEVICE. JAMES DUBIE, Toronto, Ontario, Canada, assignor of one-half to James Dusty, Toronto, Canada. Filed Mar. 19, 1909. Serial No. 484,524.



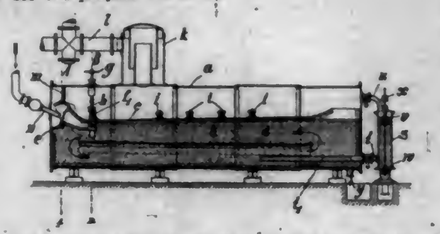
1. A device for use in breaking rail ends comprising a socket piece adapted to receive a rail end, and an arm on said socket of the same cross section as the interior of the socket.

2. A device for use in breaking rail ends comprising a socket piece adapted to receive a rail end, and an arm on said socket of same cross section as the interior of the socket and in axial alinement with said socket.

969,257. STEAM REGENERATIVE ACCUMULATOR. EMIL ECKMANN, Neubeckum, Germany. Filed Sept. 23, 1908. Serial No. 454,428.

1. An accumulator shell for steam regenerators having its interior divided into a water space and a steam space by the top of the former, said spaces communicating at

one point only, in combination with valves in said top which may be opened when the pressure of the steam below them reaches a certain degree, means for supplying steam to the water compartment and means for regulating the depth below the surface of the point of such supply for the purpose set forth.



2. An accumulator having water and steam spaces and means for permitting the passage of steam from the latter to the former valves opening additional passages between them, means for supplying steam to said water space and a deflecting plate arranged in said water space and dividing it into parts but permitting the passage of water around its ends.

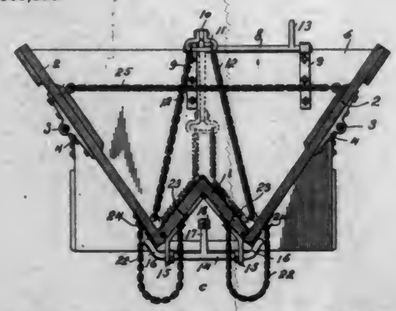
3. In combination with an accumulator shell and a deflecting plate arranged within the same and providing water passages at both ends, a partition dividing the interior of said shell into a water space containing said deflector and an upper steam space, means for supplying steam to said water space, means for permitting steam under pressure to escape from said water space to said steam space and means for regulating the water-level, said regulating means being in connection with said steam space, and comprising a tube adapted to admit water and extending far under said deflector to a point where the water is less agitated than at the ends of the water space.

4. An accumulator comprising a water-space, a steam-space and means of communication between them, in combination with a steam pipe, a tapering inlet passage receiving said steam and having an adjustable inner end for discharging it into said water space and means for adjusting said end of the passage to vary the depth at which the steam therefrom will enter the water and the degree of resistance enconntered substantially as set forth.

5. An accumulator provided with a water-space, in combination with a double channel arranged within the same, a pair of steam inlet passages discharging into the water space above said channel and having their inner ends vertically adjustable and means for supplying steam to said inlet passages substantially as set forth.

[Claim 6 not printed in the Gazette.]

960,258. DUMPING-WAGON. HALLETT D. ELLS, Kansas City, Mo., assignor of one-fourth to Henry M. Godard, Kansas City, Mo. Filed June 19, 1909. Serial No. 503,190.



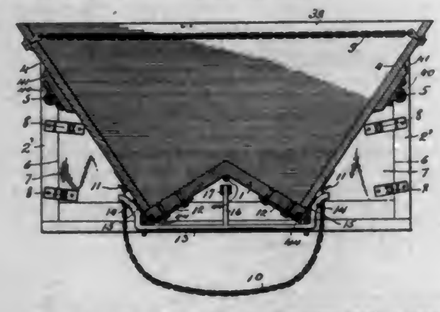
1. In a dumping wagon, the combination with a wagon bed having two swinging sides mounted respectively on horisontal parallel pivots, said sides swinging outwardly at their lower edges to the open position, means for engaging said sides adjacent to their lower edges for holding the sides in the closed position, and a flexible device having its ends secured respectively to said sides at points above their pivots, said flexible device being drawn taut when the sides are in a closed position.

2. In a dumping wagon, the combination with a wagon bed having two swinging sides mounted respectively on horizontal parallel pivots, the sides swinging outwardly at their lower edges to the open position, means for releasably engaging said sides adjacent to their lower edges for holding them in the closed position, and a chain having its ends secured respectively to said sides above their pivotal points, said chain being drawn taut and supporting said sides in the closed position.

3. In a dumping wagon, the combination with a wagon bed having two swinging sides mounted on horizontal parallel pivots, of a rock shaft having a crank arm, two chains having one set of ends respectively secured to said crank arm, the other set of ends being secured respectively to said sides below the pivotal points thereof for swinging the sides to the closed position when the shaft is rocked in the proper direction, and a chain having its ends respectively secured to said sides above their pivotal points, said chain being drawn taut and supporting the sides in the closed position.

4. In a dumping wagon, the combination with a wagon bed having two swinging sides mounted on horizontal parallel pivots, of a rock shaft having a crank arm, two chains secured to said crank arm and to said sides below their pivots for swinging the sides to the closed position, a chain having its ends secured to said sides above their pivots, said chain being drawn taut and supporting the sides in the closed position, and releasable means for locking the sides in the closed positions.

969,259. DUMPING-WAGON. HALLETT D. ELLS, Kansas City, Mo. Filed Dec. 31, 1908, Serial No. 470,184. Renewed Mar. 12, 1910. Serial No. 549,007.



1. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a member for releasably embracing said sides to hold them in the inner closed positions, means for moving said member into and out of engagement with said sides, and two levers pivoted to said bed and respectively engaging said sides for independently controlling the movement of said sides.

2. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a rock bar having means for embracing and holding said sides in the inner closed positions, means for rocking said bar into and out of engagement with said sides, and two levers pivoted to the bed, for independently controlling the movement of said sides.

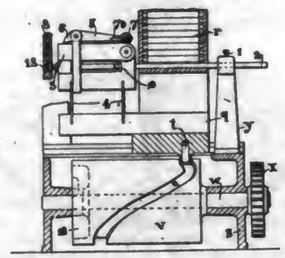
3. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a member for embracing and holding said sides in the inner closed position, a lever for moving said member into and out of engagement with said sides, and two other levers pivoted to said bed for independently controlling the movement of said sides.

4. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a rock member pivoted on said bed and having means for embracing and holding said sides in the inner closed positions, a lever for rocking said rock member, and two levers pivoted to said bed for independently controlling the movement of said sides.

5. In a dumping wagon, the combination with a wagon bed having outwardly movable sides, of a member for embracing and holding said sides in the inner closed positions, means for moving said member into and out of position in which it will engage said sides, two levers for independently controlling the movement of said sides, and two locking means for respectively adjustably holding said levers in different positions.

[Claims 6 to 18 not printed in the Gazette.]

969,260. TURBINE-BLADING MACHINE. SEBASTIAN ZIANI DE FERRANTI, Grindleford Bridge, near Sheffield, England. Filed Feb. 24, 1908. Serial No. 417,564.



1. In combination, a turbine blade receptacle; blade-holding jaws and means for transferring a blade from said receptacle to said jaws, said means including a slidable member on which said jaws are mounted.

2. In combination, a washer receptacle, blade-holding jaws and means for reciprocating said receptacle and said jaws in paths transverse to one another.

3. In combination, a turbine blade receptacle; having a blade-ejecting aperture therein; a washer receptacle having a washer-extracting aperture therein and means for alining said blade-ejecting and washer-extracting apertures.

4. In combination, a turbine blade receptacle; a washer receptacle and means for moving said receptacles in relation to one another.

5. In combination, a turbine blade receptacle; a washer receptacle and means for reciprocating said receptacles.

[Claims 6 to 15 not printed in the Gazette.]

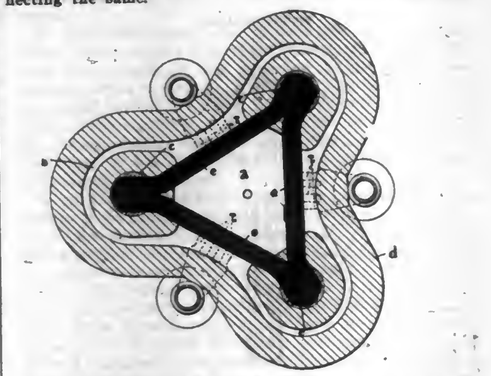
969,261. METALLURGICAL FURNACE. SEBASTIAN ZIANI DE FERRANTI, Grindleford, England. Filed Apr. 7, 1908. Serial No. 425,620.

1. In combination, furnace walls inclosing a bath of metal; a plurality of reëntrant metal-containing ducts communicating with said bath and a plurality of gas ducts, said metal-containing ducts and said gas ducts being alternately spaced around said bath.

2. In combination, a receptacle containing a bath of metal; magnet cores operatively spaced around said bath together with gas ducts alternately disposed with said magnet cores.

3. In combination, furnace walls inclosing a bath of metal; magnet cores spaced around said bath at the angles of a polygon; end-pieces connecting said cores, said end-pieces themselves corresponding with the sides of said polygon together with an outlet duct from said bath disposed within the area of said polygon and means for closing said duct.

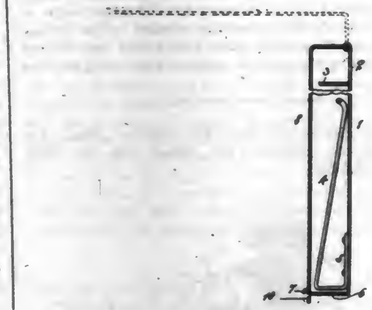
4. In combination, a receptacle for the material to be treated; means for heating the same by chemical combustion, together with means for inductively mixing said material, said mixing means including magnet cores spaced around said bath and polygonally disposed end-pieces connecting the same.



5. In combination, a receptacle for the material to be treated; means for treating said material with a system of gaseous jets together with means inductively disposed in relation to said material for stirring the same during said jet treatment, said mixing means including magnet cores polygonally disposed around said bath.

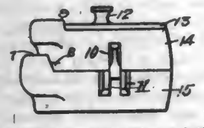
[Claims 6 to 8 not printed in the Gazette.]

969,262. AUTOMATICALLY-CLOSING FILE-CASE. CHARLES F. FOGG, New York, N. Y., assignor of one-half to George M. Orton, New York, N. Y. Filed Nov. 4, 1907. Serial No. 4[illegible],466.



An automatically closing bill file in which is comprised a base having a perforation for the reception of a supporting device; a partition carried by said base below the perforation therein; a spring clip secured to the base; a bottom and side pieces projecting from the base, and a cover hinged to the top of the base and arranged to automatically close after being raised, substantially as shown and described.

969,263. DENTAL FLASK. DAVID FOLB, New York, N. Y. Filed July 16, 1909. Serial No. 508,068.



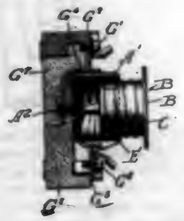
In a dental flask the combination of the lower section, having on the front side the shoulder 7; and the middle section having the flange 8, and the shoulder 9, substantially as described.

969,264. TOP-SPINNER. EMIL FRIZ, Göppingen, Germany. Filed Feb. 7, 1910. Serial No. 542,437.



In a device of the character described, the combination with a casing having two alined openings near its upper terminus, of a two armed lever pivoted longitudinally of said casing and arranged to have its arms enter said openings, respectively, a spring encircling the lower arm and tending normally to press the upper arm inwardly toward the casing, a spindle extending longitudinally within said casing, a tube carried by the upper part of said spindle and being provided with slots for receiving a transverse pin carried by the peg of a top, a ratchet encircling the spindle at a point where the teeth of said ratchet are adapted to be engaged by the upper arm of said lever, a crank for revolving the spindle, and a tension spring having no connection with said crank and having an end attached to the spindle and its other end secured to the casing.

969,265. ELECTRIC-CONTROLLER PLUG. BENJAMIN FULTON GARDNER, Chicago, Ill. Filed July 16, 1909. Serial No. 508,062.



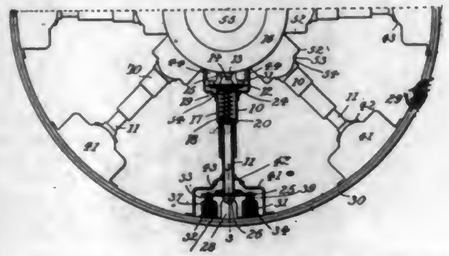
1. In an electric controller plug a metallic screw threaded shell containing non-fusible electric resistance material, a movable metal part in direct contact with said non-fusible resistance material, suitable insulating material between said screw shell and said non-fusible resistance material and suitable insulating material between said movable metal part and said screw shell.

2. In an electric controller plug a metallic screw threaded shell, a metallic cover in direct contact with said screw shell, non-fusible electric resistance material within said shell in direct contact with said metal cover, a movable metal part in direct contact with said non-fusible resistance material, suitable insulating material between said screw shell and said non-fusible electric resistance material and means for insulating said movable metal part from said screw threaded shell.

3. In an electric controller plug non-fusible compressible resistance material within a screw threaded metal case, a movable metal electrode in direct contact with said resistance material, means to insulate said movable metal electrode from said case and suitable electric insulating material between the said resistance material and the walls of said case, the metal cover of said case in direct contact with said resistance material.

4. In an improved electric controller plug non-fusible compressible electric resistance material within a screw threaded metallic case, a hole in the cover of said case, insulating material on the exterior of said case cover, said resistance material in direct contact with the interior of said cover, means to compress said resistance material, and suitable electric insulating material between the inner walls of said metal case and said resistance material and means to electrically insulate the movable metal electrode from said screw threaded case.

969,266. RESILIENT VEHICLE-WHEEL. JOSEPH GAYNOR, New York, N. Y. Filed Mar. 26, 1909. Serial No. 485,874.



1. A vehicle wheel comprising a rim, a relatively movable hub, plungers pivoted to the rim and having outer cross arms, main cylinders pivoted to the hub, springs within the main cylinders, a pair of outer auxiliary cylinders fitted to the rim at opposite sides of the plungers, springs within said auxiliary cylinders, and means for operatively connecting said springs to the ends of the cross arms.

2. A vehicle wheel comprising a rim, a relatively movable hub, plungers pivoted to the rim, main cylinders pivoted to the hub and having inner cross arms, springs within the main cylinders, a pair of inner auxiliary cylinders fitted to the hub at opposite sides of the main cylinders, and means for operatively connecting said springs to the ends of the inner cross arms.

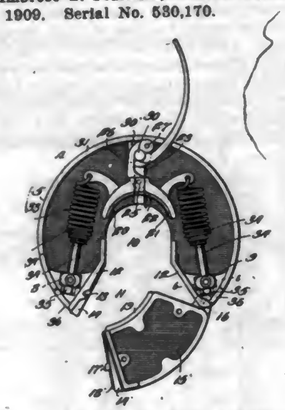
3. A vehicle wheel comprising a rim, a relatively movable hub, plungers pivoted to the rim and having outer cross arms, main cylinders pivoted to the hub and having inner cross arms, springs within the main cylinders, auxiliary inner and outer cylinders carried by the rim and hub, respectively, springs within said auxiliary cylinders, and means for operatively connecting said springs to the ends of the outer and inner cross arms, respectively.

4. A vehicle wheel comprising a rim, a relatively movable hub, outer spoke sections pivoted to the rim, inner spoke sections pivoted to the hub and having inner cross arms, said spoke sections comprising cylinders and plungers engaged therein, springs in the cylinders, a pair of inner auxiliary springs engaging the hub at opposite sides of the said inner spoke sections, and means for operatively connecting said springs to the ends of the inner cross arms.

969,267. ALFALFA FEED MIXTURE. EDWIN GLOOR, Webster Groves, and WILLIAM W. PASCAL, St. Louis, Mo., assignors to Commonwealth Feed Mills Company, St. Louis, Mo., a Corporation of Missouri. Filed Dec. 20, 1909. Serial No. 534,120.

A feed mixture comprising a composition containing thirty per cent. of shredded alfalfa, forty per cent. of cracked corn, fifteen per cent. of whole oats, fifteen per cent. of peanut meal, and a small quantity of salt.

969,268. STOP-COLLAR FOR WINDING-SHAFTS. ERNEST T. GOWING, Watertown, N. Y., assignor of one-half to Ambrose T. Plunkett, Watertown, N. Y. Filed Nov. 27, 1909. Serial No. 530,170.



1. A stop collar for use on paper winding shafts, comprising a casing having a transverse opening for passage of the shaft and a radial slot communicating with said opening, a jaw for closing the slot, said jaw being adapted to be opened to permit the collar to be applied and removed, a co-acting jaw within the casing, and means for actuating the latter-named jaw.

2. A stop collar for use upon paper winding shafts, comprising a casing having a transverse opening for the passage of the shaft, and provided with a radial slot, a removable jaw for closing the said slot, a coöperating jaw within the casing, spring means for holding said coöperating jaw in clamping position, and operated means for retracting the said jaw.

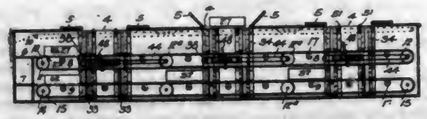
3. A stop collar for use upon paper winding shafts, comprising a casing having a transverse opening for passage of the shaft, and provided with a radial slot communicating with said opening, a hinged jaw for closing said slot and bearing against the shaft, a latch for holding said jaw in closed position, a coöperating spring-actuated jaw within the casing, and a lever mechanism for retracting the latter-named jaw.

4. A stop collar for use upon paper winding shafts comprising a casing having a transverse opening for passage of the shaft, and provided with a radial slot communicating with said opening, an outwardly movable jaw for closing the slot and bearing against the shaft, a coöperating clamp jaw within the casing, spring means for actuating said clamp jaw, a lever and a link connecting the lever with the jaw whereby the latter may be retracted.

5. A stop collar for paper winding shafts, comprising a casing having a transverse opening and a radial slot, a closure for said slot, a clamp jaw within the casing, spring means for projecting said jaw, and means for retracting the same.

[Claims 6 and 7 not printed in the Gazette.]

969,269. DUMB-WAITER. CHARLES H. GRAY, Denver, Colo. Filed May 26, 1909. Serial No. 498,491.



1. In a dumb-waiter, the combination with a suitable casing, of an endless conveyer horizontally movable therein, a plurality of lifting devices consecutively arranged on said casing, a tray carried upon said conveyer and having a corresponding plurality of vertically arranged, adjustable stops, mechanisms adapted to operate said devices and each including an actuating lever, the levers of the various mechanisms projecting respectively in the paths of the corresponding stops on the tray so as to be impelled thereby.

2. In a dumb-waiter, the combination with a suitable casing, of an endless conveyer horizontally movable therein, a tray carried on said conveyer, an elevator on said casing adapted to engage said tray, a mechanism adapted to operate said elevator and to be actuated by the movement of the conveyer, and stops at the upper portion of the casing adapted to arrest downward movement of the tray when it has been raised by said elevator beyond a predetermined elevation.

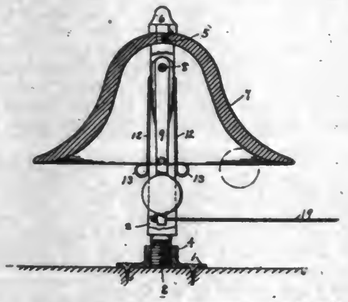
3. In a dumb-waiter, the combination with a suitable casing, of an endless conveyer horizontally movable therein, a tray carried on said conveyer, an elevator on said casing adapted to engage said tray, a mechanism adapted to operate said elevator and to be actuated by the movement of the conveyer, a device adapted to lock said mechanism against retrogradation during the upward movement of the elevator, stops at the upper portion of the casing adapted to arrest downward movement of the tray when it has been raised by the elevator beyond a predetermined elevation, and a means to release the said mechanism at a predetermined point of the upward movement of the elevator whereby the latter is rendered free to move in opposite direction.

4. In a dumb-waiter, the combination with a suitable casing, of an endless conveyer horizontally movable therein, a tray carried on said conveyer, an elevating device having a vertical rack and adapted to engage said tray, a gear wheel engaging said rack, a movable element including a driving pinion and adapted to be actuated by the movement of said conveyer so as to carry said pinion in mesh with said gear, and stops at the upper portion of the casing adapted to arrest downward movement of the tray when it has been raised by said device beyond a predetermined elevation.

5. In a dumb-waiter, the combination with a suitable casing, of an endless conveyer horizontally movable therein, a tray carried on said conveyer, an elevating device composed of a plurality of vertically movable members having vertical racks and adapted to engage said tray, cooperatively associated gear wheels engaging said racks, a movable element including a rotatory driving pinion and adapted to be actuated by the movement of the conveyer so as to carry said pinion in mesh with one of said gears, and stops at the upper portion of the casing adapted to arrest downward movement of the tray when it has been raised by said device beyond a predetermined elevation.

[Claims 6 to 12 not printed in the Gazette.]

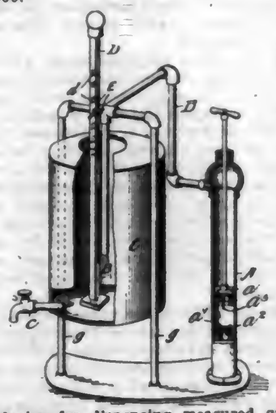
969,270. SIGNAL-BELL. EMMET P. GRAY, Detroit, Mich. Filed Jan. 28, 1910. Serial No. 540,530.



1. In a signal-bell, the combination of a standard having a central longitudinal slot and having its lower end screw-threaded, a foot into which the standard may be screwed, a bell secured over said standard at its upper end, a tongue pivotally mounted in the slot in the standard, and resilient means to hold the tongue within said slot.

2. In a signal bell, the combination of a slotted standard, a bell secured over said standard at its upper end, a tongue pivoted to the standard near its upper end, and a spring mounted on said standard below the pivot of the tongue and extending upward and across both sides of the slot in the path of said tongue.

969,271. LIQUID-MEASURING PUMP. ARTHUR B. GRIFFEN, Verona, N. J. Filed Oct. 29, 1909. Serial No. 525,300.



1. In a device for dispensing measured quantities of liquids the combination of a pump provided with trip valves, a receiving vessel, a discharge pipe from the pump having its outlet within said vessel, and means for varying the elevation of said vessel in relation to the outlet of said pipe.

2. In a device for dispensing measured quantities of liquid, the combination of a receiving vessel, a pump, a discharge pipe from said pump having its outlet within said vessel, means for effecting the opening of the pump valves by adjustment of the pump piston to siphon the liquid contained in said vessel above the outlet of the discharge pipe back to the source of supply through said pump and discharge pipe and means for varying the elevation of said vessel in relation to the outlet of said discharge pipe.

3. In a device for dispensing measured quantities of liquid, the combination of a vertically adjustable vessel, a pump provided with a discharge pipe having its outlet within said vessel, means provided with indications for indicating the containing capacity of said vessel below the outlet of said pipe and means for effecting the opening of the pump valves to siphon the liquid in said vessel above the outlet of the pipe, back to the source of supply.

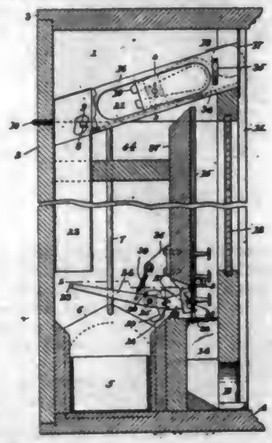
4. In a device for dispensing measured quantities of liquid the combination of a receiving vessel, a pump provided with a discharge pipe having its outlet within said vessel and means constituting a quantity indicating device, for suspending said vessel with the bottom thereof at variable measured distances from the outlet of said pipe.

5. In a device for dispensing measured quantities of liquid the combination of a pump, a receiving vessel, a discharge pipe from said pump having its outlet within said vessel, means for lifting said vessel and means engageable with the lifting means for holding said vessel at different predetermined elevations and for indicating the effective capacity thereof when so held.

[Claim 6 not printed in the Gazette.]

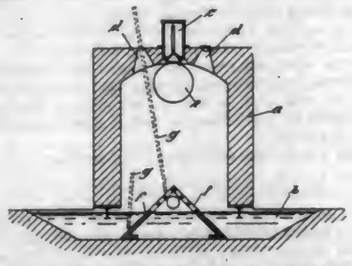
969,272. COIN-OPERATED DELIVERING AND FRAUD-PREVENTING MECHANISM FOR VENDING-MACHINES. ALBERT D. GROVER, Malden, Mass. Filed Mar. 9, 1905. Serial No. 249,224.

1. In a mechanism for vending articles of merchandise, a receptacle for holding said articles; an oscillating merchandise ejector pivotally mounted adjacent the merchandise receptacle; projecting points at one end of said ejector adapted to alternately engage and disengage the articles to be delivered; projecting stop members formed in the other end of said ejector; a stop to limit the movement of said ejector; a pivot point attached to the side of said ejector; and a pivoted lever pivoted to the casing of the machine, having a slot in one end adapted to inclose the pivot in the ejector, the other end of said pivoted lever being positioned under the coin-chute so a coin falling in said coin-chute will contact therewith to deliver articles of merchandise.



2. In a mechanism for vending articles of merchandise, a receptacle for holding the articles to be vended; an ejector having points at one end adapted to contact with said articles of merchandise and alternately engage and disengage the same; means for oscillating said ejector; a stop to limit the movement of said ejector; a pivot on said ejector; and a pivoted lever connecting at one of its ends with the pivot on said ejector, its other end arranged near a coin-chute in such manner that a coin falling therein will contact with it and cause the ejector to deliver an article of merchandise.

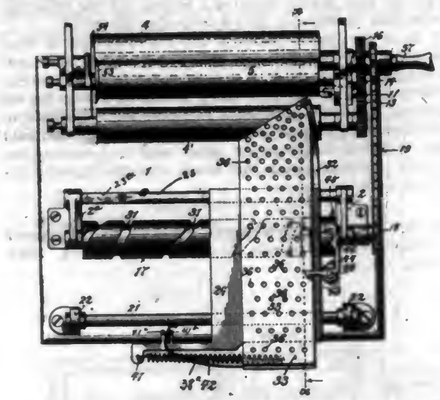
969,273. GAS-PRODUCER. GEORGE J. HAGAN, Pittsburg, Pa. Filed Apr. 5, 1909. Serial No. 487,965.



1. In a gas producer having a water trough, a ridged grate transverse thereto and extending from wall to wall of the gas producer shell and both ways down to the bottom of said trough, and substantially filling the inside plan profile of said producer, for the purpose set forth.

2. In a gas producer having a water trough, a ridged grate transverse thereto and extending from wall to wall of the gas producer shell and both ways down to the bottom of said trough, and substantially filling the inside plan profile of said producer, and passages for the air from blower in the upper portion of said grate, for the purpose set forth.

969,274. CIGAR-ROLLING MACHINE. OSCAR HAMMERSTEIN, New York, N. Y. Filed June 5, 1901. Serial No. 63,183.



1. In a cigar machine, the combination with devices for wrapping the bunch, a perforated wrapper support, means for exerting suction through the perforations of the support, and means for covering the successive perforations of the support as the said perforations are uncovered by the removal of the wrapper during its manipulation.

2. The combination of a support, a suction mechanism for holding a tobacco leaf upon the support, a wrapping mechanism comprising in its structure means for moving the wrapper-support, and means under the influence of and operating in conjunction with the suction for retarding the movement of the wrapper on its support.

3. The combination of a support, a suction mechanism for holding the tobacco leaf wrapper upon the support, a wrapper mechanism comprising in its structure means for moving the wrapper on its support, means for operating in conjunction with and under the influence of the suction for retarding the movement of the wrapper on its support and to preserve the suction on the wrapper when the latter has partly uncovered the support.

4. The combination with a support, of suction mechanism for holding thin sheet material on the support, a device independent of the support to which the material is delivered, the said device being adapted to place the sheet material about the body to be surrounded, the said device operating to draw the material from the support against the force exerted by the suction and a retarding device operating to retard the movement of the thin sheet material and to preserve the suction on the thin sheet material when the latter has partly uncovered the support.

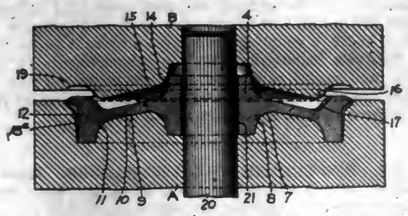
5. The combination with a wrapping mechanism of a support for a wrapper, a suction mechanism operating to hold a wrapper on a support and permitting the same to be withdrawn therefrom, and a retarding device for retarding the wrapper in its movement and preserving the suction on the wrapper when the latter has partly uncovered the support.

[Claims 6 to 13 not printed in the Gazette.]

969,275. METHOD OF REWORKING CAR-WHEELS. JOHN M. HANSEN, Pittsburg, Pa. Filed Dec. 18, 1908, Serial No. 468,148. Renewed Jan. 27, 1910. Serial No. 540,468.

1. The method of re-forging car wheels, consisting in reheating the wheel and supporting it on a die conforming to a cylindrical enlargement on one face of the wheel body and forging a cylindrical enlargement on the opposite face thereof radially when the wheel is so supported.

2. The method of re-forging car wheels, consisting in reheating the wheel and supporting it on a die conforming to a portion of a cylindrical enlargement of the wheel body, and forging another portion of such enlargement radially when the wheel is so supported.



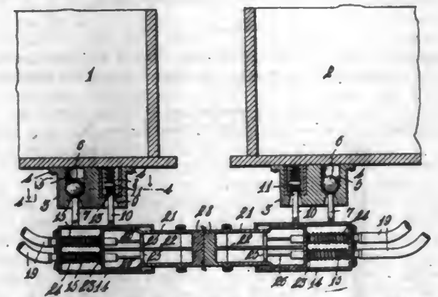
3. The method of re-forging car wheels, consisting in reheating the wheel, supporting it on a die conforming to the inner face of the wheel rim on one side thereof, and forging the opposite side of such rim portion outwardly when the wheel is so supported.

4. The method of re-forging car wheels, consisting in reheating the wheel, supporting it on a die conforming to the outer face of the hub portion on one side of the wheel, and forging the opposite portion of the hub inwardly when the wheel is so supported.

5. The method of re-forging car wheels, consisting in reheating the wheel and supporting it on a die conforming to one face of the hub, web and rim, and forging the opposite hub and rim portions radially when the wheel is so supported.

[Claims 6 and 7 not printed in the Gazette.]

969,276. AUTOMATIC SAFETY HOSE-COUPLING. ADOLPHUS H. HARRIS, Denver, Colo., assignor to International Railroad Automatic Safety Pipe Coupling Company, Omaha, Nebr. Filed Jan. 24, 1910. Serial No. 539,736.



1. An air coupling box support comprising a casing, a pin pivotally mounted in the casing and connected to the coupling to support one end thereof, and means carried by the casing and connected to the opposite end of the coupling adapted to permit lateral movement of the coupling.

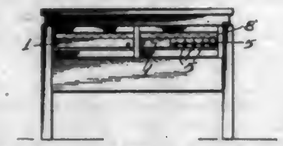
2. An air coupling box support comprising a casing, a pin pivotally mounted in the casing and connected to the coupling to support one end thereof, and means carried by the casing and connected to the opposite end of the coupling adapted to permit lateral and vertical movement of the coupling.

3. A coupling box support comprising a casing, a pin pivotally mounted in the casing and having connection with the coupling, a pin connected to the opposite end of the coupling and having connection with the casing, means to normally hold said pin centrally of the casing, and means to normally hold said pin elevated in the casing.

4. In an air hose coupler for cars, a coupling box, a support for the same, a frame slidably mounted within the coupling box and having a plurality of separated channels, cylinders in the box having relative movement with respect to said frame, valves in said cylinders to control the air to said channels, a coupling head upon said frame, and means operated in the connection of separate cars for opening all of the valves in said cylinders simultaneously.

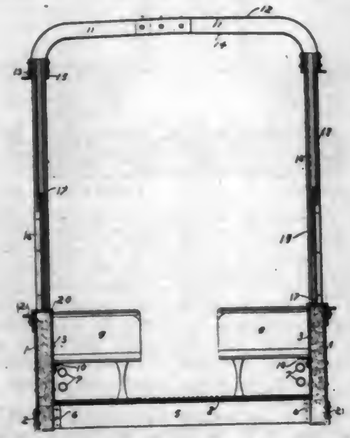
5. In a device of the class described, a casing, a plurality of cylinders mounted in said casing, valves in said cylinders, a frame slidably mounted upon said cylinders within the casing and having separated compartments for each cylinder, a coupling head carried by said frame having channels registering with the compartments in said frame, and means carried in said compartments and operated simultaneously with the frame when separate cars are coupled to open the valves in the cylinders.

969,277. EGG-TURNER FOR INCUBATORS. HERMAN HARTLIEB and FRIEDRICH LIND, St. Louis, Mo. Filed July 6, 1908. Serial No. 442,153.



In an egg tray for incubators, a rectangular frame having diagonally oppositely disposed openings, one through the rear wall adjacent its left hand end and one through the front wall adjacent its right hand end, a strip secured to the rear wall, there being a series of openings formed through said strip, a strip secured to the front wall and there being a series of notches in said strip, rollers provided with trunnions rotatably mounted in said latter openings and notches, the trunnions of the end rollers projecting through said diagonally, oppositely disposed openings in the front and rear walls, said projecting ends being non-circular, an apron secured to said end rollers, said apron being of such length as to form pockets or depressions between each pair of rollers and permit a portion to be wound upon one of the end rollers.

969,278. CAR CONSTRUCTION. JOHN B. HEVERLING, St. Louis, Mo. Filed Mar. 15, 1909. Serial No. 483,392.



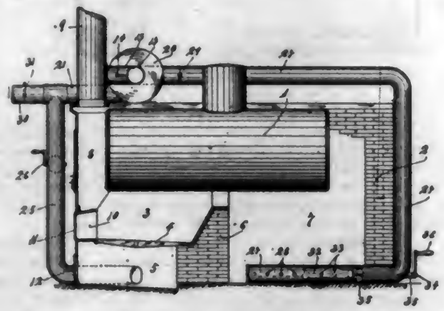
1. In a car construction, the combination with plate girder sides consisting of two parallel webs having tension and compression flanges located on the outside of said plate girder, and a supplementary reinforcing compression flange.

2. In car construction, a plate girder side having a compression flange notched for the passage of window posts and forming a window sill or ledge, and a reinforcing angle adjacent said flange and whose horizontal leg extends outwardly, from the plane of the plate girder side.

3. In a car construction, plate girder sides comprising two parallel webs, spacing posts to which said webs are secured, a tension angle having its horizontal leg extending between the two webs, floor beams secured to the lower portion of said plate girder sides and a filling piece between the floor beams, forming a pocket for the retention of non-heat conducting, sound-deadening material.

4. In a car construction, a molding attached to window posts fastened between two plate girders and constituting a window guide, a sash mounted in said molding, a ventilating plate having a flange at its lower edge for cooperating with the upper sash rail and being movable to provide an opening near the upper portion of the car, said plate having a flange at its upper edge for coöperating with the side-plate and a face shade movable opposite the sash opening.

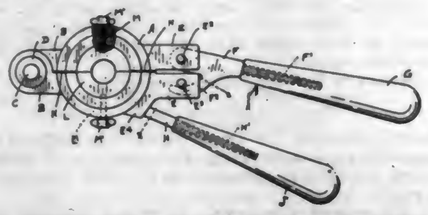
969,279. FURNACE. MERRITT D. HOFF and ANTHONY J. MCCABE, Minneapolis, Minn. Filed May 17, 1909. Serial No. 496,427.



1. The combination with a furnace having a combustion chamber, of a fan provided with a suction tube having damper equipped branches, one leading from the smoke stack of the furnace and the other leading from said combustion chamber, and the said fan having a discharge pipe with damper equipped branches, one leading back to the furnace, and the other leading to a distant point, substantially as described.

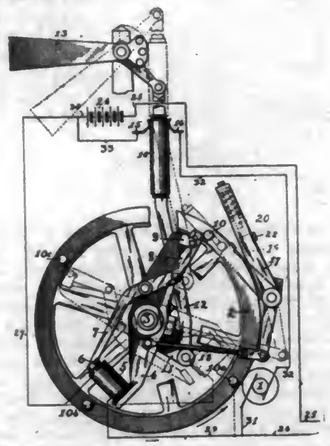
2. The combination with a furnace, having a fire box and a rear combustion chamber and provided with a boiler, of a fan having a suction tube provided with two damper equipped branch pipes, one extending from the smoke stack of said furnace, and the other extending from the rear combustion chamber thereof, and said fan having a discharge pipe with damper equipped branches, one extending back into the furnace and the other extending to a distant point, substantially as described.

969,280. DIE-HOLDER FOR GLASS-MAKING MACHINERY. THOMAS J. HOLDEN, Muncie, Ind. Filed May 3, 1909. Serial No. 493,532.



A combination die and holder consisting of a pair of complemental half rings each having a head B, a divided die carried by the said half rings a pin C to pivotally connect said heads together, an arm E formed integral with each half ring and being slotted and having a pin therein, a handle G having the shank F pivotally secured to the pin of one of the arms, and having the finger F^2 adapted to engage the pin of the arm of the other half ring, there being such curvature of the face of the finger F^2 that when the handle G is moved, the half rings will be drawn together, a handle J secured to the other half ring, retaining screws to hold the half sections of said divided die in position, substantially as described.

960,281. APPARATUS FOR OPERATING RAILWAY-SIGNALS. WINTHROP K. HOWE, Buffalo, N. Y., assignor to General Railway Signal Company, Buffalo, N. Y., a Corporation of New York. Filed Oct. 11, 1906. Serial No. 338,487.



1. The combination with a source of energy, a signal, its operating mechanism, a motor, and mechanism driven thereby; of a slot magnet, means actuated by the energization of said slot magnet for connecting said motor driven mechanism with said signal mechanism, a stop for holding said motor driven mechanism against reverse movement when the signal has reached the proceed position and means actuated by said signal mechanism for throwing said stop into action upon the completion of said movement.

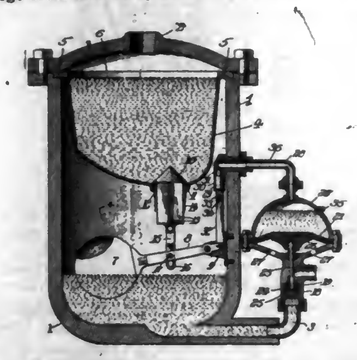
2. The combination with a source of energy, a signal, its operating mechanism, a motor and mechanism driven thereby; of a slot magnet, means actuated by the energization of said slot magnet for connecting said motor driven mechanism with said signal mechanism, a back stop for holding said motor driven mechanism against reverse movement when the signal has reached the proceed position and means actuated by said signal mechanism for moving said back stop into action when the slot magnet is energised and out of action when the slot magnet is de-energised.

3. The combination with a source of energy, a motor, a signal, its operating mechanism and mechanism driven by the motor; of a slot magnet and a stop mechanism for holding the motor driven mechanism against vibration when the signal reaches the proceed position comprising a rear stop for absolutely preventing the movement of the signal toward normal, a front stop for overcoming the momentum of the signal when it reaches the proceed position and means for moving said stops into action when the slot magnet is energized and out of action when the slot magnet is deënergized.

960,282. TRAP. CLIFFORD C. HUMBERSTONE, La Grange, Ill. Filed May 29, 1908. Serial 435,699.

1. In a trap, in combination, two containers, the fluid overflowing from one container into the other, the latter having an outlet; a float in said latter container arranged to cause a discharge from the other container; and means controlled by said float for controlling said outlet.

2. In a trap, in combination, a body having an inlet and an outlet; a valve controlling said outlet; a diaphragm connected with said valve; means for conducting pressure fluid from said body to one side of said diaphragm; a valve in said conducting means; a float in said body for operating the last mentioned valve; and a receptacle arranged to receive the fluid entering through the inlet to the body, said float being arranged to cause a discharge from said receptacle.



3. In a trap, in combination, a body having an inlet and an outlet; a stationary receptacle in said body arranged to receive the fluid entering through said inlet, said receptacle having an outlet in its lower portion; a valve controlling said outlet; a float in said body for unseating said valve; and means controlled by the float for controlling the outlet from the body.

4. In a trap, in combination, a body having an inlet and an outlet; a receptacle arranged to receive the fluid entering through said inlet; an arm pivoted at a point between its ends in said body; a float carried by said arm; said receptacle having an outlet; a valve for said outlet; a connection between said valve and said arm at one side of its pivotal center; and devices controlling the outlet from said body, said devices including a valve connected with said arm at the other side of its pivotal center.

5. In a trap, in combination, a body having an inlet and an outlet; a stationary receptacle in said body arranged to receive the fluid entering through said inlet, said receptacle having an outlet in its lower end; a valve controlling the outlet from said receptacle, the fluid accumulating in said receptacle overflowing into said trap body; a diaphragm chamber; a diaphragm in said chamber; a valve in the outlet from said body; a connection between said last mentioned valve and said diaphragm; a connection between said diaphragm chamber and the trap body; a valve controlling the last mentioned connection; an arm pivotally mounted in said trap body and connected with the last mentioned valve and the valve for said receptacle, the connections between said valves and said arm permitting relative movement between said valves and said arm; and a float carried by said arm.

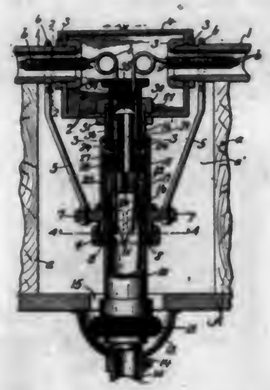
[Claims 6 to 11 not printed in the Gazette.]

969,283. ELECTROLIER-FIXTURE. HAROLD F. HUTCHINSON, Rochester, N. Y. Filed June 16, 1909. Serial No. 502,547.

1. A drop light fixture for electric lamps comprising a fixture pipe, fixed supports, movable means mounted on said fixed supports and operatively connected to the fixture pipe to support the same, and means operatively connected to, but removable from, the pipe for receiving a cable by which the fixture may be raised and lowered.

2. A drop light fixture comprising a fixture pipe, a clamp movable into and out of engagement with the pipe, means for supporting the clamp, a shoulder on the pipe resting on said clamp, and means for attachment to a cable operatively connected to the fixture pipe, whereby

said fixture pipe and fixture may be raised and lowered when the clamp is detached from said pipe.



3. An electric light fixture comprising a fixture pipe, a hanger movable into and out of engagement with the pipe for supporting and releasing the same, and means for attachment to a cable movable into and out of operative connection with the pipe for supporting the same independently of the hanger and permitting said pipe and fixture to be raised and lowered when the hanger is released from engagement with the pipe.

4. An electric light fixture comprising a fixture pipe, a metal threaded member operatively secured to the fixture pipe and provided with a threaded socket, a hanger movable into and out of engagement with the pipe for holding and releasing the fixture, and a screw threaded member screwed into said socket and provided with means for attachment to a cable whereby the fixture may be raised and lowered when the hanger is moved from its holding position.

5. In combination with the supporting pipe of an electrolier, electric wires passing through said pipe, contact terminals electrically connected to said wires, an insulating sleeve operatively connected to the pipe and supporting said terminals, feed wires having contact terminals electrically connected thereto and adapted to contact with the first named terminals, an insulator support for the second contact terminals movable relatively to said sleeve for bringing the contact terminals into sliding contact with each other, pipes inclosing the feed wires, and hangers mounted on the feed wire pipes and movable into and out of engagement with the fixture pipe for supporting and releasing the same.

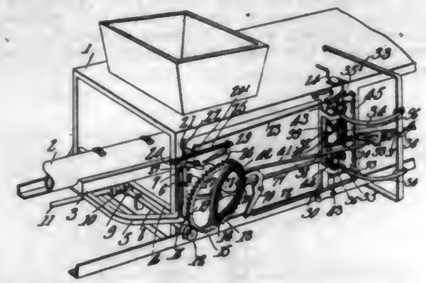
[Claim 6 not printed in the Gazette.]

969,284. BALE-TYING MECHANISM. CARL A. JOHNSON, Bucklin, Mo. Filed May 3, 1910. Serial No. 559,080.

1. In combination with a baling press, a tying mechanism, a needle, means for operating the needle and tying mechanism, means for arresting the movement of the plunger of the press while the said operating means is in action consisting of a yoke, a spring catch mechanism for holding the yoke out of engagement with the operating parts of the press and a manually operable means for releasing said spring catch mechanism.

2. In combination with a baling press, a tying mechanism, a needle mechanism, a yoke adapted to interrupt the operation of the press, a spring catch mechanism for holding said yoke in an inactive position, means for manually releasing the spring catch mechanism, a master wheel operatively connected with the needle mechanism and the knot tying mechanism, said spring catch mechanism also connected with said master wheel to start the same in its initial operation.

3. In a bale tying mechanism, a knotting device, a frame arranged to swing about the knotting device, a needle arranged to coöperate with the knotting device, a band holding, cutting and releasing means carried by said frame and adapted to coöperate with the knotting device and stops located in the path of the said band holding, cutting and releasing means to actuate the same

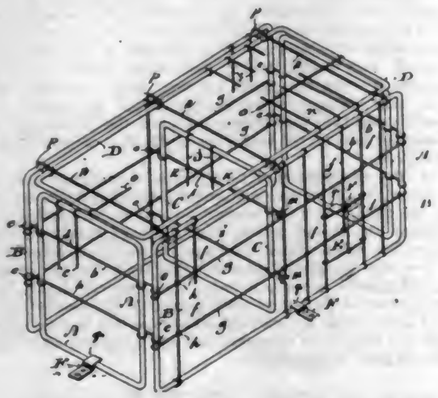


4. A bale tying mechanism comprising a knotting device, a needle arranged to coöperate with the knotting device, a frame arranged to swing about the knotting device, a band cutting, holding and releasing means carried by the frame, a fixed stop adapted to operate the said means when the frame is in one position, a pivoted spring actuated stop adapted to actuate the said means when the frame is at the extreme of its reverse position.

5. A knotting device comprising a knot tying means, a needle arranged to coöperate with the knot tying means, a frame arranged to swing about the knot tying means, a band cutting, holding and releasing means carried by the frame, a stop adapted to actuate said means when the frame is in one position, a bracket located in the path of movement of said frame, a spring actuated pivoted stop located upon said bracket and adapted to operate the band cutting holding and releasing means when the frame is in another position.

[Claim 6 not printed in the Gazette.]

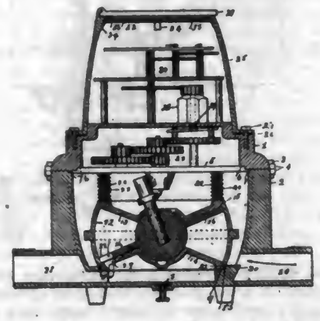
969,285. POULTRY-COOP. ALBERT T. KEIPPER, Milwaukee, Wis. Filed Sept. 21, 1908. Serial No. 454,046.



1. In an all wire knockdown compartment exhibition coop, the combination of ends, sides in hinge-connection with the ends, a partition in vertically sliding hinge-connection with one of the sides and having book terminals of horizontal wires thereof engageable with horizontal eye-bends with which wires of the other side are provided, and a top in hinge-connection with one of said sides and provided with hooks in which the frame of the other of said sides is caught.

2. In an all wire knockdown-coop, the combination of end, side and top members each consisting of a rectangular frame wire of suitable gage and crossed wires of a lighter gage bent around the frame wire, some of the lighter gage wires of the end members being extended beyond said frame wire and loosely bent on the frame wires of the side members, a top member similar to the members aforesaid having extended wires thereof loosely bent upon the frame wire of one side member and in hook connection with the frame wire of the other side member, and a partition in vertically sliding hinge-connection with one of the sides and having hook terminals of horizontal wires thereof engageable with horizontal eye-bends with which wires of the other side are provided.

969,286. WATER-METER. JOHN P. KELLY, Springfield, Mass. Filed Dec. 18, 1909. Serial No. 533,885.



1. In a disk water meter, an outer casing comprising two sections, an intermediate gear frame positioned in said casing, a disk chamber mounted in said casing and springs interposed between said disk chamber and said intermediate gear frame, whereby the disk chamber is held yieldingly in place.

2. In a disk water meter, an outer casing comprising two members, an intermediate gear frame positioned intermediate the top and bottom thereof, a disk chamber in said casing positioned below said gear frame, said disk chamber comprising a ring and top and bottom heads loosely joined together, and springs interposed between said gear frame and the top head of said disk chamber.

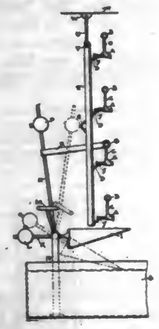
3. In a disk water meter, a disk chamber comprising a ring provided with an inlet port, a top head and a bottom head provided with an outlet port, a vertical diaphragm, a gyratory disk provided with a port, said outlet port and said port in the disk being positioned on the same side of said diaphragm.

4. In a disk water meter, an outer casing comprising upper and lower sections, an intermediate gear frame interposed between the two, the lower section being machined to receive and support said frame and the upper section being machined to fit over and confine said frame, whereby said frame and said upper section are held in central position relative to said lower section.

5. In a disk water meter, an outer casing, an intermediate gear frame mounted in said casing, a register mechanism and intermediate gear mechanism connected therewith comprising posts set on the top of said frame and gears mounted upon said posts and free to move vertically relative to each other, whereby bending of the frame and strain on the register mechanism is obviated.

969,287. AIR-WASHING APPARATUS. JOHN H. KINEALY, Ferguson, Mo. Filed Dec. 10, 1908. Serial No. 466,906.

1. In an apparatus for washing air, a plurality of spray heads each provided with means whereby it may be flushed, means operated by a blow for simultaneously operating said flushing means, and a motor adapted to cause said blow, substantially as described.



2. In an apparatus for washing air, a spray head provided with means whereby it may be flushed, means operated by a blow for operating said means whereby the spray head may be flushed, a hammer adapted to revolve and strike said means for operating the means whereby the spray head may be flushed, and a motor whereby the movement of said hammer is controlled, substantially as described.

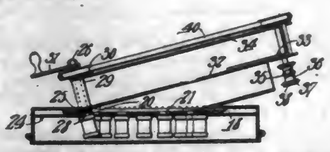
3. In an apparatus for washing air, a spray head provided with means whereby it may be flushed, a movable frame in contact with said means, a hammer mounted on a shaft so as to revolve and strike said frame, and a motor whereby the movement of said hammer is controlled, substantially as described.

4. In an apparatus for washing air, a spray head provided with means whereby it may be flushed, a movable frame in contact with said means, a hammer mounted on a shaft so as to revolve through a limited angle and strike said frame, and a water motor whereby the movement of said hammer is controlled, substantially as described.

5. In an apparatus for washing air, a spray head provided with means operated by pressure whereby it may be flushed, a movable frame in contact with said means, a hammer mounted on a shaft so as to revolve through a limited angle and strike the frame, a guide for the hammer, and a water motor operated by water from the spray head whereby the movement of the hammer is controlled, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

969,288. MOTION-PICTURE MACHINE. FREDERICK KNOTT, Portland, Oreg., assignor of one-half to Karl E. Greenawald, Portland, Oreg. Filed Apr. 18, 1910. Serial No. 556,004.



1. In a film holder for motion picture machines, a film reel comprising a circular series of positively driven rollers.

2. In a film holder for motion picture machines, a film reel comprising a circular series of positively driven rollers and interposed idler rollers.

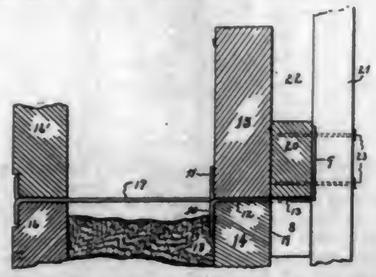
3. In a film holder for motion picture machines a film roller comprising a circular series of rollers each having a gear pinion thereon and an annular driving gear therefor exterior to the pinions.

4. In a film holder for motion picture machines, a film reel comprising a circular series of rollers, each having a gear pinion thereon, an annular driving gear therefor exterior to the pinions, and a circular series of idler rollers interspersed in the first named series of rollers.

5. In a film holder for motion picture machines a film reel comprising a circular series of rollers each with a circumferential groove near one end, journal supports for said rollers, and a plate exterior to the rollers and having one edge extending into the grooves of said rollers, said plate constituting a support for one edge of the film.

[Claims 6 to 10 not printed in the Gazette.]

969,289. WALL-STIRRUP. PAUL KOSACK, Omaha, Nebr. Filed May 26, 1910. Serial No. 563,538.



1. A metallic wall stirrup having a flat body portion with longitudinal engaging lugs upon one of its ends projecting in opposite directions therefrom and at right angles thereto, its opposite end having an upright wing disposed substantially parallel with said lugs; said body portion being incised from one of its sides upon adjacent lines substantially parallel with said upright wing, the part between said incisions being bent downwardly and forming a bracket arm intermediate the wing and said lugs.

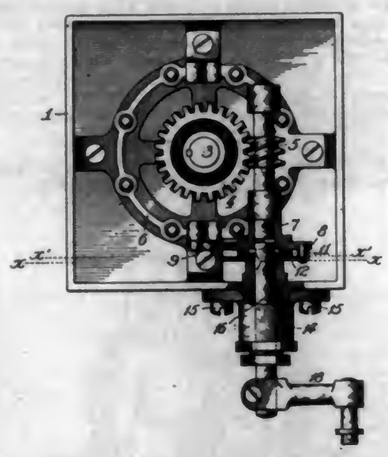
2. A wall stirrup having a flat rectangular body-portion with oppositely-disposed lugs upon one of its ends, its opposite end being provided with an upset wing, said body portion having incisions extending longitudinally from one of its sides, the part between said incisions being bent downwardly and providing a bracket arm with a contact-portion disposed substantially at right angles to said body portion in a plane between the wing and said lugs.

3. A wall stirrup having a flat rectangular body-portion with oppositely-disposed lugs upon one of its ends, its opposite end being provided with an upset wing; said body-portion having adjacent parallel incisions formed therein and extending longitudinally from one of its sides, one of said incisions being at the junction of said wing with said body-portion, the part between said incisions being bent downwardly and providing a bracket arm with a contact-portion disposed substantially at right angles to said body-portion in a plane between the wing and said lugs.

969,290. DRIVING MECHANISM FOR LUBRICATORS. ALVARO S. KROTZ, Chicago, Ill., assignor to Precision Appliance Company, Chicago, Ill., a Corporation of New Jersey. Filed Oct. 28, 1907, Serial No. 399,555. Renewed Feb. 7, 1910. Serial No. 542,647.

1. In a driving mechanism for force feed lubricators, the combination of an open top casing, an operating shaft of a pumping mechanism arranged inside said casing, a bracket gland secured to the side of the casing, a primary operating shaft journaled in said gland in axial alinement with the aforesaid operating shaft of the pumping mechanism, and a non-circular connection between the two shafts, the bracket gland and its shaft being adapted for endwise adjustment to release the engagement with the operating shaft of the pump mechanism and permit of the same being removed through the open top of the casing, substantially as set forth.

2. In a driving mechanism for force feed lubricators, the combination of an open-top casing, an operating shaft of a pumping mechanism arranged inside said casing, a hub secured to an end of said shaft and having a rim portion formed with ratchet teeth, a spring pawl engaging said teeth, a disk attached in separated relation to said hub, a ratchet disk arranged between said hub and disk, a spring pawl attached to said hub and engaging said ratchet disk, the said ratchet disk having a non-circular central orifice, a bracket gland secured to the side of the casing, a vibratory shaft journaled in said bracket gland and having an inner non-circular end to engage the non-circular orifice of the ratchet disk aforesaid, substantially as set forth.



3. In a driving mechanism for force feed lubricators, the combination of an open top casing, an operating shaft of a pumping mechanism arranged inside said casing, a hub secured to an end of said shaft and having a rim portion formed with ratchet teeth, a spring pawl engaging said teeth, a disk attached in separated relation to said hub, a ratchet disk arranged between said hub and disk, a spring pawl attached to said hub and engaging said ratchet disk, the said ratchet disk having a non-circular central orifice, a bracket gland secured to the side of the casing, a vibratory shaft journaled in said bracket gland and having an inner non-circular end formed by a cross pin and adapted to engage the correspondingly formed non-circular orifice of the ratchet disk aforesaid, substantially as set forth.

969,291. STOPPER AND DROPPER. RICHARD L. LARSON, Minneapolis, Minn. Filed Feb. 26, 1910. Serial No. 546,157.



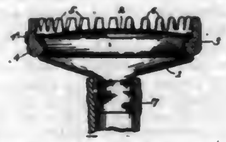
1. A bottle stopper comprising a body portion having a passage therethrough and having an integrally formed diaphragm extending over the upper end of the body portion to form a chamber communicating with the passage, said body portion having a tongue formed integrally therewith at one side and resting against the adjacent portion of the diaphragm and extending upwardly into the chamber, said body portion having an outwardly opening passage communicating at its inner end with the portion of the diaphragm against which the tongue rests, said diaphragm being movable away from the tongue to open the passage and to bring a portion thereof into engagement with the tongue to produce a confined space communicating with the passage.

2. A bottle stopper comprising a body portion arranged for engagement in the neck of a bottle, and provided with a longitudinal passage therethrough, an upwardly curved diaphragm connected with the upper edge of the body portion and extending over the passage to form a chamber, said body portion having a laterally opening passage communicating with the chamber, and a tongue carried by the body portion and extending normally over the inner end of the second named passage to close the latter, said diaphragm being movable to shift the portions adjacent to the tongue away therefrom to open the passage and to bring a portion into engagement with the tongue to produce a confined space communicating with the passage.

3. A bottle stopper comprising a body portion arranged for engagement in the neck of a bottle and having a longitudinal passage formed therethrough, a diaphragm connected with the body portion and extending over the upper end of the passage to form a chamber, said body portion having a laterally opening passage communicating with the chamber and a tongue carried by the body portion and extending upwardly within the chamber and lying normally over the inner end of the second named passage to close the latter, said diaphragm being depressible to engage the tongue and to move the portion adjacent to the second named passage away from the tongue to open the passage.

4. A bottle stopper comprising a body portion arranged for engagement in the neck of a bottle and having a longitudinal passage formed therethrough, a diaphragm connected with the body portion and extending over the upper end of the passage to form a chamber, said body portion having a laterally opening passage communicating with the chamber, and a tongue carried by the body portion and extending upwardly within the chamber and lying normally over the inner end of the second named passage to close the latter, said diphragm being movable to move the portions adjacent to the passage away from the tongue to open the passage.

969,292. BATH-SPRAY. JAMES J. LAWLER, Mount Vernon, N. Y. Filed Dec. 26, 1908. Serial No. 469,384.

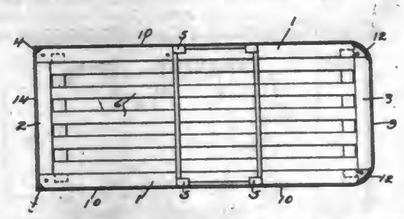


The combination with a nose-head having a peripheral annular groove and a perforated face plate arranged above the plane of said groove, of a brush element consisting of a body-portion in the form of a ring and removably mounted in said groove, said body-portion snugly engaging the wall of said groove and having its outer side provided with a vertically-disposed annular flange extending circumferentially with respect to the outer edge of the head above the groove, said flange having the upper portion thereof provided with a circumferentially-extending series of teeth arranged entirely in a plane above the plane in which the face plate extends.

969,293. VEHICLE-BODY. SAMUEL E. LIGHT, Evansville, Ind., assignor to William H. McCurdy and John D. Craft, Evansville, Ind. Filed Apr. 1, 1910. Serial No. 552,918.

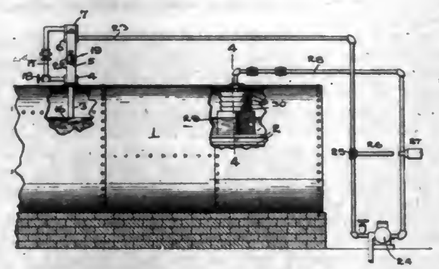
1. A vehicle body, comprising a rectangular frame composed of front, rear and side sills, suitably secured together, with an upright panel to form the sides and end of the body, said panel formed in a single piece, with curved corners, and suitably secured to the sides and end of the frame, with the corners of the frame cut away to leave open spaces between the ends of the frame and the panel, to allow for the expansion and contraction of the parts.

2. A vehicle body, comprising a rectangular frame composed of front, rear and side sills, suitably secured together, with an upright panel to form the sides and end of the body, said panel formed in a single piece, with curved corners, and suitably secured to the sides and end of the frame, with the corners of the frame cut away to



leave open spaces between the ends of the frame and the panel, to allow for the expansion and contraction of the parts, said cut portions extending around the corners of the frame slightly beyond the inner lines of the sill pieces.

969,294. AUTOMATIC WATER REGULATOR AND SURFACE BLOW-OFF. DANIEL M. MAXON, St. Louis, Mo. Filed May 8, 1906. Serial No. 315,824.



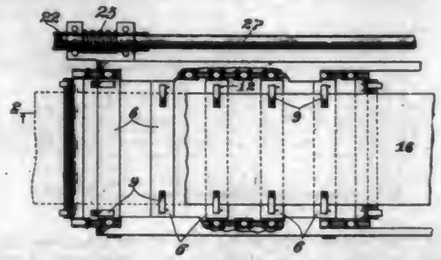
The improved automatic water-level indicator and surface blow-off for steam-boilers, comprising a float in the form of an open pan adapted to rest upon the water in a steam boiler and rise and fall therein with the fluctuations of water-level; a blow-off valve mounted exterior of the boiler; a rod extending from said valve to said pan, so that said valve and said pan will move in unison as the water-level rises or falls; two stuffing-boxes through which the rod operates; a weighted-lever applied to said rod at a point intermediate of said two stuffing-boxes; an adjustable-weight on said lever; a blow-off pipe through which water from a point near the bottom of the interior of said pan passes out of said boiler whenever the water-level rises sufficiently to overflow said pan, and through which pipe steam passes when the water-level abnormally falls; a pipe into which the discharged water and steam pass from said blow-off pipe to one side of said valve; and another pipe into which said steam and water are discharged after passing by said blow-off valve.

969,295. PAPER-FEED MECHANISM. PHILIP JACOB MEAHL, Bayonne, N. J. Filed Sept. 23, 1909. Serial No. 519,121.

1. In a paper feed mechanism, the combination with endless chains, mechanism for moving them and cross bars uniting them, of clamping jaws mounted on the bars and means for alternately lifting the jaws in the direction from the bars and lowering them in the direction toward the bars and means for turning the jaws when raised, substantially as set forth.

2. In a paper feed mechanism, the combination with endless chains, mechanism for moving them and cross bars uniting them, of clamping jaws mounted on the bars and means for alternately lifting the jaws in the direction from the bars and lowering them in the direction toward the bars and means for turning the jaws

when raised, alternately in the direction of the length of the bars and at right angles thereto, substantially as set forth.



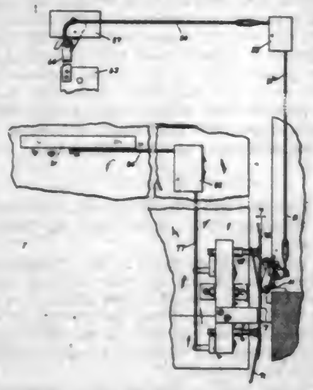
3. In a paper feed mechanism, the combination with endless chains, mechanism for moving them and cross bars uniting them, of clamping jaws mounted on the bars and means for alternately lifting the jaws in the direction from the bars and lowering them in the direction toward the bars and means for turning the jaws when raised, alternately in the direction of the length of the bars and at right angles thereto, and means for temporarily locking the jaws in position after each adjustment, substantially as set forth.

4. In a paper feed mechanism, the combination with endless chains, mechanism for moving them and cross bars uniting them, of clamping jaws mounted on the bars and means for alternately lifting the jaws in the direction from the bars and lowering them in the direction toward the bars and means for turning the jaws when raised, alternately in the direction of the length of the bars and at right angles thereto and springs acting on the jaws to press them toward the outer surface of the bars, substantially as set forth.

5. In a paper feed mechanism, the combination with sprocket wheels and endless chains, of cross bars uniting the chains, clamping jaws on the bars, mechanism for lifting the jaws when the chains ride upon the one set of sprocket wheels and means for lifting the jaws and turning them outward when the chains pass off the other set of sprocket wheels, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

969,296. ELEVATOR SAFETY DEVICE. HARRY W. MCNAUGHT, Indianapolis, Ind., assignor to Elevator Safety Equipment Company, Indianapolis, Ind., a Corporation of Indiana. Filed Jan. 17, 1910. Serial No. 538,387.



1. The combination with an elevator car, the shaft within which said car operates having door openings at the respective floors of the building which the car passes and doors to said door openings, of two strikes on said elevator car, one fixed and the other yielding, a device secured to the building within the elevator shaft near each floor past which the strikes on the elevator car will travel as it ascends and descends, one member of said device having connections extending to alongside the path of the elevator door in opening and closing, said connections, an arm on the elevator door adapted to engage with said connections as the door is opened and closed and thus pull upon a member of the first mentioned device, a locking member in said first mentioned device adapted in the absence of operating means to lock said device against the movement which results when the door is opened, an arm controlling said locking device which extends into the path of one of the strikes on the elevator car, the first named member having a contact point which extends into the path of the yieldable strike extending to the vicinity of the control lever in the elevator car, said control lever, and movable detents arranged alongside of said control lever and adapted to be projected into and withdrawn from the path of said control lever.

2. The combination, with an elevator car, the controller in said car, the shaft within which the car operates, and the doors to said elevator shaft, of a strike yieldingly mounted on the car, a lock projectable into the path of movement of the car controller to limit the movement thereof, connections between said lock and said strike, a lever mounted adjacent the shaft doorway and adapted to engage said strike to move the same, intermediate connections between the door of said doorway and said lever whereby movement of the door from and to its closed position will move said lever, a lock movably engaging said lever to restrain the movement of the lever and thereby restrain the opening movement of the door, an operating member for said lock projected into the shaft, and a strike carried by the car in position to engage said operating lever and retract the lock only when the first mentioned strike is in position to be actuated by the lever.

3. In a safety attachment for elevators, a locking device comprising a frame, a pivoted ratchet-faced sector, a rock-shaft mounted adjacent to said sector carrying a pawl which engages with said ratchet-face at one end and an arm at the other end, a spring adapted to normally hold the pawl into engagement with the ratchet-faced sector, connections operated by the elevator door arranged to move said sector-shaped rack when the pawl is disengaged, and means carried by the elevator car for disengaging said pawl.

969,297. CUFF-BUTTON. JOSEF PEJCHAR, Cincinnati, Ohio, assignor to Mooney & Crane, Chicago, Ill., a Partnership. Filed Aug. 5, 1907. Serial No. 387,089. Renewed July 14, 1910. Serial No. 572,018.



A cuff button comprising a V-shaped body, there being provided on each leg of the V, at each end of the leg, extensions folded back on the leg, with a space between said folded back part of the extensions and the leg of the V, substantially as and for the purpose described.

969,298. METHOD OF CONTOURING ARTICLES OF WOODEN FURNITURE. WILLIAM L. PFEFFERKORN, ALBERT P. SCHLOSER, and AUGUST H. HAMMETTER, Milwaukee, Wis. Filed Jan. 31, 1910. Serial No. 540,985.

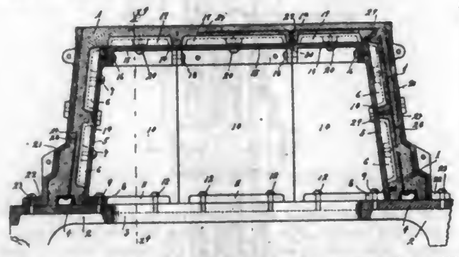
1. The method of contouring articles of wooden furniture, consisting first,—in cutting pieces of stock in such a manner as to permit their cut faces to be joined to form the completed article; second,—in establishing curved surface lines of contour on said faces, which lines are alike on the faces of pieces that are intended to abut each other in the completed article; third,—cutting each piece to form an outer surface having all its transverse lines straight, and connecting said lines of contour; and fourth,—uniting said pieces with the contour lines of abutting faces coinciding with each other.



2. The method of forming articles of wooden furniture with a plurality of curvilinear surfaces, facing in different directions and coinciding along their lines of intersection, consisting first,—in cutting pieces of stock in such a manner as to permit their union at the desired angles; second,—establishing on said cut faces the lines of intersection of said cut surfaces; third,—in cutting away the stock on each piece outside of the curvilinear surface defined by straight transverse lines connecting the lines of intersection so established, and fourth,—uniting said pieces with the lines of intersection coinciding on the abutting faces of the pieces, substantially as described.

3. The method of forming articles of furniture with a plurality of curvilinear surfaces, facing in different directions and coinciding along their lines of intersection, consisting first,—in cutting pieces of stock in such a manner as to permit their union at the desired angles; second,—guiding a cutter through each piece along a surface which includes two curvilinear lines lying within the respective cut surfaces of the piece, said lines conforming to similar cutting lines in the abutting faces of adjacent pieces, and third,—assembling and securing said pieces together.

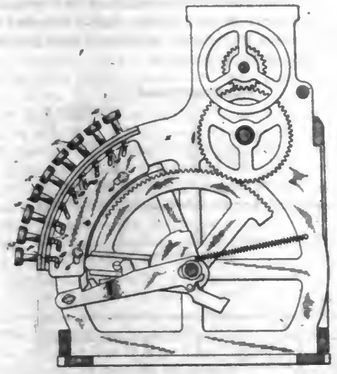
969,299. APPARATUS FOR MOLDING CONCRETE BURIAL-CASKETS. LEWIS V. RATHBUN, Rochester, N. Y. Filed Oct. 18, 1907. Serial No. 398,055.



1. In a casket molding apparatus, the combination with a mold board, inner side and end plates and a bottom-forming plate applied thereto, of outer side and end plates spaced apart from said inner side and end plates, spacing pegs or blocks applied to said inner plates, and an endless mold strip applied on said mold board and coöperating with said spacing pegs or blocks to hold a metallic reinforcement intermediate of said inner and outer plates and over said top plate, substantially as described.

2. In a casket molding apparatus, the combination with a mold board, inner side and end plates and a bottom forming plate applied thereto, of outer side and end plates spaced apart from said inner side and end plates, spacing pegs or blocks applied to the inner plates, a mold strip applied on said mold board, and wires applied to said mold strip and spacing pegs and thereby held within the space between the walls of the mold and extending over the bottom-forming plate thereof, the said wires serving to support a woven wire reinforcement in position to be embedded within the concrete body of the casket, substantially as described.

969,300. CASH-REGISTER. ROBERT H. RIDDLE, Dayton, Ohio, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (incorporated in 1906.) Filed Mar. 25, 1901, Serial No. 52,809. Renewed Sept. 15, 1906. Serial No. 334,778.



1. In a cash register, the combination with a series of keys divided into a plurality of groups and all normally free to be operated, of means coöperating with said keys for compelling a certain sequence of operation, said means permitting the simultaneous retention of a key in each group in depressed position when the proper sequence is followed.

2. In a cash register, the combination with a series of stop keys for setting the register for proper operation divided into a plurality of groups and all normally free to be operated, of a movable locking member operated by any key in one of said groups and when so operated locking all the keys of the remaining group.

3. In a cash register, the combination with a series of keys arranged in a plurality of groups, of a locking member for said keys moved by only one of said groups and adapted when so moved to lock in depressed position the keys of the other group.

4. In a cash register, the combination with a series of keys arranged in a plurality of groups, of a detent formed with incline slots, the walls of which are adapted to be engaged by the keys of one group and with bayonet slots with which the keys of the remaining group coöperate.

5. In a cash register, the combination with a series of keys arranged in groups and each provided with a laterally projecting pin, of a detent having incline slots which the pins of one group enter and angular slots which the pins of the remaining group enter.

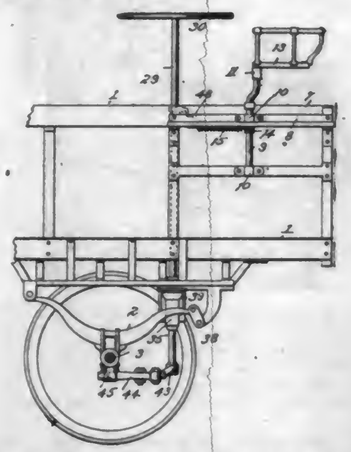
[Claims 6 to 14 not printed in the Gazette.]

969,301. STEERING MECHANISM FOR AERIAL TRUCKS. EDWYN DE N. SANDS, Elmira, N. Y. Filed May 12, 1909. Serial No. 495,408.

1. In a truck of the character described, having a suitable frame to receive the load, a non-reversible worm gear for steering one pair of truck wheels, said gear comprising a worm shaft and a steering sector having a steering arm integral therewith, a cross bar on said frame in which one end of said worm shaft is journaled, said cross bar having two downward extending flanges connected by a pivot pin for pivotally holding said sector between them, a gear casing bolted to said cross bar and serving as a bearing for the other end of said worm shaft, said casing having two lateral wings laterally surrounding said worm gear and being held between said flanges by the pivot of said sector with said sector between said two wings.

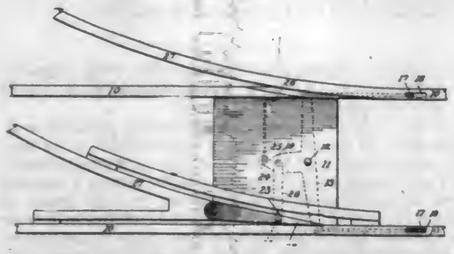
2. In a truck of the character described, having a suitable frame to receive the load, a non-reversible worm gear for steering one pair of truck wheels, said gear comprising a worm shaft and a steering sector having a steering arm integral therewith, a cross bar on said frame in which one end of said worm shaft is journaled, said cross

bar having two downward extending flanges connected by a pivot pin for pivotally holding said sector between them, a gear casing bolted to said cross bar and serving as a bearing for the other end of said worm shaft, said casing having two lateral wings laterally surrounding said worm gear and being held between said flanges by the pivot of said sector with said sector between said two wings, a pin disposed transversely in said sector, and a circular slot in either of said wings to receive the ends of said pin to limit the angular motion of said sector.



3. A truck of the character described, having a suitable frame to receive the load, a non-reversible worm steering gear for one pair of truck wheels, a vertical tiller shaft for operating said gear, a boss near the upper end for guiding said shaft, a cross bar on the truck frame supporting said boss, a groove in the shaft portion located within the boss, and a hand screw on said boss engaging in said groove to prevent the shaft from vertical movement, the lower end of said shaft being square tapered, a correspondingly shaped socket being provided on said worm gear for receiving said square end, said tiller shaft adapted to be moved upwardly when said hand screw is disengaged from said groove.

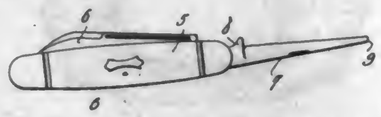
969,302. SWITCH-OPERATING APPARATUS. FRANZ SCHAD, West Hoboken, N. J. Filed June 7, 1910. Serial No. 565,597.



1. A device of the character described, comprising a pair of slotted rails, a switch tongue, a lever operatively connected thereto, a pair of rods connected to the lever and having heads that are received within the rail-slots, said heads being provided with beveled rear edges adapted to engage the rails, and means for normally raising said heads above the rails.

2. A device of the character described, comprising a pair of slotted rails, a switch tongue, a lever operatively connected thereto, a pair of spring-influenced rods connected to the lever and having flattened heads which are adapted to be received within the rail-slots, said heads being provided with beveled rear edges adapted to engage the lower sides of the rail-heads.

969,303. BELT-PUNCH AND KNIFE-BLADE. ROBERT LAWRENCE SHEPARD, Warwick, N. Y. Filed Nov. 6, 1908. Serial No. 461,407.



1. A knife-blade having its edges convergingly tapered from its shank to a point at the free end and having one side formed flat from edge to edge and the other side convexly curved from edge to edge.

2. A knife-blade having its edges converged to a point at its free end and having one side formed flat from edge to edge and the other side convexly curved from edge to edge.

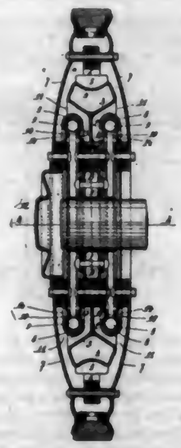
3. A knife-blade having its free end sharpened on both edges and having one side formed flat from edge to edge and the other side convexly curved from edge to edge.

4. A knife-blade having its free end sharpened and having one side formed flat from edge to edge and the other side convexly curved from edge to edge.

5. A knife-blade having one side formed flat from edge to edge and the other side convexly curved from edge to edge.

[Claim 6 not printed in the Gazette.]

969,304. ELASTIC WHEEL. JACOBUS SPYKER, Amsterdam, Netherlands. Filed June 9, 1909. Serial No. 501,012.



1. An elastic vehicle wheel comprising in combination, a hollow annular casing forming the wheel frame, an axle and nave within the frame, a buffer on the nave, and flexible connections extending from the buffer to the wheel frame permitting the wheel to assume various angular positions relatively to the axle.

2. An elastic wheel comprising in combination, a hollow annular wheel casing containing pressure fluid, an axle and nave surrounded by the casing, a buffer on the nave extending into and acting upon the pressure fluid in the casing, flexible pocket connections extending from the buffer to the wheel casing and rigid rings combined with the flexible connections in such a way that the rings and flexible connections may be displaced without twisting the connections.

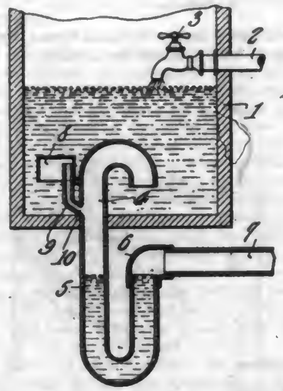
3. An elastic wheel comprising in combination, a hollow annular wheel casing containing pressure fluid, an axle and nave surrounded by the casing, a buffer on the nave extending into and acting upon the pressure fluid, blades on the periphery of the buffer to prevent a direct driving back of the pressure fluid when shocks occur, and flexible connections extending from the buffer to the wheel casing.

4. An elastic wheel comprising in combination, a hollow annular wheel casing, containing pressure fluid, an axle and nave surrounded by the casing, a hollow buffer carried by the nave, concaved on its periphery and having outwardly formed blades extending within the interior of the wheel casing, and flexible connections between the buffer and wheel casing.

5. An elastic vehicle wheel comprising in combination, a hollow annular wheel casing containing pressure fluid, an axle and nave within the casing, a buffer on the nave extending into the casing, flexible connections extending from the buffer to the wheel casing, and tubular rings combined with the flexible connections, constituting a jointed parallel suspension for the axle whereby it may move relatively to the wheel casing and absorb vibrations and shocks.

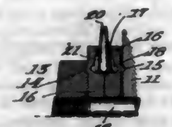
[Claims 6 and 7 not printed in the Gazette.]

969,305. AUTOMATIC FLUSHING-TANK. EMIL P. STARY, Cedar Rapids, Iowa. Filed July 30, 1909. Serial No. 510,364.



Apparatus of the class described including a reservoir, an outlet pipe extending through the bottom of the reservoir and having a goose neck at its upper end and constituting a siphon, the lower end of said siphon forming a trap, a hood supported by the pipe at one side thereof and within the reservoir, said hood being open at the bottom and the bottom of the hood being disposed slightly above the plane of the open upper end of the pipe, and a vent pipe extending from the upper portion of the hood and longitudinally within the said pipe to a point below the level of the inlet end of the siphon.

969,306. NUT-LOCK. THOMAS E. STOCKFORD, Williams, Cal. Filed Mar. 29, 1910. Serial No. 552,142.



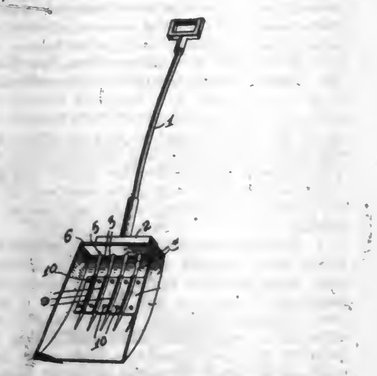
1. In a nut lock, parallel locking washers having a series of radially disposed conical recesses at the periphery of one face thereof and a plane bearing surface extending from said recesses to the aperture of said washers, retaining spurs upon the opposite face of said washers and a tapering locking pin of less diameter than said recesses when alined.

2. In a nut lock, a bolt, parallel washers thereon having upon their contacting faces a series of radially disposed recesses, enlarged at their inner ends, a nut engaging one of said washers, and a tapered locking pin disposed in alined recesses and normally of less diameter than said recesses when in alinement whereby a movement of the washers upon each other binds the pin within the recesses.

3. In a nut lock, a bolt, parallel washers disposed thereon and having upon their contacting faces a series of radially disposed recesses enlarged at their inner ends, a solid locking pin having an enlarged end of less diameter than said recesses when alined, and a nut mounted upon the bolt to engage said washers.

4. In a nut lock, a bolt, parallel washers disposed thereon and having upon their contacting faces a series of radially disposed segmental recesses enlarged at their inner ends, a solid locking pin having an enlarged end to enter said recesses when alined and normally of less diameter than the recesses when alined, spurs provided upon said washers opposite the enlarged portion of said recesses, and a clamping nut to engage the spurs upon one washer.

969,307. COMBINATION FORK AND SHOVEL. HENRY C. SUMBERLIN, Creston, Wash. Filed Apr. 12, 1910. Serial No. 555,032.



1. A fork, and a shovel detachably secured thereto and having longitudinal grooves, the tines of said fork resting in said longitudinal grooves.

2. A fork, a shovel having longitudinal grooves in its bottom in which the tines of said fork rest, means for holding said tines in said groove, and means for detachably securing said shovel to said fork.

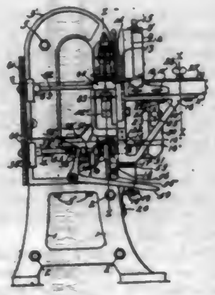
3. A fork, a shovel having longitudinal grooves in its bottom, a plate extending across the bottom of said shovel and secured thereto and having longitudinal grooves corresponding to the grooves in the shovel, the tines of said fork being located in said grooves in the shovel and extending through said grooves in the plate, and means for detachably securing said shovel to said fork.

4. In a device of the character described, a shovel having longitudinal grooves in its bottom having tapering outer ends, and a fork having its tines located in said grooves with the ends of the tines sunk within the outer ends of said grooves, and means for securing said shovel to said fork.

5. In a device of the character described, a shovel having its bottom formed with longitudinal grooves adapted to receive the tines of a fork, and means extending across the bottom of said shovel for holding said tines in said groove.

[Claim 6 not printed in the Gazette.]

969,308. STRAP-WORKING MACHINE. JAMES THORNTON, St. Joseph, Mo. Filed June 9, 1909. Serial No. 501,188.



1. In a strap working machine, having a table and a strap box adapted to removably hold a pile of straps on said table; a plurality of carrier bars, slidably mounted in said table; a plurality of ejector bars, mounted, one on each of said carrier bars, a feed plate, adapted to feed said straps, one at a time in succession from said strap box, adjustable securing means for said feed plate, whereby said feed plate is adjustably secured on said ejector bars, said securing means also acting as securing means whereby said ejector bars are secured on said carrier bars, and reciprocative driving means, whereby said feed plate is reciprocated beneath said strap box.

2. In a strap working machine, the combination with die cutting means, provided with cutting dies, adapted to die cut a strap, of a rotatable skiver, having a skiver body, provided with a skiver blade secured thereon, adapted to skive an end portion of said strap; rotating means, rotating said skiver, and intermittent moving means, whereby said cutting dies are moved, for die cutting said strap, and held in said strap, and act as holding means for holding said strap, while said skiver is doing said skiving.

3. In a strap working machine, a skiver, comprising a skiver body, secured on a rotatably mounted shaft, said body being provided with a skiver blade, secured thereon, adapted to skive an end portion of a strap; a skiver block; supporting means, whereby said block is supported adjacent to said blade; adjusting means, for said block, whereby the space between said block and said skiver blade is adjusted; a spring actuated keeper, secured on said body, said keeper being adapted to keep said strap firmly pressed against said skiver block, in advance of said skiver blade, and rotating means, whereby said skiver is rotated.

4. In a strap working machine, having a frame for supporting the parts thereof and provided with a table adapted to support a pile of straps thereon; a strap box, adapted to removably hold said pile of straps on said table, said strap box being provided with securing means for slidably securing the same to said table; a strap box extension, slidably secured to said strap box, said extension being provided with a strap gage on the extended end thereof, and securing means, whereby said extension is secured to said strap box at various extensions therefrom.

5. In a strap working machine, a rotatably supported strap stop; rotating means, adapted to contact and rotate said strap stop into position to abut an edge of said strap and stop the same in said machine; said strap stop being adapted to be rotated by gravity thereof, to a position below the level of said strap upon removal of said strap stop rotating means from contact with said strap stop, and driving means, whereby said stop rotating means is reciprocatively driven into and from contact with said strap stop.

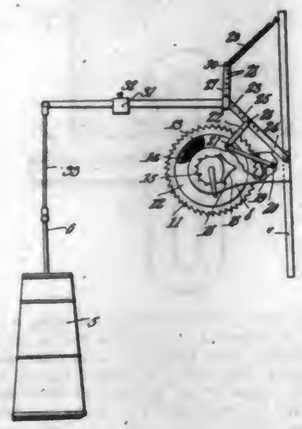
[Claim 6 not printed in the Gazette.]

969,309. EDUCATIONAL DEVICE. GUSTAVE TUCK, London, and ALBERT ERNEST KENNEDY, Leyton, England. Filed Mar. 16, 1909. Serial No. 483,720.



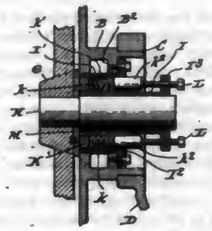
An educational device comprising two leaves or pieces of cardboard, one having a letter of the alphabet or other information thereon and the other a picture or illustration and both hinged together near the top with the letter or other information and the picture facing in the same direction one leaf being provided with an extension which extends above the hinging point when folded in one direction, substantially as described.

969,310. CHURN. MINOR EUGENE TYNES, Gloster, Miss. Filed July 8, 1909. Serial No. 506,575.



In a motor of the class described, a base, a spring-driven power wheel, said wheel being toothed peripherally, an oscillatory shaft, an escapement fixed upon the shaft and coöperating with the toothed periphery of the wheel, an arm fixed upon the shaft for oscillation therewith, an arm mounted to oscillate in a vertical plane, said last mentioned arm being formed with a series of openings, a link pivoted to the first mentioned arm and at its upper end being formed with an opening, a bolt engaged through an opening in the link and interchangeably through the opening in the second mentioned arm, a rigid upstanding arm carried by the second mentioned arm, and formed with a series of openings, a spring connected at its upper end to the base, and at its lower end in the openings interchangeably, the said spring tending to lift said second mentioned arm, and a weight slidably adjustable upon the said second mentioned arm.

969,311. DOUGH-MIXING MACHINE. FRANK H. VAN HOUTEN, Fishkill-on-the-Hudson, N. Y., assignor to Dutchess Tool Company, Fishkill-on-the-Hudson, N. Y., a Corporation of New York. Filed Jan. 3, 1910. Serial No. 536,072.



1. A dough mixing machine embodying a frame, a trough having supporting trunnions at the ends journaled in the frame, outwardly removable bearings mounted concentrically in said trunnions and extending through to the inside of the trough, and a mixing blade having journals at opposite ends supported in said bearings.

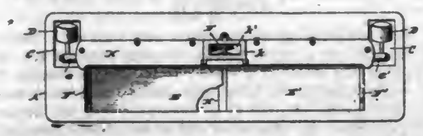
2. A dough mixing machine embodying a frame, a trough having supporting trunnions at the ends journaled in the frame and provided with inwardly projecting flanges, bearings mounted in said trunnions and having outwardly extending flanges, bolts uniting said flanges whereby the bearings may be removed outwardly, and a mixing blade having journals at opposite ends supported in said bearings.

3. In a dough mixing machine, the combination with the frame, and the trough having large end trunnions journaled in the frame, of outwardly removable bearings mounted in the trunnions, spring pressed rings mounted in the inner faces of the bearings, a mixing blade having journals in said bearings and carrying wear plates with which said rings contact around the journal to prevent access of material to said journal from within the trough.

4. In a dough mixing machine, the combination with the frame and the trough having large end trunnions journaled in the frame, of bearings removably mounted in the trunnions, rings concentric with the bearings mounted in the inner faces of the bearings, springs for advancing said rings, screws for adjusting the compression of the springs, a mixing blade having journals located in the bearings and wear plates carried by the blade and against which the rings bear to prevent access of material to the journals from the interior of the trough.

5. In a dough mixing machine, the combination with the trough having the annular trunnions at the ends and the mixing blade having end journals, of the bearings for the journals removably mounted in the trunnions and projecting through to the inside of the trough, rings movably mounted in the inner face of the bearings and surrounding the journals, springs for advancing said rings to prevent access of material to the journals from within the trough and screws held by the bearings for compressing said springs.

969,312. DOOR FOR BAKERS' OVENS. FRANK H. VAN HOUTEN and DAVID J. HANNA, Fishkill-on-the-Hudson, N. Y., assignors to Dutchess Tool Company, Fishkill-on-the-Hudson, N. Y., a Corporation of New York. Filed May 26, 1910. Serial No. 563,555.



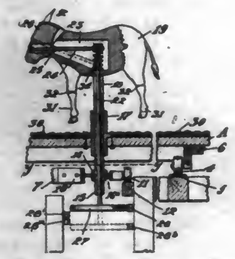
1. In a door for bakers' ovens, the combination with the door frame having an elongated opening, of a plurality of doors independently pivoted on an axial line in proximity to the top of the opening, and a supplemental door loosely supported in position to rest against the proximate ends of the doors to bridge and close the opening between the same.

2. In a door for bakers' ovens, the combination with the door frame having an elongated opening surrounded by an inwardly extending flange, of a plurality of doors mounted in said opening, independent alined shafts on which said doors are mounted, a hanger for supporting the proximate ends of the said shafts and a supplemental door pivotally mounted on an axis coincident with the axis of the main doors in position to rest upon the proximate ends of the main doors and close the opening therebetween.

3. In a door for bakers' ovens, the combination with the door frame having an elongated openipg therein, an inwardly extending flange surrounding said opening and pockets at opposite ends of the opening, of independent shafts journaled in the flange of the door opening and projecting into the pockets, independent doors mounted on said shafts within the door opening, counterweights for the respective doors mounted on their shafts within the pockets and a movable supplemental door for closing the space between the proximate ends of the main doors.

4. In a door for bakers' oven, the combination with the door frame embodying a face plate having an elongated opening therein an inwardly extending flange surrounding said opening and pocket openings at each end of the elongated opening, of independent shafts journaled in said frame in alinement with each other and with their outer ends projecting into the pockets, of a hanger forming the pivotal support for the proximate ends of the shafts, downwardly closing doors mounted on the shafts in the door opening, counter-weights for said doors mounted on the shafts in the pockets, and a supplemental door loosely pivoted on the proximate ends of the shafts in position to rest against the proximate ends of the doors and close the opening therebetween when the doors are closed.

969,313. AMUSEMENT APPARATUS. WILLIAM SHERMAN VAN SANT, Oakland, Cal. Filed Nov. 8, 1909. Serial No. 526,780.



1. The combination of a rotatable support, a passenger conveyance thereon, means controlled by the occupant of said conveyance for giving turning motion to the latter during the travel of said support.

2. In an amusement apparatus, the combination of a traveling support, a passenger conveyance mounted thereon, means for giving the same an up and down motion, and means controlled by the passenger for giving the conveyance a side to side motion during the travel of the support.

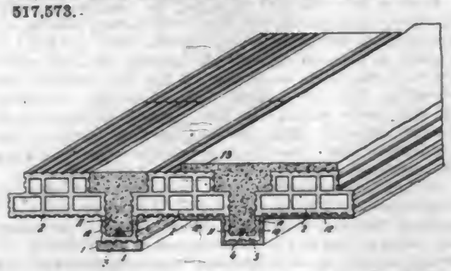
3. In an amusement apparatus, the combination of a traveling support, a passenger conveyance thereon, said passenger conveyance having a jointed movable part, and means connected with said movable part and controlled by the passenger for giving the conveyance a sidewise movement during the travel of the support.

4. In an amusement apparatus, the combination of a traveling support, a passenger conveyance thereon, said passenger conveyance having a jointed movable part, and means connected with said movable part and controlled by the passenger for giving the conveyance a sidewise movement in either direction during the travel of the support.

5. In an amusement apparatus, the combination of a traveling support, a standard vertically slidable therein, a passenger conveyance mounted on the standard, a lever fulcrumed to the support, the outer end of said lever carrying a roller traveling over a fixed undulated trackway, and said standard supported on said lever and rising and falling with the oscillations of said lever.

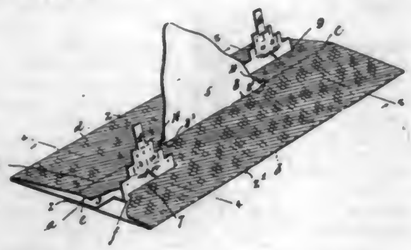
[Claims 6 to 12 not printed in the Gazette.]

969,314. FLOOR CONSTRUCTION. HENRY H. VOUGHT, Jr., New York, N. Y. Filed Sept. 14, 1909. Serial No. 517,573.



A fire-proof floor, comprising parallel rows of hollow tiles with an intervening T-shaped space between each two rows, each tile being in the form of an inverted T, and T-shaped concrete beams filling the space between the rows of tiles having a dove-tailed locking connection therewith and extending from the upper plane of the tiles to a plane below the bottom thereof and a row of trough-shaped tiles arranged beneath each beam and inclosing that part of the beam which is arranged below the tiles.

969,315. MECHANICAL PICTURE-CARD. JOHN MACY WALCUTT, New York, N. Y. Filed May 6, 1909. Serial No. 494,357.



1. In devices of the character described a tubular collapsible body having a slot and an interiorly located tongue in alinement with and generally smaller than said slot and adapted to be protruded through said slot when said body is deformed by pressure, said slot having a portion thereof of restricted dimensions, and said tongue having an extension located remote from the free end thereof and adapted to frictionally engage said restricted portion for the purpose set forth.

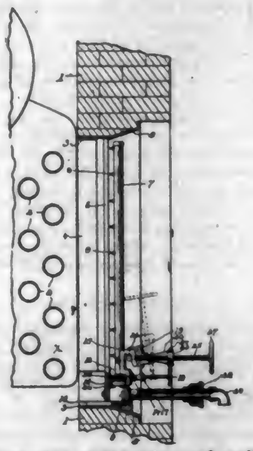
2. In devices of the character described a flattened tubular body having slots in the sides thereof and adapted to be deformed by pressure applied transversely to opposite edges thereof, tongues hinged interiorly of said tube and adapted to be protruded through said slots when the tube is deformed, and means for locking said tongues in protruded position.

3. In devices of the character described a flattened tubular body having slots in the sides thereof and adapted to be deformed by pressure applied transversely to opposite edges thereof in either of two directions, and having two sets of creased or scored lines for determining the shape of said tube under such pressure, one set of creased or scored lines being located in a plane at right angles to the plane of the other set and to one side of the center of said plane, tongues hinged interiorly of said tube and adapted to be protruded through said slots in one position of said tube, and concealed within said tube in the other position thereof, and means for locking said tongues in protruded position.

4. In devices of the character described a slotted tubular body having an interiorly located tongue adapted to be protruded through said slot, and longitudinal creases whereby the tubular body may be flattened; said creases in such flattened condition presenting edges or corners adapted to be urged toward each other by lateral pressure applied in opposite directions against said edges or corners whereby the tubular body may be deformed; said body having auxiliary creases for determining the lines on which said deformation may take place, the auxiliary creases in such deformed condition presenting edges or corners adapted to be urged toward each other by lateral pressure applied in opposite directions against said edges or corners whereby said tube may be returned to original condition; the aforesaid tongue being adapted to be concealed within the tube in the flattened condition thereof, and protruded through the slot therein in the deformed condition thereof.

5. In devices of the character described a slotted tubular body formed of a single piece of sheet material and having an interiorly located tongue adapted to be protruded through said slot and two sets of longitudinal, parallel creases whereby said tube may be flattened by pressure applied in either of two directions, one set of creases being spaced apart a distance equal to a diameter of said tube and the other set a distance equal to less than a diameter thereof, whereby in one of its flattened positions the sides of the body will lie parallel and in the other relatively arched, the aforesaid tongue being adapted to be concealed within the tube when the sides thereof lie parallel, and protruded through the slot therein when the sides are relatively arched.

969,316. BLOWER FOR WATER-TUBE BOILERS. THOMAS S. WALLER and EDWARD B. BARNHILL, Detroit, Mich., assignors to Diamond Power Specialty Company, Detroit, Mich., a Copartnership. Filed Oct. 27, 1909. Serial No. 524,977.



1. The combination of the tubes and wall of a boiler, said wall having a recess therein opening through the inner face of the wall, of a blower comprising a header in said recess adapted to be moved toward and from said tubes, and means adapted to be closed between the header and tubes when the header is moved from the tubes into the recess.

2. The combination of a wall of a boiler setting having a recess therein opening through the inner side of the wall, a header adapted to be projected from the recess and retracted into the same, and means adapted to be moved across the recess to close the same when the header is retracted.

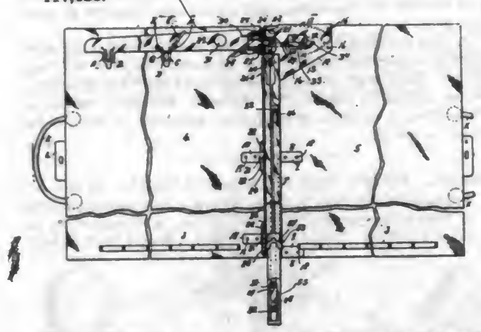
3. The combination of a wall of a boiler setting having a recess therein opening through the inner side of the wall, a header adapted to be projected from and retracted into the recess, and a member pivotally supported at one side of the recess and adapted to be turned across the inner open end of the same when the header is retracted.

4. The combination of a wall of a boiler setting having a recess therein opening through the inner side of the wall, a header reciprocable within the recess, and a member adapted to close across the recess operated by the reciprocation of the header.

5. The combination of a wall of a boiler setting having a recess therein opening through the inner side of the wall, a door to close the opening into the recess at the inner side of the wall, a header within the recess adapted to be reciprocated to project the same through the opening in the inner side of the wall and retract the same into the recess, said door being adapted to be closed to close the recess when the header is retracted, and means for reciprocating the header.

[Claims 6 to 15 not printed in the Gazette.]

969,317. MUSIC-LEAF TURNER. EARL N. WALTER, Denver, Colo., assignor of one-half to Harry Zimmerhackel, Denver, Colo. Filed Feb. 24, 1908. Serial No. 417,428.



1. The combination of an elongated casing, spring-actuated hinged leaf-turning arms connected with the casing, means for locking the leaf-turning arms in the inactive position, a flexible sheath passing through the casing and movable longitudinally therein, a pulley connected with the upper portion of said sheath, a plate slidably connected with the lower portion of the said sheath, a pulley mounted on said plate, a flexible device connected at one extremity with the leaf-turning-arm locking means, engaging both of said pulleys and connected at its opposite extremity with the casing, and means for locking the sheath against movement in the casing, while the flexible device is allowed to move in respect to both the sheath and casing, substantially as described.

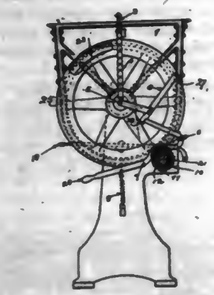
2. A combined sheet music holder and leaf turner comprising covers hinged together, spring-actuated hinged leaf-turning arms connected with the said covers, a lever for locking the leaf-turning arms in the inactive position, an elongated casing connected with the said covers, and flexible means passing through the said casing and connected with the said lever for actuating the latter to release the leaf-turning arms, substantially as described.

3. A combined sheet music holder and leaf turner comprising covers hinged together, spring-actuated leaf-turning arms connected with the said covers, a lever for locking the leaf-turning arms in the inactive position, an elongated casing connected with the said covers, a flexible device passing through the said casing, connected with the lever and exposed at its lower extremity for actuating the lever to release the leaf-turning arms, substantially as described.

4. A combined sheet music holder and leaf turner comprising covers hinged together, spring-actuated, hinged leaf-turning-arms connected with the covers, a lever for locking the leaf-turning arms in the inactive position, means for actuating the lever to release the said arms, and a stop extending transversely across the lower portion of each hinged cover, to prevent the escape of the sheet music when the latter is used as a carrying holder, substantially as described.

5. A combined sheet music holder and leaf turner comprising covers hinged together, spring-actuated, hinged leaf-turning-arms connected in operative relation with the covers, and a stop extending transversely across the lower portion of each hinged cover, to prevent the escape of the sheet music when the latter is used as a carrying holder, substantially as described.

969,318. SAFETY DEVICE. PAUL S. WARD, Covington, Ky., assignor to The Lynn Superior Company, Cincinnati, Ohio, a Corporation of Ohio. Filed July 15, 1909. Serial No. 507,687.



1. In a mixing machine, the combination of an open trough, machine-parts adapted to operate therein, a power-driven machine-element whereby they are moved, an adjustable device whereby the operative connection between the two is controlled, a flexible safety-appliance permanently attached at one of its ends in a fixed position and stretched transverse across the trough, and intermediate mechanism to which the other end of this appliance is attached and whereby it and the adjustable power-controlling device are operatively connected in a manner that any interference with the normal condition of the safety-appliance adjusts the power-controlling device to interrupt the operative connection between the power-driven machine-element and the machine-parts moved thereby.

2. In a mixing machine, the combination of an open trough, machine-parts adapted to operate therein, a power-driven machine-element operatively connected to these parts to move them, an adjustable device whereby this connection is controlled, a flexible safety-appliance stretched to extend across the trough above the operative machine-parts therein and mechanism to which one end of the appliance is attached and whereby it and the power-controlling device are connected and which, when the appliance is disturbed in any direction, operates the power-controlling device for the purpose of disconnecting the power-driven machine-element from the driven machine-parts.

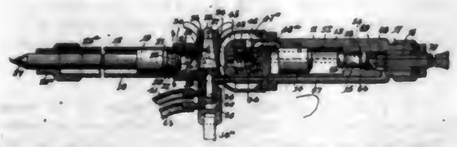
3. In a mixing-machine, the combination of an open trough, agitating devices contained therein, a power-driven shaft to operate them, a clutch-device consisting of complementary members, one loosely mounted and one connected to rotate with the power-driven shaft, means to shift this latter clutch-member with reference to the loose clutch-member, a flexible safety-appliance stretched to extend across the open trough and mechanism whereby this appliance at one of its ends is operatively connected to the means for shifting the power-connected clutch-member and which mechanism, when actuated by reason of interference with the normal position of the appliance operates to adjust the clutch-device to disconnect the power from the driven machinery.

4. In a mixing-machine, the combination of an open trough, agitating devices contained therein, a power-driven shaft to operate them, complementary clutch-members, one loosely mounted and one connected to the power-driven shaft, means to shift the connected clutch-member with reference to the loosely mounted clutch-member, a trip-lever which controls the operation of these means, a flexible safety-appliance stretched to extend across the open trough, and detaining means operatively connected to one end of the safety-appliance and adapted to prevent, under normal conditions, action of the trip-lever to operate the means for shifting the clutch-member.

5. In a mixing-machine, the combination of an open trough, agitating devices contained therein, a power-driven shaft to operate them, a clutch-device consisting of complementary members, one loosely mounted and one connected to the power-driven shaft and provided with a cam, a serrated collar provided with a cam complementary to the cam on the clutch-member, a trip-lever adapted to co-act with the collar mentioned for the purpose of adjusting the clutch by the action of the complementary cams, a flexible safety-appliance stretched to extend across the open trough, and a catch-device operatively connected to one end thereof and adapted to prevent under normal conditions this trip-lever to co-act with the collar.

[Claim 6 not printed in the Gazette.]

969,319. DRILL-FEEDING MECHANISM. DANIEL SHAW WAUGH, Denver, Colo., assignor to The Denver Rock Drill & Machinery Company, Denver, Colo., a Corporation of Colorado. Filed Feb. 29, 1908. Serial No. 418,520.



1. In a structure of the character set forth, the combination with a motor, of motive fluid operated feeding means for the motor, means for supplying motive fluid to the feeding means to move the motor to its work, and means associated with the supplying means and automatically operated by the motor for governing said supply.

2. In a structure of the character set forth, the combination with a motor, of motive fluid operated feeding means for said motor, means for directing motive fluid to the feeding means and means controlled by the operation of the motor and associated with the directing means for controlling the supply of motive fluid to the feeding means.

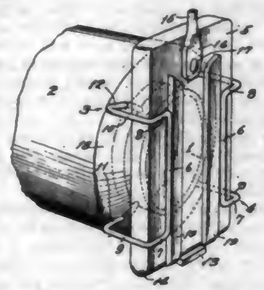
3. In a structure of the character set forth, the combination with a motor, of motive fluid operated feeding means for said motor, means for supplying motive fluid to the feeding means to move the motor to its work and exhausting said motive fluid from the feeding means and means controlled by the operation of the motor for controlling the exhaust of said motive fluid from the feeding means.

4. In a structure of the character set forth, the combination with a motor including a reciprocatory piston, of fluid operated feeding means connected to the motor and comprising a cylinder and a piston operating in the cylinder, of means for supplying motive fluid to the cylinder for moving the piston to its work, and means controlled by the motor piston and associated with the supplying means for controlling said supply of motive fluid.

5. In a structure of the character set forth, the combination with a motor including a reciprocatory piston and a tool-engaging tappet operated by the piston, of fluid operated feeding means connected to the motor and comprising a cylinder and a piston operating in the cylinder, and means for controlling the operation of the feeding piston, including a motive fluid conducting channel controlled by the tappet.

[Claims 6 to 24 not printed in the Gazette.]

969,320. IRRIGATING-PIPE GATE. HENRY ELMER WORLEY, Redlands, Cal. Filed Apr. 21, 1909. Serial No. 491,377.

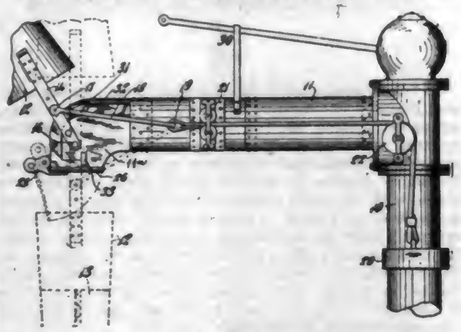


1. The combination with a pipe, of a gate to close the pipe, and two continuous wire clamping members each composed of a middle limb extending parallel with the plane of the gate to form resilient arms and thence again bent to form lower and upper extensions extending lengthwise of the axis of the pipe, said limbs operating to hold the gate against the pipe.

2. In a pipe head gate, a collar, wires fastened to the sides of the collar and bent to form limbs beyond the end of the collar, a stop fastened to the collar and extending below the end thereof, and a gate to fit between the limbs and the end of the collar, said stop being adapted to stop the gate.

3. The combination with a pipe, of a collar having wire members fastened thereto and extending beyond the end of the collar and there inwardly bent to form clamping limbs, luting to cement the collar to the pipe, the same embedding a portion of said wire members to retain the collar in place.

969,321. SPOUT FOR WATER-COLUMNS. FRANK C. ANDERSON, Cincinnati, Ohio, assignor to American Valve & Meter Company, Cincinnati, Ohio, a Corporation of West Virginia. Filed Aug. 21, 1909. Serial No. 513,907.



1. A device of the character described comprising a water column, a water spout, an extension for said water spout secured thereto by pivots on the sides of the spout, means for adjusting said extension on said pivots to various angles relative to said spout, means to automatically hold said extension at various angles out of operative position, and means for discharging the water through said extension, when desired, substantially as set forth.

2. A device of the character described comprising a water spout, an extension, arms fastened thereto and pivoted to the discharge portion of the water spout, said water spout connected to a water column, a weighted cable, arms pivoted to the arms on the extension at one end and to said weighted cable at the other, and brackets fastened to the sides of the water spout carrying guides for said weighted cables, substantially as and for the purposes set forth.

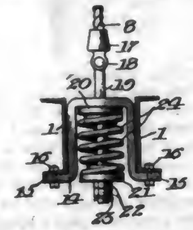
3. A device of the character described comprising a water spout, an extension thereon, arms fastened thereto and pivoted to the end of the water spout, a weighted cable, arms pivoted to the arms of said extension at one end and fastened to said weighted cable at the other, suitable guides on the side of said water spout through which said weighted cable passes, adjustable stops adapted to limit the movement of said extension, and partitions in said extension, substantially as and for the purposes set forth.

4. A device of the character described comprising a water spout, a funnel shaped extension, arms fastened thereto, and pivoted to the discharge portion of the water spout, said water spout connected to a water column, a weighted cable, arms pivoted to the arms on the funnel shaped spout at one end and to said weighted cable at the other, and brackets fastened to the sides of the water spout carrying guides for said weighted cable, substantially as and for the purposes set forth.

5. A device of the character described comprising a water spout, a funnel shaped extension, arms fastened thereto and pivoted to the end of a water spout, a weighted cable, arms pivoted to the arms of said funnel shaped extension at one end and fastened to said weighted cable at the other, suitable guides on the side of said water spout through which said weighted cable passes, adjustable stops adapted to limit the movement of said funnel shaped extension, and partitions in said funnel shaped extension, substantially as and for the purposes set forth.

[Claims 6 to 13 not printed in the Gazette.]

969,322. CABLE-HITCH FOR ELEVATORS. CARL ANTONIUS ANDERSON, Chicago, Ill., assignor to Reliance Elevator Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 10, 1908. Serial No. 466,830.



An apparatus of the character described, comprising a car framework having two transverse members at the top portion thereof, a saddle for said framework mounted upon the under side of said transverse members, cables for hoisting and lowering said car framework, a counterweight, a cable for uniting said car framework with said counterweight, metallic springs interposed between said framework and said cables, and a prime mover.

969,323. PENCIL-SHARPENER. JOSEPH ANDERSON, San Diego, Cal. Filed Mar. 20, 1909. Serial No. 484,716.



1. A tool of the character described comprising a supporting member having an opening therein for the insertion of a pencil or the like, oppositely disposed longitudinally extending cutting members pivotally connected to the support adjacent their upper ends whereby the lower ends may approach, or recede from, one another, and oppositely disposed operating knobs, one for each cutting member projecting through the sides of the support.

2. A tool of the character described, comprising a rectangular casing of rigid construction, the casing comprising sides and an apertured end for the insertion of a pencil or the like to be sharpened, cutting members within the casing, the cutting members having supports mounted on pivots adjacent the apertured end of the casing whereby that portion of the cutting members adjacent the other end of the casing may approach, or recede from one another, adjusting means for the cutting members including outwardly projecting rods on the supporting members, said rods terminating in flat knobs whereby when the cutting members are in their innermost position the knobs will lie flat against the sides of the casing.

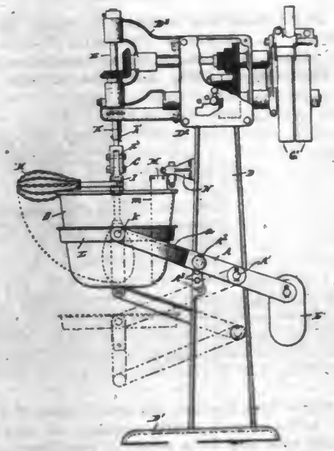
3. A tool of the character described comprising a supporting member constituting an inclosing casing having an opening in one of the walls thereof for the insertion of a pencil, cutting blades inclosed and protected by the casing, the blades adapted to extend at an angle to the longitudinal axis of the pencil to be sharpened, means for connecting the blades at their upper ends to the casing, and means connected to the blades and projecting through apertures in the casing for adjusting the lower ends of said cutting blades toward and from one another.

4. A tool of the character described comprising a hollow casing having a top and sides, the top having an opening for the reception of a pencil, oppositely disposed carrying members pivoted at their upper ends within the casing upon opposite sides of said opening and free at their lower ends, cutting edges on the carrying members, and an outwardly projecting rod on each carrying member extending without the casing for the purpose described.

5. A tool of the character described comprising a hollow casing having a top and sides, the top having an opening for the reception of a pencil, oppositely disposed carrying members pivoted at their upper ends within the casing upon opposite sides of said opening and free at their lower ends, a pair of oppositely inclined cutting blades on each member extending longitudinally thereof and converging downward toward one another.

[Claims 6 to 15 not printed in the Gazette.]

969,324. CREAMING AND BEATING MACHINE. HARRY M. BACHMAN, Fishkill-on-the-Hudson, N. Y., assignor to Dutchess Tool Company, Fishkill-on-the-Hudson, N. Y., a Corporation of New York. Filed Nov. 11, 1909. Serial No. 527,509.



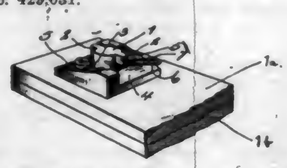
1. In a creaming and beating machine, the combination with the standard, of the receptacle, the vertically arranged benter shaft and means for rotating the shaft, a socketed chuck or beater holder carried by said shaft having a transverse slot in its lower end, a beater or whisk having a stem adapted to be received in the chuck or holder, a transverse pin carried by the stem and adapted to be received in the slot in the chuck or holder, and a

spring finger or plate carried by the chuck having an opening therein and adapted to take over the pin to hold the beater in place.

2. In a creaming and beating machine the combination with the beater shaft mounted in fixed journals, a beater carried by said shaft, and a breaker carried by a support in fixed relation to the journal of the beater shaft of a vertically movable bowl or receptacle adapted to be moved into working position with relation to both the beater and breaker.

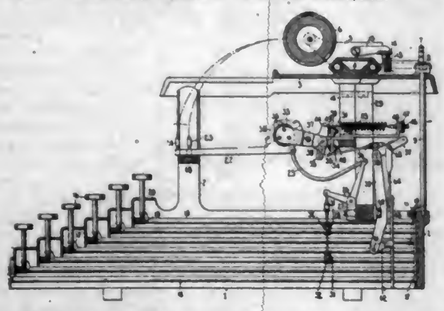
3. In a creaming or beating machine, the combination with the standard, vertically arranged beater shaft and means for rotating said shaft, of the beater carried by said shaft, a bowl or receptacle, a frame pivotally mounted on the standard in which said bowl is carried, and a breaker fixed to said standard and adapted to extend down into the bowl when the latter is elevated into working position.

969,325. THREADLESS NUT-LOCK. GEORGE W. BACON, Grand Junction, Colo., assignor of one-half to Edgar A. Yelton, Grand Junction, Colo. Filed Apr. 24, 1908. Serial No. 429,031.



The combination of a bolt and nut, said nut having an opening to receive the end of said bolt and provided with oppositely arranged recesses, said bolt having oppositely arranged lugs adjacent to its end adapted to engage said recesses when the nut is being applied to the bolt, said nut having oppositely disposed inclined upper faces, said bolt having an aperture extending transversely thereof and adjacent its end, and at an angle to the disposition of said lugs, a key penetrating said aperture adapted to be engaged by the said inclined upper faces so that when the bolt or nut is rotated in a certain direction the bolt or nut will be drawn home.

969,326. TYPE-WRITING MACHINE. JOHN H. BARR, Syracuse, N. Y., assignor to The Smith Premier Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed July 22, 1904. Serial No. 217,628.



1. In a typewriting machine, the combination of a series of keys; a series of rock shafts operated by said keys; arms on said rock shafts; a series of sub-levers; means connecting each of said sub-levers with a plurality of said arms; and type bars operated by said sub-levers.

2. In a typewriting machine, the combination of a series of type bars arranged in a plurality of sets and each carrying a plurality of types; a plurality of sets of keys, one key for each type; and means whereby any key of one set may impart a case shift motion to the particular one only of said sets of type bars to which that key belongs.

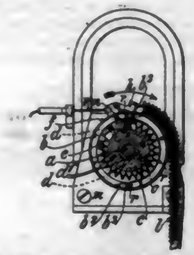
3. In a typewriting machine, the combination of a series of type bars arranged in a plurality of sets; key controlled means for operating said type bars; and means for imparting a case shift motion to any one of said sets of type bars independently of the others.

4. In a typewriting machine, the combination of a series of type bars arranged in a plurality of sets, and case shift devices for the different sets of type bars, each of said case shift devices being capable of being operated without operating any other of said case shift devices.

5. In a typewriting machine, the combination of a plurality of independent segments pivoted to move radially toward and from the printing-point; type bars pivotally connected to said segments and provided each with a plurality of types, independent gates connected to said segments to move the same for case-shift; a plurality of key levers operatively connected to each type bar; and connections whereby certain of said key levers operate certain of said gates.

[Claims 6 to 23 not printed in the Gazette.]

969,327. ELECTRIC IGNITION DEVICE FOR INTERNAL-COMBUSTION ENGINES. HENRY BATT, Hendersyde Park, Kelso, Scotland. Filed Mar. 25, 1910. Serial No. 551,476.



1. In an igniter, the combination, with an armature spindle, and a driven disk secured thereon; of a driving disk operatively connected with the driven disk, a spring connection interposed between the said disks and permitting them to move independently to a limited extent, a ring journaled concentric with the said spindle and provided with a pawl for engaging with the said driven disk, means for revolving the said ring at will backward of the motion of the armature, and a spring which holds the pawl out of engagement with the driven disk until the said ring is revolved backward and which subsequently restores the ring and pawl to their original positions.

2. In an igniter, the combination, with an armature spindle, and a toothed driven disk secured thereon; of a driving disk operatively connected with the driven disk, a spring connection interposed between the said disks and permitting them to move independently to a limited extent, a ring journaled on the driven disk, a pawl pivoted to the said ring, means for revolving the ring at will backward of the motion of the armature, and a spring which holds the pawl out of engagement with the toothed driven disk until the said ring is revolved backward and which subsequently restores the ring and pawl to their original positions.

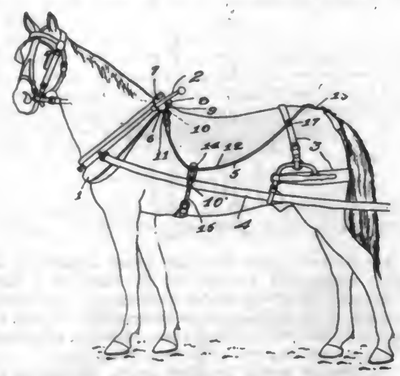
3. A driving couple for high-tension magnetos comprising two disks mounted on the spindle of the armature the one fixed and the other loose thereon, a slotted connection between the two disks whereby a limited amount of relatively free movement between said disks is provided, a spring operating circumferentially between the two disks, a ring loosely mounted on the disk fixed on the armature spindle, a pawl pivoted on said ring, two ratchet teeth in said fixed disk with which said pawl can engage, means for operating said pawl to bring it into operative engagement with said ratchet teeth, and means for rotating said ring.

4. A driving couple for high-tension magnetos comprising two disks mounted on the spindle of the armature

the one fixed and the other loose thereon, a spring operating circumferentially between the two disks, a pawl pivoted on the disk fixed on the armature spindle, a notch or tooth in the loose disk with which said pawl can engage, a sliding ratchet adapted to lift the said pawl out of engagement with said notch or tooth, a ring loosely mounted on the disk fixed on the armature spindle, a pawl pivoted on said ring, two ratchet teeth in said fixed disk with which said pawl can engage, means for operating said pawl to bring it into operative engagement with said ratchet teeth, means for rotating said ring.

5. A driving couple for high-tension magnetos comprising two disks mounted on the spindle of the armature the one fixed and the other loose thereon, a slotted connection between the two disks whereby a limited amount of relatively free movement between said disks is provided, a spring operating circumferentially between the two disks, a pawl pivoted on the disk fixed on the armature spindle, a notch or tooth in the loose disk with which said pawl can engage, a sliding ratchet adapted to lift the said pawl out of engagement with said notch or tooth, a ring loosely mounted on the disk fixed on the armature spindle, a pawl pivoted on said ring, two ratchet teeth in said fixed disk with which said pawl can engage, means for operating said pawl to bring it into operative engagement with said ratchet teeth, means for rotating said ring.

969,328. HARNESS. WILLIAM D. BEIDELMAN, Union, Oreg. Filed June 13, 1910. Serial No. 566,633.



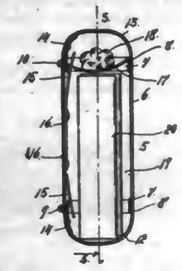
1. In harness, a belly band, a breeching, a collar cap, a connecting strap slidably secured thereto, side straps secured at the ends of the connecting strap, and means for loosely connecting the side straps to the belly band and breeching.

2. In harness, a belly band, a breeching, a collar cap, a loop carried thereby, a connecting strap slidable within said loop, side straps secured at their forward ends to the connecting strap and a crupper secured to their rear ends, said side straps being also loosely connected to the belly band and breeching.

3. In harness, a belly band, a crupper, a collar cap having slots therein, means for securing the collar cap upon the collar through said slots, a loop carried by said cap, a connecting strap slidably mounted in said loop, and side straps secured at their forward ends to the connecting strap and at their rear ends to the crupper, and having intermediate their ends a rounded portion adapted to slide within a loop carried by the belly band.

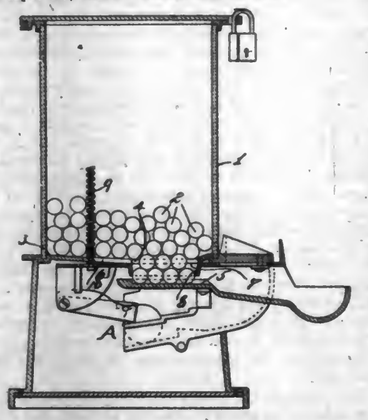
969,329. GUM-BOX. ONESIMUS W. BLAKE, Denver, Colo. Filed July 20, 1908. Serial No. 444,546.

A box or receptacle of the class described, comprising a body portion separated by a permanent concave partition into two compartments, the said partition formed of the body portion at one end of the said receptacle, a leaf spring centrally secured to the wall of the box, and covers for closing the two compartments, the said covers



provided with plates engaging the free extremities of either end of the spring.

969,330. VENDING-MACHINE. PAULINE S. BLOCH, New York, N. Y., assignor to Rogers Verybest Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Apr. 27, 1910. Serial No. 557,863.



1. In a vending machine, a receptacle for articles to be vended, a movable ejector adjacent thereto, and a yieldable agitator adapted to agitate the contents of said receptacle, carried by said ejector, said agitator consisting of a vertically disposed spring comprising a plurality of convolutions, and being secured at its lower end to the ejector and being free to move at its opposite end.

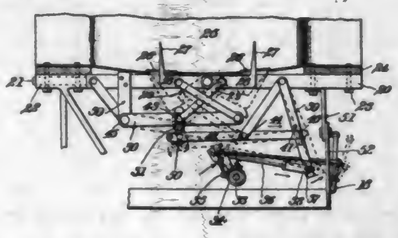
2. In a vending machine, a receptacle for articles to be vended, a movable ejector adjacent thereto, and a yieldable agitator, adapted to agitate the contents of said receptacle, carried by said ejector, said agitator consisting of a vertical spiral spring member and horizontally disposed spiral spring members carried thereby.

3. In a vending machine, a receptacle for articles to be vended, a movable ejector adjacent thereto, and a yieldable agitator adapted to agitate the contents of said receptacle, carried by said ejector, said agitator consisting of a spiral spring secured, at one end thereof, to said ejector, said agitator being adapted to yield or stretch in the direction of its length.

969,331. HARVESTER. FRED BOSSEN, Platte, S. D. Filed May 7, 1910. Serial No. 560,019.

1. In a harvester or like machine having a platform over which the cut grain is adapted to pass, an attachment for the harvester, said attachment comprising a plurality of fingers adapted to operate vertically through the platform, and mechanism connected with said fingers and under the control of the operator, for projecting

the fingers above the platform and into the path of the descending grain whereby the fingers serve as stops to arrest the discharge of the grain, said mechanism adapted, also, to withdraw the fingers to allow the accumulated grain to pass the fingers and be delivered over the discharge end of the platform.



2. The combination with a harvester having a platform and a bundle-carrier onto which the grain delivered onto the platform is received, of an attachment interposed between the bundle-carrier and the platform, said attachment including a plurality of fingers adapted to be projected and withdrawn relatively to the platform, and mechanism connected with the fingers and the bundle-carrier whereby the fingers are withdrawn coördinately with the raising of the bundle-carrier to normal position and are simultaneously projected into the path of the grain to arrest the travel of the same to the bundle-carrier when said carrier is lowered to dump its accumulated load.

3. The combination with a harvester having a platform over which the grain is adapted to pass, and a bundle-carrier onto which said grain is normally delivered, of an attachment interposed between the bundle-carrier and the platform, said attachment including a plurality of fingers adapted to operate through the platform in substantially a vertical direction, and a lever mechanism and foot lever under the control of an operator and connecting with the bundle-carrier and said fingers whereby the fingers are withdrawn when the bundle-carrier is in normal position and is receiving grain directly from the platform, and said fingers are projected above the platform to arrest the feed of the grain to the bundle-carrier coördinately with the lowering of the bundle-carrier to discharge its accumulated load.

4. The combination with a harvester having a platform over which the cut grain is adapted to pass, and a bundle-carrier upon which said grain normally accumulates, of an attachment between the bundle-carrier and platform, said attachment including a beam removably fitted to the harvester, a plurality of fingers pivotally connected to the beams, a plate forming an extension of the platform and secured to said bar, said plate having openings through which the fingers operate, an operating foot lever connecting with the bundle-carrier for raising and lowering the same, and a system of pivoted bars and connections between the bundle-carrier and the fingers whereby when the bundle-carrier is in normal position the fingers are retracted to allow the grain to pass freely and continuously to the bundle-carrier, and when the bundle-carrier is lowered to dump its load, the fingers are projected into the path of the grain to arrest the further delivery of the same to the bundle-carrier, said fingers being retracted coördinately with the return of the bundle-carrier to normal position.

5. An attachment for harvesters and the like comprising a beam and means whereby it may be detachably connected to the frame of a harvester or like machine, a metal plate secured to the beam having its central portion bowed or concaved to direct the grain centrally thereon, said plate having a plurality of openings through it, a plurality of pivotally mounted fingers carried by the beam and adapted to operate through said openings, crossed links connected to the fingers, and pivoted bars and link-connections with the first-named links for operating the latter to cause the fingers to be projected and withdrawn relatively to the upper surface of said plate.

[Claim 6 not printed in the Gazette.]

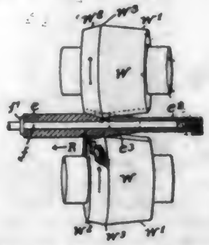
969,332. PROCESS FOR MANUFACTURING PURIFIED POTABLE SPIRITS. PIERRE-ARMAND BRANGIER, Agnews, Cal. Filed June 2, 1908. Serial No. 436,230.

1. The process of manufacturing potable spirits, whisky, brandy, rum, etc., free from impurities and having their characteristic flavor, said process consisting in preparing and fermenting in the usual way, the particular mash from which the particular potable spirit is to be produced, distilling the fermented mash in the usual way, removing the impurities from the alcoholic liquid obtained, then heating the slop to separately distil over a certain amount of flavored water, and finally mixing the flavored distilled water so obtained with the purified spirit, thus reducing the latter to the usual proof.

2. The process of manufacturing potable spirits, said process consisting in first manufacturing the spirit in the usual way, and then reducing their proof and adding to their flavor by commingling them with a correspondingly flavored water derived by distillation from the slop of the mash which produced the potable spirit, or from the slop of a similar mash.

3. The process herein described which consists of boiling waste mashes or slops and separately distilling therefrom a flavored water, and then adding the same to an ethyl alcoholic liquid.

069,333. PROCESS FOR ROLLING OUT HOLLOW BILLETS TO FORM SEAMLESS TUBES. OTTO BRIEDE, Benrath, near Dusseldorf, Germany. Filed Apr. 20, 1907. Serial No. 369,337.



1. The method herein described which consists in successively segregating portions of the metal of a billet, and reducing such segregated portions to the desired dimensions by pressure applied transversely of and progressively around the billet, and in a direction at an angle less than a right angle to the axis of the billet.

2. The method herein described which consists in subjecting a billet to a step by step reducing pressure applied by surfaces moving in planes at an angle less than a right angle to the axis of the billet.

3. The method herein described which consists in successively reducing portions of a billet to finished dimensions by subjecting successive portions step by step to a rolling pressure applied by surfaces moving at an angle less than a right angle to the axis of the billet.

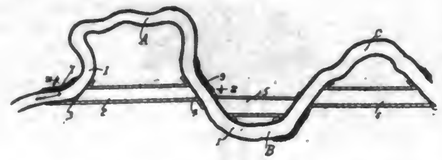
4. The method herein described which consists in subjecting successive portions of a billet to reducing faces helically disposed with reference to a billet whereby the billet is moved longitudinally during reduction, and shifting the billet longitudinally intermediate of successive reductions in a direction opposite that in which the billet is moved during reduction.

5. In a mill for reducing billets, the combination of reducing surfaces, means for moving such surfaces at an angle less than a right angle to the direction of feed of the billet, said surfaces being adapted while operating on the billet to move toward and from each other and means for intermittingly feeding the billet between such surfaces.

[Claims 6 to 11 not printed in the Gazette.]

969,334. SYSTEM TO PREVENT THE OVERFLOWING OF RIVERS. JOHN BAYAN, Yellow Springs, Ohio. Filed Mar. 7, 1910. Serial No. 547,653.

1. A system for preventing a river from overflowing its banks at a given place consisting of a conduit extending between two points on said river, one above and the other below said given place, the bottom of said conduit being arranged at a point between the normal water level of the river and the danger point.



2. Means for preventing the overflowing of a river comprising a conduit connecting two points along a bend in said river, the inlet end of said conduit having its bottom arranged at a point between the normal level of the river and the danger point.

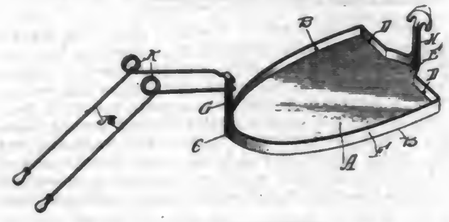
3. Means for preventing the overflowing of a river at a given place comprising a conduit connecting two points along the river, one above and the other below said given place, said conduit having its bottom arranged at a point between the normal level of the river and the danger point.

4. Means for preventing the overflowing of a river at a given place comprising a conduit connecting two points along the river, one above and the other below said given place, said conduit having its bottom arranged at a point between the normal level of the river and the danger point, and means for maintaining that portion of said river-bed adjacent to the inlet end of said conduit at a fixed width and depth.

5. Means for preventing the overflowing of a river at a given place comprising a conduit connecting two points along the river, one above and the other below said given place, said conduit having its bottom arranged at a point between the normal level of the river and the danger point, and locks at the opposite ends of said conduit.

[Claim 6 not printed in the Gazette.]

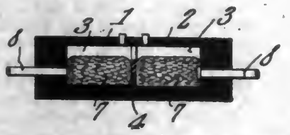
969,335. SHOE FOR SAD-IRONS. CHARLES H. BURK, Chicago, Ill. Filed Oct. 23, 1909. Serial No. 524,265.



1. A shoe for sad-irons, comprising a plane body-portion having parallel side edges converging at one end and meeting in a point, the rear edge of said body-portion being disposed transversely to said side edges, said body-portion being equipped with a substantially V-shaped extension midway between the ends of said rear edge, an edge flange integral with said body-portion completely surrounding the latter, said edge flange being equipped with vertical extensions at the extreme ends of said body-portion, said extensions constituting standards, and yielding supporting means disposed in engaging relation to said standards and the contained sad-iron to support said shoe on the latter.

2. A shoe for sad-irons, comprising a plane body-portion having parallel side edges converging at one end and meeting in a point, the rear edge of said body-portion being disposed transversely to said side edges, said body-portion being equipped with a substantially V-shaped extension midway between the ends of said rear edge, an edge flange integral with said body-portion completely surrounding the latter, said edge flange being equipped with vertical extensions at the extreme ends of said body-portion, said extensions constituting standards, and being V-shaped in plan section, and yielding supporting means disposed in engaging relation to said standards and the contained sad-iron to support said shoe on the latter.

969,336. LIGHTNING-ARRESTER. FABIUS M. BUTLER, David City, Nebr. Filed Jan. 21, 1910. Serial No. 539,228.

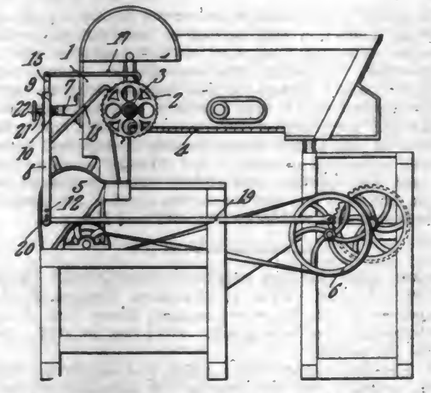


1. A lightning arrester comprising a receptacle having chambers or cavities separated by a wall of less height than the depth of the cavities said cavities each containing mercury, and circuit terminals entering the cavities into electrical contact with the mercury.

2. A lightning arrester comprising a receptacle having chambers or cavities separated by a wall of less height than the depth of the cavities, each cavity containing mercury to a maximum depth greater than the height of the division wall, and circuit terminals entering the cavities into electrical contact with the mercury.

3. A lightning arrester comprising blocks of suitable material each with a chamber or cavity secured therein, a division plate of insulating material provided with a passage there-through and located between the chambered blocks with the passage constituting a communication between the chambers or cavities at the upper portions thereof, and mercury in the cavities to a maximum depth greater than the height of the division plate where separating the cavities.

969,337. GIN-FEED-ACTUATING DEVICE. THOMAS N. CAMP, Powder Springs, Ga. Filed Feb. 9, 1910. Serial No. 542,889.



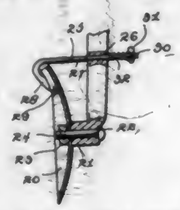
1. In combination with a gin having a feeding device, means for actuating the feeding device comprising a standard mounted upon the gin frame, a lever fulcrumed to the standard, a connecting rod pivotally attached at one end with said lever and at its other end pivotally connected with a revolving wheel forming a component part of the gin, arms adjustably mounted upon said lever and having gear teeth, a shaft journaled upon the lever, a pinion carried by said shaft and meshing with the teeth of said arms, a ratchet wheel mounted upon the shaft of the feeding device, and pawls pivotally connected to said arms and engaging the ratchet teeth of said ratchet wheel.

2. In combination with a gin having a feeding device, means for actuating the feeding device comprising a standard attached to the frame of the gin, a lever fulcrumed to the standard, a connecting rod pivotally at-

tached at one end to the power end of said lever and pivotally attached at its other end to a driving wheel forming a component part of the gin, arms slidably mounted upon said lever and having their outer ends located at equal distances from the fulcrum point of the lever, said arms having teeth, a shaft journaled upon the lever, a pinion fixed to the shaft and meshing with the teeth of the arms, a ratchet wheel mounted upon the shaft of the feeding device, and pawls pivoted to the outer ends of said arms and engaging the teeth of said ratchet wheel.

3. In combination with a gin having a feeding device, means for actuating the feeding device comprising a standard attached to the frame of the gin, a lever fulcrumed to said standard, a connecting rod pivotally connected at one end with the said lever and at its other end pivotally connected with a driving wheel forming a component part of the gin, arms slidably mounted upon the lever and having teeth, a shaft journaled upon the lever, a pinion mounted upon said shaft and meshing with the teeth of the arm, the outer ends of said arms being located at equal distances from the fulcrum point of the lever and the said shaft journaled thereon, a ratchet wheel fixed to the shaft of the feeding device, and pawls pivotally connected at their forward ends with the outer ends of the arms and at their rear ends engaging the teeth of the ratchet wheel.

969,338. SEED-PLANTER. CLARENDON B. CARTER, Keota, Iowa. Filed Aug. 24, 1909. Serial No. 514,398.



A device of the class described comprising a disk-supporting member, a disk carried by said disk-supporting member, said disk-supporting member provided with a transversely extending aperture, scraper means, said scraper means comprising a body provided with an angularly disposed end, a shoe carried by said angularly disposed end and adapted to engage said disk, the body portion of said scraper means passing through said transversely extending aperture, a nut threaded upon one end of said body portion, and spring means positioned between said nuts and disk-supporting member and adapted to hold said shoe in engagement with said disk

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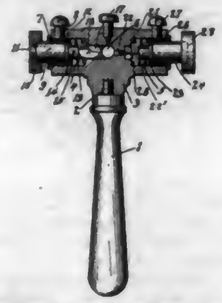
969,339. DEVICE FOR CUTTING INSULATION FROM CONDUCTORS. EMIL F. CHYTRAUS, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed Dec. 20, 1907. Serial No. 407,377.

1. The combination with a knife, of a carrier for said knife having a slot for limiting the movement of said knife in a predetermined direction and having also a passage for the insertion of insulated wire in the path of movement of said knife, means for moving said knife into said passage, and mechanism for adjusting the extent of movement of said knife into said passage.

2. The combination with a movable knife, of a carrier having a slot limiting the movement of said knife in a predetermined plane and having also a passage for the insertion of insulated wire, a handle connected to said carrier, and a thumb-piece connected to said knife.

3. The combination with a carrier, of a cutter, means for moving said cutter into a passage or opening extending through said carrier, and means for measuring the length of insulation or predetermining the point of cutting the same on an insulated wire inserted through said passage.

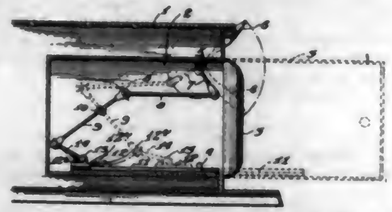
4. The combination with a carrier, of a plurality of cutters differently arranged but each movable into a passage or opening extending through said carrier, and separate means for actuating said cutters.



5. The combination with a handle, of a carrier connected thereto and having a transverse passage for the insertion of insulated wire, two cutters, one for cutting the insulation circumferentially and the other for cutting the same longitudinally, and separate devices for operating said cutters.

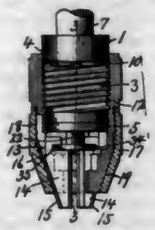
[Claims 6 to 10 not printed in the Gazette.]

969,340. STOVE ATTACHMENT. BOSLEAY WILLIAM CLARK, Brown Station, N. Y. Filed Mar. 5, 1910. Serial No. 547,587.



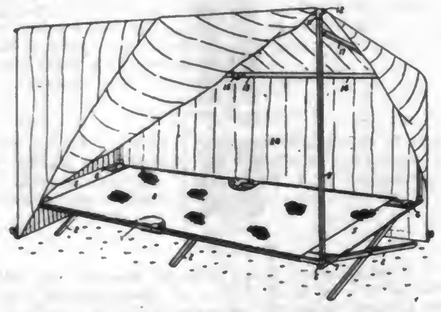
A device of the character described comprising a grate adapted to be slidably mounted in an oven, a link pivotally connected to said grate, a lever adapted to be pivotally connected to a wall of an oven and having one end pivotally connected to said link, a shaft projecting from a wall of the oven, a crank carried by the inner end thereof, a pivotal link connection between said crank and said lever, and a handle carried by the outer external end of said shaft for operating said lever and links to cause them to project the grate from or draw the same into said oven.

969,341. DRILL-CHUCK. ELMER E. COGSWELL, Syracuse, N. Y. Filed Apr. 20, 1910. Serial No. 556,590.



A drill chuck comprising a main head having an annular shoulder on one end and a nut on its opposite end, an externally threaded sleeve rotatably mounted upon the head between said shoulder and nut, a circular spring surrounding the head between said shoulder and adjacent end of the sleeve and normally pressing said sleeve endwise against the nut to frictionally hold the sleeve against undue movement, a cam on the head, an auxiliary head coaxial with and rotatable relatively to the main head and provided with an annular groove, a cam on the auxiliary head, roller bearings between the cams for moving the auxiliary head endwise as the latter is rotated, jaws engaged with and movable radially of the auxiliary head, an internally threaded casing engaged with the threaded sleeve and jaws for moving the latter radially as the casing is rotated, and a retracting spring in the groove of the auxiliary head for returning said auxiliary head rotarily to its normal position when the jaws are loosened.

969,342. COLLAPSIBLE CANOPY ATTACHMENT FOR COTS OR THE LIKE. ALEXANDER GRANT COLE, Ottawa, Ontario, Canada. Filed Apr. 9, 1909. Serial No. 488,990.



1. In a collapsible canopy for cots or the like, in combination a pair of longitudinal supporting bars having hinge joints intermediate of their length, a plurality of canopy posts, sockets fitting the top of said canopy posts and having L-shaped lugs forming jaws embracing the ends of said longitudinal supporting bars and pivotally secured thereto whereby said posts may be turned around the ends of said longitudinal supporting bars and a canopy covering fitting over said longitudinal supporting bars and said posts.

2. In a collapsible canopy for cots or the like, in combination a pair of longitudinal supporting bars forming two sections each, hinge joint members having sockets fitting the inner and meeting ends of said bar sections and hinge knuckles on the under side thereof pivotally securing the two sections of each of said bars together, a plurality of canopy posts, sockets fitting the top of said canopy posts and having L-shaped lugs forming jaws embracing the ends of said longitudinal supporting bars and pivotally secured thereto and a canopy covering fitting over said longitudinal supporting bars and said canopy posts.

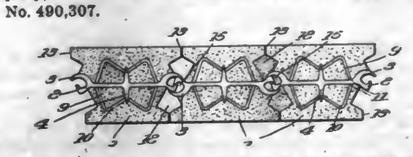
3. In a collapsible canopy for cots or the like, in combination front and back, longitudinal supporting bars formed in two sections each, hinge joint members having sockets fitting the inner and meeting ends of said bar sections and hinge knuckles on the under side thereof pivotally securing the two sections of each of said bars together whereby the sections of each bar may be folded together on the under side thereof, a plurality of canopy posts means for securing said posts to a cot frame or the like, sockets fitting the upper ends of said posts and having L-shaped lugs projecting therefrom and embracing said longitudinal bars at the outer ends thereof and pivotally secured thereto whereby said posts may be swung outwardly and around the end of said bars, plates secured to the supporting posts of the front longitudinal bar adjacent to the top thereof and having locking slots arranged therein, a pair of tie-rods, sockets secured to one end of said tie-rods and having L-shaped lugs extending therefrom and embracing the supporting posts of said back longitudinal bar and pivotally secured thereto whereby said tie-rods may fold downwardly against the posts of said back bar, headed pins extending from the other end of said tie-rods and inserted in the locking slots in said plates and a canopy covering over said longitudinal bars and said supporting posts.

4. In a collapsible canopy for cots or the like, in combination front and back, longitudinal supporting bars formed in two sections each, hinge joint members having sockets fitting the inner and meeting ends of said bar sections and hinge knuckles on the under side thereof pivotally securing the two sections of each of said bars whereby the sections of each bar may be folded together on the under side thereof, a plurality of canopy posts means for securing said canopy posts to a cot frame or the like, sockets fitting the upper ends of said posts and having L-shaped lugs projecting therefrom and embracing said longitudinal bars at the outer ends thereof and pivotally secured thereto whereby said posts may be swung outward and around the end of said bars, plates secured to the supporting posts of the front bar adjacent to the top thereof and having locking slots arranged therein, a pair of tie-rods, sockets secured to one end of said tie-rods and having substantially L-shaped lugs extending therefrom and embracing the supporting posts of said back longitudinal bar and pivotally secured thereto whereby said tie-rods may fold downwardly against the posts of said back bar, headed pins extending from the other end of said tie-rods and inserted in the locking slots in said plates, an extension supporting bar divided into sections hingedly secured one to the other, extension posts, sockets secured to the upper ends of said extension posts and having L-shaped lugs extending therefrom laterally and forming jaws and pivotally secured to the ends of said extension supporting bar, extension tie-rods having headed pins extending from one end thereof, sockets secured to the other end of said extension tie-rods having lugs extending therefrom and embracing said extension posts toward the top thereof and pivotally secured thereto, plates secured at one side of a pair of said canopy posts and having slots into which the headed pins extending from said extension tie-rods extend and a canopy covering extending over said canopy frame and said cot.

5. In a collapsible canopy for cots or the like, a plurality of longitudinal supporting bars divided into sections hinged on the under side thereof, a plurality of posts having L-shaped lugs extending from the upper ends thereof and pivotally connected to said supporting bar sections and adapted to fold around the ends and against said supporting bar sections in their collapsed state and a canopy covering fitting over said supporting bars and posts.

[Claims 6 to 9 not printed in the Gazette.]

969,343. COMPOSITE PILING. CLOUD CLIFFORD CONKLING, Buffalo, N. Y., assignor to Lackawanna Steel Company, New York, N. Y. Filed Apr. 16, 1909. Serial No. 490,307.



1. As a new article of manufacture, a composite piling slab adapted for permanent use consisting of a steel core and of concrete applied to both surfaces of said core, said core being provided with interlocking members along both edges to interlock with corresponding members on the cores of adjacent slabs and also provided with ribs on the web of the core section and with binding projections on the ribs for the concrete.

2. As a new article of manufacture, a composite piling slab adapted for permanent use consisting of at least one steel core section and of concrete applied to the surface of the core, said core being provided with interlocking members along both edges to interlock with corresponding members on the cores of adjacent slabs and also provided

with ribs on the web of the core section and with rods inserted through holes in the ribs for binding the concrete.

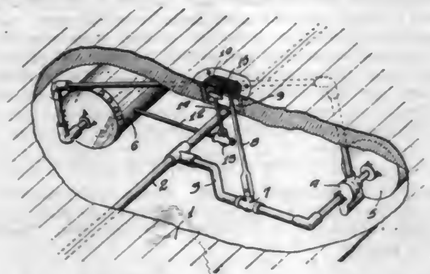
3. As a new article of manufacture, a composite piling slab consisting of a steel core and of a protecting concrete facing applied to the surface of the core, said core being provided with interlocking members along both edges to interlock with corresponding members on the cores of adjacent slabs and also provided with ribs on the web of the core section and with binding projections on the ribs for the concrete, the steel core projecting as a cutting edge at the lower end below the concrete and the lower portion of the concrete adjacent to the steel lower end being beveled.

4. As a new article of manufacture, a composite piling slab consisting of a steel core and of a protecting concrete coating applied to the surface of the core, said core being provided with interlocking members along both edges to interlock with corresponding members on the cores of adjacent slabs and also provided with ribs on the web of the core section and with binding projections on the ribs for the concrete, the upper end of the core being unprotected by concrete and being adapted to receive a concrete coating on the face and at the top after a plurality of slabs have been installed, substantially as shown.

5. As a new article of manufacture, a composite piling slab adapted for permanent use consisting of a steel core of steel sheet piling and of a concrete coating applied to both surfaces of the core, said core being provided with interlocking members along both edges to interlock with corresponding members on the cores of adjacent slabs and also provided with ribs on the web of the core section and with binding projections on the ribs for the concrete, said core projecting at the lower end beyond the concrete and the concrete on both sides adjacent to said lower end being beveled for easy driving and the core at the upper end projecting beyond the concrete and being provided with at least one hole for engagement of the handling means, substantially as described and shown.

[Claims 6 to 21 not printed in the Gazette.]

969,344. CUT-OUT AND RELEASE FOR AIR-BRAKE APPARATUS. SIMON PETER COTA, Dickinson, N. D. Filed Mar. 5, 1910. Serial No. 547,603.



1. A controlling device for the air brake system of a car, comprising a pipe having one end connected to the auxiliary reservoir, a valve carried by said pipe, and means operable from within the car for controlling said valve.

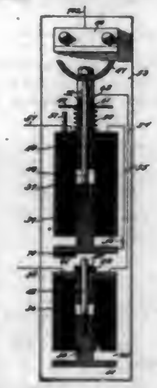
2. In an air brake system, the combination with the auxiliary reservoir and the branch pipe, of means operable from the car for reducing the pressure of said reservoir, and independent means also operable from the car for sealing said branch pipe.

3. In a pressure operated brake system for cars, the combination with the car, the auxiliary reservoir and the branch pipe, of a valve controlled pipe projecting from said reservoir, means operable from the car for controlling said valve, a valve for said branch pipe, and independent means operable from the car for controlling the valve of the branch pipe.

4. A controlling device for the air brake system of cars, comprising a pipe carried by the auxiliary reservoir, a valve at the outer end thereof, and an elongated stem for said valve projecting into and operable from within a car.

5. In a pressure operated brake system, the combination with the auxiliary reservoir and the branch pipe, of a release pipe for said reservoir, a valve carried thereby, a stem for said valve adapted to project into and be operated from a car, a valve for said branch pipe, and a rod carried thereby and adapted to project into and be operated from said car.

969,345. SYSTEM OF ELECTRICAL DISTRIBUTION. FRANK S. CULVER, Madison, Wis. Filed June 9, 1909. Serial No. 501,112.



1. In an apparatus of the character described, the combination of a cut-in comprising an electro-responsive device, a circuit therefor, a plunger controlled by the electro-responsive device, a switch member movable by and electrically connected with the plunger, a second electro-responsive device, a shunt circuit for the said second electro-responsive device, a plunger controlled by the last said electro-responsive device, said plunger being adapted to engage and move the plunger of the first said electro-responsive device, and a second plunger controlled by the first said electro-responsive device for controlling the circuit through the second said electro-responsive device.

2. In an apparatus of the character described, the combination of a cut-in comprising an electro-responsive device, a circuit therefor, a plunger controlled by the electro-responsive device and switch member operated by and electrically connected with said plunger, a second electro-responsive device, a shunt circuit for the last said electro-responsive device, a plunger controlled by the last said electro-responsive device, adapted to engage and move the plunger of the first said electro-responsive device, a second plunger controlled by the first said electro-responsive device adapted to be moved thereby in one direction to open the circuit of the second said electro-responsive device, and means for moving the plunger in the opposite direction to close the circuit of the second said electro-responsive device.

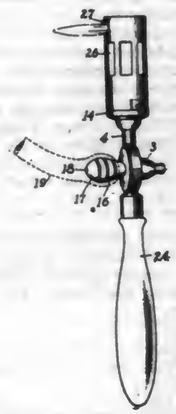
3. In an apparatus of the character described, the combination of a cut-in comprising an electro-responsive device, a circuit therefor, a plunger controlled by the electro-responsive device, a switch member operated by and electrically connected with said plunger, a second electro-responsive device, a shunt circuit for the last said electro-responsive device, a plunger controlled by the last said electro-responsive device adapted to engage and move the plunger of the first said electro-responsive device, a second plunger controlled by the first said electro-responsive device adapted to be moved thereby in one direction to open the circuit of the second said electro-responsive device, and mechanical means for moving the plunger in the opposite direction to normally close the circuit of the second said electro-responsive device.

4. In an apparatus of the character described, the combination of a cut-in comprising an electro-responsive device, a circuit therefor, a plunger controlled by the electro-responsive device, a switch member operated by and electrically connected with said plunger, a second electro-responsive device, a shunt circuit for the last said electro-responsive device, a plunger controlled by the last said electro-responsive device adapted to engage and move the plunger of the first said electro-responsive device, a second plunger controlled by the first said electro-responsive device adapted to be moved thereby in one direction to open the circuit of the second said electro-responsive device, a stop for limiting the movement of said plunger, and elastic means for moving the plunger in the opposite direction and tending normally to close the circuit of the second said electro-responsive device.

5. In an apparatus of the character described, the combination of a cut-in comprising a pair of electro-responsive devices, one of said devices having a shunt circuit, a plunger controlled by the shunt device, a pair of plungers controlled by the other electro-responsive device, a switch member operated by and electrically connected with one of the pair of plungers, said plunger being adapted to be engaged and moved by the plunger of the shunt electro-responsive device, and means whereby the other of the pair of plungers will automatically control the circuit of the said shunt electro-responsive device.

[Claims 6 and 7 not printed in the Gazette.]

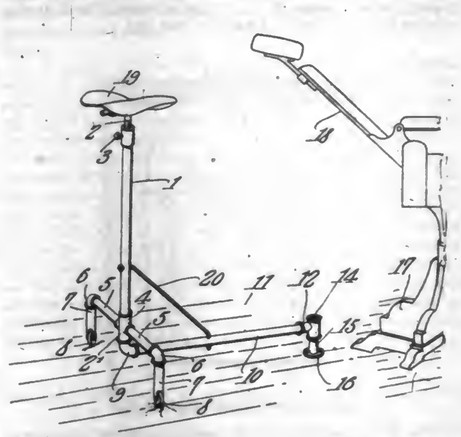
969,346. CIGAR-LIGHTER. FORTUNATO MARCIANO D'ARSI, New York, N. Y., assignor to Auto-Flame Gas Burners Company, New York, N. Y., a Corporation of New York. Filed Aug. 11, 1909. Serial No. 512,351.



1. In a lighter of the kind described, in combination, a body portion having gas passages, a pilot burner mounted on the body portion to receive gas from one of said passages, a main burner mounted on the body portion to receive gas from another of said passages, needle valves mounted in said body portion and extending into the gas passages to regulate the flow of gas therethrough, and a detachable shield inclosing the burners, provided with flame apertures to permit the flames from said burners to extend outside the shield and having a slot adapted to fit over the projecting end of one of the needle valves, whereby register of the flame apertures with the respective burners in replacing the shield is insured.

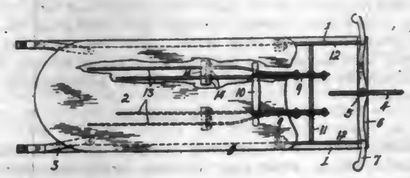
2. In a lighter of the kind described, in combination, a body portion carrying a gas burner and automatic means for lighting the same, and a valve connected with the body portion, comprising a casing having a chambered nipple, a cap on the nipple, said nipple and cap constituting means for connecting the casing with a flexible gas tube to suspend the lighter, a spring-closed valve member inside the nipple chamber, and a finger key or plunger projecting outside of the casing and connected with the valve member to operate the same.

969,347. BARBER'S STOOL. JESSE DAVIS, Milan, Kans. Filed Sept. 3, 1909. Serial No. 516,037.



A device of the class described comprising a standard; straight, horizontally disposed arms extended in opposite directions from the standard and constituting a rest for the feet of the operator; depending legs connected with the arms; floor-engaging rollers mounted upon the lower ends of the legs; a straight, horizontally disposed bar; a transverse socket upon one end of the bar; a floor carried upright upon which the socket is rotatably and removably mounted; the standard being provided with an extension depending below the arms, and with which the other end of the bar is connected, the extension and the upright constituting a means for maintaining the bar at a fixed distance from the floor, for engagement by the heels of the operator; a diagonally disposed brace connecting the standard with the bar, the angles defined by the bar and arms being unencumbered to permit the leg of the operator to engage the brace; and a seat carried by the upper end of the standard and arranged to permit the feet of the operator to rest upon the arms.

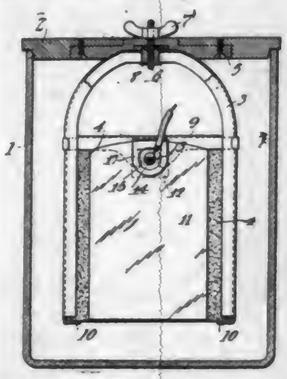
969,348. MECHANICALLY-PROPELLED SLED. HARRY DAY, Toledo, Ohio. Filed Sept. 2, 1909. Serial No. 515,745.



1. The combination with a sled, of a lever fulcrumed thereto, push-rods pivotally projecting rearwardly from said lever from above and below its fulcrum and having their rear ends pointed, a pendent bracket carried by the sled seat and having vertical slots therein, and guide-blocks mounted in said slots for yielding vertical movements therein and having openings therethrough through which said rods loosely pass.

2. The combination with a sled, of a lever fulcrumed thereto, push-rods pivotally projecting rearwardly from and operated by an oscillation of the lever, blocks through which the push-rods freely work, means guiding the vertical movements of such blocks, and means yieldingly acting on the blocks to cause the rear ends of the rods to be held in yielding contact with the surface over which the sled is passing.

969,349. PRIMARY BATTERY. EBEN G. DODGE, Maplewood, N. J., assignor to Edison Manufacturing Company, West Orange, N. J., a Corporation of New Jersey. Filed June 12, 1909. Serial No. 501,821.



1. In a voltaic battery, the combination of a negative electrode plate, a positive electrode plate, insulating means separating said plates, means securing said parts together, said positive plate being so formed as to protect the part thereof contacted by said securing means against electrolytic action, substantially as described.

2. In a voltaic battery the combination of a negative electrode plate, a positive electrode plate, insulating means separating said plates, a bolt securing said parts together, said bolt having holding means thereon contacting the outer surface of said positive plate, and said plate being formed with a boss surrounding said holding means, substantially as described.

3. In a voltaic battery, the combination of a negative electrode plate, a pair of positive electrode plates, one on each side of said negative plate, insulators separating said plates, and a bolt extending through said insulators and positive plates and clamping the same together and provided with a nut, said positive plates having countersunk recesses for the reception of the head and nut of the bolt, and annular bosses surrounding said recesses, substantially as described.

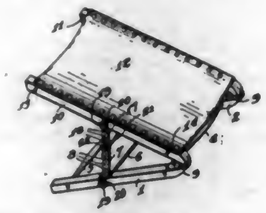
4. In a voltaic battery, the combination with a copper oxid plate of a hanger having depending arms supporting said plate, a cross piece connecting the arms of said hanger, a pair of zinc plates supported by said cross piece, insulating blocks between said zinc plates and said cross piece, and a bolt passing through said insulating blocks and connecting said zinc plates, each zinc plate being formed with an annular boss on its exterior surface surrounding the adjacent end of said bolt, substantially as described.

969,350. BOTTLE-CLOSURE. GEORGE M. DONALDSON, Boston, Mass. Filed Aug. 19, 1908. Serial No. 449,281.



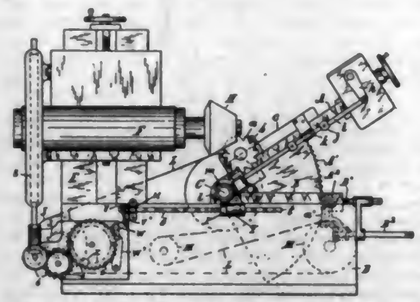
A closure for bottles and the like comprising a cap having a depending flange provided with a threaded portion and a plain surface above said threaded portion, said cap being formed with a segmental opening in its crown portion at one side of its center, the straight longitudinal edge of the opening being provided at each of its ends with a segmental recess, a cover comprising a body plate having a coacting opening and coacting recesses and formed with a pendent flange embracing the plain portion of the flange of the cap, and a pivot pin passing through the crown and cap of the cover on a line between the sets of recesses and axially connecting said cap for rotary movement on the cover, whereby a brush may be fitted within the coacting recesses at either side of the cap.

969,351. INVALID'S BED-REST. OLIN LA DOW, Arcola, Ill. Filed Feb. 15, 1910. Serial No. 543,944.



A rest comprising a base formed of spaced apart parallel base members, each member provided with a vertical slot, a pivot bolt connecting said members and passing transversely through said slots, a hinge strap for each base member having one end within the slot therein and mounted on the pivot bolt, said straps being provided with regularly spaced openings, a movable section comprising parallel members having one end hinged to one end of said base members, said members of the movable section being each provided with a transverse opening, a pivot bolt connecting the members of the movable section and passing through the openings therein, hinge straps having one end in each of said openings and mounted on said pivot bolt, said hinge straps being provided with regularly spaced openings, and a locking bolt adapted to retain the hinge straps of the upper section and the base section in rigid but detachable relation.

969,352. MECHANICAL MOVEMENT. ELMER G. EBERHARDT, Newark, N. J., assignor, by mesne assignments, to Newark Gear Cutting-Machine Company, Newark, N. J., a Corporation of New Jersey. Filed Feb. 17, 1908. Serial No. 416,220.



1. The combination, with two members A and B jointed at one end and projected from the joint in the same direction when closed together, of means for transmitting reversible movement between the said members, consisting of a reciprocating rod carried upon one of the members, an oscillating rod carried upon the other member and such rod and the joint of the members movable longitudinally in relation to one another, and limbs engaged with one another and connected with the said rods and extended to the axis of the joint and movable in the direction of the said axis, whereby the reciprocating motion of one rod is converted into an oscillating motion of the other rod in different jointed positions of the members.

2. The combination, with two members A and B jointed at one end and projected from the joint in the same direction when closed together, and adapted to be opened out from one another like the leaves of a book, of means for transmitting reversible movement between the said members consisting of a stud concentric with the joint of the members, a toothed spool slidable thereon, bearings mounted upon the members adjacent to the joint, segments pivoted upon the bearings to oscillate in line with the stud and having teeth engaged with the spool, a reciprocating rod upon one of the members for oscillating the segment thereon and a rod actuated by the segment upon the other member and adjustable longitudinally in relation to the joint of the members.

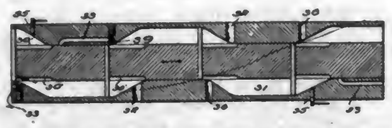
3. The combination, with two members A and B jointed at one end, of a stud projected from the joint at the edges of the members, a toothed spool slidable upon the stud, and arms having segments engaged with the spool and mounted respectively upon the two members to turn in planes longitudinal to one member and transverse to the other member, a reciprocating rod connected with the segment upon one of the members, and a bar fitted movably to the other segment to be oscillated thereby.

4. The means for transmitting movement between jointed members, consisting of the jointed members, a stud concentric with the joint of the members, a toothed spool slidable thereon, bearings mounted upon the members adjacent to the joint, segments pivoted upon the bearings to oscillate in line with the stud and having teeth engaged with the spool, means upon one of the members for oscillating the segment thereon and means actuated by the segment upon the other member for conveying the said movement to the desired point.

5. The means for transmitting movement between jointed members, consisting of the jointed members, a stud concentric with the joint of the members, a toothed spool slidable thereon, bearings mounted upon the members adjacent to the joint, a segment mounted in one of the said bearings and meshing with the spool, a rack-bar engaging the teeth of such segment for oscillating the same and reciprocating the spool, a segment pivoted in the bearing upon the other member and engaging the spool and oscillated thereby, and having a bar movable through its hub and turned thereby, and a device actuated by such oscillating bar, whereby the actuation of said device may be maintained when the said segment and hub are adjusted longitudinally upon said bar.

[Claims 6 to 8 not printed in the Gazette.]

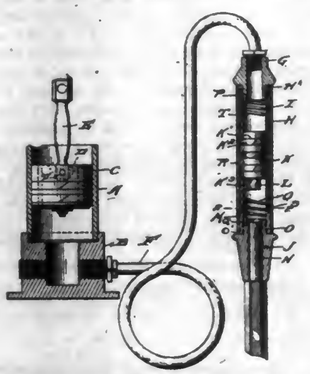
969,353. ROTARY ENGINE. GEORGE R. EVANS, Berkeley, Cal. Filed Nov. 8, 1909. Serial No. 526,077.



1. A device of the class described comprising a casing having a plurality of concentric opposed series of compression and expansion recesses formed therein and having inlet ports communicating with one end of each of the compression recesses, the compression and expansion recesses being arranged in alternate relation, like recesses on opposite sides of the casing being arranged in staggered relation, said casing having passages formed therein opening from the compression recesses oppositely of the inlet ports and opening through the face of the casing a spaced distance from the ends of the adjacent expansion recesses, said casing having also exhaust passages opening from the ends of the expansion recesses oppositely of said passages, a rotor carried within the casing and having surfaces abutting slidably against the sides of the casing to close said recesses, said rotor having a plurality of passages therethrough, pistons slidable in the passages and adapted for reciprocation for alternate projection into the opposed recesses, concentric segmental grooves formed in the sides of the rotor and adapted to register at times with the outlets of said passages and the adjacent ends of proximal expansion recesses, and igniting means engaged in said recesses adjacent the passages.

2. A device of the class described comprising a casing having a plurality of concentric opposed series of compression and expansion recesses formed therein, and having inlet ports communicating with one end of each of the compression recesses, the compression and expansion recesses being arranged in alternate relation, a rotor mounted within the casing having surfaces abutting slidably against the sides of the casing to close said recesses, said rotor having a plurality of passages therethrough, pistons slidable in the passages and adapted for reciprocation for alternate projection into the opposed recesses, said pistons comprising channel members and links pivotally connected together and to the channel members, said pistons adapted to be forced laterally into the said recesses by centrifugal force acting on the links in the rotation of said rotor.

969,354. PNEUMATIC STONE-MARKING TOOL. CORNELIUS S. FELUMLEE, Newark, Ohio, assignor of one-half to Curtis V. Priest, Newark, Ohio. Filed Apr. 2, 1910. Serial No. 553,080.

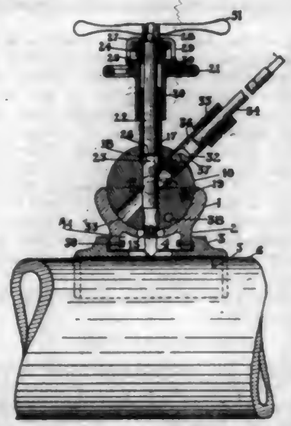


A pneumatically-operated stone working chisel comprising a pneumatic pump with reciprocating piston, a cylinder, an apertured head communicating with the interior of the latter, pipe connections between said cylinder and the pump, a tool-receiving socket member fastened to said cylinder and provided with a central opening extending entirely through said member, a suitably packed piston mounted within the cylinder and provided with a contracted projection at one end designed to telescope in the inner end of the aperture of said socket member and contact with the end of the tool contained therein, an air space about said cylinder, the latter being provided with circumferential perforations communicating with the air chamber, an air opening adjacent to the other end of the cylinder and formed in the wall of said shell, coiled springs having ends fastened in grooves in said head and socket member and positioned in the path of said piston and against which the latter is adapted to contact as it approaches its limits in opposite directions.

969,355. PRESSURE-TAP. CYRAL L. FERMAN, Milan, Mich. Filed Jan. 13, 1909. Serial No. 472,100.

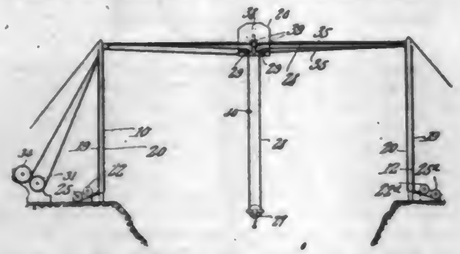
1. A pipe tapping machine comprising a casing having an apertured foot provided with a concave surface adapted to be seated on a pipe, a member rotatable in the casing in a plane transverse to the axis of curvature of the foot, a longitudinally reciprocable and rotatable tap operating spindle disposed in the member in a plane radial to the curved face of the foot, and a longitudinally reciprocable and rotatable shaft diametrically disposed in the member,

the shaft and spindle being severally adapted to be brought into register with the foot aperture by oscillation of the member.



2. A pipe tapping machine comprising a casing having an apertured foot with a concave surface adapted to be seated on a pipe, a member rotatable in the casing in a plane transverse to the axis of curvature of the foot face, a longitudinally reciprocable and rotatable tap operating spindle diametrically disposed in the member, a guide tube extending from the member concentric with the spindle, a sleeve in telescopic screw-threaded engagement with the tube, a yoke bearing inwardly against a shoulder on the outer portion of the spindle adapted to detachably engage the sleeve, and a longitudinally reciprocable and rotatable shaft diametrically disposed in the member, the shaft and spindle being severally adapted to be brought into register with the foot aperture by oscillation of the member.

969,356. CABLEWAY. JOHN J. FITZGERALD, North Walpole, N. H. Filed Oct. 7, 1909. Serial No. 521,529.



1. In a cable way, spaced supports, a cable supported thereby, a load-carrier mounted for travel on said cable, a fall rope mounted on the carrier, a stop on the fall rope adapted to engage the carrier, and hauling devices connected to the ends of the fall rope.

2. In a cable way, spaced supports, a cable extending therebetween, a load-carrier mounted on the cable, a fall rope and its block mounted on the carrier, a stop adjustably mounted on the fall rope between the fall block and the carrier, and adapted to engage the latter, and hauling devices connected to the ends of the fall rope.

3. The combination with an elevated carrier of a track cable on which said carrier is mounted, a wheel on the carrier engageable with the cable, spaced supports, sheaves on said supports over which the cable passes, the ends of said cable being connected to the carrier at opposite ends thereof, a second set of sheaves on the supports, pulleys on the carrier, a fall rope mounted on the carrier, one end of said fall rope passing over one of the pulleys of the carrier to one of the sheaves of the supports and then to the other one of said sheaves, and the other end of the fall rope passing over the other pulley of the carrier in the opposite direction from the other end of said rope and over one of the sheaves of the supports, hauling devices connected to the two ends of the fall rope, and wheels on the carrier between which that portion of the fall rope extending between the sheaves of the supports passes.

4. The combination of a pair of spaced uprights, sheaves thereon, a carrier, a support for the carrier on which the same is mounted for travel, said carrier support comprising a cable connected to one end of the carrier, and passing over one of the sheaves of the uprights, and then across to a sheave on the other one of said uprights, and a second cable connected to both ends of the carrier, and extending in opposite directions to the uprights and passing over the sheaves thereof, one end of the last-mentioned cable being also carried to one of the sheaves of one of said supports and passed over the same, and hauling devices connected to the ends of the two cables.

969,357. MILK-STRAINER. JOHN W. FREDAUM, Denver, Colo. Filed July 30, 1909. Serial No. 510,400.



1. A milk strainer, composed of a body member, having a reduced part extending downwardly from the upper part of the body member, and adapted to enter the milk bucket, the said reduced part having a flange projecting upwardly from its connection with the upper part of the body member, forming a circumferential recess, a strainer cloth adapted to rest upon the top of the upwardly projecting flange and a centrally located member having a perforated upwardly projecting part, a depending cylindrical part, adapted to enter the said circumferential recess, and an outwardly flared part, forming a circumferential lodgment for foreign matter, between the outwardly flared part and the said cylindrical part of the central member, substantially as described.

2. A strainer composed of a body member, having its lower portion reduced in size and adapted to enter the body of the milk bucket or other receptacle, the said lower part having a flange projecting upwardly above the connection between the lower and upper parts of the body member, and a centrally located member having a perforated, cone-shaped upwardly projecting part, provided with a depending cylindrical portion, adapted to enter the said circumferential recess, a strainer cloth passing over the top of the said flange and adapted to be pressed into the said recess by the cylindrical depending part of the central member, substantially as described.

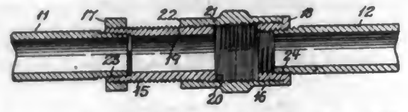
3. A strainer composed of a body member, having a reduced cylindrical part, extending downwardly from the lower edge of the upper portion of the body member, the latter being outwardly flared from the said connection, the lower cylindrical part projecting upwardly above the said connection to form a circumferential recess, a strainer cloth adapted to engage the upper edge of the said flange and also to overlap the upper edge of the body member, and a centrally located member having a perforated, cone-shaped, upwardly projecting central part, a depending, cylindrical part, adapted to press the strainer cloth into the said circumferential recess, and an outwardly flared part, connected with the cylindrical part below its upper edge to form a lodgment for foreign matter, the upper edge of the outwardly flared part being adapted to press the strainer cloth tightly against the adjacent wall of the body member, substantially as described.

4. A strainer comprising a body member, composed of an upper cylindrical part, a lower frusto-conical part, and a bottom cylindrical part, extending downwardly from its connection with the lower edge of the frusto-conical part and having a flange projecting upwardly from said connection, a strainer cloth adapted to engage the upper edge of the said flange and also the upper edge of the cylindrical part of the body member, and a centrally located member having a perforated cone-shaped central part, to which is made fast a depending cylindrical part, and an outwardly flared frusto-conical part connected with the cylindrical part, below its upper edge, the upper edge of the frusto-conical part being arranged to press the strainer cloth tightly against the adjacent wall of the frusto-conical part of the body member, substantially as described.

5. A strainer, composed of a body part, whose lower portion is adapted to enter the top of a milk bucket or other receptacle, a centrally located member having an integrally formed perforated cone-shaped upwardly projecting part, the lower part of the body member below the cone-shaped part of the central member having a circumferential flange or shoulder on its inner periphery, a strainer supported by the said flange or shoulder within the circular member, and a second strainer carried by the lower part of the said circular member, through which strainers the milk must pass after passing through the perforated cone-shaped member.

[Claim 6 not printed in the Gazette.]

969,358. PIPE-COUPLING. JOHN N. GOODALL, Portsmouth, N. H., assignor, by mesne assignments, to Goodall Manufacturing Company, a Corporation of Maine. Filed Sept. 4, 1908. Serial No. 451,691.



1. A pipe coupling comprising a plurality of members collapsible to a length less than the distance between the pipe ends to be joined by said coupling, said members having continuously inter-engaged threaded portions, and each member having its outer end internally threaded for engagement with an externally threaded pipe end.

2. A collapsible coupling comprising a barrel member and a tail piece member inseparably connected and collapsible to a length less than the distance between the pipe ends to be joined by said coupling, the tail piece member having its inner end tapered, and the barrel member having its end which is in engagement with the tail piece member, correspondingly tapered to engage the tapered threaded end of the tail piece member, the intermediate portion of the barrel member being internally threaded to preserve engagement with the threads at the larger end of the tapered portion of the tail piece member.

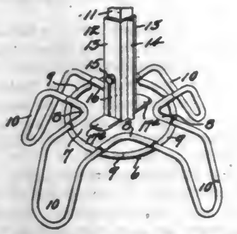
3. A collapsible pipe coupling the members of which are inseparably connected and capable of collapsing to a length to permit the coupling to be inserted laterally between the ends of two pipe sections, the coupling being then extensible to join said pipe sections without varying the space between them, said members being provided with continuously inter-engaged threaded portions and having internally threaded outer ends.

4. A pipe coupling device comprising an internally threaded barrel member having a cylindrical portion and a tapered portion, and an externally threaded tail piece member having a cylindrical portion and a tapered portion, said members being provided with continuously inter-engaged threaded portions to preserve their alinement when collapsed and while being extended and having internally threaded outer ends.

5. A pipe coupling device comprising an internally threaded barrel member having a cylindrical portion and a tapered portion, and an externally threaded tail piece member having a cylindrical portion and a tapered portion, said members having also tapered internally threaded end portions to engage pipe sections, said members being provided with continuously inter-engaged threaded portions to preserve the alinement of the members at all times.

[Claims 6 to 9 not printed in the Gazette.]

969,359. WASHING-MACHINE DOLLY. RALPH B. GOODRICH, Cincinnati, Ohio. Filed Apr. 15, 1909. Serial No. 490,089.



1. An all-metal dolly comprising a sectional metal head, a metallic stem having interlocking connection with, and held by, the sections of said head, and metallic fingers clampingly secured by the head sections.

2. A dolly or agitator of the character described, comprising a head composed of sheet section disks, the margin of one disk being flanged over the margin of the other, one of said disks furthermore having angular channels, agitator fingers formed of downwardly looped wire engaged in the channels and clamped between the sections, and a tubular stem composed of sections secured together and having outstanding feet clamped between the head sections.

3. A dolly or agitator comprising a metallic head, a tubular stem consisting of duplicate sections jointed together and interlocked with the head, and fingers carried by the head.

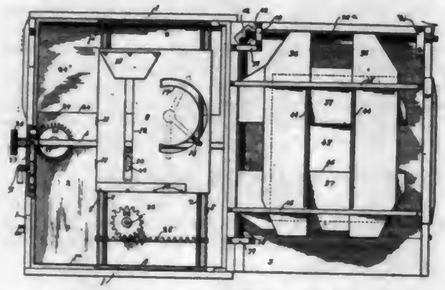
4. A dolly or agitator comprising a sectional metallic head, a tubular metallic stem consisting of duplicate sections jointed together and interlocked with the head, and metallic fingers clamped between the sections of the head.

969,360. MULTIPLYING ATTACHMENT. PAUL M. GRANDPERRIN, Sag Harbor, N. Y. Filed Apr. 28, 1909. Serial No. 492,778.

1. In a multiplying attachment for cameras, a main frame, a slide-carrier at the front end of said frame, said slide carrier having an exposure opening therein, a shaft journaled in the frame, a support mounted and movable from one side of the frame to the opposite side of said frame on the shaft, and a plate carrier mounted on said support and movable thereupon from one end of the support to the opposite end of said support, substantially as specified.

2. A multiplying attachment for cameras comprising a main frame, a shaft journaled in the frame, a support movably mounted on the shaft, a plate-carrier movably mounted on said support, a slide-carrier at the front of the frame, said slide-carrier having an exposure opening, a plurality of slides upon the slide-carrier, and means to move the said slides so as to vary the dimensions of the exposure opening, substantially as specified.

3. A multiplying attachment for cameras comprising a main frame, a shaft journaled in said frame, a support mounted and movable on said shaft, a plate-carrier mounted and movable on said support, a slide-carrier at the front end of said frame, a plurality of slides upon the slide-carrier, and a pair of screws operatively connected with the said slides, substantially as specified.

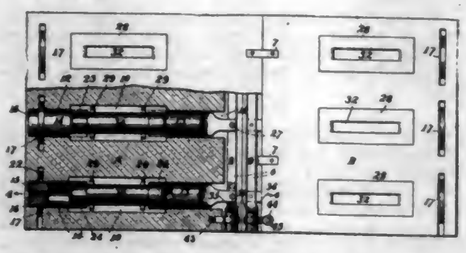


4. A multiplying attachment for cameras comprising a frame, a shaft journaled in the frame, a movable support upon the shaft, a plate-carrier movable upon the support, a slide-carrier at the front of the frame, a plurality of slides upon the slide-carrier, a pair of screws connected with the said slides, companion pinions meshing with each other upon said screws, and means for rotating the said pinions, substantially as specified.

5. A multiplying attachment for cameras comprising a main frame a slide-carrier at the front of the frame, a plurality of slides upon the slide-carrier, the slides of said carrier being operable to vary the size of the exposure opening, a shaft journaled in the frame, a support mounted and slidable on the shaft, means for imparting the sliding movement of the support upon the shaft, a plate-carrier movably mounted on the support, an indicator operable to indicate the positions of the plate-carrier and of the plate, and a second indicator for indicating the positions of the support also of the plate-carrier and of the plate, the said indicators being composed of the elements, or substantial equivalent elements arranged and operable in the manner described, substantially as specified.

[Claims 6 to 12 not printed in the Gazette.]

969,361. CIRCUIT-PROTECTING APPARATUS. JOHN E. GRAYBILL, York, Pa. Filed Sept. 15, 1906. Serial No. 334,762.



1. The combination with a block of insulating material having a fuse recess formed therein, of a fuse terminal at each end of said recess having a seat for a fuse provided with resilient side and end walls, the latter being connected with the body of the terminal at points between said side walls, substantially as set forth.

2. The combination with a block of insulating material having a fuse recess formed therein, of a fuse terminal at each end of said recess having a seat for a fuse and provided with a resilient tongue extending transversely of said seat with its free end adjacent the bottom of the seat, said tongue being adapted to contact with the end of a fuse supported by said seat, substantially as set forth.

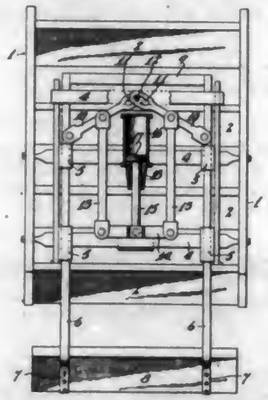
3. The combination with a block of insulating material having a recess for a fuse formed therein, of a fuse terminal at each end of said recess, said terminals each comprising a tubular body cut away at one end to provide a seat for a fuse and having an integral resilient tongue extending into said seat from the outer edge of and between the sides thereof and adapted to contact with the end of a fuse supported by said seat, substantially as set forth.

4. The combination with a block of insulating material having a fuse recess formed therein and provided at its ends with terminals each having a seat for one end of a fuse, of a cover adapted to extend over said fuse recess, a fuse having its ends adapted to fit said seats in the terminals, and means detachably connecting the fuse to the lower face of the cover and including resilient bands attached to the cover and extending beneath the fuse and adapted to be released from the latter when subjected to lateral pressure.

5. The combination with a block of insulating material having a fuse recess formed therein and provided at its ends with terminals each having a seat for one end of a fuse, of a removable cover adapted to extend over said fuse recess, and provided with a slot having opposite walls thereof adapted for engagement with a suitable lifting device, and a fuse secured to the inner face of said cover and having its ends adapted to fit in the seats in said terminals when the cover is in position across the recess in the block.

[Claims 6 to 20 not printed in the Gazette.]

969,362. AUXILIARY CAR-STEP. LOUISE I. GREGG, Santa Monica, and EDWIN A. DE VOSS, Los Angeles, Cal. Filed Sept. 18, 1909. Serial No. 518,434.



1. In combination with a car and its regular steps, a frame secured to the regular steps, step bars slidable on said frame, an auxiliary step formed on said step bars, a cylinder connected to said frame, a piston in the cylinder, a piston rod extending from the piston, a yoke formed on the piston rod, links connected to said yoke, a pair of arms pivoted to the step bars, said links being pivotally connected to said arms, said arms being slotted, a stationary pin engaging the slotted portion of said arms, and means for supplying compressed air to said cylinder.

2. In combination with a car and its regular steps, a frame secured to the regular steps, step bars slidable on said frame, an auxiliary step formed on said step bars, a cylinder connected to said frame, a piston in the cylinder, a piston rod extending from the piston, a yoke formed on the piston rod, links connected to said yoke, a pair of arms pivoted to the step bars, said links being pivotally connected to said arms, said arms being slotted, a stationary pin engaging the slotted portion of said arms, means for supplying compressed air to said cylinder and exhaust compressed air from the cylinder, and a spring for returning said piston.

3. In combination with a car and its regular steps, an auxiliary step associated with the regular steps, a pneumatic device for moving said auxiliary step with relation to the regular steps, a valve for controlling admission of air to said pneumatic device, said valve comprising a valve chamber with a slide valve therein formed with ports 43 and 42, said valve chamber being formed with ports 45, 46 and 47, a piston in said valve casing connected with the slide valve for operating the latter, a spring for actuating said piston in one direction, a compressed air supply on the car, a pipe 26 leading from the compressed air supply to said valve chamber, pipes 28, 21, 23 and 19 leading from ports 45 and 46 to said pneumatic device, the pressure side of said piston having connection with said air supply, and a valve 31 in the latter connection.

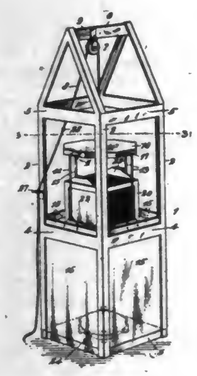
4. In combination with a car and its regular steps, an auxiliary step associated with the regular steps, a pneumatic device for moving said auxiliary step with relation to the regular steps, a valve for controlling admission of air to said pneumatic device, said valve comprising a valve chamber with a slide valve therein formed with ports 43 and 42, said valve chamber being formed with ports 45, 46 and 47, a piston in said valve casing connected with the slide valve for operating the latter, a spring for actuating said piston in one direction, a compressed air supply on the car, a pipe 26 leading from the compressed air supply to said valve chamber, pipes 28, 21, 23 and 19 leading from ports 45 and 46 to said pneumatic device, the pressure side of said piston having connection with said air supply, a valve 31 in the latter connection, a pipe 20 communicating with the latter connection, and a two-way valve 22 at each end of the car between the pipes 20 and 21.

5. In combination with a car and its regular steps, an auxiliary step associated with the regular steps, a pneumatic device for moving said auxiliary step with relation to the regular steps, a valve for controlling admission of air to said pneumatic device, said valve comprising a valve chamber with a slide valve therein formed with ports 43 and 42, said valve chamber being formed with ports 45, 46 and 47, a piston in said valve casing connected with the slide valve for operating the latter, a spring for actuating said piston in one direction, a compressed air supply on the car, a pipe 26 leading from the compressed air supply to said valve chamber, pipes 28, 21, 23 and 19 leading from ports 45 and 46 to said pneumatic device, the pressure side of said piston having connection with said air supply, a valve 31 in the latter connection, a pipe 20 communicating with the latter connection, a two-way valve 22 at each end of the car between the pipes 20 and 21, and a valve 24 in each pipe 23 between pipes 19 and 21.

[Claim 6 not printed in the Gazette.]

969,363. FLY-TRAP. ROBERT GRISWOLD, Denver, Colo. Filed Jan. 29, 1910. Serial No. 540,805.

1. In a fly trap, the combination of a frame consisting of four corner posts secured to a floor and ceiling portion and arranged with open spaces between said corner posts, slideways in the edges of the posts and slots through said ceiling in alinement with said slideways, independent side portions slidably mounted in said slideways, said posts extending above said ceiling and provided with cross bars, a pulley secured to one of said cross bars, a rod extending from each side upwardly and connected to a plate positioned above said ceiling between said posts, and a cord connected to said plate at one end and extending over said pulley, a clip on one of said posts and means for securing said cord to said clip, a chamber in said frame provided with a fixed floor and roof portion, said floor portion being adapted to hold a dish adapted to hold a supply of any suitable fly attracting material, said cord and plate and rods being arranged to raise and secure said sides in a raised position simultaneously a predetermined distance; an aperture through the roof of said chamber; a cage, provided with screened portions, mounted on said roof and provided with an aperture arranged to form a fly passage from said chamber and its aperture into said cage, said cage being provided with removable side portions, and means for releasing and allowing the independent sides of said chamber to drop simultaneously by gravity and close the open spaces between the corner posts of said frame.

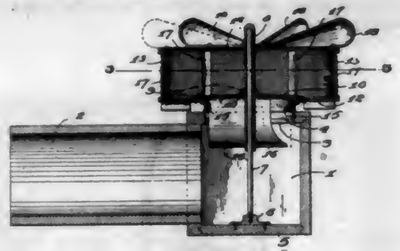


2. In a fly trap, the combination of a frame provided with a cord pulley at its top and a chamber at its lower end provided with movable sides arranged when closed to provide a darkened chamber, and when open to form an open side portion in the sides of said cabinet adapted to admit flies to the interior of said cabinet, said chamber being provided with a raised spider portion adapted to hold a dish provided with a supply of fly attracting material; a cord extending over said cord pulley; a spreader plate secured to one end of said cord; a wire or cord connection between the movable sides of said cabinet and said spreader plate, one of which is detachably removable; a screened fly holding cage on said chamber; a fly passage from said chamber to said cage; a removable portion on said cage, and means including said cord for securing the sides of said chamber in a raised position and for reclosing said sides to allow them to close said chamber.

3. In a fly trap, the combination of the standards, provided with the fixed floor and roof plates, and the top portion provided with a cross bar; the cord pulley pivotally supported by said cross bar; the cord mounted on said pulley; the spreader plate attached to one end of said cord; the vertically movable side plates of said chamber slidably mounted in slideways formed in said frame; the spider on the floor of said chamber; the dish mounted on said spider, and the fly outlet tube extending above the roof of said aperture, with a screened cage provided with opening side portions, said screened cage being provided with an aperture on its bottom enough larger than said tube to permit said cage to be placed over said tube and rest on the roof portion of said chamber, and means including a bracket for securing said cord to hold said chamber's sides in a raised position and thus to open said chamber and to instantly release said cord and permit said sides to freely drop and close said chamber.

4. In a fly trap, a structure comprising four corner standards connected by side strips; a floor secured to the lower ends of the standards; a roof plate, having an aperture, secured to the standards midway of their length; doors mounted to slide in said standards; rods connected to said doors; a pulley at the top of the structure; a cord extending around said pulley and connected to the said rods, whereby the doors may be raised in unison; a catch plate on one of the standards for engaging the cord to hold the doors raised, said doors being adapted to drop by gravity when the cord is released; a removable cage which rests on the roof plate, having an aperture in its bottom which registers with the aperture in the roof plate, and a removable side in said cage.

969,364. REVOLVING SELF-CLEANING SCREEN. LEWIS T. GROOTENHUIS, Bigtimber, Mont. Filed Feb. 15, 1910. Serial No. 544,064.



1. A device of the character described comprising a stationary shaft, a screening cylinder rotatable thereon, buckets arranged in radiating relation on the top of said cylinder and adapted to rotate said cylinder, and pendent vanes carried by the bottom of said cylinder and adapted to receive rotary movement from the force of the water that passes through said cylinder.

2. A device of the character described comprising a shaft, a screening cylinder rotatable thereon and provided with an opening in its bottom, buckets on the top of said cylinder for imparting rotation thereto, and vanes projecting from the edge of the opening in the bottom of said cylinder and receiving rotary power from the water that passes through said opening.

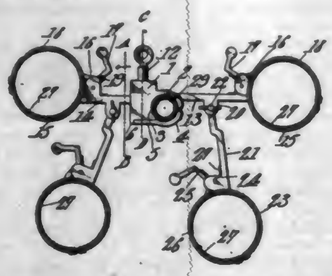
3. A screening device for the intake of water ways comprising a cylinder having wire mesh sides, a closed top, and a bottom provided with a central opening, a shaft upon which said cylinder is rotatably mounted, means carried by the top of said cylinder and receiving rotary power from the water that flows over the same, and means projecting from the opening in the bottom of said cylinder which receives rotary power from the water that passes through said cylinder.

4. A screening device comprising a cylinder having an opening in its bottom, a support upon which said cylinder is rotatably mounted, buckets carried by the outer surface of the top of said cylinder, and vanes depending from the opening in the bottom of said cylinder.

5. A self cleaning screen comprising a rotatably mounted screening cylinder adapted to be submerged in flowing streams, buckets carried by the top of said cylinder and receiving rotary force from the flowing stream, and means projecting from the bottom of said cylinder which receive rotary force from the water that flows through said screen.

[Claims 6 and 7 not printed in the Gazette.]

969,365. ATTACHMENT FOR MUSIC-STANDS. ARCHIBALD B. GRUBER, Portland, Oreg. Filed May 28, 1910. Serial No. 563,971.



1. An attachment for music stands including adjustably connected standard engaging jaws, an arm supported thereby, an instrument engaging jaw fixed relative to the arm, and a spring controlled instrument engaging jaw movably mounted on said arm.

2. An attachment for music stands including a body portion, a jaw fixed relative thereto, a jaw adjustably and detachably mounted upon the body, the two jaws coöperating to engage the standard of a music stand, an arm supported by the body, an instrument engaging jaw upon the arm, and a spring pressed instrument engaging jaw movably carried by said arm.

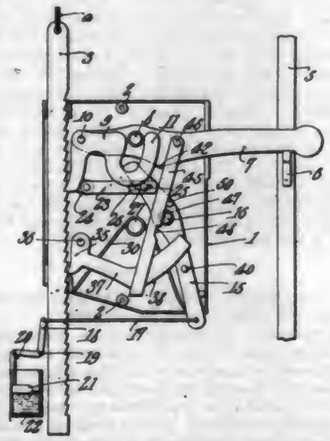
3. An attachment of the class described including a body, a standard engaging jaw fixed relative thereto, a movable standard engaging jaw, means within the body for locking said jaw against movement, an arm supported by the body, relatively fixed and movable instrument engaging jaws upon the arm, a spring for holding the movable jaw normally in a predetermined position, and an actuating lever extending from the movable jaw.

4. An attachment of the class described including a body, a fixed jaw extending therefrom, a plate movably mounted on one face of the body, a jaw extending therefrom, means on the body for holding the plate against rotation, coöperating means upon the plate and body for binding said plate upon the body, an arm supported by said body, relatively fixed and movable instrument engaging jaws upon the arm, a spring for holding the movable jaw normally in a predetermined position, and an actuating lever connected to the movable jaw.

5. An attachment of the class described including standard engaging jaws, an arm supported thereby, a second arm pivotally connected to the first mentioned arm, means for securing the pivoted arm against movement relative to the other arm, a fixed jaw carried by each arm, a spring pressed movable jaw carried by each arm, and an actuating lever extending from each of the movable jaws.

[Claim 6 not printed in the Gazette.]

969,366. WINDMILL-REGULATOR. LYMAN S. HAGERMAN and ADDISON W. HAGERMAN, Mondamin, Iowa. Filed Dec. 30, 1909. Serial No. 535,699.

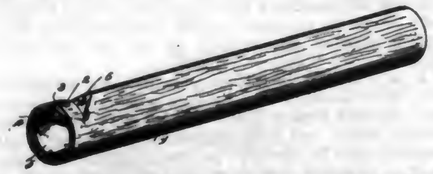


1. A wind mill regulator comprising a rack bar, an operating lever provided with a laterally extending fulcrum, a gravity actuated pawl mounted on said operating lever having a hooked shaped portion to receive the fulcrum of said operating lever, and means for moving said operating lever into and out of connection with the pump rod.

2. A wind mill regulator comprising a casing, a rack bar in said casing, an operating lever adapted to be operated by the pump rod, a gravity pawl on said operating lever, a controlling lever, a link connecting said controlling lever with said gravity actuated pawl, a bar pivotally connected with said operating lever and having a notch adapted to engage the fulcrum of said controlling lever, a pin on said controlling lever for engaging said last mentioned bar, a check pawl for said rack bar having an arm formed with a cam face, a pin on said controlling lever for engaging the cam face of said check pawl, a spring for throwing said controlling lever in one direction, and a tank float for throwing said controlling lever in the other direction.

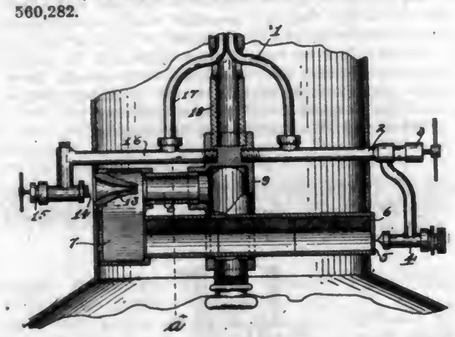
3. A wind mill regulator comprising a rack bar for drawing the mill out of the wind, a pump rod, an operating lever adapted to be operated by the pump rod, a gravity actuated pawl mounted upon said lever and having a hooked shaped portion to receive the fulcrum of said lever, a controlling lever, a link connecting said controlling lever with said pawl, the upper end of said controlling lever being adapted to engage a portion of said operating lever to throw the same out of connection with the pump rod, a bar pivotally connected with said operating lever and having a notch adapted to engage the fulcrum of said controlling lever to hold the operating lever in raised position, a pin on said controlling lever for moving said last mentioned bar out of engagement with the fulcrum of the controlling lever, a gravity actuated check pawl having an arm formed with a cam face, a pin on said controlling lever for engaging the cam face on the check pawl, a spring for moving said controlling lever in one direction, a tank float, and a link connecting said float with said controlling lever.

969,367. MAILING-TUBE. EDGAR G. HAMILTON, Burlington, Vt. Filed Aug. 6, 1907. Serial No. 387,328.



An article of manufacture, comprising a tube having a transverse weakened portion intermediate its ends and spaced a distance from one end, said weakened portion extending a distance around the periphery of the roll to allow the contents to be forced away from the side of the tube and said weakened portion of such a length that the full inward movement thereof will not injure the contents of the roll.

969,368. PROCESS AND APPARATUS FOR PRODUCING LIGHT FROM HYDROCARBONS. CHARLES KNOX HARDING, Chicago, Ill. Filed May 9, 1910. Serial No. 560,282.



1. In an apparatus for producing light from liquid hydrocarbon, an injector for producing a current of air in communication with a source of elastic fluid under pressure; a spraying device for atomizing the liquid hydrocarbon and mixing the atomized hydrocarbon with the flowing air, a heater tube through which the mixture is passed and in which it is subjected to high temperature, and a burner in which the mixture is burned in contact with an incandescent mantle, said burner and mantle being located adjacent to and in heating relation to said heater tube and adapted to heat the same by the combustion of the gas in said burner and mantle.

2. An apparatus for producing light from liquid hydrocarbon, comprising an ejector, in communication with a source of elastic fluid under pressure for imparting motion to a current of air, means for producing finely divided hydrocarbon and mixing the hydrocarbon with the air, a heater-tube through which the mixture of hydrocarbon and air is passed, and in which the mixture is subjected to a high temperature, a burner and an incandescent-mantle, located in close proximity and heating relation to said heater-tube, whereby the combustion of the mixture communicates heat to said heater-tube.

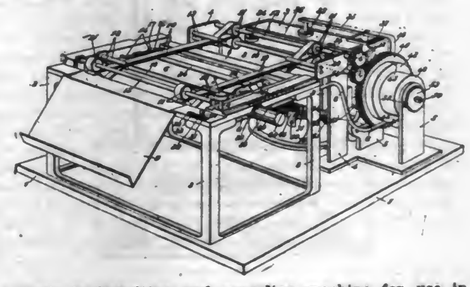
3. An apparatus for producing light from kerosene, comprising an injector for producing a flow of air, said injector being in communication with a source of supply of an elastic fluid under pressure, means for mixing the kerosene with the flowing air, a heater-tube through which the mixture of kerosene and air is passed and in which it is subjected to a high temperature, and a burner and incandescent structure in close proximity to said heater-tube whereby the said heater-tube is heated by the surplus heat incident to the production of light by incandescence.

4. An apparatus for producing light from liquid hydrocarbons, comprising an injector in communication with a source of supply of an elastic combustible fluid under pressure for producing a flow of atmospheric air, means for mixing finely divided hydrocarbon with the flowing air, a heater-tube through which the mixture of oil and gas is passed, and a burner and incandescent mantle located in close proximity to and in heating relation with said heater-tube whereby the combustion of the gaseous mixture in incandescing the mantle communicates heat to said heater-tube.

5. The process of producing light from liquid hydrocarbon which consists of producing a flowing current of atmospheric air by means of an escaping jet of air communicating with a suitable source of supply of said air under pressure, mixing the hydrocarbon with the flowing air, passing the mixture through a heater-tube, and subjecting it to a high temperature to produce a combustible gaseous mixture, and subsequently burning the mixture in a burner in contact with an incandescent mantle and in close heating relation to said heater-tube, whereby the said heater-tube is heated by the combustion of the gas burned for the production of light.

[Claims 6 to 13 not printed in the Gazette.]

969,369. DRAFT-WRITING MACHINE. HARRY C. HARTLEY, Washington, D. C., assignor of one-half to Ellis M. Potter, New York, N. Y. Filed Dec. 19, 1905. Serial No. 292,414.



1. A draft-writing and recording machine for use in connection with a writing instrumentality for filling out the drafts, said machine comprising, in combination, means for holding a supply of detached drafts, mechanism for feeding the drafts one after another to the writing instrumentality, means for simultaneously copying on a record-sheet matter written on the draft, and means controlled by the operator of the machine for effecting an operation thereof at will.

2. A draft-writing and recording machine comprising, in combination, a conveyer adapted for catching or engaging a draft at a pair of its opposing marginal edges and feeding it to and holding it in position to be filled out by, a writing instrumentality, a record-sheet over which the draft is carried and supported for writing, means for making a record on said sheet of matter written on the draft, and means for effecting successive operations of said machine at will.

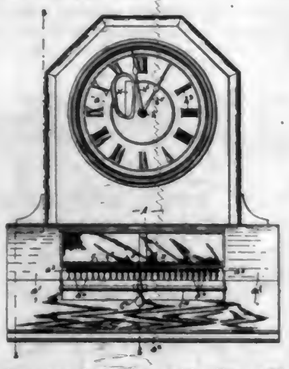
3. A draft-writing and recording machine comprising, in combination, mechanism for feeding a detached draft to a writing instrumentality to be filled out thereby, means for effecting successive operations of said mechanism at will, means for feeding a record-sheet at each feed of a draft, and means for simultaneously making an impression on the record-sheet of matter written on a draft, the feeding of the record-sheet allowing each impression thereon to follow a previous impression.

4. A draft-writing and recording machine comprising, in combination, mechanism for feeding a detached draft to a writing instrumentality to be filled out thereby, means for effecting successive operations of said mechanism at will, means for feeding a record-sheet, and means for simultaneously making an impression on the record-sheet of matter written on a draft, and adjusting means whereby the impressions of successive amounts on the record-sheet have their units, tens, hundreds and following digits alined in vertical columns.

5. A draft-writing and recording machine comprising, in combination, means for holding a supply of drafts, a platen, a duplicating or copying medium over the platen, means for passing a record-sheet over said platen and under said medium, whereby an impression on the record-sheet is made of matter written upon the draft while resting on the platen, successively-operative mechanism for feeding a detached draft to position over the platen and duplicating medium for writing thereon, and an actuating instrumentality for operating the machine at the will of the operator, the draft-feeding means being arranged to permit writing on the face of the draft and direct transcribing on the record sheet through said duplicating medium.

[Claims 6 to 36 not printed in the Gazette.]

969,370. TIME-RECORDER. WILLIAM D. HAWLEY, Syracuse, N. Y., assignor to Hawley Time Register Company, Syracuse, N. Y., a Corporation of New York. Filed Dec. 18, 1899. Serial No. 740,720. Renewed Nov. 6, 1908. Serial No. 461,424.



1. In a time-recorder, the combination with a support for a record-receiving means; of a movable supporting part provided with a marker for engaging the record-receiving means, said supporting part being movable automatically into its operative position, an actuating member having means for holding the supporting part in an inoperative position, said means being arranged in an inoperative position relatively to the supporting part during the automatic movement of said supporting part for permitting such automatic movement to take place unaffected by the actuating member, means for moving one of the foregoing parts relatively to the other when said parts are in the position assumed during the formation of the record, and time-mechanism for governing the operation of the means for moving one of said foregoing parts, substantially as and for the purpose set forth.

2. In a time-recorder, the combination of a movable support for a record-receiving means, a movable supporting part provided with a marker for engaging the record-receiving means, said supporting part being movable automatically into its operative position, and an actuating member provided with a plurality of means movable in the same direction for successively forcing the supporting part into its inoperative position and for permitting said supporting part to automatically assume its operative position independently of the actuating member, substantially as and for the purpose described.

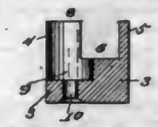
3. In a time-recorder, the combination of a movable support for a record-receiving means, a rocking supporting part having one end extended upwardly above the axis of the supporting part and provided with a marker for engaging the record-receiving means, and having its other end provided with an arm or extension projecting beneath the axis, said supporting part being movable automatically into its operative position, and an actuating member provided with a plurality of means movable in the same direction for successively engaging said arm or extension and forcing the supporting part into its inoperative position and for permitting said supporting part to automatically assume its operative position independently of the actuating member, substantially as and for the purpose specified.

4. In a time-recorder, the combination of a movable support for a record-receiving means, a movable supporting part provided with a marker for engaging the record-receiving means, said supporting part being movable automatically into its operative position, a movable actuating member provided with alternately-arranged means for forcing the supporting part into its inoperative position and for permitting said supporting part to automatically assume its operative position independently of the actuating member, said actuating member being provided with a number of teeth equal to the combined number of said alternately-arranged means, and means for successively engaging the teeth and operating the actuating member, substantially as and for the purpose set forth.

5. In a time-recorder, the combination of a frame, a movable support for a record-receiving means, a movable supporting part provided with a marker for engaging the record-receiving means, said supporting part being movable automatically into its operative position, and a revoluble actuating member provided with alternately-arranged projections and depressions for forcing the supporting part into its inoperative position and for permitting said supporting part to automatically assume its operative position independently of the actuating member, substantially as and for the purpose described.

[Claims 6 to 55 not printed in the Gazette.]

969,371. CUTTING-STICK FOR PAPER-CUTTING MACHINES. BRUCE MONROE HELM, Hagerstown, Md. Filed Sept. 25, 1909. Serial No. 519,585.



1. A cutting stick for paper cutting machines, comprising a bar having a pair of flanges forming a groove, a strip loosely fitting the groove, and eccentric pins working through one of the flanges for wedging the strip against the other flange.

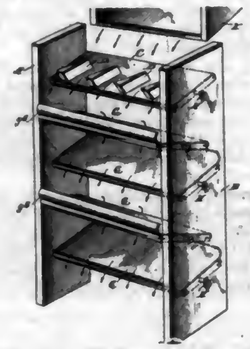
2. A cutting stick for paper cutting machines, comprising a grooved bar having side flanges, a strip loosely fitting the groove, and cams seated in one of the flanges and working through the inner face thereof for wedging the strip against the other flange.

3. A cutting stick for paper cutting machines, comprising a grooved bar having side flanges, a strip loosely fitting the groove, pins turnable in the bar under one of the flanges and having a cam working through the inner face of this flange into the groove for wedging the strip against the other flange.

4. In a cutting stick for paper cutting machines, the combination, with a grooved bar having side flanges, and a strip loosely fitting the groove, of means for securing the strip in the groove comprising pins anchored in the bar under one of the flanges and having an eccentric head turnable through the inner face of said flange to make a cam engagement with the strip.

5. In a cutting stick for paper cutting machines, the combination, with a grooved bar having circular seats under one of the walls of the groove, circular recesses extending from the seats and opening through the inner face of this wall, and a cutting strip loosely fitting the groove, of pins turnable in the seats and having a pintle extending through the bottom of the bar for anchoring the pins, and an eccentric head turnable in the recesses and against the strip to clamp it in the groove.

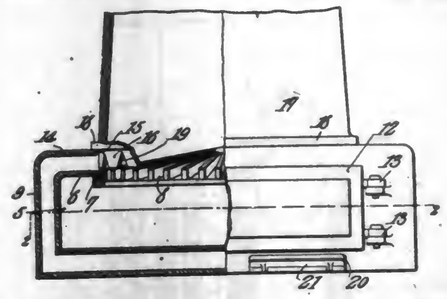
969,372. FEED-REGULATOR FOR FLOUR-MILLS. GEORGE HENRY HOTTEL, Strasburg, Va. Filed Jan. 25, 1910. Serial No. 539,986.



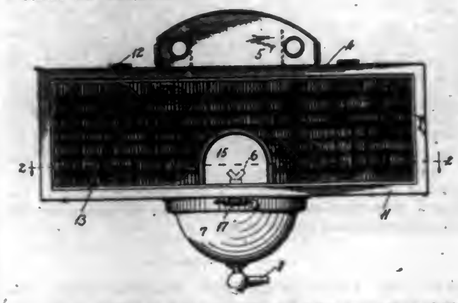
In a feed regulator for roller mills, the combination of a pair of vertical side members, with a plurality of distributing shelves pivotally mounted between said side members, the upper of said distributing shelves being provided with a series of wedge shaped distributing members pivotally mounted near their base portions on the lower edge of the inclined shelf, screws for each shelf serving as pivots for its shelf and as a means for retaining the shelf in an inclined position, and a curved flange on the upper edge of each inclined shelf adapted to receive the grain from the shelf above it and to act as a turning member for distributing the grain evenly and as a guard for preventing the spilling of the grain from off the shelf.

969,373. FIRE-POT. ISAAC G. HUSTON, Carey, Ohio. Filed Jan. 19, 1909. Serial No. 473,135.

In a stove, an ash pit formed in its upper wall with an opening, a grate mounted in the opening, a casing affording a base for the stove, and an air jacket for the ash pit, said casing surrounding the ash pit with its walls spaced therefrom at all points except at the front, the front wall of the ash pit and the front wall of the casing being connected by a continuous web affording a door opening through which access may be had to the interior of the ash pit, a door hinged to one side of the opening, the top of the casing being also formed with an opening, a stove body having its lower end fitted into the opening in the top wall of the casing, the said body being formed in its said portion with a plurality of openings, the said continuous web constituting the sole support for the ash pit and the sole connection between the ash pit and casing; the casing being formed below the plane of the bottom of the ash pit with openings, and doors arranged to close the said openings, the openings serving as a means for admitting air to the space between the casing and the ash pit.



969,374. ILLUMINATED SIGN AND SIGNAL-LAMP. WORTH E. JEPSON, Los Angeles, Cal. Filed Dec. 9, 1909. Serial No. 532,196.



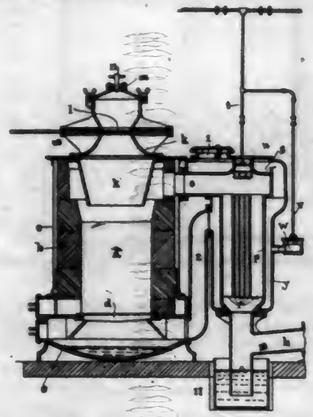
1. A sign of the class described having a case, a light within said case, a translucent plate disposed before said light and having corrugations on its inner face adapted to refract the light and an opaque number inscribed on the outer face of said plate having its characters or digits removed laterally from the central axis of the case which is transverse to said plate whereby the portion of the plate adjacent to said charcacters or digits transmits only refracted and reflected rays to an observer at a remote point.

2. A device of the class described having a case, a burner within said case, a translucent plate disposed behind said burner having prismatic corrugations on the inner face thereof adapted to refract the inclined rays of light from said burner through said plate, the outer side of said plate having opaque characters thereupon, the middle portion of said plate opposite said burner being without characters and having a color signal plate mounted in conjunction with said first plate and disposed directly opposite to said burner, the characters of said plate being adapted to transmit only reflected and refracted rays to the eye of a distant observer.

969,375. GAS-PRODUCER. EDWARD JONES, Perry Barr, England, assignor to Kynoch Limited, Birmingham, England. Filed Mar. 19, 1909. Serial No. 484,534.

1. A gas producing plant comprising in combination a gas producing chamber; a scrubbing tower, a water receptacle at the base of said tower said water receptacle having an overflow at a definite level, a water receptacle at the base of said gas producing chamber, a connection between said water receptacles below said overflow level

and a vaporiser including a shallow dish constructed to contain water, means for leading air over said water to the water receptacle of the producing chamber and a float feed device automatically regulating the water level in said dish, as set forth.



2. A gas producing plant comprising in combination a gas producing chamber; a scrubbing tower, a water receptacle at the base of said tower said water receptacle having an overflow at a definite level, a water receptacle at the base of said gas producing chamber, a connection between said water receptacles below said overflow level and a vaporiser including a shallow dish constructed to contain water, means for leading air over said water, a float feed device automatically regulating the water level in said dish, a water chamber surrounding the exit pipe for gases from said gas producing chamber and a float feed device automatically regulating the water level in said water chamber, and means for leading the vapors from the vaporizer to the water receptacle of the producing chamber as set forth.

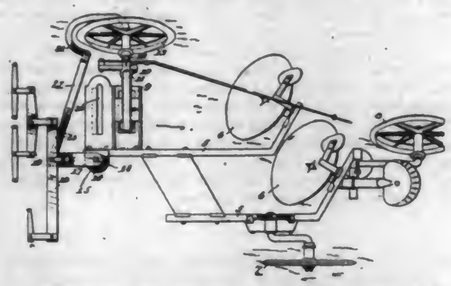
969,376. PACKAGE-FILLER. FRANCIS KIELY, Los Angeles, Cal., assignor of one-fourth to Edgar E. Sellers, Denver, Colo., and one-fourth to Fred A. Sellers, Los Angeles, Cal. Filed Apr. 30, 1910. Serial No. 558,720.



1. A package filler comprising means for supporting a plurality of receptacles in a definite order of arrangement, and a filling device comprising a plurality of hoppers having the same order of arrangement, said hoppers being rectangular and spaced apart to form intervening ways, means for supporting said filling device over said receptacles, a removable bottom member between said hoppers and the receptacles to temporarily retain the material in said hoppers, and an adjusting member formed as a reticulated structure comprising a plurality of walls extending and fitting in the ways between the said hoppers and sliding vertically therein to form an adjustable upward extension for the hoppers.

2. A package filler comprising means for supporting a plurality of receptacles in a definite order of arrangement, and a filling device comprising a plurality of hoppers having the same order of arrangement, said hoppers being rectangular and spaced apart to form intervening ways, means for supporting said filling device over said receptacles, a removable bottom member between said hoppers and the receptacles to temporarily retain the material in said hoppers, an adjusting member formed as a recticulated structure comprising a plurality of walls extending and fitting in the ways between the said hoppers and sliding vertically therein to form an adjustable upward extension for the hoppers, means for adjusting the height of said adjusting member comprising racks at opposite sides of said adjusting member, gears engaging said racks, and operating shafts carrying said gears and connected to operate in unison.

969,377. PLOW. GEORGE A. KNOX, Dexter, N. Y. Filed Feb. 8, 1910. Serial No. 542,701.



1. In a plow, the combination with the frame, and a front furrow wheel mounted on a pivoted axle; of a draft plate connected to the frame, and a connection between said draft plate and the front furrow wheel axle on the outer side of said wheel.

2. In a plow, the combination with the frame, and a front furrow wheel mounted on a pivoted axle; of a draft plate connected to the frame, an arched member secured to the outer end of the front furrow wheel axle on the outer side of said wheel, and extending inwardly in front of said wheel, and a connection between said member and the draft plate.

3. In a plow, the combination with the frame, and a front furrow wheel mounted on a pivoted axle, of a plate carried by the frame, said plate having a slot extending transversely of the plow, a draft plate adjustably connected to the slot, and a connection between the draft plate and the front furrow wheel axle on the outer side of said wheel.

969,378. LIQUID-MOTOR. ALBERT F. KRAUSE, Buffalo, N. Y., assignor of one-half to Charles C. Ladd, Buffalo, N. Y. Original application filed Mar. 20, 1905, Serial No. 250,954. Divided and this application filed Apr. 6, 1908. Serial No. 425,401.



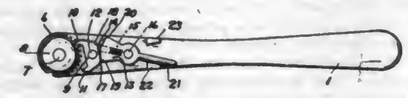
1. A fluid pressure motor for boiler tube cleaners, comprising a cylindrical casing, a shaft journaled in the casing concentrically therewith and separated therefrom by an intervening piston chamber, an abutment in said chamber, and movable pistons carried by said shaft and coöperating with said abutment, the casing having in its rear end a fluid inlet arranged substantially in line with said shaft, and an inlet passage connecting said inlet with the piston chamber, said passage being arranged in the side wall of the casing lengthwise thereof.

2. A fluid-pressure motor for boiler tube cleaners, comprising a cylindrical casing, a shaft journaled in the casing concentrically therewith and separated therefrom by an intervening piston-chamber, an abutment in said chamber adjacent to the shaft, and movable pistons carried by the shaft, the casing being provided in its rear end with a fluid-inlet arranged in line with said shaft and a longitudinal inlet-passage leading from said inlet to the piston-chamber on one side of said abutment, the rear end of the shaft terminating short of said inlet and its front end extending forwardly beyond the piston-chamber.

3. A fluid pressure motor for boiler tube cleaners, comprising a cylindrical casing, a shaft journaled in the casing concentrically therewith and separated therefrom by an intervening piston chamber, an abutment in said chamber adjacent to the shaft, and movable pistons carried by the shaft, the casing being provided in its rear end with a fluid inlet and in its side wall with a longitudinal passage leading forwardly from the inlet, said passage communicating with the piston chamber by a transverse passage arranged on one side of said abutment.

4. A fluid pressure motor for boiler tube cleaners, comprising a cylindrical casing, a shaft journaled in the casing concentrically therewith and separated therefrom by an intervening piston chamber, an abutment in said chamber adjacent to the shaft, and movable pistons carried by the shaft and arranged parallel therewith, the casing having in its rear end a fluid inlet arranged in line with said shaft and in its side wall a longitudinal passage communicating with said inlet and extending throughout the length of the piston chamber, said longitudinal passage communicating with the piston chamber by a transverse passage or passages.

969,379. RATCHET MECHANISM FOR SCREW-DRIVERS, WRENCHES, &c. WILLEY B. LANE, Philadelphia, Pa., assignor to J. C. McCarty & Co., a Corporation of New York. Filed Jan. 2, 1909. Serial No. 470,462.



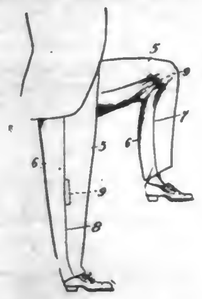
1. A ratchet mechanism for screw drivers, socket wrenches or the like, comprising a handle, a tool journaled therein, a ratchet for said tool, a toothed pawl pivoted on said handle, a pivoted element having a portion thereof formed with engaging flanks angularly disposed with respect to each other, both of said flanks being forwardly positioned at all times with respect to the pivotal point of said element, said element further comprising a finger piece, a small displacement of which shifts one or the other of said angularly disposed flanks into juxtaposition with the respective side of said pawl, and a spring pressed part coöperating with said pivoted element and said pawl, substantially as described.

2. A ratchet mechanism for screw drivers, socket wrenches or the like, comprising a handle, a tool journaled in said handle, a ratchet for rotating said tool, a toothed pawl pivoted on said handle, a pivoted element having a portion thereof formed with engaging flanks angularly disposed with respect to each other, both of said flanks being at all times forwardly disposed at a relatively considerable distance with respect to the pivotal point of said element, said element further comprising a finger piece, a small displacement of which shifts one or the other of said angularly disposed flanks into juxtaposition with the respective side of said pawl, and a spring pressed part co-operating with said pivoted element and said pawl, substantially as described.

969,380. TROUSERS. AXEL LEANDER, Chicago, Ill. Filed Apr. 9, 1910. Serial No. 554,330.

1. A pair of trousers having formed in the knee region of each leg portion thereof a longitudinally disposed expansible plait, substantially as and for the purpose described.

2. A pair of trousers having formed in a side seam of each leg portion thereof and extending through the knee region a longitudinally disposed expansible plait, substantially as and for the purpose described.

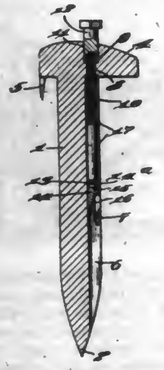


3. A pair of trousers having front and rear sections united by side seams, one of said sections being provided opposite the knee region with a lateral tongue extension, around the margin of which the side seam extends thereby forming a normally-folded plait-like abrupt enlargement of the leg of the trousers, substantially as and for the purpose described.

969,381. PROCESS OF MAKING ARTIFICIAL CRYOLITE. GERHARD LOESEKANN, Hanover, Germany. Filed Nov. 30, 1908. Serial No. 465,190.

The herein described process of making artificial cryolite, which consists in calcining the fluor spar with sulfate of potassium and carbon, lixiviating the mass thus obtained with water, treating the solution of fluorid of potassium directly with a solution of sodium sulfate and aluminia sulfate, whereby sodium-aluminium fluorid and potassium sulfate are produced.

969,382. SPIKE. MATHIAS MACK, Philadelphia, Pa., assignor of one-half to Hermon Savage, Philadelphia, Pa. Filed Apr. 1, 1910. Serial No. 552,768.



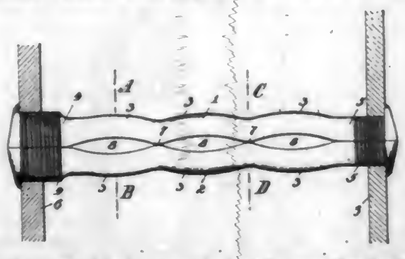
1. A spike having a longitudinal groove therein, a bar across said groove, a wedge movable in said groove, and a screw threaded rod for moving said wedge, substantially as described.

2. A spike having a longitudinal groove therein, a bar across said groove, a wedge, guide flanges on the sides of said wedge movable in grooves in the walls of said first mentioned spike groove, a screw-threaded opening in said spike, a screw-threaded rod in said opening, and said rod connected to said wedge, substantially as described.

3. A spike having a longitudinal groove therein, and a head on one end, said head having a screw-threaded opening therethrough, and an enlarged socket communicating with said opening, a bar across said groove, a wedge

movable in said groove, a screw-threaded rod in said opening, connected to the wedge, and a removable turning device in said socket engaging the end of said rod, substantially as described.

969,383. STAY-BOLT. MYLES MAHONEY, Montreal, Quebec, Canada. Filed Aug. 30, 1909. Serial No. 515,298.

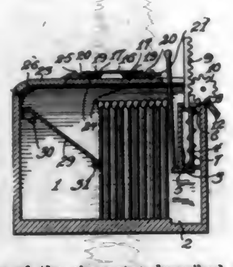


1. In a stay bolt, a middle length extending between suitably formed ends and separated for the greater part of its length into parts forming spaces therebetween for the purpose of the expansion and contraction of said parts.

2. In a stay bolt, a plurality of parts of part circular shape and in longitudinal arrangement in relation one to the other, said parts being securely welded together toward and at the ends and having a plurality of curved bends between said welded ends, said bends forming arc shaped openings between the parts in the middle length of the bolt.

3. In a stay bolt, a pair of semi-circular parts securely welded together toward and at the ends, having one end thereof upset and enlarged and both ends suitably threaded, said parts being longitudinally waved in the middle length between the said joined ends and meeting at points intermediate of said middle length.

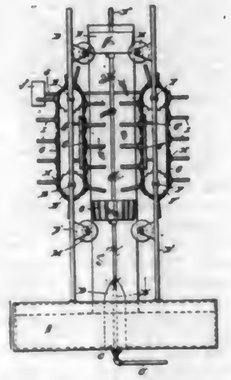
969,384. AUTOMATIC MATCH-BOX. CLARE W. MARTIN, Post Falls, Idaho. Filed Dec. 2, 1909. Serial No. 530,966.



1. A device of the character described comprising a receptacle, a lid for one end thereof, ejecting-mechanism in said receptacle for delivering an article from said receptacle when said lid is opened, a rack carried by said ejecting-mechanism which projects beyond the receptacle when an article is being delivered, and a pinion operated by said lid and engaging said rack to restore the ejecting-mechanism to an article-receiving position.

2. A device of the character described comprising a match receptacle, a pinion projecting through the upper edge of one end thereof, a lid for the receptacle provided with a clearance slot for said pinion, a match ejector slidable in said receptacle, a rack for said ejector held in mesh with said pinion and adapted to be actuated by said pinion to restore the said ejector to a match receiving position, said rack being engaged by said lid when closed to hold the ejector in a match receiving position, means for feeding matches to said ejector, and means for automatically actuating said ejector to cause the same to deliver a match when the lid or cover is being opened.

969,385. CONTINUOUS WINDOW-GLASS-DRAWING MACHINE. WILLIAM MARTIN, Jeannette, Pa. Filed Sept. 20, 1909. Serial No. 518,593.



1. In a continuous glass drawing machine the combination with a piston rod adapted to carry a bait for starting the cylinder, expansible pistons adapted to be placed on said piston rod and conveyers provided with yieldable arms for engaging the cylinder and drawing the same upwardly.

2. In a continuous glass drawing machine the combination with a tank having a conical air supplying member arranged therein, of a piston slidably mounted above said tank carrying a bait adapted to fit over said conical member for starting the cylinder, conveyers for drawing the cylinder upwardly and pistons mounted on said piston rod for closing the cylinder.

3. In a continuous glass drawing machine the combination with a tank provided with an air supplying member, of a piston rod mounted above said tank carrying a bait for forming a cylinder, guide rollers for guiding the cylinder, conveyors provided with yieldable curved arms for engaging the cylinder and drawing the same upwardly and spaced pistons arranged on said piston rod for closing the cylinder.

4. In a continuous glass drawing machine the combination with a tank provided with a conical air supplying member, of a slidably mounted piston rod carrying a bait for starting the cylinder, conveyers provided with yieldable arms for moving the cylinder upwardly, guide rollers for engaging the cylinder and guiding the same in its upward movement, a piston carried by said piston rod comprising a disk having a plurality of segmental curved members, extending upwardly therefrom overlapping one another and springs for forcing said segmental members outwardly.

5. In a continuous glass drawing machine the combination with a pair of endless chains, of spring members carried by the links of a chain, curved arms carried by said spring members provided with an asbestos facing and means for operating said endless chains.

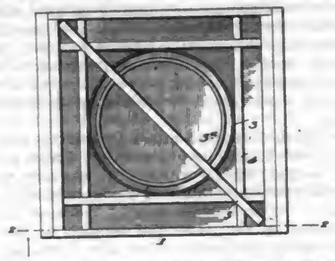
[Claims 6 and 7 not printed in the Gazette.]

969,386. SHIPPING-BOX FOR CANS. HENRY MAYO, deceased, Norfolk, Va.; Hulda T. Mayo, administratrix. Filed Jan. 6, 1910. Serial No. 536,744.

1. A packing or shipping box for cans, comprising a polygonal box, means for holding the can therein, a cover, and a retainer strip located between the cover and can end which extends diagonally of the box and is held at its ends by the box corners, said retainer being held against the can end by the cover.

2. A packing or shipping box for cans, comprising a polygonal box, a cover, a retainer strip located between the cover and can end, which extends diagonally of the box and is held at its ends by the box corners, and against

the can end by the cover, and a loose or removable frame composed of crossed strips engaged at their points of intersection and so arranged as to fit in said box and to



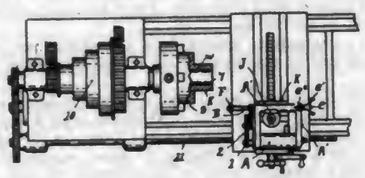
snugly receive and position a can in a square of said frame, said frame having its margin disposed away from the walls of the box.

969,387. GRID FOR STORAGE BATTERIES. FRANCIS M. MICHAEL, Eaton, Ohio. Filed Apr. 1, 1910. Serial No. 552,777.



A double grid of the character described, each grid being the shape of a basket formed of a net work of hollow wires interwoven together, each of said wires have a central conducting wire extending through said tube, and accumulated at one end of each grid, and connecting two grids together, a lead paste compound filling each grid and forming a coating for the same, and a channel tube provided with depending ends inclosing bunched wires connecting the two grids, said wires being soldered together, and said tube being filled with an alloy of lead.

969,388. MACHINE-TOOL. CASPER W. MILES, Cincinnati, Ohio. Filed May 15, 1905. Serial No. 260,417.



1. In combination with a machine having a work holding and rotating member, and a tool holder adapted to be moved in ways at a prescribed rate in unison with the movements of the work, a tool adapted to be carried by said tool holder consisting of an independent motor, a metallic rotary toothed cutter, and means for reversing the direction of rotation of said cutter.

2. In combination with a machine tool holder, a tool adapted to be attached thereto, consisting of an independent motor, a shaft adapted to carry rotating tools mounted in bearings parallel with the motor shaft and adapted to receive motion therefrom.

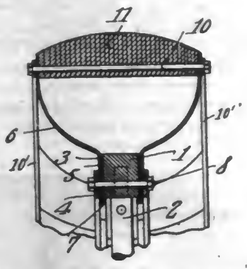
3. In combination with a machine tool holder, a tool adapted to be attached thereto, consisting of an independently driven motor, a tool shaft adapted to carry rotating tools journaled in fixed relations to the motor, transmitting mechanism to impart motion from the motor to said tool shaft, and means for rigidly securing said tool to the tool holder.

4. In combination with a machine tool holder, a tool adapted to be attached thereto, consisting of an independently driven motor, a tool shaft adapted to carry rotating tools journaled in fixed relations to the motor, transmitting mechanism to impart motion from the motor to said tool shaft, and means for reversing the direction of rotation of said tool shaft.

5. In combination with a power driven machine tool carriage, a thread milling attachment adapted to be carried by said tool carriage comprising a tool shaft, a milling cutter mounted on said shaft, an independent motor connected to and adapted to rotate said tool shaft, and means for securing said attachment to the tool carriage.

[Claims 6 to 11 not printed in the Gazette.]

969,389. AUTO-TIRE. FRANK MODLIN, Sioux City, Iowa. Filed Oct. 8, 1909. Serial No. 521,656.



1. A vehicle tire consisting of opposed series of segmental spring plates, each plate having a laterally bowed outer portion and an inwardly extended rim engaging portion at its inner end, a tread interposed between and supported by the plates, and means extending between and clamping upon the plates for holding them against lateral and annular movement.

2. The combination with a wheel rim and rings secured upon opposite sides thereof, of abutting spring plates bearing upon the rings and extending beyond the rim, the outer ends of said plates being extended laterally and the inner ends thereof being in engagement with the rings, means for clamping the plates upon the rings, and a tread interposed between and secured to the outer ends of the plates.

3. The combination with a wheel rim and rings secured on opposite faces thereof, of segmental abutting spring plates upon the rings and having inwardly turned inner ends engaging the rings and laterally bowed outer ends projecting beyond the rim, means for binding the plates upon the rings, and a tread secured between the bowed portions of the plates.

4. The combination with a wheel rim and rings upon opposite faces thereof, of abutting segmental spring plates upon the rings and having laterally bowed outer ends projecting beyond the rim and inwardly extended inner ends engaging the rings, clamping rings extending across the plates, means for securing the rings to the rim, said plates being cut away to receive said securing means therebetween, and a tread secured between the bowed portions of the plates.

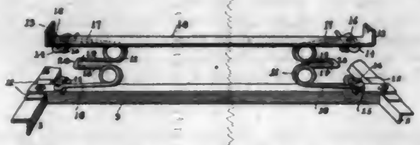
5. A wheel tire consisting of a plurality of segmental spring plates having outwardly bowed outer ends, a wheel rim, coöperating means upon the rim and plates for holding the plates against lateral and annular movement, a plurality of annular contacting strips interposed between and extending beyond the outer ends of the plates, and means extending transversely through the strips and plates for holding them together, said strips constituting the wheel tread.

969,390. SPRINGWORK. MOSES H. NABER, Chicago, Ill. Filed Dec. 27, 1909. Serial No. 534,926.

1. A spring end-section composed of a base having lateral flanges to provide extended bearings on a bed or couch frame, a head to receive a spring-structure and having its ends upturned to provide a seat for the spring-structure, and a pair of springs connected to the base and head and lying inside the outer edge of the head.

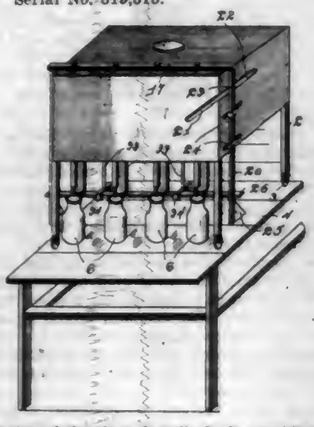
2. A spring end-section composed of a base having lat-

eral flanges to provide extended bearings on a bed or conch frame, a head to receive a spring-structure and having its ends upturned to provide a seat for the spring-structure, and a pair of springs each composed of a pair of wings bolted respectively to the head and base, and



having parallel arms developed into one or more coils, the coils of the two arms lying in different vertical and horizontal planes, and legs lying in different vertical planes and connected by a curved end piece, the springs lying inside the outer edge of the head.

969,391. BOTTLE FILLING AND CAPPING APPARATUS. HARRY D. NAUM, Newburgh, N. Y. Filed Sept. 25, 1909. Serial No. 519,515.



1. In a device of the class described, the combination of a tank provided with a plurality of outlet openings, discharge spouts communicating with said openings and adapted to discharge liquid therefrom into receptacles, plunger rods adapted to work in said spouts, valve means carried by said plunger rods and adapted to alternately open and close said discharge openings, cap magazines carried by said tank, a link rod connecting all of said plunger rods, means coöperating with said link rod and the said cap magazines for forcing caps over said receptacles when the outlet openings of the tank are closed, said plunger rods adapted to engage said caps for forcing the same upon said receptacles.

2. In a device of the class described, the combination with a tank provided with a plurality of outlet openings, discharge spouts carried by said tank and communicating with said outlet openings, a plurality of plunger rods carried by said tank and working in said discharge spouts, a link member connecting all of said plunger rods, side members engaging said link member, said side members provided with cam or beveled lower ends, cap magazines carried by said tank, cap feeding means carried by said tank, said cap feeding means adapted to normally hold the caps, in said magazines, in an inoperative position, said cap feeding means adapted to be engaged by said cam or inclined lower ends of said side members for forcing the same out of engagement with the caps, said cap feeding means adapted to engage one of said caps in each magazine and force the same forward so as to engage the tops of the bottles when released from said side members and said plunger rods adapted to engage said caps and force the same upon the necks of the bottles or receptacles.

3. In a device of the class described, the combination of magazines adapted to carry a plurality of caps in stacked relation, cap feeding means carried by said tank comprising a bracket member carrying at its lower end a substantially oblong rack member, said rack member provided with a longitudinally extending slot, a coil spring carried within said slot, a cap feeding member adapted to be positioned within said slot of said rack member, and said spring adapted to exert a forward pressure upon said cap feeding member, cap engaging pins carried by said cap feeding member, and adapted to engage the bottle caps and force the same forward when the cap feeding member is released.

4. In a bottle filling and capping apparatus comprising a tank provided with a plurality of discharge spouts plungers carrying valves working within said discharge spouts, means for operating said plungers carried by said tank, bottle cap magazines carried by said tank, and means carried by said tank and adapted to feed bottle caps over bottles positioned below said discharge spouts, and said plungers adapted to engage said caps for forcing the same upon the bottles.

969,392. GALVANIZING APPARATUS. ALEXANDER NIEDRINGHAUS, St. Louis, Mo. Original application filed Mar. 11, 1909. Serial No. 482,769. Divided and this application filed Dec. 13, 1909. Serial No. 532,913.



1. In a galvanizing apparatus, a flux box having a frangible plug in its bottom.

2. In a galvanizing apparatus, a flux box having a breakable plug in its bottom.

3. In a galvanizing apparatus, a galvanizing box at the discharge end of the tank having a breakable plug in its bottom.

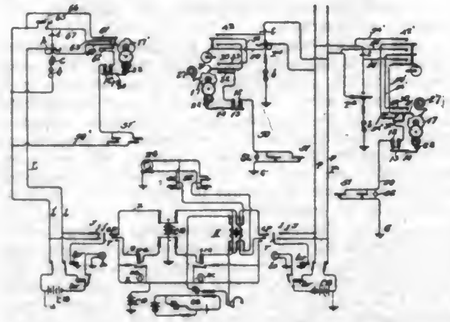
4. In a galvanizing apparatus, a kettle having a stratified spelter and lead bath in combination with a box havings its bottom opening into the lead bath and its top into a spelter bath, said box bridging the space occupied by the dross, and a breakable plug in the bottom of the box.

5. In a galvanizing apparatus, a kettle having a bath composed of molten lead and spelter, a flux box whose upper end extends above the surface of the lead, and a breakable plug whose upper end extends above the surface of the spelter and whose lower end extends beneath the surface of the lead, and a breakable plug in the bottom of said box.

969,393. COMBINED TELEPHONE AND PROTECTIVE ALARM SYSTEM. JAMES G. NOLEN, Chicago, Ill., assignor to John E. Shepherd, Chicago, Ill. Filed May 9, 1907. Serial No. 372,746.

1. In a combined telephone and protective system, the combination of the central station equipment involving a normally deënergised line signal and an operator's set including a receiver, a subscriber's line involving at the subscriber's station a transmitter and a switch normally opening the circuit of said transmitter, a subscriber's protective circuit, signal initiating means, motor actuated alarm means controlled by said protective circuit arranged to occasion an audible alarm, and motor operated means for closing the transmitted circuit to include therein the transmitter during the operation of the audible alarm means.

2. In a combined telephone and protective alarm system, the combination of the central station equipment involving a normally deënergized line signal and an operator's set including a receiver, a subscriber's line involving at the subscriber's station a transmitter and a switch normally opening the circuit for said transmitter, a subscriber's protective circuit, signal initiating means therein arranged when actuated to complete a circuit for energizing the central line signal, motor driven audible alarm means within effective distance of the transmitter to transmit sound thereto, motor controlling means therefor responsive to the actuation of the signal initiating means to start the motor, and means operated by said motor for bridging the normally open switch connection of the transmitter to include the transmitter in operative association with the line.



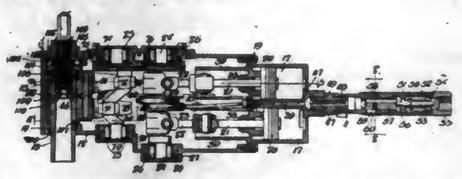
3. In a combined telephone and burglar alarm system, the combination of a central station equipment, involving a normally deënergized line signal, an operator's set including a receiver, a subscriber's line involving at the subscriber's station a transmitter, a protective circuit, signal initiating means therein, alarm means, adapted and arranged to occasion in the line vibrations translatable into audible sound by the operator's receiver, a motor, a switch controlled by the motor, arranged to establish a bridging circuit across the line including the transmitter, and an electro-responsive device associated with the protective circuit controlling the motor.

4. In a combined telephone and protective system, a central station equipment including a battery, a cord circuit for connection with a subscriber's line, a supervisory signal arranged to be energized by the grounding of a subscriber's line when the cord circuit is connected therewith, and an operator's set including a receiver, a subscriber's line involving at the subscriber's station a transmitter and a switch normally opening the transmitter circuit, and a subscriber's protective system involving signal initiating means arranged when operated to cause the grounding of the subscriber's line by a circuit excluding the transmitter, and audible signal devices within effective distance of the transmitter responsive to the operation of the signal initiating means to occasion an audible signal and to close an operative circuit involving the transmitter thereby to condition the transmitter to transmit the audible signal to the central station receiver.

5. In a combined telephone and protective system, a party line, a central station equipment comprising an operator's receiver, a line signal and a grounded battery therefor, at each subscriber's station in said party line a transmitter, a normally open circuit therefor, a protective system involving a normally open ground circuit adapted when closed to energise the line signal, a relay in said ground circuit, a motor controlled by said relay, and means for transmitting an audible signal characteristic of the particular station controlled by said motor, means for closing the transmitter circuit to energize the transmitter controlled also by said motor, and signal initiating means for closing the normally open ground circuit.

[Claims 6 to 9 not printed in the Gazette.]

969,894. PNEUMATIC DRILL. REINHOLD A. NORLING, Aurora, Ill., assignor to Aurora Automatic Machinery Company, Aurora, Ill., a Corporation of Illinois. Filed May 7, 1907. Serial No. 372,407.



1. A drilling machine comprising a frame, a drill spindle mounted in said frame, said spindle having at one end a bearing recess and the frame having a fixed bearing member which extends into said bearing recess.

2. A drilling machine comprising a frame, a drill spindle mounted in the frame, said spindle having at one end a bearing recess, and the frame having a fixed bearing member which extends into said recess, and a thrust bearing interposed between said end of the spindle which engages said bearing member and the frame.

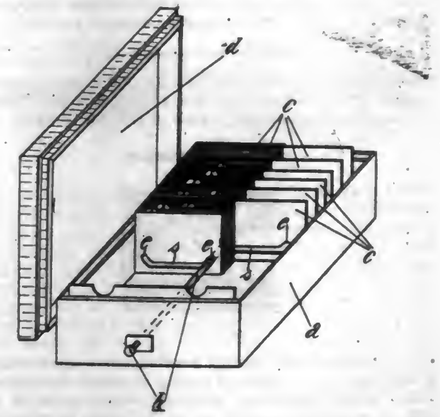
3. A drilling machine comprising a frame, a drill spindle mounted in the frame, said spindle having in one end a bearing recess, and the frame having a fixed bearing member which extends into said recess and a thrust bearing embracing an annular flange on said bearing member, and a ring on the adjacent end of the spindle.

4. In a drilling machine, the combination of a drill spindle provided with ratchet teeth, a lever provided with an apertured hub which fits and turns upon said ratchet teeth, a pawl pivoted in said hub, and an actuating spring for said pawl consisting of a split-ring which surrounds the drill spindle, said pawl having a flat-sided projection which is engaged by the ends of said ring.

5. A drilling machine comprising a frame, a drill spindle mounted in said frame, said spindle being provided at one end with a bearing recess and having ratchet teeth surrounding its part which contains said bearing recess, and the frame being provided with a fixed bearing member which extends into said bearing recess, a lever provided with an apertured hub which fits and turns on said ratchet teeth, and a pawl mounted on said hub.

[Claims 6 and 7 not printed in the Gazette.]

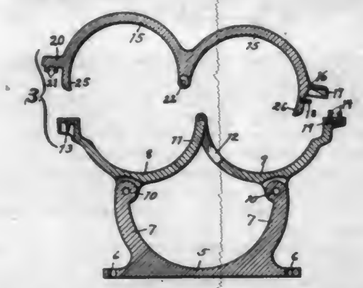
969,395. CONTROLLING APPARATUS FOR LIBRARIES AND THE LIKE. BENNATA OTTEN, Lübeck, Germany. Filed Nov. 1, 1909. Serial No. 525,687.



A controlling apparatus for libraries comprising in combination: a casing (*a*), cards provided with horizontal slits (*s*) and ascending oblique slits (*c*) at their ends a detachable rod (*b*) mounted in the walls of the casing

and traversing the slits (s) of all cards and adapted to engage with the right end slit when the cards are on the left side of the casing and to engage with the left end slit if the cards are drawn to the right side of the casing.

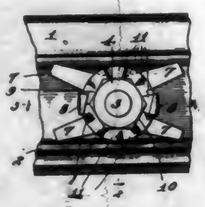
969,396. VEHICLE-TIRE-LOCKING DEVICE. ALBERT PACKARD, Indianapolis, Ind., assignor of one-half to Fred J. Mack, Indianapolis, Ind. Filed May 20, 1910. Serial No. 562,546.



1. In a device of the kind described, the combination with a frame, two semi-circular supporting members, each pivoted at a point intermediate of its length to said frame, a lock formed in the outer end of one of said semi-circular supporting members and catches formed on the outer end of the other of said semi-circular supporting members adapted to engage said lock, of a double semi-circular member adapted to be secured at one of its ends to said catches and provided with other catches on its other end adapted to engage and lock in said lock to form a double annular support and lock, substantially as described.

2. In a device of the kind described, the combination with two semi-circular supporting members pivotally mounted to close around and support a tire, a lock secured in one end of one of said semi-circular supporting members and catches secured on one end of the other of said semi-circular supporting members adapted to engage and lock in said lock, of a double semi-circular member having one of its ends adapted to be removably secured to the end of said semi-circular supporting member provided with said catches, its other end provided with other catches and adapted to be locked in said lock and its central portion having ears adapted to be removably secured to the other ends of said semi-circular supporting members to form a double annular support and lock.

969,397. NUT-LOCK. ALWYN H. PARTRIDGE, Denver, Colo., assignor of one-fourth to Samuel N. Pond, Morgan Park, Ill. Filed June 1, 1909. Serial No. 499,446.



1. A nut-lock, comprising a ratchet-disk apertured to fit the edge of the nut and having a series of peripheral teeth inclined widthwise relatively to the plane of the disk, in combination with an anchor-plate apertured to embrace the bolt and adapted to be clamped by the nut, said anchor-plate having a pawl member embracing and permitting the travel of the ratchet teeth therethrough in one direction of rotation only, substantially as described.

2. A nut-lock, comprising a ratchet-disk apertured to fit the edge of the nut and having a series of peripheral teeth inclined widthwise relatively to the plane of the disk, in combination with an anchor-plate apertured to embrace the bolt and adapted to be clamped by the nut, said anchor-plate being formed with a bent over marginal portion engaging the toothed periphery of said ratchet-disk and forming both a keeper and a stop-pawl for the latter, substantially as described.

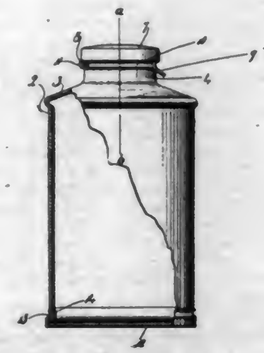
3. A nut-lock, comprising a spring-metal ratchet-disk apertured to fit the edge of the nut and radially sheared to form a series of peripheral teeth inclined widthwise relatively to the plane of the disk, in combination with an anchor-plate apertured to embrace the bolt and adapted to be clamped by the nut, said anchor-plate having a pair of oppositely disposed bent-over marginal portions engaging the toothed periphery of said ratchet-disk and forming both keepers and stop-pawls for the latter, substantially as described.

4. A nut-lock, comprising a nut-carried spring-metal ratchet-disk having peripheral teeth inclined widthwise relatively to the plane of the disk, in combination with an anchor-plate apertured to embrace the bolt and adapted to be clamped by the nut, said anchor-plate having a marginal projection bent over or doubled on itself so as to form a pair of substantially parallel side walls between which the teeth of the ratchet-disk pass under lateral compression as the nut is turned up on the bolt, substantially as described.

5. A nut-lock for use on bolts engaging a flanged member, comprising an anchor-plate apertured to engage the bolt and having a pair of arms adapted to bear at their outer ends on the flange of said member on opposite sides of the bolt and also a pair of oppositely disposed rigid pawl members, in combination with a nut-carried ratchet-disk having peripheral spring teeth adapted to pass said pawl members in one direction of movement but to be locked by the latter against movement in the opposite direction, substantially as described.

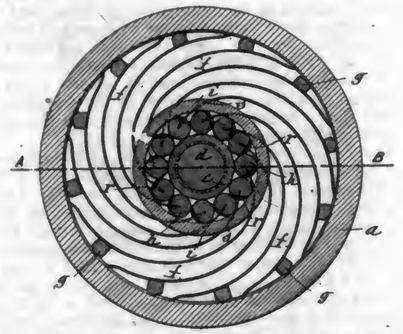
[Claims 6 and 7 not printed in the Gazette.]

969,398. POWDER-BOX. WALTER H. PERKINS, Cheshire, Conn., assignor to Waterbury Mfg. Co., Waterbury, Conn., a Corporation. Filed Jan. 15, 1910. Serial No. 538,255.



In a powder-box, the combination with a cylindrical body having an inclined shoulder merging into a neck surmounted by a crowning-top formed with a discharge-opening, of a flanged cover hinged to the said neck and shutting over the said top in which the said discharge-opening is located to one side of a line passing centrally through the said top and cover at a right angle to the pivot of the latter, whereby when the box is shaken for the discharge of the powder, its cover will not swing out toward or into its closed position.

969,399. LINER FOR CENTRIFUGAL SEPARATORS. JULES PERSOONS and ALPHONSE PERSOONS, Childonck, near Louvain, Belgium. Filed Aug. 11, 1908. Serial No. 448,054.



1. In a liner for centrifugal separators, a supporting ring, liner plates adapted to slide on said ring, and means located in the interior of the supporting ring, whereby the liner plates are maintained in position and are adapted, also, to be rotated independently when the liner is withdrawn from the bowl of the separator.

2. In a liner for centrifugal separators, a supporting ring, liner plates adapted to slide on said ring, a central tube within a separator bowl, and supporting means bodily connected with the liner plates and filling the space between the supporting ring and said central tube.

3. In a liner for centrifugal separators, a supporting ring, liner plates adapted to slide on said ring, a central tube within a separator bowl, and a supporting member for each liner plate, said members being positioned between the supporting ring and said central tube.

4. In a liner for centrifugal separators, a supporting ring, liner plates adapted to slide on said ring, a central tube of the separator bowl, and a supporting member for each liner plate, said supporting members being rigidly connected to the liner plates and engaging the inner face of the supporting ring and the outer face of said central tube.

5. In a liner for centrifugal separators, a supporting ring, liner plates adapted to slide on said ring, a tube positioned within the bowl of the separator, and rods connected to the liner plates and located between the supporting ring and said tube.

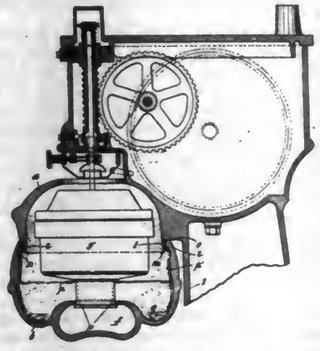
[Claims 6 to 8 not printed in the Gazette.]

969,400. COLLECTING-CASING FOR CREAM-SEPARATORS. JULES PERSOONS and ALPHONSE PERSOONS, Childonck, Belgium. Original application Filed Nov. 16, 1905, Serial No. 287,598. Divided and this application filed Oct. 28, 1909. Serial No. 525,221.

1. In a collecting casing for cream separators, the combination of an upper part, a lower movable part, said lower part being pivoted horizontally to the upper part, means for holding the lower part in a closed condition with relation to the upper part and means for preventing the skimmed milk from reaching the joint between the upper and the lower parts of the casing.

2. In a collecting casing for cream separators, the combination of an upper part, a lower movable part, said lower part being pivoted horizontally to the upper part, means for holding the lower part in a closed condition with relation to the upper part, means for preventing the skimmed milk from reaching the joint between the upper and the lower parts of the casing when projected against the wall of the lower part and means for conducting drops of skimmed milk from the upper part of the casing into the lower part without reaching the joint between said parts.

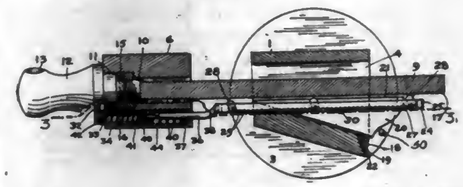
3. In a collecting casing for cream separators, the combination of an upper part, a lower part, means for holding the upper part and the lower part in a closed condition, a downwardly projecting ring formed on the upper part and a horizontal inwardly projecting flange formed on the lower part, said ring and flange coöperating to secure a tight joint between the two parts of the casing.



4. A collecting casing for cream separators comprising an upper part, a lower part movable with respect to the upper part, and coöperating flanges on the respective parts, said flange on the upper part fitting within the flange on the lower part when the casing is closed, the line of juncture of said flanges being in a vertical plane intermediate the planes of the walls of said parts, whereby leakage of the liquid is precluded through the meeting flanges and a packing between the respective parts is obviated.

5. In a collecting casing for cream separators, an upper part having a depending flange, a lower part provided with an inwardly extending flange, and means connecting said parts and permitting one part to move relative to the other, said flange of the upper part fitting within the flange of the lower part and the opposing faces of the two said flanges meeting in a plane intermediate the respective inner surfaces of the walls comprising said parts, whereby leakage of the liquid is precluded through the joint and a packing between the parts is obviated.

969,401. BENCH-VISE. AXEL W. PETERSON, Jamison, Cal., assignor of one-half to Herman Peterson, Fresno, Cal. Filed Feb. 4, 1909. Serial No. 476,002.



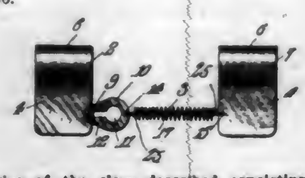
1. The combination of a stationary vise member, a movable vise member having a guide bar slidable through the stationary member, said members having gripping jaws, a clamping bar slidable within the guide bar, a wedge for clamping said clamping bar against longitudinal movement relatively to the stationary member, said wedge and clamping bar having corrugated opposing faces, the stationary member having a wedge-shaped cavity to receive said wedge, said wedge and cavity being arranged each with a narrow end directed toward the movable member, and means wholly outside said clamping bar, for moving the movable member relatively to the clamping bar, substantially as described.

2. The combination of a stationary vise member, a movable vise member having a guide bar slidable through the stationary member, said members having gripping jaws, a clamping bar slidable within the guide bar, a wedge for clamping said clamping bar against longitudinal movement

relatively to the stationary member, the stationary member having a wedge-shaped cavity to receive said wedge, said wedge and cavity being arranged each with a narrow end directed toward the movable member, and means wholly, outside said clamping bar, for moving the movable member relatively to the clamping bar, substantially as described.

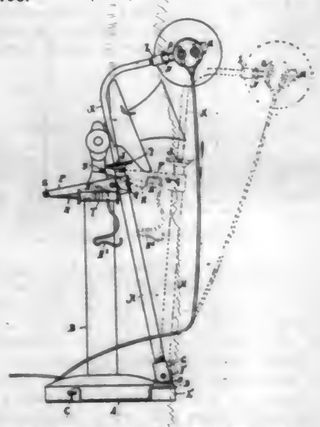
3. The combination of a stationary vise member, a movable vise member having a guide bar slidable through the stationary member, said members having gripping jaws, a clamping bar slidable within the guide bar, a wedge for clamping said clamping bar against longitudinal movement relatively to the stationary member, the stationary member having a wedge-shaped cavity to receive said wedge, said wedge and cavity being arranged each with a narrow end directed toward the movable member, and a rotary head movable longitudinally with the movable member, said head and clamping bar having, the one a threaded stem and the other a threaded socket to receive said stem, substantially as described.

969,402. STOCKING-SUPPORTER. HARRY E. PETTY, Neodesha, Kans. Filed Mar. 16, 1910. Serial No. 549,736.



A device of the class described consisting of spaced clips, adapted to be straddled upon the upper edge of a sock and including resilient arms to engage the sock; a retractile spring permanently secured at one end to one clip, and removably secured at the other end to the other clip.

969,403. HOLDER FOR TELEPHONE-RECEIVERS. CORNELIUS R. PHILLIPS, Philadelphia, Pa., assignor of one-half to J. Cook and one-half to Jerome B. Felheimer, Philadelphia, Pa. Filed Oct. 9, 1909. Serial No. 521,795.

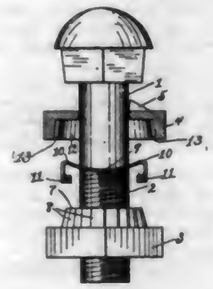


1. In combination with a telephone instrument, a plate for attachment to said instrument, a pivoted tube carried by said plate, a bracket arm adjustably secured upon the tube, a locking spring secured to the arm so as to engage with and lock the switch hook of the telephone instrument in its lowered position, a supporting rod adjustably secured in the tube, and a clamp carried by the outer end of the supporting rod adapted to hold the receiver, as specified.

2. In combination with a telephone instrument, a base plate adapted to be clamped to the telephone instrument, an off set formed with the base plate, a block secured to said off set, a tube pivoted to said block, a supporting rod adjustably secured in the tube, said rod being bent outward, a spring clamp carried by the outer end of said rod for holding the receiver, a bracket arm adjustably secured to the tube, a spring secured between the sides of said arm, said spring being so bent as to form a lock for engagement with the receiver hook of the telephone instrument, and a finger piece also formed with the spring for unlocking the device, as specified.

3. The herein described combination of a base plate, means for clamping said plate to the bottom of a telephone instrument, an off set formed with the plate, a cushioning block secured to the under side of the off set, a metal block secured to the upper side of the off set, a socket pivoted to the last named block in such manner as to allow for the outward swing of said socket, a tube secured to the socket, the upper end of said tube being split and threaded, a nut run upon said split end, a supporting rod fitted within said tube so as to be adjustable therein, a set screw threaded through the nut to hold the rod in any adjustment, a tip secured upon the outer end of the rod, a spring clamp secured to the tip for holding the receiver of a telephone instrument, a bracket arm adjustably secured upon the tube, means for holding said arm in any adjustment upon said tube, and a spring lock secured to the arm and adapted to engage and lock the receiver hook, as and for the purpose set forth.

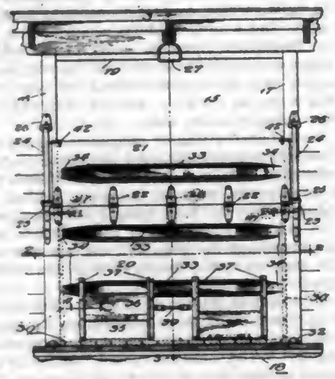
969,404. NUT-LOCK. JOHN PILLIG, Amsterdam, N. Y. Filed June 11, 1910. Serial No. 566,364.



1. In a nut-lock, and in combination, a screw-bolt; a nut fitting said bolt, and having on its inner side a boss formed with ratchet-teeth on its periphery; a main washer adapted to be engaged by said nut, and provided in its outer side with a recess adapted to receive said boss; means to prevent rotation of said main washer; a spring-washer adapted to be clamped between said boss and the bottom of said recess in the main washer, said spring-washer and main washer being formed to interengage to prevent relative rotation; and a dog on said spring-washer adapted to engage the ratchet-teeth on said boss.

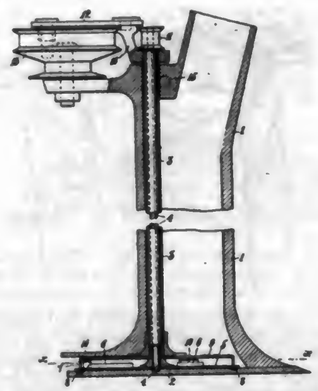
2. In a nut-lock, and in combination, a screw-bolt; a nut fitting said bolt, and having on its inner side a boss formed with ratchet-teeth on its periphery; a main washer adapted to be engaged by said nut, and provided in its outer side with a recess adapted to receive said boss, and with notches opening from said recess; means to prevent rotation of said main washer; a spring-washer adapted to be clamped between said boss and the bottom of said recess, said spring-washer having portions normally bent away from said boss; and wings projecting from said bent portions of said spring-washer adapted to occupy said notches in the main washer, and terminating in dogs adapted to engage the ratchet-teeth on said boss when said spring-washer is clamped and straightened.

969,405. GRAIN-DOOR. EDWARD POSSON, Chicago, Ill., assignor to Grain Belt Car Specialty Company, a Corporation of Maine. Filed Oct. 25, 1907. Serial No. 399,211.



In combination, a side wall having a door opening therein, a door section across the lower part of said opening, rigid hangers pivotally connected at their lower ends to the upper corners of the door section and at their upper ends to points on the sides of the door opening, said points being intermediate between the top of the door section and the top of the door opening, a hook on the upper edge of the door and a catch directly above the door opening adapted to be engaged by said hook, said links being loosely connected at an end of each so as to permit the said hook to engage and disengage said catch.

969,406. GRAIN-DRILL. ERIK GUSTAF RÅDBERG, Kristinehamn, Sweden. Filed Jan. 28, 1909. Serial No. 474,746.



1. In a grain-drill, the combination of a discharge-tube, a bottom at the lower end of the said tube, said tube having a rearwardly directed escape-opening just above the said bottom, and a rotary grain-spreading disk placed at the said lower end of the tube, just above the said bottom, substantially as and for the purpose set forth.

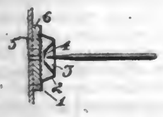
2. In a grain-drill, the combination of a discharge-tube having at its lower end a rearwardly directed escape-opening, a rotary grain-spreading disk placed at the said lower end of the tube, and a cap placed above the said spreading disk, said cap having an upper opening adapted to admit the grains onto the spreading disk and a rearward escape-opening for the said grains, substantially as and for the purpose set forth.

3. In a grain-drill, the combination of a discharge-tube having at its lower end a rearwardly directed escape-opening, a rotary grain-spreading disk placed at the said lower end of the tube, and an oscillating cap placed above the said spreading disk, said cap having an upper opening adapted to admit the grains onto the spreading disk and rearward escape-openings for the said grains, substantially as and for the purpose set forth.

4. In a grain-drill, the combination of a discharge-tube having at its lower end a rearwardly directed escape-opening, a rotary grain-spreading disk provided with a groove placed at the said lower end of the tube, and an oscillating cap placed above the said spreading disk and entering with its lower edge into the groove in the said spreading disk, said cap having an upper opening adapted to admit the grains onto the spreading disk and rearward escape-openings for the said grains, substantially as and for the purpose set forth.

5. In a grain-drill, the combination of a discharge-tube having at its lower end a rearwardly directed escape-opening, a rotary grain-spreading disk provided with a groove placed at the said lower end of the tube, said disk having teeth at its periphery, and an oscillating cap placed above the said spreading disk, co-axially therewith, and entering with its annular lower edge into the corresponding groove in the said spreading disk, said cap having an upper opening adapted to admit the grains onto the spreading disk and rearward escape-openings for the said grains, substantially as and for the purpose set forth.

969,407. HAT-PIN GUIDE AND HAT PROTECTOR AND PRESERVER. ARTHUR P. RHODES, San Francisco, Cal. Filed July 2, 1909. Serial No. 505,777.



A hat pin guide and guard having a raised central portion provided with a tapered inner portion and with an annular flange extending around the said raised portion, and a rubber guard washer extending below the inner tapered portion and reaching to the outer edge of the annular flange, with means for securing the guide and washer in place, substantially as described.

969,408. COMPOSITE WALL CONSTRUCTION. ROY HENRY ROBINSON, Chicago, Ill. Filed Nov. 18, 1907. Serial No. 402,638.



1. A composite wall, comprising a series of spaced-apart upright stud-like metallic reinforcements constituting pier-nuclei, located in the laterally outer portions of the piers of the completed wall, sets of pre-formed hollow blocks interposed between said stud-like reinforcements, the end members of each set abutting against said reinforcements and held in position thereby, concrete filling between the adjacent ends of the sets of pre-formed blocks disposed around said stud-like reinforcements and forming therewith continuous piers, and concrete filling occupying the interiors of the hollow pre-formed blocks and forming an internal concrete frame extending from pier to pier and monolithically joined with the piers.

2. A composite wall, comprising reinforced concrete piers arranged at intervals, each pier having stud-like metallic reinforcements embedded and extending vertically within its laterally outer portions, sets of hollow pre-formed blocks extending from pier to pier and at their

ends semi-embracing the piers, and concrete filling the interior of said blocks forming an internal concrete wall frame extending from pier to pier and monolithically joined with the piers.

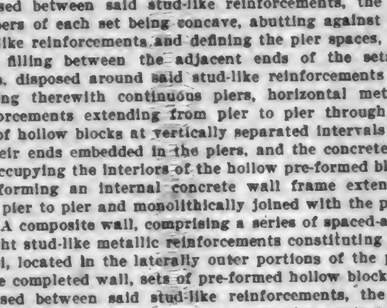
3. A composite wall, comprising a series of spaced-apart upright stud-like metallic reinforcements constituting pier-nuclei, located in the laterally outer portions of the piers of the completed wall, sets of pre-formed hollow blocks interposed between said stud-like reinforcements, the end members of each set being concave, abutting against said stud-like reinforcements and defining the pier spaces, concrete filling between the adjacent ends of the sets of blocks, disposed around said stud-like reinforcements and forming therewith continuous piers, horizontal metallic reinforcements extending from pier to pier through the sets of hollow blocks at vertically separated intervals and at their ends embedded in the piers, and the concrete filling occupying the interiors of the hollow pre-formed blocks and forming an internal concrete wall frame extending from pier to pier and monolithically joined with the piers.

4. A composite wall, comprising a series of spaced-apart upright stud-like metallic reinforcements constituting pier-nuclei, located in the laterally outer portions of the piers of the completed wall, sets of pre-formed hollow blocks interposed between said stud-like reinforcements, the end members of each set being concave, abutting against said stud-like reinforcements and defining the pier spaces, concrete filling between the adjacent ends of the sets of blocks, disposed around said stud-like reinforcements and forming therewith continuous piers, horizontal metallic reinforcements extending from pier to pier through the sets of hollow blocks at vertically separated intervals and at their ends embedded in the piers, and the concrete filling occupying the interiors of the hollow pre-formed blocks and forming an internal concrete wall frame extending from pier to pier and monolithically joined with the piers, said horizontal metallic reinforcements being provided with obliquely disposed truss extensions.

5. A composite wall, comprising a series of spaced-apart upright stud-like metallic reinforcements constituting pier-nuclei, sets of pre-formed hollow blocks interposed between said stud-like reinforcements, the end members of contiguous sets being concave and together defining the pier spaces of the wall, and the several blocks being of the full thickness of the wall so that their outer faces constitute the faces of the latter, concrete filling occupying the pier spaces between the adjacent ends of the sets of blocks and disposed around said stud-like reinforcements, and concrete filling occupying the interiors of the hollow pre-formed blocks and forming an internal concrete frame extending from pier to pier and monolithically joined with the piers.

[Claims 6 to 12 not printed in the Gazette.]

969,409. HIGH-VOLTAGE RECEPTACLE AND PLUG. FRANK J. RUSSELL, Brooklyn, N. Y. Filed July 21, 1909. Serial No. 508,853.



1. In an electrical fitting, a receptacle member having a socket, an insulating post located in the socket and having a slot in one end, contacts arranged on opposite sides of the post, a plug member comprising a support having a tongue that engages in the slot of the post, and contact elements carried by the support and coöperating with the contacts of the receptacle member.

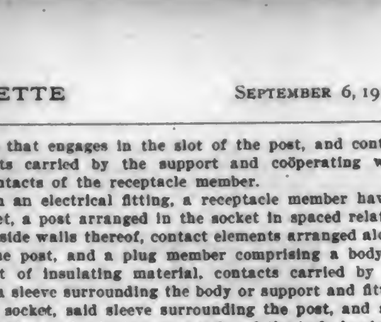
2. In an electrical fitting, a receptacle member having a socket, a post arranged in the socket in spaced relation to the side walls thereof, contact elements arranged alongside the post, and a plug member comprising a body or support of insulating material, contacts carried by the same, a sleeve surrounding the body or support and fitting in the socket, said sleeve surrounding the post, and said post having a slot in its outer end and the body having a tongue that engages in the slot.

3. In an electrical fitting, a receptacle member having a socket, a longitudinally disposed insulating post located in the socket and having a slot in its outer end, contacts arranged on opposite sides of the post, a plug member comprising a support having a tongue that engages in the slot of the post, a guard sleeve that extends into the socket, and surrounds the post, and contact elements carried by the support and coöperating with the contacts of the receptacle member.

4. In an electrical fitting, a junction box having an open side, a receptacle member mounted on the exterior of said junction box and having an angularly disposed socket, a post arranged in the socket in spaced relation to the side walls thereof, contact elements disposed alongside the post, and a plug member comprising a body or support of insulating material, contacts carried by the same, an armor sleeve surrounding the body or support and fitting in the socket, said sleeve surrounding the post, said post having a slot in its outer end and the body having a tongue that engages in the slot, and a bushing arranged in the outer end of the armor sleeve.

5. In an electrical fitting, a receptacle member having a plug-receiving socket and a wall of insulating material arranged within said socket between the receptacle contacts and provided at one end with a groove forming an insulating air gap.

969,410. DEVICE FOR MAKING CONCRETE ROOFING-TILES. FREDERICK C. SCHEIBER, New Douglas, Ill. Filed Nov. 16, 1909. Serial No. 528,421.



1. In a device of the class described, the combination of a frame, guide bars adjustably mounted at the side of said frame; mold supporting bars transversely mounted within said frame; a shaft, a plurality of links for raising and lowering said supporting bars; a mold carried upon said supporting bars; and a scraper slidably mounted upon said guide bars for formulating the tile, substantially as described.

2. In a device of the class described, the combination of a frame, adjustable guide bars mounted at the side of said frame; mold supporting bars transversely mounted within said frame; a shaft, a plurality of connected links for raising and lowering said supporting bars; a mold carried upon said bars; and a scraper slidably mounted upon said guide bars, substantially as described.

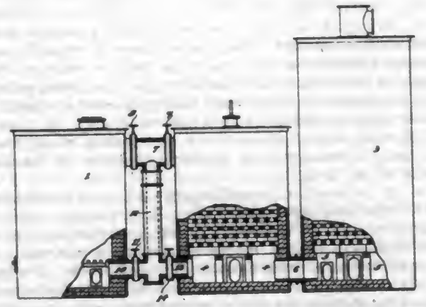
3. In a device of the class described, the combination of a frame; guide bars adjustably mounted at the side of said frame; mold supporting bars transversely mounted within said frame; a shaft for raising and lowering said supporting bars; a mold carried upon said bars; a scraper slidably mounted upon said guide bars; a horizontal and slidably mounted stylus; said mold being provided with a perforation to admit of the passage of said stylus into the mold, substantially as described.

4. A device of the class described comprising a frame; a shaft mounted in said frame; an arm loosely mounted on said shaft; a plurality of links connected to said shaft; a pair of mold-supporting bars slidably mounted in said frame; a mold; the upper faces of the supporting bars contoured to conform with the shape of the mold; a pair of guide bars adjustably mounted to the sides of the frame; a horizontal bar located in the frame; a stylus adjustably mounted on said bar; a toothed washer mounted on the shaft and communicating with and operating the bar in combination with a shaper whose under surface is contoured for the formation of the tile, substantially as specified.

5. A device of the class described comprising a frame, two of the walls of said frame having their upper edges contoured to the formation of the tile to be formed; a pair of slidably mounted mold supporting bars located in the frame; a mold supported on said bars, said bars having their upper surfaces contoured to conform with the shape of the mold and the upper edges of the walls of the frame; an operating shaft; a plurality of links connecting the shaft with the mold supporting bars for raising and lowering the same, together with the mold; a pair of adjustably mounted guide bars; a shaper supported on the guide bars, the under surface of said shaper contoured to conform with the shape of the upper edges of the walls, substantially as described.

[Claim 6 not printed in the Gazette.]

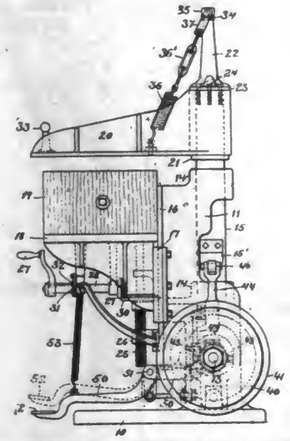
969,411. WATER-GAS APPARATUS. ROBERT M. SEARLE, Mount Vernon, N. Y. Filed Apr. 3, 1906. Serial No. 309,630.



The combination with the generator and the checkerbrick lined superheater of a water gas set of a chamber containing checkerbrick beneath which there is space and said checkerbrick adapted for making oil vapors into fixed oil gas, a gas connection from the top of the generator to said chamber above said checkerbrick for blast gases, a gas connection from the base of the generator through the side wall of said chamber to said space beneath the checkerbrick, and a gas connection from said space beneath said checkerbrick through the side wall of said chamber to the base of the superheater whereby fixed oil gas descending from the checkerbrick of the chamber meets water gas traversing the second mentioned gas connection, substantially as described.

969,412. DIE-PRESS. NELSON H. SEELYE, Winchester, and WILLIAM H. SNEESTON, Somerville, Mass.; said Sneeston assignor to said Seelye. Filed Dec. 29, 1909. Serial No. 535,476.

1. In a die press, a bed and head relatively movable, one toward and from the other, adjustable means for supporting the bed at various distances from the head, an actuator for said adjustable means, said actuator being movable to and from a position under the bed, an abutment under the bed, and a retaining member adapted to coact with said abutment to lock said adjustable means, said retaining member being connected with said actuator to be thereby moved to and from engagement with said abutment.



2. In a die press, a bed, a column, means for reciprocating the column, a head pivotally mounted on the column, and yielding means attached to the head tending to support the head independently of its bearing upon the column.

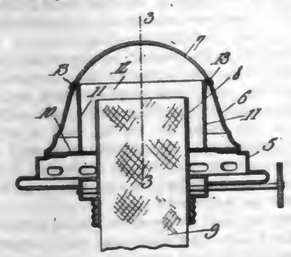
3. In a die press, a bed, a column, means for reciprocating the column, a head pivotally mounted on the column, a swiveled member on the column, and yielding means connecting said member and the head for exerting tension to support the head independently of its bearing upon the column.

4. In a die press, a movable bed, a column, means for reciprocating the column, a clutch for said reciprocating means, a shipper for the clutch, and means movable with the column and adapted to engage and move the shipper to clutch-setting position.

5. In a die press, a horizontal bed, a vertically and horizontally movable head arranged above the bed, yielding means connected to said head at the center of gravity thereof for holding the head away from the bed, and means permitting horizontal movement of the head for depressing the head toward the bed against the tension of said yielding means.

[Claim 6 not printed in the Gazette.]

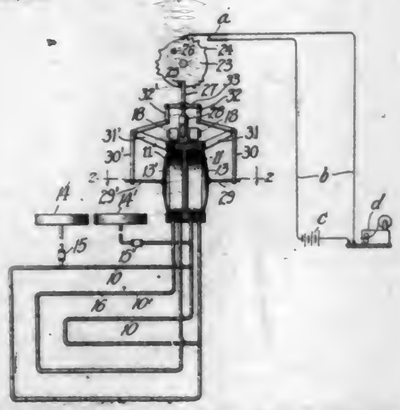
969,413. LAMP-BURNER. THOMAS SHEARER, Toledo, Ohio. Filed Apr. 4, 1910. Serial No. 553,221.



The combination with a lamp burner comprising a base, a foraminous partition therein, a dome over the partition, said dome having a slit, and a wick tube extending through

the partition into the dome; of an air deflector within the dome, said deflector comprising side and end walls surrounding the wick tube in spaced relation therewith, and the top of the end walls having outward bends engaging the wall of the dome at the ends of the slit to close the space between the said walls and the dome.

969,414. ALARM SIGNALING SYSTEM. JOHN E. SHEPHERD, Chicago, Ill. Filed Jan. 13, 1908. Serial No. 410,640.



1. The combination of a piping system, a source of supply of fluid thereto having limited communication with said piping, restricted far below the piping capacity and maintaining the piping under a normal fluid pressure above atmospheric, automatic means, responsive to a predetermined heat, for opening the system to fluid escape in excess of the restricted supply abilities of the source of supply, and means responsive to such decrease as accompanies such opening of the system for initiating a signal.

2. In a duplex alarm system, the combination of two substantially co-extensive piping systems arranged in relation to each other to supervise the same area, each of said piping systems containing a fluid and arranged to respond to the application of the heat of fire by a change of pressure within the system, independent pressure responsive devices for said separate piping systems, each arranged to respond to the change of pressure within its system due to fire, and signaling means arranged for predetermined operation by conjoint action of both of said pressure responsive devices.

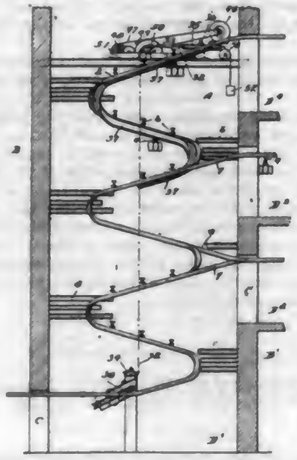
3. The combination of a piping containing fluid under pressure, supply means communicating with the piping for maintaining the pressure within the piping, means for restricting communication between the reservoir and piping, automatically operable to effect such restriction upon sudden increase of pressure within the piping, means for opening the system to permit escape of fluid and consequent reduction of pressure within the system, and signal initiating means responsive to such decrease of pressure in the system to initiate a signal.

4. In a duplex heat responsive alarm system, two independent heat detecting elements each comprising piping containing fluid and indicating means responsive to change in pressure of the fluid within the piping due to the action of fire upon the piping, and a single signal transmitter operatively associated with said indicating means to transmit a signal of one character if either such indicator alone be actuated, and a different character of signal if both be actuated.

5. In a duplex heat responsive alarm system, two independent heat detecting elements, each comprising piping containing fluid, and indicating means responsive to change in pressure of the fluid within the piping due to the action of fire upon the piping, and a single signal transmitter operatively associated with said indicating means to transmit a signal of one character if either such indicator alone be actuated and a different character of signal if both be actuated, and manual means for occasioning a change of pressure in both elements to actuate the signal transmitter.

[Claims 6 to 11 not printed in the Gazette.]

969,415. CONVEYER. MAX SKLOVSKY and GEORGE W. MIXTER, Moline, Ill., assignors to Deere & Company, Moline, Ill., a Corporation of Illinois. Original application filed Dec. 1, 1906, Serial No. 345,963. Divided and this application filed Apr. 27, 1908. Serial No. 429,515.



1. An overhead conveyer comprising a track along which the suspended articles are passed, a branch track arranged to connect with the main track, a switch at the junction of the main and branch tracks comprising a movable section of the main track having one end arranged to swing into alinement with either the main or branch track, and means controlled by a load passing along either the main or branch track for setting the switch, substantially as set forth.

2. An overhead conveyer comprising a main track along which the suspended articles travel, a branch track arranged to connect therewith, a switch at the junction of the main and branch tracks comprising a movable section of the main track having one end arranged to swing into alinement with either the main or the branch track, a lock for holding the switch in line with one or the other of the tracks, and means moved by the switch shifting means for releasing the lock before the switch is moved, substantially as set forth.

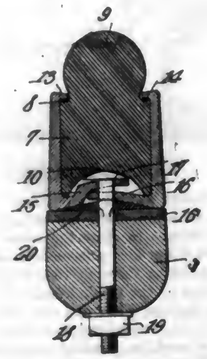
3. An overhead conveyer comprising a main track along which the suspended articles move, a branch track arranged to connect therewith, a switch at the junction of the main and branch tracks comprising a movable section of the main track having one end arranged to swing into alinement with either the main or the branch track, a lock for holding the switch in line with one or the other of the tracks, and means controlled by the passage of a load along one or the other of the said tracks for controlling the said lock and switch, substantially as set forth.

4. An overhead conveyer comprising the main track along which suspended articles move, a branch track connected therewith, a switch at the junction of the said tracks comprising a movable section of the main track having one end arranged to swing into alinement with either of said tracks, a lock for holding the said section in line with one or the other of the said tracks, means controlled by a load passing along one of the tracks for releasing the lock, and lost motion connections between the lock releasing means and the switch section whereby the lock is released in advance of the movement of the switch, substantially as set forth.

5. A gravity conveyer, comprising a main inclined track, branches leading thereto at various levels, switches at the points where the said main line and the branches join, and means controlled by a passing load for setting the switches, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

969,416. ADJUSTABLE RIM AND TIRE. HARRY C. SMITH, Ainsworth, Nebr. Filed May 28, 1909. Serial No. 498,855.



1. In a device of the class described, coöperating tire gripping members, oppositely off-set overlapping tongues carried by the members, and means passing through the tongues and capable of adjustment whereby to rock the members to bring their tire gripping portions into gripping engagement with a tire.

2. In a device of the class described, the combination with a wheel, of tire gripping members disposed against the periphery of the wheel, the said members having overlapping tongues extending across the periphery of the wheel but normally spaced therefrom, and means passing through the said tongues of the members and through the felly of the wheel and capable of adjustment whereby to rock the members to bring their tire gripping portions into gripping engagement with a tire.

3. In a device of the class described, the combination with a vehicle wheel, of coöperating tire gripping members disposed against the periphery of the wheel and having laterally offset tongues overlapping and extending in spaced relation with respect to the said periphery of the wheel, the said tongues being also relatively angularly disposed, and means passing through the tongues and through the felly of the wheel whereby the members may be rocked to bring their tire gripping portions into gripping engagement with a tire.

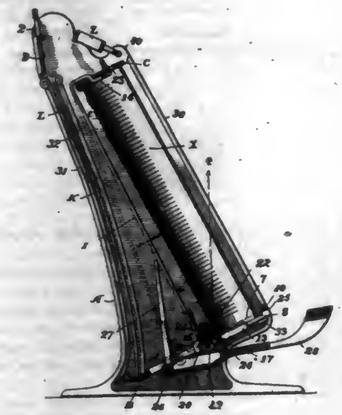
969,417. COIN-CHANGER. WILLIAM H. STAATS, Colonie, N. Y., assignor to Mary L. Staats, Colonie, N. Y. Filed Mar. 22, 1909. Serial No. 485,118.

1. The combination in a coin changer of a suitable frame and a plurality of coin receptacles supported by the frame and having their side walls provided with corrugations for the purpose specified.

2. The combination in a coin changer of a frame having upper and lower plates, and a plurality of receptacles formed by a single strip of metal bent to form parallel channels or gutters the rounded portion of each gutter having corrugations as set forth.

3. The combination in a coin changer of a suitable frame, and a channel-like coin receptacle supported by the frame and inclined rearwardly from its lower to its upper end, the coin engaging surface of said receptacle being transversely corrugated for the purpose specified.

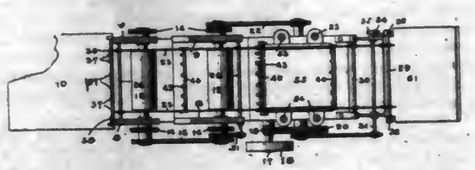
4. The combination in a coin changer of a frame having an upper plate and a lower plate with projections 7, 8, at right angles to each other, and an intermediate plate bent to form gutters and intermediate flat portions 5 each of the latter having a notch 6 at the lower edge to receive one of the projections 7.



5. The combination in a coin changer of a frame having an upper plate, a lower plate provided with a plurality of pairs of upwardly extending projections 7, 8, the member 8 of each pair extending at right angles to and beyond both sides of the projection 7 of the same pair, and an intermediate plate bent to form gutters, the portions of said plate intermediate said gutters being notched to receive the projections 7 and adapted to bear against the projections 8.

[Claims 6 to 18 not printed in the Gazette.]

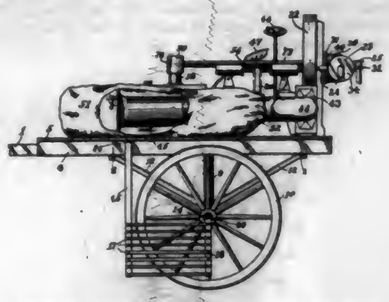
969,418. SECTIONAL COLOR-PRESS AND BLANKER. EDWIN G. STAUDE, Minneapolis, Minn. Filed Oct. 25, 1907. Serial No. 399,185.



1. In a color printing press, the combination, with the printing rolls, of a cutting and creasing mechanism, said rolls operating continuously and said cutting and creasing mechanism intermittently, an endless sheet carrier operating to deliver the sheets to said printing rolls and said cutting and creasing mechanism, and means whereby the movement of said cutting and creasing mechanism may be temporarily arrested, as on the completion of its stroke, without affecting the continuous operation of said printing rolls.

2. In a color printing press, the combination, with a base and printing rolls mounted thereon, of a cutting and creasing mechanism also mounted on said base, an endless sheet carrier operating to advance the sheets through said rolls and cutting and creasing mechanism, an oscillating bar carrying a shaft and sprocket wheels around which said carrier passes, means for allowing said bar to swing inwardly to allow a slack to be formed in said carrier and means for raising said bar to take up the slack in said carrier for the purpose specified.

969,419. COTTON-PICKING MACHINE. HARRY JAMES STOOPS, Houston, Tex. Filed Oct. 9, 1909. Serial No. 521,840.



1. A suction nozzle for cotton picking machines having an annular knife in its outer end.

2. A suction nozzle for cotton picking machines having a detachable annular knife in its outer end.

3. A suction nozzle for a cotton picking machine having an inwardly inclined annular knife at its outer end.

4. A suction nozzle for a cotton picking machine having a bell form mouth and an inclined annular knife extending inwardly as set forth.

5. A suction nozzle for a cotton picking machine having a bell form month provided with an annular exterior flange and a knife having a corresponding flange detachably fastened thereto, said knife being annular and tapering in form and extending back into said mouth so as to present its edge in an inclined position substantially as set forth.

[Claims 6 to 20 not printed in the Gazette.]

969,420. OLEIC-ACID DERIVATIVE OF BODIES OF THE TERPENE GROUP. NATHAN SULZBERGER, New York, N. Y. Filed May 6, 1909. Serial No. 494,413.

1. The menthyl-ester of oleic acid of the nature disclosed, characterized by being a yellowish oil at ordinary temperature, unsoluble in water, derived from oleic acid and menthol, de-composed by the action of caustic alkali and decolorizing bromin water.

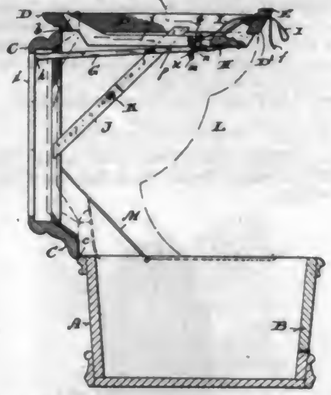
2. Esters of oleic acid with bodies containing an alcoholic hydroxyl belonging to the terpene group of the nature herein disclosed and characterized by being oils of yellowish color at ordinary temperature, unsoluble in water, decomposed by the action of caustic alkali, decolorizing bromin water and derived by chemically combining oleic acid with the alcoholic hydroxyl of a body belonging to the terpene group.

3. Compounds derived by heating oleic-acid chlorid and alcohols belonging to the terpene group, characterized by being oils of a yellowish color, insoluble in water and alcohol, de-coloring bromin, and producing sodium-oleate when treated with caustic soda.

969,421. BURIAL-CASKET. WARREN ESTER SWARTZ, Milwaukee, Wis., assignor to Milwaukee Casket Company, Milwaukee, Wis. Filed Mar. 15, 1909. Serial No. 483,348.

1. A burial-casket having a built up lid comprising a pair of sections in hinge-union and which fold together on the body of the casket to close the same, a valance-support in spring-hinge connection with one of the lid-sections, and means in connection with both lid-sections for holding the one with the valance-support swung up from the other at a right-angle thereto when the casket is open, the other section of said lid being then vertical.

2. A burial-casket having a built-up lid comprising a pair of sections in hinge-union and which fold together on the body of the casket to close the same, a brace-bar having hinge-connection with one lid-section and play-connection with the other lid-section, and a latch in connection with the last named lid-section for engagement of the bar when the casket is open, said lid-sections being then at right-angles to one another.



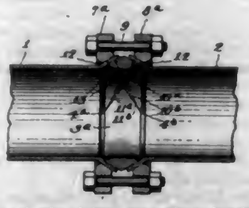
3. A burial-casket having a built-up lid comprising a pair of sections in hinge-union and which fold together on the body of the casket to close the same, a longitudinally slotted brace-bar hinged at one end to one of the lid-sections, a pin extending through the brace-bar slot into a cross-brace portion of the other lid-section, a spring under tension between the brace-bar and the head of the pin, and a latch provided in connection with said cross-brace portion of the last named lid-section to engage said brace-bar when the casket is open, said lid-sections being then at right-angles to one another.

4. A burial-casket having a built-up lid comprising a pair of sections in hinge-union and which fold together on the body of the casket to close the same, a brace-bar having hinge-connection with one lid-section and play-connection with the other lid-section, a latch in connection with the last named lid-section for engagement of the bar when the casket is open, said lid-sections being then at right-angles to one another, and a latch-control device extending through a side bar of the lid-section to which the latch is connected.

5. A burial casket having a built-up lid comprising a pair of sections in hinge-union and which fold together on the body of the casket to close the same, a brace-bar having hinge-connection with one lid-section and play-connection with the other lid-section, a latch in connection with the last named lid-section for engagement of the bar when the casket is open, said lid-sections being then at right-angles to one another, a valance in spring-controlled hinge-connection with the latch-carrying lid-section, and a latch-control device extending through a side-bar of the last named lid-section and the valance.

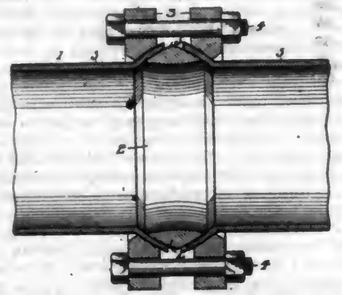
[Claims 6 and 7 not printed in the Gazette.]

969,422. PIPE-JOINT. JULIUS R. TANNER, Pittsburg, Pa., and DANIEL B. BANKS, Baltimore, Md. Filed May 11, 1909. Serial No. 495,309.



In a universal pipe-joint, two pipes having their adjacent ends flared and of uniform thickness, a ring having its external surface constituting two spherical zones whose largest circles are smaller than the greatest circle of their spheres, said ring being seated within and fitting the said flared pipe-ends, a movable clamping ring surrounding the flared end of each pipe, and means for drawing the clamping rings toward each other.

969,423. PIPE-JOINT. JULIUS R. TANNER, Pittsburg, Pa., and DANIEL B. BANKS, Baltimore, Md. Filed Jan. 28, 1910. Serial No. 540,688.

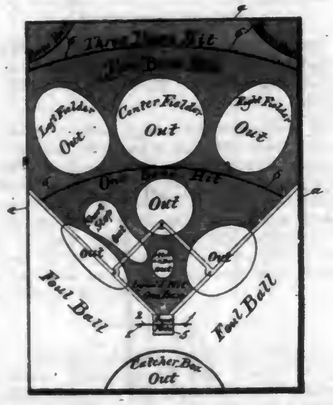


1. In a pipe-joint, means connecting adjacent pipe-ends, an insulating coat between the said connecting means and the pipe-ends, and means on one of the parts of the joint adapted to pass through the said coat and thereby electrically connect the pipe-ends.

2. In a pipe-joint, two pipes having flaring ends, an annular mandrel seated in the flaring ends of the pipe-ends, an insulating coat between the mandrel and the pipe ends, and means for cutting through said coat, whereby the pipe-ends and the mandrel may be electrically connected.

3. In a pipe joint, two pipes having flaring ends provided with cutting projections coated with insulation, an annular mandrel within the flared pipe-ends, and means for causing the projections to cut through the said coat and electrically connect the pipe ends with the mandrel.

969,424. BASE-BALL-GAME BOARD. WILLIAM C. TILMES and FREDERICK G. KALLMEYER, Cincinnati, Ohio. Filed Apr. 30, 1909. Serial No. 493,238.



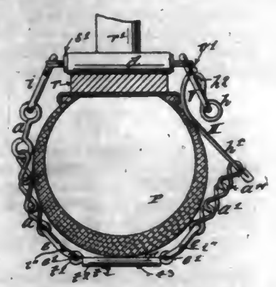
1. A game appliance comprising a board laid off to represent a base-ball field; a missile adapted to be projected upon the board; and a bat supported upon the board and arranged to sweep back and forth over the same to strike the missile to project the same upon the board, said bat being adapted to describe a downward curve in said backward and forward movements, the portion of the board underneath the bat and upon which the missile is placed being concaved to correspond to the curved sweep of the bat.

2. In a base ball game board the combination with the board and missile of a "home plate" upon which the missile is to be placed; a bat; a flexible support for the bat; and means engaged by said flexible support for holding the bat suspended in a vertical position above the center of the "home plate" to swing back and forth across the same, to project the missile therefrom, the top side of the home plate being concaved to correspond to the sweep of the lower end of the bat.

3. In a base ball game board, the combination with the board, of a "home plate;" a bat suspended above the center of the same, the home plate being concaved on its top side to conform to the sweep of the lower end of the bat; and a missile, adapted to be laid on the "home plate" to be driven therefrom by the swinging of the bat, the missile being provided with a plurality of flat faces to cause it to easily lie in any position upon said concaved surface, without rolling toward the center thereof.

4. The combination of a base ball game board having its surface laid off to represent a base ball field; and a missile bounded by flat faces and adapted to be used on said board, the board being subdivided into parts having different values as landing places for the missile, and said subdivisions being separated from each other by a thin boundary of very slight elevation, whereby a spent missile coming to rest partly on one side and partly on the other side of one of said boundary elevations will be invariably tilted to one side or the other, thereby easily determining which portion of the field the missile shall be credited to.

969,425. ANTISKIDDING DEVICE FOR WHEEL-TIRES. PHILIP C. THAYER, Far Rockaway, N. Y., assignor, by direct and mesne assignments, to Pearsall-Traver Manufacturing Company, a Corporation of New York. Filed Sept. 9, 1909. Serial No. 516,829.



1. An anti-skidding device comprising a tread plate, flexible ligatures connected with opposite ends thereof, links elastically connected together and one connected with one of said ligatures, a coupling hook lever, and the other coupling link and coupling hook lever connected to the other ligature, said lever having a bight in which the adjacent connection is loosely movable on the upward movement of the free arm of the lever.

2. An anti-skid device of the character described, consisting of a tread plate, a flexible ligature connecting therewith and connecting it with two coiled metallic springs, a coupling link attached to one spring and formed with a hook for engagement with a loop on the other spring, said coiled metallic springs adapted to extend on opposite sides of a wheel spoke, rubber tubes incasing the said springs, a coupling hook loosely connected with the coupling link and bodily movable therein, and another flexible ligature connected with the tread plate and formed with a loop adapted to engage with the coupling hook on the coupling link, substantially in the manner and for the purpose described.

3. An anti-skid device comprising a tread plate, flexible ligatures connected with opposite ends thereof, a pair of independent springs to extend on opposite sides of a spoke, triangular links connected with the ends of said springs, one of said links being connected with one of said ligatures, and a coupling hook lever linked at one end to the

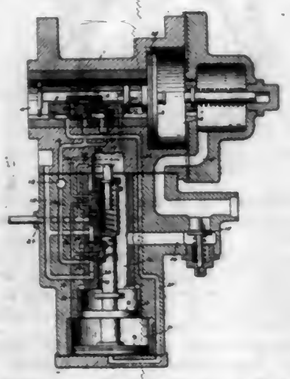
other link and having its free arm passed loosely through a link on the other ligature, said lever having a bight into which the last-named link is placed by the upward movement of the free arm of said lever.

969,426. ANTISKIDDING-DEVICE COUPLING. PHILIP C. TRAVER, Far Rockaway, N. Y., assignor, by direct and mesne assignments, to Pearsall-Traver Manufacturing Company, a Corporation of New York. Filed Sept. 11, 1909. Serial No. 517,301.



The combination of a chain and coupling, said coupling interposed between the two ends of said chain, said coupling comprising a coiled spring having one end attachable to one end of said chain, an outstanding connecting eye secured to said end of the chain, an eye on the opposite end of the spring, an eye on the opposite end of the chain, and a return lever bolt having one end pivotally connected with said eye of the spring and having a bight loosely engaged in the eye at the adjacent end of the chain, the free end of said return lever bolt extending parallel with the spring and beyond the opposite end thereof with its free end engageable in the connecting eye on the end of the chain to which said spring is attached, the said spring and the bight of the return lever bolt being substantially in longitudinal alinement with the two ends of the chain.

969,427. TRIPLE-VALVE DEVICE. WALTER V. TURNER, Edgewood, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Sept. 25, 1908. Serial No. 454,776.



1. In a fluid pressure brake, the combination with a triple valve and brake cylinder, of an emergency valve mechanism comprising valve means for controlling a local brake pipe vent port and an actuating abutment for said valve means comprising differential heads normally subject in one direction to fluid under pressure from the brake pipe and means adapted upon a reduction in brake pipe pressure to vary the fluid pressure on one of said heads and thereby operate said abutment and valve means.

2. A triple valve device comprising valve means for controlling the brake cylinder service port and an actuating piston therefor subject to the opposing pressures of the brake pipe and auxiliary reservoir, and an emergency valve mechanism comprising a valve for controlling a brake pipe vent port and a movable abutment provided with differential heads normally subject in one direction to fluid at substantially brake pipe pressure and means for venting fluid from one head upon a sudden reduction in brake pipe pressure to thereby operate the abutment and said valve.

3. In a triple valve device, an emergency valve mechanism comprising valve means for controlling a local brake pipe vent port, an actuating abutment therefor, comprising differential heads normally subject on one side to fluid at brake pipe pressure and means operating in an emergency application of the brakes for admitting fluid under pressure to one side and releasing fluid under pressure from the opposite side of one head to operate said abutment and valve means.

4. In a triple valve device, an emergency valve mechanism comprising valve means for controlling a local brake pipe vent port, an actuating abutment therefor, comprising differential heads normally subject on one side to fluid at brake pipe pressure and means operating in an emergency application of the brakes for admitting fluid from the auxiliary reservoir to one side and venting fluid from the opposite side of one head to thereby operate said abutment and valve means.

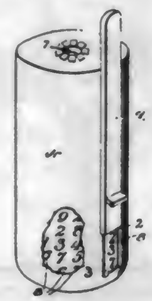
5. In a triple valve mechanism, an emergency valve mechanism comprising valve means for controlling a local brake pipe vent port, an actuating abutment therefor having differential heads both normally subject on one side to fluid at brake pipe pressure and means operating upon a sudden reduction in brake pipe pressure for admitting fluid from the auxiliary reservoir to one side and releasing fluid from the opposite side of one head to thereby actuate said abutment and valve means.

[Claims 6 to 12 not printed in the Gazette.]

969,428. GREENISH-YELLOW DYE. PAUL VOLKMANN, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Dec. 18, 1909. Serial No. 533,876.

The herein described new coloring matter obtainable from phenylhydrasin-ortho-sulfonic acid and dioxytartaric acid, which is in dry state in the shape of its sodium salt a yellow powder soluble in concentrated sulfuric acid with a yellow color; yielding upon reduction with stannous chlorid and hydrochloric acid anilin-ortho-sulfonic acid and 1-ortho-sulfophenyl-3-carboxy-4-amino-5-pyrazolone; and dyeing wool bright greenish-yellow shades, substantially as described.

969,429. EDUCATIONAL DEVICE. JOHN G. WARFIELD, Los Angeles, Cal., assignor of one-fourth to C. R. Harris, Los Angeles, Cal. Filed July 14, 1900. Serial No. 507,590.

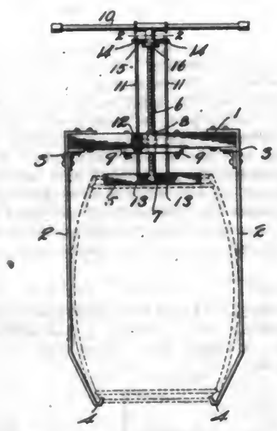


1. An educational appliance comprising an inner and outer member, the outer member having an opening through one end thereof, a shank on the inner member passing through the opening in the outer member for connecting the inner member thereto, whereby the inner member is capable of being rotated within the outer member, said inner member having columns of characters thereon, said outer member having an opening therein for exposing the characters on the inner member, and a slide for varying the amount of exposure of the column on the inner member through the opening in the outer member.

2. An educational appliance comprising inner and outer members having closed upper ends and open lower ends, the outer member having an opening therethrough, a shank on the inner member adapted to pass through the opening in the outer member for connecting the members together whereby the inner member is capable of rotation within the outer member, said inner member having columns of characters thereon, said outer member having a slot therein through which the characters are exposed, and a slide on the outer member for varying the amount of exposure of the column of characters on the inner member through the slot.

3. An educational device comprising inner and outer members having one end open, the inner member provided with columns of characters thereon, the outer member having a slot therein through which the characters are exposed, a slide on the outer member for varying the amount of exposure of the column of characters on the inner member through the slot, and means for rotatably supporting the inner member within the outer member.

969,430. BARREL-HEADER. LOUIS WEINMAN, Atchison, Kans. Filed Apr. 6, 1910. Serial No. 553,787.



In a barrel-heading device, the supporting frame having a frame-bar carrying a nut, the vertically movable clamp piece, a clamping screw working through said nut and swiveled to the clamp-piece, a supporting plate having a swiveled connection with the clamp-screw, and a pair of brace rods connected with said supporting plate at one end and at their other ends rigidly connected with the clamp-piece upon opposite sides of the swivel connection between the same and the screw, said brace rods slidably working through the frame-bar.

969,431. REPAIR-PATCH. THOMAS WHILDE, Bellingham, Wash. Filed Oct. 21, 1909. Serial No. 523,807.

1. A repair patch of the class described consisting of a metal base upon which are laid coats of a gum and of rubber.

2. A repair patch of the class described consisting of tin foil coated with a gum and with rubber.

3. A repair patch of the class described consisting of a base of metal coated with layers of a gum with which alternate layers of rubber.

4. A repair patch of the class described consisting of tin foil upon which are laid alternate layers of a gum and of rubber superimposed on one another.

5. A repair patch of the class described consisting of tin foil coated with gum shellac; the latter being covered with a coat of rubber.

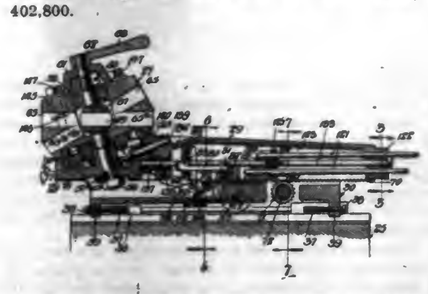
[Claim 6 not printed in the Gazette.]

969,432. COMPOSITION OF MATTER USED AS AN INTERIOR FINISH FOR WALLS OR CEILINGS. WILLIAM H. WHITNEY, Jr., and CHARLES W. GRIFFIN, Brooklyn, N. Y. Filed Apr. 11, 1910. Serial No. 554,646.

1. The herein described composition of matter, consisting of lithopone, zinc oxid, silicate of aluminum, silicate of magnesia, prepared linseed oil, texene, benzin, japan and turpentine substantially as described and for the purpose specified.

2. The herein described composition of matter, consisting of about thirty per cent. liquid and about seventy per cent. pigment, the liquid being composed of about 26.92% prepared linseed oil; 46.15% texene; 15.38% benzin; 7.69% japan and 3.86% turpentine and the pigment being composed of about 67.90% lithopone; 12.34% zinc oxid; 9.89% silicate of aluminum and 9.87% silicate of magnesia.

969,433. TURRET-MACHINE. ALBERT W. WIGGLESWORTH, Chicago, Ill. Filed Nov. 19, 1907. Serial No. 402,800.



1. In a turret machine, a rotative turret provided with a plurality of tool sockets which are inclined with respect to the plane of rotation of said turret and provided with a plurality of radial bores, one in line with each socket, each socket and its associated bore being arranged to provide a straight passage through the turret, for the purpose set forth.

2. In a turret machine, a rotative turret having a plurality of tool sockets inclined with respect to the plane of rotation of the turret, the turret being also provided with a plurality of radial bores, one in line with each socket, the said bores opening into the side of the turret beneath the sockets.

3. In a turret machine, a turret which is rotatively mounted on an axis inclined toward the work and having a plurality of angularly separated upwardly inclined tool sockets, said turret being provided also with a plurality of angularly separated downwardly inclined bores arranged one in axial alinement with each tool socket, each tool socket and its associated bore constituting a straight passage or opening through the turret.

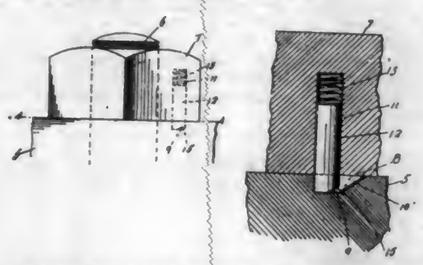
4. In a turret machine, a turret, its reciprocating slide and a shaft carried by the rear end of said slide on which said turret is supported, said turret being inclined rearwardly, the turret being provided with a plurality of radial tool sockets which are inclined upwardly with respect to the plane of rotation of the turret, and provided also with a plurality of radial bores disposed one in alinement with each of said sockets, said shaft being provided within the turret with an inclined opening arranged to aline with each tool socket and its associated bore.

5. In a turret machine, the combination with a rotative turret, its slide and a support on which said slide reciprocates, of a ratchet through the medium of which the turret is intermittently rotated, a pawl pivoted to said support, a

spring acting on the pawl to normally hold the pawl in the path of the ratchet wheel, a spring pressed rod having rotative and sliding engagement with said support and rotatively connected at its inner end with the pawl, and a stop pin on the outer end of the rod adapted to normally engage the bottom of a recess in the outer face of the support to limit the swing of the pawl toward the ratchet wheel, the parts being so arranged that the rod may be drawn outwardly to swing the pawl out of the path of the ratchet wheel and turned to bring the stop pin in cross-wise relation to said recess and thus hold the pawl out of the path of the ratchet wheel.

[Claims 6 to 12 not printed in the Gazette.]

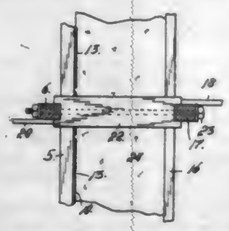
969,434. NUT-LOCK. WILLIAM A. WILT, Tyrone, Pa. Filed Mar. 28, 1910. Serial No. 551,944.



1. In a nut lock a body having a bolt receiving aperture and a plurality of recesses spaced apart and contiguous said aperture, said recesses each having a flat bottom end with one side inclined, a nut adapted to engage the bolt and provided with a socket in its inner face, and a spring controlled pin arranged within the socket and having a beveled end engaging one of the recesses, the said beveled portion of the end of the pin being of less depth than the depth of the recess.

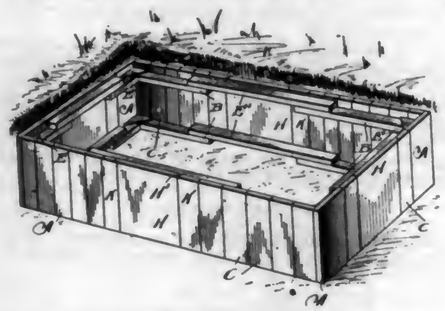
2. The combination with a body having a bolt receiving aperture and a plurality of recesses circumscribing the said bolt receiving aperture, of a bolt passed through the aperture and a nut engageable with said bolt and having a locking pin engageable with one of the said recesses in the body, the said pin being of softer material than either the nut or body, substantially as described.

969,435. FACING-MOLD. NILS F. ADAMSON, Denver, Colo., assignor of one-half to Thomas J. Tully, Denver, Colo. Filed Nov. 30, 1908. Serial No. 465,378.



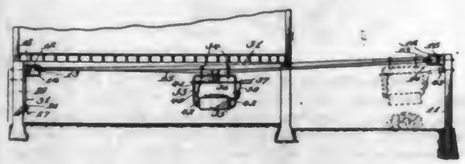
A mold of the character described, composed of two horizontally separated members, one of the said members being composed of sections arranged edgewise one above another, the said sections being of equal width and having recesses formed in their outer surfaces, the said recesses being oblong and vertically disposed, and provided with eyes horizontally anchored within the recesses, and studs vertically arranged edgewise for supporting the said sections, the studs being provided with adjustable and removable retaining bolts for the sections, one end of the said bolts having its end bent at an upward right-angle forming a hook adapted to be inserted in the oblong recess of the sections below the horizontally anchored eye and to be brought within engagement with the eyes as the sections are brought downwardly to rest upon the edge of the preceding sections, and the opposite end of said bolts being threaded and provided with a nut as means of adjusting the same, substantially as described.

969,436. ADJUSTABLE FRAME FOR MAKING CONCRETE RECEPTACLES. HARRY M. AMOS, Lorain, Ohio. Filed Dec. 14, 1909. Serial No. 533,029.



In combination with horizontally disposed beams of mold sections, the under faces of which beams are recessed at their adjacent ends and transversely apertured, extension beams resting upon the upper surfaces of said apertured beams and having holes in their lower faces, bushings seated one in each of said holes, pins passing through the apertures in said beams and provided with heads which are countersunk in the walls of said recesses, the projecting portion of the pins adapted to engage said bushings and bear against the inner ends of the holes against which ends said bushings bear, a plate seated in each of said recesses and bearing against the ends of said heads.

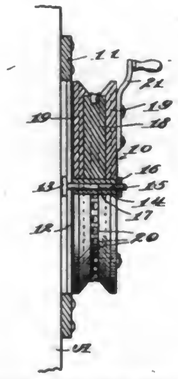
969,437. ELEVATED CARRYING SYSTEM. JOHN N. ANDERSON, Madison, Wis., assignor of one-half to Conrad F. Jordan, Madison, Wis. Filed Nov. 17, 1909. Serial No. 528,517.



1. In a system of the character described, a carrier comprising a roller frame, a bucket mounted therein to rotate, levers pivoted in said frame and engaging said bucket upon opposite sides to hold the same upright, and a longitudinally movable shaft engaging both of said levers, one of said levers having an intermediate pivot, and the other lever having an end pivot, whereby they may be simultaneously disengaged upon movement of said shaft.

2. An elevated carrying system comprising a pair of supporting posts, a trolley wire supported between said posts, a roller frame suspended upon said trolley wire and embodying a bucket mounted therein to rotate, levers pivoted in said frame and engaging said bucket upon opposite sides to hold the same upright, a longitudinally movable shaft engaging both of said levers, one of said levers having an intermediate pivot, and the other lever having an end pivot, whereby they may be simultaneously disengaged upon movement of said shaft in one direction, a spring engaging said shaft in the opposite direction, an operating cable to move said roller frame, a power wheel engaging said cable, and a stop block carried by one of said supporting posts and arranged in the path of the trip shaft.

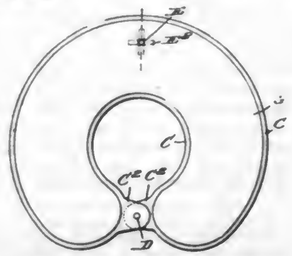
969,438. CABLE-OPERATING DRUM. JOHN N. ANDERSON, Madison, Wis., assignor of one-half to Conrad F. Jordan, Madison, Wis. Filed Mar. 14, 1910. Serial No. 549,130.



1. A cable pulley or drum comprising a core, face plates secured to said core, and a series of studs projecting from said core, the ends of said studs terminating inside the peripheral edge of said face plates.

2. A cable pulley or drum comprising a circular core, enlarged circular flanged face plates secured upon the sides of said core and having their flanges extending partially over the periphery thereof, and a circular series of studs projecting from said core between said flanges and having concave cable-engaging ends.

969,439. POCKET PNEUMATIC CUSHION. CALVERT B. ARCHER, Milford, Mass. Filed June 2, 1908. Serial No. 436,218.

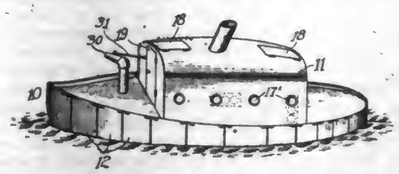


1. A pocket pneumatic cushion formed of two layers of thin, tough, closely woven fabric, cemented together at their edges and coated with a thin water and air tight rubber compounded coating, and provided with an inflating device formed entirely out of flexible non-metallic material and consisting of a soft rubber tube split at one end and having its split portion cemented between two pieces of flexible material, which pieces are in turn cemented to the inner surface of the cushion surrounding the opening for said inflating device.

2. A pocket pneumatic cushion formed of two layers of thin, tough, closely woven fabric, coated with a thin water and air tight rubber compounded coating, and provided with a non-metallic flexible inflating device, said cushion being of the general form of an open annulus, a binding strip connecting the superimposed edges of said layers, tabs formed on said binding and projecting therefrom at the ends of said open annulus, a snap fastener having one end secured to each tab whereby a closed collar adapted to fit the neck of the user may be formed.

3. A pocket pneumatic cushion formed of two layers of thin, tough, closely woven fabric, cemented together at their edges and coated with a thin water and air tight rubber compounded coating, and presenting the general form of an open annulus, a binding strip connecting the superimposed edges of said layers, tabs formed on said binding strip and projecting therefrom at the ends of said open annulus, a snap fastener having one member secured to each tab whereby a closed collar adapted to fit the neck of the user may be formed, an inflating device formed entirely out of flexible non-metallic material, and consisting of a soft rubber tube split at one end and having its split portion cemented between two pieces of flexible material, which pieces are in turn cemented to the inner surface of the cushion surrounding the opening for said inflating device, the said tube being located within reach of the mouth of the user whereby the collar may be inflated without being removed from the neck.

969,440. FIRE-BOAT. CHARLES B. ASKEW, Chicago, Ill. Filed Aug. 31, 1908. Serial No. 450,956.



1. In a fire boat, a cabin, provided with hollow metal walls, means for circulating water through said walls, an hydraulic monitor exterior to said cabin, and means for operating said monitor extending into and operable from said cabin.

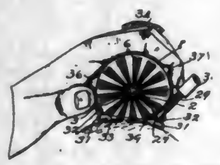
2. In a fire boat, a water-jacketed cabin provided with door-ways in its top, water-jacketed doors for closing said door-ways, and floats within the hull of said boat connected with said doors to automatically open them upon the ingress of a predetermined amount of water into said hull.

3. A boat of the character described, having a cabin provided with a port hole, a frame containing a plurality of transparent closures, and a means for substituting one of said closures for any one of the others in said frame to close said port hole.

4. In a boat of the character described, having a closed fire-proof cabin and a deck, means for directing a stream of water from the deck, and means for controlling said means from the interior of the cabin.

5. In a boat of the character described, having a hull and a closed cabin, doors for closing said cabin, and means within said hull adapted and arranged to cause said doors to open when a predetermined amount of water has been admitted into said hull.

969,441. VACUUM-CLEANER. GEORGE BACKER, Syracuse, N. Y. Filed Feb. 19, 1910. Serial No. 544,771.



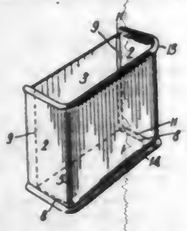
1. In a vacuum cleaning device, the combination of a cylindrical casing, a brush rotatably mounted therein, means for operating said brush, the lower portion of the casing being formed with an elongated opening through

which the bristles of the brush project, a side of the casing at one edge of said opening being formed with a longitudinal recess extending the entire length of the brush and forming an exhaust passage, means for connecting said exhaust passage with a suction device, the inner side of the exhaust passage being deflected inwardly toward the brush so as to engage the end portions of the bristles of the latter during rotation, whereby dirt and foreign matter is cleaned from the brush and exhausted from the casing direct through the exhaust passage aforesaid.

2. In a cleaning device, the combination of a casing, comprising a hollow body provided with an opening at its lower portion, end caps detachably applied to the ends of the body, a hollow brush shaft detachably mounted in said end caps and having its bristles arranged to operate adjacent to the opening aforesaid, a clutch supporting one end of the brush shaft on one end cap, the other end cap having a bearing to receive the other end of the brush shaft, and a motor detachably mounted on the end cap having the clutch, the brush shaft having perforations communicating with the interior of the casing, and one end of said shaft being open.

3. In a cleaning device, the combination of a casing comprising a hollow body provided with an opening at its lower portion, end caps detachably applied to the ends of the body, a hollow brush shaft detachably mounted in said end caps and having its bristles arranged to operate adjacent to the opening aforesaid, a clutch supporting one end of the brush shaft on one end cap, the other end cap having a bearing to receive the other end of the brush shaft, and a motor detachably mounted on the end cap having the clutch, the brush shaft having perforations communicating with the interior of the casing, and one end of said shaft being open, a plug for closing the open end of the brush shaft, the casing being formed at one side of the opening in its lower portion with spaced parts forming an exhaust passage, and one wall of which is arranged in the path of movement of the ends of the bristles, and an apron surrounding the opening at the lower portion of the casing and secured to the casing and to the outer wall of the recess above mentioned.

960,442. FLUSHING-TANK. GEORGE H. BAILEY, Pittsburg, Pa. Filed May 26, 1909. Serial No. 498,535.



1. A flushing or like tank composed of sheet metal having its front and end walls and bottom formed from one sheet, said bottom being integral with one of said walls and having its free edges welded to the others of said walls.

2. A flushing or like tank composed of sheet metal having its front and end walls and bottom formed from one sheet, said bottom being integral with one of said walls and having its free edges welded to the inturned lower edges of the others of said walls.

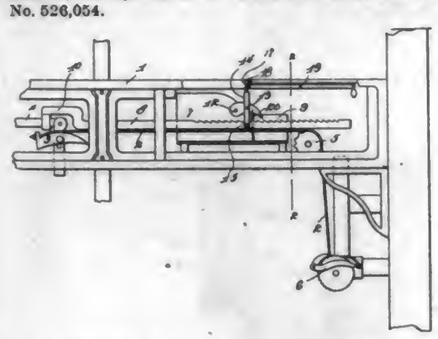
3. A flushing or like tank composed of sheet metal having its front and end walls and bottom formed from a single sheet, said bottom being integral with the front wall and having its ends welded to the lower edges of the end walls.

4. A flushing or like tank composed of sheet metal having its front and end walls and bottom formed from one sheet with the ends of the bottom welded to the lower edges of the end walls.

5. A flushing or like tank composed of sheet metal having its bottom integral with its front wall with the ends of the bottom welded to the lower edges of the end walls and the rear edge of the bottom turned upwardly and welded to the rear vertical edges of the end walls.

[Claims 6 to 13 not printed in the Gazette.]

960,443. LATCH FOR COTTON RING SPINNING AND TWISTING FRAMES. JOHN C. BALLARD and JOHN F. BYNUM, Cherryville, N. C. Filed Nov. 3, 1909. Serial No. 526,054.



1. In a spinning machine, the combination with the traverse bar and the builder chain, of a rack bar carried by said traverse bar, a pawl, and a bar contacting with said chain and adapted to rock said pawl into engagement with said rack bar when said chain breaks.

2. In a machine of the character described, the combination with frame and the traverse bar and the builder chain, of a rack carried by said traverse bar, and means adapted to be actuated by said chain for locking said rack when said chain breaks.

3. In a machine of the character described, the combination with the frame and the traverse bar and the builder chain thereof, a rack carried by said traverse bar, a spring held pawl, and a lever carried by said frame and having an end roller held in contact with said chain, said lever being adapted to be actuated by said chain to hold said pawl disengaged from said rack.

4. In a machine of the character described, the combination with a frame and the traverse bar and builder chain thereof, of a lever having a crank connection with said frame and a bifurcated free end adapted to straddle said chain, a roller in the bifurcated end of said lever, a rack bar carried by said traverse rod, and means operated by said lever for locking said rack bar when said chain breaks.

5. In a machine of the character described, the combination with the frame and the traverse bar and builder chain, of a rack bar carried by said traverse bar, and means operated by the breaking of said chain for automatically locking said rack.

[Claims 6 to 8 not printed in the Gazette.]

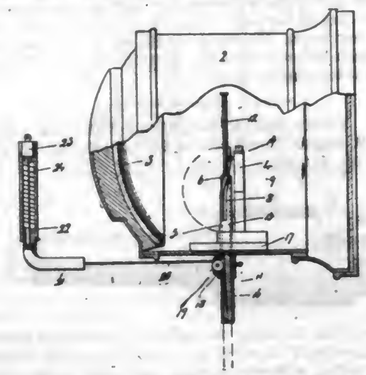
969,444. CENTER-BEARING FOR CARS. JOHN C. BARBER, Chicago, Ill., assignor to Standard Car Truck Company, Chicago, Ill., a Corporation of New Jersey. Filed Feb. 18, 1909. Serial No. 478,686.



1. A center bearing comprising upper and lower roller bearing plates and interposed rollers, one of said bearing plates having a sleevelike hub telescoped through the other bearing plate and provided with a projecting retaining ring or flange holding the said plates interlocked but free for rotation, and an anchoring plate having a sleevelike hub telescoped into the sleevelike hub of the engaged bearing plate, and the sleevelike hub of the said anchoring plate affording an extended bearing for a king bolt or center pin, substantially as described.

2. A center bearing comprising upper and lower center bearing plates and interposed radially disposed rollers, one of said bearing plates having a sleevelike hub telescoped through the other bearing plate and having, also, an outer thrust flange for engagement of the ends of the rollers, the said sleevelike hub having an inwardly extended flange and a retaining ring riveted thereto and serving to hold the said bearing plates interlocked but free for rotation, and an anchoring plate having a sleevelike hub telescoped into the sleevelike hub of said bearing plate, with the passage thereof alined with the passages through said inwardly extended flange and retaining ring, the said alined passages affording an extended seat for a king bolt, or center pin, substantially as described.

969,445. VEHICLE-LAMP. HORACE W. BEEBE, New Haven, Conn. Filed May 2, 1910. Serial No. 558,959.



1. In a lamp, the combination with the burner and reflector, of a tube located between the burner and reflector, said tube being formed with a slot in its front face extending downward on opposite sides, a vertically movable rod in said tube, and two semi-circular disks hinged to said rod, said disks being provided with fingers projecting into said slot.

2. In a lamp, the combination with a burner and reflector, of a tube located between the burner and reflector, said tube formed on its rear face with cam-surfaces and with a groove at the front extending down on opposite sides also forming cam surfaces, a vertically movable rod in said tube, two semi-circular disks hinged to said rod and provided with fingers extending into said groove, a roller mounted adjacent to the tube below the lamp, and a wire or cord passing over said roller and secured to the lower end of said tube whereby said tube may be raised.

3. In a lamp, the combination with a burner and reflector, of a tube located between the burner and reflector, a rod mounted in said tube, semi-circular disks hinged to said rod and adapted to be spread above the burner, a cord secured to the lower end of said rod, a pipe through which said cord extends, a cylinder at the outer end of said pipe, a slide in said cylinder and connected with said cord, and a spring in said cylinder and tending to draw the slide into the cylinder.

969,446. PROCESS OF PRESERVING TIN-WEIGHTED SILK. OLAV BERG and MAX IMHOFF, Paterson, N. J. Filed Feb. 23, 1910. Serial No. 545,354.

1. The method of preserving tin-weighted silk which consists in treating the previously weighted silk with a solution containing a compound of the hydroxylamin type, substantially as hereinbefore described.

2. The method of preserving tin-weighted silk which consists in treating the previously weighted silk with a solution containing hydroxylamin hydrochlorid, substantially as hereinbefore described.

3. The method of preserving tin-weighted silk which consists in treating the previously weighted silk with a one-half per cent. solution of hydroxylamin hydrochlorid, substantially as hereinbefore described.

969,447. FINGER-PIECE EYEGLASSES. EUGENE C. BERNHEIM, Southbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a Corporation of Massachusetts. Filed May 21, 1909. Serial No. 497,376.



1. The combination of the lens, the box connected therewith, the post carried by the box and adjustable vertically, the nose clamp pivoted to the post, and the spring having one end held at the box and the other end in loose engagement with a bearing portion of the clamp, so that the clamp, during its vertical adjustment, will slide along the spring.

2. The combination of the lens, the box connected therewith, the post carried by the box, the nose clamp pivoted to the post, and the vertically adjustable spring, independent of the pivot, having one end stationary and the other in engagement with the nose clamp.

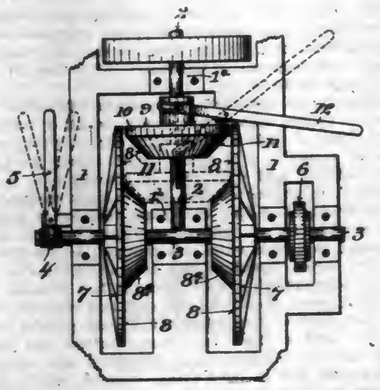
3. The combination of the lenses, the boxes connected therewith, the bridge connecting the two boxes, independently adjustable posts carried by said boxes, nose clamps pivoted to said posts, and vertically adjustable springs engaging said nose clamps.

4. The combination of the lenses, the boxes connected therewith, the bridge connecting the two boxes, independent vertically adjustable posts carried by said boxes, nose clamps pivoted to said posts, and springs attached to the boxes and having a sliding engagement with the nose clamps as the latter are adjusted.

5. The combination of the lens, the box connected therewith and formed as a sleeve the bridge having one end within said sleeve, the post having a vertical member within the sleeve and a horizontal member exteriorly thereof, the nose clamp pivoted to the horizontal post member, and the spring having one end secured within the sleeve and the other in engagement with the nose clamp.

[Claim 6 not printed in the Gazette.]

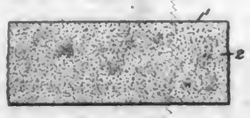
969,448. FRICTION-GEARING. WILLIAM K. BLACKBURN, Milwaukee, Wis. Filed Nov. 5, 1909. Serial No. 526,329.



A frictional gearing comprising a frame having outer and an intermediate bearing, a shaft mounted in the outer

and intermediate bearings, disks secured to the shaft upon opposite sides of the intermediate bearing, means for imparting longitudinal motion to the shaft, the disks being provided with flat working faces and conical faced hubs, a second shaft arranged upon the same horizontal plane as the first named shaft, an outer bearing for the second shaft in the frame, the inner end of the shaft being journaled in the bearing intermediate of the disks, and a conical pulley provided with a peripheral driving face in spline connection with the last named shaft, the peripheral driving face of which pulley is of less diameter than the fixed space between the flat working faces of the disks.

969,449. ADHESIVE SUBSTANCE AND METHOD OF PREPARING THE SAME. PHILIP W. BLAKE, Boston, Mass., assignor to Frederick S. Anable, Boston, Mass. Filed Nov. 28, 1908. Serial No. 464,919.



1. As an article of manufacture, a sheet or strip having applied thereto, an adhesive medium containing surface impressing particles protruding beyond the general level of said applied medium, said particles being provided with an adhesive medium upon their protruding portions.

2. As an article of manufacture, a sheet or strip having applied thereto an adhesive medium containing surface impressing particles, said particles having a coating of said medium upon that portion of their bodies protruding beyond the general level of the adhesive medium.

3. As an article of manufacture a sheet or strip having applied thereto a layer of glue having particles of sand embedded therein and protruding beyond the general level of said layer, said sand particles being provided with a glue coating upon their protruding portions.

4. That method of preparing an adhesive medium which consists in enveloping therein and coating therewith, finely divided solid particles of matter capable of piercing the stripe to which the adhesive medium is to be applied in use, whereby the coating medium is thereby conveyed through said pierced surface and into the substance therebeyond.

5. The method of uniting two surfaces which consists in interposing between them an adhesive medium containing surface-piercing particles serving to penetrate at least one of said surfaces, thereby conveying said adhesive through said surface or surfaces and introducing it into the substance of one or both of the materials whose surfaces are to be united.

[Claims 6 and 7 not printed in the Gazette.]

969,450. AZO DYE. AUGUST BLANK and KARL HEUSNER, Leverkusen, near Cologne, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Dec. 17, 1909. Serial No. 533,701.

1. The herein described azo-dyestuffs obtainable from the above defined tetrazo compounds, which dyestuffs are in the shape of their alkaline salts dark powders soluble in water generally with a blue color, soluble in concentrated sulfuric acid with from a greenish-blue to dark blue color; dyeing cotton from blue to black shades, which can be developed on fiber with diazo compounds generally black shades fast to light being obtained which can be discharged to a pure white, substantially as described.

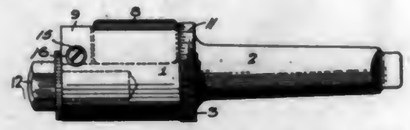
2. The herein described azo dyestuff obtainable from para-aminoacetanilid, 2.5.7-aminonaphthol-sulfonic acid, 1.8.4.3-aminonaphthol disulfonic acid and resorcin, which is in the shape of its sodium salt a dark powder soluble in water with a blue color, dyeing cotton blue shades, which can be combined with diazotized para-nitranilin black shades fast to light being obtained, which can be discharged to a pure white and yielding upon reduction with stannous chlorid and hydrochloric acid para-phenylenediamin, 2.6-diamino-5-naphthol-7-sulfonic acid, aminoresorcin and 1.2-diamino-8-naphthol-4.6-disulfonic acid, substantially as described.

969,451. PACKING-PAD. HERBERT J. BLOCKI, Sheboygan, Wis. Filed Feb. 26, 1910. Serial No. 546,200.



As an article of manufacture, a packing pad consisting of a fibrous filler of excelsior or the like material, and a paper wrapper therefor permeated with a wax-like coating of paraffin or the like material, said coating extending from near one edge of the paper wrapper to near the other edge thereof, leaving an untreated margin at the meeting edges of the paper wrapper, and said meeting edges of the paper wrapper being glued together.

969,452. TOOL FOR FINISHING BEARINGS. THADDEUS M. BOGGS, Monongahela, Pa. Filed May 14, 1908. Serial No. 432,826.



1. A tool for finishing the interior of bearings and the like, comprising a mandrel, an eccentric portion thereon, a roller having a smooth surface adapted to compact the bearing surface, and a roller carrier fitting the eccentric portion and adjustable angularly to thereby move the roller radially with reference to the axis of the mandrel.

2. A tool for finishing the interior of bearings and the like, comprising a mandrel provided with an eccentric journal portion rigid therewith, a sleeve fitting said eccentric journal portion, a substantially cylindrical roller carried by said sleeve, and means for adjusting said sleeve angularly on said journal portion.

3. A tool for finishing the interior of bearings and the like, comprising a mandrel provided with an eccentric journal portion, a sleeve on said journal portion, a substantially cylindrical roller carried by said sleeve, means for adjusting the sleeve angularly on said journal portion, and means for clamping the same in its adjusted position.

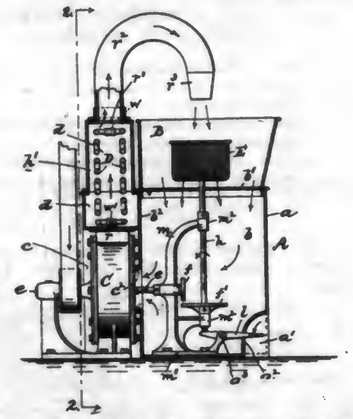
4. A tool for finishing the interior of bearings and the like, comprising a mandrel, an eccentric journal portion thereon, a sleeve fitting said journal portion and adjustable angularly thereon, said sleeve being provided with a slot therethrough, and a roller seated in said slot and bearing against the eccentric journal portion.

5. A tool for finishing the interior of bearings and the like, comprising a mandrel provided with a disk, a journal projecting from the disk with its axis eccentric to the axis of the mandrel, a sleeve on said eccentric journal and having a slot extending from one end through to its bore but leaving the other end solid, a roller bearing against the eccentric journal portion in said slot between said solid end of the sleeve and disk on the mandrel, and means for clamping the sleeve in different angular positions.

[Claim 6 not printed in the Gazette.]

969,453. MACHINE FOR DRYING JEWELRY, &c. FRANCIS P. BOLAND, Providence, R. I. Filed Apr. 25, 1910. Serial No. 557,326.

1. A drying-machine of the general character described, the same including in its construction the combination of a hollow body member or casing provided with a work container or holder and a chamber therebelow in open communication with it, an air-heating compartment located contiguous to but separated from said chamber, means for heating the air in said compartment, means interposed between the compartment and said chamber for drawing or sucking air from the latter and forcing it into the heating compartment, and means for conducting heated air from the latter and discharging it into the said container.



2. In a drying-machine of the character described, the combination of a main casing or body provided at the top with a container or work holder, a spent-air chamber located below and communicating with the container, an air-heating compartment adjoining said chamber arranged to discharge heated air into the container, a recess formed in one side of the casing, its walls or partitions separating it from the spent-air and heating chambers, and a power blower located in said recess and being in communication with both the said chambers.

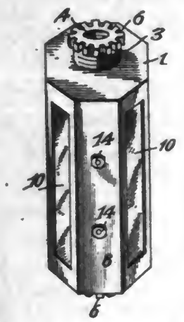
3. In a drying-machine of the character described, a hollow body member having an air-receiving chamber, and a power-blower communicating with said chamber, in combination with means for conducting air under pressure from the blower and discharging it into said chamber, a revolubly mounted work-holding element or container located with respect to the discharge end of said air-conducting means and air-chamber, and mechanism actuated by the blower for rotating the said work-holding element.

4. In a drying-machine of the character described, a hollow body member having an air-receiving chamber, an air-heating chamber, and a power-blower communicating with said chambers, in combination with a revolubly mounted receptacle adapted for holding the work or articles to be treated or dried, mechanism actuated by the blower for rotating the work-holder, manually actuated means for controlling the movements of the holder, and a pipe for conducting air from said heating-chamber and discharging it into the work-holder and air-receiving chamber.

969,454. WATER-GAGE. HENRY BOUSHEAR, Fort William, Ontario, Canada. Filed Oct. 26, 1909. Serial No. 524,633.

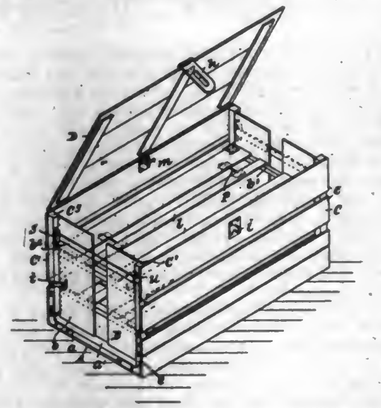
1. In an indicator of the class described a housing provided with a plurality of side openings, said casing lined with packing, plates positioned within said casing and adapted to close said side openings, clamp devices positioned within said housing and engaging said glass plates for holding the same firmly within said openings, and bolts passing through said clamp devices and housing for firmly holding the clamp devices in engagement with said glass plates.

2. A device of the class described comprising a housing, said housing provided with a plurality of side openings, glass plates closing said openings and allowing the interior of said housing to be viewed from the outside, clamp devices substantially right angular in cross section engaging said glass plates, bolts passing through said clamp devices and housing and provided with threaded outer



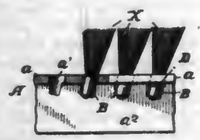
ends extending outside of said housing, and a nut threaded upon the threaded end of each of said bolts and adapted to firmly clamp the clamp devices in engagement with the glass plates.

969,455. FOLDING CRATE OR CASE. AARON BRAEN, North Paterson, N. J. Filed May 29, 1909. Serial No. 499,208.



A crate or case consisting, in combination, of a bottom section, comprising a bottom wall, end walls hinged to the bottom section and foldable over the bottom wall thereof, side walls pivoted in the bottom section and foldable inwardly, means for connecting said side walls and end walls together at their joints when in their elevated position, and extensible shelves carried by the side walls and foldable against the same, substantially as described.

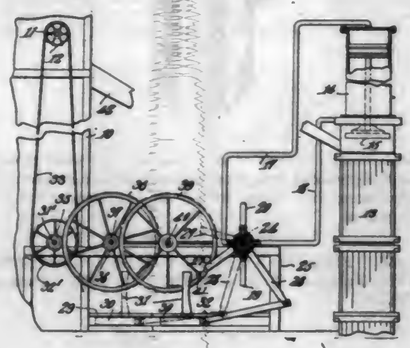
969,456. BRUSH. THOMAS BRANTLEY, Albany, Ga., assignor to Southern Machine Works, Albany, Ga., a Corporation of Georgia. Filed May 27, 1909. Serial No. 498,629.



A brush bar, a flange on one edge of said bar, said bar being provided with a groove having an abutment at one

end and extended at the other end through said flange to form a hole therein, a ferrule resting on said abutment, and extending along said groove and into said hole, a tuft of bristles carried by said ferrule, said ferrule being creased below said flange whereby the bristles are firmly clamped within said ferrule and projections are formed on said latter which are in engagement with the lower side of said flange thereby holding all the parts firmly together.

969,457. VALVE-OPERATING MECHANISM FOR PRESSES. JOSEPH R. BROWNING, Springhill, La. Filed June 25, 1908. Serial No. 440,415.



1. In a device of the kind described, a valve, a valve stem, a rotating member, means to rotate said member, a rocker arm connected to the valve stem and adapted to line in the path of the rotating member, and means connected to the rocker arm to replace said rocker arm when moved out of the path of said rotating member.

2. In a device of the kind described, a frame, a valve adjacent the frame, provided with a stem carried by the frame, an oscillating element rigidly connected to the valve stem, a reciprocating element slidably mounted on the frame, a rotating member, and a connection between the oscillating and reciprocating elements to cause these elements to alternately move in and out of the path of the rotating member.

3. In a device of the kind described, a frame, a valve provided with a stem, and means for operating said valve at predetermined intervals comprising a gear train mounted on the frame, means to operate said gear train, a pin projecting laterally from one of the gears, a two-armed rock lever mounted on the valve stem one arm of which has a path intersecting the path of said pin, a guide on the frame, a cross head held to move in the guide, a pitman connecting the second arm of the rock lever and the cross head, and an upwardly projecting cross head arm having a path intersecting that of the pin.

4. In a device of the kind described, a cylinder provided with a piston therein and rod projecting therefrom, a valve casing, a 4-way valve provided with a stem held in said casing, pipes connecting said casing with the upper and lower ends of said cylinder, a steam supply pipe connected to said casing, an exhaust pipe connected to the casing, and means for operating said valve at predetermined intervals comprising a frame, a gear train mounted thereon, means to operate said gear train, a pin projecting laterally from one of the gears, a two-armed rock lever mounted on the valve stem one arm of which has a path intersecting the path of said pin, a guide on the frame, a cross head held to reciprocate in the guide, a pitman connecting the second arm of the rock lever and the cross head, and an upwardly projecting cross head arm having a path intersecting that of the pin, said cross head arm and rock lever arm being arranged to move alternately in and out of the path of said pin.

969,458. CHEWING-GUM. ORLANDO J. BUCK, Chicago, Ill. Filed Oct. 19, 1908, Serial No. 458,369. Renewed July 22, 1910. Serial No. 573,286.

1. As a new article of manufacture, chewing gum comprising as ingredients, neutral asphalt, a tempering gum and oleaginous softener, in suitable proportions.

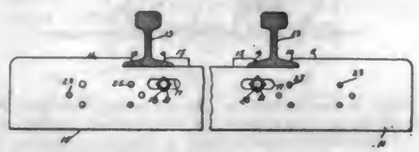
2. As a new article of manufacture, chewing gum comprising as ingredients, neutral asphalt, a tempering agent having mastic qualities, oleaginous softener and sugar, in suitable proportions.

3. As a new article of manufacture, chewing gum comprising as ingredients neutral asphalt, gum chuca, oil and sugar.

4. As a new article of manufacture, chewing gum comprising as ingredients, neutral asphalt, gum chuca, animal fat, lacteal fluid and sugar.

5. As a new article of manufacture, chewing gum comprising as ingredients, natural, substantially tasteless and odorless asphalt, tempering gum having mastic qualities, oleaginous softener, sugar and flavoring in suitable proportions.

969,459. RAILWAY-TIE. BENJAMIN F. CAMPBELL, Placerville, Colo. Filed Jan. 18, 1910. Serial No. 538,623.



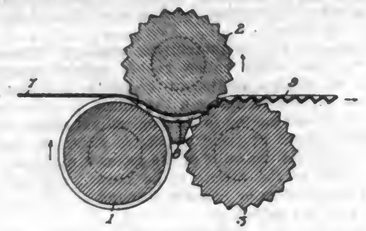
1. A railway tie comprising a body having spaced vertical sides and with upwardly directed projections near their ends, said projections overhanging at their inner ends, U-shaped clamp members slidable between the sides of said body and with upward projections overhanging at their inner ends, said overhanging portions adapted to bear over the base flanges of the rails, tie bars extending between the sides of the said body, tie bars extending between the sides of said clamp members, and clamp bolts operating through the tie bars of the body and the adjacent tie bar of the clamp members.

2. A railway tie comprising a body having spaced vertical sides with longitudinal slots and provided with upwardly directed projections near their ends, said projections overhanging at their inner ends, U-shaped clamp members slidable between the sides of said body and with upwardly directed projections overhanging at their inner ends, said overhanging portions adapted to bear over the base flanges of the rails, tie bars extending between the sides of said body, tie bars extending between the sides of said clamp members, clamp bolts operating through the tie bars of said body and the adjacent tie bars of the clamp members, and clamp bolts operating through the sides of said clamp members and through the slots of said body.

969,460. SHEET-EMBOSSING MILL. VICTOR CHARTENER, Pittsburg, Pa., assignor of one-fourth to Joseph Ramsey, Pittsburg, Pa., and one-fourth to Emil Burcik and one-fourth to William Stark, Knoxville, Pa. Filed Nov. 1, 1909. Serial No. 525,704.

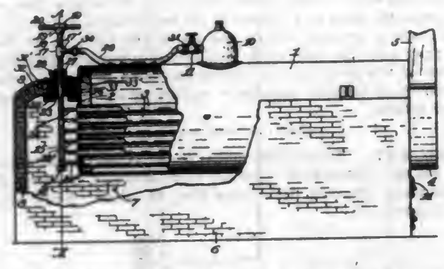
1. In a sheet forming machine, a die having its surface bearing configurations like the finished article, a second die coöperating with the first die and having its surface bearing the configuration of the finished article in one direction, and a third die coöperating with the first die and having its surface bearing configuration extending across the configurations made by the second die.

2. In a sheet forming machine, a die having intersecting grooves, a second die coöperating therewith and having ribs adapted to the groves which run in one direction, and a third die coöperating with the first die and having



ribs adapted to the grooves which cross the last named grooves.

969,461. BOILER-FLUE CLEANER. ALEXANDER CONNOR, Montezuma, Ind. Filed Mar. 25, 1910. Serial No. 551,553.



1. A boiler-flue cleaner including a steam-head comprising a main pipe section, nozzles attached to the pipe section, a cap on one end of the pipe section, a pipe-tee secured to the opposite end of the pipe section, a relatively short pipe section secured to the pipe-tee in alinement with the main pipe section, a tee-fitting secured to the short pipe section and having a closure therein closing the end of the pipe section, and a handle in the tee-fitting.

2. A boiler-flue cleaner including a guide-head, and a steam-head comprising a main pipe section extending through the guide-head, nozzles attached to the pipe section, a cap on one end of the pipe section, a pipe-tee secured to the opposite end of the pipe-section, a relatively short pipe section secured to the pipe-tee in alinement with the main pipe section, a tee-fitting secured to the short pipe section and having a closure therein closing the end of the pipe section, and a device connected to the main pipe section and coöperating with the guide-head to support the steam-head in vertical position.

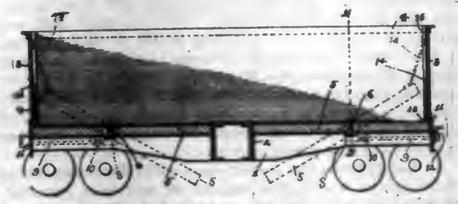
3. A boiler-flue cleaner including a pair of horizontal guide-bars, a guide-head movable on the guide-bars and having a vertical guide-opening therein, a hollow steam-head extending vertically through the guide-opening and having nozzles on the lower portion thereof below the guide-head and an inlet opening in the side of the upper portion thereof above the guide-head, a handle-bar connected to the upper end of the steam-head, and a device connected to the steam head and coöperating with the guide-head to support the steam-head in vertical position.

4. In a boiler-flue cleaner, the combination with a flue-boiler, and the rear wall of the boiler-setting, of a roof-wall at the rear end of the flue-boiler having a slot therein parallel to the end of the boiler provided with a pair of guide-bars that extend in opposite sides of the slot and also upon the roof-wall, a guide-head movable upon and between the guide-bars and having a vertical guide-opening therein, a hollow steam-head extending vertically through the guide-opening and having nozzles on the lower portion thereof spaced opposite the ends of the flues of the boiler in vertical rows for directing blasts through all the flues in either vertical row simultaneously, and a device connected to the steam-head and coöperating with the guide-head to support the steam-head in vertical position.

5. In a boiler-flue cleaner, the combination with a flue-boiler, and the rear wall of the boiler-setting, of a roof-wall at the rear end of the flue-boiler having a slot therein parallel to the end of the boiler provided with a removable cover, a pair of guide-bars in opposite sides of the slot, and a portable steam-head insertible in or removable from the slot when the cover thereof is removed, the steam-head carrying a guide-head that is freely insertible between or removable from between the guide-bars and having nozzles thereon that are spaced to correspond with the spacing of the flues in the boiler in vertical rows, and a device for adjustably connecting the guide-head to the steam-head.

[Claim 6 not printed in the Gazette.]

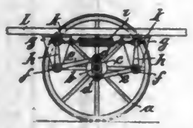
969,462. DUMP-CAR. RODERICK W. DAVIES, Columbus, Ohio, assignor of one-half to Wilson K. Doty, Columbus, Ohio. Filed Oct. 11, 1909. Serial No. 522,166.



1. In a dump car, the combination with a car body comprising an under framework having a central, transversely disposed sill, of a floor section located upon each side of said sill and extending from said sill to the end of the car, each of said floor sections being pivoted to tilt intermediate its ends, means for tilting said sections, filling plates hingedly connected at the outer end of each of the floor sections and adapted to frictionally engage the adjacent car wall, vertical guide strips secured to the side walls of the car, and spaced from the end walls thereof, said strips extending but a short distance beyond the side walls of the car, and extensions carried by said filling plates which enter the spaces between said guide strips and the end walls of the car.

2. In a dump car, the combination with a car body comprising an under-framework and side and end walls, of floor sections each having a pivotal support in the car framework at a point intermediate its ends, a worm wheel carried by the pivot member of each of said floor sections, an operating rod for each of said sections, and a worm carried by said rod which engages said worm wheel.

969,463. SPRING SUSPENSION DEVICE FOR VEHICLES. KARL EDMUND DEUSSEN, Berlin, Germany. Filed Apr. 8, 1910. Serial No. 554,115.



1. In a vehicle, the combination with the frame and a wheel axle of a rotatable bearing on said axle, two levers one arranged on each side of said axle, each lever having one end pivoted to said frame, while the other ends are pivoted at diametrically opposite points to said bearing, so that, when the distance between said frame and said axle is diminished, said levers are caused to rotate in opposite directions, and elastic means for simultaneously controlling to an equal degree the rotation of each of said levers.

2. In a vehicle, the combination with the frame and a wheel axle of a rotatable bearing on said axle, two levers, one arranged on each side of said axle, each lever having one end pivoted to said frame, while the other ends are pivoted at diametrically opposite points to said bearing, so that, when the distance between said frame and said axle is diminished, said levers are caused to rotate in opposite directions, and adjustable elastic means for simultaneously controlling to an equal degree the rotation of each of said levers.

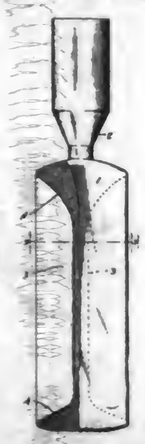
3. In a vehicle, the combination with the frame and a wheel axle of a rotatable bearing on said axle, two levers, one arranged on each side of said axle, each lever having one end pivoted to said frame, while the other ends are pivoted at diametrically opposite points to said bearing, so that, when the distance between said frame and said axle is diminished, said levers are caused to rotate in opposite directions, elastic means for simultaneously controlling to an equal degree the rotation of each of said levers, and means for varying the leverage of said elastic means.

4. In a vehicle, the combination with the frame and a wheel axle of a rotatable bearing on said axle, two levers, one arranged on each side of said axle, each lever having one end pivoted to said frame, while the other ends are pivoted at diametrically opposite points to said bearing, so that, when the distance between said frame and said axle is diminished, said levers are caused to rotate in opposite directions, adjustable elastic means for simultaneously controlling to an equal degree the rotation of each of said levers, and means for varying the leverage of said adjustable elastic means.

5. In a vehicle, the combination with the frame and a wheel axle of a rotatable bearing on said axle, two bell-crank levers, one arranged on each side of said axle and pivoted to said frame, one arm of each lever being pivoted to said bearing at points equidistant from the center thereof and diametrically opposite, so that, when the distance between said frame and said axle is diminished, said levers are caused to rotate in opposite directions and a spring device connecting the other arms of said levers and adapted to restrain the rotation of said levers.

[Claims 6 and 7 not printed in the Gazette.]

969,464. APPARATUS FOR FORMING HOT-WATER BAGS AND OTHER HOLLOW RUBBER ARTICLES. GEORGE D. FARNAM, Akron, Ohio, assignor to Star Rubber Company, Akron, Ohio, a Corporation of Ohio. Filed June 8, 1909. Serial No. 500,991.



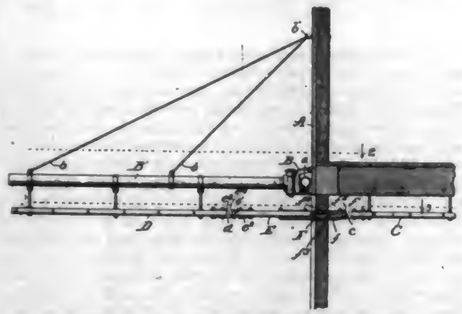
1. Apparatus for the manufacture of seamless rubber hot-water bags and other hollow rubber articles comprising a former of the size and shape to produce a portion of the article and having in its longitudinal edges, grooves or recesses closed at their respective ends, the surfaces of the former and the walls of the recesses together equaling the area of the article to be formed and the end-walls of the grooves or recesses forming a portion of the end-walls of the article.

2. Apparatus for manufacturing seamless rubber hot-water bags and other hollow rubber articles comprising a former on which a portion of the article is formed of a size to be withdrawn through the filling or inlet-opening of the article and having in its longitudinal edges, grooves or recesses closed at their respective ends, the surfaces of the former and the walls of the recesses together equaling the area of the article to be formed and the end-walls of the grooves or recesses forming a portion of the end-walls of the article.

3. Apparatus for manufacturing seamless hot-water bags and other hollow rubber articles comprising a former having grooves or recesses with closed end formed therein, the surfaces of the former and walls of the recesses together equaling the area of the articles to be formed and the end-walls of the grooves forming a portion of the end-walls of the article.

4. Apparatus for manufacturing seamless hot-water bags and other hollow rubber articles comprising a former having flat sides and formed in its longitudinal edges with recesses or grooves having end-walls, the surfaces of the former and the walls of the recesses together equaling the area of the article to be formed and the end-walls of the grooves or recesses forming a portion of the end-walls of the article.

969,465. SWINGING TRACK AND SUPPORTING-BOOM THEREFOR. HENRY L. FERRIS and HOWARD J. FERRIS, Harvard, Ill. Filed Feb. 25, 1910. Serial No. 545,801.



1. The combination with a door-hanger track, of a bracket arched to straddle the same, a boom pivoted to the bracket, a stationary track, a track carried by the boom, and means of connection between the two tracks.

2. The combination with a pivotally supported swinging boom, of a stationary track and a boom-carried track, terminating at the two sides of the vertical line of the boom-pivot, and a telescoping track connecting said two tracks.

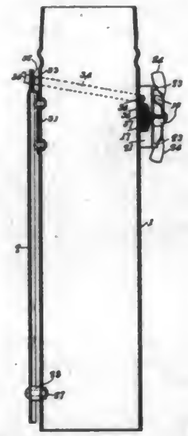
3. The combination with a pivotally-supported swinging boom, of a stationary track and a boom-carried track, terminating at the two sides of the vertical line of the boom-pivot, and a telescoping track, connecting said two tracks, and removable from place therebetween.

4. The combination with a pivotally-supported swinging boom, of a stationary track and a boom-carried track, terminating at the two sides of the vertical line of the boom-pivot, an intermediate track, and a telescoping-member slidable therein, the intermediate track and telescoping-member having pivotal connections with the stationary track and boom-carried track respectively.

5. The combination with a pivotally-supported swinging-boom, of a stationary track and a boom-supported track, an intermediate track, pivotally connected to one of said tracks and composed of two angle-irons, having horizontal flanges outwardly turned and a telescoping-member having flanges at the bottom, immediately below and forming practical continuations of the flanges of the intermediate track, a central web between the members of the intermediate track, and flanges above the vertical portions of the intermediate track, whereby the telescoping-member is guided slidably between the parts of the intermediate track.

[Claims 6 to 12 not printed in the Gazette.]

969,466. SAFETY DEVICE FOR HEATERS. IRA FILSON, Springfield, Ohio. Filed Nov. 6, 1907. Serial No. 401,007.



1. In a device of the character described, the combination, with a thermostat comprising a plurality of members, each member being provided with a part having a slot therein, one of said members being adapted to expand to a greater extent than the other and having its slotted portion movable relatively to the other member, a lever extending through said slots fulcrumed on one of said members and adapted to be engaged by the other, whereby the unequal expansion of said members will move said lever about its pivotal center, and means controlled by the movement of said lever for closing an electric circuit.

2. In a device of the character described, the combination, with a pipe having a part provided with a slot, a member secured to the outer wall of said pipe and having a slot therein, a lever extending through the slots in the part carried by said pipe and in said member and adapted to be engaged by the walls of said slots, of a contact finger adjustably mounted near the end of said lever.

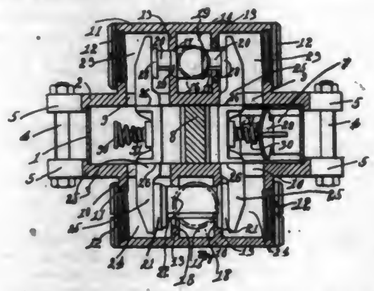
3. In a device of the character described, the combination, with a pipe having a part provided with a slot, a bar connected at its lower end to said pipe, spaced some distance therefrom and having a slot near the upper end thereof, a lever extending through the slots in the part carried by said pipe and in said bar and fulcrumed on the wall of one of said slots and adapted to be engaged by the wall of the other slot, and a contact arm adjustably mounted on the wall of said pipe and adapted to be engaged by said lever.

4. In a device of the character described, the combination, with a stove pipe, a lever carried thereby, and means controlled by the variation of the heat in said pipe for actuating said lever, of a plurality of contact arms connected with an electric circuit and pivotally mounted on said pipe intermediate their ends, each having one end extending adjacent to said lever, and stops adapted to engage the other ends of said arms to retain the same in their adjusted positions.

5. In a device of the character described, the combination, with a stove pipe, a lever carried thereby, and means controlled by the variation of the heat in said pipe for actuating said lever, of a plurality of contact arms connected with an electric circuit, pivotally connected to said pipe and having their outer ends extending on opposite sides of said lever, a plate secured to said pipe, and a plurality of stops carried thereby and adapted to be engaged by the inner ends of said pivoted arms.

[Claims 6 to 11 not printed in the Gazette.]

969,467. MOTOR. WILLIAM V. FRANK, Springfield, Ohio. Filed Mar. 14, 1910. Serial No. 549,230.



1. In a motor of the character described, the combination, with a motor casing comprising a cylinder and cylinder heads, said cylinder heads having openings therein, and a piston mounted in said casing, of valves mounted on the exterior of said cylinder heads and arranged to control the flow of fluid through the respective openings.

2. In a motor of the character described, the combination, with a motor casing having openings therein, supplemental casings mounted on said motor casing and inclosing said openings, and a piston mounted within said casing, of valves mounted wholly on the exterior of said motor casing, within said supplemental casings, and arranged to control the flow of fluid through the respective openings, and valve shifting members actuated by said piston for controlling the positions of said valves.

3. In a motor of the character described, a motor casing comprising a cylinder and cylinder heads, a shaft journaled in said cylinder heads, a piston carried by said shaft, an abutment arranged between said shaft and the wall of said cylinder, one of said cylinder heads having openings therein on opposite sides of said abutment, valves for controlling the flow of fluid through said openings, the other of said cylinder heads also having an opening therein, and means for controlling the flow of fluid through said opening.

4. In a motor of the character described, the combination, with a motor casing comprising a cylinder and cylinder heads, of a shaft journaled in said cylinder heads, a piston carried by said shaft, an abutment arranged between said shaft and the wall of said cylinder, said cylinder heads each having openings therein arranged on the opposite sides of said abutment, and valves for controlling the flow of fluid through said openings.

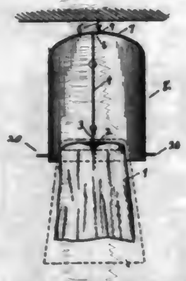
5. In a motor of the character described, the combination, with a motor casing comprising a cylinder and cylinder heads, of a shaft journaled in said cylinder heads, a piston carried by said shaft, an abutment arranged between said shaft and the wall of said cylinder, said cylinder heads each having openings therein arranged on the opposite sides of said abutment, valves for controlling the flow of fluid through said openings, and means actuated by the movement of said piston for controlling the positions of said valves.

[Claims 6 to 12 not printed in the Gazette.]

969,468. GARMENT-RECEPTACLE. CHARLOTTE GOLDBERG, Chicago, Ill. Filed Nov. 17, 1908. Serial No. 463,044.

1. The combination of a garment bag having a large opening at one end and a small opening at the opposite end, with a garment hanger; the garment bag having the

large opening adapted for the entrance of the garment into the bag; the garment hanger having a supporting stem of a length substantially equal to the length of the bag, and slidably passing through the said small opening in the bag; whereby the garment may be hung on the garment hanger practically outside of the bag and then drawn into the bag; substantially as described.



2. A garment hanger with a stem whose length is substantially equal to the length of the garment, in combination with a garment bag having a large opening at the bottom for the entrance of the garment, and a small opening at the top through which the stem of the garment hanger passes, whereby the bag may be raised on the stem and the garment then placed on the hanger practically outside of the bag, and the bag may then be drawn down over the garment; substantially as described.

3. The combination of a garment hanger, a garment bag, and bag supporting means; the garment hanger having a stem of a length approximately equal to the length of bag; the bag having a large opening at the bottom for the entrance of the garment, and a small opening at the top through which the long stem of the hanger is adapted to slide; and the bag supporting means being adapted to support the bag in an elevated position; whereby the bag may be raised on the stem and supported to permit the garment to be placed on the hanger practically outside of the bag, and the bag may then be drawn down over the garment; substantially as described.

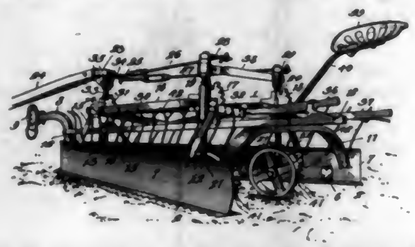
4. The combination of a garment bag and garment hanger with a long stem, said garment bag having a large opening at the bottom for the entrance of the garment, and a small opening at the top through which slidably passes the hanger stem, said stem having a bend near the top thereof, adapted to support the bag; whereby the bag may be moved up and supported in an elevated position on the bend of the stem, and the garment hung on the hanger outside of the bag, and the bag then removed from the supporting bend of the stem and drawn down over the garment; substantially as described.

5. The combination of a garment bag, with a garment hanger, and with a garment hanger supporting rod; the garment bag having a large opening at the bottom for the entrance of the garment, and a small opening at the top through which the garment hanger supporting rod is adapted to slide; the garment hanger being adapted to be hooked to the lower end of the supporting rod; and the supporting rod being of a length substantially equal to the length of the bag; whereby the bag may be elevated on the supporting rod, the garment then placed on the hanger which is then outside of the bag, the bag then drawn down over the garment, bringing the hanger into the top of the bag near the small opening, and the hanger then unhooked from the supporting rod; substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

969,469. SAGE-BRUSH CUTTER. ROBERT G. GOSE, Upton, Wyo. Filed June 2, 1909. Serial No. 499,830.

1. In a machine of the character described, the combination of a pair of horizontally disposed cutter blades, upright mold boards rising from said blades and arranged in forwardly converging relation, three ground wheels arranged in triangular relation between the cutter blades and mold boards and provided with means to prevent them from slipping, a frame supported by said wheels and including longitudinal bars, a rear arch united to the latter and to the diverging rear ends of the mold boards, a draft beam united to the front ends of said longitudinal bars and the converging front ends of the mold boards, a front and two rear rack members provided with tubular bearings, side bars connecting the front and rear members, braces uniting said members to the mold boards, front and rear standards slidably and rotatably mounted in said bearings and carrying the spindles for said ground wheels, levers fulcrumed on said members and carrying pawls to co-act with the racks on said members, collars rotatably but non-slidably mounted on said standards, connections between said levers and said collars, a tongue, and means actuated by the latter for simultaneously turning the three standards.



2. In a machine of the character described, the combination of forwardly converging cutters, a draft beam united to the forward ends of the cutters, a rear arch united to the diverging rear portion of the cutters, a longitudinal bar uniting said arch and beam, front and rear rack members provided with tubular bearings, side bars uniting said front and rear members, braces between said members and the cutters, front and rear standards vertically slidable in said tubular bearings, ground wheels carried by said standards and provided with means to prevent them from slipping, collars rotatably but non-slidably arranged on said standards, levers fulcrumed on said members and carrying pawls to co-act with the racks on said members, and connections between said levers and said collars.

3. In a machine of the character described, the combination of forwardly converging, horizontally arranged, cutter blades having notched and beveled outer edges, forwardly converging mold boards rising from said blades, upwardly and outwardly extending deflector fingers arranged in longitudinal rows above the mold boards, a front and two rear ground wheels arranged in triangular relation between the cutter blades and provided with means to prevent them from slipping, a frame supported by the ground wheels and carrying said cutter blades and mold boards, means for adjusting the frame vertically with respect to the ground wheels, a draft tongue, and means actuated by the tongue for simultaneously turning the three wheels.

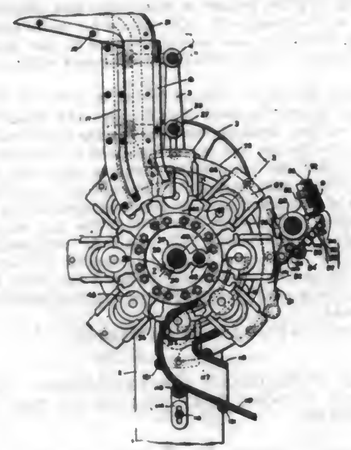
969,470. CAN-HEADING MACHINE. CHARLES W. GRAHAM, Rome, N. Y., assignor, by mesne assignments, to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 10, 1905. Serial No. 254,778.

1. In can forming machinery, a supply chute pivotally mounted upon the frame of a machine and movable into and out of operative relation therewith adapted to guide cans thereto, and means upon said machine adapted to limit the movement of said chute.

2. In can forming machinery, a supply chute pivotally mounted upon the frame of a machine adapted to guide can heads and can bodies thereto.

3. In can forming machinery, a pivotally mounted chute comprising separate guiding channels for the heads and the bodies of the cans.

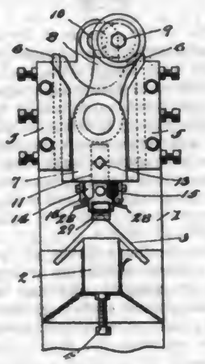
4. In can forming machinery, in combination, a pivotally mounted chute comprising separate guiding channels for the heads and the bodies of the cans, and means upon said chute adapted to be moved into the path of travel of said bodies and heads to prevent the passage thereof.



5. In can forming machinery, in combination, a pivotally mounted chute for guiding cans to a machine, and means upon said chute adapted to be moved into the path of travel of said cans to prevent the passage thereof.

[Claims 6 to 123 not printed in the Gazette.]

969,471. MECHANISM FOR APPLYING CORNER-PIECES TO SUIT-CASES AND BAGS. SIMON GROSSMAN, Pittsburg, Pa. Filed Jan. 4, 1910. Serial No. 536,377.



1. In a machine of the character described, the combination with a frame, of a supporting anvil carried thereby, a plunger supported by the frame above the anvil and adapted to be brought into clamping engagement therewith, laterally extending wings pivotally secured to the plunger, and means bearing against the upper surface of said wings to force them downward into clamping engagement with the anvil.

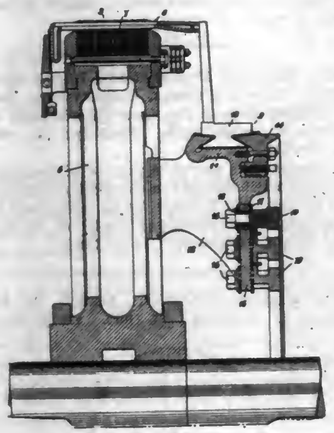
2. In a machine of the character described, the combination with a frame, of a supporting anvil carried thereby, a sleeve mounted thereabove, a plunger mounted in the sleeve, a spring for normally forcing said plunger outward, wings pivotally secured to the plunger, and means for moving the sleeve to bring the plunger into contact with the anvil and to force the wings into clamping engagement with the anvil.

3. In a machine of the character described, the combination with a spring pressed clamping member, of wings pivotally secured thereto, a sleeve surrounding the clamping member, and means for moving said sleeve to force it down over the wings to press them together.

4. In a machine of the character described, the combination with an anvil, of a reciprocally movable die member thereabove, said member comprising a sleeve, antifriction rollers carried by the lower edge thereof, a spring mounted in the sleeve, a plunger mounted in and normally forced by the spring to project from the sleeve, said plunger being adapted to be forced into the sleeve by pressure applied to the bottom thereof, and wings carried by the plunger and adapted to contact with the rollers when the plunger is forced inward, said wings being forced by the rollers into clamping engagement with the anvil.

5. In a machine of the character described, the combination with an anvil, of a reciprocally movable die member thereabove, said member comprising a sleeve, antifriction rollers carried by the lower edge thereof, and means mounted in and projecting from the sleeve and adapted to be forced into the sleeve by pressure applied to the bottom thereof, this movement into the sleeve bringing the said means into contact with the rollers which bear thereagainst and forcing said means to conform to the shape of and clampingly engage the anvil.

969,472. DYNAMO-ELECTRIC MACHINE. FRED C. HALL, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Dec. 14, 1908. Serial No. 467,468.



1. A rotatable member for double-current machines comprising a core member, a supporting spider having a plurality of laterally projecting arms, a commutator cylinder and a plurality of concentric collector rings supported on said arms.

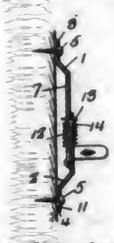
2. In a dynamo-electric machine, the combination with a commutator cylinder, of a plurality of concentric collector rings disposed within the commutator cylinder.

3. In a dynamo-electric machine, the combination with a commutator cylinder, a sleeve or supporting bushing therefor having inwardly extending radial arms and a plurality of concentric collector rings secured to, and insulated from, said arms.

4. In a dynamo-electric machine, the combination with a commutator cylinder, of a plurality of concentric collector rings disposed within said cylinder.

5. In a dynamo-electric machine, the combination with a commutator cylinder, of a plurality of collector rings supported within said cylinder and having their contact faces perpendicular to the axis of the machine.

969,473. CURTAIN-SHADE FIXTURE. GEORGE D. HARTLETT, New Rochelle, N. Y., assignor to Rupert Stern, West Norwalk, Conn. Filed Aug. 3, 1909. Serial No. 511,065.



1. A curtain fixture of the class described, comprising upper and lower arms, having overlapping and relatively adjustable portions means for securing said arms terminally to a window frame, and parallel guide fingers extending horizontally outward from one of said arms in position to embrace one of the side edges of the window shade.

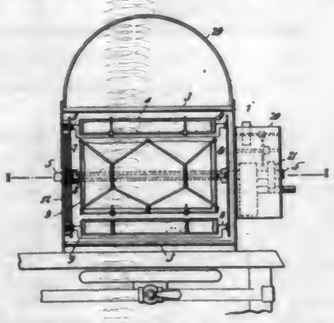
2. A curtain fixture of the class described comprising an upper arm and a lower arm having a sliding relation to each other, guide fingers projecting horizontally from one of said arms and adapted to embrace the adjacent edge of a window shade, and means for cushioning the relative sliding movement of said arms.

3. A curtain fixture of the class described comprising upper and lower arms having overlapping portions, a spring encircling the said overlapping portions and admitting of a relative sliding movement of the arms, one upon the other, and shade-guiding fingers projecting horizontally from one of said arms.

969,474. PROCESS FOR MAKING BASIC SULFATE OF LEAD. ALBERT HILEMAN, Hollidaysburg, Pa., assignor to Harrison Bros. & Co., Inc., Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 24, 1907. Serial No. 370,064.

The hereinbefore described process of making basic sulfate of lead which consists in chemically combining normal sulfate of lead with litharge, by agitating said ingredients in a substantially undissolved condition, in the presence of a hot liquid, substantially as set forth.

969,475. BREAD-TOASTER. ARTHUR A. HILL, New York, N. Y. Filed Apr. 13, 1909. Serial No. 489,707.



1. A toaster or grilling device comprising a rotatable frame having a plurality of grills, means for giving the grills a planetary movement, and means for giving them a complete half turn on their axes during a small arc of their planetary movement, the grills being held immovable on their axes during the remainder of their planetary movement.

2. In a toaster or grilling device, a revoluble frame, a plurality of grills pivoted on separate axes therein and capable of independent rotation on said axes, means for continuously revolving the frame and means for periodically rotating the grills on their axes.

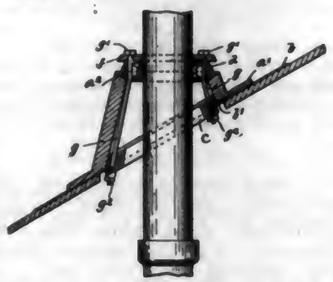
3. In a toaster or grilling device, a revoluble frame, a plurality of grills pivoted in said frame and capable of rotating on their separate axes, means for continuously revolving the frame, and means actuated by the movement of the frame for periodically rotating said grills on their axes.

4. In a toaster or grilling device, a revoluble frame, a plurality of grills pivoted in said frame and capable of rotating on their separate axes, means for continuously revolving the frame, and means actuated by the movement of said frame for periodically giving a half turn to said grills on their axes during each revolution of the frame.

5. In a toaster or grilling device, a revoluble frame, a plurality of grills pivoted in said frame and capable of rotating on their separate axes, means for continuously revolving the frame, and means actuated by the movement of said frame for periodically giving a half turn to said grills on their axes at a certain point in the revolution of said frame.

[Claims 6 to 8 not printed in the Gazette.]

969,476. ROOF-COLLAR FOR VENT-PIPES. CHARLES L. HOLT, Lawrence, Mass. Filed Dec. 27, 1909. Serial No. 535,003.



1. A roof-collar having a flange at the bottom and a seat at the top, a compressible-ring arranged on said seat, and means accessible from beneath the roof for compressing said ring to cause it to intimately engage the vent-pipe and produce a tight joint, substantially as described.

2. A roof-collar having a flange at the bottom and a seat at the top, a compressible-ring arranged on said seat, a pressure-plate arranged on said ring, and means accessible from beneath the roof for exerting pressure upon said plate to compress the ring and cause it to intimately engage the vent-pipe and produce a tight joint, substantially as described.

3. A roof-collar having a flange at the bottom and a seat at the top, a compressible-ring arranged on said seat, a pressure-plate arranged on said ring and bolts extending through said pressure-plate and ring and accessible from beneath the roof, whereby pressure may be exerted on said plate to compress the ring, substantially as described.

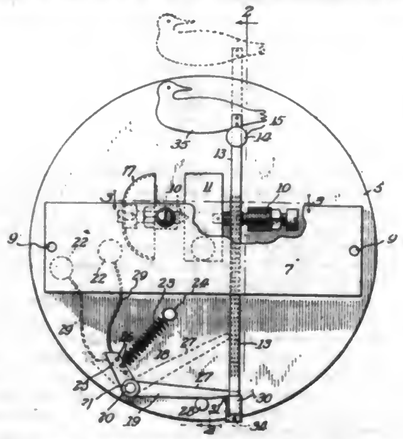
4. A roof-collar having a flange at the bottom and a seat at the top, a compressible-ring arranged on said seat, consisting of a tubular ring of sheet metal, and means for compressing said ring to cause it to engage the vent-pipe, substantially as described.

5. A roof-collar having a flange at the bottom, a flashing having a center-hole through it and an up-turned flange at the edge of said hole, adapted to project up into the opening at the bottom of the collar, and a clamping-ring for engaging said flange, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

969,477. TARGET. OLE HORSAUD, Chicago, Ill. Filed Oct. 30, 1909. Serial No. 525,464.

1. A target comprising, in combination, a plate containing an opening forming the bull's-eye, a sounding device, a reciprocating member operating to actuate said device, and rotary means adapted to be actuated by the impact of a bullet in passing through the bull's-eye for moving said member by the force of the bullet communicated thereto.



2. A target comprising, in combination, a plate containing an opening forming the bull's-eye, a rotary motor adapted to be actuated by the impact of a bullet against it, a sounding device, and a longitudinally reciprocable member operatively connected with said motor and movable by the force of the bullet communicated to it through the motor.

3. A target comprising, in combination, a plate containing an opening forming the bull's-eye, a rotary motor adapted to be actuated by the impact of a bullet against it, a sounding device, and a longitudinally reciprocable member operatively connected with said motor and movable by the force of the bullet communicated to it through the motor and returnable automatically to normal position for resetting it when the force of the bullet against said motor is spent.

4. A target comprising, in combination, a plate containing an opening forming the bull's-eye, a sounding device, a rotary impact motor extending into the path of movement of the bullet in passing through the bull's-eye and adapted to be actuated thereby, a longitudinally reciprocable member operated by said motor and returnable automatically to normal position after the force of the bullet against the motor has been spent, and means operated by said member for actuating said sounding device, for the purpose set forth.

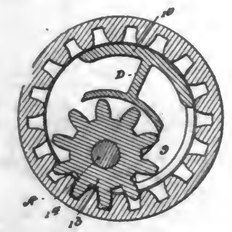
5. A target comprising, in combination, a plate containing an opening forming the bull's-eye, a sounding device, a rotary impact motor extending into the path of movement of the bullet in passing through the bull's-eye and adapted to be actuated thereby, and means having gear-connection with said motor for operating said sounding-device.

[Claims 6 to 29 not printed in the Gazette.]

969,478. ROTARY PUMP. IRA BOYD HUMPHREYS, Denver, Colo. Filed July 10, 1909. Serial No. 506,909.

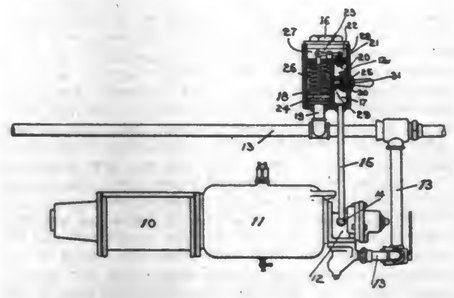
1. In a rotary pump, the combination with a casing having gear teeth theeron, of an abutment mounted in the casing, a spur gear mounted on the abutment the teeth of which are adapted to mesh with the teeth on the casing, said abutment and spur gear dividing the casing into a suction and a discharge chamber, means for operating the abutment, whereby the water is drawn into the suction chamber and transmitted from the suction chamber to the discharge chamber from which it is discharged.

2. In a rotary pump, the combination with a casing having gear teeth thereon, of an abutment comprising top and bottom members, curved plates connecting the two members, a web connecting the two members, a spur gear mounted on the lower member, the teeth of the spur gear



meshing with the teeth on the casing, and means for operating the abutment.

969,479. AUTOMATIC FLUID-PRESSURE-RETAINING VALVE. CHARLES W. HUEL, Altoona, Pa., assignor of one-fourth to John M. Henry and one-fourth to Justice C. Turner, Juniata, Pa. Filed May 3, 1909. Serial No. 493,598.

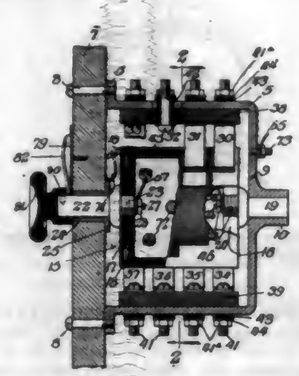


In a pressure retaining valve, the combination with the train pipe and triple valve, of a valve casing having two main chambers and an exhaust chamber, one of the main chambers being in communication with the train line, a cut-off valve arranged in one of the main chambers, a pipe connection between said latter chamber at one side of the cut-off valve and the triple valve exhaust, a single-acting controlling valve interposed between said exhaust chamber and said last mentioned main chamber at the opposite side of its cut-off valve, a pressure controlled piston arranged in the other main chamber and having a lever connection with said controlling valve, and a spring arranged to bear against said piston, said spring being graduated to resist pressure in excess of that contained in the train line.

969,480. ELECTRIC SWITCHING APPARATUS. SAMUEL T. HUTTON, Chicago, Ill., assignor to Sheidel Western X-Ray Coil Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 13, 1909. Serial No. 477,576.

1. In an electric switching apparatus in combination, two sets of brushes, and two sets of contact plates movable with respect to said brushes, each set of said contact plates embracing a plate connected with one terminal of a current supply source and adapted to coöperate through its relative movement with respect to said brushes to connect a desired number of said brushes with a current supply source, two other plates severally connected with the corresponding plates of the other set, each of said latter plates and its corresponding connected plate being adapted for simultaneous contact with a coöperating pair of brushes to connect two pairs of said brushes with the current supply source in series with each other, and a plate which is electrically connected with the first named plate, the last named plates being adapted to be brought simul-

taneously into contact with two of the said brushes to connect in parallel the pairs of brushes connected in series by the second named plates.



2. In an electric switching apparatus in combination, two rows of brushes, and two sets of contact plates movable with respect to the said brushes, said sets of plates embracing a pair of plates severally connected with the terminals of a current supply source, one plate of said pair being adapted to make or break contact at both side margins at succeeding intervals of time with the several brushes of one row and the other plate of said pair being adapted to make or break contact at one side margin at succeeding intervals of time and at the other side margin simultaneously with a plurality of the brushes of one row, a second pair of plates the plates of which are severally associated with the plates of the first named pair and are electrically connected with each other, the plates of the second pair of plates being so arranged that they coöperate with each other and with the first named pair to connect two or more pairs of brushes with the current supply source in series with each other, and a third pair of plates which are severally electrically connected with the plates of the first named pair and are adapted to be brought simultaneously into contact with one brush of each row while two other brushes of each row are severally in contact with the first and second pair of plates.

3. In an electric switching apparatus in combination, two rows of stationary brushes, two sets of movable contact members, each set consisting of a metal contact plate connected with one terminal of the current supply source, a second plate which is connected with the first named plate of the other set and a third plate which is electrically connected with the first named plate of the same set, and a rotatively mounted drum upon which said plates are carried, the corresponding plates of each set being located at diametrically opposite sides of said drum and so arranged with respect to each other that as said drum is rotated the contact plates will be brought into contact with the brushes to connect pairs of said brushes with the current supply source in various relations with each other.

4. In an electric switching apparatus in combination, a metal casing, two rows of brushes mounted in said casing and located at diametrically opposite sides thereof, said brushes being insulated from said casing and from each other, a rotatably mounted drum of insulating material located within said casing, metal contact plates inlaid in the cylindric surface of said drum and flush therewith, said metal plates comprising two sets, one plate of each set being connected with one terminal of a current supply source and plates of said sets of plates being adapted through the rotation of said drum to be brought separately or simultaneously into contact with said brushes to connect pairs thereof with the current supply source, in series, parallel or series parallel.

969,481. PUZZLE. WALTER S. JENKINS, Washington, D. C., assignor to The Whitehead & Hoag Company, Newark, N. J., a Corporation of New Jersey. Filed Mar. 16, 1908, Serial No. 421,371. Renewed June 8, 1910. Serial No. 565,873.



1. A puzzle comprising looped rods, each a duplicate of the other and each having a portion extending from the loop and crossing the main portion of the rod, the crossing portion of each rod being spaced from the main portion thereof a distance less than the thickness of the rod and as great as one-half such thickness, and the loops of the two rods being adapted to be interlooped.

2. A puzzle comprising looped rods, each a duplicate of the other and each having a terminal portion extending from its loop across the main portion of the rod, and spaced from the main portion of the rod a distance less than the thickness of the rod and as great as one-half such thickness, and means for preventing the main portion of the rods from passing through the loops, the said loops being adapted to be interlooped.

3. A puzzle comprising a pair of rods, each a duplicate of the other and each having a main portion formed with a loop terminating in a terminal portion crossing the main portion and spaced therefrom a distance less than the thickness of the rod and as great as one-half such thickness, and a head on the main portion of each rod larger than the opening in the loop, the loops of the rods being adapted to be interlooped.

4. A puzzle comprising a pair of rods, each a duplicate of the other and each bent into a loop terminating in a portion crossing the main portion of the rod and extending substantially at right angles to the main portion of the rod and spaced from the main portion a distance as great as one-half the thickness of the rod and less than the thickness of the rod, the said loops being adapted to be interlooped.

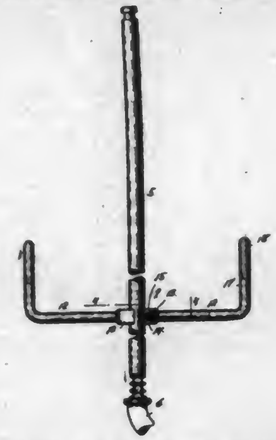
5. A puzzle comprising two nails each a duplicate of the other and each bent intermediate its length into a loop and having a terminal portion extending from the loop crossing the main portion of the nail and spaced from such main portion a distance as great as one-half the thickness of the nail and less than the entire thickness of the nail, the loops being adapted to be interlooped.

969,482. DRENCHING DEVICE. THEODORE N. JONES, Denver, Colo., assignor of one-third to John H. Hall, Hastings, Nebr. Filed Aug. 13, 1909. Serial No. 512,687.

1. A drenching device, comprising a tube and a yoke, the tube being trunnioned on the yoke to permit a limited degree of oscillation, and means connected with the yoke for securing the device to the head of the animal, substantially as described.

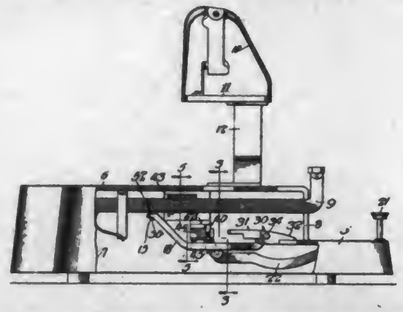
2. A drencher, comprising a rigid tube, and a yoke, the latter being composed of a ring through which the tube passes, the opening being of sufficient size to allow the tube a limited degree of oscillation, the yoke having members threaded into sockets formed in the opposite sides of the ring, the said yoke members having trunnions adapted to enter sockets with which the opposite sides of the tube are provided, for the purpose set forth.

3. A drenching device, comprising a rigid tube and a yoke, the latter having a ring through which the tube passes, the opening in the ring being of sufficient size to allow the tube a limited degree of oscillating movement, laterally extending members threaded into opposite sides of the said ring, the said members having trunnions adapted to project through the ring and enter sockets formed on opposite sides of the tube, the said members also being provided with upturned outer extremities formed into rings adapted to receive a strap for securing the device within the mouth of the animal, and a flexible



tube connected with the rigid tube below the said yoke, the flexible tube having an intermediate bulb for injecting liquid therethrough, substantially as described.

969,483. TYPE-WRITING MACHINE. THERON L. KNAPP, Woodstock, Ill., assignor to The Oliver Typewriter Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 13, 1907. Serial No. 406,338.



1. In a typewriting machine, the combination with substantially horizontal key-levers and a base-plate provided with a lower horizontal forward part extending beneath the forward ends of the key-levers, and a higher horizontal rear part extending over the rear portion of the key-levers, of two bracket members, located at opposite sides of the machine, said brackets consisting each of a transversely extending, horizontal base portion which overlaps and is attached to the lower horizontal forward part of the base-plate, and a bracket portion which extends rearwardly from the rear edge of said lower forward part of the base-plate, said brackets affording supports or bearings for operative parts of the machine located at the forward part thereof below the key-levers.

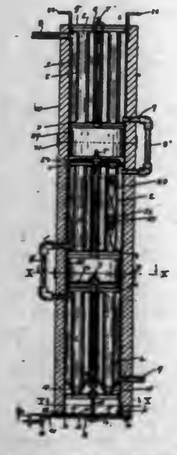
2. In a typewriting machine, the combination of a horizontal base-plate, longitudinally extending key-levers arranged below said base-plate in two groups at opposite sides of the center line of the machine, and a transversely arranged, horizontal frame-bar which is located below the key-levers and is provided with upwardly extending parts by which it is rigidly connected with the said base-plate, one of said parts being located between the two groups of key-levers and the other laterally outside of said key-levers.

3. In a typewriting machine, the combination of substantially horizontal key-levers arranged in two groups at opposite sides of the center line of the machine, a base-plate provided with a horizontal lower, forward portion which extends beneath the forward ends of the key-levers, and a higher, horizontal rear part extending over the rear portions of the key-levers, and a horizontal frame member extending transversely beneath the key-levers and rigidly connected with the elevated rear part of the base-plate by upright connecting members located one between the groups of key-levers and the other laterally exterior to said key-levers, said transverse frame member affording support for operative parts located below the said key-levers.

4. In a typewriting machine, the combination of substantially horizontal key-levers arranged in two groups at opposite sides of the center line of the machine, a base-plate provided with a lower, forward, horizontal portion which extends beneath the forward end of the key-levers, and a higher, rear horizontal portion which extends over the rear portions of the key-levers, a block attached to and depending from the rear, horizontal portion of the base-plate, between the groups of key-levers, and a horizontal, transversely arranged frame bar located below the key-levers, rigidly secured between its ends to said depending block and having at one of its ends an upwardly extending rigid part which is attached to said rear, horizontal part of the base-plate, said frame bar affording support or bearings for operative parts of the machine which are located below the level of the key-levers.

5. In a typewriting machine, the combination of a horizontal base-plate, longitudinally extending, horizontally arranged key-levers located below the base-plate, spacing mechanism which includes a space-key and longitudinally arranged space-key levers, a horizontal frame bar which extends transversely beneath the key-levers and is rigidly attached to the base-plate by upright connecting members located one between the groups of key-levers and the other laterally outside of said key-levers, and bearings for said space-key levers attached to said transverse frame-bar.

969,484. SECTIONAL GRAIN-HEATER. AUGUST J. KOEGLER, Milwaukee, Wis. Filed Sept. 7, 1909. Serial No. 516,534.



1. In a grain heater, the combination of a steam chamber, a covering and a covering supporting wall located at a distance from and around said steam chamber, an annular chamber located between said steam chamber and supporting wall for the passage of grain, a plurality of grain ducts located in said steam chamber, means for deflecting and agitating the grain as it flows through said grain ducts and annular chamber, means for simultaneously conducting grain to said ducts and annular chamber, and

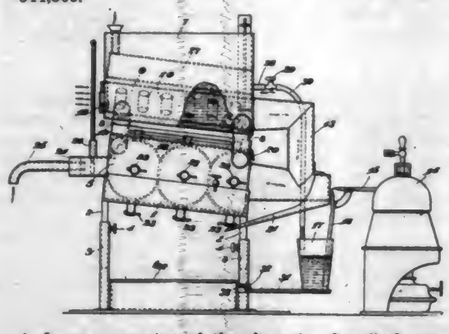
means for regulating the discharge of grain from the lower end of said ducts and annular chamber.

2. In a grain heater, the combination of a steam chamber, a plurality of separable sections connected together in a vertical series, one above the other, a plurality of grain ducts located in the steam chamber of said sections, means for agitating the grain as it passes through the heating ducts of the respective sections, and means for regulating the discharge of grain from the lower section.

3. In a grain heater, the combination of a steam chamber, a plurality of separable sections connected together in a vertical series, one above the other, a plurality of grain ducts located in the steam chamber of said sections, means for agitating the grain as it passes through the heating ducts of the respective sections, means for regulating the discharge of grain from the lower section, a steam duct communicating from the supply with the upper section of said series, side ducts communicating from the lower end of the upper section to the upper end of the next and each succeeding lower section of the series, and an outlet duct leading from the lower end of the lower section of the series.

4. In a grain heater, the combination of a steam chamber, a plurality of separable sections connected together in a vertical series one above the other, a plurality of grain ducts located in the steam chamber of said sections, a screen located above the grain tubes of the upper section of the series, a deflecting grate located in the space between the grain tubes of the upper and lower sections, a removable deflecting agitator located in each of the grain ducts of the respective sections and means for regulating the discharge of grain from the lower section.

969,485. VAPOR-GENERATING APPARATUS FOR MEDICAL TREATMENT. JOSEPH LESPÉRANCE, Montreal, Quebec, Canada. Filed Feb. 16, 1910. Serial No. 544,309.



1. In an apparatus of the character described, a support, a lower chamber carried thereby, an upper chamber supported by the lower chamber, pipes establishing communication between the upper and lower chambers, an air conduit mounted in the upper chamber, a plurality of communicating bulbs mounted in the lower chamber, means for delivering air from the air conduit into one of said bulbs, and an atomizing apparatus adapted to deliver a fine spray of medicinal vapor into the bulbs along with the current of air from the air conduit.

2. In an apparatus of the character described, a support, a lower chamber carried thereby, an upper chamber supported by the lower chamber, pipes establishing communication between the upper and lower chambers, an air conduit mounted in the upper chamber, a plurality of communicating bulbs mounted in the lower chamber, means for delivering air from the air conduit into one of said bulbs, an atomizing apparatus adapted to deliver a fine spray of medicinal vapor into the bulbs along with the current of air from the air conduit, a spout connected to one of the end bulbs, and means for indicating the temperature of the vapor passing therethrough.

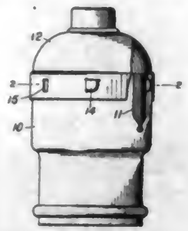
3. In an apparatus of the character described, a support, a lower chamber carried thereby, an upper chamber supported by the lower chamber, pipes establishing communication between the upper and lower chambers, an air conduit mounted in the upper chamber, a plurality of communicating bulbs mounted in the lower chamber, means for delivering air from the air conduit into one of said bulbs, an atomizing apparatus adapted to deliver a fine spray of medicinal vapor into the bulbs along with the current of air from the air conduit, a spout connected to one of the end bulbs, means for indicating the temperature of the vapor passing therethrough, and tubes adapted to be removably connected to said spout.

4. In an apparatus of the character described, a support, a lower chamber carried thereby, a plurality of communicating bulbs mounted therein, a jacket extending about said bulbs, an upper chamber supported by said lower chamber, pipes establishing communication between said upper chamber and the jacket in said lower chamber, an air conduit mounted in the upper chamber, means for delivering air from the air conduit into one of said bulbs, and an atomizing apparatus adapted to deliver fine spray of medicinal vapor into the bulbs along with the current of air from the air conduit.

5. In an apparatus of the character described, a support, a lower chamber carried thereby, a plurality of communicating bulbs mounted therein, a jacket extending about said bulbs, an upper chamber supported by said lower chamber, pipes establishing communication between said upper chamber and the jacket in said lower chamber, an air conduit mounted in the upper chamber, means for purifying the air as it passes into the air conduit, means for delivering air from the air conduit into one of said bulbs, and an atomizing apparatus adapted to deliver a fine spray of medicinal vapor into the bulbs along with the current of air from the air conduit.

[Claims 6 and 7 not printed in the Gazette.]

969,486. SOCKET-SHELL. ANKER S. LYHNE, Bridgeport, Conn. Filed July 5, 1910. Serial No. 570,228.



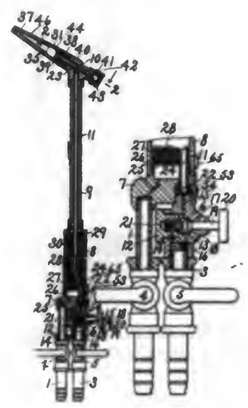
1. Socket shell members having overlapping interengaging locking tongues facing each other, the tongues upon one member being raised and upon the other member depressed, the raised tongues upon one member lying in the depressions in the other member and the members being locked against detachment except by backward movement.

2. Socket shell members having locking tongues formed by cutting angle slots in the metal, said tongues facing each other and being respectively raised and depressed, the free upper edges of the tongues upon one member engaging the attached upper edges of the tongues upon the other member to retain the parts against displacement except by backward movement.

3. Socket shell members having overlapping interengaging tongues, the tongues upon one member being formed by cutting angle slots at the bottom and right sides of the tongues and the tongues upon the other member being formed by cutting angle slots upon the upper and left sides of the tongues, the free edges of the tongues upon each member engaging the attached edges of the tongues on the other member, whereby other than backward rotary movement is prevented.

4. Socket shell members having overlapping interengaging tongues, the tongues upon one member being formed by cutting angle slots at the bottom and right sides of the tongues and the tongues upon the other member being formed by cutting angle slots upon the upper and left sides of the tongues, one of said members being provided intermediate the locking tongues with locking slots and the other member being provided with a locking lug adapted to engage either of said slots to lock the members against backward movement.

969,487. BLOWPIPE. RUSSELL W. MAGNA, Holyoke, Mass., and LOUIS G. W. CARPENTER, Philadelphia, Pa. Filed Aug. 17, 1909. Serial No. 513,231.



1. A blow-pipe comprising a chambered head, two gas conduits provided with valves, members arranged to form passageways for gas, one of such passageways being within the other for a greater portion of its length and both of such passageways opening at one end into said head and at the other end into said conduits respectively, a normally-open emergency valve arranged in one of the passageways between the valve in the conduit with which this particular passageway is connected and the head, and a valve arranged in the head to control the flow of gas from the inner passageway.

2. A blow-pipe comprising suitable gas conduits, consisting in part of a valve-casing having offset passages and an intermediate valve-seat therein, tubular members connected with one of said conduits and forming a passageway for the gas therefrom, a tubular member within such passageway and connected with the other of said conduits, a spring-pressed valve normally held off of said seat to permit communication between said offset passages, but adapted when forced on to said seat to interrupt such communication and cut off the flow of gas to said last-mentioned tubular member, a chambered head mounted on said outer and inner tubular members, and a valve in the head to regulate the flow of gas from said inner tubular member.

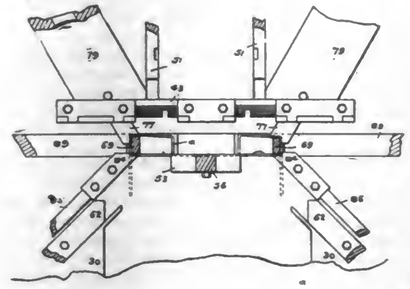
3. A blow-pipe comprising a chambered head, two gas conduits, members arranged to form a passageway for gas which passageway opens at one end into said head and at the other end into one of said conduits, a loose filling in a portion of such passageway to form a flash-back compartment, and a tube within said passageway which tube also opens at one end into said head but at the opposite end into the other of said conduits.

4. The combination, in a blow-pipe, of two gas conduits provided with valves, a valve-casing mounted on one of such conduits, a union mounted on said valve-casing and the other of said conduits, tubular members mounted on said union and connecting through the latter with the conduit upon which the union is directly mounted, a tube in said tubular members and connecting through the valve casing with the conduit upon which said casing is mounted, a valve in the casing adapted to close the passageway from said tube to the conduit below, means to retain said valve normally open so as to leave such passageway free, and a chambered head mounted on said tubular members.

5. A blow-pipe comprising a chambered head, two gas conduits, members arranged to form a passageway for gas which passageway opens at one end into said head and at the other end into one of said conduits, one of said tubular members constituting a casing and having a loose filling therein with foraminous members at the ends to form a flash-back compartment and to serve as a strainer for the gas which passes through the same, and a tube within said passageway which tube also opens at one end into said head but at the opposite end into the other of said conduits.

[Claims 6 to 9 not printed in the Gazette.]

969,488. WIRE-BENDING MACHINE. AXEL H. NILSON and MAURITZ OLSON, Bridgeport, Conn., assignors to The Premium Glass Company, Coffeyville, Kans., a Corporation of Kansas. Filed July 7, 1909. Serial No. 506,274.



1. A wire bending machine comprising in its construction a set of formers and punches and means for automatically actuating them in succession to form substantially rectangular loops at the ends of a piece of wire to then offset portions of the wire to place the ends of the loops in a different plane from that of the rest of the wire, and then impart a curved form to the loops and the portion connecting said loops.

2. A wire bending machine comprising in its construction a set of formers and punches and means for automatically actuating them in succession to form substantially rectangular loops at the ends of a piece of wire, said loops tapering toward one end, to then offset portions of the wire to place the ends of the loops in a different plane from that of the rest of the wire, and then impart a curved form to the loops and the portion connecting said loops.

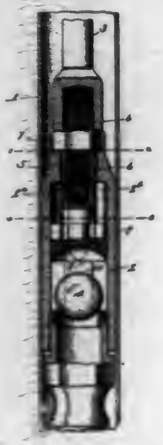
3. A wire bending machine comprising in its construction four shafts mounted to form a quadrangle and geared together, cams carried by said shafts, slides and punches actuated by said cams, and formers with which said punches coöperate to bend the wire.

4. A wire bending machine comprising in its construction four shafts mounted to form a quadrangle and geared together, cams carried by said shafts, slides and punches actuated by said cams, and movable formers with which said punches coöperate to bend the wire, said movable formers being actuated by cams on said shafts.

5. A wire bending machine comprising in its construction a former block having a horizontal surface and angular recesses at two of its corners, means for placing a length of wire on said surface, means for transferring the wire to a position in front of the recessed portion, and punches for bending portions of the wire into said recesses.

[Claims 6 to 51 not printed in the Gazette.]

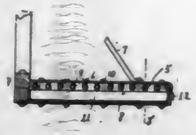
969,489. BALL-KNOCKER. JOHN B. OEINK, Fulda, Ohio. Filed Mar. 15, 1909. Serial No. 483,594.



1. The combination with a plunger having a loose ball working therein, of a pin operatively connecting said plunger to a motive power, said pin having a limited relative movement with respect to the plunger and the ball, and reciprocating through the upper portion of the plunger.

2. A device of the kind described comprising a sliding shoe, a ball valve therein, a pin working freely through the upper portion of the shoe, and ribs formed on the pin, the shoe being provided with grooves to receive said ribs, the upper ends of the grooves being closed, the lower end of said pin being concaved and extending when the pin is in its lowest position, with respect to the shoe, below the lower ends of the grooves.

969,490. PACKER-PLATFORM. DAVID PAGE, Topeka, Kans. Filed June 8, 1910. Serial No. 565,867.



1. A packer platform comprising a vertically movable support, a series of sack-supporting rotatable rods spaced apart from each other on said support, and a pan on said support underneath said rods.

2. In packer platforms, the combination of a series of sack-supporting rods spaced apart from each other, a pan arranged under said rods, and a vertically movable support for said rods and said pan, and forming part of the packer platform.

3. A packer platform of the kind described comprising the combination of a vertically movable frame, a sack-supporting floor supported on said frame and forming part thereof and having openings therethrough, and a pan removably supported in said frame underneath the said floor.

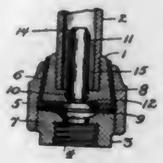
969,491. SHAMPOO PROTECTION DEVICE. JENNIE E. PAYNE, New York, N. Y. Filed Nov. 27, 1909. Serial No. 530,208.

A device of the class described, comprising a body portion adapted to incase the shoulders of a body, said body portion terminating in an extension adapted to incase the face of the wearer, said extension being provided with a



V-shaped opening, and means secured to the edge portion of said extension for varying its size.

969,492. INSULATED PIPE-COUPLING. SARAH E. PEEPLES, Washington, D. C. Filed Apr. 14, 1909. Serial No. 489,842.



1. A device of the character described, comprising coupling members, insulation therebetween, and collecting means located within one of the coupling members entirely above all of the insulation for preventing water of condensation or luting from coming into contact with the said insulation.

2. A device of the character described, comprising coupling members, insulation therebetween, and upwardly extending means located within one of the coupling members entirely above the insulation for preventing water of condensation or luting from coming into contact with the said insulation.

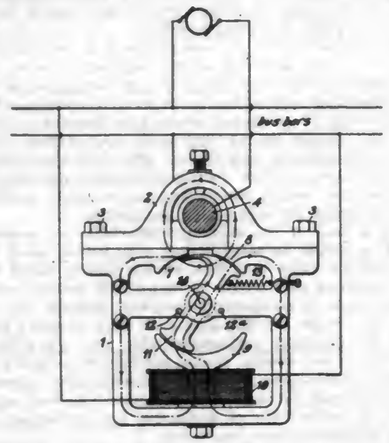
3. A device of the character described, comprising coupling members insulated from each other, a nipple located entirely within one of the coupling members and extending upwardly therefrom for preventing water of condensation or luting from flowing from one coupling to the other.

4. In a device of the character described, a coupling member provided with a service pipe attaching portion, and means extending upwardly from said coupling member to a point above the said service pipe attaching portion forming a moisture or luting collecting pocket.

5. A device of the character described, comprising coupling members, one of the members being cup-shaped and having an opening in its bottom and being adapted to receive the end of the service pipe, insulation between the base of the cup-shaped member and the other member, and means extending upwardly from the base of the cup-shaped member to intercept moisture or luting from trickling through said opening onto the insulation or adjacent coupling member.

[Claim 6 not printed in the Gazette.]

969,493. ELECTROMAGNETIC MECHANISM. HENRY PEARSON, Manchester, England, assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Oct. 3, 1906. Serial No. 337,328.



1. In an electro-magnetic apparatus, the combination with a stationary magnetizable member having two side-by-side pole pieces, an opposite pole piece, means for producing a magnetic flux through said side-by-side pole pieces and a separate means for producing a flux through said opposite pole piece, of a movable, magnetizable member that is subjected to said magnetic fluxes and is movable thereby when that through the side-by-side pole pieces is reversed or greatly exceeds that through the opposite pole piece.

2. The combination with a magnetizable frame having two side-by-side pole pieces and one opposite pole piece, a series-connected conductor for magnetizing the side-by-side pole pieces and a shunt-connected conductor for magnetizing the opposite pole piece, of a pivoted armature having its ends adjacent to the respective pole pieces, and yielding means for normally holding said armature in a position corresponding to normal currents in the magnetizing conductors.

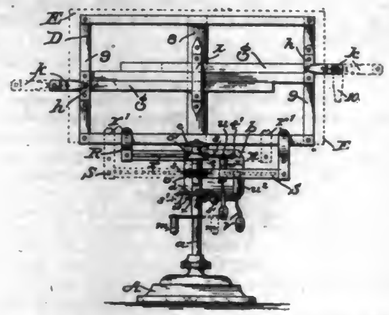
3. The combination with a frame or yoke different parts of which are provided with magnetizing conductors that are independently energized and have different magnetic circuits, of a movable armature having an unsymmetrical relation to said magnetic circuits, and a yielding restraining means that holds the armature in a given position when the magnetizing currents are normal in amount and direction and is overcome when one of the currents becomes abnormal in direction or excessively abnormal in amount.

4. The combination with a magnetizable member having two magnetizing conductors the magnetic circuits of which intersect at two points, of a movable armature that projects into the points of intersection of the magnetic fluxes and is held in one position when the magnetizing currents are normal in direction and amount but is moved to another position when one of the currents is reversed in direction or becomes excessive in amount.

5. The combination with a stationary magnetizable member having two separately energized magnetizing conductors the magnetic circuits of which intersect at two points, of a movable armature that is traversed by the flux produced by one of said conductors and one end of which projects into the said intersection points, whereby the said armature is moved from one position to another when the current in one of the conductors is reversed in direction or is greatly increased in amount as compared with that in the other.

[Claims 6 to 9 not printed in the Gazette.]

969,494. AUTOMATIC LEAF-TURNER FOR SHEET-MUSIC. JOHN W. POINCE, Dayton, Ohio. Filed Mar. 2, 1908. Serial No. 418,771.

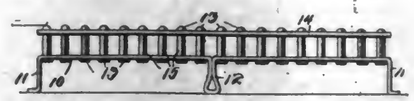


1. The combination in an automatic leaf turner with a supporting means and book-rest; of the plate provided with arms; a crank-shaft journaled between said arms and provided with studs; the sleeves carried by said crank-shaft and which engage said studs; sheave-disks formed integral with said sleeve; a leaf turning arm connected to each of said disks; means for operating said sleeves and disks so as to operate said leaf-turning arms in turning the leaves; all substantially in the manner and for the purposes described.

2. An automatic leaf turner for sheet music having a book rest; a supporting standard and base; a supporting plate having arms extending therefrom; a crank-shaft journaled in said arms and provided with studs; sleeves carried on said shaft and adapted to engage said studs; leaf turners carried by said sleeves; means connected to said plate for operating said arms; and spring actuated means for holding each of said leaf-turners or releasing them as desired; all substantially in the manner and for the purposes described.

3. The combination in an automatic leaf turner of a book-rest; with a supporting means having a grooved base; a plate provided with arms, and adjustably connected to said supporting means; the crank-shaft journaled in said arms and provided with studs; sleeve sections carried by said shaft and adapted to engage said studs; turning-arms and resilient members for operating same; spring actuated plungers provided with means for operating same; all substantially as and for the purposes described.

969,495. BROILER. WILLIAM F. RAPE, Woodsboro, Tex. Filed Dec. 11, 1909. Serial No. 532,561.



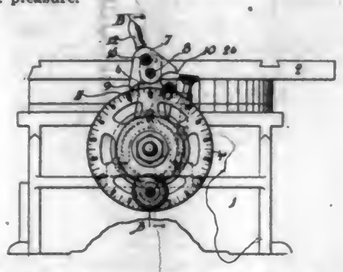
1. A broiler comprising side structures, each of said side structures being formed of two plates united by a plurality of pins spaced apart, and a plurality of bars each swinging at its ends upon said pins and extending between said plates.

2. A broiler comprising side structures, each of said side structures being formed of two plates united by a plurality of pins spaced apart and one plate of each side structure being directed downwardly to form supporting feet, and a plurality of bars each swinging at its ends upon said pins and extending between said plates.

969,496. RULING-MACHINE. VERNON ROYLE, Paterson, N. J. Filed Nov. 27, 1906. Serial No. 345,385.

1. The combination with the feed screw of a ruling machine and a wheel for operating the screw, of an arm mounted to rotate independently of the wheel, a pawl

pivotally secured to the arm, the said arm being provided with perforations of different sizes and a stop carried by the pawl in position to engage these perforations whereby the pawl may be locked to the arm in either of two operative positions and out of operative position at pleasure.



2. The combination with the feed screw of a ruling machine and a wheel for operating the screw, of a pawl under the control of the operator for operating the wheel and a stop mounted in rotative adjustment around the feed screw shaft for limiting the movement of the wheel when rotated by the pawl.

3. The combination with the feed screw of a ruling machine and a wheel for operating it, of the fixed graduated disk surrounding the screw shaft, a pawl mounted to rotate with the wheel and independently thereof, a stop set in the said graduated disk for arresting the pawl at one extremity of its rotating movement and a stop rotatively adjustable around the said feed screw shaft for arresting the movement of the pawl at the opposite end of its rotative movement.

4. The combination with a feed screw, of a ruling machine and a wheel for operating it, of a pawl carrying arm mounted on the hub of the said screw operating wheel and a friction device for engaging the said pawl carrying arm.

5. The combination with a feed screw of a ruling machine and means for operating it, of an indicator disk fixed relatively to the screw and a stop mounted in rotative adjustment with respect to the indicator disk whereby the stop may be set to determine the advance of the said screw.

[Claims 6 and 7 not printed in the Gazette.]

969,497. FUSE FOR EXPLOSIVE PROJECTILES. EUGENE SCHNEIDER, Le Creuzot, France. Filed Apr. 19, 1909. Serial No. 490,874.



1. In a fuse of the character described, the combination of a spring actuated striker adapted to move into firing position under action of said spring, means normally retaining said striker in inoperative position which on shock of discharge moves into position to compress said spring and cock said striker, other means for restraining said striker from movement and timing mechanism adapted to release said means after a predetermined interval of time and to permit said striker to advance into firing position.

2. In a fuse of the character described, the combination of a spring actuated striker adapted to move into firing position under action of said spring, a cocking ring in operative relation with said striker, spring pressed means normally holding said ring and striker in inoperative position, said ring being adapted under action of shock of discharge to move into position to compress the striker spring and cock said striker, and timing mechanism adapted to release said striker after a predetermined interval of time and to permit said striker spring to advance the striker into firing position.

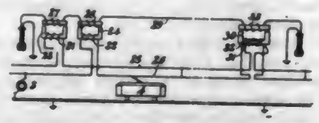
3. In a fuse of the character described, the combination of a spring actuated striker adapted to move into firing position under the action of said spring, means normally retaining said striker in inoperative position which on the shock of discharge moves into position to compress the striker spring and cock said striker, other means for retaining said striker after the operation of said first named means, timing mechanism normally restraining said second means and centrifugally actuated releasing means for said timing mechanism.

4. In a fuse of the character described, the combination of a spring actuated striker adapted to move into firing position under the action of said spring, means normally retaining said striker in inoperative position which on the shock of discharge moves into position to compress the striker spring and cock said striker, other means for retaining said striker after the operation of said first named means, timing mechanism normally restraining said second means and centrifugally actuated releasing means for said timing mechanism, and means subject to acceleration of projection for restraining the timing mechanism from operation.

5. In a fuse of the character described, the combination of a fuse body having a conical end recess, a fuse cap having a cone-shaped end adapted to be received in said recess, clock mechanism in said cap for determining the time of explosion of the projectile, and means for rotating said cap to set said clock mechanism, said cap and fuse body being adapted to move into wedging engagement with each other on shock of firing to prevent further relative movement of said two parts.

[Claims 6 to 10 not printed in the Gazette.]

969,498. PROTECTIVE MEANS FOR ELECTRICAL CIRCUITS. CHARLES F. SCOTT, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed July 9, 1906. Serial No. 325,271.



1. The combination with conductors for alternating currents and another circuit conductor disposed in proximity thereto, of a transformer having primary windings of different numbers of convolutions in circuit, respectively, with the alternating current conductors, and a secondary winding in circuit with the other conductor.

2. The combination with conductors for alternating currents and another circuit conductor disposed in proximity thereto, of a transformer having primary windings in circuit, respectively, with the alternating current conductors, and a secondary winding in circuit with the other conductor.

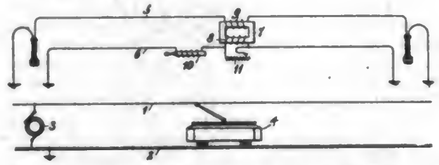
3. The combination with conductors for alternating currents and another circuit conductor disposed in proximity thereto, of a transformer having opposing primary windings connected in circuit, respectively, with the alternating current conductors, and a secondary winding in circuit with the other conductor.

4. The combination with conductors for alternating currents and another circuit conductor disposed in proximity thereto, of a transformer having primary windings in circuit, respectively, with the alternating current conductors, and a secondary winding in circuit with the other conductor, the primary windings having different numbers of convolutions and the magnetizing effects thereof being opposed.

5. The combination with an electric railway, comprising a feeder conductor and a rail return divided into independent sections, of a signaling conductor, and a conductor electrically connecting said independent sections and disposed in proximity to said signaling conductor.

[Claims 6 to 10 not printed in the Gazette.]

969,499. MEANS FOR NEUTRALIZING INDUCED DISTURBANCES IN INTELLIGENCE-TRANSMISSION CIRCUITS. CHARLES F. SCOTT, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed July 9, 1906. Serial No. 325,272.



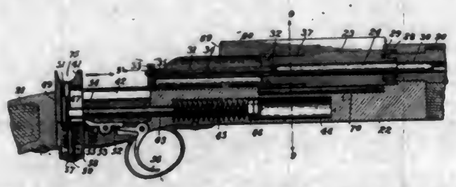
1. The combination with two electrical circuits that are located within a magnetic field, of a transformer having a primary winding located in one of the circuits and a secondary winding in the other, an ohmic resistance connected in shunt to the primary winding, and an inductive resistance connected in series therewith.

2. The combination with two electrical circuits that are located within a magnetic field, of a transformer having a primary winding located in one of the circuits, and a secondary winding in the other, an ohmic resistance connected in shunt to the primary winding, an inductive resistance connected in series therewith, and means for adjusting the same until the resultant electromotive force in the primary circuit agrees in phase with the electromotive force induced by the magnetic field in the secondary circuit.

3. The combination with two electrical circuits that are located within a magnetic field, of a transformer having a primary winding located in one of the circuits, and a secondary winding in the other, an ohmic resistance connected in shunt to the primary winding, an inductive resistance connected in series therewith, and means for adjusting the same until the resultant electromotive force in the primary circuit agrees in phase with the resultant of the electromotive forces impressed upon the secondary circuit by other means than the transformer.

4. The combination with two electrical circuits that are located within a magnetic field, of a transformer having a primary winding located in one of the circuits and a secondary winding in the other, a variable ohmic resistance connected in shunt to the primary winding, and a variable inductive resistance connected in series therewith.

969,500. FIREARM. LUIS MARTINEZ SILVA, Bogota, Colombia. Filed May 7, 1908. Serial No. 431,364.



1. In a gun, the combination with the barrel and the breech block movable toward and from the barrel and having an opening in its forward end to receive a cartridge, of a magazine arranged at one side of the path of the breech block, and a tray movable transversely of the gun and adapted to carry a cartridge from the magazine into axial alinement with the breech and gun barrel.

2. In a gun, the combination with the barrel and the breech block movable toward and from the barrel and having an opening in its forward end to receive a cartridge, of a magazine arranged at one side of the path of the breech block, a tray movable transversely of the gun and adapted to carry a cartridge from the magazine into axial alinement with the breech block and gun barrel, and means for moving said tray out of the path of the breech block when the latter is moved to firing position.

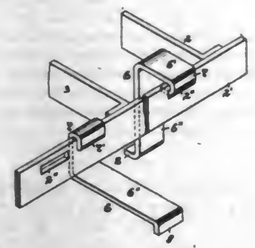
3. In a gun, the combination with the barrel and the breech block movable toward and from the barrel and having an opening in its forward end to receive a cartridge, of a magazine arranged at one side of the gun, a tray at the bottom of the magazine and movable to carry a cartridge from the magazine into axial alinement with the gun barrel, a spring for moving said tray into such axial alinement when the breech block is withdrawn from the gun barrel, said tray having an incline which is engaged by the breech block on its forward movement, whereby the tray is returned to the magazine.

4. In a gun, the combination with the barrel and the breech block movable toward and from the barrel and having an opening in its forward end to receive a cartridge, of a magazine arranged at one side of the gun, a tray 62 adapted to automatically convey a cartridge from the magazine into axial alinement with the gun barrel, a spring finger 64 coöperating with the tray to hold the cartridge in such axial alinement, the said tray and spring finger being adapted to move out of the path of the breech block when the latter is moved forward.

5. In a gun, the combination with the barrel and the breech block movable toward and from the barrel and having an opening in its forward end to receive a cartridge, of a tubular ejector slidably mounted in the breech block and a hammer against which said ejector abuts.

[Claims 6 to 17 not printed in the Gazette.]

969,501. BED-SPRING-SUPPORTING FRAME. MONTGOMERY SLEETH, Wilmerding, Pa., assignor to Fort Pitt Bedding Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Dec. 29, 1909. Serial No. 535,418.



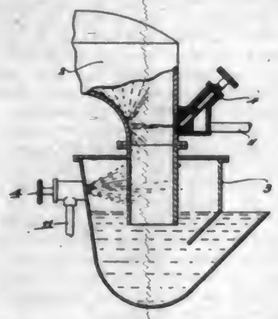
In means for applying a support to bed-springs, the combination of a bed-spring supporting frame formed of bars provided with openings therein, and removable hangers adapted to be slidably connected to said bars by said openings through a swinging movement.

969,502. GAS APPARATUS. JOHN HAWLEY TAUSSIG, Philadelphia, Pa., assignor to The United Gas Improvement Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 31, 1907. Serial No. 354,971.

1. The combination with coal gas apparatus having stand and bridge and hydraulic pipes of a sprayer nozzle mounted in and projecting substantially flush with the inner surface of said pipes and adapted to inject a film jet of cooling fluid in such direction that it reaches the hydraulic main and said nozzle accessible from the exterior for cleaning, substantially as described.

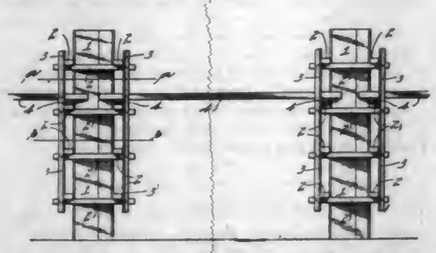
2. The combination of the stand and bridge-pipes and

hydraulic main, nozzles or sprayers for injecting a jet of fluid, and devices for conveying fluid from the hydraulic



main to the nozzles or sprayers including pumping, filtering and cooling means, substantially as described.

969,503. MOLD FOR FORMING CONCRETE COLUMNS. ANDREW L. THOMPSON, Dayton, Ohio. Filed Jan. 12, 1910. Serial No. 537,713.



In a mold for concrete column construction, a series of side members forming the mold, a series of cross-cleats attached to the outer sides of said members with their ends extended beyond the corners of the mold and crossing each other to form four corner angles, a series of L-shaped vertical strips attached at both faces to said cleats within said angles and extending approximately the length of the mold, and a series of ledgers attached to said vertical strips and forming braces for the entire mold structure, substantially as specified.

969,504. MANUFACTURE OF BRIQUETS. ERNST TRAINER, Langen, and WILHELM HAAGE, Walsum, Germany. Filed Dec. 13, 1909. Serial No. 532,948.

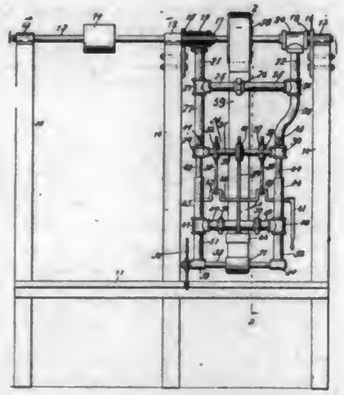
1. The process of making weather-proof briquets, which consists in cementing the material to be agglomerated by means of a binding agent containing waste sulfite liquor and a chomium compound.

2. The process of making weather-proof briquets, which consists in cementing the material to be agglomerated by means of a binding agent containing waste sulfite liquor substantially free from soluble calcium compounds, in presence of a chromium compound.

3. The proces of making weather-proof briquets, which consists in adding aluminum sulfate and chromium compound to waste sulfite liquor, and agglomerating the material with the resulting product.

969,505. SWING-SAW. ABRAHAM P. WYLIE, Lawrenceburg, Tenn. Filed Nov. 8, 1909. Serial No. 526,832.

1. A device of the class described comprising a supporting structure including a saw table, tubular bearings carried by said supporting structure, a shaft extending through said tubular bearings, an upper frame mounted to swing upon said tubular bearings and including a transverse member having spaced bearings, a lower frame vertically movable relative to said upper frame, a saw mandrel carried by said lower frame, means for communicating the motion of said shaft to the saw mandrel, a shaft mounted for rotation in said lower frame and provided with spaced cranks, suspension rods coupled to said cranks and extending through the bearings of the transverse member of the upper frame, and means for rotating said cranked shaft.



2. A device of the class described comprising a supporting structure including a saw table, an upper frame mounted to swing upon said supporting structure and including a transverse member having spaced bearings, a lower frame vertically movable upon said upper frame, a saw mandrel carried by said lower frame, means for communicating motion to said saw mandrel, a shaft mounted for rotation in said lower member and provided with spaced cranks, threaded rods coupled to said cranks and extending through the bearings of the transverse member of the upper frame, adjusting nuts upon said rods, and means for rotating said cranked shaft.

3. A device of the class described comprising a supporting structure including a saw table, an upper frame mounted to swing from said supporting structure, a lower frame vertically movable upon said upper frame, a saw mandrel carried by said lower frame, means for communicating motion to said saw mandrel, means for adjusting said lower frame upon said upper frame, means for instantly moving said lower frame longitudinally of said upper frame, and a brake device located in the path of said saw mandrel when said lower frame is longitudinally moved or adjusted.

4. A device of the class described comprising a supporting structure including a saw table, an upper frame mounted to swing upon said supporting structure and including a transverse member having spaced bearings, a lower frame vertically movable upon said upper frame, a saw mandrel carried by said lower frame, means for communicating motion to said saw mandrel, a shaft mounted for rotation in said lower frame and provided with spaced cranks, threaded rods coupled to said cranks and extending through the bearings of the transverse member of the upper frame, adjusting nuts upon said rods, means for rotating said cranked shaft, and a rod carried by said transverse member and provided with a brake member extending into the path of said saw mandrel when said lower frame is longitudinally moved or adjusted.

5. A device of the class described comprising a supporting structure including a saw table and a drive shaft and a driving pulley, an upper frame mounted to swing from said supporting structure, a lower frame vertically movable upon said upper frame, a saw mandrel carried by said lower frame and carrying a driven pulley, a drive belt leading over said pulleys, means for adjusting said lower frame upon said upper frame, means for instantly moving said lower frame longitudinally of said upper frame, and a brake device carried by said upper frame and extending into the path of said driven pulley when said frame is longitudinally moved or adjusted.

[Claims 6 to 9 not printed in the Gazette.]

969,506. TONGUE-SWITCH. CHARLES A. ALDEN, Steelton, Pa. Filed Mar. 18, 1908. Serial No. 421,957.



1. In a tongue switch, the combination of the base, a switch tongue, a tread portion adjacent the heel end of the switch tongue and having a pivotal engagement therewith including a concave socket on one part and a concave socket, a sector projecting from the convex portion on the other part arranged within the heel end of the switch tongue, and means acting upon said sector and holding said concave socket and convex portion in engagement with each other, substantially as described.

2. In a tongue switch, the combination of the base, a switch tongue the heel end of which is provided with a concave socket, a tread portion having a convex portion arranged within said socket, a sector projecting from the heel end of the switch tongue, and means acting upon said sector and holding said concave socket in engagement with said convex portion, substantially as described.

3. In a tongue switch, the combination of the base, a switch tongue, a tread portion adjacent the heel end of the switch tongue and having a pivotal engagement therewith including a concave socket on one part and a convex portion on the other part arranged within the concave socket, a sector projecting from the heel end of the switch tongue, and a bearing block secured to said base and engaging two faces of said sector to hold it in position and hold said concave socket and convex portion in engagement with each other, substantially as described.

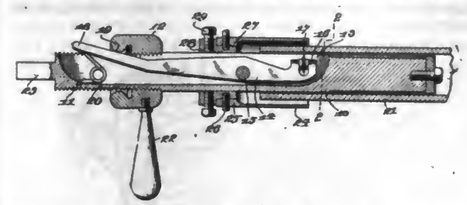
4. In a tongue switch, the combination of the base having the switch tongue groove therein and a lateral cavity extending from said groove, a switch tongue within said groove, a tread portion adjacent the heel end of the switch tongue and having pivotal engagement therewith including a concave socket on one part and a convex portion on the other part arranged within the concave socket, a sector projecting laterally from the heel end of the switch tongue and into said cavity, and means within said cavity acting upon said sector and holding said concave socket and convex portion in engagement with each other, substantially as described.

5. In a tongue switch, the combination of the base having the switch tongue groove therein and a lateral cavity extending from said groove, a switch tongue within said groove, a tread portion adjacent the heel end of the switch tongue and having pivotal engagement therewith including a concave socket on one part and a convex portion on the other part arranged within the concave socket, a sector projecting laterally from the heel end of the switch tongue and into said cavity, means within said cavity acting upon said sector and holding said concave socket and convex portion in engagement with each other, and a removable plate covering said cavity, substantially as described.

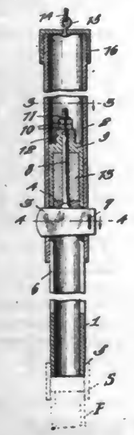
[Claims 6 to 12 not printed in the Gazette.]

969,507. TUBE-CUTTER. WILLIAM A. ALTMAN and CURTISS M. ALTMAN, Findlay, Ohio. Filed Apr. 30, 1909. Serial No. 493,233.

A tube cutter including a cylindrical mandrel having a longitudinal slot in one side thereof, a feed nut disposed in threaded engagement upon the outer end of said mandrel, a lever pivoted intermediate of its ends in the slot in said mandrel, a cutter wheel carried in one end of said lever transversely to the axis of said mandrel, the opposite end of said lever being curved upward and engaged through and against said feed nut, a spring interposed between the upturned end of said lever and the inner face of said mandrel in the slot, a handle on said feed nut to rigidly hold the same, and means for rotating said mandrel.



969,508. PIPE-PULLER. JULIUS ANDERSON, Eau Claire, Wis., assignor to Olive Sweet, Eau Claire, Wis. Filed Mar. 30, 1910. Serial No. 552,316.



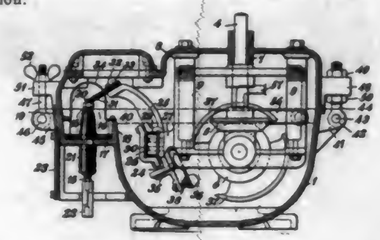
A device of the character described comprising a tubular attaching member adapted to have its lower end connected to the element to be lifted and formed in its intermediate portion with opposing longitudinal slots, and having its top closed and formed with a concentrically arranged opening, a filler block arranged in the closed upper end of said attaching member and having a central opening, a head plate arranged in said member beneath the block and having its bottom face disposed in a plane beneath the plane of the upper ends of said slots, a bolt passed through the head plate and the openings in said filler block, and closed upper end of the member, a tubular jarring member telescopically arranged on the upper portion of the attaching member, a transverse key arranged in the lower portion of the jarring member and extending through the slots in the attaching member, for movement therein toward and from said head plate, and a rope attaching means at the upper end of said jarring member.

969,509. CONTROLLER FOR ELECTRIC MOTORS. ROBERT FRIEDERICH BAEBLOCKER, Manchester, England, assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed Dec. 24, 1909. Serial No. 534,751.

1. The combination with an oil-containing tank provided with external circuit contact terminals, of a removable cover for said tank and an electric controller mounted upon said cover and having contact devices which engage the tank contact terminals when the cover is in its normal position on the tank.

2. The combination with an oil-containing tank having contact terminals at one side thereof of a cover hinged

to said tank, and a controller supported by said cover and provided with contact terminals which engage the tank contact terminals when the cover is in its normal closed position.

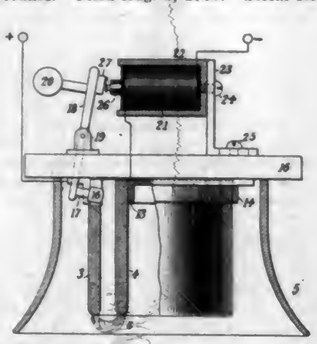


3. The combination with a tank having a plurality of contact terminals, of a removable cover for said tank and a controller suspended from said cover with its axis parallel thereto and having circuit making and breaking devices to engage the tank contact terminals when the cover is in normal position.

4. The combination with a tank having a main compartment and a supplemental compartment and provided with contact terminals in the supplemental compartment, of a removable cover, and a controller suspended from said cover and having circuit making and breaking devices to engage the tank contact terminals when in normal position.

5. The combination with a receptacle comprising a body portion and a removable cover, of a controller suspended from the cover and a circuit making and breaking switch, the respective members of which are supported by the body portion and by the cover.

969,510. SELF-REGULATING ARC-LAMP. MALCOLM H. BAKER, New York, N. Y., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed Aug. 1, 1903. Serial No. 167,847.

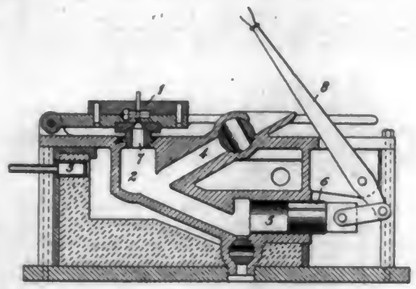


In an arc lamp apparatus, the combination with a pair of cylindrical electrodes, located the one within the other, of an igniter located at a point remote from the arcing ends of the electrodes.

969,511. PROCESS OF MANUFACTURING PARTS OF BRUSH-HOLDERS AND SIMILAR DEVICES. JOHN M. BARR, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 11, 1909. Serial No. 471,645.

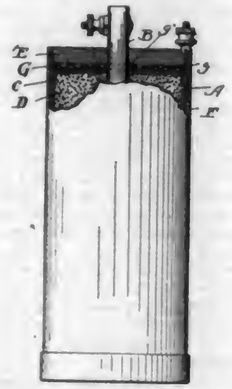
1. The process of manufacturing parts of electrical appliances that comprises the following steps: placing impressionable sheet metal parts adjacent to the walls of a molding die to constitute linings for the electric contact surfaces and then forcing molten metal into the molding die under sufficient pressure to form the linings.

2. The process of manufacturing parts of electrical appliances that comprises the following steps: placing impressionable sheet metal parts of high conductivity adjacent to the walls of a die or mold to constitute linings for the electric contact surfaces, and then forcing molten



metal suitable for die casting into the die or mold under pressure, thereby forcing the lining parts against the walls of the die or mold to accurately form the surfaces of the lining and to make the same integral with the casting.

969,512. DRY CELL. AMOS N. BARRON, Cleveland, and WALTER G. WAITT, Fremont, Ohio, assignors to National Carbon Company, Cleveland, Ohio, a Corporation of New Jersey. Filed Mar. 26, 1910. Serial No. 551,668.

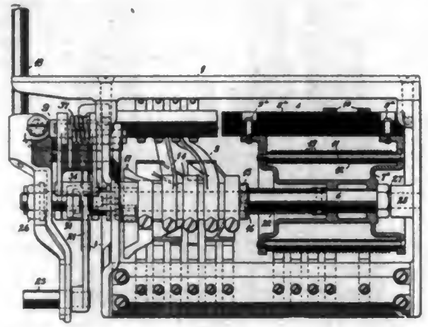


1. A dry cell comprising a zinc cup having a bibulous lining, a carbon electrode and battery mix tightly packed in the lined cell around the electrode, the said bibulous lining extending across the top of the mix, a disk of material resting upon the said bibulous lining upon the top of the mix and surrounding the electrode, said disk comprising a top and bottom member of absorbent material, a corrugated member of absorbent material spacing them apart, and a seal in the cup on top of said disk.

2. A dry cell comprising a zinc cup having a bibulous lining, a carbon electrode, and battery mix tightly packed in the lined cell around said electrode, a disk which embraces the electrode and fits within the cup, said disk being made of double faced corrugated straw-board, and a seal in the cup on top of this disk.

3. A dry cell comprising a zinc cup having a bibulous lining, a carbon electrode and battery mix tightly placed in the cell around the electrode, a disk resting upon said mix and surrounding the electrode, said disk comprising a top and bottom member of bibulous material, and means for spacing the said members apart whereby a number of chambers are formed in the space between the said top and bottom members.

969,513. CONTROLLER FOR ELECTRIC MOTORS. HOWARD L. BEACH, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 10, 1909. Serial No. 477,169.



1. A controller for electric motors comprising a rotatable shaft, a spider secured thereto and a drum segment of insulating material secured to said spider and having a plurality of contact segments on its outer surface, of a resistance member supported by said spider and electrically connected to said contact segments, and a plurality of stationary contact fingers adapted to engage the contact segments.

2. In a controller for electric motors, the combination with a rotatable shaft, a spider secured thereto, a drum segment of insulating material mounted on said spider, contact segments secured to the drum segment, and stationary contact fingers adapted to coöperate with the segments, of a plurality of rods disposed about the shaft and parallel to it, and a coil of resistance conductor supported by and insulated from said rods and connected to the contact segments.

3. A controller for electric motors comprising a rotatable shaft capable of a limited longitudinal adjustment, a drum segment secured to the shaft, contact segments mounted on said drum segment, and a plurality of stationary contact fingers coöperating with said contact segments for gradually accelerating the electric motor in one direction, as the drum is rotated through a predetermined angle, and for accelerating the motor in the opposite direction when the drum is longitudinally adjusted and rotated through the same angle.

4. A controller for electric motors comprising a rotatable supporting frame, a resistance conductor secured thereto and an insulating drum segment mounted thereon, contact segments secured to the drum segment and stationary contact fingers adapted to coöperate with the contact segments for accelerating the motor when the drum segment is rotated through a predetermined angle and for accelerating the motor in the opposite direction when the drum segment is adjusted longitudinally and rotated through the same angle.

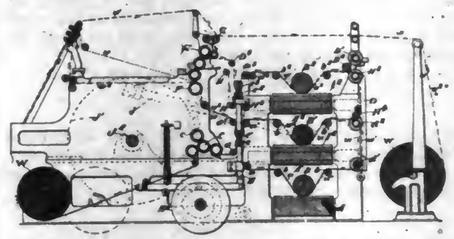
5. A controller for electric motors comprising a rotatable and longitudinally adjustable shaft, a drum switch rotatably mounted thereon, a second drum switch secured to said shaft, interlocking means between the two switches for preventing the adjustment of one except when the other occupies a predetermined position.

[Claims 6 to 8 not printed in the Gazette.]

969,514. PRINTING-PRESS. HENRY F. BECHMAN, Battle Creek, Mich., assignor to Duplex Printing Press Company, Battle Creek, Mich. Filed May 21, 1903. Serial No. 158,148.

1. In a printing press, three printing couples, arranged one above the other in parallel planes with means for feeding three webs through the couples so that they shall be perfected thereby, each couple acting upon two of the webs, substantially as described.

2. In a printing press, three printing couples, arranged in parallel planes, and means for guiding three webs through the press, one web being perfected by the first and second couples, a second web by the first and third couples, and a third web by the third and second couples, substantially as described.



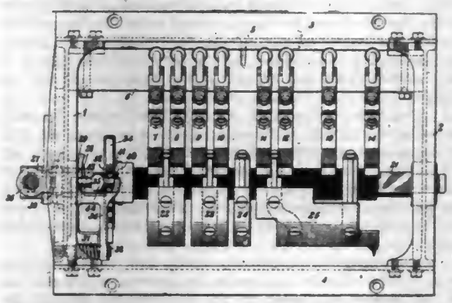
3. In a printing press, the combination of three printing couples, each comprising a bed and a co-acting cylinder, with means for feeding three webs through the couples to be perfected thereby, each couple acting upon two of the webs.

4. In a printing press, the combination of three printing couples, each comprising a bed and co-acting cylinder arranged in parallel planes, and means for feeding three webs through the press, one web being perfected by the first and second couples, the second web by the first and third couples, and the third web by the third and second couples, all substantially as described.

5. In a printing press, the combination of three stationary type beds, a traveling cylinder co-acting with each bed, means for reciprocating the cylinders, means for guiding webs of paper between the first and second beds and cylinders; means for guiding webs of paper between the first and third beds and cylinders, and means for guiding webs of paper between the second and third beds and cylinders, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

969,515. ELECTRICAL CONTROLLER. CARL E. BEDELL, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 5, 1907. Serial No. 350,958.



1. A controller comprising coöperating relatively rotatable members one of which is axially adjustable to cause the members to coöperate in different relations, and a single lever for effecting such adjustment and also rotation of the rotatable member.

2. A controller comprising coöperating switch members, one of which is both rotatable and axially adjustable to cause variations in the circuit arrangements, and a single lever for effecting both adjustments.

3. The combination with an electric motor, of a controller comprising coöperating switch members one of which is rotatable to effect speed variation and is axially adjustable to govern the direction of rotation of the motor.

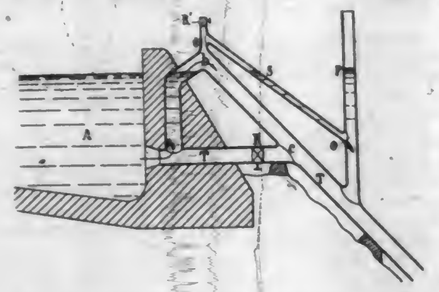
4. The combination with an electric motor, of a controller comprising contact circuit terminals, a rotatable

and longitudinally adjustable member and an operating lever that rotates said member in one direction to effect variation of motor speed and in the opposite direction to effect braking, and adjusts it longitudinally to govern the direction of motor rotation.

5. The combination with an electric motor, of a controller comprising a switch member that is axially adjustable to govern the direction of rotation of the motor and is rotatable in one direction only from its initial position to effect speed variation.

[Claims 6 to 14 not printed in the Gazette.]

969,516. AUTOMATIC APPARATUS FOR STOPPING THE SUPPLY IN CASE OF A SUDDEN EMPTYING. JOSEPH AUGUSTE BOUCHAYER, Grenoble, France. Filed Dec. 18, 1909. Serial No. 533,968.



1. The combination with a conduit and means for supplying liquid thereto, of means for automatically cutting off the supply of liquid to the conduit in case of the sudden emptying of the latter, said means including a siphon connecting the supplying means and conduit, and mechanism governed by the flow of liquid through the conduit for automatically admitting air to the siphon to break the same.

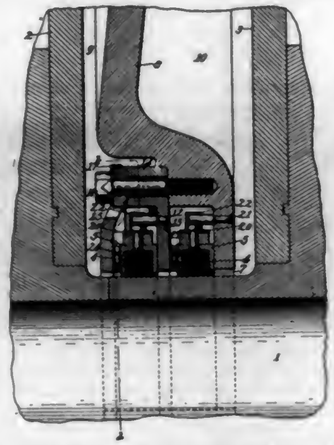
2. The combination with a conduit and means for supplying liquid thereto, of means for automatically cutting off the supply of liquid to the conduit in case of the sudden emptying of the latter, said means including a siphon connecting the supplying means and conduit, mechanism governed by the flow of liquid through the conduit for automatically admitting air to the siphon to break the same, and controllable means for admitting liquid to the conduit from the supply means independent of the siphon.

3. The combination with a conduit, of means for supplying liquid thereto, a direct connection between the supplying means and the conduit, a controlling valve in the connection, a siphon connection between the supplying means and conduit that bridges the controlling valve, and means governed by the flow of liquid from the conduit to automatically admit air to the siphon to break the same.

4. The combination with a conduit and means for supplying liquid thereto, of means for automatically cutting off the supply of liquid to the conduit in case of the sudden emptying of the latter, said means including a siphon connecting the supplying means and conduit, a stand pipe connected to the conduit below the siphon, and an air inlet pipe connecting the stand pipe and siphon and having a connection with the former below the normal liquid level in the stand pipe.

5. The combination with a conduit, of a reservoir, a direct connection between the reservoir and conduit, a valve for controlling said connection, a siphon connection between the reservoir and conduit that bridges the valve, said siphon having an air inlet at its upper end, a valve for closing said air inlet, a stand pipe connected to the conduit below the siphon, and an air admitting pipe connecting the stand pipe below the normal liquid level, with the upper end of the siphon.

969,517. LEAKAGE-REDUCING MEANS FOR TURBINES. FREDERIC R. C. BOYD, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Mar. 25, 1909. Serial No. 485,782.



1. In combination, an arch bound ring for reducing leakage, a divided holder therefor that covers both sides of the ring, a means for normally supporting the ring so that there will be a free but small space at all points between its bore and the part to be packed, and a friction device that tends to hold the ring in any position to which it may be moved by said part.

2. In combination, a divided arch bound ring for reducing leakage, a holder therefor, a housing for the holder, a spring for supporting the weight of the ring and holder so as to maintain an annular clearance between the ring and the part to be packed, and a friction means that tends to hold the ring in any position to which it may be moved, the said means acting on the ring at a number of points.

3. In a leakage reducing device, the combination of a divided arch bound ring whose bore is slightly larger than the part which extends therethrough and is to be packed, a housing containing a chamber in which the ring is located, and springs which serve to centralize the ring with respect to the said part and are under initial stress, one of said springs supporting the weight of the ring and being under greater stress than the remainder.

4. In a leakage reducing device, the combination of an arch bound ring, a housing containing a chamber in which the ring is located, a spring that normally supports the ring, and means normally inactive for assuming the support of the ring when the spring is injured.

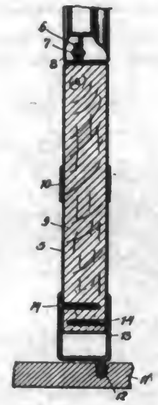
5. In a leakage reducing device, the combination of an arch bound ring arranged to be moved in a plane perpendicular to the axis of its bore, a housing containing a chamber in which the ring is located, springs that support and tend to centralize the ring, and means for preventing the ring from rotating.

[Claims 6 and 7 not printed in the Gazette.]

969,518. METALLIC DOOR. FRANCIS M. BRINCKERHOFF, New York, N. Y., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Mar. 24, 1908. Serial No. 422,927.

1. The combination of a sliding metallic door, a metallic guide secured to the lower edge thereof and extending downwardly therefrom, and a part having a groove therein into which said guide extends to guide the door in its sliding movement, said guide being adapted to be secured to the lower edge of the door in such position as will make the door fit the opening therefor to compensate for irregularities in said opening, substantially as set forth.

2. The combination of a sliding metallic door, a sheet-metal strip secured to the side of the door at the lower edge thereof and depending therefrom to form a guide, and a part having a groove therein into which the lower edge of said strip extends to guide the door in its sliding movement, said strip being adapted to be secured to the side of the door overlapping more or less of the lower edge thereof to compensate for irregularities in the opening for the door, substantially as set forth.



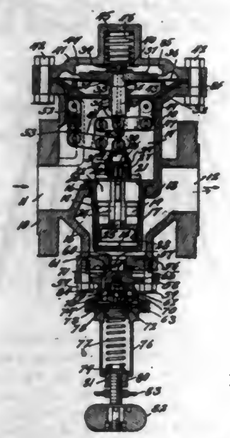
3. The combination of a sliding metallic door, a sheet-metal strip of U-shaped cross-section having a flange formed therein secured to the lower edge of the door with the side walls thereof lying one on either side of the door, and a part having a groove therein into which said flange extends to guide the door in its sliding movement, said strip being adapted to be secured to the lower edge of the door in such position as will make the door fit the opening therefor to compensate for irregularities in said opening, substantially as set forth.

4. The combination of a sliding metallic door, a sheet-metal strip pressed to a U-shaped cross-section and to provide an integral downwardly-extending flange in the bottom thereof, said strip being secured to the lower edge of the door with the side walls thereof lying one on either side of the door, and a part having a groove therein into which said flange extends to guide the door in its sliding movement, said strip being adapted to be secured to the door with its side walls overlapping more or less of the sides of the door at the lower edge of the latter to compensate for irregularities in the opening for the door, substantially as set forth.

5. A metallic door having a frame consisting of frame-members secured together at their ends and each formed of a sheet-metal strip pressed to a rectangular cross-section, a strip of wood within the lower frame-member, a U-shaped sheet-metal strip between the side walls of which the lower edge of said lower frame-member enters, screws passing through openings in said U-shaped strip and entering said wood strip to secure the U-shaped strip to the door, and an integral flange formed in the bottom of said U-shaped strip, substantially as set forth.

969,519. PRESSURE-REGULATOR. JOHN ROWLAND BROWN, Mansfield, Ohio, assignor to Ohio Brass Company, Mansfield, Ohio, a Corporation of New Jersey. Filed Jan. 28, 1910. Serial No. 540,592.

1. In a pressure regulator, a casing having an initial pressure inlet and a service pressure outlet, a valve seat disposed between said inlet and outlet, a main valve cooperating with the seat for regulating the passage of fluid therethrough, a fluid influenced element, a supplemental valve coöperating with the main valve, means connecting the supplemental valve with the fluid influenced element whereby the operation of the latter will impart an initial adjustment to the supplemental valve, and means whereby the final movement of the supplemental valve will adjust the main valve.



2. In a pressure regulator, a casing having an initial pressure inlet and a service pressure outlet, a valve seat disposed between said inlet and outlet, a main valve cooperating with the seat for regulating the passage of fluid therethrough, a fluid influenced element, a supplemental valve coöperating with the main valve, multiplying lever connections between the supplemental valve and the fluid influenced element whereby the movement of the latter will adjust the valve, said supplemental valve being capable of initial movement independently with respect to the main valve, and means whereby the final movement of the supplemental valve will adjust the main valve.

3. In a pressure regulator, a main valve, a supplemental valve, a fluid influenced element, multiplying lever connections between the supplemental valve and the fluid influenced element whereby the movement of the latter will impart movement to the supplemental valve, said supplemental valve being adapted for initial movement independently with respect to the main valve, and means operatively related to the main valve and adapted to be engaged by the supplemental valve during the initial movement of the latter whereby the main valve will be moved by the final movement of the supplemental valve.

4. In a pressure regulator, a main valve, a supplemental valve, a fluid influenced element, multiplying lever connections between the supplemental valve and the fluid influenced element whereby the movement of the latter will impart movement to the supplemental valve, said supplemental valve being adapted for initial movement independently with respect to the main valve, means whereby the final movement of the supplemental valve will adjust the main valve, and adjusting mechanism for the lever connections.

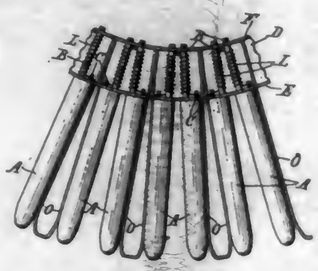
5. In a pressure regulator, a main valve, a supplemental valve, a fluid influenced element, multiplying lever connections between the supplemental valve and the fluid influenced element whereby the movement of the latter will impart movement to the supplemental valve, said supplemental valve being adapted for initial movement independently with respect to the main valve, means whereby the final movement of the supplemental valve will adjust the main valve, and an adjustable link included in said lever connections.

[Claims 6 to 25 not printed in the Gazette.]

969,520. GARMENT-HOLDER. BENJAMIN J. BUCKINGHAM, Chicago, Ill., assignor to Buckingham-Rae Company, Chicago, Ill., a Corporation of Illinois. Filed May 16, 1908. Serial No. 433,184.

1. In a garment holder, the combination of a frame with a plurality of horizontally extending clamping fingers

free at their outer ends and held in the frame at their inner ends, one of each clamping pair bodily movable laterally with reference to the other, and a spring device which tends to hold the fingers together elastically.



2. In a garment holder, the combination of a frame with a plurality of horizontally extending clamping fingers free at their outer ends and held in the frame at their inner ends, one of each clamping pair mounted eccentrically so as to be bodily movable laterally with reference to the other, and a spring device which tends to hold the fingers together elastically.

3. In a garment holder, the combination of a frame, with horizontally extending clamping fingers free at their outer ends and held in the frame at their inner ends, one of each pair being eccentrically mounted on a shaft and provided with a projection, and a spring about the shaft which tends to rotate the finger on its axis toward the opposed finger.

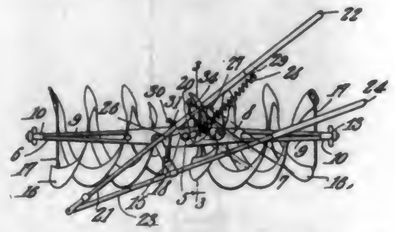
969,521. WINDOW-SCAFFOLD. ARTHUR BEN BYRD, Oklahoma, Okla. Filed Aug. 19, 1909. Serial No. 513,627.



1. A scaffold including a pair of beams arranged in spaced relation across the window sill, looped straps depended from the outer ends of said beams for engagement against the outer face of the sill, braces hingedly supported at the forward extremities of said beams and extended inwardly through said straps, a retaining rod carried by said braces for engagement against the lower ends of said straps, bars depended from the inner ends of said beams for engagement against the inner face of the sill, bolts disposed upon said bars, teeth formed upon the upper faces of said bolts to engage in the sill to retain the beams in position, standards upwardly extended from the outer ends of said beams, a leaf hingedly disposed on the ends of said standards, and means carried by the window and connected to the upper ends of said standards for retaining the same in position.

2. A scaffold including a pair of spaced beams, braces depended from the forward ends of said beams, looped straps carried by said beams and connected to said braces to hold the same inwardly at their lower ends, bars depended from the rear ends of said beams, pawls carried by said bars, said braces and said pawls adapted to engage against the opposite sides of a sill for supporting said beams thereon, and supporting means upwardly extended from the outer ends of said beams.

969,522. WINDMILL. JOHN A. CARLSON, Chicago, Ill. Filed Aug. 17, 1909. Serial No. 513,286.



1. The combination of a rotary standard, a wheel supported thereon, a vane carried by the standard and movable relative thereto, a second vane pivotally connected to the first vane and diverging therefrom, a link pivoted to the second vane and connected with the standard, a crank arm extending from the standard and bearing against the first mentioned vane and a yieldable connection between said vane and the said crank arm.

2. The combination of a standard, a wheel mounted thereon, a pair of divergent vanes pivotally connected, the larger of said vanes being pivotally supported on the standard, a rock shaft mounted on the standard, a brake on the shaft of the wheel, connections between said brake and the rock shaft, and connections between the rock shaft and the smaller vane.

3. The combination of a standard, upper and lower castings secured to and projecting laterally to both sides of the standards, rods fitting in the edges of said castings and converging beyond the ends thereof, bowed rods extending between the ends of the rods fitted in the upper and the lower castings, end castings fitted between the bowed portions of said rods, and a wheel having its shaft extending between and journaled in said end castings.

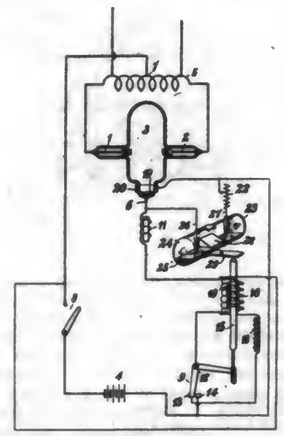
4. The combination of a rotary standard, a horizontally disposed wheel carried thereby, a pair of vanes above the wheel, one being supported by the standard, said vanes being pivoted together at their front ends and diverging therefrom past the standard on opposite sides thereof, connections between one of said vanes and the standard to rotate the standard, and yieldable connections between the standard and the other vane.

5. The combination of a rotary standard, lateral arms thereon, a vane supported by the said arms, a second vane pivoted to the first mentioned vane and diverging therefrom, a link pivoted to the last mentioned vane, a crank arm pivoted to the said link and secured to the standard and provided with an extension bearing against the first mentioned vane, a spring secured to the said vane and the said extension, and a furling rod connected with the said link.

[Claims 6 and 7 not printed in the Gazette.]

969,523. AUTOMATIC STARTING DEVICE FOR MERCURY-VAPOR RECTIFIERS. FREDERICK S. CHAPMAN, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Oct. 5, 1907. Serial No. 396,041.

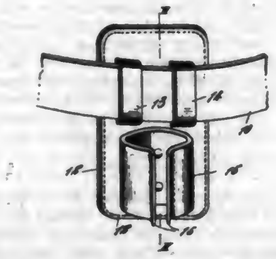
1. The combination with a mercury-vapor rectifier, and a load therefor, of a switch for governing the operation of the rectifier, means for overcoming the initial high resistance of the rectifier, a switch for governing the resistance-overcoming means, an automatically actuated device for operating the said switch, and a switch normally connecting the rectifier to an auxiliary direct current circuit but actuated by said device, upon passage of current in the auxiliary circuit, to connect the rectifier to the load.



2. The combination with a mercury-vapor rectifier, means for overcoming the initial high resistance thereof, and a governing switch for said means, of a switch for altering the direct current circuit of the rectifier, and a device actuated by the current in the said direct current circuit for operating the said switches successively when starting the rectifying operation.

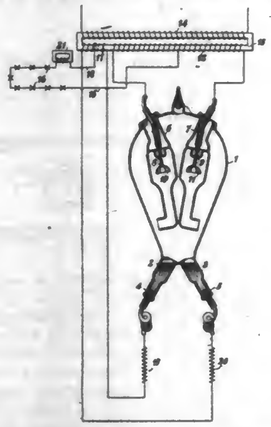
3. The combination with a mercury-vapor rectifier, means for overcoming the initial high resistance thereof, and a governing switch for said means, of a switch for connecting either an auxiliary direct current circuit or a load to the rectifier, and a device for operating the said switches comprising two windings both of which are energized when the auxiliary circuit is connected to the rectifier and only one of which is energized when the load is connected to the rectifier to maintain the said connection.

969,524. SCABBARD. BENJAMIN J. CONDON, Port Chester, N. Y. Filed Jan. 27, 1910. Serial No. 540,452.



A device of the character described comprising a supporting member formed of a plurality of rectangular sections, said sections being slotted, and the portions thereof between said slots pressed outwardly to provide an attaching means, and a cylindrical resilient member forming a supporting means, said resilient member being provided with an opening the edges thereof adjacent said opening being offset and curving outwardly away from each other.

969,525. MERCURY-VAPOR RECTIFIER. FRANK CONRAD, Swissvale, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Sept. 20, 1906. Serial No. 335,526.



1. The combination with a current-rectifying device comprising a receptacle having but two adjacent protuberances, of a conducting fluid contained in the protuberances and constituting negative terminals, positive terminals that project into the receptacle, and sources of alternating current connected, respectively, between the protuberances and between the positive terminals and having neutral points connected to the distributing circuit.

2. The combination with a current-rectifying device comprising a receptacle having but two adjacent protuberances, of a conducting fluid contained in the protuberances and constituting negative terminals, positive terminals that project into the receptacle, and transformer windings connected, respectively, between the protuberances and between the positive terminals and having intermediate points connected to a distributing circuit.

3. The combination with a current-rectifying device having two positive and two negative terminals, of sources of alternating current connected, respectively, between the pairs of positive and negative terminals and having neutral points connected, respectively, to a distributing circuit.

4. The combination with a current-rectifying device having two positive and two negative terminals, of sources of alternating current connected, respectively, between the pairs of positive and negative terminals and having neutral points connected, respectively, to a distributing circuit, and current-limiting means interposed in the circuit between the negative terminals and the corresponding source.

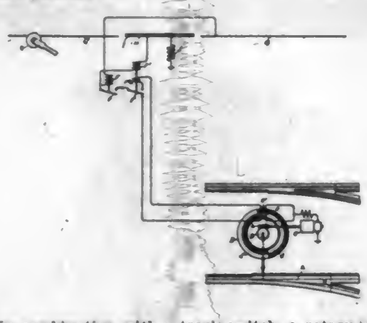
5. The combination with a current-rectifying device having two positive and two negative terminals, of transformer windings connected, respectively, between the pairs of positive and negative terminals and having intermediate points connected, respectively, to a distributing circuit.

[Claims 6 to 8 not printed in the Gazette.]

969,526. ELECTRICALLY-OPERATED TRACK-SWITCH. FRED B. COREY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 24, 1908. Serial No. 469,068.

1. In combination with a track switch, a rotary electric motor geared thereto, two sets of contacts in circuit with the motor arranged to be alternately opened in the two extreme positions of the track switch, contacts selectively controllable by an approaching car for establishing a circuit to either set of contacts, and connections for maintaining the circuit, if it is established to the closed set of

contacts, until the motor has driven the track switch to its other position.



2. In combination with a track switch, a rotary electric motor geared thereto, contacts controlled by the track switch and controlling the motor, electro-magnetically actuated contacts selectively controllable by an approaching car and controlling the motor jointly with the first named contacts, and connections for establishing a maintaining circuit for holding the electromagnetically actuated contacts closed when the motor circuit has been closed thereby, said maintaining circuit being arranged to be broken by the contacts controlled by the track switch when the switch has completed its movement.

3. In combination with a track switch, a rotary electric motor geared thereto, two sets of contacts in circuit with the motor arranged to be alternately opened in the two extreme positions of the track switch, electromagnetically actuated contacts selectively controllable by an approaching car for establishing a circuit to either set of contacts, and connections adapted to form maintaining circuits for the actuating windings of the electromagnetically actuated contacts, said maintaining circuits being arranged to be broken by the contacts controlled by the track switch.

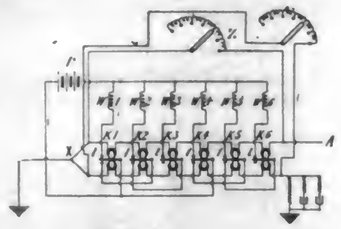
4. In an electric railway, in combination with a track switch, a rotary electric motor geared thereto, two sets of contacts in circuit with the motor arranged to be alternately opened in the two extreme positions of the track switch, a working conductor, a contact device interposed in said working conductor and adapted to be engaged by a current collector on a vehicle, a plurality of magnet windings at least one of which is connected between the working conductor and contact device and responds only when a passing car draws its motor current from said contact device, contacts controlled by said magnet windings for establishing a circuit selectively to either set of contacts, and connections adapted to form maintaining circuits for said magnet windings.

5. In combination with a track switch, a rotary electric motor, connections between motor and switch whereby the continued rotation of the motor in one direction reciprocates the track switch, contacts controlled by the track switch and controlling the motor, electro-magnetically actuated contacts selectively controllable by an approaching car and controlling the motor jointly with the first named contacts, and connections for establishing a maintaining circuit for holding the electromagnetically actuated contacts closed when the motor circuit has been closed thereby, said maintaining circuit being arranged to be opened by the contacts controlled by the track switch when the track switch completes its movement.

[Claim 6 not printed in the Gazette.]

969,527. PRINTING-TELEGRAPH. ALBERT C. CREHORE, Yonkers, N. Y., assignor to Typewriting Telegraph Company, New York, N. Y., a Corporation of New York. Filed Aug. 15, 1904. Serial No. 220,711.

1. In a telegraph system, the combination with a series of receiving magnets, of controlling relays therefor of which a plurality are included in the same line circuit and of which the number is less than the number of said magnets, each of the magnets being controlled by a fractional group of the relays independently of the controlling contact of the remaining relays and each of the said fractional groups containing the same number of relays, and means for simultaneously energizing from a distant station the relays contained in any one of the said fractional groups.



2. In a telegraph system, the combination with a series of receiving magnets, of a series of controlling relays therefor less in number than the said magnets, each magnet being controlled by a fractional group of the said relays independently of the controlling contacts of the remaining relays and each of the said fractional groups containing the same number of relays, together with two line wires and means for simultaneously energizing from a distant station the relays composing any one of said fractional groups a part of the component relays of each fractional group being energized over one line wire and another part over the second line wire.

3. In a telegraph system, the combination with a series of receiving magnets, of a series of controlling relays therefor less in number than the said magnets, each of the said magnets being controlled by a fractional group of said relays independently of the controlling contacts of the remaining relays and each fractional group containing the same number of relays, two line wires, each containing a portion of said relays and means for energizing the relays from a distant station by currents of a different and distinctive value transmitted over each of said line wires.

4. In a telegraph system, the combination of receiving magnets, a series of relays less in number than the said magnets, each magnet being controlled by a fractional group of relays, and each of the respective groups containing the same number of relays, two line wires, each containing a number of said relays and means for individually operating the said relays from a distant station by currents of distinctive values and distinctive polarities.

5. In a telegraph system, the combination with a series of receiving magnets, of two sets of relays contained respectively in separate line circuits, a local circuit for each of said magnets and two circuit closers in series in each of said local circuits, the said circuit closers controlling the said circuits and operated respectively by two relays one from each of the two sets aforesaid.

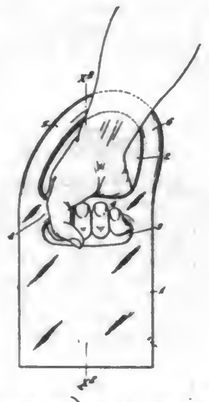
[Claims 6 to 31 not printed in the Gazette.]

969,528. BUTTER-SPADE. REUBEN B. DISMOW, Owatonna, Minn. Filed Dec. 23, 1909. Serial No. 534,618.

1. A spade having a blade, a hand hole, a finger passage, a gripping bar between said hand hole and finger passage, and an arm engaging bail embracing said hand hole, substantially as described.

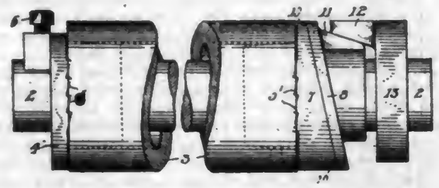
2. A spade comprising a blade, a hand hole, a finger passage, a gripping bar between said hand hole and finger passage, and an arm engaging bail embracing said hand hole, the said bail being offset or bent in the plane of the spade, substantially as described.

3. A spade having a blade, a hand hole, a finger passage, a gripping bar between said hand hole and finger passage, and an arm engaging bail embracing said hand hole, the said blade being beveled equally on both faces whereby the latter is made bi-symmetrical and adapted



for use either in the right or the left hand, substantially as described.

969,529. LOCKING-CHUCK FOR PAPER-ROLL SPINDLES. DANIEL B. DONNELLY, Pittsburg, Pa. Filed Aug. 14, 1909. Serial No. 512,881.



1. A chuck for a paper roll formed in two spindle-embracing parts, said parts having complementary diagonal faces extending around the spindle and engaging each other with one of said parts adapted to secure one end of a roll, and means for securing the other part to the spindle.

2. A chuck for a paper roll formed with inner and outer spindle-embracing parts, said parts having diagonal faces extending around the spindle and engaging each other with the inner part adapted to secure one end of a roll, a third spindle-embracing member, and means engaging the outer of the first mentioned parts and with means resulting from said engagement tilting the third member and cramping the same on the spindle.

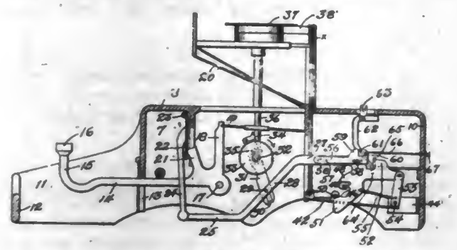
3. A chuck for a paper roll formed with inner and outer spindle-embracing parts, said parts having diagonal faces extending around the spindle and engaging each other with the inner part adapted to secure one end of a roll, the other part having a wedging surface disposed longitudinally of the spindle, and a spindle-embracing member engaged and tilted by said wedging surface and thereby caused to impinge the spindle.

4. A chuck for a paper roll formed with inner and outer spindle-embracing parts, said parts having diagonal faces extending around the spindle and engaging each other with the inner part adapted to secure one end of a roll, the outer part having a wedging surface disposed longitudinally of the spindle, and a third spindle-embracing member having a lateral extension engaging said wedging surface and tilting the third member and cramping it on the spindle.

5. The combination of a roll-holding chuck loosely embracing the spindle, a ring-like member loosely embracing the spindle and having spindle biting portions in different planes transversely of the spindle for impinging the latter at different points, and means affording wedging action between the chuck and said member for tilting the latter and causing its biting portions to impinge the spindle.

[Claims 6 to 18 not printed in the Gazette.]

969,530. ESCAPEMENT MECHANISM. OTTO EGGEBRECHT, Momence, Ill., assignor to The Emerson Typewriter Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 8, 1910. Serial No. 548,022.



1. In ribbon lift and escapement mechanism, the combination of key levers and keys, a universal bar adapted to be actuated by the depression of a key, escapement devices and ribbon lift devices, a draw bar, actuated by the universal bar and acting directly upon the ribbon lift devices, a member for actuating the escapement devices held in constant operative engagement therewith, said member being connected to the draw bar and actuated by a partial movement of the key lever, and a stop member for maintaining the escapement mechanism in normal position, substantially as described.

2. In ribbon lift and escapement mechanism, the combination of key levers and keys, a universal bar adapted to be actuated by the depression of a key, a pivoted escapement dog, an arm depending from the dog, a draw bar connected with and rearwardly extending from the universal bar, a member carried by the draw bar for actuating the ribbon lift at the beginning of a printing stroke, and an actuating member for the escapement mechanism, slidably mounted on the draw bar and in constant contact with the depending arm, said escapement actuating member being operated to move the escapement dog toward the end of the movement of the draw bar, substantially as described.

3. In ribbon lift and escapement mechanism, the combination of key levers and keys, a universal bar adapted to be actuated by the depression of a key, a pivoted escapement dog, an arm depending from the dog, a draw bar connected with and extending rearwardly from the universal bar, a member carried by the draw bar for actuating the ribbon lift at the beginning of a printing stroke, an actuating member for the escapement mechanism, slidably mounted on the draw bar and in constant contact with the depending arm, said escapement actuating member being operated to move the escapement dog toward the end of the movement of the draw bar, and a stop member against which a portion of the escapement mechanism normally rests, substantially as described.

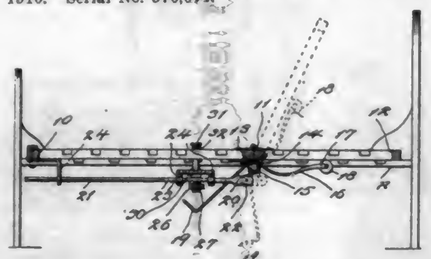
4. In ribbon lift and escapement mechanism, the combination of key levers and keys, a universal bar adapted to be actuated by the depression of a key, a draw bar connected with the universal bar, and provided with a depending head furnishing a cam member, a ribbon lift plate adapted to be elevated by a movement of the cam, an escapement dog, an actuating member for the escapement dog, carried by and slidably mounted on the draw bar, said escapement actuating member being in constant engagement with said draw bar and imparting movement directly to said escapement dog, said draw bar imparting motion to said escapement actuating member toward the end of the printing stroke, substantially as described.

5. In ribbon lift and escapement mechanism, the combination of key levers and keys, a universal bar adapted to

be actuated by the depression of a key, escapement devices and ribbon lift devices, a draw bar, actuated by the universal bar and acting directly upon the ribbon lift devices, a non-resilient member for actuating the escapement devices, and held in constant operative engagement therewith, and a lost motion connection between the escapement actuating member and the draw bar, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

969,531. ATTACHMENT FOR BEDS. JOHN D. ESTES and HENRY E. ESTES, Phillipsburg, Mo. Filed July 2, 1910. Serial No. 570,071.



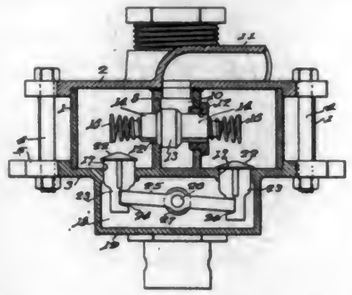
1. In a device of the kind described, a main frame, a secondary frame hinged to said main frame, a roller journaled beneath said main frame, a pair of spring members having their middle portions secured to said roller, one end of each member being provided with an anti-friction roller resting against the under side of said secondary frame, the other end of each member being provided with a treadle, a rock arm projecting from said roller, a ratchet bar having one end pivotally connected to the rock arm, guides on said main frame through which said ratchet bar passes, a latch bar extending transversely below said main frame and having an edge portion engaging with the ratchet of said ratchet bar, posts passing vertically through opposite sides of the main frame, means on the lower ends of said posts to secure the ends of the latch bar to the posts, a head on the upper end of each post, and a spring surrounding each post below its head and having its lower end bearing against the main frame.

2. In a device of the kind described, a main frame, a secondary frame hinged to said main frame, a roller journaled beneath said main frame, a pair of spring members having their middle portions secured to said roller, one end of each of said members being provided with an anti-friction roller resting against the under side of said secondary frame, the other end of each member being provided with a treadle, a rock arm projecting from said roller, a ratchet bar having one end pivotally connected to the rock arm, guides on said main frame through which said ratchet bar passes, and yieldable means to support each end of said latch bar independently on the main frame.

3. In a device of the kind described, a main frame, a secondary frame hinged to said main frame, a roller journaled beneath said main frame, a pair of spring members having their middle portions secured to said roller, one end of each of said members being provided with an anti-friction roller resting against the under side of said secondary frame, the other end of each member being provided with a treadle, a rock arm projecting from said roller, a ratchet bar having one end pivotally connected to the rock arm, guides on said main frame through which said ratchet bar passes, and a releasable latch to hold said ratchet bar in adjusted position.

969,532. OSCILLATING MOTOR. WILLIAM V. FRANK, Springfield, Ohio. Filed Sept. 4, 1909. Serial No. 516,295. Renewed July 22, 1910. Serial No. 573,284.

1. In an oscillating motor, the combination, with a cylinder, a shaft journaled therein, and a piston carried by said shaft, of an abutment having inlet ports formed therein and communicating with the interior of the cylinder on opposite sides thereof, a double acting valve to control said ports, exhaust ports formed in said cylinder on opposite sides of said abutment, exhaust valves controlling said exhaust ports, and means actuated by the movement of said piston for shifting said exhaust valves.



2. In an oscillating motor, the combination, with a cylinder, a shaft journaled therein, and a piston carried by said shaft, of an abutment having inlet ports formed therein and communicating with the interior of the cylinder on opposite sides thereof, a double acting valve to control said ports, exhaust ports formed in said cylinder on opposite sides of said abutment, exhaust valves controlling said exhaust ports, and a part carried by said piston adapted to engage one of said exhaust valves and reverse the positions of both of said exhaust valves.

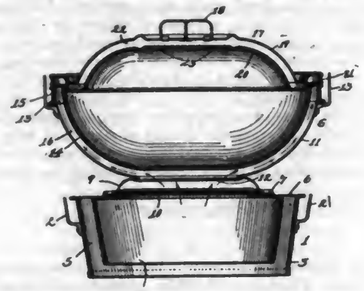
3. In an oscillating motor, the combination, with a cylinder, a shaft journaled therein, and a piston carried by said shaft, of an abutment having inlet ports formed therein and communicating with the interior of the cylinder on opposite sides thereof, a double acting valve to control said ports, exhaust ports formed in said cylinder on opposite sides of said abutment, exhaust valves controlling said exhaust ports, and a spring-pressed part carried by said piston and adapted to engage one of said exhaust valves and reverse the positions of both of said exhaust valves.

4. In an oscillating motor, the combination, with a cylinder, a shaft journaled therein, and a piston carried by said shaft, of an abutment having inlet ports formed therein and communicating with the interior of the cylinder on opposite sides thereof, a double acting valve to control said ports, exhaust ports formed in said cylinder on opposite sides of said abutment, exhaust valves controlling said exhaust ports and connected one to the other to cause the same to move in unison in opposite directions, said exhaust valves having inclined surfaces, and spring-pressed pins carried by said piston and having inclined lower ends, each adapted to engage the inclined surface of the respective exhaust valve when said exhaust valve is in its open position.

5. In an oscillating motor, the combination, with a cylinder comprising a casing, cylinder heads secured thereto, a shaft journaled in said cylinder heads, and a piston carried by said shaft, of an abutment arranged within said cylinder and having inlet ports communicating with the interior of said cylinder on opposite sides of said abutment, a double acting valve for controlling said inlet ports, exhaust ports formed in one of said cylinder heads on opposite sides of said abutment, exhaust valves for controlling said exhaust ports having inclined upper surfaces and connected one to the other to cause the same to move in unison in opposite directions, projections secured to the opposite sides of said piston, and a spring-pressed part carried by each of said projections and adapted to engage the corresponding exhaust valve as the piston approaches the abutment on the side of that exhaust valve.

[Claims 6 to 8 not printed in the Gazette.]

969,533. DOUGH-RAISER. JOSEPH C. GRANT, Akron, Ohio. Filed Dec. 1, 1909. Serial No. 530,830.



1. A dough raiser comprising a lower vessel having walls formed of a non-heat-conducting substance, said vessel being provided with an opening in its upper side, a double walled receptacle arranged upon said lower vessel, the walls of said receptacle being spaced apart to form an air chamber between the same, said chamber communicating with an opening in the under side of the outer wall of said receptacle, said opening registering with the opening in said lower vessel, and a cover for said receptacle, substantially as described.

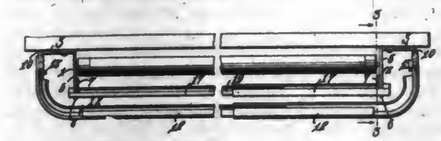
2. A dough raiser comprising a lower vessel having non-heat conducting walls, said vessel being provided with an opening in its upper side, a double walled receptacle arranged upon said lower vessel, the walls of said receptacle being spaced apart to form an air chamber between the same, said chamber communicating only with an opening in the under side of the outer wall of said receptacle, said opening registering with the opening in said lower vessel, and a cover for said receptacle having an air space formed therein, substantially as described.

3. A dough raiser comprising a lower double walled vessel, the walls of said vessel being spaced apart to form a closed air jacket between the same, said vessel being open at its upper side, a double walled receptacle arranged upon said lower vessel, the walls of said receptacle being spaced apart to form an air chamber between the same, said chamber communicating with an opening in the under side of the outer wall of said receptacle, said opening registering with the opening in said lower vessel, and a perforated cover for said receptacle, said cover being comprised of two spaced members, the latter forming an air space between them, substantially as described.

4. A dough raiser comprising a lower double walled vessel, the walls of said vessel being spaced to form a closed air jacket between the same, a stationary top for said vessel having a central opening therein, a double-walled receptacle arranged upon said lower vessel, a seat for said receptacle provided upon the top of said lower vessel, the walls of said receptacle being spaced apart to form an air chamber between the same, said chamber communicating only with an opening provided centrally in the under side of the outer wall of said receptacle, said opening being in registration with the opening in the top of said lower vessel, and a handled perforated cover for said receptacle, said cover being comprised of two spaced members forming an intermediate air space, substantially as described.

5. A dough raiser comprising a lower substantially cylindrical double walled vessel, handles for said vessel, the walls of said vessel being spaced apart to form a closed air jacket between the same, a stationary top for said vessel having a circular opening centrally provided therein, a double-walled substantially hemispherical receptacle arranged upon said lower vessel, handles for said receptacle, an annular ridge provided upon said top of said lower vessel for holding said receptacle centrally over the opening in said vessel, the walls of said receptacle being spaced apart to form a coextensive air chamber between the same, said chamber communicating only with an opening provided centrally in the under side of the outer wall of said receptacle, a handled snugly fitting substantially hemispherical cover for said receptacle, said cover being comprised of two spaced members forming an intermediate air space, the said cover being provided with a series of openings centrally positioned therein, substantially as described.

969,534. CURTAIN AND SHADE HANGER. EUGENE HAYWARD and WILLARD WALTER, Sturgis, Mich.; said Hayward assignor to said Walter. Filed Sept. 21, 1909. Serial No. 518,824.



1. In a device of the class described, the combination of the supporting brackets having pairs of arms thereon, the inner arms of the brackets being adapted to receive shade roller pintles and having headed lugs at their outer ends, each arm having an inwardly projecting headed pivot thereon; and outer and inner curtain hangers, each comprising an outer and an inner member adapted to receive a curtain therebetween, said members being formed of telescoping sections, the outer members being adapted to receive the inner members, the outer member of the inner hanger being provided with key hole slots adapted to be engaged with said lugs on the ends of the inner arms of the bracket, the ends of the inner member of the inner hanger being turned rearwardly and provided with key hole slots adapted to be engaged with the pivots on the inner arms of the brackets, the outer member of the outer hanger being secured to the outer arms of the bracket, the inner member of the outer hanger being provided with key hole slots adapted to be engaged with said pivots on the said outer arms of the brackets.

2. In a device of the class described, the combination of the supporting brackets having pairs of arms thereon, the inner arms having lugs at their outer ends, each arm having an inwardly projecting headed pivot thereon; and outer and inner curtain hangers, each comprising an outer and an inner member adapted to receive a curtain therebetween, the outer members being adapted to receive the inner members, the outer member of the inner hanger being engaged with said lugs on the ends of the inner arms of the bracket, the ends of the inner member of the inner hanger being turned rearwardly and engaged with the pivots on the inner arms of the brackets, the outer member of the outer hanger being secured to the outer arms of the bracket, the inner member of the outer hanger being engaged with said pivots on the said outer arms of the brackets.

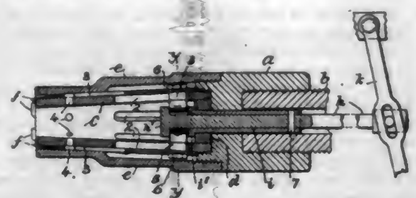
3. In a device of the class described, the combination of the supporting brackets having pairs of arms thereon, the inner arms being adapted to receive shade holder pintles; and outer and inner curtain hangers, each comprising an outer and an inner member adapted to receive a curtain therebetween, said members being formed of telescoping sections, the outer members being adapted to receive the inner members, the outer members being secured to said bracket arms in a relatively fixed relation, and the inner members being pivotally and slidably mounted thereon, the ends of the outer hanger being curved inwardly to embrace the ends of the inner hanger.

4. In a device of the class described, the combination of the supporting brackets having pairs of arms thereon, the inner arms being adapted to receive shade holder pintles; and outer and inner curtain hangers, each comprising an outer and an inner member adapted to receive a curtain therebetween, the outer members being adapted to receive the inner members, the outer members being secured to said bracket arms in a relatively fixed relation, and the inner members being pivotally and slidably mounted thereon.

5. In a device of the class described, the combination of the supporting brackets having arms thereon adapted to receive shade roller pintles and having headed lugs at their outer ends and inwardly projecting headed pivots on said arms; and a curtain hanger comprising an outer and an inner member adapted to receive a curtain therebetween, said members being formed of telescoping sections, the outer member being provided with key hole slots adapted to be engaged with said lugs on the ends of said bracket arms, the ends of the inner member being turned rearwardly and provided with key hole slots adapted to be engaged with said pivots on said arms.

[Claims 6 to 21 not printed in the Gazette.]

969,535. CORK AND BUNG CUTTER. JOHN HOWE, New York, N. Y., assignor of one-half to himself and one-half to James Blumer, New York, N. Y. Filed July 15, 1909. Serial No. 507,689.



1. The combination with a revoluble head stock, of a hollow tapering head connected therewith and longitudinally slotted, a series of knives or cutters circularly arranged upon the surface of the hollow tapering head, means connected to said cutters and passing through the slots of the hollow head, and other means connected with the latter means providing for a reciprocation of said cutters simultaneously with their revolution by the revoluble head stock.

2. The combination with a revoluble head stock, of a hollow tapering head connected therewith and longitudinally slotted, a series of knives or cutters circularly arranged upon the surface of the hollow tapering head, means connected to said cutters and passing through the slots of the hollow head, other means connected with the latter means providing for a reciprocation of said cutters simultaneously with their revolution by the revoluble head stock, and an imperforate surrounding tapering sleeve inclosing the series of knives or cutters.

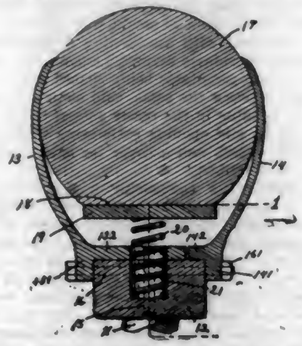
3. A cork or bung cutter, comprising a head stock, a tubular spindle adapted to be revolved, a tapering head connected to the head stock and provided with spaced apart longitudinal slots, a series of knives or cutters circularly arranged around the tapering head and also provided with spaced slots, studs secured in the tapering head and having parts received in the slots of the cutters, and bolts passing through the slots of the tapering head and connected to the series of knives or cutters, and means adapted for longitudinal movement and for engagement with said bolts for reciprocating the said series of knives or cutters.

4. A cork or bung cutter, comprising a head stock, a tubular spindle adapted to be revolved, a tapering head connected to the head stock and provided with spaced apart longitudinal slots, a series of knives or cutters circularly arranged around the tapering head and also provided with spaced slots, studs secured in the tapering head and having parts received in the slots of the cutters, and bolts passing through the slots of the tapering head and connected to the series of knives or cutters, an axially disposed rod and a surrounding sleeve connected together, and means for moving the same through the center of the head stock and tubular spindle, a head formed with said rod and another head formed with said sleeve and spaced apart to come at opposite sides of said bolts, whereby a reciprocating movement is imparted to the series of knives or cutters.

5. A cork or bung cutter, comprising a head stock, a tubular spindle adapted to be revolved, a tapering head connected to the head stock and provided with spaced apart longitudinal slots, a series of knives or cutters circularly arranged around the tapering head and also provided with spaced slots, studs secured in the tapering head and having parts received in the slots of the cutters, and bolts passing through the slots of the tapering head and connected to the series of knives or cutters, means adapted for longitudinal movement and for engagement with said bolts for reciprocating the said series of knives or cutters, and a surrounding tapering sleeve inclosing the series of knives or cutters.

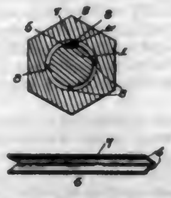
[Claim 6 not printed in the Gazette.]

969,536. VEHICLE-WHEEL. JOHN ILLINGWORTH, Newark, N. J. Filed Jan. 19, 1910. Serial No. 538,899.



A wheel comprising a hub, spokes radiating from said hub, a felly mounted on said spokes, a detachable rim comprising opposite annular side sections concave-convex in cross-section with their concave faces next each other and having their outer edges converging, means for clamping said sections at their inner edges to the felly in fixed relation thereto, an elastic tire between said rim sections of greater cross-sectional diameter thereat than the distance between said converging edges of the rim sections and having convex sides engaging said side sections of the rim, the curvature of said sides of the tire being on a shorter radius than the curvature of the inner sides of the rim sections and said tire adapted to move radially of the wheel between said rim sections, and springs between said tire and felly normally forcing the tire outward.

969,537. NUT-LOCK. PETER PAUL JARGICK, La Grange, Ill., assignor of one-half to George W. Rettig, Willow Springs, Ill. Filed Sept. 30, 1909. Serial No. 520,868.

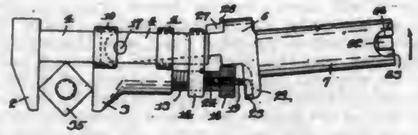


1. In a nut lock, a threaded bolt and a threaded nut adapted to receive said bolt, longitudinally extending ratchet grooves in the threaded portion of said nut, a longitudinally extending recess in the threaded portion of said bolt, the bottom of said recess being perpendicular to the radius bisecting it, a locking member loosely resting in said recess, said locking member being formed of angular resilient metal substantially V-formed in cross section, one of the divergent portions of said locking member resting flat upon the bottom of said recess, the other divergent portion projecting obliquely outwardly therefrom, the outer edge of the last mentioned portion being adapted to engage said ratchet grooves to prevent retrograde rotation of said nut upon said bolt, substantially as described.

2. In a nut lock, a threaded bolt and a threaded nut adapted to receive said bolt, longitudinally extending ratchet grooves in the threaded portion of said nut, a longitudinally extending recess in the threaded portion of said bolt, the said recess being substantially the full length of the thread and terminating at a distance from the end of said bolt less than the thickness of said nut, a locking member resting in said recess, said locking member being formed of angular resilient metal substantially V-formed in cross section, one of the divergent portions of said locking member resting flat upon the bottom of said recess, the other divergent portion projecting obliquely and outwardly therefrom, the outer edge of the last mentioned portion being adapted to engage said ratchet grooves to prevent retrograde rotation of said nut upon said bolt, substantially as described.

3. In a nut lock, a threaded bolt and a threaded nut adapted to receive said bolt, longitudinally extending ratchet grooves in the threaded portion of said nut, a longitudinally extending recess in the threaded portion of said bolt, the said recess being substantially the full length of the thread and terminating at a distance from the end of said bolt less than the thickness of said nut, the bottom of said recess being perpendicular to the radius bisecting it, a locking member resting in said recess said locking member being formed of angular resilient metal substantially V-formed in cross section, one of the divergent portions of said locking member resting flat upon the bottom of said recess, the other divergent portion projecting obliquely and upwardly therefrom, the outer edge of the last mentioned portion being adapted to engage said ratchet grooves to prevent retrograde rotation of said nut upon said bolt, substantially as described.

969,538. WRENCH. GEORGE W. JESSUP, Jr., Newton, Mass. Filed July 9, 1909. Serial No. 506,740.



1. In a wrench, the combination of a stock; a jaw provided with a shank pivoted to the stock and movable with relation thereto; a second jaw slidingly fitted to said shank and being movable toward and from the first named jaw in one position of said stock and being prevented by said stock in another position thereof from being moved away from the first named jaw by pressure against said second jaw; and means when in one position permitting relative movement between the shank and the stock and when in another position preventing relative movement between the shank and the stock.

2. In a wrench, the combination of a stock; a jaw provided with a shank pivoted to the stock and movable with relation thereto; a second jaw slidingly fitted to said shank and being prevented by said stock in one position thereof from being moved away from the first named jaw by pressure against said second jaw; means when in one position permitting relative movement between the shank and the stock and when in another position preventing relative movement between the shank and the stock; and a spring pressing said second jaw toward the first named jaw.

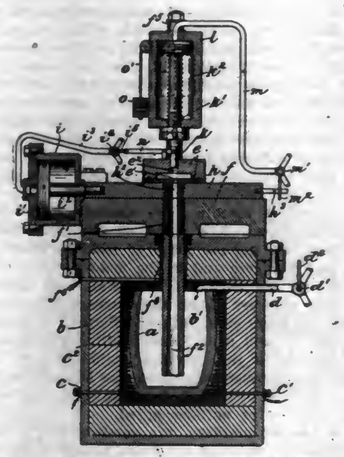
3. In a wrench, the combination of a stock; a jaw provided with a shank pivoted to the stock and movable with relation thereto; a second jaw slidingly fitted to said shank and being movable toward and from the first named jaw in one position of said stock and being prevented by said stock in another position thereof from being moved away from the first named jaw by pressure against said second jaw; and an adjustable bolt when in one position permitting relative movement between the shank and the stock and when in another position preventing relative movement between the shank and the stock.

4. In a wrench, the combination of a stock; a jaw provided with a shank pivoted to the stock and movable with relation thereto; a second jaw slidingly fitted to said shank and being prevented by said stock in one position thereof from being moved away from the first named jaw by pressure against said second jaw; an adjustable bolt when in one position permitting relative movement between the shank and the stock and when in another position preventing relative movement between the shank and the stock; and means for holding said bolt in positions of adjustment.

5. In a wrench, the combination of a stock; a jaw provided with a shank pivoted to the stock and movable with relation thereto; a second jaw slidingly fitted to said shank and being prevented by said stock in one position thereof from being moved away from the first named jaw by pressure against said second jaw; an adjustable bolt having a notch therein and adapted when in one position to permit relative movement between the shank and the stock and when in another position to prevent relative movement between the shank and the stock; and spring-pressed means carried by the stock and adapted to engage said notch and hold said bolt in a position of adjustment.

[Claims 6 to 12 not printed in the Gazette.]

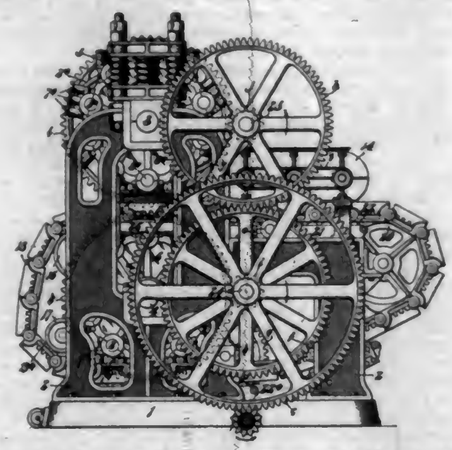
969,539. CASTING APPARATUS. FREDERICK T. KITCHEN, New York, N. Y., assignor, by mesne assignments, to Compressed Metal Company, New York, N. Y., a Corporation of New York. Filed June 16, 1908. Serial No. 438,723.



1. In a casting apparatus, a pot for molten metal, means to force the metal therefrom into the mold, a slide valve to cut off communication between the mold and the pot and prevent the escape of molten metal from the mold, a cylinder and piston to actuate the valve, a plunger adapted to enter the mold to act upon the molten metal therein, and a cylinder and piston to actuate said plunger.

2. In a casting apparatus, a pot for molten metal, means to force the metal therefrom into the mold, a slide valve to cut off communication between the mold and the pot and prevent the escape of molten metal from the mold, a cylinder and piston to actuate the valve, a plunger adapted to enter the mold to act upon the molten metal therein, a cylinder and piston to actuate said plunger, and devices actuated by the movement of the plunger to control the pressure behind the piston in the first named cylinder.

969,540. BRIQUET-MACHINE. GUSTAV KOMAREK, St. Louis, Mo. Filed Dec. 21, 1908. Serial No. 468,494.



1. In a briquet machine, the combination with top and bottom pivotally mounted plungers, mold carriers moving continuously in one direction between said plungers, and means for differentially and positively moving said plungers about their pivotal axes, whereby the bottom plungers are caused to enter and recede from the cavities in the mold carriers in substantially perpendicular position, and at different points in the travel of said carriers to first form and then subsequently discharge briquets.

2. In a briquet machine, the combination with top and bottom pivotally mounted revoluble plungers, one set of said plungers being yielding, mold carriers moving continuously in one direction in the path between said plungers, and means for differentially and positively moving said plungers about their pivotal axes, whereby the bottom plungers enter into and recede from the cavities in the mold carriers in substantially perpendicular position, and at different points in the travel of said carriers to first form and then subsequently discharge briquets.

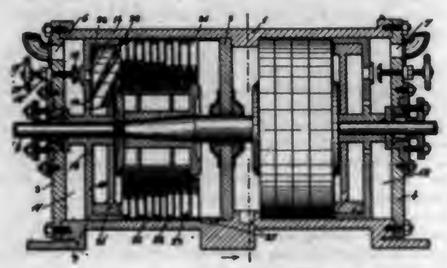
3. In a briquet machine, the combination of top and bottom pivotally mounted revoluble plungers, means for driving them, an endless chain of mold carriers passing between said plungers and in the mold cavities of which said plungers compress the material, and means for moving said plungers about their pivotal axes, whereby the bottom plungers enter into and recede from said mold carriers, with their axes substantially in alinement at different points in the travel of said carriers, to first form and then subsequently discharge briquets said plungers and carriers traveling together while in such cooperative relation at uniform speed.

4. In a briquet machine, the combination of top and bottom pivotally mounted revoluble plungers, an endless chain of mold carriers passing between said plungers, means for filling the cavities in said chain before the plungers enter the cavities, and means for causing the bottom plungers to enter into and recede from the mold cavities at different points in the travel of said carriers, to first form and then subsequently discharge briquets while standing substantially perpendicular to that part of the chain with which said plungers coöperate.

5. In a briquet machine the combination with an endless chain of mold plates pivotally connected together and having movement independent of each other, pivotally mounted revolving plungers adapted to enter said mold cavities in said plates at different points to compress and then discharge the briquets, the play between the plates compensating for differential horizontal travel of the plungers and plates, and means for positively rocking said plungers on their pivotal axes.

[Claims 6 to 26 not printed in the Gazette.]

969,541. TURBINE. RUDOLF KOSTANJEVIC, JOSEF MATZENIK, and FELIX GESSI, Trieste, Austria-Hungary. Filed Apr. 11, 1910. Serial No. 554,866.



1. In an elastic fluid turbine, the combination with a casing, and a movable vaned wheel, of partitions within said casing providing an admission chamber and a distributing chamber, and a distributing ring located adjacent to said vaned wheel and formed with spiral channels communicating with said distributing chamber and discharging toward the vaned wheel.

2. In an elastic fluid turbine, the combination with movable vaned wheels, of a stationary ring disposed between said wheels, and vanes on said stationary ring, said vanes being formed at their sides with enlarged rims fitting on the adjacent vane and converging with their inner faces toward the discharge side of the vanes.

3. In a machine of the character described, a casing, means to form admission and distributing chambers therein, rotatable vaned wheels disposed within said casing, and distributing rings one for each of said distributing chambers located adjacent to said vaned wheels and formed with spiral ports communicating with said distributing chambers and discharging toward the vaned wheels respectively.

4. In an elastic fluid turbine, the combination with a casing, and a movable vaned wheel, of partitions within said casing providing an admission chamber and a distributing chamber, and a distributing ring located adjacent to said vaned wheel and formed with spiral channels communicating with said distributing chamber and discharging toward the vaned wheel, said admission and distributing chambers communicating with each other through apertures the cross-sections area of which is sufficient to supply the motive fluid required for the minimum load of the turbine, and means to establish further communication sufficient to supply the motive fluid required under heavier loads.

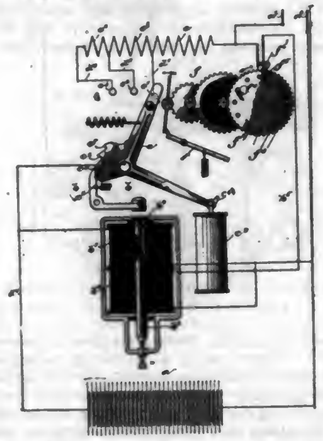
5. In an elastic fluid turbine, the combination with a casing comprising two independent chambers, and movable vaned wheels located one in each of said chambers and mounted on the same shaft, of partitions within each of said chambers providing admission chambers and distributing chambers, and distributing rings one for each of said chambers located adjacent to said vaned wheels and formed with spiral ports communicating with said distributing chambers and discharging toward the vaned wheels respectively, the said channels and the vanes on said vaned wheels being arranged in opposition to each other in both chambers.

[Claims 6 and 7 not printed in the Gazette.]

969,542. APPARATUS FOR CHARGING STORAGE BATTERIES. ALVARO S. KROTZ, Springfield, Ohio, assignor of one-half to Paul A. Staley, Springfield, Ohio. Filed Jan. 12, 1905. Serial No. 240,720.

1. In combination with a source of electric supply and a battery to be charged, a connection between said battery and said source of electric supply adapted to normally charge said battery at a maximum rate, and means controlled by the potential of said battery to vary the electrical connection to produce a lower rate of charge when a predetermined voltage in the battery has been reached, substantially as specified.

2. In an apparatus for charging storage batteries, means controlled by the accumulated voltage of the battery in charging to successively reduce the charging rate and to automatically bring into operation a timing device to give the battery a definite overcharge when it has reached its normal charged potential, substantially as specified.



3. In an apparatus for charging storage batteries, means controlled by the variation of the potential of the battery in charging to successively change the rate of charging and to automatically discontinue the charging when the battery has reached its normal charged potential, substantially as specified.

4. In a charging apparatus an automatic circuit breaker having two opposing magnets and a movable core, said magnets being arranged successively and longitudinally along said movable core in the direction of its travel, one of said magnets being arranged in a circuit of constant potential and the other magnet being in a circuit of varying potential, means for adjusting the normal position of said core so as to vary the operative differential pull of said magnets.

5. In an automatic circuit breaker for a charging apparatus, opposing magnets operating on a movable core, said magnets being arranged successively and longitudinally along said core in the direction of its travel, one of said magnets being located in a shunt of the charging circuit and the other in a circuit having a constant potential, substantially as specified.

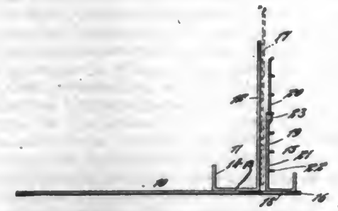
[Claims 6 to 14 not printed in the Gazette.]

969,543. NUT-LOCK. ANDREW M. LANCE, Batson, Tex. Filed Nov. 16, 1909. Serial No. 528,319.



A nut lock formed of a single piece of metal having its intermediate portion forming the permanent C-shaped body portion having a flat inner face to engage the side of a nut, resilient arms 7 extended from the extremities of the body at right angles to said flat face, the inner faces of the arms—inwardly from their outer extremities—curved and normally spaced apart to impinge the embraced bolt in a plane at right angles to the flat nut-holding face of the body, the outer extremities of the resilient arms extended to receive an expanding tool, substantially as described.

969,544. SKIRT-MARKER. ANDREW H. LANDER, Port Chester, N. Y. Filed Mar. 12, 1910. Serial No. 548,976.

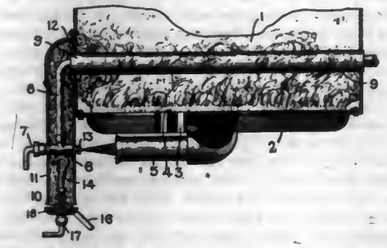


1. A device of the character described, comprising a base, a substantially L-shaped guard member having a portion adapted to fit within the skirt and form a backing while marking the skirt and a relatively short part as a guard for the foot, and a marking element comprising two members and supported on the base, each marking member having horizontally extending guides and straight edges with spaces between the same and with hooked portions on one member to receive the ends of the other member to detachably hold said members together.

2. A device of the character described, comprising a base, a substantially L-shaped guard member secured to said base and having a portion adapted to fit within the skirt and form a backing while marking the same and a relatively short part as a guard for the foot, and a marking element supported on a part of said base and comprising two detachable members each having horizontally extending and spaced guide and straight edges, substantially as and for the purpose described.

3. A device of the character described, comprising a base, a guard member secured to said base and having a portion adapted to fit within the skirt and form a backing while marking the same and a relatively short part as a guard for the foot, a marking element comprising two detachable members supported on a part of said base each marking member having horizontally extending and spaced guide and straight edges, one of said marking members having a straight lower portion and the other having hooked portions to receive the ends of the other member to detachably hold said members together.

969,545. KEROSENE-BURNER. HERMANN LEMP, Lynn, Mass., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed Aug. 5, 1903. Serial No. 168,297.



1. The combination of a burner of the chamber type, a casing adjacent the same which forms a combustion chamber, a vaporizer arranged in the chamber, an injector exterior to the chamber which receives vapor from the vaporizer and delivers it to the burner, an open ended flue in the walls of which the injector is mounted with its nozzle outside said walls, said flue opening to the air at its outer end and having its inner end entering the combustion chamber adjacent one end of the vaporizer, a conduit located within the flue which conveys fuel vapor from the vaporizer to the injector, a pilot burner in the flue between the outer end and the injector, which directs its flame against the injector and also along the flue into

the chamber to heat the vaporizer, and a vaporizer for the pilot burner which is heated by the flame thereof.

2. A burner system comprising a main burner, a vaporizer arranged above the burner, a casing for the vaporizer which forms a combustion chamber, and an injector receiving vapor from the vaporizer which is exterior to the casing, in combination with an auxiliary or pilot burner which comprises a nozzle, a vaporizing coil connected with the nozzle which is heated by the pilot flame, a flue in the walls of which the injector is mounted with its nozzle projecting beyond said walls, an injector tube leading from a point opposite the injector nozzle to the main burner, said flue surrounding the auxiliary burner, directing the pilot flame on the injector and entering the casing opposite the main vaporizer to discharge its contents over said vaporizer, a conduit extending along the median line of the flue between the main vaporizer and the injector, and a starting cup for heating the auxiliary system which is arranged adjacent the outer end of the flue to receive fuel from said pilot burner nozzle.

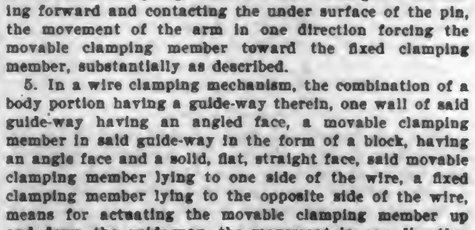
3. In combination, a casing, a main burner of the chamber type attached to the lower end of the casing, a vaporizer arranged in the casing above the burner, a pilot burner, an injector for the main burner which receives vapor from the vaporizer and is arranged between the latter and the pilot burner, a vaporizer for the pilot burner which is disposed between the same and the injector to be heated by the pilot flame, a flue in the walls of which the injector is mounted transversely of the flue passage with its nozzle projecting from one of said walls, said flue also surrounding the pilot burner and its vaporizer and entering the casing adjacent the main vaporizer to discharge its contents over said vaporizer, a conduit extending along the median line of the flue between the main vaporizer and the injector, and a valve for the injector, the handle of which projects from the walls of the flue opposite the nozzle.

4. A burner system, comprising a main burner, a casing, a main vaporizer within the casing which is heated by the burner, an injector for supplying vapor to the burner, and a tube between said main vaporizer and the injector, the latter being exterior to the casing, in combination with a pilot burner comprising a vapor discharging nozzle which is located adjacent to and directs its flame against the injector and along said tube, a vaporizer connected with and supplying said nozzle which is heated by the pilot flame, and a flue along the median line of which the tube between the injector and the main vaporizer extends, said flue surrounding the pilot burner system and the injector and entering the casing opposite said main vaporizer.

5. The combination of a main burner, a casing extending upwardly from the burner, a main vaporizer arranged in the casing for supplying the burner, the casing having an opening adjacent said main vaporizer, an injector discharging fuel vapor from the main vaporizer to the burner, a tubular flue in the walls of which the injector is mounted transversly of the flue passage with its nozzle projecting from the walls thereof, an injector tube leading from a point opposite the nozzle to the main burner, said flue being open to the atmosphere at one end and having its other end connected with the opening in the casing, a tube extending along the median line of the flue between the main vaporizer and the injector to supply the latter with fuel, a pilot burner arranged in the open end of the flue which sends its flame along said flue over the injector and the tube and through the opening in the casing to contact with the main vaporizer, and a vaporizer for the pilot burner which is heated by its flame.

969,546. WIRE-CLAMPING MECHANISM. EDWARD LEWIS, Youngstown, and FRANK H. NULLMEYER, Struthers, Ohio, assignors to The Youngstown Sheet & Tube Company, Youngstown, Ohio, a Corporation of Ohio. Filed Nov. 30, 1909. Serial No. 530,559.

1. In a wire clamping mechanism, the combination of a fixed body portion having a tapered guideway formed therein, a movable clamping member slidable within said guideway and having one of its faces beveled to conform to the bevel of the guideway, and having one of its opposite faces extending in a plane parallel with the wire and forming a gripping surface adapted to be impinged against the wire, a fixed clamping member, and means for sliding the movable member up and down the guideway to move its clamping surface toward and from the fixed clamping member, substantially as described.



2. In a wire clamping mechanism, the combination of a fixed body portion having a tapered guideway formed therein, a movable clamping member slidable within the guideway and having one of its faces beveled to conform to the bevel of the guideway, and having one of its opposite faces extending in a plane parallel with the wire and forming a gripping surface adapted to be impinged against the wire, a pin on the movable clamping member, the fixed body portion having a recess in which said pin travels, a fixed clamping member, and means for sliding the movable clamping member up and down the guideway to move its clamping surface toward and from the fixed clamping member, substantially as described.

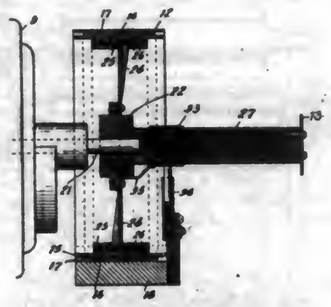
3. In a wire clamping mechanism, the combination of a fixed body portion having a tapered guideway formed therein, a movable clamping member slidable within said guideway and having one of its faces beveled to conform to the bevel of the guideway, and having one of its faces extending in a plane parallel with the wire and forming a gripping surface adapted to be impinged against the wire, a pin on the movable clamping member, the fixed body portion having a recess in which said pin travels, means for sliding the movable clamping member up and down the guideway to move its clamping surface toward and from the fixed clamping member, and means for maintaining an upward spring tension upon the movable clamping member, substantially as described.

4. In a wire clamping mechanism, the combination of a fixed body portion having a tapered guideway formed therein, a movable clamping member slidable within said guideway, a pin on the movable clamping member, the body portion having a recess in which said pin travels, a fixed clamping member, an arm pivotally mounted upon a bearing secured to the fixed body portion, one end of the arm being forked to receive the pin, and the other end of the arm serving as a handle to be grasped in actuating the arm, and a spring secured to the bearing and extending forward and contacting the under surface of the pin, the movement of the arm in one direction forcing the movable clamping member toward the fixed clamping member, substantially as described.

5. In a wire clamping mechanism, the combination of a body portion having a guide-way therein, one wall of said guide-way having an angled face, a movable clamping member in said guide-way in the form of a block, having an angle face and a solid, flat, straight face, said movable clamping member lying to one side of the wire, a fixed clamping member lying to the opposite side of the wire, means for actuating the movable clamping member up and down the guide-way, the movement in one direction wedging the clamping member between the face of the guide-way and the wire, to clamp the wire between the fixed clamping member and the straight face of the block, substantially as described.

[Claim 6 not printed in the Gazette.]

969,547. OZONIZER. OSCAR LINDER, Chicago, Ill., assignor to Standard Electro-Utilities Company, a Corporation of Arizona. Filed June 18, 1910. Serial No. 567,656.



1. In a device of the class described, a stationary circular electrode, a rotating electrode adjacent thereto, and means exterior the rotating electrode for producing an air draft past the rotating electrode whereby the ozonized air will be removed, substantially as described.

2. In a device of the class described, a stationary circular electrode, a rotating electrode adjacent the stationary electrode, the rotating electrode being in the form of a fan, and a supplemental fan in line with the rotating electrode, the electrode and supplemental fan adapted to create an air draft when running whereby the ozonized air will be removed, substantially as described.

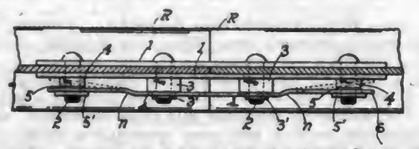
3. In a device of the class described, a circular insulating annulus, a stationary electrode in the form of a band of conducting material surrounding the annulus on its exterior periphery, and a rotating electrode adjacent the annulus and spaced therefrom a distance to create an electrical discharge between the electrodes, the rotating electrode being provided with a plurality of discharge shoes of a width substantially the same as that of the stationary electrode band, substantially as described.

4. In a device of the class described, an insulating annulus, a stationary electrode surrounding the annulus and spaced therefrom a distance to create an electrical discharge between the electrodes, the rotating annulus being provided with a plurality of discharge shoes, each provided with a plurality of air holes whereby when the rotating electrode is in motion air draft will be created through said holes to remove the ozonized air from the electrodes, substantially as described.

5. In a device of the class described, a stationary electrode, a rotating electrode spaced therefrom a distance to create an electrical discharge between the electrodes, and an air fan adjacent the rotating electrode and insulated therefrom and adapted to create an air draft to remove the ozonized air, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

969,548. NUT-LOCK. FRANK E. LINDHORST, St. Louis, Mo., assignor of one-half to George Harris, St. Louis, Mo. Filed Feb. 12, 1910. Serial No. 543,501.

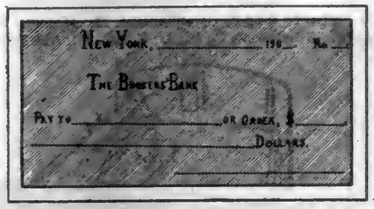


1. In combination with a series of bolts and nuts carried thereby, a locking member having the intermediate portion of one face thereof exerting a pressure against adjacent nuts, in one direction, the terminal portions of the opposite face of the member exerting a pressure against adjacent nuts in the opposite direction, the member being provided with openings for the passage therethrough of the outer terminals of the intermediate nuts.

2. In combination with a series of bolts, nuts passed over the same, the intermediate nuts having outer polygonal reduced portions, and the terminal nuts having outer flanges formed thereon, a complementary member or washer at the inner end of each terminal nut, and a locking plate having openings for receiving the reduced extensions of the intermediate nuts and the bodies of the terminal nuts, the plate having offsets to bring the inner face of its intermediate portion in contact with the outer faces of the intermediate nuts, and the outer faces of the end portions into contact with the rear faces of the flanges of the outer nuts, and for permitting of sufficient temporary inward deflection of the end portions to be passed over the washers during the driving home of the terminal nuts, substantially as set forth.

3. In combination with a series of three or more nuts, the outer pair of which terminate in a flange extending beyond the body of the nut, and the intermediate nuts terminating in a reduced polygonal portion, a locking plate having openings passed over the reduced portions of the intermediate nuts and bearing against the faces of the nuts, and other openings passed over the bodies of the outer pair of nuts and engaging the rear faces of the flanges thereof, substantially as set forth.

969,549. SENSITIVE SAFETY-PRINT. HENRY W. F. LORENZ, Jersey City, N. J. Filed Apr. 16, 1909. Serial No. 490,386.



1. A sensitive safety print on paper, consisting of a paper substance printed with an ink composed, primarily, of a chemically sensitive, soluble substance, which is capable of forming a lake insoluble in water, dissolved in a vehicle containing a precipitant, gum, diluent and a volatile reagent which will prevent the precipitation of said insoluble lake, said print being rendered water-insoluble by exposure to steam vapor.

2. A sensitive safety print on paper, for checks, letters of credit, bank notes, postage stamps, revenue and trade stamps, bonds, stock certificates, railroad tickets, and all manner of security papers, consisting of a paper substance overprinted with an ink composed, primarily, of a chemically sensitive, soluble substance, which is capable of forming a lake insoluble in water, dissolved in a vehicle containing a precipitant, diluent and a reagent which will prevent the precipitation of said insoluble lake, said overprint being rendered water-insoluble by exposure to steam vapor.

3. A sensitive safety print on paper, for checks, letters of credit, bank notes, postage, revenue and trade stamps, bonds, stocks certificates, railroad tickets, and all manner of security papers, consisting of a paper substance printed with an ink composed, primarily, of a chemically sensitive, soluble substance which can be converted into a water-insoluble body, dissolved in a vehicle consisting of a precipitant and a diluent, said print being rendered water-insoluble by exposure to steam vapor.

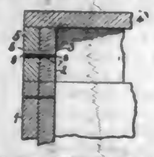
4. A sensitive security print on paper, consisting of a paper substance printed with an ink composed, primarily, of a chemically sensitive, soluble substance, which is capable of being converted into a water-insoluble body, dissolving it in a vehicle consisting of a precipitant and a volatile oil-like diluent, with or without an inert base to give proper working qualities, printing therewith and exposing the print to steam vapor.

5. A sensitive safety print on paper, comprising a paper substance printed with an ink consisting of a soluble,

chemically sensitive dyestuff capable of being converted into a water-insoluble body, dissolved in a volatile, oil-like diluent, with addition of a precipitant for said dyestuff, said print being rendered water-insoluble by exposure to a sufficiently high temperature for driving off the volatile part of the vehicle.

[Claims 6 to 12 not printed in the Gazette.]

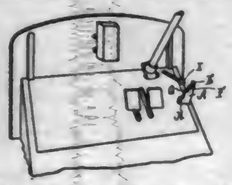
969,550. TOBACCO-BOX FASTENING. PERCY F. MAGEE and ARLIN E. MAGEE, Janesville, Wis. Filed Oct. 18, 1909. Serial No. 523,314.



1. A fastener of the character set forth, comprising a tapered body, the smaller end of which is tubular and non-contractible, the larger end portion being capable of lateral expansion and contraction.

2. A fastener of the character set forth, comprising a tapered body, the smaller end of which is a complete open ended cylinder, the larger end portion being capable of lateral expansion and contraction and having a longitudinal tapered opening in one side.

969,551. FOOT-REST. FREDERICK M. MALEY, Ridley Park, Pa. Filed Sept. 2, 1909. Serial No. 515,940.



1. In an automobile the combination with the accelerator pedal and a support therefor, of a foot rest having a front wall, a side wall, the front wall provided with a number of steps, and means for attaching it beside the accelerator pedal.

2. In an automobile the combination with the accelerator pedal and a support therefor, of a foot rest having a front wall provided with steps, a side wall formed integral therewith, and means for securing it beside the accelerator pedal.

3. In an automobile the combination with the accelerator pedal and a support therefor, of a foot rest consisting of a front wall provided with graduated steps along one edge, a side wall, and means for attaching it beside the accelerator pedal.

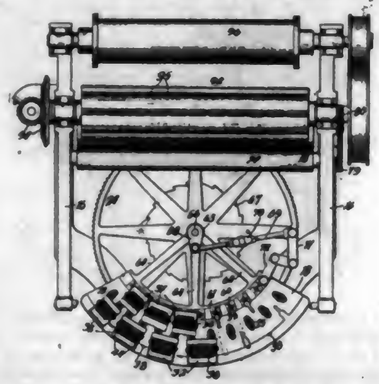
4. In an automobile the combination with the accelerator pedal and a support therefor, of a foot rest consisting of a front wall having graduated steps formed therefrom, a side wall formed integral at right angles to the front wall, and a base formed integral with said walls, having screw receiving openings therein through which pass an attaching means for securing the device beside the accelerator pedal.

5. In an automobile the combination with the accelerator pedal and a support therefor, of a foot rest consisting of a single piece of wire bent to form two braces, a series of eyes, a base member, a plurality of graduated steps, and means for securing the foot rest beside the accelerator pedal.

[Claims 6 and 7 not printed in the Gazette.]

969,552. WIRE-FENCE-MAKING MACHINE. GEORGE E. MIAFIELD, Youngstown, Ohio, assignor to Youngstown Sheet & Tube Co., Youngstown, Ohio, a Corporation of Ohio. Filed May 18, 1909. Serial No. 496,780.

1. In a machine for making wire fence, the combination of a coiler, a feeding device adapted, with each feeding movement, to carry a plurality of stay sections to delivering position, and friction clutch mechanism adapted to move said feeding device until one of the plurality of stay sections has been delivered to the coiler.



2. In a machine for making wire fence, the combination of a coiler, a feeding device adapted, with each feeding movement, to carry a plurality of stay sections to delivering position, mechanism for moving said feeding device until one of the plurality of stay sections has been delivered to the coiler, and a hopper for containing previously cut stay sections in position to be carried therefrom by the feeding device.

3. In a machine for making wire fence, the combination of a coiler, a feeding device adapted, with each feeding movement, to carry a plurality of stay sections to delivering position, friction clutch mechanism adapted to move said feeding device until one of the plurality of stay sections has been delivered to the coiler, and a hopper for containing previously cut stay sections in position to be carried therefrom by the feeding device.

4. In a machine for making wire fence, the combination of a coiler adapted to have a strand wire entered longitudinally theretbrough, a hopper located adjacent to the coiler and adapted to contain previously cut stay sections, a pocketed feed wheel adapted to carry a stay section from the hopper and deposit it upon the coiler in position to be coiled around the strand wire, and a pocketed feed drum eccentrically mounted with respect to the feed wheel and adapted to deliver the stay sections thereto.

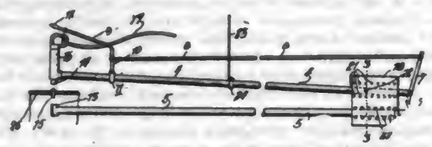
5. In a machine for making wire fence, the combination of a coiler adapted to have a strand wire entered longitudinally therethrough, a hopper located adjacent to the coiler and adapted to contain previously cut stay sections, a pocketed feed wheel adapted to carry a stay section from the hopper and deposit it upon the coiler in position to be coiled around the strand wire, and friction driving mechanism for the pocketed feed wheel, adapted to move one or more of the pockets past the delivering position in case the first pocket misses a stay.

[Claims 6 to 17 not printed in the Gazette.]

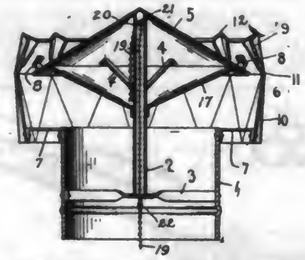
969,553. BOILER-RIVETING HAMMER. ANDREW M. MORRISON, Dubuque, Iowa. Filed July 30, 1909. Serial No. 510,430.

1. A boiler riveter consisting of a resilient arm carrying a heading tool, and a resilient arm carrying a swaging tool, means for mounting said arms in position, and a connection between said arms operating to swing the ends of said arms carrying the tools toward and from each other, the resiliency of said arms being such that when the tools are brought into operative position with the work the arms will be sprung toward one another, and generate a spring tension which will serve to hold the tools in proper contact with the work during the riveting operation, substantially as described.

2. In a boiler riveter, upper and lower resilient metallic arms, the rear ends of said riveter arms being connected together by a toggle joint, a system of levers in connection with said toggle joint for opening and closing said riveter arms, opposite metallic sheets bolted together at the rear end of the device, the upper riveter arm having a hinged bolt passed therethrough and secured to said sheets for giving it a hinging action, upper and lower rivet dies secured to the forward end of said riveter arms, and means for heading rivets, substantially as described.



969,554. VENTILATOR. CHARLES MCVEETY, Plainfield, N. J. Filed Mar. 4, 1910. Serial No. 547,197.



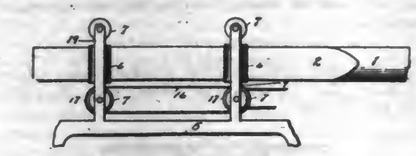
1. In a ventilator, in combination, a collar and a deflector hood concentrically associated with the upper end of the collar and having a polygonal peripheral bend and upper and lower portions tapering upwardly and downwardly respectively from the bend, the said upper and lower portions being characterized by flat faced correspondingly arranged corrugations stamped thereinto and tapering to the bend, and by quadrilateral flat faced portions intervening between the corrugations, the apices of adjoining corrugations being coincident with one another and with the bend.

2. In a ventilator, a collar, a tubular member concentrically arranged therein, a damper slidable on the said tubular member and adapted to close the upper end of the collar, means for operating the damper arranged within the tubular member, a fusible element for said means, said element being adapted at times to be drawn into the tubular member, said tubular member being provided with an opening near its upper end to permit a slight draft through the central member.

3. In a ventilator, a pipe section or collar, means for closing the upper end thereof, a central tubular member arranged within the pipe section and upon which the said means is slidable, an opening in the tubular member near its upper end, a flexible cord having connection with the said means and passing through said opening and down through the tubular member for operating said means, and a fusible element for said cord adapted to be drawn into said tubular member at times, said opening in the tubular member being sufficient to permit sufficient circulation of overheated air through the tubular member to melt the fusible element when the latter is drawn therein.

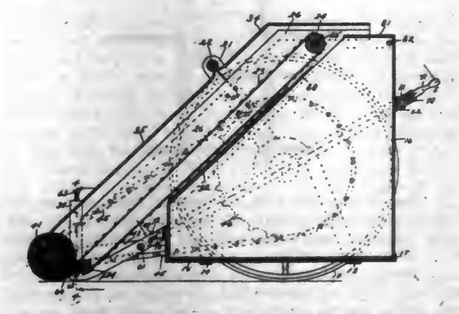
969,555. MACHINE FOR SHAPING PAPER TUBES. THOMAS S. NEAL, Detroit, Mich. Filed June 21, 1909. Serial No. 503,298.

1. In combination with the mandrel of a tube-forming machine, a prismatic mandrel connected therewith as an extension, bearing rolls in cavities in said extension mandrel, a pressure roll opposite each face of the prismatic mandrel forming an external pressure bearing, the said several external pressure rolls having their axes in a single plane, and the said internal bearing rolls having their axes in the same plane, substantially as described.



2. A means for shaping to prismatic form an ordinary round tube comprising a round mandrel a prismatic mandrel forming an extension thereof, a plurality of pressure rolls located in the same plane around said prismatic mandrel and a plurality of bearing rolls in cavities in the prismatic mandrel and having their axes located in the same plane with the axes of the pressure rolls, and means for actuating said pressure rolls, substantially as described.

969,556. STREET-SWEEPER. OSCAR L. NEISLER, Indianapolis, Ind. Filed Apr. 2, 1909. Serial No. 487,579.



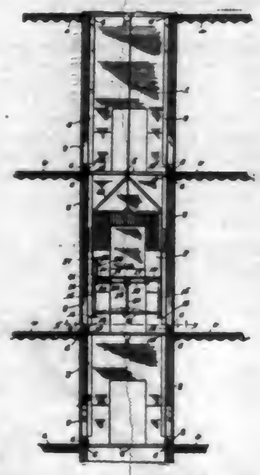
1. A street cleaning machine including a frame, transporting wheels, an inclined conveyer, a brush for removing dirt from the street to the conveyer, clutch controlled means for driving the brush from one transporting wheel, clutch controlled means for driving the conveyer from the other transporting wheel, pivoted handles, one on each side of the machine and bars connecting the handles and clutches to operate the clutch mechanism, said handles being so arranged that they extend toward each other transversely of the machine when the clutch mechanisms are in engagement and longitudinally of the machine when the clutches are disengaged.

2. A street cleaning machine including a frame with inclined side bars, track wheels carrying said frame, a brush mounted at the lower end of the frame, handles pivoted at the upper rear end of the side bars, a conveyer leading from the brush to the upper rear part of the machine, a box for receiving dirt from the conveyer, means actuated by one track wheel for operating the brush, means actuated by the other track wheel for operating the conveyer, clutch bars pivoted to the side bars of the frame in front of the track wheels and extending rearwardly into pivotal engagement with the handles, whereby when the handles are oscillated said clutch bars will be moved laterally, means actuated by said laterally movable clutch bars for throwing the brush and conveyer actuating mechanism into and out of operation with relation to their respective transporting wheels.

3. A street cleaning machine including a frame, an inclined conveyer, a dirt box for receiving dirt from the upper end of the conveyer, a brush at the lower end of the conveyer adapted to ride on the street, a pair of bars in which the ends of said brush are mounted, means for pivoting the rear ends of said bars to the frame of the machine so the brush will have vertical play, vertical slotted

posts in the lower forward portion of the frame of the machine through the slots of which posts brush supporting bars extend, springs in said posts acting downwardly on said bars, and set screws for adjusting the tension of said springs.

969,557. SAFETY DEVICE FOR ELEVATORS. CLYDE B. NORRIS, East Chicago, Ind. Filed Feb. 16, 1910. Serial No. 544,156.



1. The combination with an elevator shaft and an elevator car movable therein, of normally horizontally disposed swinging hatch doors hinged at intervals in said shaft adapted in horizontal position to traverse the passage through said shaft, rack and pinion means adapted normally, upon the descending operation of the elevator car, to successively swingingly elevate said doors to permit of the passage of said car, and manually operable means operatively connected with said last named means whereby the inoperative positioning of said last named means relative to said doors may momentarily be effected, substantially as described.

2. The combination with an elevator shaft and an elevator car movable therein, of horizontally disposed rotary shafts arranged in pairs at intervals in said elevator shaft, normally horizontally disposed hatch doors fixed to said shafts adapted in horizontal position to traverse the passage through said elevator shaft, there being depressions formed in the inner walls of said elevator shaft for the reception of said doors when in elevated position, the outer edge portions of said doors, when in horizontal position, being supported upon ledges formed by said depressions, pinions fixed to each of said door shafts, means carried by and depending from the elevator car adapted through the medium of said pinions, upon the descending operation of said car, to swingingly elevate said doors to permit of the passage of the elevator car, and means manually operable from said car for effecting the inoperative positioning of said last named means, substantially as described.

3. The combination with an elevator shaft and an elevator car movable therein, of rotary shafts arranged in pairs at intervals in said elevator shaft, normally horizontally disposed hatch doors fixed to said shafts adapted in horizontal position to entirely close the passage through said shaft, there being depressions formed in the walls of said elevator shaft for the reception of said doors in vertical position, pinions fixed to said shafts, gears meshing with said pinions, depending rack bars secured to the under side of said elevator car adapted normally, upon the operation of said elevator car to operatively engage said gears to actuate said doors to permit of the passage of said car, and means operable from within said car for swinging said rack bars to inoperative position, substantially as described.

4. The combination with an elevator shaft and an elevator car movable therein, of rotary shafts arranged in pairs in said elevator shaft in horizontal alinement with the landings intersected by the latter, normally horizontally disposed hatch doors fixed to said shafts adapted in horizontal position to traverse the passage through said shaft, seats formed in the walls of said elevator shaft for the reception of said doors in elevated position, pinions fixed to said door shafts, gears meshing with said pinions, depending rack bars swingingly secured to the under side of the elevator car, means for normally holding said bars in position to engage said gears, rotary means arranged in said car operatively connected with said last named means whereby said rack bars may be swung to inoperative position, and means arranged at the top of said car adapted, upon the ascending operation of the latter, to contact and to swingingly elevate said doors, substantially as described.

969,558. GAS-RANGE ATTACHMENT. MAURICE PATRICK O'DONOHOE and CHARLES PRENTIS ELLIS, Nashville, Tenn. Filed Apr. 12, 1910. Serial No. 554,906.



The combination of a supply pipe, a cock connecting with the pipe and having a handle, a stop device having a curved portion adapted to turn and slide on the pipe and provided with a portion to move in the path of the cock handle, with the curved portion expanded and provided with an approximately transverse slot with a notch at one side thereof, and a clamping ring arranged about the pipe within the expanded portion of the stop device and having a stud passing through the said slot.

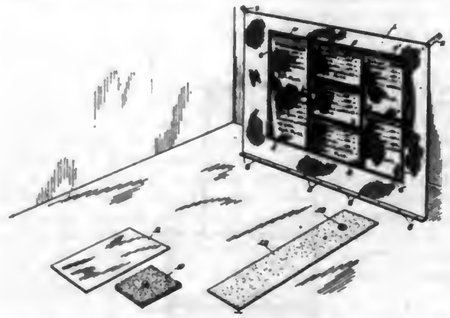
969,559. PORTABLE FIRE-ESCAPE. EDGAR P. O'LEARY, Pueblo, Colo. Filed June 30, 1909. Serial No. 505,200.



1. A portable fire escape comprising a carrying cable, a spool-like handle perforated longitudinally to receive said cable in sliding relation thereto, a plurality of oppositely disposed gripping handles having eccentric ends and pivotally mounted in said handle to impinge upon the said cable, a carrier body having a plurality of vertical perforations to receive in tortuous disposition the said carrying cable, a plurality of wings pivotally mounted on said carrier body and arranged to be maintained in horizontal position thereon, flexible supporting connections between said carrier body and said gripping handles, and a snubbing device connected with said supporting connections and interposed between said gripping handles and said carrier body, said snubbing device arranged to receive said carrying cable in frictional relation thereto.

2. A portable fire escape, comprising a carrying cable; a guide handle section having a central perforation to receive said cable; a friction snubbing section disposed below said guide section and having a cross bar adapted to receive said cable in wrapped and sliding relation; a seat member having lateral extensions and a vertically disposed body portion being provided with a triple extension passage to steady the movement of said seat member on said cable; flexible connections between said handle section, snubbing section and seat member; and a plurality of levers pivoted in said handle section and having cam shaped heads extended within the said central perforation said levers having extensions adapted to be engaged by the hand of the operator to be moved to cause the said cam shaped heads to grip the said cable placed in said perforation.

969,560. GAME APPARATUS. GEORGE A. O'NEIL, Chicago, Ill. Filed Feb. 28, 1910. Serial No. 546,412.



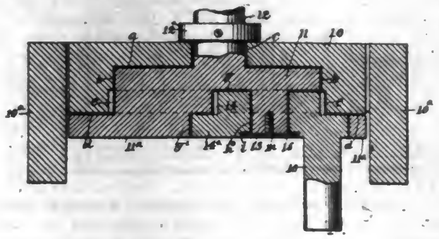
1. The combination in a game apparatus of a plurality of pockets having their mouths opening in a vertical plane, a tee arranged directly forward of said pockets, and a surface corresponding with the surface of a green and provided with a hole, substantially as described.

2. The combination in a game apparatus adapted for employment in the playing of golf, of a vertically disposed sheet, a plurality of adjacently positioned pockets in said sheet opening in the front side thereof, a tee arranged directly forward of said sheet and at a distance therefrom, and a surface corresponding to the surface of a green and formed in imitation thereof, said surface being provided with a hole, substantially as described.

969,561. MECHANICAL MOVEMENT. JOHN W. PITTS, Bisbee, Ariz. Filed Sept. 30, 1909. Serial No. 520,282.

1. The combination with a rotatably-supported shaft, and a stationary internal gear concentric with the shaft, of a disk rigid with the shaft and having a recess formed in its outer face at one side of its center, the said recess being enlarged at its outer portion, a journal pin projecting from the bottom of the recess in said disk, a spur gear in said recess and rotatable on the journal pin, the said spur gear meshing with the internal gear and having a flange fitting in the enlarged portion of the recess in the disk, a journal pin on the spur gear, and a slidably supported block on said journal pin.

2. The combination with a block supported on a frame, the said block being centrally bored and recessed in one side, of a flanged disk in said recess having a recess formed in its outer wall at one side of its center and enlarged at its outer portion, a shaft centrally extended from the disk and passing through the central bore in the block, an internal gear in the recessed block, a journal pin on the disk, a spur gear in said recess in the disk and mounted on said pin, the said spur gear meshing with the internal gear and having a peripheral flange fitting in the enlarged portion of the recess in the disk, and means for transmitting motion from the spur gear.

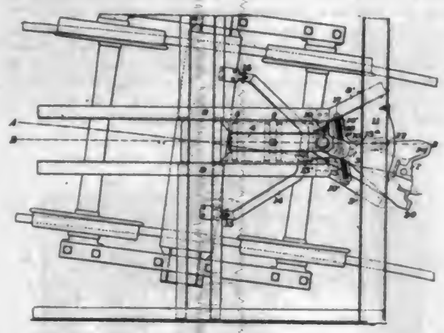


3. The combination with a stationary block having a central bore and circularly recessed in one side and an internal gear formed in said recess, of a disk seated in said recess, a shaft extending from the disk and passing through the bore in the block, the said disk having a recess formed in its outer face at one side of its center and enlarged at its outer portion, a spur gear in said recess in the disk and having a peripheral flange outside of the teeth fitting in the enlarged portion of the recess in the disk, a pin arranged eccentrically on the disk and on which the spur gear is mounted, means for holding the spur gear in position, said spur gear meshing with the internal gear, a pin on the spur gear, and a slidably supported block mounted on said pin.

4. The combination with a circular block supported by a frame, said block being centrally bored and circularly recessed in one side, and an internal gear formed in the circular side wall of the said recess, of a flanged disk seated in said recess, a shaft extending from the center of the disk through the bore in the block, the said disk having a circular recess formed in its outer face at one side of its center and enlarged at its outer portion, the said recess cutting through the side wall of the disk and forming an opening in said side wall opposite the internal gear teeth, a journal pin eccentrically projected from the disk, a spur gear rotatable on said pin and seated in said recess in the disk, the said spur gear meshing with the internal gear and having a peripheral flange outside of the teeth fitting in the enlarged portion of said recess in the disk, a pin on said spur gear at one side of the center, a slide block on said pin, and guides for supporting the slide block.

5. The combination with a stationary block centrally bored and circularly recessed in one side, an internal gear formed in the circular side wall of the recess, a flanged disk seated in said recess, a shaft extending from said disk through the bore in the block, the said disk having a circular recess formed in its outer face at one side of its center and enlarged at its outer portion, the said recess cutting through the side wall of the disk and forming an opening opposite the internal gear, of a spur gear seated in said recess in the disk and meshing with the internal gear, the said spur gear having a peripheral flange outside of the teeth and occupying the enlarged portion of said recess in the disk, the said spur gear being centrally bored, an eccentrically disposed pin projected from the disk and passing through the said bore in the spur gear, the said spur gear having an annular recess formed in its outer surface around the bore, a washer plate in said recess and secured to said pin, a journal pin eccentric on the spur gear and projecting from the outer surface, a slide block loosely mounted on said pin, and a pair of guide bars carried by the frame and between which the slide block reciprocates.

969,562. DRAFT-GEAR. HENRY F. POPE, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Mar. 11, 1908. Serial No. 420,373.



1. A radially swinging draft member, a coupler head, and a connection between the draft member and the truck arranged to impart to the draft member a less movement than would be transmitted to it by direct connection with the truck and thereby direct the coupler head substantially to the center of the track, substantially as described.

2. A radially swinging draft member, a coupler head, and a lever connected at one end to the car and at its opposite end to the car truck, with an intermediate connection with the draft member, said lever acting to reduce the lateral movement transmitted to the draft member by the truck and thereby direct the coupler head substantially to the center of the track, substantially as described.

3. A radially swinging draft member, a coupler head, a lever connected at one end to the car, and at its intermediate portion to the draft member, a connection between the opposite end of the lever and the truck, and springs carried by said lever and acting upon opposite sides of the draft member, the parts being arranged to direct the coupler head to substantially the center of the track, substantially as described.

4. A radially swinging draft member, a coupler head, and a motion-reducing connection between the draft member and the car truck, said motion-reducing connection including springs acting upon opposite sides of the draft member, the parts being arranged to direct the coupler head to substantially the center of the track, substantially as described.

5. A radially swinging draft member, a coupler head, a lever having a plurality of arms, one arm having a pivotal connection with the draft member, and another arm having a pivotal connection with the car, and a member connected to the truck for vertical movement and to which said lever is also pivoted, the parts being arranged to direct the coupler head to substantially the center of the track, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

969,563. NON-REFILLABLE BOTTLE. ROBERT J. POTTER, Tuxedo Park, N. Y. Filed Aug. 20, 1908. Serial No. 449,511.

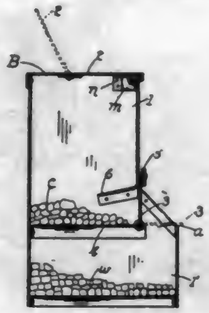
1. A bottle provided with a neck portion, a part of said neck portion being reduced and forming a shoulder, a beading formed upon the outer surface of said neck portion below said shoulder, said neck portion having a contracted passageway, a cup shaped cork member incasing said reduced portion of the neck and resting upon said shoulder, a cap adapted to incase said cork member, said cap being provided with spring fingers for engaging said beading, and an air vent located at the base of said bottle.

2. A bottle provided with a neck portion, a part of said neck portion being reduced and forming a shoulder, a beading formed upon the outer surface of said neck portion below said shoulder, said neck portion having a contracted passageway, a cup shaped cork member incasing said reduced portion of the neck and resting upon said shoulder, a cap adapted to incase said cork member, said cap being



provided with spring fingers for engaging said beading and an air vent located in an annular recess formed in the base portion of the bottle.

969,564. COMBINED COAL AND WOOD BOX. WILLIAM B. QUICK, St. Louis, Mo. Filed June 24, 1910. Serial No. 568,696.

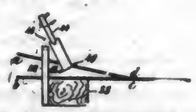


1. A combined coal and wood box comprising an upper compartment having a top charging opening for the coal, an inner downwardly inclined deflecting wall projecting from the front wall and dipping toward the bottom of said coal compartment, the latter being provided with a discharge opening in the front wall below the deflector, a bottom wood compartment extended beyond the front wall of the coal compartment and forming a passage-way for the wood, said passage-way being bounded by the side walls, a door hinged along the front edge of the bottom of the coal compartment and, for one position closing the discharge opening from said compartment, and adapted to drop across the upper edge of the front wall of the extension of the bottom compartment and close the passage-way thereof aforesaid, the door in its dropped position forming substantially a continuation of the bottom of the coal compartment.

2. A combined coal and wood box comprising an upper compartment having a top charging opening for the coal, an inner downwardly inclined deflecting wall projecting from the front wall and dipping toward the bottom of said coal compartment, the latter being provided with a discharge opening in the front wall below the deflector, a bottom wood compartment extended beyond the front wall of the coal compartment and forming a passage-way for the wood, said passage-way being bounded by suitable inclined extensions of the side walls, a door hinged along the front edge of the bottom of the coal compartment and

for one position closing the discharge opening from said compartment, and adapted to drop across the upper edge of the front wall of the extension of the bottom compartment and close the passage-way thereof aforesaid, the door in its dropped position forming substantially a continuation of the bottom of the coal compartment.

969,565. LOOM FOR WEAVING ORIENTAL AND OTHER KNOT-STITCH CARPETS. CHARLES RENARD and ALBERT RENARD, Nonancourt, France. Filed July 23, 1909. Serial No. 509,200.

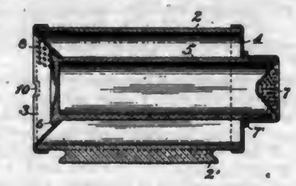


1. A loom for weaving knot-stitch carpets including in combination a divider, means for moving two warp threads vertically away from the plane of the other warps in two successive movements, and means for locating a portion of said divider alternately in oppositely inclined positions in the paths of vertical movement of said two warp threads so as to force said threads successively in opposite lateral directions.

2. A loom for weaving knot-stitch carpets including in combination a thin divider with a width determining the distance of separation of the warp threads, having shoulders at opposite sides adapted to hold up warp threads, and having a lower portion at an angle to its length, and means for turning said divider to cause said lower portion to assume alternately oppositely inclined positions in the paths of vertical movement of two warp threads, so as to force said threads successively in opposite lateral directions and to cause them to engage said shoulders.

3. A loom for weaving knot-stitch carpets including in combination a thin divider with its width determining the distance of separation of two warp threads, said divider standing with its longitudinal axis inclined to the vertical and having shoulders at opposite sides adapted to hold up the two separated warp threads, said divider having its lower portion perpendicular to its length, and means for turning said divider alternately to positions in which said lower portion is oppositely inclined, so as to force said warp threads successively in opposite lateral directions as they are lifted and to cause them to engage said shoulders.

969,566. CONDIMENT-HOLDER. CLARK F. RIGBY, Butler, Pa., assignor of one-half to Edward A. McCabe, Pittsburg, Pa. Filed Jan. 29, 1910. Serial No. 540,812.



1. A condiment holder consisting of two chamber-forming bodies one within the other, the outer body having openings through opposite walls, and an inner body secured in said openings.

2. A condiment holder comprising two bodies one within the other, removable heads for the outer body formed with openings with the inner body extending through said openings and holding the heads in place.

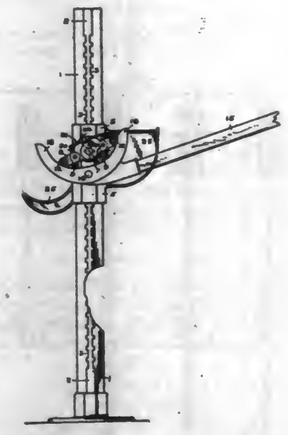
3. A condiment holder comprising two bodies one within the other, removable heads for the outer body formed with openings with one of the heads perforated, the inner body extending through said openings and enlarged at one end to engage the outer surface of one of said heads, and a perforated cap secured to the other end of the inner body and engaging the other head of the outer body.

4. A condiment holder comprising two bodies one within the other, a removable head for one end of the outer body with an opening through said head and through the opposite wall of the outer body, the inner body extending through said openings with an enlargement at one end engaging the outer surface of said removable head, and a cap removably secured to the opposite end of the inner body and engaging the corresponding end of the outer body.

5. A condiment holder comprising a shell-like outer body, removable heads therefor formed with openings and with one of said heads countersunk and perforated, and an inner bottle-like body extending through said openings with an enlargement at the closed end thereof engaging the outer surface of the countersunk head, and a perforated cap secured to the opposite end of the bottle-like body and engaging the other head of the outer casing.

[Claim 6 not printed in the Gazette.]

969,567. LIFTING-JACK. JOHN B. RUNNER, Indianapolis, Ind., assignor to O-U-Handy Tool Company, Indianapolis, Ind., a Corporation of Indiana. Filed Nov. 22, 1909. Serial No. 529,290.



1. In a lifting jack of the above specified class, an upright provided on its opposite sides with a plurality of notches, a movable sleeve arranged to move along said upright, a rocking-arm mounted upon said sleeve, engaging-means carried by said rocking-arm and adapted to engage the notches in said upright, and a yoke contacting the ends of said rocking-arm and adapted to rock said arm for moving the engaging-means alternately into engagement with the notches in said upright.

2. In a lifting jack of the above specified class, an upright provided on its opposite sides with a plurality of notches, a movable sleeve arranged to move along the said upright, a rocking-arm mounted upon said sleeve, engaging-means carried by said rocking-arm and adapted to engage the notches in said upright, a yoke contacting the ends of said rocking-arm and adapted to rock said arm for moving the engaging-means alternately into engagement with the notches in said upright, and means to normally hold said engaging-means into engagement with the notches in said upright.

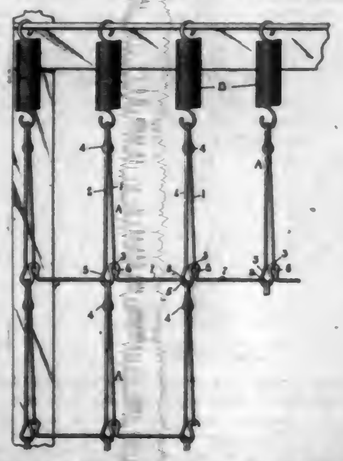
3. In a lifting jack of the above specified class, an upright provided on its opposite sides with a plurality of notches, a movable sleeve arranged to move along said upright, a rocking-arm mounted upon said sleeve, engaging-means carried by said rocking-arm and adapted to engage the notches in said upright, a yoke contacting the ends of said rocking-arm and adapted to rock said arm for moving the engaging-means alternately into engagement with the notches in said upright, means to normally hold said engaging-means into engagement with the notches,

to permit the sleeve to be elevated, and means for holding the engaging-means away from the notches, to permit said sleeve to be lowered.

4. In a lifting jack of the above specified class, a T-shaped upright provided on the opposite sides of the stem of the T with a plurality of notches, a movable sleeve arranged to move along said upright, a rocking-arm mounted upon said sleeve, pawls carried by said arm to engage the notches in said upright, springs to normally hold said pawls toward the notches, a coil spring connecting the pawls together, means to expand the coil spring holding the pawls out of the notches, and means for operating the rocking-arm to permit the pawls to be alternately moved into engagement with the notches in the upright.

5. In a lifting jack of the above specified class, a T-shaped upright provided on the opposite sides of the stem of the T with a plurality of notches, a movable sleeve arranged to move along said upright, a rocking-arm mounted upon said sleeve, pawls carried by said arm to engage the notches in said upright, springs to normally hold said pawls toward the notches, a coil spring connecting the pawls together, a movable-member to expand the coil spring holding the pawls out of the notches, and a cam for moving the movable-member into engagement with said last mentioned coil spring.

969,568. BED-BOTTOM FABRIC. WILLIAM H. SLEIGHT, St. Louis, Mo. Filed Apr. 8, 1910. Serial No. 554,193.



1. A bed bottom fabric comprising units made of single pieces of wire folded intermediate of their ends to form sections comprising two strands forming a section having a hook at the folded end of the wire, one of the strands of each section being provided at one end of the section with an eye, and a laterally extending member connected to a mating unit, and the other strand of the section being provided with a loop engaging the first mentioned strand.

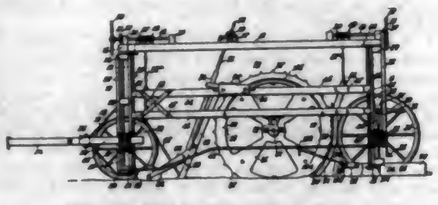
2. A bed bottom fabric comprising units made of single pieces of wire folded intermediate of their ends, each comprising two strands forming a section having a hook at the folded end of the wire, one of said strands being provided at one end of said section with a pair of eyes, and a laterally extending member connected to a mating unit, and the other strand engaging one of the eyes of the first mentioned strand.

3. A bed bottom fabric comprising units made of single pieces of wire folded intermediate of their ends, each comprising two strands forming a section having a hook at the folded end of the wire, one of said strands being provided at one end of said section with a pair of eyes, and a laterally extending member connected to a mating unit, and the other strand being provided with a loop in engagement with one of the eyes of the first mentioned strand.

4. A bed bottom fabric comprising units made of single pieces of wire folded intermediate of their ends to form sections comprising two strands substantially parallel with each other, each section having a hook at the folded end of the wire, one of the strands being provided at one end of said section with a pair of eyes, and a laterally extending arm leading from one of said eyes and having a loop connected to a mating unit, and the other strand being provided with a loop in engagement with the eye from which said arm extends.

5. A bed bottom fabric composed of units made of single pieces of wire folded intermediate of their ends to form sections comprising two strands, each section having a hook at its folded end, one of the strands being bent backwardly at the end of the section farthest from the hook, producing an eye, and then forwardly to produce a second eye, and terminating in an arm extending laterally from said second eye connected to a mating unit, and the other of which strands has engagement with the second eye of the first mentioned strand.

969,569. DIGGER. JAMES K. SMITH and EDWARD M. SMITH, Spencer, Ind. Filed Sept. 14, 1909. Serial No. 517,579.



1. A digger, comprising a carriage, a frame mounted thereon and adjustable in a substantially vertical direction, a plow carried by said frame, an earth-hoisting wheel journaled upon said frame rearwardly of said plow and operable by the rolling contact thereof with the ground, and means for removing the earth from said wheel.

2. A digger, comprising a carriage, a frame mounted thereon and adjustable in a plurality of directions, a plow carried by said frame, an earth-hoisting wheel journaled upon said frame, an earth retainer and packer associated with said wheel, means for removing the earth from said wheel, and means for raising and lowering said frame, said plow being positioned in advance of said wheel and being independent thereof.

3. A digger, comprising a carriage, an earth loosening member carried thereby, and a rotatable earth hoisting member carried thereby rearwardly of said first member, said earth-hoisting member being continuously operable by the rolling contact thereof with the ground, said earth-loosening member and said earth-hoisting member being independent of one another.

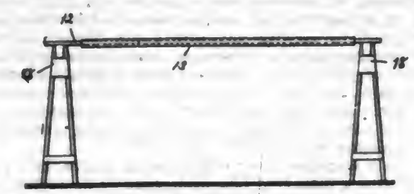
4. A digger, comprising a carriage, an adjustable frame mounted upon said carriage, a plow carried by said frame and comprising an earth-loosening plow share and spaced cutter wings, and an earth-hoisting member carried by said frame at the rear of said plow and operable by the movement of the carriage.

5. A digger, comprising a carriage, an adjustable frame mounted upon said carriage, a plow carried by said frame and comprising an earth-loosening plow share and spaced, side, cutter wings, and a continuously rotatable earth-hoisting wheel carried by said frame at the rear of said plow, said wheel being operable by the rolling contact thereof with the ground, said frame being adapted to be raised and lowered.

[Claims 6 to 20 not printed in the Gazette.]

969,570. MANUFACTURING LEATHER. JAMES T. SMITH, Newark, N. J. Filed Jan. 18, 1910. Serial No. 538,668.

1. The hereindescribed method of treating leather, which consists in setting-out the leather upon a setting-out surface while wet, thereby causing adhesion of the leather to said surface in a stretched condition, drying said leather while thus set-out upon and adhering to said surface, and japanning or otherwise finishing the leather while so dried and set-out upon and adhering to said setting-out surface.



2. The hereindescribed method of treating leather, which consists in placing a thin flat board upon a support, setting-out the leather upon said board while wet, thereby causing adhesion of the leather to said board in a stretched condition, removing said board from said support with the leather still set-out thereon, drying said leather while thus set-out on and adhering to said board, and japanning or otherwise finishing the leather while so dried and set-out upon and adhering to said setting-out board.

3. The hereindescribed method of treating leather, consisting in setting-out one portion of a wet piece of leather upon one side or face of a setting-out board and another portion of said piece of leather upon another side or face of said board, the leather being bent over the edge between said sides or faces, thereby causing adhesion of the leather to said board in a stretched condition, drying said leather while thus set-out upon and adhering to said surface, and japanning or otherwise finishing the leather while so dried and set-out upon and adhering to said setting-out board.

4. The hereindescribed method of treating leather, which consists in setting-out the leather upon a setting-out surface while wet and with an adhesive between said leather and surface, thereby causing adhesion of the leather to said surface in a stretched condition, and drying said leather while thus set-out upon and adhering to said surface until it will retain said stretched condition when removed from the setting-out surface.

5. The hereindescribed method of treating leather, which consists in placing a thin flat board upon a support, setting-out the leather upon said board while wet and with an adhesive between said leather and board, thereby causing adhesion of the leather to said board in a stretched condition, removing said board from said support with the leather still set-out thereon, and drying said leather while thus set-out and adhering to said board until it will retain said stretched condition when removed from the board.

[Claims 6 to 9 not printed in the Gazette.]

969,571. ROPE-KNIFE. GEORGE A. SPANG, Butler, Pa. Filed Dec. 16, 1909. Serial No. 533,471.

1. A rope knife comprising a body having a rope passage and a stem passage, the latter curved and intersecting the rope passage, a cutter operative in the portion of the stem passage which intersects the rope passage, a stem operative in the stem passage, and a link flexibly connecting the stem and cutter.

2. A rope knife comprising a body having a rope passage and a stem passage, the latter curved and intersecting the rope passage, a cutter operative in the portion of the stem passage which intersects the rope passage, a stem having limited movement in the stem passage and flexibly connected to the cutter, and cutter operating and tool sustaining means connected to the stem.

3. A rope knife comprising a body having a rope passage extending therethrough, the body having a curved passage intersecting the rope passage, a curved cutter operative in the curved passage, and cutter operating means.

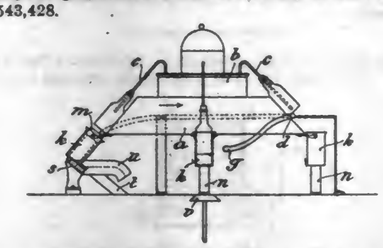
4. A rope knife comprising a body having a rope passage extending therethrough and a stem passage extending downwardly from its upper end, a portion of the stem passage curved and intersecting the rope passage, a stem operative in the stem passage, and a curved cutter operative in the curved portion of the stem passage and operatively connected to the stem.



5. A rope knife comprising a body having a rope passage extending therethrough, the body having a cutter passage curved downwardly and laterally and intersecting the rope passage, and a cutter operative in said passage.

[Claims 6 to 12 not printed in the Gazette.]

969,572. MACHINE FOR FILLING BOTTLES. FRANTS CHRISTIAN STÖCKEL and JONAS LUDVIG THEODOR POPP, Copenhagen, Denmark. Filed Feb. 12, 1910. Serial No. 543,428.



1. A machine for filling bottles, comprising a liquid receiver, a rotary table having a conically-inclined portion surrounding the table, a stationary guide-rim surrounding said table, siphon-tubes extending from the receiver over the inclined portion of the table, extension-tubes for said siphon-tubes, valves in said siphon-tubes having stems abutting against the bottom of the bottles so that the valves are opened and the bottles filled as they are moved along the guide-rim.

2. A machine for filling bottles, comprising a receiver for the liquid, a rotary table having a conically-inclined circumference, means for lifting the bottles while they are moving along the inclined circumference of the rotary table, cups pivoted to the lower edge of the table, followers in said cups provided with rods or stems, a stationary guide-channel engaging the lower ends of the follower-rods or stems, and a vertically-reciprocating supporting plate for lifting the followers and bottles and delivering the latter to a corking machine.

3. In a machine for filling bottles, the combination of a liquid-receiver, a table surrounding the same and provided with a conically-inclined circumference, means for

rotating the receiver and table, supports on said circumference for receiving the bottles, and stationary guide-means extending partly around the table for guiding the bottles around the table.

4. A machine for filling bottles, comprising a liquid-receiver, a table surrounding the same and provided with a conically-inclined circumference, means for rotating the receiver and table, siphon-tubes extending from the receptacle in downward direction over the inclined portion of the table, said siphon-tubes being provided with extension-tubes, valves at the ends of said siphon-tubes, valve-stems extending through the extensions and projecting below the same, means for guiding the bottles around the table and onto the extension-tubes for opening the valves when the ends of the stems abut on the bottoms of the bottles while the bottles are raised to their highest position on the inclined portion of the table.

969,573. NEEDLE-VALVE. AARON P. STOBBS, Owego, N. Y. Filed Feb. 4, 1909. Serial No. 475,950.



1. A needle valve having an element with an orifice, and a needle with two parts which coöperate to produce a solid, compact and non-tubular jet.

2. A valve having an element with an orifice, with a two-part needle working within the orifice to produce a compact and solid jet.

3. A valve having an element with an orifice, a two-part needle engaging within the orifice, and means to relatively move the two to create an opening which will produce a solid and compact jet at all positions of the orifice and needle.

969,574. MAGAZINE. GUSTAF A. SVANBERG, Fort Lee, N. J. Filed July 24, 1909. Serial No. 509,389.



1. In a magazine, the combination of a turn-table provided with means for supporting a number of plates arranged in columns, a projecting lever for each column, a dog provided with means for locking said turn-table periodically so as to bring said columns successively into a predetermined position, and weights to be rested upon said columns, each weight descending by its own gravity as the plates are removed from beneath it, each weight being provided with a portion projecting therefrom for engaging said dog and actuating the latter.

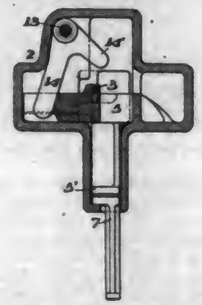
2. In a magazine, the combination of a turn-table provided with an opening through which plates may be ejected one at a time, a lever provided with a notch for engaging the edges of said plates in order to eject said plates, said lever being provided with a portion serving as an armature, and magnetic members disposed upon opposite sides of said armature for the purpose of actuating the same.

3. In a magazine, the combination of a turn-table adapted to support a number of photographic plates, a lever pivotally mounted upon said turn-table and mounted to rock in a plane crossing the general plane of said plates, said lever being provided with a notch for engaging said plates directly, said lever being further provided with a portion serving as an armature, and magnetic mechanism for actuating said armature.

4. In a magazine, the combination of a turn-table provided with an opening and with a lug disposed within said opening for the purpose of partially supporting a column of photographic plates, a lever pivotally mounted upon said turn-table and extending into said opening, said lever being provided with a notch for engaging the edges of said plates, and electrically-operated mechanism for actuating said lever.

5. In a magazine, the combination of a turn-table provided with a tube, said tube being open at its bottom for the purpose of discharging plates directly downward therefrom, and a lever journaled upon said tube and extending partly thereinto, said lever being provided with a notch for engaging the edges of said plates, and electrically-operated mechanism for actuating said lever.

969,575. CAR-COUPLING. CLINTON A. TOWER, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 30, 1908. Serial No. 413,409.



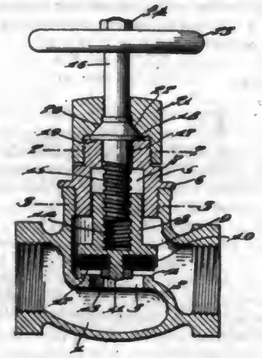
A coupler head having a pocket depending below its bottom wall, a locking member having a portion extending downwardly into the pocket and having a support on the floor of said pocket when in the locked position, a lifting device extending upwardly into said pocket and into position to engage the lower end of the locking member, and a knuckle-opening member pivoted in the upper portion of the coupler head and arranged to be engaged and operated by the locking member when the latter is raised by the lifting member, substantially as described.

969,576. VALVE. THOMAS TURNER, Philadelphia, Pa. Filed May 20, 1910. Serial No. 562,361.

1. In a valve, the combination with a casing, a partition in the casing having an opening therethrough and a valve seat around said opening, of a bushing screwed into the casing and having an opening therethrough, a valve, a stem projecting through the bushing and having screw-threaded engagement with said valve, means for preventing rotary movement of the valve, an annular enlargement on said stem having a flat face engaging the end of a bushing and a beveled or conical outer face, a cap nut screwed onto the bushing and having a conical recess engaging the conical face of the enlargement, said stem having lateral movement in the bushing, substantially as described.

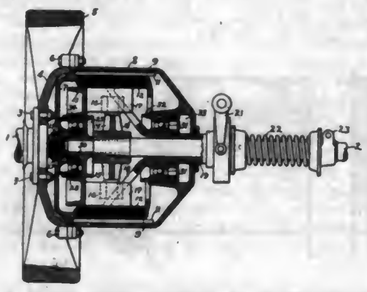
2. In a valve, the combination with a casing, a partition in said casing having an opening therethrough and a valve seat around the opening, of a bushing screwed into the casing, said bushing having an angular recess in its lower end and a circular opening in its upper end communicating with said recess, a valve adapted to close against said seat, an angular extension on said valve projecting into the recess in the bushing and of a diameter appreciably

less than the diameter of the recess, a valve stem located in the opening in the bushing and of a diameter appreciably less than the diameter of said opening, said stem having screw-threaded engagement with the valve extension, whereby when said stem is turned the valve will be moved toward and away from its seat, an annular conical enlargement on said stem bearing against the end of said bushing, and a cap nut screwed onto said bushing and having a conical recess engaging the enlargement on the stem, substantially as described.



3. In a valve, the combination with a casing, a partition in said casing having an opening therethrough, and a valve seat around the same, of a bushing screwed into the casing, said bushing having an angular recess in its lower end, and a circular opening in its upper end communicating with said recess, a valve adapted to close against said seat, an angular extension on said valve projecting into the recess in the bushing, and of a diameter in all directions appreciably less than the diameter of the recess, said extension having a screw-threaded recess therein, a valve stem located in the opening in the bushing and of a diameter appreciably less than the diameter of said opening, a screw-threaded end on said stem engaging in the screw-threaded recess in the valve extension, an annular enlargement on said stem having a flat face engaging the upper end of said bushing, said enlargement having a conical or beveled face, and a cap nut screwed onto said bushing and having a beveled or conical recess, the wall of which engaging the beveled or conical face of said stem, substantially as described.

969,577. FRICTIONAL CLUTCH OR COUPLING. JOSEPH VOLLMER, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Jan. 5, 1907. Serial No. 350,933.



1. In a friction clutch, the combination of driving and driven members movable axially with respect to each other, and series of interlapping disks on said members, with means for moving the members relatively to each other to press one series into driving engagement with the other and for imparting an opposite movement to release the pressed disks from driving relation, and radially projecting devices fixedly mounted on one of the members which move each disk of one series away from an adjacent disk of the other series during said releasing movement.

2. In a friction clutch, the combination of cylindrical driving and driven members having series of annular interlapping friction disks of different diameters mounted thereon so that the disks of one series project inwardly beyond those of the other series, and means for opening and closing the clutch including devices projecting radially from one of said cylindrical members which engage with the inwardly projecting portions to separate the disks as the clutch is opened.

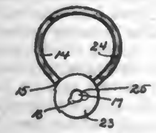
3. In combination, a driving shaft, a driven shaft, clutch members connected with the shafts, one member being axially movable relative to its shaft, series of interlapping disks mounted on the clutch members, means for actuating the axially movable member to open the clutch, and radially disposed devices fixedly mounted on said member to move therewith which positively separate the disks as the clutch opens.

4. In a friction clutch, the combination of cylindrical driving and driven members having series of annular interlapping friction disks of different internal diameters mounted thereon so that the disks of one series project inwardly beyond those of the other series, and means for opening and closing the clutch including a series of devices projecting radially from one of said cylindrical members which engage the inwardly projecting portions of one series of disks in successive order to separate the disks as the clutch opens, there being openings in said projecting portions to permit the devices to pass through certain of the disks to engage others.

5. In a friction clutch, the combination of a driving member, a series of annular disks keyed to slide on said member, a driven member, the two members being movable relatively to each other, a series of annular disks keyed to slide on the driven member which interlap with the disks on the driving member, means for moving the members relatively to each other, and radially disposed projections on one member moving therewith to engage the disks of one series to separate the disks when the clutch is opened.

[Claims 6 to 11 not printed in the Gazette.]

969,578. LOCK. CHARLES VRBSKY, Cleveland, Ohio. Filed Aug. 16, 1909. Serial No. 512,977.



1. A seal lock comprising two coöperating members adapted to be placed one upon the other and having integral projecting prongs or arms adapted when brought together to form a loop or shackle, one member having a locking member which prevents lateral displacement of said members when one is placed upon the other and turned relatively thereto, and one of said members having a spring latch and the other an offset portion adapted to receive the latch, and a shoulder against which the end of the latch bears when the free ends of said prongs or arms are brought together so that separation thereof is prevented.

2. A seal lock comprising two coöperating members, each having a head or main portion, a prong or shank extending therefrom, the two prongs when brought together being adapted to form a loop or shackel and one of said heads having a portion adapted to fit within the other and having a locking projection which prevents lateral displacement of the two members when the latter are turned relatively, and one of said heads having a spring latch and the other having an offset portion and a shoulder, the spring latch snapping into said offset portion and engaging the shoulder when said members are turned rela-

tively so that the free ends of the prongs are brought together whereby the opening or separation of said prongs is prevented.

3. A seal lock comprising two coöperating members, one having a boss and the other a cap adapted to fit over said boss, each having an integral shank or prong, the ends of which when brought together constitute a loop or shackle, said cap having in the end thereof an elongated opening and the boss having a locking projection which when said members are placed together, extends through the opening and when turned relatively interlocks with said cap and prevents lateral displacement thereof, and said boss having on its periphery a spring latch and the cap having an offset portion and a shoulder, the spring latch being arranged to snap into said offset portion when said members are rotated in one direction so that the free ends of the shanks or prongs are brought together and to engage said shoulder so as to prevent reverse rotary movement.

4. A seal lock comprising two members, one having a substantially circular flange, a prong or arm extending therefrom, a laterally projecting boss integral with said flange, said boss having a lug provided on the end thereof with a locking projection, and the other member comprising a cap adapted to receive said boss and to engage said flange, said cap being provided with an integral prong or arm adapted to coöperate with the prong or arm on the other member so as to form a loop or shackle, and being provided at its end with an opening which when the cap is fitted over the boss on the other member receives the lug and locking projection of said boss, and said boss having on its periphery a spring latch and the cap having an offset portion, and a shoulder whereby when said members are placed together and rotated relatively the locking projection prevents lateral displacement and the spring latch snaps into the offset portion and the end thereof engages the shoulder so as to lock said members against reverse rotary movement.

5. A seal lock comprising two members, one having a substantially circular flange, a prong or arm extending therefrom, a laterally projecting boss integral with said flange, said boss having a lug provided on the end thereof with a locking projection, and the other member comprising a cap adapted to receive said boss and to engage said flange, said cap being provided with an integral prong or arm adapted to coöperate with the prong or arm on the other member so as to form a loop or shackle and being provided at its end with an opening which when the cap is fitted over the boss on the member, receives the lug and locking projection of said boss, and said boss having on its periphery a spring latch and the cap having an offset portion, and a shoulder whereby when said members are placed together and rotated relatively the locking projection prevents lateral displacement and the spring latch snaps into the offset portion and the end thereof engages the shoulder so as to lock said members against reverse rotary movement, one of said members having a weakened portion adapted to be broken when it is desired to destroy the seal lock.

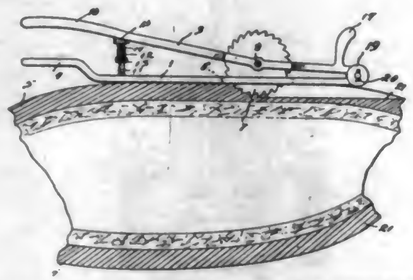
[Claim 6 not printed in the Gazette.]

969,579. SURGICAL INSTRUMENT. CONSTANTIN WALDVOGEL, Pittsburg, Pa. Filed Feb. 12, 1910. Serial No. 543,458.

1. An instrument of the type described, comprising pivoted members, rollers carried by the pivoted ends of said members, a rotary saw carried by one of said members, and means interposed between the outer ends of said members and adapted to regulate the outer end of one member relative to the outer end of the other member.

2. An instrument of the type described, comprising pivoted members, rollers carried by the pivoted ends of said members, a handle carried by one of said members adjacent to the pivoted end thereof, a rotary saw carried by the same member and adapted to extend through the other member, handles carried by the rear ends of said members, and means interposed between said members adjacent to said handles and adapted to regulate the position of one handle relative to the other handle.

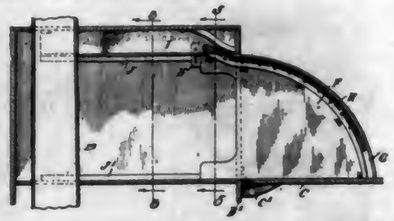
3. An instrument of the type described, comprising pivoted members, rollers carried by the pivoted ends of said members, a handle carried by one of said members adjacent to the pivoted end thereof, a rotary saw carried by the same member and adapted to extend through the other member, handles carried by the rear ends of said members, and means interposed between said members adjacent to said handles and adapted to regulate the position of one handle relative to the other handle, said means including a threaded stem, a sleeve adjustably mounted upon said stem, a collar carried by the lower end of said sleeve, and a coiled spring adapted to be supported upon said collar, substantially as described.



4. An instrument of the type described comprising a pair of superposed members pivotally-connected together at one end, one of said members having a pair of handles and the other of said members provided with a single handle, that member provided with the pair of handles having one of its handles disposed at right angles with respect to the body-portion of the member, and a rotary saw carried by that member provided with the pair of handles at a point intermediate the ends of said member and to one side of the angularly-disposed handle, said saw extending through that member provided with the single handle.

5. An instrument of the type described comprising a pair of superposed members pivotally-connected together at one end, one of said members having a pair of handles and the other of said members provided with a single handle, that member provided with the pair of handles having one of its handles disposed at right angles with respect to the body-portion of the member, a rotary saw carried by that member provided with the pair of handles at a point intermediate the ends of said member and to one side of the angularly-disposed handle, said saw extending through that member provided with the single handle, and means for regulating the position of said members with respect to each other.

969,580. EXTENSION FOR WARMING-CLOSETS. KAMEJIRO WATANABE, Seattle, Wash. Filed July 8, 1909. Serial No. 506,486.



1. In combination, a warming closet having a door adapted to swing up and down, and an extension for the closet comprising a pair of sides slidable in the closet and adapted to pass through the door opening of the closet or oven to rest on the door thereof, and a roller top mounted to slide on the said sides and adapted to fold in the closet or oven.

2. In combination, a warming closet having a door adapted to swing up and down, and an extension for the closet comprising a pair of sides slidable in the closet and adapted to pass through the door opening of the closet or oven and to rest on the door thereof, a roller top mounted to slide on the said sides, and guideways fixed in the closet or oven and adapted to be engaged by the said roller top to fold the latter within the closet.

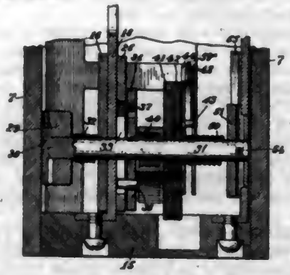
3. In combination, a warming closet having a door adapted to swing up and down, and an extension for the closet, comprising a roller top, two sets of guideways for the roller top, one set of guideways being fixed in the closet or oven, and a pair of sides carrying the other set of guideways, the said sides being slidable in the closet or oven and adapted to rest on the door thereof when the extension is in use.

4. In combination, a warming closet having a door adapted to swing up and down, and an extension for the closet, comprising a pair of sides slidable in the closet or oven and adapted to pass through the door opening of the closet or oven and to rest on the door thereof, a roller top mounted to slide on the said sides, guideways fixed in the closet or oven and adapted to be engaged by the said roller top to fold the latter within the closet, and means for locking the sides in extended position.

5. In combination, a warming closet having a door adapted to swing up and down into horizontal position and to be held in such position, and an extension for the said closet and formed of a roller top and sides adapted to be folded into the closet or extended through the door opening.

[Claims 6 and 7 not printed in the Gazette.]

969,581. ELECTRIC SWITCH. BENJAMIN CHESTER WEBSTER, Bridgeport, Conn. Filed May 20, 1909. Serial No. 497,159.

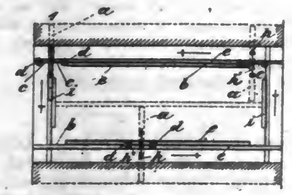


1. In a switch, the combination of a revoluble shaft, a disk journaled loosely thereupon, a spring connected with said disk, a commutator mounted loosely upon said shaft and connected with said spring, and means controllable at will for adjusting the tension of said spring.

2. In a switch, the combination of a revoluble shaft, a commutator journaled thereupon, a spring connecting said commutator with said shaft for the purpose of intermittently turning said commutator faster than said shaft, contact mechanism to be opened and closed by movements of said commutator, a cam disk mounted rigidly upon said shaft and revoluble therewith, said cam disk being provided with an arcuate slot, one end of said slot being nearer than the other end thereof to said shaft, a pin carried by said commutator, and loose relatively thereto, said pin extending through said slot, and a stationary plate provided with a shoulder for periodically engaging said pin and thereby stopping the rotation of said commutator.

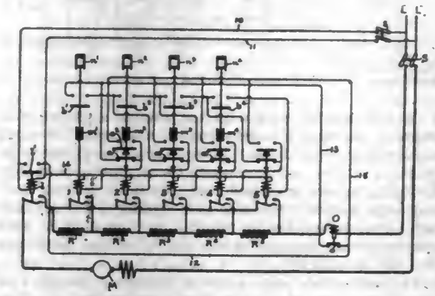
969,582. DOOR FOR HOTEL-ENTRANCES AND THE LIKE. JULIUS WENDLER, Berlin, Germany. Filed Feb. 9, 1910. Serial No. 542,823.

1. The combination, with two parallel passages connected at their ends, a door normally closing each passage, and means for guiding the doors transversely through the passages, of means for guiding each door longitudinally at right angles to the direction of motion thereof in said passages from one passage into the other.



2. The combination, with two passages connected at their ends, a door, a support having arms secured thereto, and rollers on said arms, of guide rails arranged longitudinally in said passage, and guide rails arranged at right angles to the former rails at the ends of said passages.

969,583. SYSTEM OF MOTOR CONTROL. HAROLD E. WHITE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 18, 1908. Serial No. 433,381.



1. In combination, a plurality of electrically controlled switches, means for causing successive closing of said switches, means responsive to an overload arranged to coöperate with said last mentioned means to cause opening of said switches in reverse succession as long as an overload exists, and means for maintaining said overload device ineffective as to all of said switches except the last one which has closed.

2. In combination, a plurality of electrically controlled switches, a control system for operating said switches automatically in succession comprising interlocking contacts on the several switches arranged to close the circuit of each succeeding switch as the preceding switch is actuated, and means responsive to an overload for successively interrupting the circuits for the several switches in the reverse order in which they are completed.

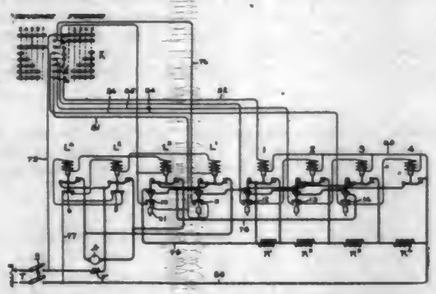
3. In combination, a plurality of electrically controlled switches, means for causing successive closing of said switches, a first maintaining circuit for said switches, a second maintaining circuit for said switches, auxiliary switches controlled by each of said electrically controlled switches except the first for shifting the preceding switch from said first maintaining circuit to said second maintaining circuit, and an overload responsive device arranged to interrupt said first maintaining circuit upon the occurrence of an overload.

4. In combination, a plurality of electrically controlled switches, an actuating circuit for said switches, a maintaining circuit for said switches, an overload responsive device arranged to coöperate with said maintaining circuit, and means for maintaining said overload device ineffective as to all switches except the last one which has closed whereby the switches are caused to automatically close in succession when no overload exists and to open in reverse succession as long as an overload exists.

5. In combination, a plurality of electrically controlled switches, an actuating circuit for said switches, a maintaining circuit for said switches, means controlled by each switch in closing for shifting its actuating coil from said actuating to said maintaining circuit, and an overload responsive device arranged to coöperate with said maintaining circuit to cause successive opening of said switches as long as an overload exists.

[Claims 6 to 10 not printed in the Gazette.]

969,584. CONTROL OF ELECTRICALLY-OPERATED SWITCHES. HAROLD E. WHITE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 27, 1909. Serial No. 480,482.



1. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, a plurality of auxiliary switches each arranged to control a contactor, and electromagnets energized from the power circuit each arranged to control the closing and opening of an auxiliary switch, whereby successive closing and opening of said contactors takes place under the control of the conditions in the power circuit.

2. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, a plurality of auxiliary switches each arranged to control a contactor, electromagnets each controlling the closing and opening of an auxiliary switch, and connections whereby a contactor in closing deënergizes the electromagnet of the auxiliary switch which controls the preceding contactor.

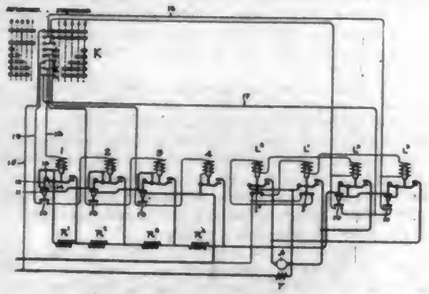
3. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, auxiliary switches coöperating with certain of said contactors each arranged to control a succeeding contactor, means for holding each auxiliary switch open while its coöperating contactor is open, electromagnets each controlling the closing and opening of an auxiliary switch, and connections whereby a contactor in closing shunts the electromagnet of the auxiliary switch which controls the preceding contactor.

4. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, a plurality of auxiliary switches each arranged to control a contactor, electromagnets all energized from the power circuit upon completion thereof and each controlling the closing and opening of an auxiliary switch, and connections whereby a contactor in closing shunts the electromagnet of the auxiliary switch which controls the preceding contactor.

5. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, auxiliary switches coöperating with certain of said contactors each arranged to control a succeeding contactor, means for holding each auxiliary switch open while its coöperating contactor is open, electromagnets all energized from the power circuit upon the completion thereof and each controlling the closing and opening of an auxiliary switch, and connections whereby a contactor in closing shunts the electromagnet of the auxiliary switch which controls the preceding contactor.

[Claims 6 to 24 not printed in the Gazette.]

969,585. CONTROL OF ELECTRICALLY-OPERATED SWITCHES. HAROLD E. WHITE and EUGENE R. CARICHOFF, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed Feb. 27, 1909. Serial No. 480,483.



1. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, actuating magnets for said contactors, auxiliary switches coöperating with certain of said contactors, each arranged to control the operation of a succeeding contactor, means for positively holding each auxiliary switch open while its coöperating contactor is open, and electrical means independent of said actuating magnets for controlling the closing of said auxiliary switches.

2. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, actuating magnets for said contactors, auxiliary switches coöperating with certain of said contactors, each arranged to control the operation of a succeeding contactor, means for holding each auxiliary switch open while its coöperating contactor is open, and a magnet independent of said actuating magnets coöperating with each auxiliary switch and energized from the power circuit for controlling the closing of said auxiliary switch.

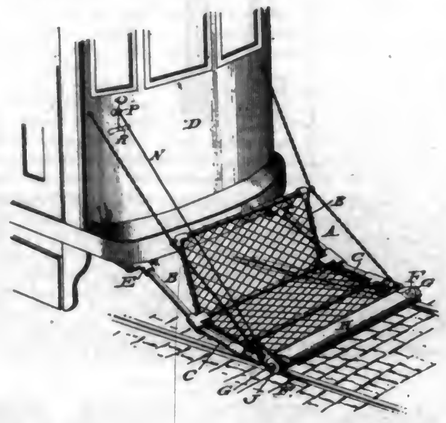
3. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, actuating magnets for said contactors, auxiliary switches coöperating with certain of said contactors, each arranged to control the operation of a succeeding contactor, means for holding each auxiliary switch open while its coöperating contactor is open, a magnet coöperating with each auxiliary switch and energized from the power circuit for controlling the closing of said auxiliary switch, and connections whereby each of said contactors in closing shunts the magnet of its controlling auxiliary switch.

4. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, auxiliary switches coöperating with certain of said contactors, each arranged to control the operation of a succeeding contactor, a connection between each of said contactors and its auxiliary switch whereby when the former is open the latter is positively held open and when the former is closed the latter is permitted to close, a magnet coöperating with each auxiliary switch and energized from the power circuit for controlling the closing of said auxiliary switch, and connections whereby each of said contactors in closing shunts the magnet of its controlling auxiliary switch.

5. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, actuating magnets for said contactors, auxiliary switches coöperating with certain of said contactors each arranged to control the operation of a succeeding contactor, means for holding each auxiliary switch open while its coöperating contactor is open, a magnet coöperating with each auxiliary switch and energized from the power circuit for controlling the closing of said auxiliary switch, and connections whereby each contactor in closing both effects the desired connection in the power circuit and shunts the electromagnet coöperating with the auxiliary switch which controls the control circuit for that contactor.

[Claims 6 to 20 not printed in the Gazette.]

969,586. FENDER FOR CARS. JOHN A. WIEDERSHEIM, Philadelphia, Pa. Filed Apr. 20, 1910. Serial No. 556,516.



1. In a fender, a transversely extending guard on the front thereof, a shaft rotatably mounted on the fender and carrying said guard, means for arbitrarily operating and releasably-retaining said shaft to hold said guard elevated from a road bed, and means connected to said shaft for automatically operating the same to lower said guard to said road bed.

2. In combination with a fender, a transversely-extending guard pivoted to the front edge of said fender to tilt upward out of contact with the track surface and to tilt downward to wipe such surface, means for arbitrarily raising and detachably holding such guard, and means for automatically tilting said guard downward when released.

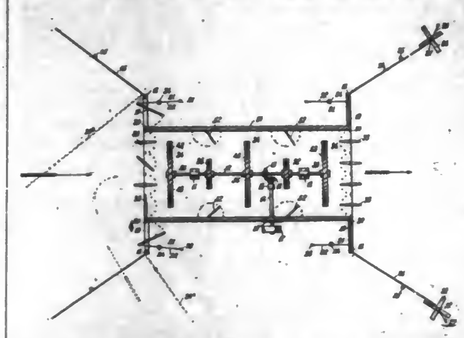
3. A fender, a transversely extending guard on the front of the fender, a shaft carrying said guard, bearings on the fender in which said shaft is rotatively mounted, a resilient device connected with said shaft and fender for rotating said shaft to the operative position of said guard, and means for rotating said shaft to raise and releasably hold the guard in the inoperative position of the same.

4. A fender having a transversely extending rotatable eccentric guard on the front thereof, adapted to be mounted on the frame of the fender, means for holding said guard normally elevated and capable of being released, and a spring for lowering said guard to operative position when said means are released.

5. A fender, a guard at the front thereof, a rotatable shaft carrying said guard eccentrically thereto, bearings on the frame of the fender for said shaft, a crank arm connected with said shaft for rotating said shaft in one direction, means connected to said arm to actuate the same and capable of being released, and a spring connected with said fender and shaft and acting against said means for rotating said shaft in the opposite direction, by which means said guard may be held normally raised, and operatively lowered.

[Claims 6 to 10 not printed in the Gazette.]

969,587. WIND-MOTOR. WILLIAM A. WILLIAMS, Olivet, S. D. Filed Jan. 14, 1910. Serial No. 538,103.



1. A wind motor, comprising a casing constituting a wind conduit, said casing being open at the ends, wings for directing wind into said ends of said casing, wind-operable power-producing mechanism within said casing, and a normally closed door at the outside of said casing and adapted to regulate the wind pressure entering said casing.

2. A wind motor, comprising a casing constituting a wind conduit and having wind-operable power-producing mechanism therein, said casing being open at the ends, wings mounted at the ends of said casing and serving to concentrate wind and direct it into said casing, and a normally closed, resiliently held door adjacent to each end of said casing and operable under excess wind pressure, whereby it can be opened said doors being positioned between said casing and said wings.

3. A wind motor, comprising a casing constituting a wind conduit having open ends, adjustable wings at said open ends and serving to concentrate wind and direct it into said casing, wind-operable power-producing mechanism within said casing, a normally closed, resiliently held door at each end of said casing between said wings and said end, and adjustable doors for regulating the flow of air into said open ends of said casing.

4. A wind motor, comprising an open-ended casing having wind-operable power-producing mechanism therein, pluralities of adjustable doors at said open ends of said casing, frames at each side of each of said open ends, pivoted closures mounted in said frames, means tending to hold said closures shut, and adjustable wings associated with each of said frames at the outer side thereof.

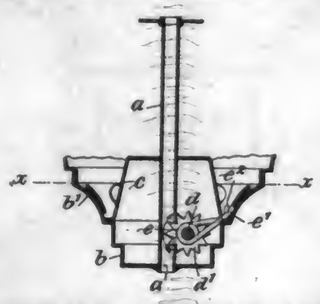
5. A wind motor, comprising an open-ended casing having wind-operable, power-producing mechanism therein, pluralities of adjustable doors at said open ends of said casing, frames at each side of each of said open ends, pivoted closures mounted in said frames, weighted lines secured to said closures and to the ground, and tending to hold said closures shut, adjustable posts near the ends of said casing, wings secured to said posts and said frames at the outer sides thereof, supports carried by said casing at the top thereof, and further wings held by said supports and connected with said first-mentioned wings and with said casing.

[Claims 6 to 8 not printed in the Gazette.]

969,588. LAMP-BURNER. CHARLES E. WIRTH, Waterbury, Conn., assignor to Plume & Atwood Manufacturing Co., Waterbury, Conn., a Corporation of Connecticut. Filed June 30, 1910. Serial No. 569,645.

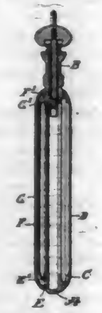
1. The combination in a lamp burner with the wick tube, the wick raiser shaft and means connected therewith for raising the wick on the turring of the shaft, of a helical wire spring surrounding said shaft with the free ends of the wire passing off in the same general direction, and means for engaging said free ends of the wire for holding the same in position against displacement.

2. In a lamp burner, the combination with the wick tube, the wick raiser shaft, two star wheel wick raisers on said shaft entering slots in the wick tube for raising and lowering the wick, of a helical wire spring surrounding the wick raiser shaft between said star wheels, with



the free ends of the wire passing off in the same general direction and passing through openings provided approximately at the union of adjacent parts of the lamp burner, which openings serve as hold-fasts to the said free ends of the wire to prevent their displacement.

969,589. WATCHCASE. EMILE J. WITTNAUER, New York, N. Y. Filed Mar. 10, 1909. Serial No. 482,587.



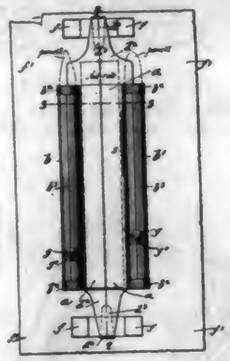
1. A watch case, comprising a case center having concentric outer and inner ridges arranged approximately in the same plane and forming a groove between them, a back cover hinged on the said case center and having a shoulder adapted to snap over the said outer ridge, and a cap hinged on the said case center and having its edge fitting the said groove, the cap having a shoulder adapted to snap over the said inner ridge.

2. A watch case, comprising a case center having concentric outer and inner ridges arranged in approximately the same plane and forming a groove between them, a back cover hinged on the said case center and having a shoulder adapted to snap over the said outer ridge, and a cap hinged on the said case center and having its edge fitting the said groove, the cap having a shoulder adapted to snap over the said inner ridge, the bottom of the said groove and the edge of the said cap being beveled to fit one the other.

969,590. FOOT-RULE POCKET. AUGUST WOLFF, New York, N. Y. Filed Jan. 24, 1910. Serial No. 539,660.

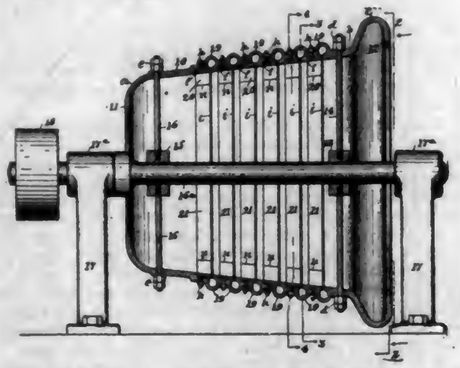
1. A foot-rule pocket, comprising a central oblong box provided with an interior friction-spring for the foot-rule, longitudinally slotted side-boxes for the pencils, sliding cups at the interior of the pencil-boxes, and hook-shaped extensions at the upper and lower ends of the foot-rule box for attaching the foot-rule pocket to the overalls.

2. A foot-rule pocket comprising an oblong foot-rule box and pencil-boxes at both sides of the same, said foot-rule box and pencil-boxes being made of a rear-wall having semicircular extensions and an angularly-bent front-wall having semicircular extensions at the sides complementary to the semicircular extensions of the rear-wall, said extensions forming longitudinal slits at their front-parts, and sliding cups provided with exterior heads or buttons for raising or lowering the cups and pencils in the boxes.



3. A foot-rule pocket, comprising a larger and a smaller box for a six-foot and two-foot rule, said boxes being arranged one in front of the other pencil-boxes secured to one of said boxes, hook-shaped extensions at the upper and lower ends of the rear-wall of the larger foot-rule box for attachment to the overalls, sliding cups provided with heads or buttons guided in longitudinal slits of the pencil-boxes, and friction-springs at the interior of the foot-rule boxes for retaining the foot-rules in position in the boxes.

969,591. CENTRIFUGAL SEPARATOR. FOLAND ROMEYN ABEEL, Tacoma, Wash. Filed July 27, 1909. Serial No. 509,833.



1. A centrifugal separator comprising a hollow body, a horizontally arranged shaft mounted to turn and carrying said hollow body, receivers on the side wall of the body having imperforate outer walls and each communicating by an opening with the interior of the body, means for reducing the width of said opening, and means for rotating the shaft to turn said body and the receivers.

2. A centrifugal separator, comprising a coniform hollow body open at each end, a series of spaced tubular receivers formed on the side wall of the body and having imperforate outer walls, each receiver having an annular opening between it and the interior of the body, means for reducing the width of said opening between the body and each receiver to form a narrow slot opening directly into the receiver at the longitudinal center thereof, and means for rotatably supporting said body and the receivers.

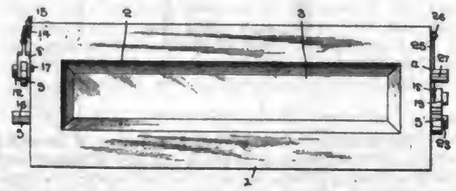
3. The combination with a coniform separator body, consisting of a side wall, and a series of spaced tubular receivers formed on said side wall, and constructed to receive and retain quicksilver, each receiver having an annular opening between it and the interior of the body, of a series of closing rings secured within the separator body, one over each annular opening and reducing the width thereof so as to form a narrow annular slot, the inner surfaces of said rings being flush with the inner surface of the separator body.

4. The combination with a rotatably supported shaft and means for rotating said shaft, of a centrifugal separator, comprising a coniform hollow body having an inwardly turned flange at its smaller end, and an annular pocket formed at its larger end and terminating in an inwardly turned flange, two spiders, each having a central hub and radial arms thereon, said arms engaging respective ends of the hollow body, and the shaft engaging the hubs, and a series of spaced tubular receivers formed on the hollow coniform body, each receiver having an imperforate outer wall, and communicating with the interior of the body.

5. In a centrifugal separator of the character described, the rotatably supported coniform hollow body, the series of spaced tubular receivers on the exterior of the hollow body, each receiver being constructed to receive and retain quicksilver and having an annular opening between it and the interior of the body, the wall of the separator body having interior annular recesses in the spaces between the receivers, and a series of closing rings, each formed of a plurality of segments, secured in sequence in said recesses on the side wall of the hollow body, each completed ring reducing the width of the opening it occupies, to provide a narrow slot between the interior of the hollow body and a respective tubular receiver, the inner surfaces of said rings when in position being flush with the adjacent inner surface of the separator body.

[Claims 6 and 7 not printed in the Gazette.]

969,592. INDICATOR OR BULLETIN. NED E. BARNES, Willis, Tex., assignor of one-half to Owen A. Smith and one-fourth to Hervey A. McDonald, Willis, Tex. Filed May 16, 1910. Serial No. 561,687.

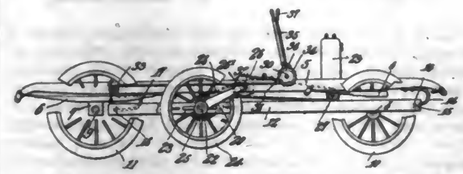


1. The herein described indicator, comprising a casing, shafts extending through said casing, a belt having its ends attached respectively to said shafts, a lever and ratchet mechanism adapted to be attached to either of said shafts to wind the belt thereon, a wheel having notches therein, said wheel being adapted to be engaged with either of said shafts and a pivotally mounted latch adapted to engage said notches and limit the rotating movement of either of the shafts to which the wheel is attached.

2. An indicator of the class described, comprising a casing having an opening therethrough, a pair of shafts extending longitudinally of the casing and one above the other, a belt having its ends secured respectively to said shafts, means to cause the belt to pass in close proximity to said opening in the casing, a lever adapted to be placed upon either of said shafts and swing thereon, a ratchet wheel adapted to be mounted upon either of said shafts, means to cause the ratchet wheel to rotate with the shaft, a pawl on the lever adapted to operate the ratchet wheel to rotate the shaft, means whereby a downward pull may be given said lever, automatic means for elevating said lever and means at the opposite end of the casing adapted to be engaged with either of said shafts to limit the rotating movement of the shafts.

3. An indicator, comprising a pair of shafts, a belt adapted to be wound upon either of said shafts, means to rotate one of the shafts to wind the belt thereon and a notched wheel adapted to engage either of said shafts and rotate therewith, a latch pivoted to the housing and having a detent thereon adapted to engage said notches of the wheel when the wheel is on either shaft and means whereby said latch may be swung upwardly and disengaged from the wheel when the wheel is in position on either shaft.

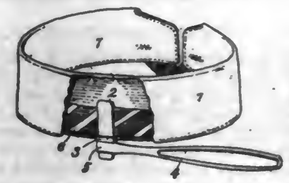
969,593. AUTO-WHEEL. ALONZO L. BLALOCK, Madison, Fla. Filed May 22, 1909. Serial No. 497,702.



1. In a vehicle, a frame including side members, a traction frame including side members, bowed springs connecting the forward ends of the side members of the vehicle frame and traction frame, bowed springs connected at their upper ends one to each of the side members of the vehicle frame and at their lower ends each to the rear end of one of the side members of the traction frame, the said last mentioned springs tending to lower said traction frame at its rear end and thereby elevate the rear of the vehicle frame and yieldably support the same, and means operable to elevate the said rear of the traction frame and hold the same in elevated position.

2. In a vehicle, a frame including side members, a traction frame including side members, springs connecting the forward ends of the side members of the vehicle frame and traction frame, bowed springs connecting at their upper ends one to each of the side members of the vehicle frame and at their lower ends each to the rear end of one of the side members of the traction frame, the said last mentioned springs tending to lower said traction frame at its rear end and thereby elevate the rear of the vehicle frame, and means operable to elevate and hold in elevated position the said rear of the traction frame, said means comprising a windlass, means for rotating the windlass, and a cable connected to and adapted to be wound upon the windlass and connected to the traction frame.

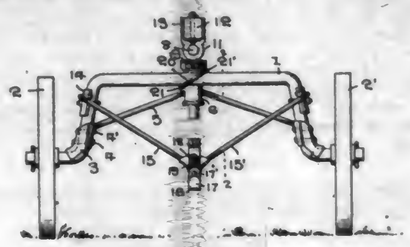
969,594. NECKTIE-ADJUSTING MEANS. EDWARD W. BLOOMFIELD, Vancouver, British Columbia, Canada. Filed Dec. 8, 1909. Serial No. 532,111.



1. As a means for adjusting a tie in a collar, a clip comprising a resilient strip bent back upon itself to embrace the tie, and a band held over the free ends of said strip by the frictional contact therewith, substantially as shown and described.

2. As a means for lengthwise adjusting a tie in the fold of a collar a folded clip of resilient material having free ends, a band slidable over the free ends, and a handle having a socket to fit over the closed ends of the clip projecting below the band.

969,595. TRUCK FOR HAY-LOADERS. WILHELM C. F. BLOSSFELD, Sprague ville, Iowa. Filed Oct. 29, 1909. Serial No. 525,315.



1. In combination with an axle carried by wheels, a bearing member located centrally of said axle and secured thereon, an L-shaped pin adapted to be raised or lowered within said bearing member and means to regulate the position of said pin in said bearing member, a lower cap removably secured to said axle, a connecting brace coöperating with said lower cap and said bearing member, an upper cap member and a draft device secured to said upper cap member.

2. In combination with an axle carried by wheels, a bearing member located centrally of said axle and secured thereon, said bearing member comprising a tubular body, outstanding lugs at the upper portion of said body, a swivel collar at the upper end of said member, laterally extending lugs in the length of said member, eye bolts carried by said last mentioned lugs, a brace extending from each of said eye bolts, plate members carried by said axle and coöperating with said braces, an upper cap member, and rods extending from said last mentioned cap member, to coöperate with a draft device.

3. A device of the character described, comprising an axle mounted on wheels, said axle being formed angularly adjacent its ends, a bearing member mounted about centrally of said axle, caps secured in the angular portion of said axle and braces secured to and extending from said caps to said bearing member.

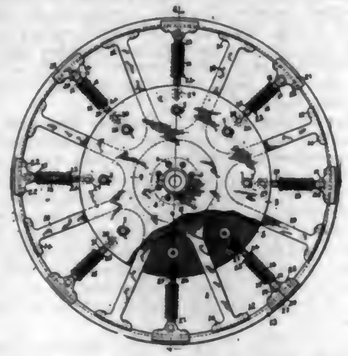
4. A device of the character described, comprising an axle mounted on wheels, a bearing member carried about centrally on said axle, means coöperating with said bearing member for securing the end of a pole, caps mounted on said axle at points adjacent their ends and braces secured to and extending from said caps to said bearing member.

5. A device of the character described, comprising an axle mounted on wheels, a bearing member mounted about centrally on said axle, a pin adjustably secured in said bearing member and retaining the end of a pole, braces secured to said axle adjacent its ends and extending toward said bearing member, and means on said bearing member for securing the ends of said braces.

[Claims 6 to 8 not printed in the Gazette.]

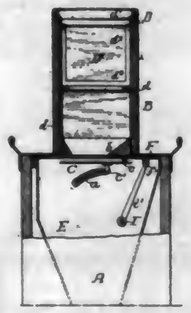
969,596. CUSHION-WHEEL. ROBERT E. BORING, Carlinville, Ill. Filed Dec. 28, 1906. Serial No. 349,858.

In a cushion wheel, a hub provided with a centrally located annular flange, spaced annular plates engaged with the hub and secured to the flange, a movable spider located between the plate and guided in its movement thereby, said spider comprising an annular plate provided with radial spokes, spacing collars located between the spokes, removable fastenings engaged with the said spacing collars and with the said plates, said spider having a centrally located opening of a greater diameter than that of the flange of the hub so that the walls of the opening in the spider are spaced from the peripheral surface of the said hub flange, a rim secured to the spokes, nuts pivoted between the said annular plates and arranged in radial alinement with the said spacing collars, compression springs interposed between the annular plates and the rim, inner and outer loop members extending through each spring, the said outer members being pivotally connected with the said rim and having portions bent into engagement with the springs, the said inner



members having portions bent into engagement with the springs at the opposite ends thereof, and adjusting bolts connecting the said inner members with the said nuts.

969,597. FARE-BOX. EZRA S. BUCKNAM and GEORGE B. KOHLER, Philadelphia, Pa., assignors to The J. G. Brill Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 28, 1908. Serial No. 429,738.



1. The combination in a fare box having a receiving section, of a platform upon which the fare is placed, said platform having a clear space above and beyond its edges so that if a fare is manipulated or the box tilted the fare will slide from the platform into the box.

2. The combination in a fare box, of a fare receiving section, a platform below the lower edge of the said section and situated some distance from the sides of the box so that a fare deposited on the platform will, if tampered with, slide off the platform.

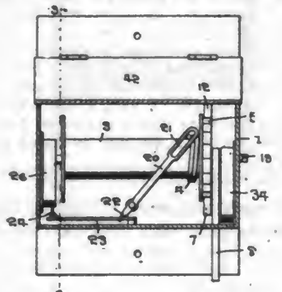
3. The combination in a fare box, of a fare receiving section, a movable platform upon which the fare is deposited, said platform being below the lower edge of the fare receiving section and arranged some distance from the sides of the fare box, with means for tilting the said platform to deposit a fare in the box.

4. The combination in a fare box, of a fare receiving section having a series of deflecting plates, a horizontal platform below the last plate and upon which the fare is deposited, said platform being so arranged that there is a clear space above the edge of the platform and between the edges of the platform and the side walls of the fare box.

5. The combination in a fare box of a receiving section having an opening in the bottom communicating with the interior of the fare box, a tilting platform closing said opening and a slide for closing the opening when the platform is tilted, said slide being arranged close to the tilting platform, and means for operating the slide as the platform is tilted.

[Claims 6 to 10 not printed in the Gazette.]

969,598. CLOTHES-LINE REEL. GILBERT W. BUTTLES, Appleton, Wis. Filed June 2, 1909. Serial No. 499,825.



1. In a device of the character described, the combination with a housing, a shaft extending longitudinally therethrough and a line winding drum mounted on said shaft; of a guide arm pivoted to one wall of said housing and having a line-receiving slot therein, means to actuate said shaft and drum, a rocking arm having a slot in one end thereof, driving means for said rocking arm, an eccentric pin carried by said last mentioned driving means and coöperating with the slot in said rocking arm, and intermediate operating means between the opposite end of said rocking arm and said guide arm, for the purpose described.

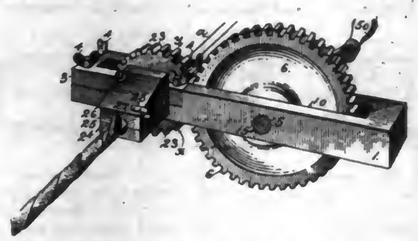
2. In a device of the character described, the combination with a housing, a shaft extending longitudinally therethrough and a line-winding drum mounted on said shaft; of a guide arm pivoted to one wall of said housing and having a line-receiving slot therein, means to actuate said drum, a rocking arm mounted on another wall and adapted to be rocked on rotation of said drum, a bell crank lever pivotally mounted on the floor of said housing and having one end in engagement with said guide arm and a link connecting said rocking arm with the opposite end of said lever, whereby when said shaft and drum are rotated, said guide arm will move in the arc of a circle.

3. In a device of the character described, the combination with a housing, a shaft extending longitudinally therethrough and a line-winding drum mounted on said shaft; of a guide arm pivoted to one wall of said housing and having a line-receiving slot therein, a rocking arm pivotally mounted on another wall of said housing and having a slot in one end thereof, a gearing mechanism between said shaft and said rocking arm comprising a gear provided with an eccentric pin, said pin being located in the slot of said rocking arm, a bell crank lever pivotally mounted to the floor of said housing and having one end in engagement with said guide arm and a link having engagement with said rocking arm and the opposite end of said lever, and means to rotate said shaft and drum, for the purpose described.

969,599. INSULATION-APPLYING DEVICE. JOSEPH A. CATES, Mason, Tex. Filed Mar. 1, 1910. Serial No. 546,646.

1. In an implement of the character described, a two-part spindle, mountable and slidable on an endless wire, an insulation carrier on one of the spindle parts, a frame mounted on the spindle and means on the frame for rotating the spindle and the carrier to wind the insulation on the wire.

2. In an implement of the character stated, a two part spindle, an insulation carrier on one of the spindle parts, a two-part frame mounted on the spindle and crank actuated means on the spindle and the frame for turning the spindle and the insulation carrier to wind the insulation on the wire.



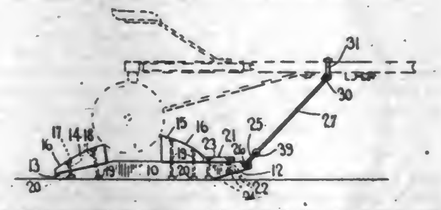
3. In an implement of the character stated, a two-part spindle mountable and slidable on an endless wire, an insulation carrier hingedly mounted on one of the spindle parts, having a slotway through which the insulation passes to the wire and means for turning the spindle and the carrier on the wire to wind the insulation on the said wire.

4. In an implement of the character stated, a two-part spindle mountable and slidable on an endless wire, an insulation carrier hingedly mounted on one of the spindle parts, having a slotway through which the insulation passes to the wire and means for turning the spindle and the carrier on the wire to wind the insulation on the said wire, and a slotted guide at the discharge end of the carrier for directing the insulation onto the wire.

5. In an implement of the character stated, a two-part spindle mountable and slidable on an endless wire, said two-part spindle including a gear segment on each part, thereby forming a complete gear, said spindle having bearing portions at each side of said gear, a frame having bearings to receive said bearing portions of said spindle, said frame including a removable section at said bearings, and a crank driven gear carried by said frame to mesh with said spindle gear and an insulation carrier mounted on one of said spindle parts.

[Claim 6 not printed in the Gazette.]

969,600. DISK-SLED. FLOYD E. CHAMBERLIN, Schaller, Iowa. Filed Mar. 28, 1910. Serial No. 551,866.

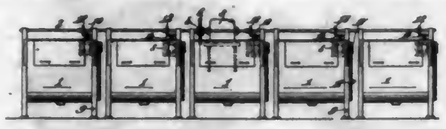


A sled comprising runners having their rear upper corners cut away to provide inclined seats, a cleat secured transversely upon said seats and having its top face sloping rearwardly, a cleat secured transversely on the runners in advance of the first-named cleat and having its top face sloping forwardly, and hooks pivotally connected to the forward ends of the runners and having their bills engageable with a draft pole.

969,601. MACHINE-DRIVING MEANS. PRENTICE E. CLARK, Elkins, W. Va. Filed June 11, 1910. Serial No. 566,403.

1. The combination of a plurality of machines, each including a drive shaft; a single continuously rotating main drive shaft for all of said machines; and individual gear connections between the main drive shaft and the shaft of each machine for automatically and periodically reversing the direction of rotation of each machine shaft.

2. The combination of a plurality of machines, each including a drive shaft; a single continuously rotating main drive shaft for all of said machines; and gear connections between the main drive shaft and all of the machine shafts for periodically reversing the latter shafts in succession.



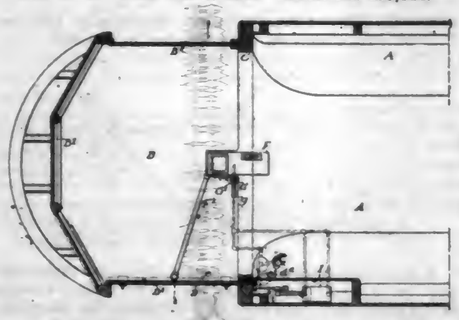
3. The combination of a plurality of machines, each including a drive shaft; a single continuously rotating main drive shaft for all of said machines; and individual gearing interposed between the main drive shaft and each machine shaft and rotated continuously from the former shaft, each gearing including means for automatically and periodically reversing the direction of rotation of the corresponding machine shaft.

4. The combination of a plurality of machines, each including a drive shaft; a single continuously rotating main drive shaft for all of said machines; and individual gearing interposed between the main drive shaft and each machine shaft and rotated continuously from the former shaft, each gearing including means for automatically and periodically reversing the direction of rotation of the corresponding machine shaft, and a cam for actuating said means, the cams of all of said gearings being timed to effect the reversal of the machine shafts successively.

5. In transmission gearing of the type set forth, the combination of a driven shaft; a pair of oppositely rotatable gears mounted thereon, each gear having a clutch face; a pair of rotatable clutch elements mounted on said shaft for driving the same, each of said elements being arranged for coaction with the clutch face of the adjacent gear; a clutch box; an axially-movable shifter mounted in said box and having its ends engaged with said elements; and means for reciprocating said shifter.

[Claims 6 to 9 not printed in the Gazette.]

969,602. PASSENGER CAR. CHARLES A. COONS, Buffalo, N. Y. Filed Oct. 2, 1908. Serial No. 455,844.
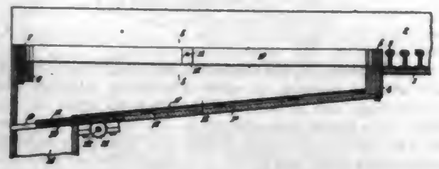


1. A combination, in a passenger car, of a body portion, a platform, a transverse partition separating the body portion from the platform and having a wide doorway therein, a fare box situated within the doorway and extending partly over the floor of the body portion and partly over the floor of the platform, and a diagonal guard rail extending from the fare box toward one side of the car.

2. A combination, in a passenger car, of a body portion, a platform, a fare box situated at the point where the platform joins the body portion and forming ingress and egress passageways, a guard rail extending from the fare box toward the side of the platform, means for closing the said side of platform, and mechanism for operating the closing means situated in close proximity to the fare box so that the conductor need not leave his post to operate the closing means.

3. The combination in a passenger car of a body portion, a platform, a transverse partition separating the body portion from the platform and having a doorway therein, a post at the center of the doorway, a guard rail extending from the post toward one side of the platform, two sliding doors meeting at the point where the guard rail terminates at the side of the car, and means near the post for opening and closing said door.

4. The combination in a passenger car of a body portion, a platform, a transverse partition separating the body portion from the platform, a post at the center of the doorway, a guard rail extending from the post toward one side of the platform, two sliding doors meeting at the point where the guard rail terminates at the side of the car, means for actuating one of said doors, and connecting means coupling the doors so that when one door is moved in one direction the other door will be moved in the opposite direction.

969,603. GRIZZLY. HERBERT A. CORLISS, Grants Pass, Oreg. Filed Sept. 30, 1909. Serial No. 520,254.



1. In a device of the class described, the combination with a grizzly, comprising supporting members and bars detachably attached to said supporting members in spaced relation, of a receptacle underlying said grizzly, said receptacle having a main bottom and a false bottom spaced from said main bottom, a hopper connected to said receptacle, a gate sliding between said bottoms of said receptacle, and means for operating said gate to control the size of the opening between said receptacle and said hopper.

2. In a device of the class described, the combination with a plurality of supporting members having wedge-shaped grooves therein, and also having vertical lugs projecting from each side of each groove into the interior thereof, of a plurality of bars having wedge-shaped ends engaging said grooves, and also having vertical channels in each side thereof engaging said lugs.

3. In a device of the class described, the combination with a plurality of supporting members having wedge-shaped grooves therein, and also having lugs projecting from each side of each groove into the interior thereof, of a plurality of bars detachably connected in groups, and having wedge-shaped ends engaging said grooves, and also having channels in each side thereof engaging said lugs.

969,604. DOOR FOR GRAIN-CARS. WILLIAM G. CRAIG, Marshalltown, and AUBREY R. RAMSDELL, Toledo, Iowa. Filed Apr. 30, 1910. Serial No. 558,742.

1. In combination with a car having a doorway, two doors, one pivoted at each side of the doorway, lugs on the doors respectively, members at the sides of the doorway, for engaging the lugs and limiting the movement of the doors, a central post secured to the doorway, and means for securing the doors to the central post when the lugs are in engagement with the said members.

2. In combination with a car having a doorway, two doors, one pivoted at each side of the doorway on horizontal axes, a central post hinged on a horizontal axis and at right angles to the axes of the doors, and means by which the doors may be secured to the central post.

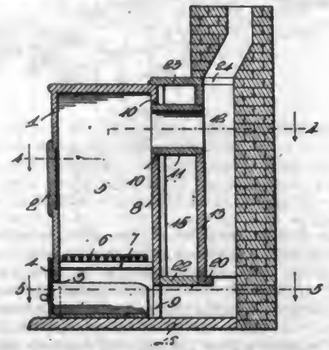
3. In combination with a car having a doorway, two doors with recesses, one pivoted at each side of the doorway, a central post secured to the car at the doorway, having two members spaced apart, between which edges of the doors may be disposed, and a bolt secured to the central post, from one of the members to the other, which is normally disposed in the recesses in the doors.



4. In combination with a car having a doorway, two doors with recesses, one pivoted at each side of the doorway on horizontal axes, a central post pivoted to the car above the doorway, having two members spaced apart, between which edges of the doors may be disposed, and a bolt secured to the central post and disposed across the slot, for engaging the recesses in the doors.

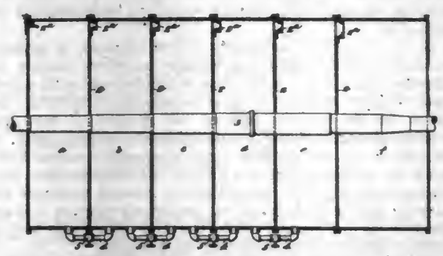
5. In combination with a car having a doorway, two doors with recesses, one pivoted at each side of the doorway on horizontal axes, a central post pivoted to the car above the doorway, having a slot in which edges of the doors may be disposed, and a bolt secured to the central post and disposed across the slot, for engaging the recesses in the doors, there being two orifices in the central post and an orifice in each of the doorways, the centers of the orifices in the central post being out of alinement with the orifices in the doors respectively.

969,605. HEATING-STOVE. SIMEON SCOVE CUDD, Union, S. C., assignor of one-half to Daniel Connor Flynn, Union, S. C. Filed Oct. 14, 1909. Serial No. 522,599.



The combination with a chimney, of a stove comprising a base plate, a casing arranged on the rear portion thereof and open at its back, a longitudinally arranged partition disposed intermediately of the ends of said casing and extending from the top thereof to a point near said base plate to form a rear flue when applied, a bottom closure arranged between the lower end of said partition and the front wall of said casing to form a dead air space at the front of said flue, a closed casing arranged on said base plate in front of said first mentioned casing and of less length than said casing, said front casing defining a combustion chamber and an ash pit, a flue arranged between the upper end of said combustion chamber and said rear flue and extending transversely across said dead air space, a direct fire connection between said ash pit and said rear flue, the front wall of said rear casing having air inlet openings arranged at its lower end on opposite sides of said front casing, and communicating with the ash pit and with said rear outlet flue and means for controlling said inlet openings.

969,606. ELASTIC-FLUID TURBINE. CHARLES G. CURTIS, New York, N. Y., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed Nov. 12, 1906. Serial No. 343,102.



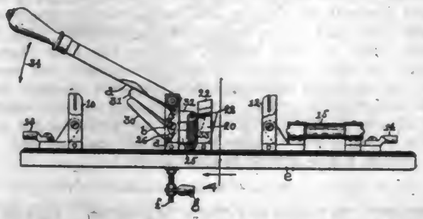
1. A multi-stage elastic fluid turbine having a plurality of stages, a nozzle in each stage for introducing fluid into the stage, there being a chamber in the stage, the said chamber being at the bottom of the shell, and arranged to retain water of condensation away from the rotor, and a passage connecting the chamber with a chamber in another stage.

2. A multi-stage elastic fluid turbine, having a chamber in a stage, the said chamber being at the bottom of the shell, and arranged to retain water of condensation away from the rotor, the said chamber being so proportioned as to give a somewhat shallow body of water in it, there being a passage connecting the chamber with a stage of different pressure.

3. A multi-stage elastic fluid turbine, having a horizontal shaft, a cylindrical shell, the said shell being divided into stages of difference of pressure, the said shell within a stage being so formed as to produce a flat chamber, the said chamber being so proportioned as to give a somewhat shallow body of water in it, there being a passage connecting the chamber with a stage of different pressure.

4. A multi-stage elastic fluid turbine, having a shell divided into a plurality of stages, a chamber within each stage, the said chamber being at the bottom of the shell and arranged to retain water of condensation away from the rotor, and connecting pipes outside of the shell and communicating between the different stages, the said pipes communicating with the chamber on alternate sides so that the water entering a chamber will pass across its entire length before it has an opportunity to go out.

969,607. CIRCUIT-CONTROLLER. KENNETH L. CURTIS, Boston, Mass., assignor to Albert and J. M. Anderson Manufacturing Company, Boston, Mass., a Corporation of Maine. Filed May 4, 1910. Serial No. 559,333.



1. In a circuit controller, in combination, a pivoted contact member, stationary contact members located on opposite sides of the pivot of said member and with which said member coöperates, a stop interposed between the pivot for the movable member and one set of said station-

ary contact members and comprising laterally movable arms normally in the path of movement of said pivoted contact member, a lever coöperating with said movable arms to separate the same and permit said pivoted member to pass between them and into engagement with one set of the stationary contact members, said lever being actuated by the pivoted member when moved into engagement with the second set of stationary contact members, and a spring actuated device coöperating with said pivoted member to automatically disengage it from said second set of stationary contact members, substantially as described.

2. In a circuit controller, in combination, a pivoted contact member, stationary contact members located on opposite sides of the pivot of said member and with which said member coöperates, a stop interposed between the pivot for the movable member and one set of said stationary contact members and normally in the path of movement of said pivoted contact member, means actuated by movement of the pivoted contact member into engagement with the second set of contact members for moving said stop laterally to permit the pivoted contact member to be engaged with the first mentioned set of contact members, substantially as described.

3. In a circuit controller, in combination, a pivoted contact member, stationary contact members located on opposite sides of the pivot of said member and with which said member coöperates, a stop interposed between the pivot for the movable member and one set of said stationary contact members and normally in the path of movement of said pivoted contact member, means actuated by movement of the pivoted contact member into engagement with the second set of contact members for moving said stop laterally to permit the pivoted contact member to be engaged with the first mentioned set of contact members, and means for automatically disengaging said pivoted member from the second set of contact members, substantially as described.

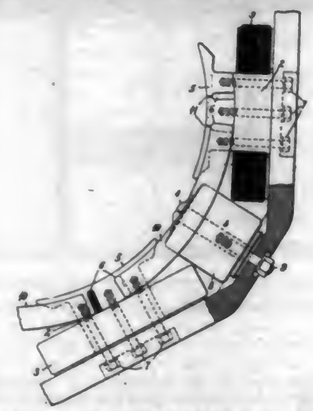
4. In a circuit controller, in combination, two sets of contact members, a movable member interposed between said contact members and coöperating therewith, a movable stop coöperating with said movable member to prevent the engagement of said movable member with one set of contact members until it has been engaged with the second set of said contact members, and means actuated by said movable member to move said stop out of the path of the movable member when the latter is moved in one direction to engage the second set of contact members, and to hold said stop out of said path until released by the engagement of the movable member with said means, after the movable member has been moved a predetermined distance in the opposite direction toward the first-mentioned set of contact members.

5. In a circuit controller, in combination, two sets of contact members, a movable member interposed between said contact members and coöperating therewith, a movable stop coöperating with said movable member to prevent the engagement of said movable member with one set of contact members until it has been engaged with the second set of said contact members, means actuated by said movable member to move said stop out of the path of the movable member, and hold it out of said path until said means is actuated by said movable member to release said stop, said means being actuated to move said stop only when the said movable member has been engaged with the said second set of contact members, and means to automatically disengage said movable member from the second set of contact members if said movable member is released by the operator after it has been engaged with said second set of contacts, substantially as described.

[Claim 6 not printed in the Gazette.]

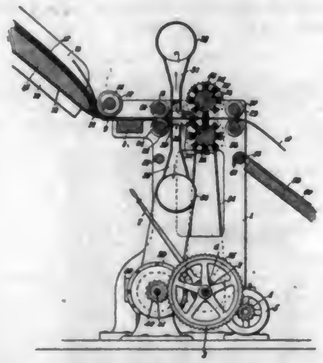
969,608. DYNAMO-ELECTRIC MACHINE. JOSEPH LE CONTE DAVIS, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Dec. 14, 1908. Serial No. 467,476.

A dynamo-electric machine frame having a plurality of polar projections each of which comprises an integral base portion and a cap or extension removably secured to the base portion and having laterally extending pole tips and cross slots, the inner sides of which are closed by the face of the base portion, magnetizing windings for the



polar projections, and demagnetizing coils, the side portions of each of which are located in cross slots of adjacent polar projections.

969,609. DUSTING-MACHINE. ULYSSES CECIL DAVIS, Pittsfield, Mass. Filed June 23, 1909. Serial No. 503,835.



1. In a dusting machine of the class described, the combination with a frame, a guide for the paper mounted on said frame, feed rollers adjacent to said guide and adapted to advance sheets of paper through the same, and brushes adjacent to said guide and adapted to remove the dust, the said guide having openings therein at both faces of the passing paper, of pneumatic means having intake mouths engaging opposite sides of the guide at the said openings and adapted to withdraw the dust.

2. In a machine of the class described, in combination, a frame, a guide comb having openings therein, means for advancing the paper through said guide comb, rotatable brushes adapted to brush the faces of the paper as it passes from said guide comb, and suction nozzles partially closing said openings and adapted to remove the dust in the vicinity of said guide comb.

3. In a machine of the class described, in combination, a frame, a guide comb presenting an upper section and a lower section and having openings passing therethrough, means for advancing the paper between said sections, means for brushing the paper beyond said guide comb and so as to throw the dust toward said guide comb, and suction nozzles partially closing said openings and adapted to withdraw the dust.

4. In a machine of the class described, in combination, a guide comb presenting oppositely disposed sections and having openings passing therethrough, rotatable brushes adapted to engage the paper as it passes from said guide comb and adapted to throw the dust toward said comb, and suction nozzles closing the sides of said openings remote from said brushes and leaving the portions of said openings adjacent to said brushes partially open, whereby an inward draft at said nozzles will remove the dust.

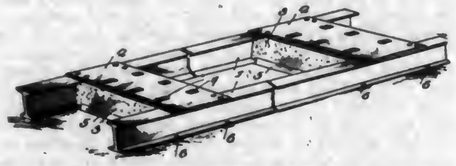
5. In a machine of the class described, in combination, a frame, a guide comb mounted in said frame and having openings therethrough, feed rollers adjacent to said comb, means for driving said rollers in a direction to advance the paper through said comb, brushes adjacent to said comb and adapted to throw the dust rearwardly with respect to the direction of advance of the paper, delivery rollers adapted to receive the paper from said brushes, means for rotating said delivery rollers to advance the paper, and suction nozzles engaging said comb and partially closing said openings and adapted to withdraw the dust.

[Claims 6 and 7 not printed in the Gazette.]

969,610. METHOD OF ATTACHING STEEL TO STEEL OR STEEL TO IRON. GEORGE DAWSON, Crescent, La. Filed May 11, 1910. Serial No. 560,606.

The herein-described method of attaching steel by brazing and re-tempering the same in one heating, which consists in brazing together the ends of the pieces to be attached, applying a dry tempering compound to that portion of the steel heated at the side of the braze incident to the brazing operation, and afterward applying the said compound to the braze.

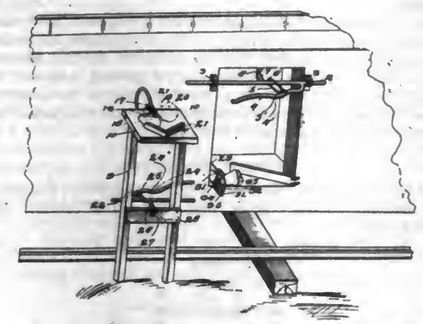
969,611. RAILWAY-TIE AND RAIL-FASTENING. WILLIAM P. DAY, Altoona, Pa. Filed Oct. 7, 1909. Serial No. 521,489.



1. A railway tie, comprising beams spaced from each other, chair plates extending from one beam to the other and connected thereto, concrete blocks filling the spaces between said beams underneath the said chair plates, the plates being formed with openings extending therethrough and the blocks being initially formed with sockets registering with said openings, rail clamps embodying upper and lower jaws, the upper jaws being designed to extend over and above the base flanges of a rail and the lower jaws extending down through the openings in the chair plates into the said sockets and engaging the lower faces of the chair plates, and concrete filling the portions of the sockets that are not occupied by the clamps.

2. A railway tie, comprising beams spaced from each other, chair plates extending from one beam to the other and connected thereto, concrete blocks filling the spaces between said beams underneath said chair plates, the plates being formed with openings extending therethrough and the blocks being initially formed with sockets registering with said openings, one of said openings at one side of a rail being larger than the other, clamps embodying upper and lower jaws, the upper jaws being designed to extend over the base flanges of a rail, and the lower jaws extending down through the openings and engaging the lower faces of the chair plates, concrete filling the portions of the sockets that are not occupied by the clamps, and keys inserted in the relatively large openings back of the adjacent rail clamp and engaging the same, the keys being embedded in the last named concrete.

969,612. MAIL RECEIVING AND DELIVERING APPARATUS. WILLIAM T. FERGUSON, Weiser, Idaho. Filed Apr. 27, 1910. Serial No. 557,985.



1. In an apparatus of the character described, an upright provided with a platform at its top, a spring clamp projecting from the front edge of said platform and consisting of a pair of resilient arms formed of a single strip of metal with curved intermediate portions, and means for detachably holding said clamp to said platform.

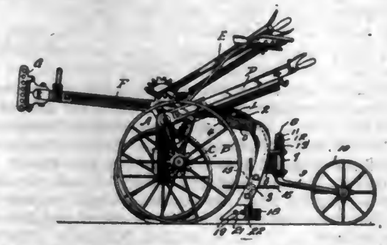
2. In an apparatus of the character described, an upright having a platform at its top, an elongated strip of metal in the form of a loop with spring arms forming a clip, with each of said arms having intermediate curved portions, and together forming a ring, said arms having outwardly curved flaring ends projecting from the front edge of said platform.

3. In an apparatus of the character described, a crane hinged to the side of a car door opening and formed with resilient clamping arms having loops at their ends, and a slotted locking plate mounted on the side of a car door opening for detachably holding said crane in extended position.

4. In an apparatus of the character described, an upright located at one side of the railroad track and having a platform at its top, a stop on said platform for retaining a mail bag, and a spring clip projecting from the front edge of said platform, in combination with a ring engaging said spring clip, and a mail bag fastened to said ring.

5. In an apparatus of the character described, a crane hinged to one side of the car door opening and having means for detachably engaging a mail bag at its outer end, and means for detachably holding it in extended position, and a plate located on the opposite side of the car door opening from the crane and extending diagonally into the car.

969,613. DIGGER. LEWIS FERRIS, Pocatello, Idaho. Filed May 20, 1910. Serial No. 562,466.



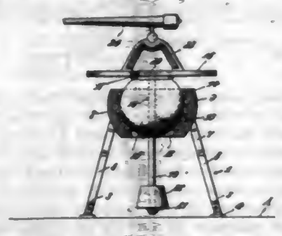
1. In a device of the character described, a sulky frame, a beam connected therewith, a pair of standards connected with the beam, a flat blade having a sharp toothed front edge and upturned flanges secured upon the lower ends of the standards, and ditching shoes supported adjacent to the sides of the flat blade.

2. In a device of the character described, a sulky frame, a beam connected therewith, a pair of standards connected

with the beam, a blade having upturned flanges secured upon the standards, and ditching shoes secured adjacent to the sides of the blade and having laterally extending flanges.

3. In a device of the character described, a sulky frame, a beam connected therewith, a pair of standards connected with the beam, a blade having upturned flanges secured upon the standards, ditching shoes secured adjacent to the sides of the blade, and a shaft supported for rotation upon the standards above the blade and having agitating arms extending radially therefrom.

969,614. SELF-LEVELING TABLE. MATTHIAS FLORENZ, Lawrence, Mass. Filed Apr. 9, 1910. Serial No. 554,418.



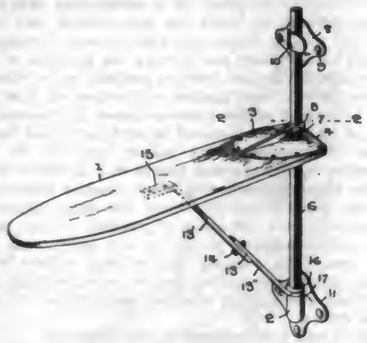
1. A self-leveling table comprising companion frames, companion members supported by the frames and formed to provide a substantially spherical passage, antifriction bodies, the said members having their walls formed to provide circular runways which are arranged substantially in superimposed relation, the said antifriction bodies being mounted in the said runways and those of one series being out of contact with those of the other series through the arrangement of such runways, a substantially spherical member bearing against the said antifriction bodies and extending entirely into the said passage formed by the companion members, a table top supported by the spherical member, a rod extending through the top and through the spherical member, and a weight carried by the rod.

2. In a self-leveling table, a member having a substantially spherical passage therein, the said passage having its walls formed to provide spaced annular runways, antifriction bodies mounted in the runways, a substantially spherical member mounted in the passage of the said first member, a table top supported by the said substantially spherical member, a rod supported by the top and extending through the said substantially spherical member, and a weight supported by the rod and located thereon at a point beneath the said substantially spherical member.

969,615. IRONING-TABLE. LOTT FREDERICK, Indiana, Pa. Filed June 8, 1909. Serial No. 500,849.

1. A device of the character described, comprising an ironing board having fixed thereto upon the upper surface, at one end, a plate having ribs integral therewith, an upstanding collar integral with said ribs and said plate member, a bar received by said collar and means for adjustably holding said collar upon said bar, a casting providing a seat for said bar near its upper end, a longitudinally adjustable brace consisting of two members, one fixed at its upper end to the under-side of said board and the other member having its lower end applied to said bar near its lower end, and a support for the lower end of said bar and adjustable brace.

2. A device of the character described, comprising an ironing board, a plate fixed to the upper surface of said board near one end thereof, said plate having an upstanding collar, a bar received by said collar, means for adjustably connecting said collar to said bar, a casting having a tongue extending therefrom and parallel to the body thereof, said bar being received between said tongue and said casting, a second casting adapted to receive the lower end of said bar and a brace connected to said bar at its lower end, the upper end of said brace being connected to said ironing board.



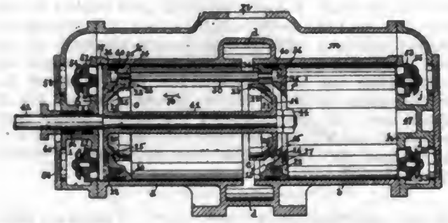
3. A device of the character described, comprising an ironing board, a plate applied to the upper surface of said ironing board, at one end and having an upstanding collar, a bar received by said collar, means for connecting said collar to said bar, a casting having a tongue projecting therefrom and extending parallel to the body thereof, said bar being received near its upper end between said tongue and said casting, a second casting having a tubular bearing adapted to receive the lower end of said bar, and a brace connected to said bar at its lower end, the upper end of said brace being connected to said ironing board upon its lower surface.

4. A device of the character described, comprising a bar, an ironing table, a plate secured to the upper surface of said ironing table at one end and having an upstanding collar receiving said bar, means for connecting said collar to said bar, a casting having a tongue extending parallel to the body thereof, said bar being received near its upper end between said tongue and said casting, a second casting having a tubular bearing receiving the lower end of said bar, a brace consisting of two adjustably connected members, one of said members having connection with said bar near its lower end, the other member being connected to said ironing board upon its under side, said bar being of octagonal cross section, the tongue of the first referred to casting being adapted to effect engagement with any one of the faces formed by the octagonal outline of said bar.

5. A device of the character described, comprising a bar of octagonal cross sectional outline, an ironing board, a plate secured to the upper surface of said board at one end, said plate having an upstanding collar receiving said bar, a casting having a tongue arranged to extend parallel to the body thereof, said bar being received between said tongue and said casting near its upper end, a second casting having a tubular bearing receiving the lower end of said bar, a brace, including adjustable members, one member being secured to the under side of said ironing board and the other member having its lower end provided with a securing terminal embracing said bar.

969,616. PUMP. BURT O. GAGE, Warren, Mass., assignor to Warren Steam Pump Company, Warren, Mass., a Corporation of Massachusetts. Filed Feb. 18, 1910. Serial No. 544,599.

1. In a pump, in combination, cylinders arranged in line with each other and separated at their adjacent ends to form a fluid inlet for both cylinders, an annular chamber about said adjacent ends and with which said fluid inlet communicates, said chamber having a fluid inlet, heads at the outer ends of said cylinders having fluid outlets, automatically operated valves coöperating with said outlets, pistons in said cylinders, each comprising a seat member of substantially the diameter of its cylinder and provided with a substantially central port or opening extended through it, a valve member coöperating with said seat member to form a substantially solid piston when said valve member is seated and to uncover said port or opening when unseated, means extended from one cylinder into the other for connecting said seat members together to move simultaneously and for obtaining a substantially long bearing for said seat members, a piston rod, and means for securing said valve members to said piston rod, said valve members being located between said seat members and separated from each other a distance less than the distance between the outer faces of said seat members, whereby either of the valve members is opened or unseated when the piston rod is moved to seat the other of said valve members, for the purpose specified.



2. In a pump, in combination, cylinders arranged in line with each other and separated at their adjacent ends to form a fluid inlet for both cylinders, an annular chamber about said adjacent ends and with which said fluid inlet communicates, said chamber having a fluid inlet, heads at the outer ends of said cylinders having fluid outlets, automatically operated valves coöperating with said outlets, pistons in said cylinders, each comprising a seat member of substantially the diameter of its cylinder and provided with a substantially central port or opening extended through it, a valve member coöperating with said seat member to form a substantially solid piston when said valve member is seated and to uncover said port or opening when unseated, means extended from one cylinder into the other for connecting said seat members together to move simultaneously and for obtaining a substantially long bearing for said seat members, a piston rod, means for securing said valve members to said piston rod, said valve members being located between said seat members and separated from each other a distance less than the distance between the outer faces of said seat members, whereby either of the valve members is opened or unseated when the piston rod is moved to seat the other of said valve members, and means for effecting a fluid-tight joint between said valve members and said seat members, substantially as described.

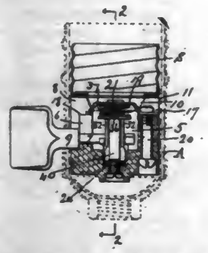
3. In a pump, in combination, two cylinders arranged substantially in line with each other and provided with a fluid-inlet common to both and in open communication therewith, pistons in said cylinders, each comprising a seat member of substantially the diameter of its cylinder and provided with a substantially central port or opening extended through it, and a valve member coöperating with said seat member, means extended from one cylinder into the other to connect the seat members together to move simultaneously and to obtain a long bearing for said seat members, a piston rod, means for securing said valve members to said piston rod, said valve members being located between said seat members and separated a distance less than the distance between the outer faces of the said seat members, whereby the valve members may be moved by said piston rod independently of said seat members and then simultaneously therewith, substantially as described.

4. In a pump, in combination, two cylinders arranged in line with each other, and provided with a fluid inlet common to both, two pistons located in said cylinders and each comprising a seat member having a port or opening extended through it, and a valve member coöperating with said port, means extended from one cylinder into the other to connect said seat members together to obtain a long bearing for said seat members, a piston rod, and means for securing said valve members to said piston rod in such relation to the seat members that one valve member is opened when the other is closed, substantially as described.

5. In a pump, two cylinders arranged in line with each other and provided with a fluid inlet common to both, two pistons located in said cylinders and each comprising a seat member having a port or opening and provided on its circumference with a packing and on its outer surface with a packing ring arranged about said port or opening and with a follower plate for retaining both packings in place, means extended from one cylinder into the other for connecting said seat members together and for obtaining a long bearing for said seat members, a piston rod, and means for securing said valve members to said piston rod between said seat members at a distance less than the distance between said seat members, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

969,617. KEY-SOCKET FOR ELECTRIC INCANDESCENT LAMPS. GILBERT W. GOODRIDGE, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Oct. 2, 1908. Serial No. 455,891.



1. An electric lamp key socket, with a chambered insulating body, a switch mechanism therein, a screw shell mounted on the insulating body to form a lamp-receiving terminal and a central contact plate back of the screw shell in combination with coöperating switch mechanism, carried by the contact plate.

2. An electric lamp key socket, having an insulating body with a well to receive the switch mechanism, a screw shell forming one of the lamp terminals, mounted on the insulating body, at the mouth of the well, and a central contact plate projecting across the mouth of the well back of the said screw shell in combination with coöperating switch mechanism, carried by the contact plate.

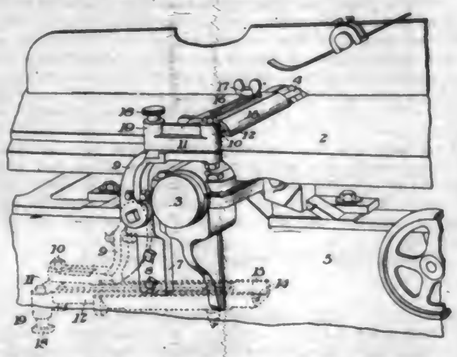
3. An electric lamp key socket, having a chambered insulating body with a well for the switch mechanism, an annular shoulder at the mouth of the well to receive the screw shell terminal, notches in said annular shoulder, and a contact plate mounted in said notches and back of the screw shell in combination with coöperating switch mechanism.

969,618. GUARD FOR WOODWORKING-MACHINES. LEROY J. HALVERSTADT, Leetonia, Ohio, assignor to The Crescent Machine Company, Leetonia, Ohio, a Corporation of Ohio. Filed Nov. 10, 1909. Serial No. 527,206.

1. In knife guards for wood working machines, comprising a guard for the cutter, an arm having vertically and horizontally extending portions, a pivotal connection between the frame of the machine and the end of the vertically extending portion of the arm, and a pivotal connection between the arm and guard, the horizontally extending portion of the arm being arranged to support the guard; substantially as described.

2. In knife guards for wood working machines comprising a guard for the cutter, an arm having vertically and horizontally extending portions, both portions of the arm being in approximately the same vertical plane, a pivotal connection between the frame of the machine and

the end of the vertically extending portion of the arm, and a pivotal connection between the arm and the guard, the horizontally extending portion of the arm being arranged to support the guard; substantially as described.



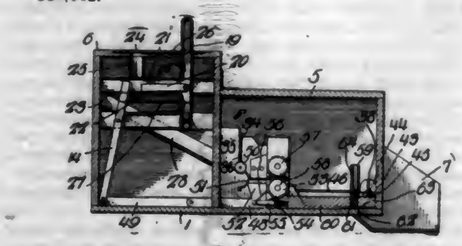
3. In knife guards for wood working machines comprising a guard for the cutter, an arm having vertically and horizontally extending portions, both of said portions of the arm being in approximately the same vertical plane, a pivotal connection between the frame of the machine and the end of the vertically extending portion of the arm, a pivotal connection between the arm and the guard, the horizontally extending portion of the arm being arranged to support the guard, and a latch arranged to secure the guard in this working position on the arm; substantially as described.

4. In knife guards for wood working machines comprising a guard for the cutter, an arm having vertically and horizontally extending portions, both of said portions of the arm being in approximately the same vertical plane, a pivotal connection between the frame of the machine and the end of the vertically extending portion of the arm, a pivotal connection between the arm and the guard, the horizontally extending portion of the arm being arranged to support the guard, a vertically extending spring pressed bolt in the guard, and a recess in the arm arranged to receive the bolt to secure the guard in this working position; substantially as described.

5. In knife guards for wood working machines having a cutter, a table, an arm having vertically and horizontally extending portions, the horizontally extending portion being parallel with the machined table, a pivotal connection between the frame of the machine and the end of the vertically extending portion of the arm, and a pivotal connection between the arm and the guard, the horizontally extending portion of the arm being arranged to support the guard; substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

969,619. VENDING APPARATUS. IRVIN F. HARRIS, Forreston, Tex. Filed Nov. 27, 1909. Serial No. 530,162.

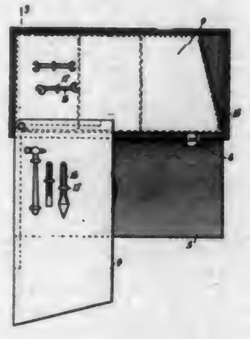


1. A vending apparatus including a feeding means, pawl and ratchet mechanism for actuating the same, a reciprocating member for actuating said pawl and ratchet mechanism, a bar carrying said reciprocating member and provided with a projection, and a locking device for holding and releasing said feeding means, said device being controlled by said projection.

2. A vending apparatus embodying a feeding means including a shaft, a gear loose on the shaft, a ratchet wheel fixed to the shaft, a spring-actuated pawl carried by the gear and engaging said ratchet wheel, a reciprocating member having a projection to engage the teeth of the gear, a bar carrying said reciprocating member, means for reciprocating said bar, a locking device for holding and releasing said feeding means, and a projection upon the bar controlling said locking device.

3. A vending apparatus embodying a feeding means including a shaft, a gear loose on the shaft, a ratchet wheel fixed to the shaft, a spring-actuated pawl carried by the gear and engaging said ratchet wheel, a reciprocating member having a projection to engage the teeth of the gear, a bar carrying said reciprocating member, means for reciprocating said bar, a locking gear fixed to one of the movable elements of the feeding means, a spring dog to engage and hold said gear and the feeding means from movement, and a projection upon said bar controlling said dog to hold said locking gear from movement or permit motion thereof.

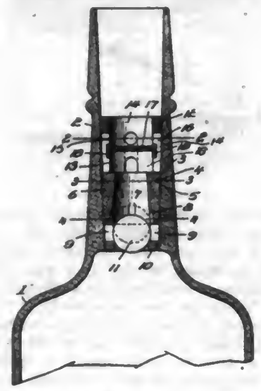
969,620. AUTOMOBILE TOOL-BOX. FREDERICK HENGEL and JACOB ADDIS, New York, N. Y. Filed Mar. 16, 1910. Serial No. 549,651.



A box suitable for containing tools for motor vehicles, having the outer side thereof hinged at the bottom edge and serving as a door, sockets fixed to the top and bottom of the box at the inside thereof adjacent to an outer corner, a vertical rod having its ends fitted within the sockets, a number of tool shelves and tool drawers each pivoted on the rod to swing without and within the box when the door is open, each shelf and drawer having an L-shaped reinforcing bar secured to the under side thereof adjacent to the front and pivoted end thereof, with the said vertical rod passing through the angle of the reinforcing bar, and thimbles arranged on the rod, supporting the shelves and drawers in spaced relation and bearing against the reinforcing bars.

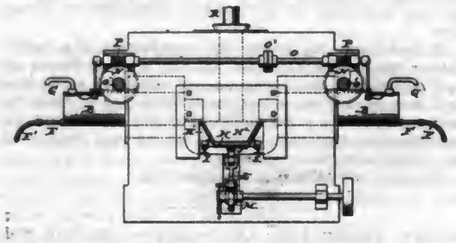
969,621. BOTTLE-CLOSURE. CHARLES JOHN HENRY, Perth Amboy, N. J., assignor of one-third to Jacob Greenspun and one-third to Martin John Olsen, Perth Amboy, N. J. Filed Oct. 9, 1909. Serial No. 521,807.

A receptacle having a neck of flaring form and provided with a valve seat in the base thereof, a plug irremovably secured within the neck above said seat, said plug comprising a base portion having a flaring passage provided at its lower end with recesses forming by-passes, an annular crown portion having a passage, an annular intermediate portion integral with and connecting said base and crown portions, said intermediate portion being provided above and below its horizontal center with lateral ports communicating with said chamber, a horizontal guard disposed upon said intermediate portion between the sets of ports and separating the same from each other.



said guard being provided with depending strengthening webs or flanges, and a valve adapted to rest normally upon said valve seat and to enter the base of said flaring passage without closing said by-passes.

969,622. ELECTRIC FURNACE. JAMES E. HEWES, Plattsburg, N. Y. Filed Sept. 7, 1905. Serial No. 277,805.



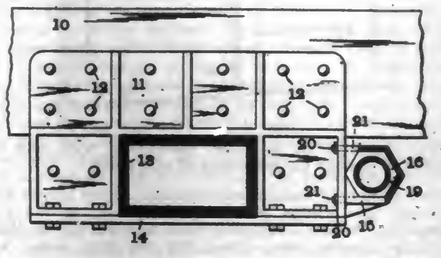
1. In an electric furnace, the body of the furnace combined with two electrodes directed toward each other from opposite sides of the furnace body, a traveling trough-shaped hearth made in separable sections having bottom and sides only, means for moving the sections of the hearth through the furnace in a rectilinear line, carriers or supports for the electrodes having means for being kept cool, and means for adjusting the carriers or supports.

2. In an electric furnace, the body of the furnace combined with two electrodes directed toward each other from opposite sides of the furnace body, a traveling trough-shaped hearth made in separable sections having bottom and sides only, means for moving the sections of the hearth through the furnace in a rectilinear line, water jackets for supporting the electrodes, and means for adjusting the water jackets to or from each other.

3. In an electric furnace, the combination of a trough shaped traveling hearth, means to feed the hearth in the direction of its length, electrodes adapted to strike an arc and maintain a fusing zone in the hearth extending toward the hearth from opposite sides thereof, water jackets for supporting the electrodes, means consisting of gearing and shafts for adjusting the water jackets to or from each other extending across the hearth so as to adjust both jackets simultaneously in opposite directions and provided with means for operating it from each side of the hearth, and means to maintain a supply of water through the water jackets during their adjustment.

4. In an electric furnace, a sectional trough shaped hearth, means to feed the hearth in the direction of its length, two electrodes directed toward each other over the hearth, hollow water jackets supporting the electrodes and arranged upon opposite sides of the furnace, and means for simultaneously moving the water jackets to or from each other consisting of two sets of gearing, a common power shaft for driving both sets of gearing adapted to be operated from either side of the furnace, and means for insulating the two sets of gearing from each other.

969,623. STRIKING-BLOCK AND ANGLE-COCK HOLDER. LOUIS A. HOHNS, St. Louis, Mo. Filed July 2, 1910. Serial No. 570,046.



1. The combination with a striking block, of a clamping member carried by said block for engaging and holding an angle cock, and means for securing the striking block to a car.

2. The combination with a striking block, of clamping means carried by one end of said block for engaging and holding an angle cock, and means for securing the striking block to a car.

3. The combination with a striking block having a pocket formed thereon and adapted to receive an angle cock, of a clamping member extending around the angle cock and coöperating with the pocket to hold the angle cock, and means for securing the striking block to a car.

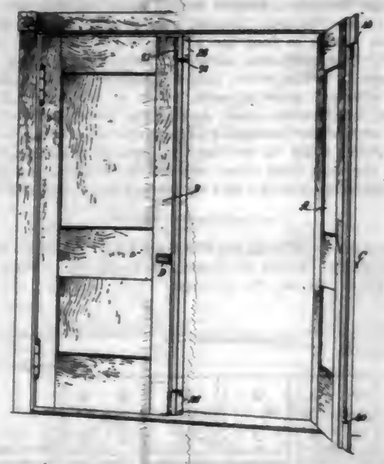
4. The combination with a striking block having a pocket formed thereon and adapted to receive the angular head of an angle cock, of a clamping member extending around the head of the angle cock and coöperating with the pocket to hold the angle cock, and means for securing the striking block to a car.

5. The combination with a striking block having a pocket formed thereon and adapted to receive the angular head of an angle cock, of a clamping member entending around the head of the angle cock and coöperating with the pocket to hold the same, said clamping member being provided with flanges to prevent longitudinal movement of the cock, and means for securing the striking block to the car.

969,624. DOUBLE-DOOR BOLT. ALBERTES MARION HOBS, St. Paul, Nebr. Filed Och. 30, 1909. Serial No. 525,467.

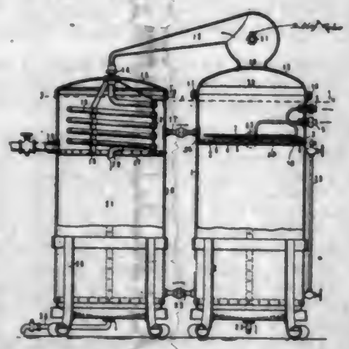
A door lock comprising a door frame; two hinged doors adapted to close the opening formed by said frame; a plurality of elongated bolt casings rectangular in cross section fixedly mounted on one of said doors to form a flush surface on the edge of said door; bolts for said casings, said bolts being straight shanked and beveled headed and slidably mounted in said casings to extend both ends from said casings; recesses disposed in the path of said heads to lockingly engage the same when the doors are closed; springs surrounding said shanks to normally extend the said bolts; and extended bracket-like stop members fixedly mounted on the meeting edge

of the door not carrying said bolts and arranged to extend into the path of and to the rear end of said bolts



when the same are in locked engagement with said recesses to prevent the retraction of said bolts.

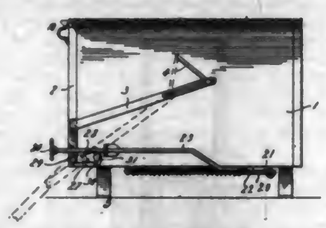
969,625. STILL. JOHN HOFFHINE and NORMAN F. HARRIMAN, Omaha, Nebr. Filed July 29, 1908. Serial No. 445,967.



A still, comprising a pair of vertical drums; a partition dividing the first drum into an upper boiler portion and a lower storage portion; a partition dividing the second drum into an upper condensing portion and a lower storage portion; connections between said storage portions of the two drums; a heating coil in the boiler portion of the first drum; a condensing coil in the condensing portion of the second drum and communicating with the lower storage portions; connections between said boiler portion and said condensing coil; an inward opening relief valve adapted to admit atmospheric air to said connections; screens in the path of vapor leaving the boiler portion; a connection adapted to admit water to the condensing portion of the second drum; and a connection adapted to conduct water from the condensing portion to the boiler portion.

969,626. PAPER-BAG HOLDER. DAVID R. HOLMES and RUFUS B. CROZIER, Dunnegan, Mo. Filed June 23, 1910. Serial No. 568,603.

1. A bag holder comprising a casing, the bottom of which is provided with a recess and also with inclines at opposite sides of said recess, an ejector-slide movable in the recessed portion of the bottom of the casing and formed with a flange adapted to engage the fold of a bag while resting upon the inclines aforesaid, means for actuating ejector-slide, and a follower for pressing bags downwardly upon the inclines of the bottom of the casing.



2. A paper bag holder comprising a casing, an ejector mechanism mounted therein, means for actuating said mechanism, a door for said casing, a movable follower arranged in the casing to rest upon bags therein, and a connection between the follower and the door for actuating the follower when the door is opened.

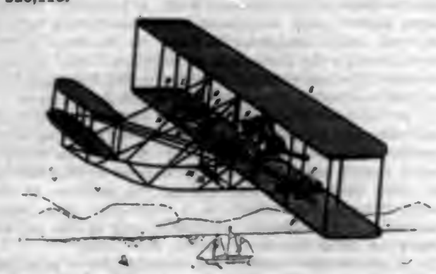
3. A paper bag holder comprising a casing, an ejector mechanism mounted therein, means for actuating said mechanism, a door for said casing, a movable follower arranged in the casing to rest upon bags therein, a crank shaft mounted on the casing, means connecting the crank of said shaft with the follower, and a connection between said shaft and the door whereby the follower will be actuated when the door is opened.

4. A paper bag holder comprising a casing, an ejector mechanism mounted therein, means for actuating said mechanism, a door for said casing, a movable follower arranged in the casing to rest upon bags therein, a crank shaft mounted on the casing, means connecting the crank of said shaft with the follower, the last mentioned connection comprising a rod provided with a slotted portion affording a sliding connection with the crank shaft permitting movement of the follower independently of the door.

5. In a paper bag holder, the combination of a casing, ejector mechanism arranged therein, a door closing an end portion of the casing, means pivotally supporting said door so that an end of the latter is spaced from the casing to provide a bag withdrawal slot, and means for adjusting the door supporting means to vary the size of the withdrawal slot.

[Claim 6 not printed in the Gazette.]

969,627. PROPELLING AND STEERING DEVICE FOR AIRSHIPS. EDWARD HOULT, New Westminster, British Columbia, Canada. Filed Oct. 28, 1909. Serial No. 525,113.



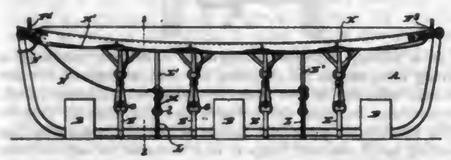
1. In an airship, two propellers spaced apart, the blades of the propellers being angular in cross section, the propellers having vertical axes, curved hoods pivoted substantially concentrically with the propellers, which are disposed for a distance around the circles made by the terminals of the propeller blades when the propellers are operated respectively, and means adapted for rotating the hoods simultaneously in opposite directions.

2. In an airship, two propellers spaced apart, having vertical axes, the blades of the propellers being angular in cross section, having their lower portions disposed substantially vertically, their upper portions being disposed at angles thereto respectively, curved hoods pivoted substantially concentrically with the propellers, which are disposed for a distance around the circles made by the terminals of the propeller blades when the propellers are operated respectively, and means adapted for rotating the hoods simultaneously in opposite directions.

3. In an airship, a body, an axle secured thereto, a propeller mounted on the axle, there being a pulley at one end of the hub of the propeller, and a curved hood having a pulley, the curved hood being disposed around the propeller with its pulley disposed on the axle in close proximity to the other end of the propeller.

4. In an airship, a body, an axle secured thereto, a propeller mounted on the axle, there being a pulley at one end of the hub, there being also an annular groove in the hub, the propeller blades being angular in cross section, a curved hood having a pulley, the curved hood being disposed around the pulley with its pulley around the axle in close proximity to the other end of the hub of the propeller, and a sector member secured to the curved hood, the inner end of the sector member being disposed in the groove in the hub.

969,628. FASTENING FOR LIFE-BOAT COVERS. CHARLES F. HUDGINS, Norfolk, Va., assignor of one-half to Frank M. Phillips, Washington, D. C. Filed June 21, 1909. Serial No. 503,580.



The combination with a life boat and a removable canvas cover therefor, of a plurality of securing devices depending from the side of said cover each securing device embodying a base plate having an eye at its upper end, a tongue pivoted at the lower end thereof, a loop pivoted to the plate intermediate said eye and tongue and adapted when swung down over the tongue to hold the tongue in locked position, and a lanyard connected with the loops, whereby the loops may be simultaneously raised and the tongue permitted to fall by gravity.

969,629. WHIFFLETREE. DAVIS HURD, Niagara Falls, N. Y. Filed Feb. 8, 1910. Serial No. 542,663.



1. A whiffletree, comprising a bar having rounded ends, hooks at the back of said bar, each adapted to receive a trace-eye, the traces extending around the ends when attached to the whiffletree, brackets provided with recesses removably receiving the trace-eyes, and removable keeper pins extending over said recesses of said brackets, and serving to secure the trace-eyes in position.

2. A whiffletree, comprising a bar, brackets mounted upon said bar and extending rearwardly from the same, said brackets having extensions adapted to receive therebetween trace-eyes, hooks carried by said bar, each adapted to receive a trace-eye, and keeper pins removably carried by said extensions and serving to hold the trace-eyes in place.

3. A whiffletree, comprising a bar, brackets mounted upon said bar and extending rearwardly from the same, said brackets having extensions adapted to receive therebetween trace-eyes, hooks carried by said bar, each adapted to receive a trace-eye, keeper pins removably carried by said extensions and serving to hold the trace-eyes in place, and spring locking members adapted to engage said pins to hold them against accidental displacement.

4. A whiffletree, comprising a bar having rounded ends, brackets pivotally mounted upon said bar near said rounded ends and extending rearwardly from said bar, said brackets having extensions provided with openings, said extensions being formed to receive therebetween trace-eyes, hooks carried by said bar and each adapted to receive a trace-eye, keeper pins removably mounted in said openings of said extensions and serving to hold the trace-eyes in place, said keeper pins having notches, and spring locking members mounted upon said bar and engaging said notches to hold said keeper pins to prevent accidental displacement.

5. A whiffletree, comprising a bar having rounded ends, brackets pivotally mounted upon said bar near said rounded ends, and extending rearwardly from said bar, said brackets having extensions provided with openings, and presenting recesses between said extensions, said extensions and said recesses being formed to receive therebetween and therein, trace-eyes, hooks carried by said bar and each adapted to receive a trace-eye, keeper pins removably mounted in said openings of said extensions, and serving to hold the trace-eyes in place, said keeper pins having heads, and flexible members for securing them movably to the whiffletree, said keeper pins having notches, and spring locking members mounted upon said bar and engaging said notches to hold said keeper pins to prevent their accidental displacement.

969,630. GAS-MANTLE SUPPORT. GEORGE H. HUSTON, Cincinnati, Ohio. Filed Mar. 5, 1910. Serial No. 547,553.

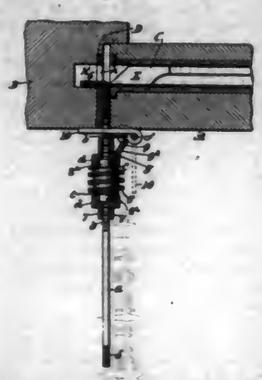


A gas mantle support including a sleeve, means carried by said sleeve for supporting a U-shaped mantle frame, said means consisting of substantially cylindrical sockets arranged at diametrically opposite points with relation to the sleeve and secured to the latter, said sockets having their lower ends longitudinally slitted and bent inwardly to form stops for the legs of the mantle frame, the body of the sockets being provided with two series of inwardly extending tongues arranged in staggered relation to one another on opposite sides of each socket and being adapted to engage similarly arranged indentations in the legs of the mantle frame to allow downward adjustment of the latter.

969,631. DOOR-SECURER. CHARLES HENRY JOHNSON, Petaluma, Cal. Filed Sept. 21, 1909. Serial No. 518,790.

1. A door securer, comprising a flat bodied rack bar, a hook bent laterally at an angle on one end of the rack bar, said bar having a longitudinal slot therein and teeth on an edge of said slot, a box frame slidable on the rack bar, an abutment flange projected laterally at one end of the

box frame, and a screw block rotatable in an opening in the box frame, said screw block being adapted for engaging with the teeth in the rack bar.



2. A door securer, comprising a flat bodied rack bar, a hook bent laterally at an angle on one end of the rack bar, said bar having a longitudinal slot therein and rack teeth formed on opposite edges of the slot, a box frame slidable on the rack bar, an abutment flange projected laterally from one side of the box frame, a prop brace engaging the abutment flange and a side wall of the box frame, said frame having an opening through its sides, and a screw block journaled in the opening and having a peripheral thread thereon which will oppositely engage the rack teeth in each side edge of the longitudinal slot.

3. A door securer, comprising a flat bodied rack bar, a hook bent at a right angle on one end of the rack bar, said bar having a longitudinal slot therein, and a series of rack teeth formed on parallel defining side edges of said slot, a box frame having spaced side walls that are formed with opposite openings therein, an abutment flange projected laterally from one side wall of the box frame, a presser plate hinged on the outer end of the abutment flange, a prop brace inclined downward and inward engaging the hinged end of the abutment flange and the side of the box frame, and a screw block journaled in the openings in the side walls of the box frame, and having a peripheral thread thereon which will oppositely engage the rack teeth in each side edge of the longitudinal slot.

4. A door securer comprising a rack bar having at one end an angular portion, said bar having a longitudinal slot, the edges of which are provided with teeth, a frame slidable on the rack bar, a screw block rotatable in the frame for engaging the rack teeth, and an abutment flange extending laterally from the end of the frame adjacent to the angular portion of the bar.

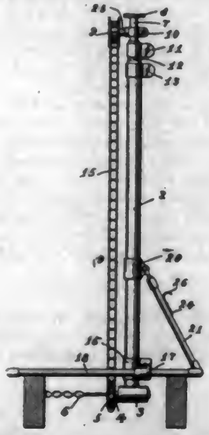
5. A door securer comprising a rack bar having at one end an angular portion, said bar having a longitudinal slot, the edges of which are provided with teeth, a frame slidable on the rack bar, and a screw block rotatable in the frame for engaging the rack teeth.

[Claim 6 not printed in the Gazette.]

969,632. BORING-MACHINE. LOUIS W. JONES, Louisville, Ky. Filed Jan. 28, 1909. Serial No. 474,339.

1. A boring machine comprising a column carrying near one end a boring tool, a drive mechanism for rotating the tool supported by the column, a support for the column when arranged with the tool-carrying end downward consisting of a pair of bars adapted to rest upon the edges of a pair of adjacent joists, the said bars constituting guiding tracks between which the column is situated and along which it is movable, connections between the column and the bars secured fast to the former and adapted to slide lengthwise upon the latter, and a rigid push bar for moving the column and the parts carried thereby along the said tracks having a fixed bearing at its outer end and a sliding connection with the column.

2. A boring machine comprising a column carrying near one end a boring tool, means supported by the column for rotating the tool, a support for the column and tool when adjusted with the tool-carrying end downward consisting of transversely arranged bars adapted to rest upon the edges of adjacent joists and between which the column extends, and connections between the column and said bars, said connections being adjustable lengthwise of the column and free to slide upon the bars, substantially as and for the purposes set forth.



3. A boring machine comprising a column carrying a boring tool, means for rotating the tool, a support for the column adapted to rest upon the edges of adjacent joists, connections between the column and the support free to slide lengthwise upon the latter, and rigid means having bearing upon the said support and movable on said column for moving the column relative to the support whereby the tool may be forcibly applied to the work upon which it operates.

4. A boring machine comprising a column carrying a boring tool, means for rotating the tool, a support for the column adapted to rest upon the edges of adjacent joists, connections between the column and the support free to slide lengthwise upon the latter and to be guided thereby, and a push bar having a fixed support at its outer end and a sliding and pivotal connection with the column at the inner end, substantially as set forth.

5. A boring machine comprising a column carrying near one end a boring tool and a support for the column arranged to serve as a track along which the column, with the boring tool, is movable, the said support being arranged to be folded parallel with the column when not in use.

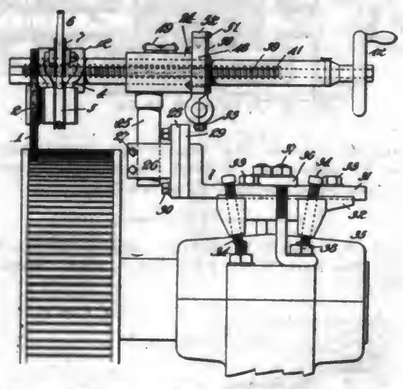
[Claim 6 not printed in the Gazette.]

969,633. MACHINE FOR GRINDING COMMUTATORS OF DYNAMOS AND MOTORS. WILLIAM H. JORDAN, New York, N. Y., assignor, by direct and mesne assignments, to Jordan Brothers, New York, N. Y., a Corporation of New York. Filed Sept. 2, 1908. Serial No. 451,383.

1. A machine for grinding commutators of electrical machines, having a shaft, means for supporting the shaft in parallelism with the shaft of the electrical machine, an arm on the shaft, a grinding wheel on the arm, and a worm gear for twisting the shaft and regulating the depth of cut of the wheel.

2. A machine for grinding commutators of electrical machines, having a fixed support, a shaft within the support and capable of twisting therein, a worm carried by the support, a worm gear in engagement with the worm and carried by the shaft, an arm on the shaft, and a grinding wheel on the arm.

3. A machine for grinding commutators of electrical machines, having a hollow shaft, a grinding wheel carried thereby, means for supporting the shaft in parallelism with the shaft of the electrical machine, a mounting for the wheel, sliding on the shaft, a screw within the shaft engaging with the mounting, means for rotating the screw to feed the wheel across the work and means for twisting the shaft and regulating the depth of cut of the wheel.



4. A machine for grinding commutators of electrical machines, having a hollow shaft, a support for the shaft holding it parallel with the shaft of the electrical machine, a grinding wheel, a mounting for the grinding wheel sliding on the shaft, a screw within the shaft and in engagement with the mounting, means for rotating the screw for feeding the wheel across the work, a worm gear and means for rotating the worm gear for twisting the shaft to regulate the depth of cut.

5. A machine for grinding commutators of electrical machines, having a shaft, a support for the shaft for holding it parallel with the shaft of the electrical machine, a bearing carried by the shaft support, the said bearing supporting a worm, and a worm gear on the shaft and connected thereto by a feather so that the shaft may be slid longitudinally for large adjustments.

[Claims 6 to 9 not printed in the Gazette.]

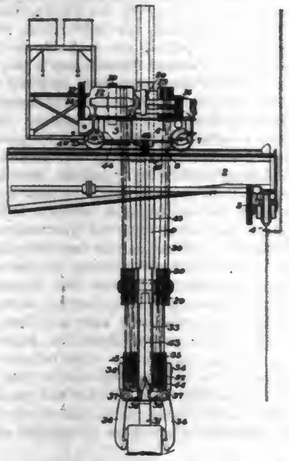
969,634. INGOT-STRIPPER. DAVID KENDALL, Alliance, Ohio, assignor to The Alliance Machine Company, Alliance, Ohio, a Corporation of Ohio. Filed May 17, 1909. Serial No. 496,435.

1. In an ingot stripper, a stripping head or block, and a hoisting head or block, means including a drum for actuating the stripping head or block independently of the hoisting head or block, a drum operating the stripping head or block, and ropes or cables geared to the stripping head or block, and connected to both of the said drums, substantially as described.

2. In ingot-stripping mechanism, a stripping drum, a hoisting drum, independent motors geared to the drums, a stripping cross head, a hoisting cross head, stripping ropes or cables geared to the two cross heads and connected to both durms, and hoisting ropes or cables connected to the lifting cross head and to the hoisting drum, substantially as described.

3. In ingot-stripping mechanism, a hoisting drum, a stripping drum, independent motors for actuating the drums, a hoisting cross head, a stripping cross head movable toward and away from the hoisting cross head, ropes or cables connected to the hoisting drum and to the hoisting cross head, and other ropes or cables connected at one end to the hoisting drum and at the other end to the stripping drum, substantially as described.

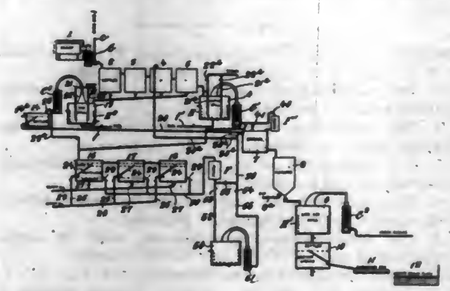
4. In ingot-stripping mechanism, a hoisting drum, a stripping drum, a motor for each drum, a stripping cross head having a plurality of sheaves mounted thereon, a hoisting cross head also having a plurality of sheaves, hoisting ropes or cables connected at one end to the hoisting drum and passing around sheaves on the hoisting cross head, and stripping ropes or cables connected at one end to the hoisting drum and at the other end to the stripping drum and having a plurality of turns or passes over the sheaves on both cross heads, substantially as described.



5. In ingot-stripping apparatus, a movable carriage or trolley having a depending guide frame, a stripping leg or column vertically movable through the guide frame, a hoisting cross head secured to said column, a stripping cross head movable toward and away from the hoisting cross head, a stripping drum mounted at one side of the column, a hoisting cross head at the opposite side of the column, stripping cables connected to both cross heads and to both drums, and hoisting cables connected to the hoisting drum and to the hoisting cross head, substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

969,635. PROCESS OF SEPARATING THE PRODUCTS OF THE DESTRUCTIVE DISTILLATION OF WOOD. THOMAS H. KENNEDY and FRED J. HECKEL, Bradford, Pa.; said Heckel assignor to said Kennedy. Filed Jan. 6, 1910. Serial No. 536,631.



1. In a process for separating the products of the destructive distillation of wood, the sub-process which consists in subjecting the residual tar and oils to the action of heat and agitation with the addition of water, to eliminate acetic acid, and oils, and distilling the watery liquor, separating the oils from the distillate and treating the watery acid liquor freed from oils, for the recovery of acetic acid.

2. In a process for separating the products of the destructive distillation of wood, the sub-process which con-

sists in subjecting the residual tar and oils to the action of steam under pressure injected into the material below the surface thereof, to eliminate oils, and acetic acid therefrom, the acetic acid being taken up by the water of condensation, distilling the watery liquor, and collecting the distillate, separating the oils from the distillate, and treating the acid liquor freed from oils for the recory of acetic acid.

3. In a process for separating the products of the destructive distillation of wood, the sub-process which consists in subjecting the residual tar and oils to the action of live steam under pressure introduced below the surface thereof to extract the acetic acid, and oil remaining therein, distilling the watery liquor so produced, and collecting the distillate, settling the distillate for a considerable period, to effect a substantially complete separation of the oils therefrom, distilling the acetic liquor to free it from coloring and foreign matter, mixing the distillate with lime, distilling the mixture and evaporating the resulting liquor to recover gray acetate of lime.

4. In a process for separating the products of the destructive distillation of wood, subjecting the residual tar and oils obtained from the usual process for the separation of wood alcohol and acetic acid, to the action of heat and agitation with the addition of water to recover additional quantities of acetic acid and oils, distilling the watery liquor and collecting the distillate, separating the oils from the distillate, adding the distillate to the products obtained from the destructive distillation of wood, and treating the resulting material for the production of wood alcohol and acetic acid in the form of acetate of lime, whereby additional quantities of acetate of lime are recovered.

5. In a process for the separation of the products of the destructive distillation of wood, subjecting the tarry residue, after the distillation of the pyroligneous acid liquor, to the action of heat and agitation with the addition of water, to recover additional quantities of acetic acid and oils, distilling the watery liquor and collecting the distillate, separating the oils from the distillate, introducing the distillate, freed from oils, into the product from the destructive distillation of wood, subjecting the tarry residue, obtained from the first distillation of the raw tars separated from the pyroligneous acid liquor prior to the distillation of said liquor, to the action of heat and agitation with the addition of water and distilling the watery liquor, collecting the distillate, separating the oils therefrom and adding the distillate freed from oils, to the product from the destructive distillation of wood, and treating the products from the destructive distillation of wood, so augmented, for the recovery of wood alcohol and acetic acid in the form of acetate of lime, whereby additional quantities of acetate of lime are secured.

969,636. PERFUME. CLEMENS OSCAR KLEBER, Clifton, N. J. Filed Feb. 1, 1910. Serial No. 541,385.

1. The combination comprising an ester of ortho-phthalic acid and essential oils.

2. The combination comprising a neutral ester of ortho-phthalic acid and essential oils.

3. The combination of an ester of ortho-phthalic acid, essential oils and synthetic perfumes.

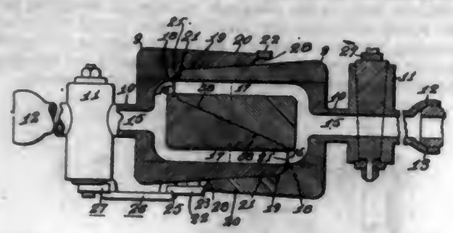
4. The combination of a neutral ester of ortho-phthalic acid, essential oils and synthetic perfumes.

5. The combination comprising an ester of ortho-phthalic acid and perfumery oils soluble therein.

[Claim 6 not printed in the Gazette.]

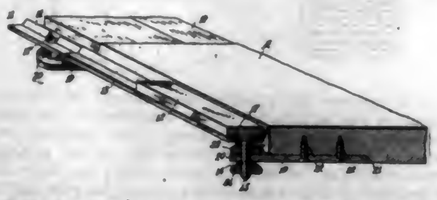
969,637. AIR, STEAM, OR HOT-WATER COUPLING. GEORGE N. KNAPP, St. Louis, Mo. Filed Feb. 21, 1910. Serial No. 545,128.

An air, steam or hot water coupler comprising a coupler head having an inclined face, a guide extending partially over the inclined face, a supply pipe connected to the coupler head, a valve mounted in the supply pipe, a lever mounted on the coupler head for opening the valve when the coupler head engages with another coupler head, a spring for closing the valve when the head is disengaged, a ball and socket joint in the supply pipe, a spring for



holding the head in close contact with another head, a spring for supporting the head and passages formed in the coupler head, substantially as specified.

969,638. DRAWING-BOARD. GERARD BARNES LAMBERT, New York, N. Y. Filed Jan. 5, 1910. Serial No. 536,447.



1. A drawing board, comprising a body, a frame encompassing said body and consisting of separable and removable members formed to grip portions of a sheet of paper between them, and means for adjustably securing said members to said body and including manually operable members, whereby said frame can be moved bodily to stretch the paper.

2. A drawing board, comprising a body, a removable frame encompassing said body and comprising an upper and a lower member, said members having means for gripping therebetween and holding a sheet of paper, clamping screws for securing said members together, and brackets for securing said frame adjustably to said board at a plurality of points.

3. A drawing board, comprising a body, a removable frame encompassing said body and comprising an upper member and a lower member, one of said members having a V-shaped groove extending longitudinally thereof, the other of said members having a V-shaped rib extending longitudinally thereof and adapted to be received by said groove, said members serving to grip and hold a sheet of paper therebetween, means for clamping said members together, and means for securing said frame to said body adjustably whereby said frame is operable to stretch the paper.

4. A drawing board, comprising a body, a frame encompassing said body and comprising an upper member and a lower member, one of said members having a V-shaped groove extending longitudinally thereof, the other of said members having a V-shaped rib extending longitudinally thereof and adapted to be received by said groove, said members serving to grip and hold a sheet of paper therebetween, one of said members having openings, the other of said members having threaded studs removably received by said openings, thumb-nuts mounted upon said studs for clamping said members together, and means for securing said frame to said board.

5. A drawing board, comprising a body, a frame encompassing said body and comprising an upper member and a lower member, one of said members having a V-shaped groove extending longitudinally thereof, the other of said members having a V-shaped rib extending longitudinally thereof and adapted to be received by said groove, said members serving to grip and hold a sheet of paper therebetween, one of said members having openings, the other of said members having threaded studs removably received by said openings, thumb-nuts mounted upon said studs for clamping said members together, said board having a plurality of brackets provided with openings adapted to receive said studs, and further thumb-nuts mounted upon said studs and adapted to secure said frame at said brackets.

969,639. TOOTH-BRUSH. LEOPOLD LANGH, Vienna, Austria-Hungary. Filed Apr. 1, 1910. Serial No. 552,776.



1. In a rotary tooth-brush, a brush head, a flexible shaft for driving said head, a tubular casing surrounding said shaft, a casing inclosing mechanism for driving said shaft, a bifurcated spring connection between said tubular casing and said inclosing casing and means for permitting limited longitudinal movement of one member of said bifurcated spring connection.

2. In a rotary tooth brush, a brush head, a flexible shaft for driving said head, a tubular casing surrounding said shaft, a motor for driving said shaft, a casing for said motor having a lug, a bifurcated spring connection between said tubular casing and said motor casing, one leg of which stops short of the motor casing, and a stud on said leg in engagement with a slotway formed in said lug on said casing.

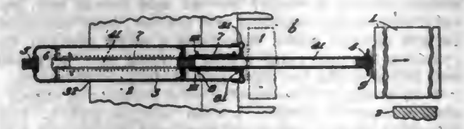
969,640. TAMPON. LEWIS G. LANGSTAFF, New York, N. Y. Filed Mar. 12, 1908. Serial No. 420,554.



A tampon comprising a core composed of curled hair for causing the tampon to retain its size and maintain its position when in use, said core being surrounded by a layer of absorbent cotton for absorbing the discharge, which layer is surrounded by a covering composed of closely woven lint fabric which will retain a medicament on its surface.

969,641. AIR-CHECK FOR SLIDING DOORS. HOMER LAUGHLIN, Jr., Los Angeles, Cal., and DANIEL SCHUYLER, Bridgeport, Conn., assignors to The Perfect Sliding Door Company, Los Angeles, Cal., a Corporation of California. Filed July 12, 1904. Serial No. 216,234.

1. An air check comprising a cylinder, a piston in the cylinder, a rod extending from the piston to intercept an object to be checked, a spring connected with the cylinder and surrounding the rod for returning the piston, and a rotary cap on the outer end of the cylinder adapted to adjust the tension of the spring.



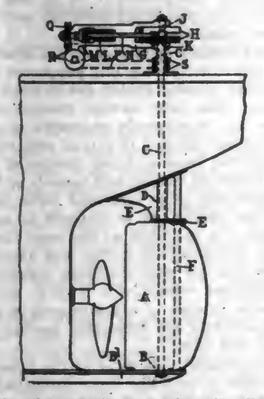
2. An air check comprising a cylinder, a piston mounted therein, a spiral spring connected with the piston to return the same to checking position, a rotary cap on the outer end of the cylinder adapted to adjust the tension of the spring, said cap having an inwardly-extending neck provided with a radial flange having a cut therein, a coil of said spring being led through said cut.

3. In combination, a door, a door jamb, a cylinder in said jamb, a piston and piston rod in said cylinder, said rod being mounted independently of and free from the door and provided with a buffer 9 to impinge against the door, a cap at the outer end of said cylinder and surrounding said rod, said cap having a neck extending into the cylinder around said rod, said neck being furnished with a radial flange having a cut, and a spiral spring around said rod and having one of its coils extending through said cut.

4. An air check comprising a cylinder, a piston in said cylinder, said piston being furnished with a piston rod, a spring around said rod, and means for withdrawing from operative relation a part of the operative portion of said spring.

5. An air check comprising a cylinder, a cylinder cap therefor, a piston in said cylinder and having a rod extending through the cap, a coil spring fastened to the cap, and slotted shoulders on the cap adapted to screw along the coils of the spring to different places along the length of the spring to increase and diminish the tension of the springs.

969,642. STEERING AND CONTROLLING DEVICE FOR SCREW-PROPELLED VESSELS. JOHAN PETER HEMME LUND, Rockhampton, Queensland, Australia. Filed Sept. 30, 1909. Serial No. 520,421.



1. In a ship, the combination of a plurality of shanks; rudders secured thereto; pinions also secured to said shanks; a stud J located between said shanks and provided with sectors engaging said pinions; means comprising links connected to said sectors; and means for operating the links, substantially as described.

2. In a ship the combination of a plurality of shanks; rudders secured thereto, and extending on two sides of the same; pinions also secured to said shanks; a stud J located between said shanks and provided with sectors engaging said pinions; links connected to said sectors and

means comprising a screw, for operating the links, substantially as described.

3. In a ship, the combination of a plurality of shanks; rudders secured thereto; pinions also secured to said shanks; a stud J located between said shanks and provided with sectors engaging said pinions; links connected to said sectors; means comprising a screw and nut for operating the links; and a tiller carrying said screw and nut, for operating the links, substantially as described.

4. In a ship, the combination of a plurality of shanks; rudders secured thereto; pinions also secured to said shanks; a stud J located between said shanks and provided with sectors engaging with said pinions; links connected to said sectors; means comprising a screw and nut for operating the links; and a tiller provided with a wheel Q rigid with said screw for operating said screw and nut, substantially as described.

969,643. CABLE-PROPELLED AEROPLANE. GARDNER C. LUTHER, Providence, R. I. Filed June 14, 1910. Serial No. 566,726.



1. In a cable-propelled aeroplane or amusement apparatus of the general character described, the combination of a suitably supported aerial endless cable, means for propelling the cable, an aeroplane or passenger-car, a cable-clamping device carried by the car, means coöperable with the clamping device for automatically clamping or locking the car to the moving cable at any pre-arranged point in the cable's circuit, and means for automatically unlocking or releasing the car from the moving cable at a predetermined point.

2. In an amusement apparatus of the general character described, a power-driven and supported aerial cable, and track-rails or members located therebelow at certain sections of the cable, said cable and rails being disposed at an angle to each other, in combination with a car having elements adapted to engage said track rails, and cable-clamping means connected to the car and capable of limited movement independently of it, the car when in normal action being suspended from the cable through the medium of said cable-clamping device.
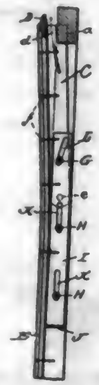
3. In an amusement apparatus of the general character described, a power-driven, aerially supported endless cable, having a portion thereof guided downwardly at an angle, and stationary side rails located therebelow in a horizontal plane, the combination therewith of a car proper having base wheels adapted to run on said rails when it is being disconnected from or being connected to the cable, a device connected to the car and capable of limited movement independently of it provided with jaws adapted, when in normal service, to be clamped to and suspended from the cable, the car itself at the same time being suspended from the clamping device and keeping the jaw-members closed snugly upon the cable, thereby causing the car to be propelled concurrently with it, and having the clamping device capable of automatically detaching itself from the cable while the forwardly moving car is being supported on said rails.

4. In an amusement apparatus of the general character described, having a mounted power-propelled aerial endless cable, and relatively short track members located therebelow, the combination therewith of a car having base wheels adapted to engage said track members, a vertically movable strap connected to the car frame, and car-suspending levers pivotally mounted on said strap having their upper ends constructed to clamp the cable, the opposite end of the levers being slotted and in engagement with the car frame.

5. In an amusement apparatus of the general character described, having a power-propelled aerial endless cable, the combination therewith of a car, comprising a car body provided with vertical frame members connected together at the top, straps capable of limited vertical movement disposed with relation to said frame members, a pair of suspending levers pivoted to the strap, having their upper ends adapted to clamp said cable, the opposite ends being slotted and engaging the frame members for suspending the car therefrom, and means coöperating with the car and said levers for opening the latter and releasing the car from the cable at a predetermined point.

[Claim 6 not printed in the Gazette.]

969,644. FLY-SCREEN. MILLARD L. MATHESON, Virginia, Minn. Filed Jan. 20, 1910. Serial No. 539,041.

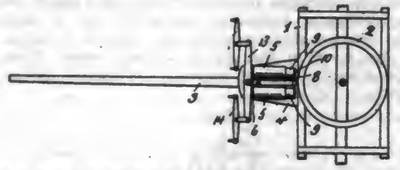


1. A fly screen comprising a main frame, an exit frame carried by and movable outward from the main frame to afford an exit opening and having side bars and projections on the inner sides thereof, and vertically movable bars guided in the main frame and having inclined slots receiving the said projections on the side bars of the exit frame.

2. A fly screen comprising a main frame having side bars in which are recesses rounded at their lower ends, an exit frame having side bars arranged in the recesses of and pivotally connected to the side bars of the main frame and also having the lower ends of its side bars rounded and opposed to the rounded lower ends of the recesses to form knuckle-joints, and means coöperating with the main frame and the exit frame to detachably secure the latter in open and closed positions.

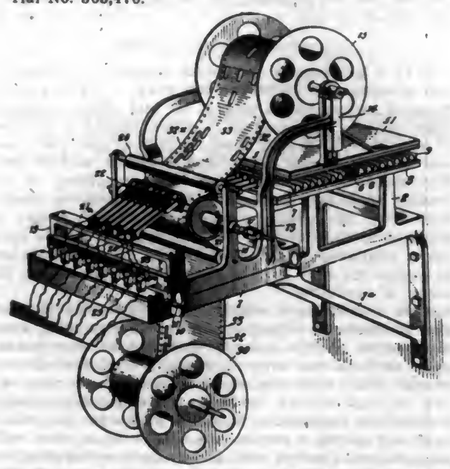
3. A fly screen comprising a main frame having side bars in which are recesses rounded at their lower ends and also having a top bar in which are rabbets in communication with said recesses and further having headed projections on the side bars, below the recesses, side bars arranged in the recesses of and pivotally connected to the side bars of the main frame and having their lower ends rounded and opposed to the lower rounded ends of the recesses to form knuckle-joints and also having their upper ends reduced and adapted to seat in the rabbets of the top bar, headed projections on the inner sides of said side bars, upright strips having their lower portions connected to the side bars of the main frame and their upper portions free from said side bars, a top strip connected with the upper ends of said upright strips, a screen section having a lower portion interposed and secured between the side bars of the main frame and the lower portions of the upright strips and also having an upper portion interposed and secured between the pivoted side bars and the upper portions of the strips, and vertically movable bars having angular finger-pieces at their lower ends and having vertical slots receiving the headed projections on the side bars of the main frame and further having inclined slots receiving the headed projections on the pivoted side bars.

969,645. DRAFT APPLIANCE FOR VEHICLES. WILLIAM P. MAXWELL, Unity, Pa. Filed May 14, 1910. Serial No. 561,325.



In a draft appliance for vehicles, a plate supported at the forward portion of the running gear of the vehicle, a pair of cylinders, a cross head connecting the outer ends of the cylinders together and provided with a centrally disposed opening, a strap connecting the rear ends of the cylinders together, a pair of housings extending in said cylinders, springs carried by the housings and engaging the forward ends of the cylinders and the rear ends of said housings, a cross head connecting the housings together, and a longitudinally-extending member connected at its rear end to the cross head connecting the housings and projecting over said strap and extending through said opening adapted to be pivotally connected to a double tree.

969,646. ELECTRICAL SWITCHING DEVICE. JAMES G. MEREDITH, Lynchburg, Va. Filed June 7, 1910. Serial No. 565,470.



1. In an electrical switch, a plurality of magnets, a source of current, a series of movable contacts less in number than the number of magnets, and means for effecting the operation of any one of the magnets through any of the movable contacts desired.

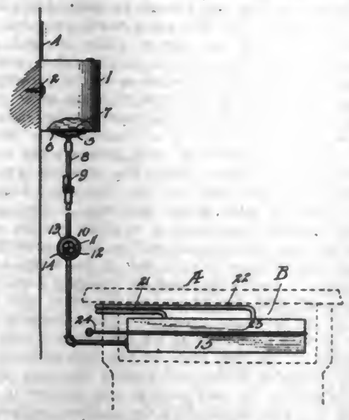
2. In an electrical switch, a plurality of magnets, a source of current, a series of contact rings less in number than the number of magnets, a movable contact adapted to engage its respective ring and means for selectively energizing any of the magnets through the action of any of the movable contacts.

3. In an electrical switch, a plurality of magnets, a source of current, a cylinder provided with a series of conducting rings, a trolley wheel for each ring adapted to contact therewith, a movable perforated tape, means for moving said tape between the trolley wheels and their respective rings, and means for selectively energizing any of said magnets through circuit connections effected by any of said trolley wheels.

4. In an electrical switch, a plurality of magnets, a cylinder provided with a series of conducting rings, a series of trolley wheels on each side of said cylinder, a lower plate provided with a series of V-shaped contacts, an upper plate provided with a series of pins arranged to engage the V-shaped contacts of the lower plate, a source of current, a perforated film adapted to be passed between the trolley wheels on one side of said cylinder and the conducting rings, and electrical connections between said conducting rings, the plate provided with the V-shaped contacts and the magnets, said magnets being operated through said electrical connection.

5. In an electrical switch, a main frame provided with uprights, a plate carried thereby, said plate being provided with a series of pairs of individual contacts, a series of longitudinal contacts on each side of said individual contacts, a second plate normally disposed above said first named plate and provided with bars having downwardly extending pins for effecting electrical connection between predetermined contacts on the lower plate, a detachable auxiliary frame supported upon said main frame, said auxiliary frame bearing a cylinder provided with a series of contact rings, a series of trolley wheels carried by said frame on one side of said contact rings, a second series of trolley wheels carried by said frame on the other side of said contact rings, a series of spring contacts carried by said first named plate, and a series of similar spring contacts carried by said main frame, and conducting members having electrical connection with their respective series of trolley wheels for engaging the spring contacts.

969,647. OIL-BURNER. CLIFF W. MITCHELL, Floydada, Tex. Filed Oct. 23, 1909. Serial No. 524,181.



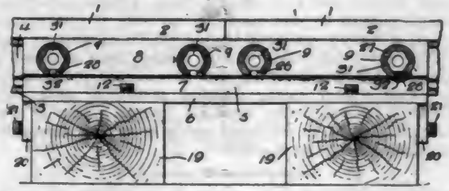
1. An oil burner comprising a tank, a supply pipe connected thereto and a receptacle on the end of said pipe, the receptacle having a partition forming a chamber into which the oil flows, the chamber having an integral top, the other part of the receptacle forming a pan, the partition being provided with an opening at the bottom whereby the oil flows from the chamber to the pan, a lid hinged to the pan, and a rod connected to the lid and forming part of the hinge whereby the lid may be operated outside of the stove.

2. An oil burner comprising a supply tank, a pipe connected thereto, a closed chamber on the end of said pipe, a pan connected to the side of the chamber, the chamber being provided with an opening whereby the oil is permitted to flow into the pan and keep the bottom thereof covered as the oil burns, and a lid hinged to the pan and adapted to cut off the atmosphere to the surface of the burning oil and thereby extinguish the flame.

969,648. RAIL-JOINT. LAURENCE MCFADDEN and WILLIAM A. MCFADDEN, Parkton, Md. Filed Mar. 16, 1910. Serial No. 549,670.

1. In a joint for railway rails, a rail chair, an offset fish plate upon one side of the chair, the vertical wall of said fish plate being provided with a plurality of pockets, the said pockets having central openings, the

base flange adjacent the fish plate being provided with a plurality of spike openings, the horizontal face of the base having a longitudinally extending groove provided with an inclined wall, the face of the plate being further provided with spike openings adjacent the longitudinal groove, the ends of the base being provided with depending offsets having spike openings, a key member for the chair, said key member comprising a vertical portion and an inclined portion, the lower face of said inclined portion having a longitudinally extending tongue which is adapted to be received within the groove of the chair, the outer face of the inclined portion being provided with cut away portions adjacent the spike openings, the vertical portion of the key being provided with a plurality of non-circular pockets having openings communicating with the openings of the fish plate, and removable securing members for the fish plate.

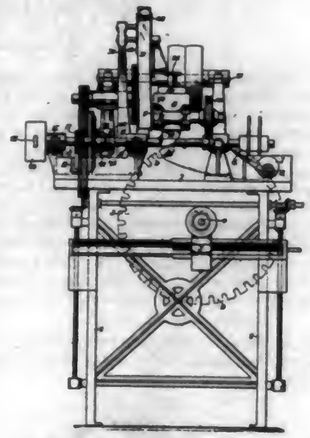


2. In a joint for railway rails, the combination with a chair member, said chair member comprising a horizontally straight portion and having an offset fish plate, the vertical member of the fish plate being provided with a plurality of pockets, the lower walls of said pockets terminating below the juncture of the offset portion of the fish plate, the pockets being centrally provided with openings, the walls of the pockets being each provided with an offset, the ends of the base of the chair being offset, the said base having a longitudinally extending groove, two of the walls of said groove being arranged at right angles to each other, the opposite wall being inclined toward the body of the chair, the base being further provided with spike openings, a key member, said key member comprising a vertical portion and an inclined portion, the inclined portion being provided with a tongue, said tongue having two of its walls arranged at an angle to each other and its opposite wall inclined to correspond with the groove of the chair, the vertical portion of the key being provided with a plurality of non-circular pockets, headed bolts for the pockets, nuts within the pockets of the fish plate of the rail adapted to engage the threaded bolts, and wedges engaging the nuts and the offsets of the said pockets and adapted to be contacted by the wall provided by the inclined portion of the fish plate adjacent its connection with the vertical portion of the said fish plate.

3. In a joint for railway rails, a rail chair, an offset fish plate upon one side of the chair, the vertical wall of said fish plate being provided with a plurality of pockets, said pockets having central openings, the horizontal face of the base having a longitudinally extending groove provided with an inclined wall, the face of the plate being further provided with spike openings adjacent the longitudinal groove, a key member for the chair, said key member comprising a vertical portion and an inclined portion, the lower face of said inclined portion having a longitudinally extending tongue which is adapted to be received within the groove of the chair, the outer face of the inclined wall being provided with cut-away portions adjacent the spike openings, the vertical wall of the key being provided with a plurality of non-circular pockets having openings communicating with the openings of the fish plate, and removable securing members for the fish plate.

969,649. GRINDING AND SHARPENING MACHINE. HENRY D. NICHOLLS, Philadelphia, Pa. Filed May 1, 1907. Serial No. 371,244.

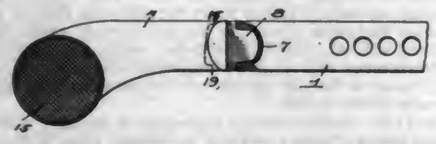
1. In a grinding or sharpening machine, the combination of means for supporting the work to be operated upon, a grinding wheel mounted for rotation and arranged to engage said work, a cranked shaft supporting said grinding wheel, a pinion carried by said shaft, a racked member in operative engagement with said pinion whereby a rocking or oscillating movement may be imparted to the cranked shaft to cause the grinding wheel to engage the work in the arc of a circle struck from the center of oscillation, and means for operating said racked member.



2. In a grinding or sharpening machine, the combination of means for supporting the work, a grinding wheel mounted for rotation, a support for said wheel, a cranked shaft carrying said support, a pinion carried at one end of said shaft, a driving shaft, a grooved cam plate carried by said driving shaft, and a racked member suitably mounted for engagement with the pinion on the cranked shaft and having a portion in operative engagement with the groove of the cam whereby it may be actuated by the latter to give said cranked shaft a rocking or oscillating movement and cause the grinding wheel to engage the work in the arc of a circle struck from the center of oscillation.

3. In a grinding or sharpening machine, the combination of means for supporting the work, a grinding wheel mounted for rotation, a support for said wheel, a cranked shaft carrying said support, a pinion carried at one end of said shaft, a driving shaft, a grooved cam plate carried by said driving shaft, a racked member suitably mounted for engagement with said pinion on the cranked shaft and having a portion in operative engagement with the groove of the cam whereby it may be actuated by the latter to give said cranked shaft a rocking or oscillating movement and cause the grinding wheel to engage the work in the arc of a circle struck from the center of oscillation, and means for moving the work, said cam groove being so shaped as to provide for the stoppage of the cranked shaft by the racked member with the grinding wheel in a vertical position over said work to permit such movement.

969,650. PEDAL. ALBERT F. NORRIS and CLIFTON H. NORRIS, Boston, Mass. Filed Nov. 20, 1908. Serial No. 463,668.



1. A pedal comprising a body portion, a tread portion, a removable casing for the tread portion formed with a projecting end adapted to pass through the juncture of the body portion with the tread portion, and means for securing said casing in position and said projecting end against movement.

2. A pedal comprising a body portion arranged with a shoulder at one end, a tread portion extending from said shoulder, a casing formed with a projection and a shoulder, said casing inclosing said tread portion, said projection passing through said shouldered portion of said body portion, and means for securing said casing in position and the shoulder on said casing against the shoulder on said body portion.

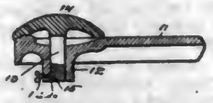
3. A pedal comprising a body portion formed with a shoulder and an aperture passing through the body portion at the shoulder, a tread portion projecting from said body portion, a removable casing inclosing said tread portion, said casing being formed with a projection passing through said opening in said body portion, and means engaging said casing for securing said casing in position on said tread portion.

4. A pedal comprising a body portion formed with a shoulder and an opening, a tread projecting from said shoulder, a casing removably inclosing said tread, said casing being also formed with a projection adapted to pass through said opening in said body portion, and means for forcing said casing against the shoulder on said body portion and at the same time clamping said casing in position.

5. A pedal comprising a body portion, a tread formed with a beveled end and a removable casing for said tread portion having a notched out extension for receiving said beveled end whereby said casing is held in contact with said tread.

[Claims 6 to 17 not printed in the Gazette.]

969,651. PEDAL AND TOE-CAP THEREFOR. ALBERT F. NORRIS and CLIFTON H. NORRIS, Boston, Mass. Filed Aug. 13, 1909. Serial No. 512,741.



1. In a device of the character described, the combination with a pedal having an aperture therein, of a toe cap formed with a stem provided with a recess having flared walls, and a clamping screw arranged to engage part of said flared walls for drawing said toe cap against said pedal.

2. In a device of the character described, the combination with a pedal having an aperture therein and a lug extending therefrom, of a toe cap having a recess portion fitting over said lug, whereby said toe cap is prevented from rotating, and a shank extending through said aperture, and means independent of the cap at the lower end of said shank for preventing accidental removal of the cap.

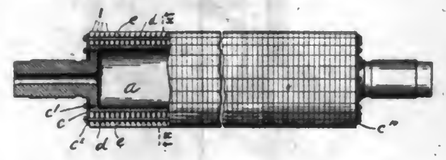
3. In a device of the character described, the combination with a pedal having an aperture therein, of a toe cap formed with a stem designed to fit into said aperture, and means independent of said stem and engaging the same for locking said cap against said pedal and for drawing the under surface of said cap against said pedal.

4. In a device of the character described, the combination with a pedal having an aperture therein, of a toe cap formed with a stem adapted to fit into said aperture, said stem being formed with a recess having flaring walls, and a set screw formed with a tapering end for engaging part of the flaring walls of said recess, whereby sad cap is held clamped to said pedal.

5. In a device of the character described, the combination with a pedal having an aperture therein with a projection extending therefrom, of a toe cap formed with a recess portion for fitting over said projection, whereby said toe cap is prevented from rotating, said toe cap being also formed with a stem designed to fit into said aperture, and means independent of said stem and said pedal but arranged to engage said stem for locking said cap to said pedal and at the same time causing said cap to press against said pedal.

[Claim 6 not printed in the Gazette.]

969,652. PRESS-ROLL. HOWARD PARKER, Nashua, N. H. Filed June 17, 1909. Serial No. 502,731.



1. A roll comprising a core and a covering therefor, said covering being made up of a series of annular sections fitted onto said core and arranged side by side, each section being made up of a plurality of blocks of expansible material arranged end to end and originally spaced from one another but adapted to be expanded to bring said blocks into contact and place them under compression, seats formed in the opposing ends of said blocks, binding members resting on said seats, and means for securing said binding members to said core at intervals throughout their length.

2. A roll comprising a core and a covering secured thereto, said covering being made up of a series of annular sections fitted onto said core and arranged side by side, each section being made up of a plurality of members arranged end to end but independent of each other, and binding members seated in the abutting ends of said members and means for securing said binding members to said core.

3. A roll comprising a core and a covering secured thereto, said covering being made up of a series of annular sections fitted onto said core and arranged side by side, each section being made up of a number of blocks arranged end to end but independent of each other, seats formed in the abutting ends of all of said blocks beneath their surface, binding members resting on said seats, and means for connecting said binding members to said core.

4. A roll comprising a core and a covering secured thereto, said covering being made up of a series of annular sections fitted onto said core and arranged side by side, each section being made up of a plurality of blocks of expansible material arranged end to end and spaced from one another, seats formed in the opposing ends of said blocks, binding members resting on said seats, means for connecting said binding members to said core, said blocks being expanded to close the spaces between them.

5. A roll comprising a core and a covering secured thereto, said covering being made up of a series of annular sections fitted onto said core and arranged side by side, each section being made up of a number of blocks of expansible material arranged end to end, the inner corners of said blocks being arranged in contact with one another and the outer corners thereof spaced slightly from one another, seats formed in the opposing ends of said blocks, binding members resting on said seats, means for connecting said binding members to said core, said blocks being expanded to close the spaces between them.

[Claims 6 to 13 not printed in the Gazette.]

969,653. SWITCH-THROWING DEVICE. PETER HANSEN PETERSEN, Lead, S. D. Filed Aug. 25, 1909. Serial No. 514,589.

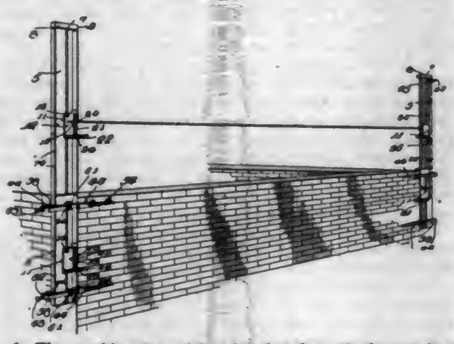
1. In a switch throwing device, the combination with a stand, a slotted head block, a pivot bolt connecting said head block to the stand, an operating lever pivoted to said bolt and projecting into the slot in said head block, stops at each end of said slot in the head block for engaging said lever, mechanism connected to said head block at a distance from its pivot for operating the switch points,

and spring catches near each end of said head block having shoulders adapted to engage the upper side of the operating lever, substantially as described.



2. In a switch-throwing device, the combination with a stand, a slotted head block, a pivot bolt connecting said head block to the stand, an operating lever pivoted to said bolt and projecting into the slot in said head block, a weight connected to said lever and having its center of gravity to one side thereof, stops at each end of said slot in the head block for engaging said lever but providing lateral play therefor, mechanism connected to said head block for moving the switch points, and catches near each end of said head block having shoulders adapted to normally engage the upper side of the operating lever, when it is tilted laterally under the action of said weight, substantially as described.

969,654. PLUMB-LEVEL. HENRY PLATT, Suffern, N. Y. Filed June 8, 1909. Serial No. 501,412.



1. The combination with a bracket for attachment to a wall, of a plumb rule supported by the bracket, and a gage slidably mounted on the rule and provided with a flat transverse working face for contact with the adjacent face of the wall.

2. The combination with a bracket for attachment to a wall, of a plumb rule supported by the bracket, and a gage slidably mounted on the rule and having a working face for contact with the adjacent face of the wall, the working face of the gage being provided with a mortar receiving depression.

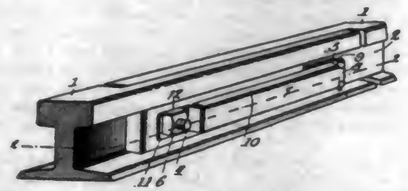
3. The combination with a bracket for attachment to a wall, of a plumb rule supported by the bracket and movable vertically of the wall within said bracket, a gage slidably mounted on the rule and provided with a flat transverse working face for contact with the adjacent face of the wall, and means for adjusting the rule laterally with respect to the wall.

4. The combination with a bracket for attachment to a wall, of a plumb rule supported by the bracket, a gage slidably mounted on the rule for contact with the adjacent face of the wall, and a bar slidably mounted on the gage and movable in a straight line to a position beyond the adjacent face of the gage.

5. The combination with a bracket for attachment to a wall, of a plumb rule supported by the bracket, a gage slidably mounted on and adjustable longitudinally with respect to the rule, said gage being provided with a flat transverse working face for contact with the adjacent face of the wall, and means for adjusting the rule to different angular positions with respect to the wall.

[Claims 6 to 21 not printed in the Gazette.]

969,655. NUT-LOCK. JOSEPH A. POIRIER, Woonsocket, R. I. Filed May 27, 1910. Serial No. 563,746.

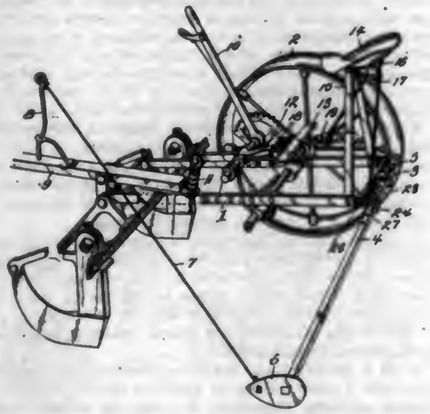


1. Means for locking a series of nuts, comprising a swing plate constructed to lockingly engage a plurality of the nuts, an apertured offset on said plate adapted to be clamped under the final nut of the series, and a flange on said offset for lockingly engaging said final nut of the series.

2. Means for locking a series of nuts, comprising an apertured base plate constructed to be clamped by an initial nut of the series, a swing plate pivotally secured to said base plate and provided with an offset adapted to be clamped by the final nut of the series, and flanges carried by said plate for lockingly engaging the several nuts of the series.

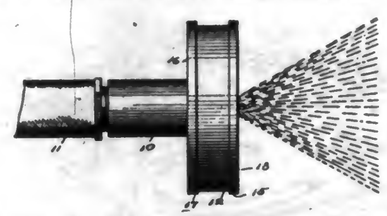
3. Means for locking a series of nuts, comprising a swing plate pivotally secured by the initial nut of the series and arranged under and clamped in position by the final nut of the series; said plate being flanged for lockingly engaging the several nuts of the series.

969,656. MARKER FOR PLANTERS. GUY O. RABECK, Le Loup, Kans. Filed Mar. 28, 1910. Serial No. 552,092.



In a planter, a marker bar having swivel connection with the planter frame, a lever arranged to raise and lower the planting mechanism, an extension bar having a plurality of apertures and a terminal loop, clips connecting the extension bar with an arm extending rearwardly from the adjusting lever, said clips having lugs to engage the apertures in the extension bar, a sleeve adjustably secured upon the marker bar and having a forwardly extending spindle, a link swiveled upon said spindle, and a suitably guided flexible element connecting the link with the eye or loop at the rear end of the extension bar.

969,657. SPRAY-NOZZLE. JAMES READE, Huntington, N. Y. Filed Mar. 22, 1910. Serial No. 550,981.



A nozzle comprising a casing with a front and rear wall, a central diaphragm dividing said casing into two opposite compartments, the rear wall having a water inlet, and the front wall having a water outlet, said diaphragm having triangular portions all bent rearwardly from the diaphragm to provide wings and openings whereby liquid passing through the nozzle issues in spray form.

969,658. SHIPPING-TAG. GEORGE RICHBERGER, Memphis, Tenn., assignor of one-half to H. E. Winterton, Memphis, Tenn. Filed May 15, 1909. Serial No. 496,098.

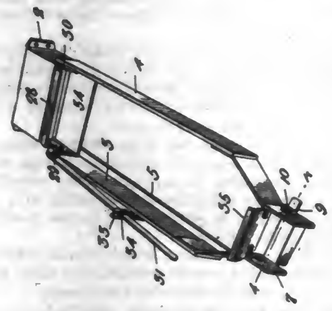


A structure of the character described comprising a pair of bale tie tags having duplicate records marked thereon, non-resilient, flexible means permanently uniting said tags to space the tags apart so that one of them may depend from the other, and one of said tags having on one edge a double flange which extends entirely across and away from the opposite sides of said edge, said tag and its flanges adapted to be inserted in the contents of the bale when the same is being packed so that the flanges thereof will be embedded therein, the other tag being adapted to depend from the side of the bale, substantially as specified.

969,659. COAL-SCREEN. HIRAM B. SACKETT, Chicago, Ill. Filed Apr. 12, 1909. Serial No. 489,339.

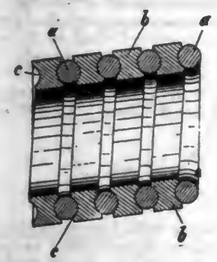
1. In a coal screen a delivery chute, a screen arranged therebelow, a rotary valve operable in said chute arranged to regulate the inflowing coal, a lever connected with said valve and a spring clamping fork arranged in position to yieldably engage said lever to hold the valve in adjusted position.

2. In a coal screen the combination of a delivery chute, means for securing said chute over an opening in the side wall of a pocket, a screen arranged below said chute, a circular valve operable in said chute and facing in the direction of the incoming coal, a twisted link secured at one end to said valve, an operating lever connected to the other end of said link to oscillate said valve and resilient means for engagement with said lever to hold the valve in adjusted position.



3. A coal screen having upright side members, a delivery chute arranged at the upper end of said screen, a rotary valve mounted to close the lower end of said chute, an upright secured to one side member of said screen and having laterally spaced resilient clamping fingers at its upper end, a lever connected at one end to said valve, with its other end arranged to be engaged by said clamping fingers for holding said valve in adjusted position.

969,660. FLEXIBLE SHAFT. FRANZ SCHMIDT and ALBERT GRUNDMANN, Berlin, Germany. Filed June 10, 1909. Serial No. 501,360.



1. A flexible hollow shaft, comprising in combination a spirally coiled wire of circular cross-section, and a spirally coiled body having concave lateral faces abutting against each turn or convolution of said wire.

2. A flexible hollow shaft, comprising in combination a spirally coiled wire of circular cross-section, and a spirally coiled body having concave lateral faces between the turns or convolutions of said wire and abutting against the outside and the inside of each turn or convolution of the wire, as set forth.

3. A flexible hollow shaft comprising in combination a spirally coiled wire of circular cross-section, and a spirally coiled body having concave lateral faces between the turns or convolutions of said wire and abutting against the outside of each turn or convolution of the wire, as set forth.

4. In a flexible hollow shaft comprising in combination a spirally coiled wire of circular cross-section, and a spirally coiled wire having two concave lateral faces receiving the adjacent sides of the wire of circular cross-section, substantially as shown, and for the purpose specified.

969,661. PROCESS OF GENERATING FORMALDEHYDE. HANS SCHNEIDER, Hamburg, Germany. Filed Mar. 7, 1908. Serial No. 419,734.

1. The process of producing formaldehyde which consists in reacting with a persalt containing a large amount of oxygen on formaldehyde derivatives the substituting groups of which are more readily oxidized than formaldehyde itself.

2. The process of producing formaldehyde which consists in reacting with a persalt containing a large amount of oxygen on formaldehyde derivatives the substituting groups of which are more readily oxidized than formaldehyde itself in the presence of other formaldehyde substances.

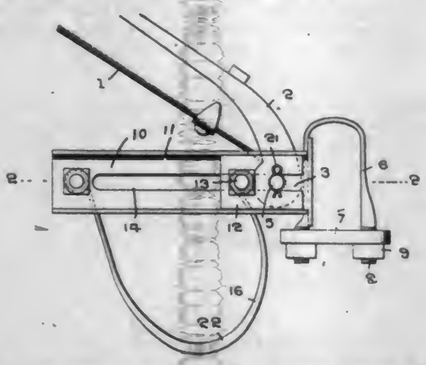
3. The process of producing formaldehyde which consists in reacting with a persalt containing a large amount of oxygen on formaldehyde derivatives the substituting groups of which are sulfur-containing acids of a lower degree of oxidation than sulfuric acid.

4. The process of producing formaldehyde which consists in reacting with a persalt containing a large amount of oxygen on formaldehyde derivatives the substituting groups of which are sulfur-containing acids of a lower degree of oxidation than sulfuric acid in the presence of other formaldehyde substances.

5. The process of producing formaldehyde which consists in reacting with a persalt containing a large amount of oxygen on a formaldehydebisulfite substance.

[Claims 6 to 12 not printed in the Gazette.]

969,662. SHAFT-COUPLING. JOHN M. SCHWAB, Marion, Mass. Filed July 19, 1909. Serial No. 508,295.

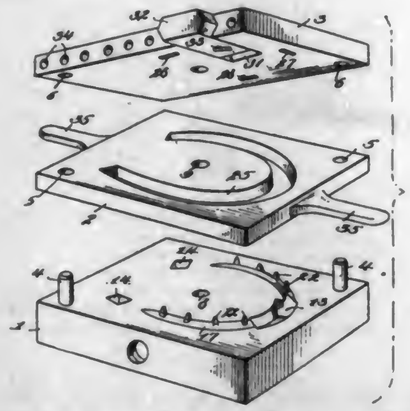


1. The combination with a shaft having a socket thereon, of a clip, parallel plates carried by said clip, having elongated slots therein, the longitudinal edges of said plates being provided with lateral extensions forming channels laterally of said slots, blocks slidably mounted in such channels, having recesses therein, a bolt extending through said slots and the recesses in said blocks and also through said socket, an additional bolt carried by said blocks and extending through said slots, and a spring applied to a bolt at one end of said plates, the opposite end of such spring being applied to said additional bolt, said recesses allowing said blocks to have longitudinal movement independent of said first referred to bolt.

2. In a device of the character described, the combination with a shaft and a socket thereon, of a clip, parallel plates carried by said clip having elongated slots therein and laterally bent portions on the upper and lower edges thereof to form channels, blocks having elongated recesses therein and seated in said channels, a bolt passing through said socket, the slots and recesses in said blocks, a spring, a bolt securing the ends of the plates in alinement and retaining one end of said spring and an additional bolt engaging the opposite end of said spring and passing through said slots and blocks, said additional bolt adapted to travel in the slots, when pressed by said shaft.

3. The combination with a shaft and socket thereon; of a clip, parallel plates carried by said clip, said plates having elongated slots therein and the longitudinal edges thereof bent laterally to form channels, blocks slidably mounted in the channels of said plates, said blocks having recesses extending therein, a bolt extending through the slots in said plates and engaging and retaining said blocks within said channels, a spring having one end in engagement with said bolt between said parallel plates, a bolt securing the ends of said plates in alinement, the other end of said spring engaging said last mentioned bolt between said plates, an additional bolt extending through said socket and slots adapted to be seated in the recesses of said blocks and means to retain said bolts in position.

969,663. FLASK FOR CASTING HORSESHOES. LIGUORIA A. SHAFFER, Ridgeley, W. Va. Filed Dec. 17, 1909. Serial No. 533,706.



1. A mold comprising separable members, one of which is formed with a mold cavity; and a device carried by another of said members and formed with a pouring gate opening into said cavity, said device being adapted to be struck at the completion of the pouring, to sever the joint between the material contained in the cavity and the material contained in the gate.

2. A mold comprising top, intermediate, and base plates, the intermediate plate being formed with a mold cavity, the top plate with a gate opening into the cavity, and the bottom plate with a core projecting into said cavity and with an interior chamber adapted to receive a cooling liquid, the upper wall of said chamber having a groove conforming to the shape of said core and located directly beneath the same, to bring the liquid into close proximity to the surface thereof.

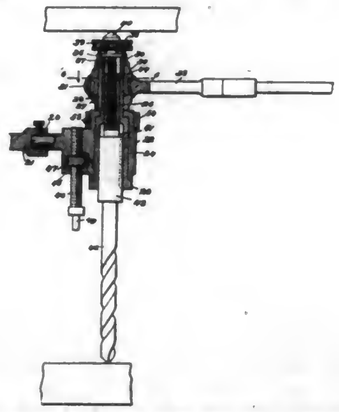
3. A mold comprising separable superposed members, the upper member being formed with a mold cavity, and the lower member with a core projecting into said cavity and having a series of teeth for producing openings in the cast article, the walls of said cavity converging downwardly, to withdraw the cast article from the core and its teeth when said upper member is raised from the lower member.

4. A mold comprising separable superposed members, the upper member being formed with a mold cavity, and the lower member with a core projecting into said cavity and having a series of teeth for producing openings in the cast article, said teeth having the upper portions thereof separable from their lower portions.

5. A mold comprising separable superposed members, the upper member being formed with a mold cavity, and the lower member with a core projecting into said cavity and having a series of teeth for producing openings in the cast article, said teeth having their upper portions separable from their lower portions and formed with stems fitting in openings in said lower portions.

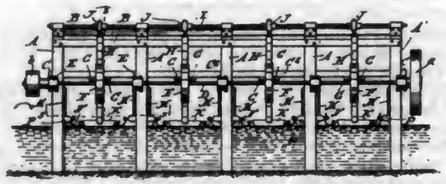
969,664. RATCHET-DRILL. THOMAS RICHARD SHEETZ, Goldfield, Nev. Filed Apr. 13, 1909. Serial No. 489,731.

1. In a device of the class described, a strut, means to secure the strut rigidly to an article, a sleeve mounted and movable longitudinally and rotarily upon the strut, a bearing carried by the sleeve and rotatable relative thereto, a chuck journaled in the bearing, a ratchet member connected to the chuck, a lever and detent adapted to operate the ratchet, a drill shank disposed within the chuck and movable longitudinally thereof but held against rotary movement independent of the chuck, means to move the shank longitudinally of the chuck, a flexible member adapted to engage the work and a tension member carried by the bearing, and adapted to engage with the flexible member.



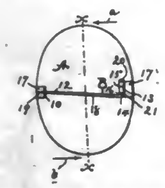
2. In a device of the class described, a strut, means movable longitudinally of the strut adapted to secure the strut to an article, a sleeve mounted upon the strut adapted to be rotated thereon and also to be moved longitudinally thereof, a bearing member carried by the sleeve and rotatable relative thereto, means to maintain all of the movable parts at a secured adjustment, a chuck carried and rotatable within the bearing member, a ratchet wheel connected to the chuck, a pawl and lever adapted to engage and rotate the ratchet, a hollow internally threaded drill shank disposed within the chuck and adapted to move longitudinally but maintained against rotary movement independent of the chuck, a cap carried above the ratchet, a screw extending through the cap and within and engaging the threaded portion of the shank, means above the cap for operating the screw, a flexible member adapted to engage the work, and a tension member carried by the bearing adapted to connect with the flexible member.

969,665. WAVE-MOTOR. EDWARD E. SHINN, Montrose, Colo. Filed May 23, 1910. Serial No. 562,880.



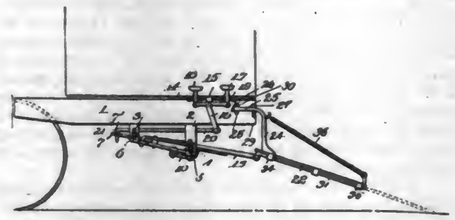
A wave motor comprising vertically movable floats, a fixed main frame having a plurality of uprights grouped about each float, guide-rods extending vertically and carried by said uprights, blocks movable vertically on said guide-rods, cables connecting the floats with the said blocks, vertically swinging levers fulcrumed at intermediate points of their length on the main frame, rods connecting the floats with the inner arms of said levers, toothed bars loosely connected with and depending from the outer arms of said levers and free to swing toward and from the floats, a longitudinal shaft journaled in bearings carried by the main frame, ratchet wheels fixed on said shaft and each arranged opposite one of the said toothed bars, and arms fixed with respect to the main frame and arranged at opposite sides of and adjacent the toothed bars and the ratchet wheels to prevent undue sidewise movement of said bars.

969,666. BROOCH. CLARENCE E. SMITH, New Britain, Conn., assignor to The North and Judd Manufacturing Company, New Britain, Conn., a Corporation. Filed Sept. 21, 1909. Serial No. 518,781.



In a brooch comprising a body and a pin, an integral hook member on said body, an integral hinge member on said body, an integral bearing shoulder on said hinge member, the said pin comprising a generally cylindrical pin body, a point at one end and a head at the other end, the said hinge member comprising a finger rolled up to form a sleeve having ends, the said pin body received within said sleeve, the said head in abutment with one end of the sleeve and the said pin body bent to one side at about 90 degrees adjacent the other end of the sleeve, the said shoulder located adjacent said other end, the said pin having a second bend over said shoulder, the said second bend appreciable and permanent, the said pin adapted to be further resiliently bent in the direction of said second bend and when so bent adapted to engage with the said hook member.

969,667. CAR-FENDER. OTHO M. SNYDER, Hagerstown, Md. Filed Mar. 16, 1910. Serial No. 549,612.



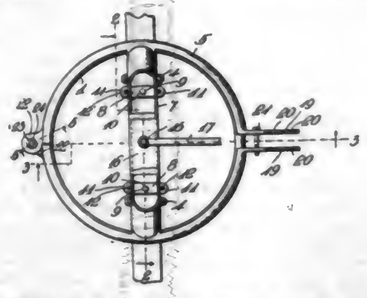
1. The combination with a vehicle provided with a foot-rod, of a fender comprising a stationary member, and a movable member carried by said stationary member and adapted to form an extension thereof, a foot-rod disposed in the vehicle floor, a pair of bell-crank levers, pivotal connections between the ends of said bell-crank levers and said movable member, and lever connections between said foot-rod and said bell-crank levers.

2. The combination with a vehicle provided with a foot-rod, of a fender comprising a stationary member and a movable member carried by said stationary member and adapted to form an extension thereof, a foot-rod disposed in the vehicle floor, a pair of bell-crank levers pivotally secured to the bottom of the vehicle, a slidable rod disposed between said bell-crank levers, link connections between each of said bell-crank levers and said slidable rod and means actuated by said foot-rod for moving said slidable rod.

969,668. FIFTH-WHEEL. ROBERT S. SPEER, Sedgwick, Kans. Filed Feb. 15, 1910. Serial No. 543,936.

1. A fifth wheel for vehicles, comprising a bottom or axle-engaging section consisting of a turning ring and an axle-engaging bar extending diametrically across the ring,

a top member comprising a pair of substantially similar pivotally connected sections formed in cross section to receive the ring of the bottom section, means for connecting the free ends of the two sections of the top member together, inwardly-extending oppositely-disposed supporting members carried by said sections, a spring block detachably and fixedly mounted on said supporting members, a cross bar on said block whereby it may be connected with the axle spring, and a brace bar connected at its forward end with said connecting means and at its rear end with the reach pole.



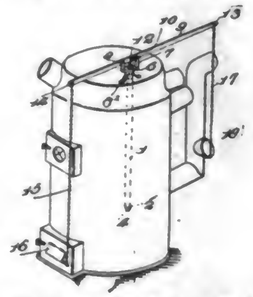
2. A fifth wheel, comprising a bottom or axle-engaging section consisting of an annular ring and a flat axle-engaging bar extending diametrically across the ring and provided at its bottom and on opposite ends with pairs of oppositely disposed depending positioning lugs adapted to engage opposite edges of the axle, means for attaching said bar to the axle, a top member comprising a pair of substantially similar pivotally connected sections suitably formed in cross section to receive the ring of the bottom section, means for connecting the free ends of the bars together, a spring block mounted on the top member, and means for connecting the block with the axle spring.

3. A fifth wheel of the class described, comprising a bottom or axle-engaging section consisting in part of a turning ring, a top member comprising a pair of pivotally connected sections formed in cross section to receive the turning ring of the bottom section and provided with extension bars adapted to register when the two sections of the top member are swung together, a spring block mounted on the extension bars of the top member, means to detachably and fixedly secure the spring block to said bars, means for connecting the block with the axle spring and a brace bar extending between said connecting means and reach pole of the vehicle.

4. A fifth wheel, comprising a bottom section consisting in part of an annular turning ring, a top member comprising a pair of pivotally connected sections suitably formed in cross section to receive the ring of the bottom section, a rivet to pivotally connect the front ends of the two sections of the top member together, said rivet having an oil duct formed therein and communicating with the inner surfaces of said sections, means to connect the free ends of said sections together, extension bars extending from the two sections of the top member inwardly, a spring block mounted on the extension bars, and means for detachably connecting the spring block with said extension bars and with the axle-spring.

969,669. FURNACE-REGULATOR. ANDREW STEWART, Uhrichsville, Ohio. Filed May 21, 1908. Serial No. 434,125.

1. The combination with a furnace including a casing having an opening in the top thereof and provided with a draft door, of a bracket detachably secured to the top of the casing at said opening, a thermostatic tube having its body extending through the opening in the casing and contained within the furnace, said tube at its lower end being provided with a terminal cap, a head secured to the upper end of the tube supported on said bracket, said head being provided with a bifurcated standard at one end, a rod disposed within and extending longitudinally of the tube, said rod being small in cross section relatively to the tube and having one end thereof threaded and projecting through the cap and its upper end threaded and extending above the head, an internally screw-threaded sleeve engaging the upper threaded end of the rod, a nonheat-conducting packing located within the vertical tube and around the rod, an operating lever pivotally mounted on the upwardly extending arm on said head and pivotally connected to the sleeve, and flexible connections between the lever and said draft-door.

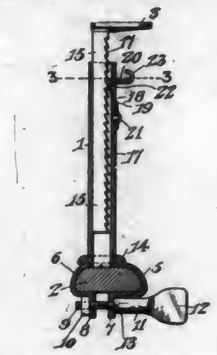


2. The combination with a furnace including a casing having an opening in the top thereof and provided with a direct draft and a check draft, a bracket secured to the top of the casing at said opening, a thermostatic tube suspended from the bracket and having its lower end extending through the opening in the casing and provided with a terminal cap, a head secured to the upper end of the tube and resting on said bracket, said head being extended laterally in a horizontal plane on opposite sides of the tube and provided with standards, the free ends of which are bifurcated, a rod disposed within and extending longitudinally of the tube and having its lower end threaded and projecting through the cap and its upper end threaded and extending above the head, an interiorly screw-threaded sleeve engaging the upper threaded end of the rod and provided with spaced vertically disposed arms, said rod being spaced from the interior walls of the tube to form a circumferential chamber adapted to receive a non-heat conducting packing, an operating lever pivotally mounted between said arms and extending through the bifurcated ends of the standards, the upper end of one of said standards being bent laterally in the direction of the arms of the sleeve and pivotally connected with said lever in addition to the pivot pin of said arms and within the lines of the head, and flexible connections between the opposite ends of the lever and direct draft and check draft respectively.

969,670. ADJUSTABLE EXTENSION FOR PIANO-PEDALS. HARRY C. STICKEL, Star Junction, Pa. Filed June 27, 1910. Serial No. 569,186.

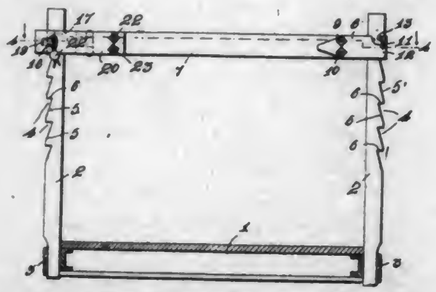
1. An adjustable extension for piano pedals comprising a tubular stem split at the lower end, the severed portions being flattened and bent into approximately U-shaped pedal-engaging jaws having horizontal inwardly extending bottom portions and depending terminal lugs located at the inner ends of the said bottom portions, a screw piercing the lugs and having a shoulder engaging one of the lugs, a nut engaged by the screw and fitting against the other lug and having its upper edge engaged by the horizontal portion of the contiguous jaw, whereby it is held against rotary movement, a collar encircling the standard contiguous to the upper end of the piano, a foot plate having a stem slidable within the tubular standard, and means mounted on the standard and engaging the stem for securing the foot plate in its adjustment.

2. An adjustable extension for piano pedals comprising a tubular standard provided at its lower end with a pedal clamp and having a slot at its upper portion, a foot plate having an integral stem slidable in the tubular standard and rounded to fit the same, said stem being also provided with a flat face and having teeth thereat, and a catch constructed of spring metal and consisting of an inclined portion secured at its lower end to the exterior of the tubular standard and extending upwardly and inwardly through the slot of the same, and a horizontal por-



tion extending outwardly from the upper end of the inclined portion and having its outer terminal portion extended upwardly and inwardly to form a foot operating portion, the inclined and horizontal portions of the catch forming an angle, which engages with the teeth of the stem to secure the foot plate in its adjustment.

969,671. STAKE-BRACE FOR LUMBER-CARS. JOHN TALLOUSE, Oakland, Me. Filed Mar. 28, 1910. Serial No. 552,073.

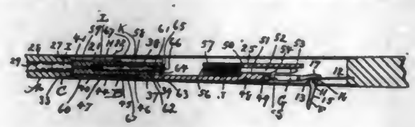


1. A stake brace of the character described, comprising a brace proper and a closed keeper at one end of the brace having a clamping plug adapted to engage a stake, a pivoted hasp secured at the other end of the brace and having a clamping plug formed thereon to engage a stake at the opposite side of the car, a plate carried by the brace adjacent said hasp, and means for locking the outer end of the hasp in removable engagement with the plate.

2. In a stake brace of the character described, comprising the brace proper, a keeper at one end of the brace, a pivoted hasp at the other end of the brace, said hasp having an outer right-angularly bent portion to engage the outer edge of the stake, a locking tongue on the right-angularly disposed portion of the hasp, and an apertured locking plate to receive the tongue.

3. In combination with a pair of stakes having their outer edges notched to form longitudinally spaced outwardly inclined portions with overhanging shoulders over said inclined portions, a brace comprising a body portion, a keeper at one end of the brace to receive the adjacent stake, a clamping plug having a downwardly inclined inner face to fit the notches of the stake, a pivoted hasp secured adjacent the opposite end of the brace, said hasp having a clamping plug having a downwardly inclined inner face and a flat upper shoulder to engage one of the notches of the adjacent stake, an apertured plate carried by the opposite face of said brace, and means adapted to engage the end of said hasp to detachably lock the hasp and plate in operative engagement.

969,672. CANE-RIFLE. HAVAKIM TARVARDIAN, New Britain, Conn. Filed Oct. 27, 1909. Serial No. 524,893.



1. In a cane rifle a body member having a base and a lower extension on said base, a carriage adapted to move up and down in said extension, a shoulder on the lower end of said carriage adapted to engage with a shoulder on said extension so as to limit the upward movement of said carriage, a spring bearing against the back of said body and producing frictional resistance to movement of the same, a beveled lower corner on said carriage adapted to coact with said spring to assist in the final upward movement of the same, and a tooth on the lower end of said spring adapted to engage with the lower end of said body so as to hold the same in the limiting upward position.

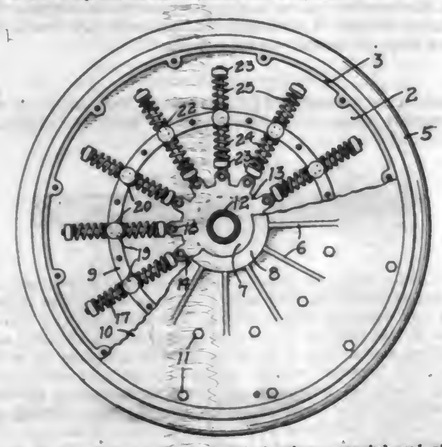
2. In a cane rifle a body having a lower extension and a carriage adapted to reciprocate in said lower extension, a rib on said carriage adapted to engage with a shoulder on said extension to hold the same in its lowermost position, a shoulder on said carriage adapted to engage with a shoulder on said extension so as to limit the upward motion of the same, a spring adapted to produce frictional resistance to such reciprocation, a beveled edge on said carriage adapted to coact with said spring so as to assist in the final upward motion of said carriage, an extractor attached to said carriage, and the end of said spring adapted to coöperate with the said extractor in throwing out the shell during the said upward motion.

3. In a cane rifle firing mechanism, cocking mechanism for the same, releasing mechanism for the same, a handle member, the said handle member having a limited rotary motion and a limited reciprocal motion, adapted to be locked against reciprocal motion and in its lowermost position when rotated to the limit of said rotary motion in one direction, adapted to be unlocked and reciprocated to the limit when rotated to the limit in the reverse direction, having a trigger adapted to be brought into position for firing when so locked against reciprocal motion, and adapted to cock the firing mechanism when so unlocked and reciprocated, the said firing mechanism comprising a firing pin and a spring actuated hammer adapted to strike a hammer blow to the same, the said cocking mechanism comprising a carriage attached to said handle member and adapted to lift said hammer against said spring to permit of the engagement of a notch and tooth, the said releasing mechanism comprising a lever on said handle member adapted to disengage said notch and tooth.

4. In a cane rifle, a body member attached to the barrel, a breech bolt and a handle member, the said handle member attached to the said breech bolt, and slidable on the body member, a spring actuated firing pin housed in the said breech bolt, a spring actuated hammer mounted on the said body member, the said breech bolt adapted to be operated to cock said hammer, and a trigger mounted on the handle member and adapted to release the said hammer.

5. In a cane rifle, a body member attached to the barrel, a breech bolt and a handle member, the said handle member attached to the said breech bolt and slidable on the said body member, the said body member adapted to receive the said breech bolt and permit of a relative reciprocal motion and rotary motion, shoulders and lugs on said body member and breech bolt in engagement when in position for firing and coöperating lugs on the said breech bolt and handle member and also in engagement when in position for firing.

969,673. WHEEL. EDWIN E. THOMAS, Portland, Oreg. Filed July 26, 1909. Serial No. 509,722.



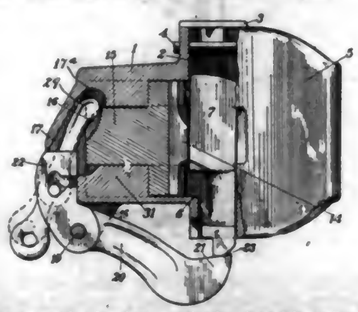
1. A wheel comprising a disk having a peripheral rim and a central opening and an annular flange encircling said opening, intermediate to it and said rim, a cover plate also having a central opening registering with the opening in said disk and secured to said rim and flange, a hub fitting within said opening, said hub having a disk fitting between said first named disk and said plate and guided thereby, a chamber being formed between said hub and flange and between said flange and rim, means connected with said hub disk and having sliding pivotal connections with said flange, and means yieldingly resisting the movement of said hub disk between said wheel disk and plate.

2. A wheel comprising a disk having a central opening and a peripheral rim and an annular flange encircling said opening intermediate to the edge thereof and said rim, a cover plate also having a central opening and secured to said flange and rim, a hub fitting within the openings in said disk and plate and having a part that is slidable between said disk and plate, a series of rods pivotally connected with said part and radiating therefrom, blocks fitting within sockets in said flange and capable of rotation therein and having holes therethrough wherein said rods are slidable, said rods projecting through said blocks into the chamber formed between said flange and rim, and helical springs mounted on said rods on both sides of said flange and yieldingly resisting longitudinal movement of said rods.

3. A wheel, comprising a disk having a central opening and otherwise imperforate and provided with a peripheral rim and an annular flange encircling said opening and located intermediate to said opening and said rim, a cover plate having a central opening and otherwise imperforate and secured to said rim and flange and forming therewith and with said disk an inner and an outer closed chamber, a hub fitting within the openings in said disk and plate and having a disk that is slidable between said disk and plate, a series of rods pivotally connected with said hub disk and radiating therefrom and projecting through said flange and having sliding pivotal bearings therein, helical springs mounted on said rods on each side of said bearings and resisting longitudinal movement of said rods, said inner and outer chambers being adapted to contain a lubricating material, substantially as described.

4. A wheel comprising a disk having a central opening and a peripheral rim, a plate also having a central opening and secured to said rim, a hub fitting within said central openings and having a part that is slidable between said plate and disk, a series of rods pivotally connected to said hub, blocks having bearings, attached to the wheel structure, intermediate of said hub and rim, said blocks capable of rotation in their bearings and having transverse openings through which said rods project and slide, and the outer ends of said rods terminating intermediate to said blocks and the rim of said wheel, and free from connection with the wheel-rim, and springs mounted on said rods on each side of said blocks and yieldingly resisting the sliding movement of said hub, said blocks rotating freely in their bearings to allow said rods and springs to accommodate themselves to the position of the hub, substantially as described.

969,674. CAR-COUPLING. JAMES TIMMS, Columbus, Ohio. Filed Feb. 1, 1909. Serial No. 475,457.



1. In a coupler having a swinging knuckle and a locking device to secure the knuckle in locked position, a housing provided thereon, a lever fulcrumed in said housing and constructed to move the locking device to its unlocked position, and a second lever fulcrumed upon said first lever, and extending into said housing and adapted to be actuated to operate said first lever and to open the knuckle.

2. In a coupler having a swinging knuckle and a locking device to secure the knuckle in locked position, a housing thereon, a lever fulcrumed in said housing, a second lever slidably fulcrumed on said first lever and positioned in said housing, said second lever being adapted to be operated to actuate said first lever to move the locking device to its unlocked position.

3. In a coupler having a swinging knuckle and a locking device to secure the knuckle in locked position, a housing on said coupler having a pocket formed at its inner end, a lever fulcrumed on said housing to unlock said locking device, a second lever fulcrumed on said first lever and positioned in said housing and arranged to have its inner end in engagement with the walls of said pocket during the said unlocking operation.

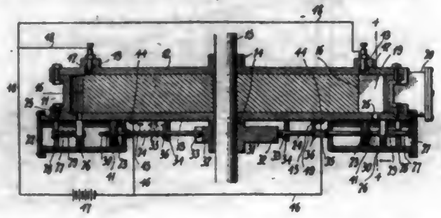
4. In a coupler having a swinging knuckle and a locking device to secure the knuckle in locked position, a housing on said coupler having a pocket formed at its inner end, a lever fulcrumed on said housing to unlock said locking device, a second lever slidably fulcrumed on said first lever and positioned in said housing, its inner end being arranged to bear against the wall of said pocket during the unlocking operation.

5. In a coupler having a swinging knuckle and a locking device to secure the knuckle in locked position, a housing on said coupler having a pocket formed at its inner end, a lever fulcrumed on said housing to unlock said locking device, a second lever slidably fulcrumed on said first lever and positioned in said housing, its inner end being arranged to bear against the wall of said pocket during the unlocking operation, whereupon it is shifted to open the knuckle.

[Claims 6 to 9 not printed in the Gazette.]

969,675. ROTARY EXPLOSIVE-ENGINE. EDWIN P. TITUS, Mena, Ark. Filed May 31, 1910. Serial No. 564,276.

1. In a rotary explosive engine, a casing, a shaft extending through said casing, a rotor fixed upon said shaft within said casing, shoulders formed on the periphery of said rotor, cam surfaces connecting said shoulders, an abutment extending through said casing and engaged by said cam surfaces, means constantly urging said abutment inward, a spark plug extending within said casing in advance of said abutment, a compression cylinder adjacent said abutment, a piston in said cylinder, means on said shaft to actuate said piston, a conduit leading from said cylinder into said casing in advance of said abutment, a valve normally closing said conduit, means on said piston to open said valve, and a sparker mechanism operable by the movement of said piston.



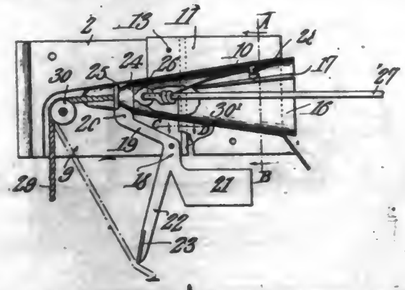
2. In a rotary explosive engine, a casing, a shaft extending through said casing, a rotor fixed upon said shaft, an abutment extending through said casing and engaging said rotor, said abutment being movable outwardly by said rotor, means to move said abutment inward, a spark plug extending within said casing in advance of said abutment, a compression cylinder, a valved piston in said compression cylinder, a carbureter, a pipe leading from said carbureter to said cylinder, a conduit leading from said cylinder into said casing in advance of said abutment, means on said shaft to actuate said piston, a valve normally closing said conduit, and means carried by the piston to open said valve.

3. In a rotary explosive engine, a casing, a shaft extending through said casing, a rotor fixed upon said shaft, an abutment extending through said casing and engaging said rotor, said abutment being movable outwardly by said rotor, means to move said abutment inward, a spark plug extending within said casing in advance of said abutment, a compression cylinder, a valved piston in said compression cylinder, a carbureter, a pipe leading from said carbureter to said cylinder, a conduit leading from said cylinder into said casing in advance of said abutment, means on said shaft to actuate said piston, a valve normally closing said conduit, means carried by the piston to open said valve, and a sparker mechanism operable by the movement of said piston.

4. In a rotary explosive engine, a casing, a shaft extending through said casing, a rotor fixed upon said shaft, an abutment extending through said casing and engaging said rotor, said abutment being movable outwardly by said rotor, means to move said abutment inward, a spark plug extending within said casing in advance of said abutment, a compression cylinder, a valved piston in said compression cylinder, a piston rod extending inwardly from said piston and passing through the inner end of said cylinder, a carbureter, a pipe leading from said carbureter to the inner end of said cylinder, a conduit leading from the outer end of said cylinder into said casing in advance of said abutment, a cam on said shaft engaging the inner end of the piston rod, means to hold said rod in engagement with said cam, a valve in said cylinder normally closing said conduit, and means carried by the piston to engage and open the last mentioned valve.

5. In a rotary explosive engine, a casing, a shaft extending through said casing, a rotor fixed upon said shaft, an abutment extending through said casing and engaging said rotor, said abutment being movable outwardly by said rotor, means to move said abutment inward, a spark plug extending within said casing in advance of said abutment, a compression cylinder, a valved piston in said compression cylinder, a piston rod extending inwardly from said piston and passing through the inner end of said cylinder, a carbureter, a pipe leading from said carbureter to the inner end of said cylinder, a conduit leading from the outer end of said cylinder into said casing in advance of said abutment, a cam on said shaft engaging the inner end of the piston rod, means to hold said rod in engagement with said cam, a valve in said cylinder normally closing said conduit, means carried by the piston to engage and open the last mentioned valve, a contact arm carried by said piston rod, and a second contact mounted on said casing in the path of the contact arm, said second contact being insulated from said casing.

969,676. TELEPHONE-LINE-WIRE DETACHER. JOHN K. TOMLINSON, Pickaway, W. Va., assignor of one-third to W. W. Rittenhouse, Ronceverte, W. Va. Filed Dec. 29, 1909. Serial No. 535,444.



1. A wire detacher comprising two terminal members one of which is movable into and out of axial housed relation to the other, a lock carried by one terminal for holding said terminals in electric connection, and a single means for moving the lock to the unlocked position and restoring the terminal members to the locked position.

2. A wire detacher comprising two terminal members one of which is movable into and out of axial housed relation to the other, a lock carried by one terminal for holding said terminals in electric connection, and a single means operable from a distance for moving the lock to the unlocked position and for restoring the terminal members to the locked position.

3. A line detacher comprising two terminal members one of which is movable into and out of axial housed relation to the other, a lock carried by one terminal for holding the said terminals in electrical connection, and an actuating means for the movable terminal member also operable to move the lock to the unlocked position.

4. A line detacher comprising terminal members one being movable into and out of electrical connection with the other and having a normal tendency when in operative relation to the other to move away from the same, a lock for holding the terminal members in electrical connection, and an actuating means for the terminal member having the normal tendency to move away from the other terminal member, operable to move the terminal member actuated thereby into locked electrical connection with the other terminal member, said actuating means being operable to move the lock to the unlocked position.

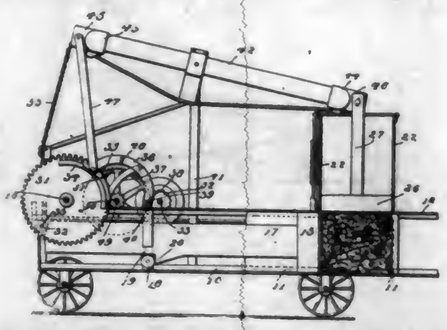
5. A line detacher comprising a terminal member in the form of a socket another terminal member yieldable to circumferentially applied pressure and adapted to seat in the socket, a locking means carried by the socket member and adapted to engage the second named member when seated in the socket and means for moving the locking means to the unlocked position.

[Claims 6 and 7 not printed in the Gazette.]

969,677. HAY-PRESS. GEORGE W. TUCKER and EDWARD BEACH, Vernon, Kans.; said Beach assignor to said Tucker. Filed Dec. 17, 1909. Serial No. 533,675.

1. The combination of a press box, a plunger for the press box, a hopper mounted to discharge into the press box and formed with a swinging side, a frame, gears mounted upon the frame, a roller carried between said gears and serving to actuate the plunger, a tip upon one of said gears, and means actuated by the trip for moving the swinging side of the hopper upward before the plunger is operated.

2. The combination of a press box, a main plunger for the press box, a hopper mounted to feed into the press box, a second plunger for the hopper, a walking beam having the second plunger connected to one end thereof, a frame, gears mounted upon the frame, a roller carried between said gears and serving to actuate the main plunger, a trip upon one of said gears and means actuated by the trip for moving the walking beam and operating the second plunger within the hopper before the main plunger is operated within the press box.



3. A hay press including a longitudinal frame, a press box mounted at one end of said frame, a hopper carried by said frame over said press box, a plunger carried by said frame for reciprocation within said press box, a beam carried by said plunger and extended longitudinally within said frame, gears located on said frame, a roller disposed between said gears for engagement with the outer extremity of said beam, a flange disposed upon one of said gears, a shoe pivotally mounted upon said frame for engagement over said flange at times, a walking beam carried by said frame and pivotally connected at one end to said shoe, and a plunger located in said hopper and connected to the opposite end of said walking beam to be actuated thereby.

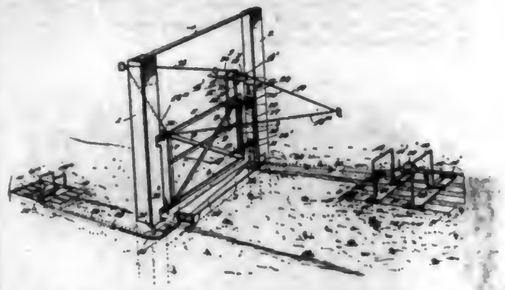
4. A hay press including a frame, a press box formed at one end of said frame, a hopper mounted on said frame to discharge into said press box, a pair of gears located in the opposite end of said frame, a roller disposed between said gears adjacent the peripheries thereof, a beam slidably disposed within said frame and in the path of said roller, a plunger formed upon the inner end of said beam for reciprocation in said press box, a shoe pivotally disposed upon said frame adjacent one of said gears, a flange formed upon the outer face of said gear for intermittent engagement with said shoe, a walking beam located on said frame, a connecting rod disposed between said shoe and said walking beam for reciprocating the latter, and a plunger carried by the opposite end of said walking beam for reciprocation within said hopper.

5. A baling press including a press-box, a hopper communicating with the press-box to discharge thereinto, plungers arranged for reciprocation within the press-box and the hopper, operating means engaging with the plungers for moving the plunger in the hopper downwardly and subsequently moving the plunger in the press box into the press-box, said operating means retaining the plunger in the hopper fixedly in a downward position during the inward movement of the plunger in the press-box.

[Claims 6 to 15 not printed in the Gazette.]

969,678. GATE. GEORGE MADISON WEST, Lamont, Ark. Filed Nov. 2, 1909. Serial No. 525,931.

1. In a gate and means for operating the same, a main frame comprising side posts, a rotatable rod secured to one of said side posts, a vertically slidable rod mounted on the other of said side posts, a gate-frame pivotally mounted on the first named rod, sprocket wheels for operating both of said rods, springs carried by said rotatable rod and arranged to bear on each side of said gate-frame for opening and closing the same, catches carried by said slidable rod, and means for simultaneously operating both of said sprocket wheels for turning said rotatable rod, and for raising said slidable rod.



2. In a gate and means for operating the same, a main frame comprising side posts, a rotatable rod secured to one of said side posts, a vertically slidable rod mounted on the other of said side posts, a gate-frame pivotally mounted on the first named rod, sprocket wheels for operating both of said rods, one of said sprocket wheels being secured to said rotatable rod and the other of said sprocket wheels being provided with a cam surface arranged to engage the lower end of said slidable rod, springs carried by said rotatable rod and arranged to bear on each side of said gate-frame for opening and closing the same, pivoted catches carried by said slidable rod, means for simultaneously operating both of said sprocket wheels for turning said rotatable rod and for raising said slidable rod, means for retaining the gate in an open position against the tension of the springs and for releasing the gate and permitting it to return to its normal position.

3. In a gate and means for operating the same, a main frame, a gate-frame pivoted thereto, springs disposed on each side of said frame and arranged to bear against the same, a slidable rod, pivoted latches carried by said rod, pivoted arms on said gate arranged to be engaged by said latches, a cam wheel carried by said slidable rod on its lower end, a sprocket wheel provided with a cam surface adapted to engage said cam wheel for lifting the latches clear of said arms, a U-shaped operating member provided with a sprocket wheel, and sprocket connections between said wheel and said first named sprocket wheel for operating the latter.

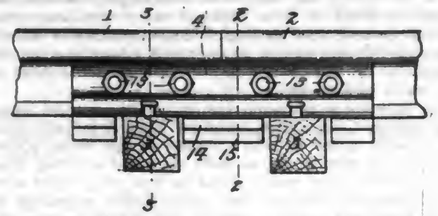
4. In a gate and means for operating the same, a main frame, a gate frame pivotally secured thereto, springs for causing the opening and closing of said gate-frame located on each side thereof, latches for said gate-frame, a cam member for operating said latches, and a sprocket wheel for operating said springs, gate operating devices on either side of said gate-frame, and connections between the latter, said parts being so arranged that a movement of the operating device in one direction will cause the tension of the springs on one side of the gate-frame to be diminished and on the other side of the gate-frame to be increased.

5. In a gate and means for operating the same, a main frame, a gate frame pivoted thereto, springs disposed on each side of said frame and arranged to bear against the same, latches carried by said frame, arms carried by said gate arranged to be engaged by said latches, a cam wheel carried by said frame and arranged to operate said latches, U-shaped operating members, a cam operating member and connections between said U-shaped operating member and said cam operating member for actuating the latter.

[Claim 6 not printed in the Gazette.]

969,679. RAIL-JOINT. GEORGE A. WILLIAMS, Banner, Ark. Filed Apr. 16, 1910. Serial No. 555,807.

A rail joint comprising two members, each embodying a fish-plate having a base portion provided with a plurality of inwardly extending spaced extensions, said extensions being adapted to overlap beneath the rails, and to form intervening passages for the ties, the extensions of one member being formed with angle keepers and the extensions of the other member with projections to engage said keepers, whereby the members are adapted to be interlocked by a movement of one part toward and from and laterally of the other part.



969,680. WATCHCASE. JAMES K. WORRELL, Humble, Tex. Filed Dec. 10, 1909. Serial No. 532,457.



A watch case comprising a main body member having identically formed front and back faces, each face being provided with an outwardly extending threaded flange and formed adjacent to said flange with an annular concavity, a back member formed on its inner face with a threaded flange for engaging the flange on the back of the said main body member and formed to provide an annular bead which is seated in the concavity in the back face of the said main body member, a crystal-carrying member formed to provide a crystal-supporting shoulder and provided outwardly of the said shoulder with a flange, the said flange having a bead fitting in the concavity in the front face of the said body member and formed adjacent to the said bead with a threaded portion for engaging the threaded flange in the front face of the body member, the said body member having annular shoulders at each side of the said concavities, and shoulders formed on the front and back members respectively for engagement with the first named shoulders.

969,681. METALLIC RAILROAD-TIE. SOLOMON A. WRIGHT, Buckman, N. Mex., assignor of one-eighth to Stephen H. Davis, Santa Fe, N. Mex. Filed Dec. 15, 1909. Serial No. 533,231.

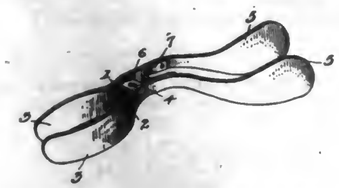


1. A tie constructed of slightly resilient metal, said tie having its body portion formed of a single strip of material and comprising a base, ends and top sections, the base of the tie being also provided with integrally formed side members at its center, and spacing and retaining strips engaging the side members beneath the top sections of the tie.

2. A metallic tie for railway rails, comprising a member constructed of a single piece of slightly resilient material, said tie comprising a rectangular base, ends and overlying top sections, the base being provided with centrally arranged sides, bracing and supporting straps connected with the tops of the sides and positioned below the top sections, and helical springs between each top section and the base of the tie.

3. A railroad tie having its body constructed of a single piece of slightly resilient metal, said tie comprising a base, ends and top sections overlying the base, the said base being centrally provided with integrally formed sides, straps connecting the sides and underlying and engaging the top sections, reinforcing plates for the top sections, reinforcing plates for the base, helical springs between these reinforcing plates, reinforcing plates for the ends of the tie and means for connecting the rails to the top sections of the tie.

969,682. DENTIST'S IMPLEMENT. HORACE M. YORKE, Freeport, Me. Filed Oct. 9, 1909. Serial No. 521,855.



A dental implement including two members, each of said members comprising a jaw portion curved in side elevation from the ends downwardly to the center and in edge view from the ends upwardly to the center, a curved shank projecting from one end of the jaw portion, and a handle projecting from the shank, a lip projecting inwardly from each shank adjacent its connection with the jaw, means for pivotally connecting the lips, and a bow spring terminally connected to the respective shanks in rear of the pivotal connection, said spring being tensioned to force the jaw portions of the members toward each other.

969,683. EYEGLASSES. LEO F. ADT, Troy, N. Y. Filed Jan. 23, 1905. Serial No. 242,238.



1. As a new article of manufacture, a lens mounting having a post comprising a pair of parallel arms disposed in the same horizontal plane and a portion connecting the arms and forming the inner end of the post, straps forming continuations of the outer ends of the arms, and portions joining edgewise the top and bottom edges of the end of the post substantially as and for the purpose described.

2. As a new article of manufacture, a lens mounting having a post comprising parallel arms disposed in the same horizontal plane and a portion connecting the arms and forming the inner end of the post, straps forming continuations of the arms and a guard having a shank joining edgewise, the bottom edge of the end of the post and extending downward therefrom, substantially as described.

3. As a new article of manufacture, a lens mounting having a post, comprising parallel arms disposed in the same horizontal plane and a portion connecting the arms and forming the inner end of the post, straps forming continuations of the arms, and a spring joining edgewise, the top edge of the end of the post and forming a continuation thereof, substantially as described.

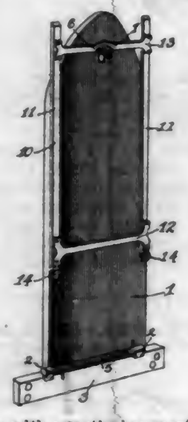
4. As a new article of manufacture, a lens mounting having a pair of posts each comprising a pair of parallel arms disposed in the same horizontal plane and a portion connecting the arms and forming the inner end of the post, straps forming continuations of the arms of the post, bracing tongues proceeding upward and downward from

the edges of the arms and a spring, the ends of which join edgewise, the top edges of the ends of the posts and form continuations thereof, substantially as described.

5. As a new article of manufacture, a lens mounting having a pair of posts each comprising a pair of parallel arms disposed in the same horizontal plane and a portion connecting the arms and forming the inner end of the post, straps forming continuations of the arms, bracing tongues projecting upward and downward from the arms and lying between vertical planes thereof, and guards having shanks joining edgewise the bottom edges of the ends of the posts and forming continuations thereof, substantially as described.

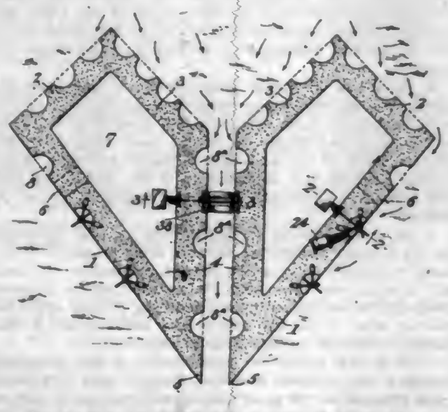
[Claims 6 to 18 not printed in the Gazette.]

969,684. IRONING-BOARD. ORA MAXWELL CLINE, Marion, Ohio. Filed Apr. 29, 1909. Serial No. 492,911.



In combination with a vertical support, an ironing board hinged at one end to such support, a catch projecting from said support and a supporting member for the board hinged thereto and adapted when the board is raised to be turned up against the board and engaged by the catch to lock said supporting member and the board in a vertical position, and a spring tending to raise said board.

969,685. MOTOR. IRA M. DOTSON, Santa Cruz, Cal. Filed Oct. 27, 1909. Serial No. 524,867.



1. In water power apparatus, a sea wall arranged at an angle to the current of water and provided with a plurality of semi-cylindrical pockets, and a corresponding series of water wheels partially housed within said pockets and partially projecting beyond the exposed face of the wall, substantially as described.

2. In water power apparatus, substantially parallel sea walls provided in their adjacent faces with semi-cylindrical pockets and forming a flume, and water wheels journaled in said pockets and partially housed therein, the remainder of said wheels projecting beyond the faces of the walls into the flume.

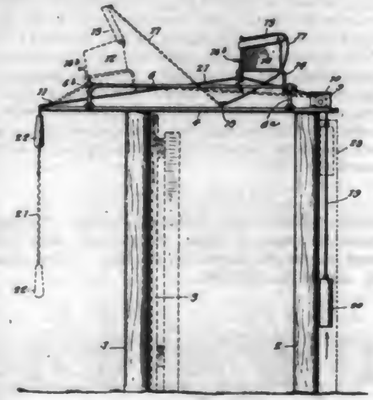
3. In water power apparatus, oppositely arranged basins having their inner walls arranged parallel to each other and spaced apart to form a straight flume, water wheels mounted in said flume, sea walls extending obliquely from said parallel walls and provided in their outer faces with semi-cylindrical pockets, and water wheels supported by said walls and partially housed within said pockets, the remainder of said wheels projecting beyond the faces of the walls, substantially as described.

4. In water power apparatus, the combination with a sea wall having its outer face arranged at an angle to the current of water and formed with a semi-cylindrical pocket, a water wheel having a vertical shaft and partially housed in said pocket, the remainder of said wheel projecting beyond the face of the wall, and a pump supported by the wall and geared to the shaft of said wheel, substantially as described.

5. In a water power apparatus, basins comprising walls and interior spaces, side walls each being provided with semi-cylindrical pockets, water wheels mounted in said pockets, said water wheels being mounted to slide vertically upon their shafts, and floats in said basins connected to the frames of said water wheels for raising and lowering the same automatically as the tide rises and falls.

[Claim 6 not printed in the Gazette.]

969,686. MAIL-BOX PROTECTOR. EUGENE B. EGGLESTON, Sheridan, Ill. Filed June 11, 1910. Serial No. 566,340.

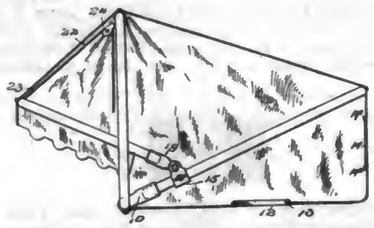


1. In a mail box protecting device, a track curved at one end, a mail box, means for slidably securing said box to said track, a tension device for holding said mail box at one end of said track, and a flexible cord for pulling said mail box to the curved end of the track against the force of said tension device, the curved end of said track being arranged to tip the mail box downwardly to prevent a retrograde movement thereof.

2. In a mail box protecting device, a track comprising a pair of rods, said rods being curved at one end, a mail box, and a pair of U-shaped supports secured to said mail box and provided with perforations through which the track rods extend, certain of said perforations being elongated to permit a partial movement of the mail box around the curved portion of the track.

3. In a mail box protecting device, a pair of uprights, a base member supported thereby, a pair of rods carried by said base member, said rods being bent at one end into a curved form, a mail box, a pair of U-shaped supporting members for said mail box, the arms of said supporting members being perforated and adapted to fit over said rods, certain of said perforations being elongated, a weight secured to said mail box for holding the latter at one end of said rods, and a flexible cord for moving the mail box to the other end of the rods.

969,687. AWNING OR WINDOW-TENT. IRVING FARLIN, Battle Creek, Mich. Filed Jan. 8, 1910. Serial No. 537,012.



1. In a device of the character described, a framework adapted to contact with the window to which the device is secured, a pair of sliding brackets mounted on said framework, a pivotally mounted awning frame connected with said brackets and projecting inwardly from said framework, a second awning frame pivotally connected with said first mentioned awning frame and projecting upward past said framework, and a canopy for substantially enveloping both of said awning frames.

2. In a device of the character described, the combination with a window, of a framework connected with said window, a pair of adjustable brackets connected with said framework and adapted to be adjusted thereon, a pivotally mounted awning frame connected with said brackets and projecting interiorly of said window, a pair of sliding adjustable brackets mounted on said awning frame pivotally mounted on said second mentioned brackets and projecting past said framework and exteriorly of said window, and a canopy for said awning frames.

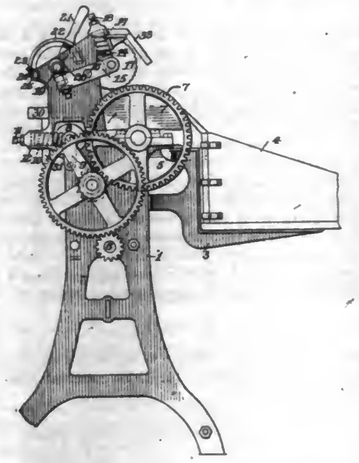
3. In a device of the character described, a framework for fitting into a window formed with movable end members, central tubes into which said end members are telescopically fitted, and a spring arranged in each of said tubes for normally forcing said end members outward, and a canopy connected with said framework.

4. In a device of the character described, a frame for fitting into a window, a canopy supporting frame extending inwardly from said first mentioned frame, means connecting said canopy supporting frame with said first mentioned frame said means permitting the pivotal movement of the frames with reference to each other, a pivotally mounted frame extending outwardly through said first mentioned frame, means for slidingly connecting said outwardly extending frame with said inwardly extending frame, and a canopy arranged to cover said inwardly extending frame and said outwardly extending frame.

5. In a device of the character described, a frame for fitting a window, a second frame pivotally mounted thereto and projecting interiorly from said window, a covering for said second mentioned frame, a third frame projecting exteriorly of said window, a covering for said third frame, sliding means connected with said second mentioned frame, and means for pivotally connecting said third frame with said sliding means.

969,688. DAMPENING-MACHINE. ARTHUR T. HAGEN and DANIEL M. COOPER, Rochester, N. Y., assignors, by mesne assignments, to American Laundry Machinery Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Apr. 27, 1903. Serial No. 154,416.

1. A dampening machine for starched articles comprising a controllable water supply and two coöperating traveling surfaces moving together continuously in the same direction, one of said surfaces being provided with unyielding spaced projections which press portions of the starched articles against the other surfaces to break down the starch, the spaces between the projections permitting the water to act on the articles.



2. In a dampening machine for starched articles, the combination with a traveling absorbent surface and a controllable water supply therefor, of a coöperating traveling surface engaging the absorbent surface, moving with the latter continuously in the same direction and having a face provided with unyielding spaced projections, said projections being adapted to engage an article successively at separated points, the projections compressing the said portions of the article into close engagement with the absorbent surface to break down the starch and the spaces between said projections permitting those portions of the article between the projections to contact with the absorbent surface without pressure and to be moistened by contact therewith.

3. In a dampening machine, the combination with a traveling absorbent surface and means for supplying liquid thereto, of a wringing device and a pressure roll coöperating with the absorbent surface and having an operating face provided with projections which engage the article at separated points, the spaces between the latter permitting the intermediate spaces of the articles to absorb moisture from the absorbent surface.

4. In a dampening device for laundry articles, the combination with a traveling absorbent surface and means for applying liquid thereto, of means for continuously applying a uniform pressure to said surface to express superfluous moisture therefrom and separate means successively engaging separated points on said surface for holding equidistantly spaced portions of the articles passing over said surface in close contact therewith and imparting moisture carried by the surface.

5. In a dampening device, the combination with a cylindrical absorbent surface, means for applying liquid thereto, of a wringing device for expelling superfluous moisture therefrom and a presser roll engaging the absorbent surface and driven thereby, said roll having equidistantly spaced projections on its circumference for contacting with articles to successively press separated portions thereof into engagement with the absorbent surface, the depressions between the projections preventing the liquid displaced in the absorbent surface by the engagement of the pressing projections therewith from being driven in front of the presser roll.

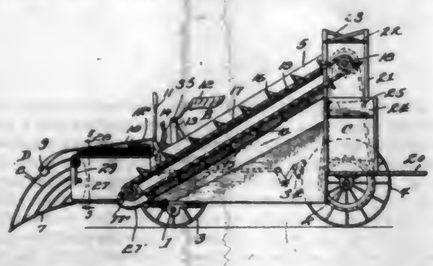
[Claims 6 to 9 not printed in the Gazette.]

969,689. ATTACHMENT FOR PENS. ADOLPH P. HAMANN, Adams Basin, N. Y. Filed Feb. 16, 1909. Serial No. 478,158.



A fountain attachment for pens comprising a body terminating at its rear end in an upwardly and rearwardly directed spring tongue to bear on the under side of the rear end portion of a pen point and terminating at its opposite end in an upwardly inclined extension extending to a point adjacent the lower side of the opposite end portion of the pen point, forwardly converging wings flanking the upwardly inclined extension and having their upper sides bearing for the major portion of their length on the lower face of the forward end portion of the point, and coöperating with the upwardly inclined extension to provide an ink conveying channel the said body being provided with an air inlet intermediate of the ends thereof and further provided with oppositely arranged curved spring fingers to engage the convex surface of the pen point.

969,690. POTATO-DIGGER. WALTER F. HEADLAND, St. Johns, Oreg. Filed Mar. 11, 1910. Serial No. 548,562.



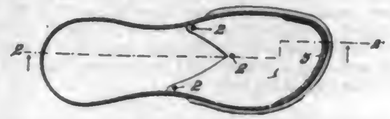
1. In a machine of the character described, a frame, an inclined carrier casing having a screen bottom, and side members provided with forward extensions at their lower ends, a bottom member connecting said forward extensions, a pocket connecting the bottom member with the screen bottom, a digger connected pivotally with the forward extensions, and a hood connecting said forward extensions being secured adjacent to their upper edges, said hood being of arched form and provided with downwardly extending teeth adjacent to its front edge.

2. In a machine of the character described, a frame including an elevator casing having a forward extension, a screen hood covering said extension, downward extending vine-stripping teeth at the forward end of the screen hood, a digger connected pivotally with the extension, and means for actuating the digger to discharge accumulated vines on to the screen hood.

3. In a machine of the character described, a carrying frame, digging means, elevating means, a level flooring between the digging and elevating means, side flanges adjacent to said level floor portion, an arched screen hood supported upon the side flanges, and vine-stripping teeth depending adjacent to the front edge of the arched screen hood.

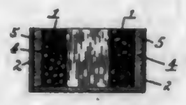
969,691. INSOLE FOR SHOES. HENRY B. HEMPHILL, Eldorado, Ill., assignor of one-half to Andrew Moore and Walter Chamberlain, Eldorado, Ill. Filed Feb. 15, 1910. Serial No. 543,032.

In combination with the sole and upper of a shoe, of a resilient metallic insole having an upstanding flange extending partly around the marginal edge of the body of the insole at the toe portion only thereof, the flange being curved to conform to the curvature of the toe portion of said upper, said insole having an incut on its rear edge and extending beneath the forward part of the foot only,



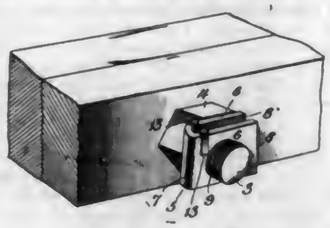
and means for securing said insole, substantially as described.

969,692. FACING ARTIFICIAL STONE. JOHN C. HENDERSON, Oakland, Cal., assignor to Apollo Artificial Stone Company, San Francisco, Cal., a Corporation of California. Filed Aug. 27, 1908. Serial No. 450,561.



The improvement in facing artificial stone, which consists in manufacturing a set block of Portland cement concrete; then washing its surface to be faced with a fluid aqueous mixture of cementitious material; then spacing said washed surface from the surface of a mold; then pouring into the space between said block and mold a fluid aqueous mass of cementitious material; and, finally, after the set of said fluid aqueous mass removing the mold.

969,693. NUT-LOCK. PARIS R. HINKLE, Monterey, Cal. Filed Nov. 30, 1909. Serial No. 530,665.



1. A nut-lock comprising a substantially U-shaped plate having its legs provided with alined threaded openings to screw upon a bolt, the bend of the plate being arranged on an inclination, and a disk adapted to be inserted between the legs of the plate and fit between the bend and the bolt and being of a diameter greater than the distance between said bend and said bolt, whereby it is caused to contact with both parts, and means for holding the disk in this position with its peripheral edge between two of the threads of the bolt.

2. A nut-lock comprising a substantially U-shaped plate having threaded openings respectively formed in the legs thereof for engagement with a bolt, a disk adapted to engage the bend of the plate and the bolt and thereby lock the plate against backward movement, and means for holding the said disk in its operative position.

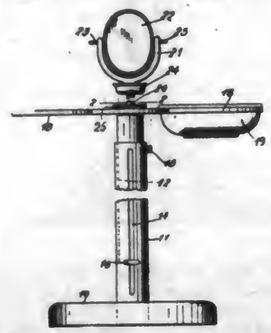
3. A nut-lock comprising a substantially U-shaped plate having threaded openings respectively formed in the legs thereof for engagement with a bolt, a disk adapted to engage the bend of the plate and the bolt and thereby lock the plate against backward movement, and means for inserting the disk between the legs of the plate and holding the same in its operative position.

4. A nut-lock comprising a substantially U-shaped plate having threaded openings respectively formed in the legs thereof for engagement with a bolt, a disk adapted to engage the bend of the plate and the bolt and thereby lock the plate against backward movement, and a flexible metallic strip doubled upon itself to form a loop adapted to

support the disk, the free ends of the strip adapted to be bent over the edges of the plate for holding the disk in its operative position.

5. In a nut-lock, comprising a U-shaped plate having threaded and alined openings respectively formed in the legs thereof and spaced from the bend of the plate, the said bend being arranged at an inclination with respect to the free ends of the plate, a metallic disk having a greater diameter than the distance between the bolt and the bend of the plate, and a flexible metallic strip doubled upon itself to form a loop adapted to support the said disk and arranged between the legs and the bend of the plate and the bolt, the free ends of the said strip being adapted to be respectively bent over the edges of the legs of the plate for holding the disk in engagement with the bolt and the bend of the plate.

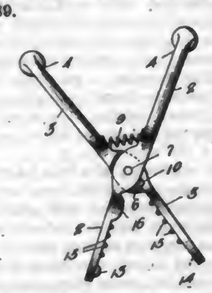
969,694. WASHSTAND. LEWIS J. HOFFMAN, Monroeville, Ind. Filed Dec. 2, 1909. Serial No. 531,080.



1. A device of the class described comprising a supporting standard, a plurality of L-shaped rods each connected by one arm thereof in said standard and with the other arm of each rod radiating from the standard, a receptacle support at the free end of the radiating portions of each of said rods, a supporting rod extending vertically from said standard, and a mirror carried by said vertical rod.

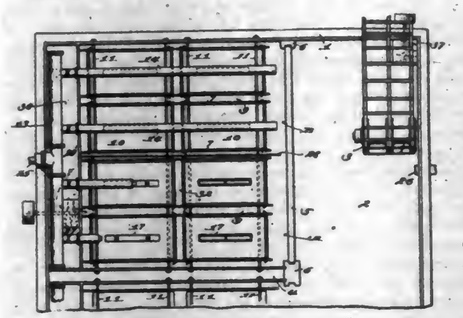
2. A device of the class described comprising a standard formed of two tubular sections telescopically united, the outer section being provided with longitudinal slots, arms connected to said inner standard section and extending through said slots, means for locking said inner standard section to said outer standard section, a plurality of rods connected to said inner standard section and radiating therefrom, and a receptacle supported at the free end of each of said rods.

969,695. BAG-TONGS. ARTHUR HOLSEY, Ottumwa, Iowa, assignor, by mesne assignments, to Otto Armstrong, Ottumwa, Iowa. Filed Apr. 5, 1909. Serial No. 487,989.



A pair of bag tongs comprising a pair of pivotally connected annular jaws, one of which is provided on its inner face near its outer edge with an arc-shaped series of rounded recesses, said recesses decreasing in size toward the opposite ends of said arc, an arc-shaped series of studs having rounded free ends and arranged near the outer edge of the inner face of the other jaw, said studs decreasing in size toward the opposite ends of the arc and adapted to engage said recesses when the jaws are closed, and a plurality of teats of smaller size than said studs arranged adjacent the inner edges of said jaws, the teats of one jaw alternating with those of the other to interlock when the jaws are closed, and operating handles formed on said jaws.

969,696. ICE-MAKING APPARATUS. JOHN B. HOWE, Nashville, Tenn. Filed Mar. 29, 1910. Serial No. 552,206.



1. An ice making apparatus comprising a main tank having a water containing harvesting space at one end thereof, a refrigerating tank at one side of the harvesting space, plates disposed longitudinally in the refrigerating tank to form mold side walls and defining intervening channels between the molds and with which the molds are in communication, plates disposed transversely and removably between the longitudinal plates to form mold end walls, a removable bulkhead to separate the refrigerating tank from the harvesting space during the freezing operation, a brine circulating system including boxes which are disposed in the molds and upon which the ice blocks are frozen, and means for causing a circulation of water in the main tank.

2. An ice making apparatus comprising a main tank having a water containing harvesting space at one end thereof, a refrigerating tank at one side of the harvesting space, plates disposed longitudinally in the refrigerating tank to form mold side walls and defining intervening channels between the molds and with which the molds are in communication, plates disposed transversely and removably between the longitudinal plates to form mold end walls, a removable bulkhead to separate the refrigerating tank from the harvesting space during the freezing operation, a brine circulating system including elevatable boxes which are disposed in the molds and upon which the ice blocks are frozen, and means for causing a circulation of water in the main tank.

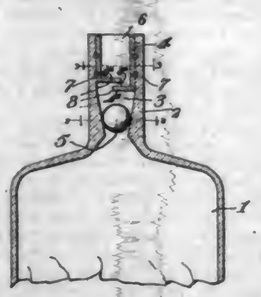
3. An ice making apparatus comprising a main tank having a water containing harvesting space at one end thereof, a refrigerating tank at one side of the harvesting space, plates disposed longitudinally in the refrigerating tank to form mold side walls and defining intervening channels between the molds, plates disposed transversely and removably between the longitudinal plates to form mold end walls, the longitudinal plates having openings to afford communication between the interior of each mold and the intervening channels and having projections adjacent the openings to deflect water therethrough into the molds, a removable bulkhead to separate the refrigerating tank from the harvesting space during the freezing operation, a brine circulating system including boxes which are disposed in the molds and upon which the ice blocks are frozen, and means for causing a circulation of water in the main tank.

4. An ice making apparatus comprising a main tank having a water containing harvesting space at one end thereof, a refrigerating tank at one side of the harvesting space, plates disposed longitudinally in the refrigerating tank to form mold side walls and defining intervening channels between the molds and with which the molds are in communication, plates associated as pairs and disposed transversely and removably between the longitudinal plates to form mold end walls and to define transverse channels communicating with said longitudinal channels, a removable bulkhead to separate the refrigerating tank from the harvesting space during the freezing operation, a brine circulating system including elevated boxes which are disposed in the molds and upon which the ice blocks are frozen, and means for causing a circulation of water in the main tank.

5. An ice making apparatus comprising a main tank having a water containing harvesting space at one end thereof, a refrigerating tank at one side of the harvesting space, plates disposed longitudinally in the refrigerating tank to form mold side walls and defining intervening channels between the molds and with which the molds are in communication, plates disposed transversely and removably between the longitudinal plates and associated in pairs to form mold end walls and to define intervening channels between the molds, bottom plates for the molds arranged in spaced relation to the floor of the refrigerating tank, the space under the bottom plates being in communication with the spaces between the longitudinal and transverse plates, a removable bulkhead to separate the refrigerating tank from the harvesting space during the freezing operation, a brine circulating system including boxes which are disposed in the molds and upon which the ice blocks are frozen, and means for causing a circulation of water in the main tank.

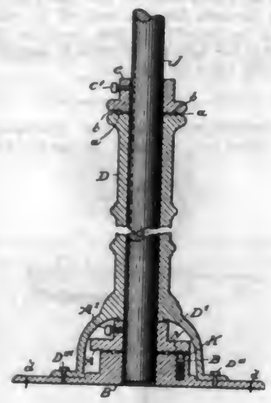
[Claims 6 to 10 not printed in the Gazette.]

969,697. NON-REFILLABLE BOTTLE. CHARLES D. HUDSON, Anderson, S. C. Filed Mar. 14, 1908. Serial No. 421,057.



A container having the inner wall of the neck thereof formed to provide a downwardly and inwardly tapered valve chamber and a cylindrical guard chamber, the guard chamber being located above the valve chamber and having a plurality of grooves in its wall, a ball valve mounted in the valve chamber, a shoulder formed at the lower end of the guard chamber by the upper end of the valve chamber, a hollow cylindrical guard located in the guard chamber and having a height coextensive with that of the guard chamber, said guard having grooves in its outer surface and resting upon said shoulder, said shoulder being adapted to limit the insertion of the guard into the guard chamber and to cause the upper edge of the guard to lie flush with the upper edge of the bottle neck and to cause the grooves in the guard to register with the grooves in the wall of the guard chamber, said guard having its upper end fully open for the reception of a stopper and having at its lower end a bottom wall provided with a segmental discharge opening which has its curved wall extending downwardly below the bottom, a segmental guard flange secured to the lower end of said extension and extending across and beyond said discharge opening, and rings engaging in the grooves of the guard and in the grooves of the guard chamber to secure the guard in position.

969,698. DISPLAY-STAND. FRANK J. HUGHES, Mansfield, Ohio, assignor to Practical Display Rack Company, Mansfield, Ohio. Filed Jan. 7, 1910. Serial No. 536,854.



1. A display stand comprising a base, a spindle mounted on the same, display means carried by said spindle, a bearing sleeve carried by said spindle, anti-friction means interposed between said sleeve and said base, and means carried by said base for retarding the rotation of said sleeve.

2. A display stand comprising a base provided with a central opening, a spindle having one end in said opening, display means carried by said spindle, a sleeve carried by said spindle, anti-friction means interposed between said sleeve and said base, and spring-actuated means carried by said base for opposing rotation of said sleeve.

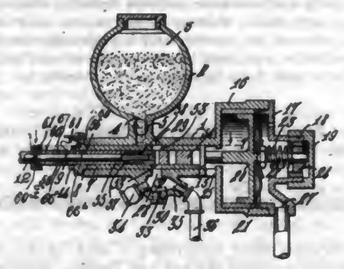
3. A display stand consisting of a base, a vertical spindle rotatably mounted in said base, a vertical casing secured to said base inclosing the lower end of said spindle, a flanged collar secured to said spindle at the upper and lower ends of said casing, having ball bearings between the end of the casing and collar, an elongated display stand centrally supported by means of an angular bracket on said spindle, and means for vertically adjusting the display stand on said spindle.

4. A display stand consisting of a base having a socket and a rotatable spindle having its lower end depending in said socket, a vertical slot in the side of the spindle a flanged collar having a set screw securing it to the spindle, ball bearings between said collar and the base, a cylindrical casing inclosing the lower end of said spindle, having a lower chamber inclosing said collar, a collar at the upper end of said casing, ball bearings between said collar and the upper end of said casing, a set screw engaging the said groove in the spindle, and securing said collar thereto, and an elongated frame having a central supporting bracket secured to the spindle by means of said screw engaging said groove in the spindle.

5. A display stand consisting of a base having a central socket, a vertical spindle having its lower end projecting into said socket, a collar secured to said spindle above the base, ball bearings between said collar and said base, a friction device in said base and bearing against said collar, and an elongated display frame, consisting of longitudinal rods and angle bars and end cross bars connected thereto, and a central bracket support adjustably mounted on said spindle.

[Claim 6 not printed in the Gazette.]

969,699. LUBRICATOR. JOSEPH HUVERSTUHL, Los Angeles, Cal. Filed Oct. 14, 1909. Serial No. 522,551.



1. In a lubricator of the class described, a valve casing having lubricant supply and discharge passages, a main discharge valve in said casing, said valve having feed ports formed therein and adapted to be brought into alinement with the passages in said casing, adjustable feed valves in said main valve, said feed valves having formed therein lubricant pockets of different sizes, and means to adjust said feed valves to bring one or the other of the pockets therein into alinement with the feed ports in said main valve.

2. In a lubricator of the class described, a valve casing having lubricant supply and discharge passages, a main discharge valve in said casing, said valve having feed ports formed therein and adapted to be brought into alinement with the passages in said casing, adjustable feed valves in said main valve, each of said feed valves being constructed in adjustably connected sections and having formed therein lubricant pockets of different sizes, one of which is adjustable and formed by the space between the adjacent inner ends of the sections of the valve, and means whereby said feed valves are held in adjustable positions in said main valve.

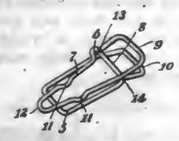
3. In a lubricator of the class described, a main valve casing having lubricant supply and discharge passages and an air port, a lubricant hopper arranged on and connecting with the supply passages in said casing, cut-off valves arranged in said hopper, lubricant chambers on said casing and connecting with the discharge passages therein, a main discharge valve in said casing, feed valves slidably mounted in said main valve, said feed valves being formed in adjustably connected sections and having formed therein lubricant pockets of different sizes, adjusting bolts arranged in said sections of the feed valves whereby the size of one of said pockets may be increased or diminished, air cocks arranged on said lubricant chambers, and combined suction and lubricant discharge pipes connected to said chambers.

4. In a lubricator of the class described, a valve casing having lubricant supply and discharge passages and an air inlet, a main discharge valve in said casing, said valve having lubricant feed ports adapted to be brought opposite to the supply and discharge passages in said casing, feed valves adjustably mounted in said main valve, said valves having lubricant pockets formed therein and adapted to be brought into alinement with the feed ports in said main valve, discharge pipes connected to the discharge passages in said main valve casing, pressure controlled operating mechanism connected to said main valve and discharge pipes, and means whereby a suction is created in said pipes.

5. In a lubricator of the class described, a hopper adapted to contain lubricating material, a main discharge valve, adjustable feed valves arranged in said main valve, and an automatic pressure controlled valve operating mechanism adapted to shift said main discharge valve and said feed valves into position to receive a charge of lubricating material from said hopper and to a position whereby the lubricating material is discharged from the valve.

[Claims 6 and 7 not printed in the Gazette.]

969,700. PAPER-CLIP. GEORGE W. HYLKEMA, Volga, S. D. Filed Apr. 20, 1909. Serial No. 490,991.



1. As a new article of manufacture, a paper clip formed of a single piece of spring wire having an intermediate portion thereof bent to produce a substantially rectangular loop, the wire forming one side wall of the loop being extended in a straight line across said loop and in contact with and beyond the other side wall thereof to form a transverse bar, and thence bent upon itself and extending longitudinally to produce a second tapered loop of greater length than the rectangular loop, the wire forming the end of one of the loops being bent to produce a finger piece, the terminal of which bears against one side of the transverse bar, and the wire forming the end of the mating loop being bent to produce a similar finger piece, the terminal of which bears against the other side of said transverse bar, there being depressions formed in the side walls of the tapered loop and defining projecting portions extending laterally from the same side of the loop and adapted to bear against and press the paper between the side walls of the rectangular loop.

2. As a new article of manufacture, a paper clip formed of a single piece of spring wire having an intermediate portion bent to produce a loop, the wire forming one side wall of the loop being extended in a straight line across the loop and in contact with and beyond the other side wall thereof to form a transverse bar, and thence bent upon itself and extended longitudinally to produce a second loop of greater length than the first mentioned loop, the wire forming the end of one of the loops being bent to produce a finger piece, the terminal of which bears against one side of the transverse bar and the wire forming the end of the mating loop being bent to produce a similar finger piece, the terminal of which bears against the other side of said transverse bar.

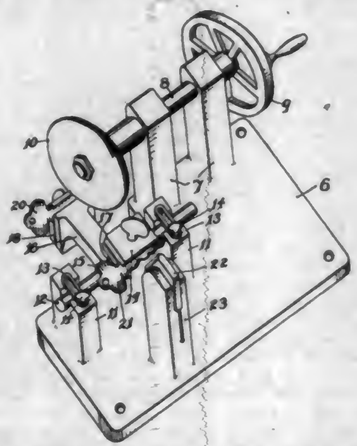
969,701. PLANTER. CLAUDE FOX JAYNES, Seattle, Wash. Filed Apr. 14, 1909, Serial No. 489,769. Renewed July 25, 1910. Serial No. 573,765.



The transplanter substantially as herein described comprising a shell split longitudinally forming an opening for the application of the shell over a plant, a handle rod projecting upwardly from said shell at a point midway between the edges thereof, a split ring plunger movable up and down within the shell, a handle rod connected with one arm of said split ring at a point about mid way between the crown of the split ring and the end of said

arm, the upper end of said handle rod lying in all positions of the parts below the upper end of the handle rod of the shell and the arm secured rigidly at one end to the handle rod of the shell and projecting laterally thence and having an opening in which the handle rod of the plunger is movable vertically substantially as and for the purposes set forth.

969,702. KEY-CUTTING MACHINE. CHARLES E. JOHNSON, New Britain, Conn., assignor to The Corbin Cabinet Lock Company, New Britain, Conn., a Corporation of Connecticut. Filed Mar. 10, 1910. Serial No. 548,335.



1. A cutter with means for operating it, a rocker supported appurtenant to the cutter and having branching arms, a blank holder supported on one of said arms and a pattern holder supported on the other arm, said holders in the cutting operation being located on opposite sides of a plane coincident with the axis of the cutter, and a gage arranged to coöperate with a pattern held in the pattern holder.

2. A cutter with means for operating it, a rocker supported in coöperative relation with respect to the cutter and including branching arms, a blank holder located on one of said arms and a pattern holder located on the other arm, said holders in the cutting operation being positioned in the plane of the cutter and on opposite sides of a line extending diametrically therethrough, means for moving the rocker laterally of the cutter, and a gage supported in position to receive a pattern secured in the rocker.

3. A cutter with means for operating it, a rocker supported in coöperative relation with respect to the cutter and including a rocker shaft, arms branching from said shaft, a blank holder and a pattern holder supported one on each of said arms, said holders in the cutting operation being located in the plane of the cutter and at opposite sides of a line passing diametrically therethrough, bearings in which said shaft slides, means for moving the rocker shaft in said bearings laterally of the cutter, and a gage supported in position to receive a pattern held by one of said holders.

4. A cutter with means for operating it, bearings for a rocker, a rocker including a shaft mounted in said bearings, arms branching from said shaft, a blank holder and a pattern holder supported one on each of said arms, said holders in the cutting operation being supported by said arms in the plane of the cutter and on opposite sides of a line passing diametrically therethrough, means for removably securing the shaft in position and arranged to permit free endwise movement thereof, and a gage supported to receive a pattern located on one of said holders.

5. A cutter with means for operating it, bearings including slots to receive a rocker shaft, means for closing the ends of the slots, a rocker including a shaft located in said slots and movable endwise therein, arms branching from said shaft, holders supported on said arms on opposite sides of the cutter, and a gage supported in position to receive a pattern located in one of said holders.

[Claims 6 and 7 not printed in the Gazette.]

969,703. BULLETIN-BOARD. JOSEPH M. JOHNSON, Normal, Ill. Filed July 14, 1909. Serial No. 507,600.



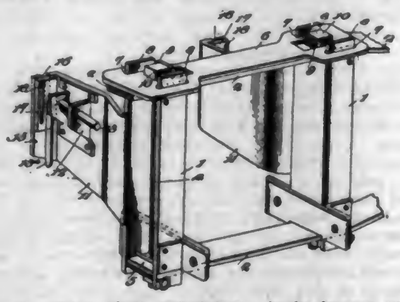
1. A bulletin board comprising a back having parallel spaced strips mounted thereon and forming guideways, in combination with a pair of blocks having tongue and groove engagement with each other on one edge, the outer edges of the blocks being adapted to engage with said guideways.

2. The combination with a bulletin board comprising a back piece having on its face a series of parallel guideways, of a pair of blocks insertible between said guideways, said blocks adapted when placed together to fill the space between said guideways and formed on their contacting edges with a tongue and groove joint, the face of one of the blocks having thereon the name of a subject to be studied, the other of said blocks having thereon indications of the place at which the study will be conducted.

3. In a bulletin board, the combination with a back piece having thereon a series of parallel T-shaped strips, of a series of interchangeable blocks adapted to be inserted between said strips, said blocks having projecting base flanges on their lateral edges, the face of said blocks being formed with a projecting plate of dissimilar material extending beyond the blocks and adapted to extend halfway across the front faces of the strips into contiguity with the next adjacent blocks.

4. In a bulletin board, a back-piece having a plurality of vertical T-shaped strips forming guideways in combination with a plurality of interchangeable blocks insertible into the guideways, each of said blocks having a marginal flange extending beneath the guiding strips, the outer face of the block being provided with a facing piece of dissimilar material to the block extending beyond the block on each side and overlapping the flanged guiding strips.

969,704. BRAKE-HANGER. WILLIAM H. KALDRIDER, Heaters, W. Va. Filed Mar. 23, 1910. Serial No. 551,063.



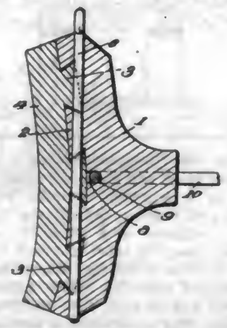
1. A railway truck embodying a brake hanger column provided with a laterally extending plate, the plate being provided with spaced apertured ears designed to receive a brake hanger between them, the plate being formed with an angularly disposed side extension and the extension being formed with a recess in line with the apertures of the ears, a locking pin adapted to be passed through said recess into the apertures of the ears and a latch mounted on the side extension of the plate and adapted to close the recess back of the pin.

2. A railway truck embodying a brake hanger column provided with a laterally extending plate, the plate being formed with apertured ears and with a side extension said extension being formed with a recess in line with the apertures of said ears, a pin adapted to extend through said ears for engagement with a brake or hanger, the side extension being provided with a stud, and a slotted latch movably mounted on the said side and adapted to close the recess back of said pin.

3. A railway truck embodying a brake hanger column provided with a laterally projecting plate, the plate being provided with apertured ears and with a side extension, the said side extension being formed in its upper edge with a recess in line with the apertures of the ears, a locking pin provided with an angular end, adapted to be passed through said recess, and swung down behind the side extension of the plate with the main portion of the pin inserted through the ears for engagement with a brake hanger, and a slotted plate movably mounted on the extension and arranged to close the recess back of the pin.

4. A railway truck, embodying columns, beams, tie bolts connecting the columns to the beams, a reinforcing bar secured to the tie bolts and provided at its ends with slots, the columns being formed with side members which project upwardly through the slots and the bar being formed with tongues extending upwardly therefrom and adapted to engage the nuts with which the bolts are provided, one of said columns being provided with a laterally extending plate formed with spaced apertured ears designed to receive a brake hanger between them, the plate being formed with an angularly disposed side extension, and the extension formed with a recess in line with the apertures of the ears, a locking pin adapted to be passed through said recess into the apertures of the ears, and a latch mounted on the side extension of the plate and adapted to close the recess back of the pin.

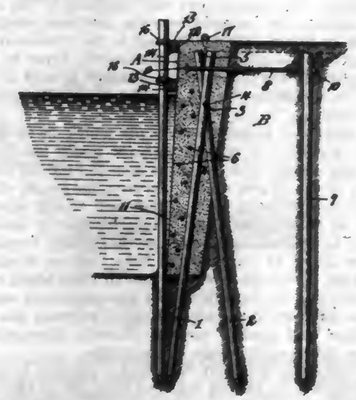
969,705. BRAKE-SHOE. WILLIAM H. KALDRIDER, Heaters, W. Va. Filed Mar. 23, 1910. Serial No. 551,064.



A brake block provided with a plurality of dove-tailed lugs with side opening recesses between the lugs, a brake shoe formed with corresponding lugs and recesses, the lugs of the shoe being arranged for interlocking engagement with the lugs of the block, the block being formed at its front edge with a side opening recess communicating with the space between the two adjoining lugs, a lug of the shoe fitting in said space and closing said communication, a link received in said recess and retained therein by the last named lug of the shoe, the lugs of the block and shoe being formed with registering longitudinal openings, and a pin inserted through said openings whereby to secure the block and shoe together.

969,706. SEA-WALL OR WHARF CONSTRUCTION. JOHN EMIL KJELBERG, Mobile, Ala., assignor of one-half to Charles G. Ollinger, Mobile, Ala. Filed Dec. 8, 1909. Serial No. 532,068.

1. In a structure of the class described, a wall of concrete or the like, and a row of vertically disposed reinforcing and supporting elements partially embedded in the wall and driven into the foundation of the wall, said elements comprising connected piles arranged in crossed relation.



2. In a structure of the class described, a wall, means for supporting the wall consisting of a plurality of pairs of piles arranged side by side with their upper ends embedded in the wall and their lower ends projecting out of the latter and driven into the earth, the piles of each pair crossing each other at a point below their upper ends and the point of crossing being located in the wall.

3. In a structure of the class described, a wall, means for supporting the wall consisting of a plurality of pairs of piles arranged side by side with their upper ends embedded in the wall and their lower ends projecting out of the latter and driven into the earth, the piles of each pair crossing each other at a point below their upper ends and the point of crossing being located in the wall, and means for securing each pair of piles rigidly together.

4. In a structure of the class described, a wall, means for supporting the wall consisting of a plurality of pairs of piles arranged side by side with their upper ends embedded in the wall and their lower ends projecting out of the latter and driven into the earth, the piles of each pair crossing each other at a point below their upper ends and the point of crossing being located in the wall, and means for securing a plurality of pairs of piles together and to form a horizontal reinforce for the wall.

5. In a structure of the class described, a wall, means for supporting the wall consisting of a plurality of pairs of piles arranged side by side with their upper ends embedded in the wall and their lower ends projecting out of the latter and driven into the earth, the piles of each pair crossing each other at a point below their upper ends and the point of crossing being located in the wall, means for securing each pair of piles rigidly together, and means for securing a plurality of pairs of piles together and to form a horizontal reinforce for the wall.

[Claims 6 to 10 not printed in the Gazette.]

969,707. VENTILATING-FAN. FRED R. KUNKEL, Wilkinsburg, Pa. Filed June 12, 1905. Serial No. 264,868.



1. A rotatably mounted fan blade which is so formed that the products of the speeds of travel of points on the discharge edge of the blade and the tangents of angles

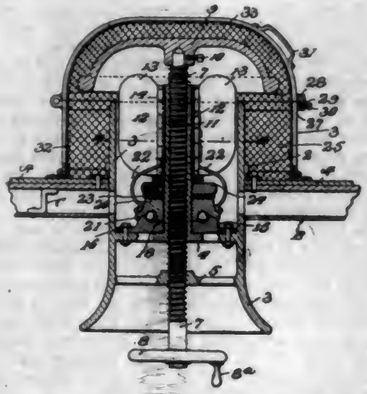
formed between the plane of rotation and lines tangent to the blade and perpendicular to the radii terminating at those points may be approximately constant.

2. A rotatably mounted fan blade, having a warped surface which is so shaped that the tangents of the angles formed between the plane of rotation and lines tangent to the blade at the discharge edge and to the circles of rotation may be constantly and approximately equal to twice the tangents of the corresponding angles formed by lines tangent to the blade at the receiving edge and to the circles of rotation.

3. A rotatably mounted fan blade which is so formed that the products of the distances of points on the discharge edge of the blade from the axis of rotation and the tangents of the angles formed between the plane of rotation and lines tangent to the blade and to the circles of rotation at those points may be approximately constant, and also so that the tangents of the angles formed between the plane of rotation and lines tangent to the discharge edge of the blade and to the corresponding circles of rotation may be constantly and approximately equal to twice the tangents of the angles formed between the plane of rotation and similar tangent lines to corresponding points on the receiving edge of the blade.

4. A rotatably mounted fan blade, having a warped surface which is so shaped that the tangents of the angles formed between the plane of rotation and lines tangent to the blade at the discharge edge and to the circles of rotation may be constantly and approximately equal to twice the tangents of the corresponding angles formed by similar tangent lines to the blade at the receiving edge and the outer extremity of which is rounded.

969,708. VENTILATING-COWL FOR RAILWAY-CARS. FREDERICK J. LEIGH, Seattle, Wash., assignor to Imperial Car Shipbuilding and Dry Dock Corporation, Seattle, Wash. Filed Nov. 15, 1909. Serial No. 528,197.



1. In a ventilating cowl, an outlet pipe, a cover supported above the top of the outlet pipe, larger than the same, having a downwardly depending margin, a cover-adjusting rod passing through the center of the outlet pipe and engaging said cover to raise or lower the same, and rotatable fan blades mounted within the outlet pipe projecting partially above the outlet pipe and rotatable around said adjusting rod.

2. A ventilating cowl including an outlet pipe, a cover for the same, larger than the pipe and having a downwardly depending margin, a rod passing centrally through the pipe and attached at its upper end to the cover, said rod being screw-threaded and movable downward to move the cover downward into a position wherein its outer margin is below the upper end of the outlet pipe, a bearing for the screw-threaded rod located within the outlet pipe, and fan blades disposed around the adjusting rod and rotatable therearound, said fan blades projecting partially above the upper end of the pipe.

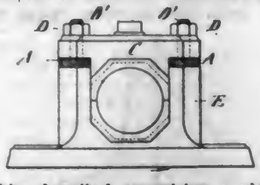
3. A ventilating cowl including an outlet pipe, a spider within the outlet pipe, a cover located above the outlet pipe, a screw-threaded adjusting rod extending downward from the cover and having screw-threaded engagement with the spider, whereby the cover may be raised or lowered, a plurality of fan blades rotatably mounted within the outlet pipe and extending above the upper end of the same, said fan blades being rotatably supported upon said spider and loosely surrounding the adjusting rod.

4. A ventilating cowl including an outlet pipe, a spider arranged therein, a fixed tubular sleeve attached to said spider and projecting upward through the upper edge of the outlet pipe, a cover at the upper end of the outlet pipe, a screw-threaded rod passing through said pipe, attached at its upper end to the cover, said rod having screw-threaded engagement with the pipe, a loose sleeve surrounding the fixed sleeve, blades thereon, said blades projecting beyond the upper end of the pipe, a stationary cone mounted on the spider, a rotatable cone mounted on the spider, antifriction balls between the two cones, brackets connecting the rotatable cone with the rotatable sleeve and blades, and a nut engaging with the fixed sleeve and with the upper face of the rotatable cone, whereby the rotatable cone may be adjusted.

5. A ventilating cowl including an outlet pipe, a spider arranged therein, a cover at the upper end of the outlet pipe, a screw-threaded rod passing through the spider and attached to the cover, a loose sleeve surrounding the rod and freely rotatable therearound, fan blades on said sleeve, a stationary cone mounted on the spider, a rotatable cone supported on the stationary cone, antifriction bearings between the two cones, and brackets connecting the rotatable cone with said fan-supporting sleeve.

[Claims 6 to 8 not printed in the Gazette.]

969,709. SHIM. ERIC G. LINDHE, New York, N. Y. Filed Dec. 14, 1909. Serial No. 533,097.



1. The shim described comprising a plurality of flat sheets of metal lying one upon the other and each joined to the next by a separable metallic binder evenly distributed upon and between the adjacent faces.

2. A shim composed of a plurality of flat sheets of metal lying one upon the other and each joined to the next by a binder to form a unitary whole, said binder being evenly distributed over the entire adjacent surfaces of adjacent sheets and of separable character to permit the division of said shim by separation between two sheets.

3. A shim composed of a plurality of flat sheets of metal of different thickness lying one upon the other, and each joined to the next by a separable binder evenly distributed upon and between the adjacent faces of said sheets.

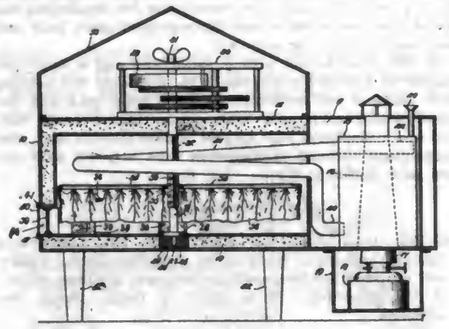
4. The shim described comprising a plurality of flat sheets of brass lying one upon the other and each joined to the next by soldering their adjacent faces, such solder being evenly distributed over the entire adjacent surfaces of adjacent sheets and of separable character to permit the division of said shim by separation between two sheets.

5. As an improved article of manufacture, a shim composed of a plurality of temporarily separably united flat metal sheets and means for causing said sheets to closely adhere throughout their entire adjacent surfaces.

969,710. BROODER. REUBEN J. LOBE, Clarksville, Iowa. Filed Nov. 11, 1909. Serial No. 527,538.

1. In a brooder the combination of a hover chamber, hover members located in said chamber, and means for continuously moving said hover members.

2. In a brooder the combination of a hover chamber, hover members within said chamber, and means for continuously rotating said hover members.



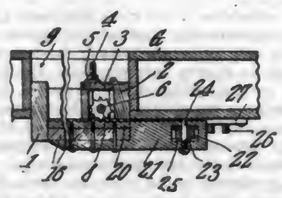
3. In a brooder the combination of a hover chamber, a frame movably arranged in said chamber, a plurality of hover members depending from said frame, and means for imparting movement continuously to said frame.

4. In a brooder the combination of a hover member, hover members located in said chamber, means for continuously moving said hover members, and a heating medium located in said chamber.

5. In a brooder, a hover chamber, a shaft mounted for rotation in said chamber, means for imparting motion continuously to said shaft, a frame mounted for adjustment longitudinally upon said shaft, and a plurality of hover members depending from said frame.

[Claims 6 and 7 not printed in the Gazette.]

969,711. CAR-DOOR. ANDREW GAINS LOTT, Camden, Tex., assignor of one-half to John A. Handley, Jr., Barnes, Tex. Filed Mar. 16, 1910. Serial No. 549,629.

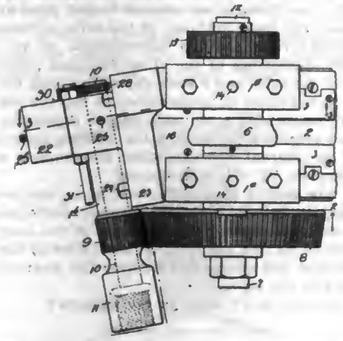


1. A device of the class described comprising guide rails, a door slidably mounted thereon, a jamb including a hinged portion, means for holding said portion against movement, spring pressed revoluble means housed within the jamb and engaging the door for holding it in constant frictional engagement with the rails, and means for actuating the door, said movable member of the jamb constituting means for controlling the stress of the spring.

2. The combination with a car structure, guide rails, a door slidably mounted thereon, a hollow jamb, a shaft slidably and revolubly mounted within the jamb, revoluble means on the shaft for engaging the door, bearing blocks movably mounted within the jamb and engaging the shaft, and means upon the blocks for exerting a constant yielding pressure thereon and against the shaft to force the revoluble means against the door and press the door against the guide rails.

3. The combination with a car structure, of supplemental jambs secured thereto, one of said jambs being hollow, rails, a door slidably mounted on the rails, said door constituting a closure for one of the jambs and being movable against the other jamb, spring pressed revoluble means within one of said jambs and constantly bearing outwardly against the door to hold the door against rattling upon the rails and means for actuating the door.

969,712. METHOD OF MAKING ARMORED ELECTRICAL CONDUCTORS. GEORGE A. LUTZ, Plainfield, N. J., assignor to American Circular Loom Company, Portland, Me., a Corporation of Maine. Filed Mar. 23, 1909. Serial No. 485,263.



1. The method of making armored conductors consisting in inclosing a conductor within a spirally wound cover of greater internal diameter than the conductor, and compressing and reducing the diameter of said cover around said conductor.

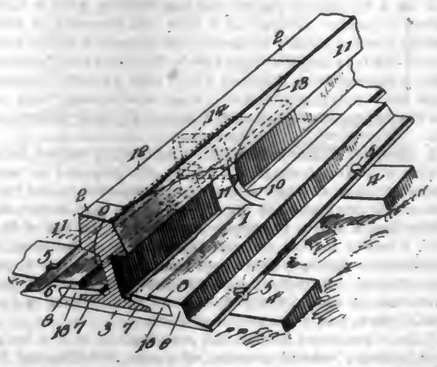
2. The method of making armored conductors consisting in inclosing a conductor within a spirally wound cover, and compressing and simultaneously elongating said cover while upon the conductor.

3. The method of making armored conductors consisting in inclosing a conductor within a spirally wound cover, and passing the conductor and its cover simultaneously and at equal speed through compressing devices reducing the diameter of the cover and elongating the same simultaneously.

4. The method of making an armored conductor, consisting in loosely winding a spiral strip around a conductor of less diameter than the internal diameter of the tube thus formed, and then compressing said tube upon such conductor.

5. The method of making an armored conductor consisting in winding a spiral strip around a conductor of less diameter than the internal diameter of the tube thus formed, and then compressing said tube upon and simultaneously elongating it upon said conductor.

969,713. RAIL-JOINT. BENJAMIN T. MARTINEZ, Petaca, N. Mex. Filed Dec. 28, 1909. Serial No. 535,318.



1. As a new article of manufacture, a cap for bridging a rail joint, comprising a top, and side flanges depending from the longitudinal edges of the top and arranged to embrace the meeting ends of the heads of the rails.

2. As a new article of manufacture, a cap for bridging a rail joint, comprising a top, and side flanges depending

from the longitudinal edges of the top and arranged to embrace the meeting ends of the heads of the rails, the cap conforming to the cross sectional contour of the heads of the rails and being formed to fit snugly thereon.

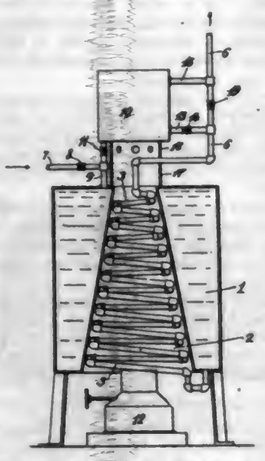
3. As a new article of manufacture, a cap for bridging a rail joint, comprising a top adapted to rest upon and extend between the tread surfaces of the rails, a transverse web depending from the top intermediate of the ends thereof and conforming to the cross sectional contour of the heads of the rails, and a stem depending from the web.

4. As a new article of manufacture, a cap for bridging a rail joint, comprising a top, side flanges depending from the top and arranged to embrace the meeting ends of the rails, and an internal web extending transversely of the cap intermediate of the ends thereof.

5. As a new article of manufacture, a cap for bridging a rail joint, comprising a central member conforming to the cross sectional contour of the heads of the rails, and circumferential flanges extended on both sides of the said central member and adapted to fit over the meeting ends of the heads of the rails.

[Claims 6 to 15 not printed in the Gazette.]

969,714. HOT-WATER HEATER. JAMES C. MEEM, Brooklyn, N. Y., assignor to John Simmons Company, New York, N. Y., a Corporation of New York. Filed June 21, 1910. Serial No. 568,071.



1. In a hot water heater, the combination with a tank having a central passage, of a pipe coil disposed in said central passage having its lower end connected to the bottom of the tank and its upper end to the hot water delivery pipe, a storage tank disposed above said passage, connections for supplying cold water from said storage tank to the heating tank and coil, and a heater for said tanks and coil.

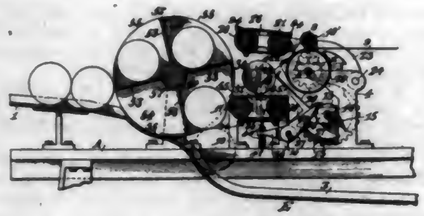
2. In a hot water heater, the combination with a tank having a central passage, of a pipe coil disposed in said central passage having its lower end connected to the bottom of the tank and its upper end to the hot water delivery pipe, a source of supply connected to the top of the tank, a heater for the coil and the interior of the tank, a storage tank disposed above said passage, and connections between said coil delivery pipe and said tank whereby hot water may be used directly from the coil or stored in the storage tank, and a heater for the coil.

3. In a hot water heater, the combination with a main tank having a central passage, of a pipe coil disposed in said central passage having its lower end connected to the bottom of the tank, a storage tank above said passage, a connection from the upper end of said coil to said storage tank, a delivery pipe from the upper portion of said storage tank, a supply for the main tank, and a heater for said coil.

4. The combination with a main tank, of a separate storage tank located above said main tank, a heating coil having its lower end connected to said main tank, and its upper end to the hot water delivery pipe, a source of supply for the main tank, and connections for circulating the water from the storage tank through said main tank and coil, and a heater for said coil.

5. The combination with a main tank and a source of supply of a separate storage tank, a burner for heating both tanks, a coil connected with the main tank and disposed within said main tank, connections between said coil and a discharge pipe outside of said storage tank, and connections through said storage tank between said coil and said discharge pipe.

969,715. CAN-LABELING MACHINE. EDGAR STILLMAN MILLER and BURT H. MILLER, Atchison, Kans., assignors to Industrial Engineering Company, Atchison, Kans., a Copartnership. Filed July 7, 1909. Serial No. 506,340.



1. In an apparatus of the class described, the combination of an intermittently operated label-feeding device, an article-holding device arranged to receive the label therefrom and apply it to the article to be labeled, an intermittently-operated article-feeding means, and an automatically-actuated ejector separate from the holding device for removing the labeled article from the latter device.

2. In an apparatus of the class described, the combination of an article-holding and label-wrapping device consisting of a pair of approximately horizontal elements spaced apart to receive between them the article to be labeled, an article-feeding device arranged to discharge an article between the elements and to receive the labeled article from the latter, and means disposed at the side of the elements opposite from the article-feeding device for supplying labels to the first-mentioned device.

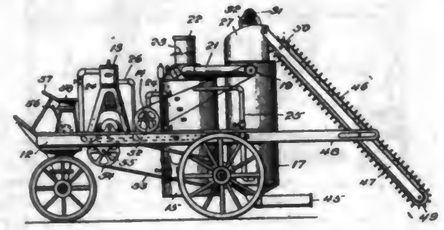
3. In an apparatus of the class described, the combination of a rotary label-feeding drum, means for intermittently rotating the same, an article-holding and label-wrapping device, means for opening and closing the same for receiving an article while the drum is idle, a mechanism for automatically feeding articles to the device, and ejecting means operated automatically to remove the labeled article from the said device.

4. In an apparatus of the class described, the combination of an article-holding and label-wrapping device consisting of a pair of approximately horizontal elements spaced apart to receive between them the article to be labeled, an article-feeding device arranged to discharge an article between the elements and adapted to remain stationary during the wrapping of the label on the article so as to receive the labeled article from the elements, means disposed at the side of the elements opposite from the article-feeding device for supplying labels to the first-mentioned device, and means for moving the article-feeding device step by step to successively discharge articles to the first-mentioned device.

5. In an apparatus of the class described, the combination of an intermittently-operated label-feeding mechanism, a device for receiving and wrapping labels on articles successively fed thereto, an article-feeding mechanism arranged in coöperative relation with the device, a common actuating means for the said mechanisms and device, and an automatically-operated ejector mounted and movable independently of said device for removing the labeled article from the latter.

[Claims 6 to 42 not printed in the Gazette.]

969,716. SNOW-MELTING MACHINE. OSCAR MÜLLER, New York, N. Y., and MICHAEL WILLNUS and CHRISTIAN WEISHAAR, Elizabeth, N. J. Filed Mar. 14, 1910. Serial No. 549,153.



1. A portable snow melting machine comprising a wheeled vehicle, and a boiler, engine and melting tank mounted thereon, combined with an elevator for carrying snow into said tank, a rotary agitator for stirring the snow in the tank, means for conveying steam from the boiler into the said tank, means for conveying the smoke and products of combustion from the boiler fire into said tank, and means for rotating said agitator and for driving said elevator.

2. A portable snow melting machine comprising a wheeled vehicle, and a boiler, engine and melting tank mounted thereon, combined with an elevator for carrying snow into said tank, a rotary agitator for stirring the snow in the tank, means for conveying steam from the boiler into the said tank, means for conveying the smoke and products of combustion from the boiler fire into said tank, means for rotating said agitator and for driving said elevator, and mechanism operated by said engine for propelling the said vehicle.

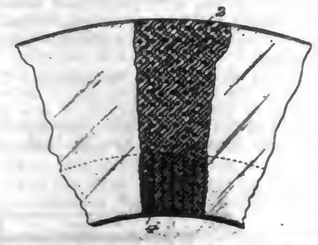
3. In a snow melting machine, the combination with a melting tank, of an agitator for stirring the snow in said tank, said agitator consisting of a hollow rotary shaft centrally arranged in the melting chamber of said tank and provided with a series of radially projecting partly hollow blades communicating with the chamber of said hollow shaft and provided with steam outlet openings, a boiler, and connections between said boiler and said hollow shaft whereby steam from the former may be admitted to the latter.

4. In a snow melting machine, the combination with a melting tank, of an agitator for stirring the snow in said tank, said agitator consisting of a hollow rotary shaft centrally arranged in the melting chamber of said tank and provided with a series of radially projecting partly hollow blades communicating with the chamber of said hollow shaft and provided with steam outlet openings, a boiler, and connections between said boiler and said hollow shaft whereby steam from the former may be admitted to the latter, the blades in the upper portion of the said melting chamber being arranged to force the snow downward, and the blades in the lower portion of said tank being arranged to force the snow upward.

5. In a snow melting machine, the combination with a melting tank, of an agitator for stirring the snow in said tank, said agitator consisting of a hollow rotary shaft centrally arranged on the melting chamber of said tank and provided with a series of radially projecting partly hollow blades communicating with the chamber of said hollow shaft and provided with steam outlet openings, a boiler, and connections between said boiler and said hollow shaft whereby steam from the former may be admitted to the latter, said tank comprising an annular flue or chamber encircling the melting chamber and communicating with the bottom of the latter, and means for forcing smoke and products of combustion from the boiler fire through the said annular flue or chamber into the said melting chamber.

[Claims 6 to 14 not printed in the Gazette.]

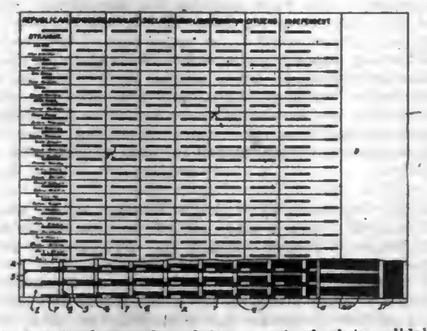
969,717. TIRE. LOUIS M. NELSON, Pennington, N. J., assignor to Nelson Tire Company, a Corporation of Wyoming. Filed Jan. 28, 1910. Serial No. 540,588.



1. A tire, consisting of a plurality of layers of open mesh fabric, and a plurality of intervening base sections overlapping the inner end of the said layers and of less width, radially considered, than said layers, the said sections being composed of close woven fabric, the whole being impregnated with a resilient substance and vulcanized.

2. A tire, comprising a plurality of layers of open mesh fabric, the strands of which run diagonally, and a plurality of intervening relatively narrow and transversely extending strips overlapping the layers at the inner ends thereof, the sections being composed of close mesh fabric, the strands of which run respectively at right angles to and parallel with the base surface of the tire, the whole being impregnated with a yielding substance and producing a resilient body portion and a relatively solid base.

969,718. MECHANICAL BALLOT. DAVID L. NEWCOMB, San Diego, and HARRY A. BROOKS, Los Angeles, Cal.; said Brooks assignor to said Newcomb. Filed Oct. 25, 1904. Serial No. 229,998.



1. A set of spreader plates, a set of plates slidably mounted on the spreader plates, the plates of each set having face formations for spreading plates apart when a slidable plate is shifted.

2. A set of spreader plates, a set of plates slidably mounted on the spreader plates, the plates of each set having face formations for spreading plates apart when a slidable plate is shifted, and means for detachably holding certain of the spreader plates from swinging laterally.

3. A set of laterally-swinging spreader plates, each plate having a conical projection, plates slidably mounted on the spreader plates, the slidable plates having orifices for receiving the conical projections, a plurality of pivoted tappets and means for sliding said slidable plates.

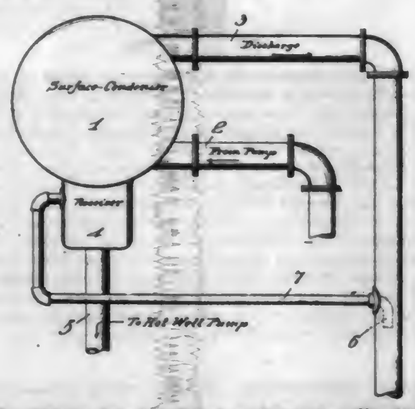
4. A set of laterally swinging spreader plates, each plate having a conical projection, plates slidably mounted

on the spreader plates, the slidable plates having orifices for receiving the conical projections, means for sliding said slidable plates, and means for detachably holding certain of the spreader plates from swinging laterally.

5. A set of bifurcated swinging plates, each plate having an offset bridge and ears, a tracker lying in the same plane with the swinging plate and being supported by the bridge and ears, a shift plate on the tracker and offset therefrom to lie flat against the swinging plate, the swinging plate having a hollow conical projection which lies within an orifice in the shift plate, said hollow conical projection receiving the nose of another conical projection of another swinging plate when the plates are in certain positions.

[Claims 6 to 14 not printed in the Gazette.]

969,719. SURFACE CONDENSER. JACKSON W. PENTECOST, Nashville, Tenn. Filed Nov. 12, 1909. Serial No. 527,675.



The combination of a surface condenser, a cooling-water inlet pipe connected to the lower part thereof, a cooling-water discharge pipe leading from the upper part thereof, a receiver for the water condensation, uncondensed vapor and air connected to the lower part of the condenser, a vacuum pipe connected to the upper part of the receiver and leading into the cooling-water discharge pipe, and a downwardly turned ejector nozzle at the end of the vacuum pipe inside of the cooling-water discharge pipe, whereby the cooling-water induces a vacuum to discharge vapor and air from the receiver at a point where the greatest accumulation thereof occurs, substantially as described.

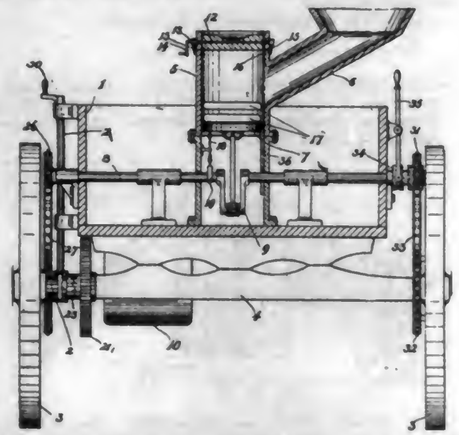
969,720. MECHANISM FOR CRUSHING CANS. MONTGOMERY B. PICKETT, Maywood, Ill., assignor of one-half to Robert F. Palmer, Chicago, Ill. Filed Dec. 4, 1907. Serial No. 405,046.

1. A can crushing means comprising a pair of relatively movable crushing members, one of which has its opposite faces of different contour and is pivotally mounted to rotate so as to bring either face in position to coöperate with the face of the other member.

2. In combination in a can crushing machine, a cylinder, a power operated piston working in the cylinder, a feed chute, and means for preventing the feeding of cans from the chute to the cylinder when the piston is in operative position.

3. In combination in a can crushing machine, a cylinder, a power operated piston working in the cylinder, a feed chute, and stop means on the piston for preventing any feed to the cylinder when the piston is in operative position.

4. In combination in a can crushing machine, a cylinder, a power operated piston working in the cylinder, a feed chute leading into the side of the cylinder, and a rearwardly extending guard on the piston for closing the chute and preventing any feed to the cylinder when the piston is in operative position.



5. In combination in a can crushing machine, a cylinder having a reversible end with surfaces differing in contour, a power operated piston working in the cylinder and means whereby cans may be fed into the side of the cylinder.

[Claims 6 to 9 not printed in the Gazette.]

969,721. DETACHABLE AUTOMOBILE-TIRE TREAD. HARRY M. PITMAN, Oakland, Cal., assignor of two-thirds to Ira Vaughan, Oakland, Cal. Filed Aug. 31, 1909. Serial No. 515,382.



1. A tire protector comprising a longitudinally corrugated body adapted to be detachably fitted over the tread surface of a tire, the ridges of said corrugated body tapering in relative thickness from the center of said body, and each ridge being provided with a cushioning opening.

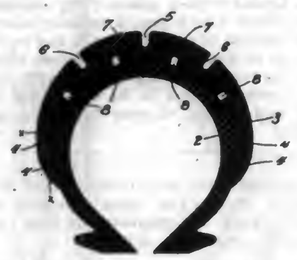
2. The combination with a tire, of a protector having a longitudinally corrugated body the ridges of which taper in thickness from the center of the body, and means for holding said protector over the tread surface of said tire.

3. The combination with a tire having openings formed in its tread surface, of a protector for said tread surface, the body of which is longitudinally corrugated, the ridges of said corrugations being of greater thickness at the center of the body and decreasing in thickness toward the sides thereof, each ridge being provided with a longitudinal cushioning opening, wires passing through the openings of the outer ridges to hold said body in shape over a tire, and lugs projecting from the inner surface of two of said ridges and engaging with the openings in the tread surface of the tire.

969,722. DETACHABLE AUTOMOBILE-TIRE TREAD. HARRY M. PITMAN, Oakland, Cal. Filed Sept. 11, 1909. Serial No. 517,273.

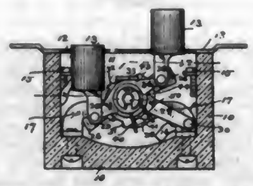
1. A device of the character described, comprising a resilient tread armor, shaped to conform to the contour

of the tread portion of a tire, and having longitudinal grooves located within the outer face of its tread surface and within its inner surface and spaced apart from each other, the grooves in one surface being arranged in staggered relation to the grooves in the other surface.



2. A device of the character described comprising a resilient tread armor, having a thickened central or tread portion and tapering sides, the tread portion of the armor being formed with a central longitudinal groove within the outer face of its surface, and with longitudinal grooves spaced apart from said central groove and parallel thereto, and the inner surface of said armor having longitudinal grooves within its surface and spaced apart from each other, said grooves being within said inner surface and shallower than the grooves in the tread surface, and arranged in staggered relation thereto, and means for securing the armor to a tire.

969,723. PUSH-BUTTON SWITCH. CLARENCE D. PLATT, Bridgeport, Conn. Filed June 14, 1909. Serial No. 501,976.



1. A switch of the character described comprising a shaft, an oscillating blade carrier mounted on said shaft, a spring for throwing the blade carrier to either extreme of its movement, a pivotally mounted latch provided with a single projection for locking the blade carrier in either extreme of its movement, said latch being provided with an opening for the passage of said shaft, and means for reciprocating said latch.

2. A switch of the character described comprising a shaft, an oscillating blade carrier mounted on said shaft, a spring for throwing the blade carrier to either extreme of its movement, a pivotally mounted latch provided with a single projection for locking the blade carrier in either extreme of its movement, said latch being provided with an opening for the passage of said shaft, a spring for retaining said latch in operative position, and means for moving said latch against the tension of said spring.

3. A switch of the character described comprising a shaft, an oscillating blade carrier mounted on said shaft, a spring for throwing the blade carrier to either extreme of its movement, a pivotally mounted reciprocable latch provided with a single projection for locking the blade carrier in either extreme of its movement, said latch being provided with a lug, a spring for retaining said latch in operative position, and a rocker arm adapted to engage said lug to move said latch against the tension of said spring.

4. A switch of the character described comprising an oscillating blade carrier having an arm extending therefrom, an oscillating rocker arm having an arm extending therefrom, a spring having ends bearing upon the opposite sides of said arms, for the purpose set forth, and a pivotally mounted reciprocable latch having a lug engaged by the rocker arm and a single projection extending into the path of movement of the blade carrier arm to lock the blade carrier at either extreme of its movement, oscillation of the rocker arm acting to wind the spring and to lift the latch which releases the blade carrier, the spring then throwing the blade carrier to the other extreme of its movement.

5. A switch of the character described comprising a standard having a sleeve extending therefrom, a shaft journaled in the sleeve and carrying contact blades and a forwardly extending arm, a rocker arm mounted to oscillate on said sleeve and having a forwardly extending arm, a spring having ends engaging the opposite sides of said arms and a pivotally mounted reciprocable latch having a single projection engaged by the rocker arm and a lug normally lying in the path of movement of the arm carried by the shaft, oscillation of the rocker arm acting to raise the latch, and the spring acting to throw the contact blades to the other extreme of their movement.

[Claims 6 to 11 not printed in the Gazette.]

969,724. SAFETY-RAZOR. ALLISON A. PRATT, New York, N. Y., assignor of one-half to Henry J. Hemmens, New York, N. Y. Filed Feb. 13, 1909. Serial No. 477,543.



1. In a safety razor and in combination, a blade, a frame having arms provided with means against which the ends of the said blade are clamped, and a blade carrier pivoted at its ends to and between the arms of the said frame and on which the said blade is superimposed for carrying the blade and for clamping the ends of the blade against the said means.

2. In a safety razor and in combination, a blade, a frame having arms provided with means against which the ends of the said blade are clamped, and a blade carrier pivoted at its ends to and between the arms of the said frame and on which the said blade is superimposed for carrying the blade and for clamping the ends of the blade against the said means, and locking means for locking the said blade carrier in clamping position.

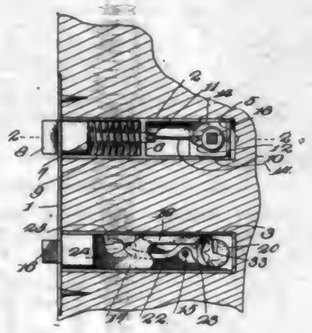
3. In a safety razor and in combination, a blade, a frame having arms provided with means against which the ends of the said blade are clamped, and a blade carrier pivoted between the arms of the said frame and on which the said blade is superimposed for carrying the blade and for clamping the ends of the blade against the said means, and centering means on the said blade carrier for centering the blade on the carrier and for holding it against lateral movement while the carrier is in an open position.

4. In a safety razor and in combination, a blade, a frame having yielding side arms provided with inwardly-extending lugs, and a blade carrier mounted to swing between the arms of the said frame and on which the said blade is superimposed, the said carrier holding the ends of the blade clamped against the said lugs.

5. In a safety razor and in combination, a blade, a frame having yielding side arms provided with inwardly-extending lugs, and a blade carrier mounted to swing on the said frame and on which the said blade is superimposed, the said carrier holding the ends of the blade clamped against the said lugs, and locking means on the said side arms for engagement by the said blade carrier by locking the latter in clamping position.

[Claims 6 to 9 not printed in the Gazette.]

969,725. MORTISE-LOCK. EDWARD B. REBS, Monett, Mo. Filed July 9, 1909. Serial No. 506,726.

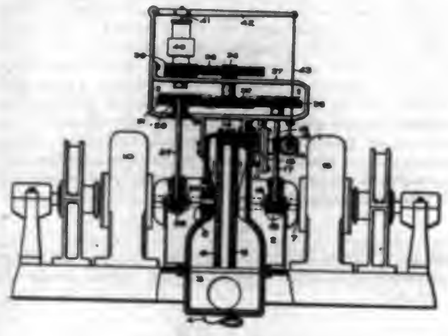


1. In a lock of the character described, a casing, a lock bolt mounted in said casing and provided with a shank formed with a cut-out portion producing a tumbler engaging arm, a tumbler mounted in said casing and formed with a groove receiving and guiding the extremity of the arm and with a lug in said groove adapted to engage the arm to move the bolt, the tumbler being further formed with another groove communicating with the first named groove and with a cam in the second named groove, and a detent pivotally mounted intermediate of its ends in the casing along side of the shank and tumbler engaging arm and adapted to engage the shank of the bolt in the retracted and projected positions of the latter, the detent being formed with a rearwardly extending end lying in the second named groove and adapted to be engaged by the cam formed in said groove, for the purpose specified.

2. In a lock, a casing, a lock bolt movable in said casing and formed with a relatively narrow shank cut out at one end to produce a tumbler engaging arm, a tumbler mounted in the casing and extending across the space provided by the cut out portion of the shank, the tumbler being formed intermediate of its ends with a groove receiving said arm and with a lug in said groove adapted to engage the arm to project and retract the bolt, the tumbler being further formed with a groove lying alongside of the first named groove, the second named groove being formed with a cam, and a detent pivotally mounted in the casing alongside of the shank and arm, the rear end of the detent lying in the second named groove and adapted to be engaged by the cam thereof, and the opposite end of the detent being arranged to engage the bolt in the retracted and projected position of the latter, the casing being formed at one side with a knob engaging the side face of the detent to assist in guiding the same in its movement and the casing having interior thickened walls arranged to assist in guiding the detent and shank in their movements.

3. A lock, comprising a casing, a bolt mounted in said casing and provided with a shank formed with a tumbler engaging arm, a tumbler extending transversely of the casing and mounted for a revoluble movement therein, the tumbler being constructed in two sections, one of which is formed with a threaded socket and the other of which is formed with a threaded neck adapted to engage the threads of the socket whereby to hold the two sections together, one section being formed at its juncture with a recess and forming with the other section an annular groove and with a lug in said groove adapted to engage the arm to retract and project the bolt, the recess section being formed with a groove lying alongside of the recess and formed with a cam, a tumbler mounted in the casing and adapted to engage the bolt and be engaged by the cam so as to disengage the detent from the bolt, each section of the tumbler being formed with an annular groove, and plates secured to the side of the casing and working in said grooves, whereby to position the tumbler in the casing.

969,726. GOVERNING MECHANISM FOR TURBINES. RICHARD H. RICE, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Mar. 6, 1908. Serial No. 419,442.



1. In combination, turbine elements, regulating means controlling the admission of motive fluid thereto, shafts for said elements, gearing between said shafts including an intermediate gear, a single speed-responsive device driven by said intermediate gear which modifies the position of the regulating means, and automatic clutches controlling the transmission of motion from said shafts to the intermediate gear so that said device can be driven normally by all of the elements and under abnormal conditions by the element having the greatest speed to the exclusion of the others.

2. In combination, turbine elements, a regulator controlling the supply of elastic fluid thereto, a governor for actuating the regulator which is driven by the turbine elements, and means including a clutch mechanism for permitting one of the elements to drive the governor to the exclusion of the remainder under certain conditions.

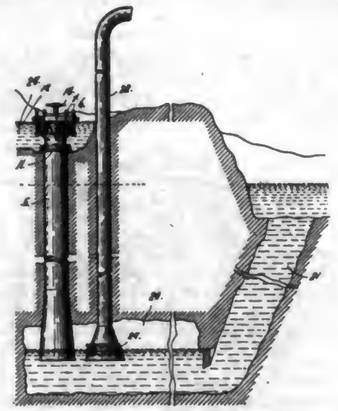
3. In combination, turbine elements, a regulator controlling the supply of elastic fluid thereto, a governor for actuating the regulator which is driven by the turbine elements, and means including a clutch mechanism interposed between the elements and the governor which permit the element rotating at the highest speed to assume control to the exclusion of the remainder.

4. In combination, turbine elements, separate shafts therefor, a regulator controlling the supply of motive fluid to said elements, a speed governor, a connection between each element and the governor whereby the elements normally coöperate to drive the governor, and a clutch device in each connection which permits the one having the lesser speed to run idly while the other drives the governor.

5. In combination, turbine elements, separate shafts therefor, a regulator controlling the supply of motive fluid to said elements, a speed governor, a driving connection between each element and the governor, gearing in said connections, and clutches in said gearing which slip in one direction and not in the other.

[Claims 6 to 8 not printed in the Gazette.]

969,727. WATER-ELEVATING APPARATUS. OLAF A. ROED, Denver, Colo. Filed Nov. 1, 1909. Serial No. 525,652.



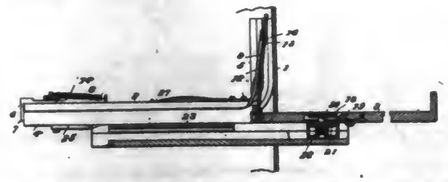
1. The combination with a subterranean chamber and a water supply source above the chamber, the latter having an outlet above the top of the chamber but below the source of supply, of an open-ended conduit extending downwardly from the source of supply, its lower extremity protruding into the chamber, the upper extremity of the pipe being equipped with means for introducing air into the water by suction due to the downflow from the source, and a standpipe whose lower end is open and protruding into said chamber, the lower portion of the standpipe within the chamber being perforated for the entrance of air, after the air pressure has forced the water in the chamber downward to uncover said openings.

2. The combination with a source of water supply and a subterranean chamber below said source, and having an outlet above the top of the chamber, of a downflow pipe whose extremities are respectively submerged in the source of supply and the water of the chamber, the upper extremity of the said pipe being equipped with means for introducing air into the water by suction due to the downflow in the pipe, and an open-ended standpipe whose lower extremity protrudes into the chamber, its lower portion being perforated for the admission of air from the chamber after the water in the chamber has been forced downwardly by the accumulated air pressure, the lower extremity of the standpipe being frustum-shaped and having a centrally-located, cone-shaped projection.

3. In an apparatus for elevating water, the combination with a source of water supply and a subterranean chamber below said source, the said chamber having an outlet above the top of the chamber, of a downflow pipe reaching from the source of water supply into the subterranean chamber, the upper extremity of the said pipe being equipped with means for introducing air into the water by suction, due to the downflow in the pipe, and a standpipe having its lower extremity protruding into the said chamber and open for entrance of water, the lower portion of the pipe being equipped with perforations for the entrance of air after the accumulated air pressure has forced the water downwardly in the chamber to uncover said openings, and means for regulating the size of the openings available for the entrance of air.

4. In water-elevating apparatus, the combination with a source of water supply and a subterranean chamber below said source and having an outlet between the source of supply and above the top of the chamber, a downflow pipe whose upper extremity is submerged in the water source and equipped with means for introducing air into the water by suction due to the downflow in the pipe, the lower extremity of the said pipe protruding into the said chamber, a suitable distance below the top thereof, and an open-ended standpipe whose lower extremity protrudes into the said chamber and is perforated near its lower extremity to permit the entrance of air after the water in the chamber has been pressed downwardly by the accumulated air pressure, sufficiently to uncover the said openings, and a device slidable on the pipe for controlling the size of the openings available for the entrance of air, the upper extremity of the standpipe projecting above the source of water supply for the purpose set forth.

969,728. COIN-CONTROLLED MACHINE. EUGENE S. SCHEBLE, Cleburne, Tex., assignor of one-half to Felix Q. Rast, Boston, Mass. Filed Feb. 8, 1909. Serial No. 476,678.



1. In a coin controlled machine, means controlling the operation thereof comprising a device formed to co-act with a predetermined part or parts of the figures or characters in the face of a coin and with which such predetermined part or parts of the face of a coin must coincide before the machine may be operated.

2. In a coin controlled machine, operating means comprising a device having a contact surface formed to correspond and co-act with a predetermined part or parts of the configuration on the face of a coin, means for moving the coin and said device synchronously, and means for moving one relative to the other to bring their corresponding parts into coincidence.

3. In a coin controlled machine, a lock, means for engaging and releasing such lock, and means for controlling such latter means comprising a device formed to correspond and co-act with a predetermined part or parts of the figures or characters in the face of a coin and with which such predetermined part or parts of the face of a coin must coincide before such lock can be actuated.

4. In a coin controlled machine, a lock, means for engaging and releasing such lock, and means for controlling the operation of such latter means comprising a lever, a plate having a contact surface formed to correspond and co-act with a predetermined part or parts of the design upon a coin and with which the similar part or parts of the face of a coin must coincide before such lever can be moved and the lock actuated.

5. In a coin controlled machine, a coin carrier, a lock for normally limiting the movement of the latter, a coin rest, means for engaging and releasing such lock comprising a lever, a plate having a surface formed to correspond with part or parts of the design upon a coin and with which the similar portion or portions of the face of a coin must coincide before such lever can be actuated to release said lock, and means for effecting the proper relation between the coin and such surface.

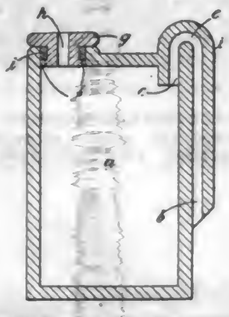
[Claims 6 to 12 not printed in the Gazette.]

969,729. APPARATUS FOR THE AUTOMATIC DELIVERY OF DISINFECTANTS TO THE FLUSHING-WATER OF WATER-CLOSETS, URINALS, AND THE LIKE. ANTHONY EDMUND SMITH, Camberwell, England. Filed Nov. 23, 1909. Serial No. 529,576.

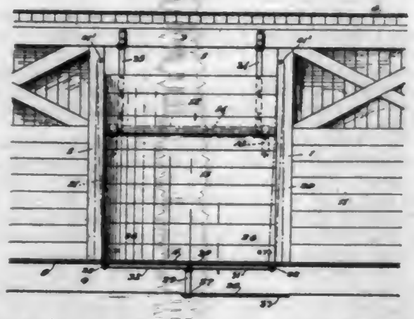
1. In a disinfector for water closets and the like, a chamber for containing a disinfectant capable of being rendered soluble in water, said chamber being provided with a siphon discharge pipe, and an air admission pipe, the top of the air admission pipe being formed level with the top of the bore of the siphon discharge pipe.

2. In a disinfector for water closets and the like, a chamber for containing a disinfectant capable of being rendered soluble in water, said chamber being provided with an air admission pipe, and a siphon discharge pipe,

the top of the air-admission pipe being formed level with the top of the bore of the siphon discharge pipe, said discharge pipe being integral with said chamber and exterior thereof.



969,730. GRAIN-CAR DOOR. ANTON CHRISTIAN SMITH, Winnipeg, Manitoba, Canada, assignor of one-third to Thomas J. Holland, Winnipeg, Canada. Filed Aug. 5, 1909. Serial No. 511,297.

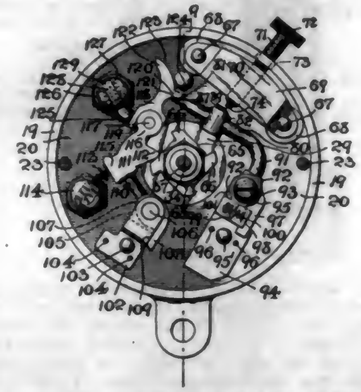


1. In a grain car door, the combination with the door post of the car, of the door section shorter than the space between the door posts, said door posts having vertical slots therein, bars in said slots having their upper ends pivoted therein and their lower ends extending below the bottom of the car, means engaging the said lower ends for moving them toward and away from each other, as and for the purpose specified.

2. In a grain door, the combination with the door posts of a car, of a door section adapted to pass between the door posts and pivotally suspended upon a horizontal rod vertically slidable within grooves appearing in the door posts, a set of similar opposing bars operating within vertically directed slots formed in the door posts, said bars being pivotally secured at their upper ends within the slots and having their lower ends passing downwardly beneath the floor of the car, and turned at right angles to the body portions thereof, an actuating lever interconnected with the lower end of the bars whereby the bars can be withdrawn or advanced within the slots, as and for the purpose specified.

3. In a grain door, the combination with the door posts of a car, of a door section adapted to pass between the door posts and pivotally suspended from a cross rod vertically movable within grooves formed in the door posts, an opposing set of similar bars located within slots formed in the door posts, the upper ends of said bars being pivoted on cross bolts and the lower ends being directed through the car floor and turned inwardly at right angles to the body portions thereof, a plate secured to the floor supporting beams, a vertically directed and rotatably mounted post carried by the plate, a cross arm secured to the upper end of the post and united through links with the inwardly directed ends of the bars, and a lever secured to the post and adapted to actuate the links, as and for the purpose specified.

969,731. CURRENT DISTRIBUTER AND TIMER. JAMES M. SMITH, Philadelphia, Pa., assignor of one-half to Wilson D. Craig Wright, Philadelphia, Pa. Filed May 15, 1909. Serial No. 496,129.



1. A timer and distributer for ignition systems of explosive gas engines comprising a casing, a trip-device revolubly arranged in said casing, a supporting block within said casing, but insulated therefrom, a contact-making and breaking element connected with said block, a vibratory arm mounted within said casing, a contact-making and breaking element carried by said arm, and a kick-off device comprising a pair of pivotally connected spring-controlled dogs, one of which is actuated from said trip-device, and means connected with the other dog adapted to be brought in engagement with a portion of said vibratory arm for actuating said arm.

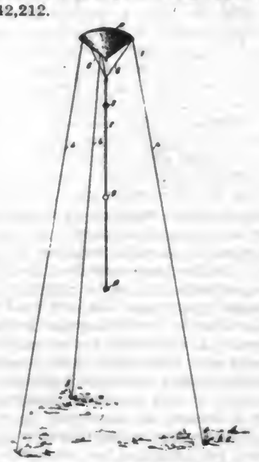
2. A timer and distributer for ignition systems of explosive gas engines comprising a casing, a trip-device revolubly arranged in said casing, a supporting block within said casing, but insulated therefrom, a contact-making and breaking element connected with said block, a vibratory arm mounted within said casing, a contact-making and breaking element carried by said arm, and a kick-off device comprising a pair of pivotally connected spring-controlled dogs, one of which is actuated from said trip-device, means connected with the other dog adapted to be brought in engagement with a portion of said vibratory arm for actuating said arm, and a stop-post in said casing with which a portion of said last-mentioned dog is brought in engagement so as to arrest the movement of the same.

3. A timer and distributer for ignition systems of explosive gas engines comprising a casing, a trip-device revolubly arranged in said casing, a supporting block within said casing, but insulated therefrom, a contact-making and breaking element connected with said block, a vibratory arm mounted within said casing, a contact-making and breaking element carried by said arm, and a kick-off device comprising a plate secured within said casing, said plate having perforated ears, a pivot-pin connected with said ears, an oscillatory element mounted upon said pin, a rod extending from said element, a trip-dog connected with said rod, said trip-dog being adapted to be actuated from said trip-device, a kick-off dog pivotally connected with said trip-dog, and means connected with said kick-off dog adapted to be brought in engagement with a portion of said vibratory arm for actuating said arm.

4. A timer and distributer for ignition systems of explosive gas engines comprising a casing, a trip-device revolubly arranged in said casing, a supporting block within said casing, but insulated therefrom, a contact-making and breaking element connected with said block, a vibratory arm mounted within said casing, a contact-making and breaking element carried by said arm, and a kick-off device comprising a plate secured within said casing, said plate having perforated ears, a pivot-pin connected with said ears, an oscillatory element mounted upon said pin, a rod extending from said element, a trip-dog connected with said rod, said trip-dog being adapted to be actuated from said trip-device, a kick-off dog pivotally connected with said trip-dog, means connected with said kick-off dog adapted to be brought in engagement with a portion of said vibratory arm for actuating said arm, a post extending from said casing, a spring between said post and said trip-dog, a second post extending from said casing, and a spring-actuated plug between said second post and said kick-off dog.

[Claims 6 to 24 not printed in the Gazette.]

969,732. SURVEYING APPARATUS. MARIO W. TEBYRIÇÁ, São Paulo, Brazil, assignor of one-half to Jose P. Tebyrica, São Paulo, Brazil. Filed Feb. 5, 1910. Serial No. 542,212.



1. In a device of the class described, the combination with a buoyant supporting member, of a sight member suspended from said supporting member.

2. In a device of the class described, the combination with a buoyant supporting member, of means for securing said supporting member, and a sight member connected to said supporting member.

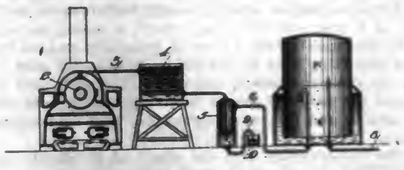
3. In a device of the class described, the combination with an aerial support, of means for constraining said support, and a sight member connected to said aerial support.

4. In a device of the class described, the combination with an aerial support, of a sight member connected to said support, and one or more sight points on said sight member.

5. In a device of the class described, the combination with an aerial support, of a sight member connected to said support, and one or more spherical sight points connected to said sight member.

[Claims 6 to 12 not printed in the Gazette.]

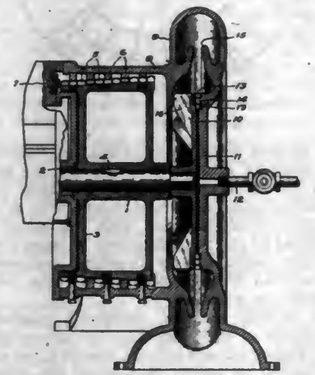
969,733. MANUFACTURE OF GAS FROM GARBAGE. ROBERT THOMAS, San Francisco, Cal., assignor to The Thomas Gas Light and Power Company, Tacoma, Wash. Filed Mar. 15, 1910. Serial No. 549,496.



1. The herein described improvement in manufacturing gas from garbage, said improvement consisting in first separating the organic from the inorganic portions of the garbage, then mixing with said organic substances a proportion of sodium carbonate, sulfate of iron and chlorid of ammonia, and finally distilling the mass in a suitable retort, and separating the gas from residue which distils over with it.

2. The improvement in manufacture of gas from garbage, said improvement consisting in mixing sodium carbonate, sulfate of iron, and chlorid of ammonia with the organic matter of the garbage, and a proportion of moisture, subjecting the mass to destructive distillation in a retort, passing the volatile products through a condenser, separating the gases from the remaining residue, passing the gas through a water-seal into a gasometer, and the residue into a separate receptacle.

969,734. BALANCING MEANS FOR TURBINES. ELIHU THOMSON, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Mar. 19, 1907. Serial No. 363,219.



1. The combination with an elastic fluid turbine and its shaft, of a disk secured to said shaft, a casing, a surface in proximity to one face of said disk, a pipe communicating with the space between said surface and the disk and conveying elastic fluid whereby a pressure will be exerted on the disk in opposition to the end thrust on the shaft, and an ejector that is acted upon by the fluid exhausting from the turbine to decrease the pressure in the casing.

2. The combination with an elastic fluid turbine and its shaft, of a disk secured to said shaft, a casing, a station-

ary surface in proximity to said disk, means for admitting elastic fluid to the space between said disk and surface, buckets carried by said disk, and an ejector that is acted upon by the fluid exhausting from the turbine and also by that from said buckets.

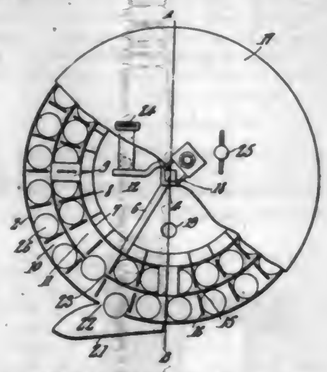
3. The combination with an elastic fluid turbine and its shaft, of a disk secured to said shaft, a stationary casing inclosing said turbine and having a head in proximity to said disk, leaving a space between them with a congested outlet at the periphery of the disk, means for admitting elastic fluid to said space, and an ejector for decreasing the fluid pressure in the casing that is acted upon by the fluid exhausting from the turbine and also by that from the congested outlet.

4. The combination with an elastic fluid turbine and its shaft, of a disk secured to said shaft, a casing inclosing said turbine and having a head in proximity to said disk, means admitting fluid to the space between the disk and head, an exhaust passage communicating with said casing, and a contracted mouth receiving elastic fluid from said turbine and disk and discharging into said exhaust passage.

5. The combination with the shaft of an elastic fluid turbine, of a disk secured to said shaft and provided with fan blades, a casing inclosing said turbine and disk and having an annular exhaust passage, a contracted mouth discharging into said passage in the plane of the disk, and means for maintaining a substantially constant pressure of elastic fluid upon one face of said disk.

[Claims 6 to 8 not printed in the Gazette.]

969,735. VENDING-MACHINE. JAMES M. THORNBER, Fort Madison, Iowa. Filed Apr. 7, 1910. Serial No. 553,983.



1. In a vending machine, a plurality of magazines, and impelling members in each magazine for the articles to be vended separating said articles one from the other, each magazine having a stationary wall with a discharge opening adjacent but displaced with relation to the discharge opening of the next magazine to cause the replenishing of the spaces between impelling members in one magazine vacated by the discharged articles, by articles from the adjacent magazines.

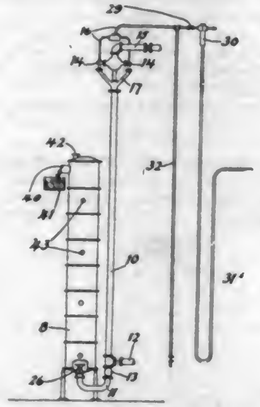
2. In a vending machine, concentric magazines, impelling members in each magazine for the articles to be vended for separating said articles one from the other, one magazine having an escape opening to the exterior and the next magazine having an escape opening to the first magazine, and means for causing the impelling members in the magazines to move simultaneously.

3. In a vending machine, a series of concentric spaced division walls, the outer wall being provided with an escape opening to the exterior and the next adjacent wall having an escape opening to the magazine next exterior thereto but in displaced relation to the first escape opening, and a rotatable member provided with blades in circular series and in spaced relation, said blades traversing the magazines.

4. A vending machine comprising a suitable support, an exterior casing carried by the support and provided with an escape opening, partitions within the casing in spaced relation thereto and concentric one to the other and to the casing, and a rotatable member carried by the support and provided with circular series of blades in spaced relation one to the other and movable in the spaces between the casing and the partitions therein, the partition next interior to the casing being provided with an escape opening displaced with relation to the escape opening through the casing.

5. In a vending machine, fixed partition walls in concentric spaced relation and defining annular magazines or reservoirs, one of the partition walls having an opening for the escape of the articles to be vended to the exterior of the machine and the next interior wall having an opening for the escape of articles to be vended into the first magazine, the last named opening being in displaced relation to the first named opening, and a rotatable member having circular series of spaced blades adapted to move in the magazines and impel and space articles therein.

969,736. APPARATUS FOR STERILIZING AND OXIDIZING LIQUIDS WITH OZONE. ALEXANDER H. TWOMBLY, Summit, N. J., assignor to Gerard Ozone Process Company, a Corporation of New Jersey. Filed Dec. 12, 1908. Serial No. 467,317.



1. In an apparatus for sterilizing and oxidizing liquids by means of ozone, a sterilizing tower provided with perforated diaphragms, a spreader adjacent to the inlet of said tower, a velocity pipe extending from above said tower, an ozone supply pipe and a plurality of injectors between said ozone supply pipe and said velocity pipe.

2. In an apparatus for sterilizing and oxidizing liquids by means of ozone, a sterilizing tower made in pipe sections and placed one above the other, perforated diaphragms located between adjacent sections, a spreader located at the inlet of said tower, a plurality of injectors above said tower, means for supplying liquid and ozone to said injectors and a pipe connecting said injectors with said tower.

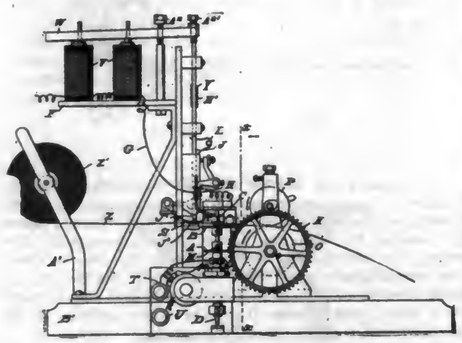
3. In an apparatus for sterilizing and oxidizing liquids by means of ozone, an ozone supply pipe, a liquid supply tube, a plurality of injectors operated by the liquid, a tower provided with horizontally disposed perforated diaphragms, a pipe connecting the bottom of said tower with said injectors, a spreader adjacent to the bottom of said tower and means for automatically closing said liquid pipe when the ozone supply ceases.

4. In an apparatus for sterilizing and oxidizing liquids by means of ozone, an ozone supply pipe, a liquid supply pipe, a plurality of adjustable injectors operated by liquid and connected to said ozone supply pipe, a sterilizing tower, a pipe connecting the bottom of said tower with said injectors whereby ozone and liquid are forced into the bottom of said tower, a drainage valve in said pipe and a check valve and a separator in the ozone supply pipe.

5. In an apparatus for sterilizing and oxidizing liquids by means of ozone, a sterilizing tower comprising a plurality of pipe sections, a perforated diaphragm located between adjacent pipe sections, a plurality of liquid operated injectors, a liquid supply pipe and ozone supply pipe communicating with said injectors and a velocity pipe communicating with said injectors and bottom of said tower for introducing ozone and liquid into said tower.

[Claims 6 to 10 not printed in the Gazette.]

969,737. PERFORATING OR PUNCHING MACHINE. JOSEPH WEBER, Liberty, N. Y., assignor to Wilmot L. Morehouse, Brooklyn, N. Y. Filed Aug. 10, 1909. Serial No. 512,170.



1. A punching or perforating machine, comprising a punch, means for feeding a strip of paper for engagement with said punch, a shaft, means for actuating said shaft, said shaft carrying a slitted disk with an upturned portion or tongue, means for intermittently actuating said shaft, a wheel engaged by said disk and adapted to actuate through said disk said paper-feeding means.

2. A device of the character described, including a punch, means for actuating said punch, means for feeding a strip or sheet of paper to said punch, means for intermittently actuating said shaft, a rocker shaft, means interposed betweeen said shaft and the first referred to shaft, means carried by the first referred to shaft adapted to actuate the last referred to means, said punch having its carrying rod provided with a stud, said rocker shaft being provided with an arm engaging said stud.

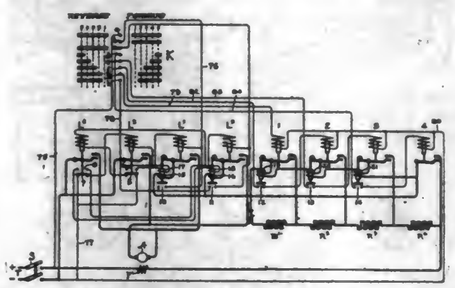
3. A device of the character described, including a punch, a rod carrying said punch, a spring-controlled rod engaging the first referred to rod, a shaft, means for electrically actuating said shaft including magnets and an armature engaged by said magnets, said armature engaging the last referred to rod, and means for feeding a strip of paper under said punch.

4. A device of the character described, comprising a punch, a rod carrying said punch, a spring controlling said rod, an additional rod engaging the first referred to rod, a spring delivering upward pressure upon the second referred to rod, a shaft, means for electrically actuating said shaft, means for feeding a strip of paper under said punch, including a wheel for actuating said paper feeding means and a disk carried by said shaft and engaging said wheel, said electrically actuating means for said shaft including magnets and an armature engaged by said second referred to rod.

5. A device of the character described, including a punch, means for carrying said punch, means for feeding a strip of paper under said punch, a shaft, means for electrically actuating said shaft, said shaft being provided with a disk, said disk being provided with an upstanding portion and a segmental insulator, said paper-feeding means including a wheel engaged by said disk, said shaft electrically actuating means including a brush engaging said disk, a rocker shaft having an arm engaging the punch-carrying rod, said disk carrying shaft being provided with a pin, and means interposed between and for actuating said rocker shaft by said pin.

[Claim 6 not printed in the Gazette.]

969,738. CONTROL OF ELECTRICALLY-OPERATED SWITCHES. HAROLD E. WHITE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 27, 1909. Serial No. 480,481.



1. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, auxiliary switches coöperating with certain of said contactors each arranged to control the operation of a succeeding contactor, means for holding each auxiliary switch open while its coöperating contactor is open, an electromagnet cooperating with each auxiliary switch for controlling the closing of said auxiliary switch, and means for maintaining the auxiliary switch substantially at rest during the closing operation of the coöperating contactor.

2. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, auxiliary switches coöperating with certain of said contactors each arranged to control the operation of a succeeding contactor, means for holding each auxiliary switch open while its coöperating contactor is open, an electromagnet coöperating with each auxiliary switch for controlling the closing of said auxiliary switch, and electrical means for maintaining the auxiliary switch substantially at rest during the closing of the coöperating contactor.

3. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, a plurality of auxiliary switches each arranged to control the operation of a contactor, a plurality of electromagnets each cooperating with an auxiliary switch, and connections whereby a contactor in closing weakens the magnetizing effect of the electromagnet of its coöperating auxiliary switch.

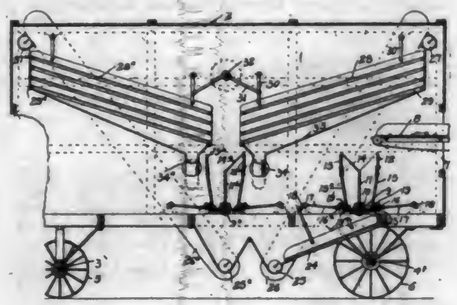
4. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, a plurality of auxiliary switches each arranged to control the operation of a contactor, a plurality of electromagnets each cooperating with an auxiliary switch, and connections whereby a contactor in closing decreases the number of effective turns in the electromagnet of its coöperating auxiliary switch.

5. In combination with a power circuit, a plurality of contactors intended for operation in succession to effect certain connections in said power circuit, auxiliary switches coöperating with certain of said contactors each arranged to control the operation of a succeeding contactor, means for holding each auxiliary switch open while its coöperating contactor is open, an electromagnet

coöperating with each auxiliary switch, and connections whereby a contactor in closing weakens the magnetizing effect of the coil of its coöperating auxiliary switch.

[Claims 6 to 29 not printed in the Gazette.]

969,739. MACHINE FOR COMMINUTING ALFALFA AND LIKE MATERIALS. ADOLPHUS M. ALLEN, Minneapolis, Minn., assignor to Allen Alfalfa Mill Company, Minneapolis, Minn., a Corporation of Minnesota. Filed Oct. 23, 1908. Serial No. 459,222.



1. The combination with a revolving cylinder, having a series of spirally arranged peripheral knives provided with double cutting edges, normally stationary knives arranged upon opposite sides of said cylinder and coöperating with said peripheral knives, a hopper with a dividing wall, a valve arranged to direct material to either side of said wall, the walls of said hopper having vibrating sections for forcing the material therein toward said knives, and means whereby either one of said vibrating sections may be rendered operative according to the direction of revolution of said cylinder.

2. The combination, with a revolving cylinder having a series of spirally arranged corrugations thereon, said corrugations having flattened outer faces and square corners forming cutting edges extending from end to end of the corrugations, stationary knives arranged upon opposite sides of said cylinder and coöperating with the cutting edges of said corrugations, said cylinder being capable of revolving in either direction, and one of said stationary knives coöperating with the edges of said corrugations on one side thereof when said cylinder is revolved in one direction, and the other stationary knife coöperating with the other cutting edges of said corrugations when said cylinder is revolved in the other direction, and means for feeding material on both sides of said cylinder.

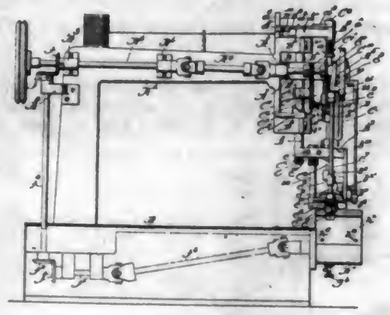
3. The combination with a revolving cylinder having spirally arranged peripheral knives, of a stationary knife, a hopper, a hinged feed board, means for yieldingly holding said feed board toward said cylinder and a reciprocating slide operating toward and from said cylinder and contacting with the lower edge of said feed board to reciprocate the same and said feed board serving to sweep off the material from said slide on the outward stroke of said slide, substantially as described.

4. The combination with a revolving cylinder, and spirally arranged peripheral knives therein, of stationary knives provided upon opposite sides of said cylinder, a hopper above said cylinder, feed boards forming the outer walls of said hopper and yieldingly held toward said cylinder, a division board provided in said hopper and slides operating horisontally beneath said feed boards and independent thereof, for the purpose specified.

5. The combination, with a revolving cylinder having a series of peripheral knives provided with double cutting edges formed at the junction of the substantially flat faces of said knives and the side faces thereof, said side and outer faces being in planes at right angles substantially to one another, and said cutting edges being located close to the peripheral surface of said cylinder, and stationary knives provided upon opposite sides of said cylinder and having a shear cut with said cylinder knives.

[Claims 6 to 9 not printed in the Gazette.]

969,740. SEWING-MACHINE FOR FELLING. WOLF ARBETTER, Chelsea, Mass., assignor to Arbetter Felling Machine Company, Boston, Mass., a Corporation of Maine. Filed Aug. 23, 1902. Serial No. 120,760.



1. A blind-stitch sewing machine comprising a work-support; a reciprocating needle and complemental stitch-forming mechanism located above the work-support; means for feeding the material across the work-support; and means for maintaining and operating the needle above the work-support in a plane fixed with relation to the work support and diagonal to the line of feed and to cause it to enter, and emerge from, the upper surface of the material.

2. A blind-stitch sewing machine comprising a work-support; a reciprocating curved needle and complemental stitch-forming mechanism located above the work-support; means for feeding the material across the work-support; and means for maintaining and operating the needle above the work-support in a plane fixed with relation to the work support and diagonal to the line of feed and to cause it to enter, and emerge from, the upper surface of the material.

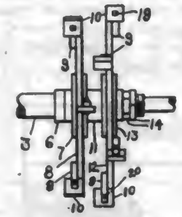
3. A blind-stitch sewing machine comprising a work-support; a reciprocating needle and complemental stitch-forming mechanism located above the work-support; means for feeding the material across the work-support from the needle toward the complemental stitch-forming mechanism; means for maintaining and operating the needle above the work-support in a plane fixed with relation to the work support and diagonal to the line of feed and to cause it to enter, and emerge from, the upper surface of the material.

4. A blind-stitch sewing machine comprising a work-support; a reciprocating curved needle and thread carrying looper coöperating therewith located above the work-support; means for feeding the material across the work-support from the needle toward the thread-carrying looper; means for maintaining and operating the needle above the work-support in a plane fixed with relation to the work support and diagonal to the line of feed and to cause it to enter, and emerge from, the upper surface of the material.

5. A blind-stitch sewing machine comprising a work-support; a presser-foot having an opening for the material; means for feeding the material over the work-support; a reciprocating needle and complemental stitch-forming mechanism located above the presser-foot; means for maintaining and operating the needle above the presser-foot in a plane fixed with relation to the work support and diagonal to the line of feed and to cause it to enter, and emerge from, the upper surface of the material presented at the presser-foot opening.

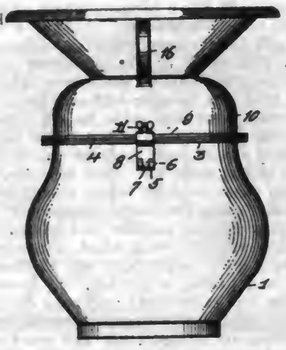
[Claims 6 to 25 not printed in the Gazette.]

969,741. GRINDER. WILLIAM H. ARCHER, Toledo, Ohio. Filed Dec. 17, 1909. Serial No. 533,668.



The combination in a centrifugal mill grinder, with a disk having integral therewith lugs alternately disposed on opposite sides of the disk and extending beyond the periphery of the disk to form beyond the disk periphery holding faces lying in axially extending planes, of uniform thickness working elements mounted against said holding faces and locked from rotation by the disk periphery, and adjustable means centrally engaging the elements to detachably maintain the elements in position against the holding faces, for adjusting each edge of the element into operative position.

969,742. CUSPIDOR. PAUL BARÉ, Pittsburg, Pa. Filed June 7, 1910. Serial No. 565,543.



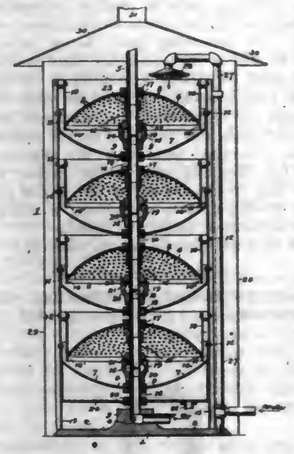
1. In a cuspidor, a receptacle, a cover mounted thereon, a funnel-shaped mouth-piece carried by said cover and extending therein, a spider detachably mounted in the upper end of said receptacle, a spring-pressed valve supported by said spider and adapted to close the lower end of said mouth-piece, a plurality of latches adapted to retain said valve in a lowered position, and means suspended from said spider for automatically moving said latches to release said valve.

2. In a cuspidor, a receptacle, a cover mounted thereon, a funnel-shaped mouth-piece carried by said cover and extending therein, a spider detachably mounted in the upper end of said receptacle, a spring-pressed valve supported by said spider and adapted to close the lower end of said mouth-piece, a plurality of latches adapted to retain said valve in a lowered position, means suspended from said spider for automatically moving said latches to release said valve, and means carried by said mouth-piece for restoring said valve to a lowered position.

3. In a cuspidor, a receptacle, a cover clamped thereon, a funnel-shaped mouth-piece carried by said cover, a depending funnel carried by the upper edges of said mouth-piece and in conjunction with said mouth-piece providing an annular compartment, valve-lowering members pivotally mounted in the compartment between said mouth-piece and said funnel and extending downwardly into said cover, a spider detachably mounted in the upper end of said receptacle, a spring-pressed valve supported by said spider and adapted to close the lower end of said mouth-piece, spring-pressed latches normally holding said valve in an open position, and means for automatically moving said latches to release said valve.

4. In a cuspidor, a receptacle, a cover clamped thereon, a funnel-shaped mouth-piece carried by said cover, a depending funnel carried by the upper edges of said mouth-piece and in conjunction with said mouth-piece providing an annular compartment, valve-lowering members pivotally mounted in the compartment between said mouth-piece and said funnel and extending downwardly into said cover, a spider detachably mounted in the upper end of said receptacle, a spring-pressed valve supported by said spider and adapted to close the lower end of said mouth-piece, spring-pressed latches normally holding said valve in an open position, and means for automatically moving said latches to release said valve, said means including a weight suspended from said spider and connected to the lower ends of said latches.

969,743. COOLING-TOWER. JOSEPH WILLIAM BECK, Cincinnati, Ohio, assignor of one-half to John C. Metzger, Cincinnati, Ohio. Filed Apr. 18, 1906. Serial No. 312,472.



1. A cooling tower of the class described, comprising a plurality of distributing pans, a plurality of collecting pans associated therewith and alternately arranged with respect to the distributing pans, whereby each of the collecting pans is adapted to receive the drip from the distributing pan immediately above, and means arranged intermediate the edges of the distributing and collecting pans for subjecting the drip in the transit of the liquid through the tower to the action of a cooling agent projected under pressure in an inverted conical sheet across the path of the drip.

2. A cooling tower of the class described, comprising a plurality of distributing pans, a plurality of collecting pans associated therewith and alternately arranged with respect to the distributing pans, whereby each of the collecting pans is adapted to receive the drip from the distributing pan immediately above each of the distributing and collecting pans having peripheral flanges, the flanges of the collecting pans overlapping the distributing pans to prevent splashing of the water therefrom, and means for subjecting the drip in the transit of the liquid through the tower to the action of a cooling agent.

3. A cooling tower of the class described, comprising a plurality of distributing pans, a plurality of collecting pans associated therewith and alternately arranged with respect to the distributing pans, whereby each of the collecting pans is adapted to receive the drip from the distributing pan immediately above, a pipe passing through the distributing and collecting pans for conveying a cooling agent, and nozzles carried by said pipe and arranged

in the spaces between each of the collecting pans and the distributing pan thereabove for directing the cooling agent across the path of the drip in the transit of the liquid through the tower, each of said nozzles comprising a valve chamber, and a valve adjustable relatively thereto.

4. A cooling tower of the class described, comprising a plurality of convex distributing pans, a plurality of concave collecting pans associated therewith and alternately arranged with respect to the distributing pans, whereby each of the collecting pans is adapted to receive the drip from the distributing pan immediately above, each of the distributing and collecting pans being provided with flanges, the flanges of the collecting pans overlapping the distributing pans to prevent splashing of the liquid from the pans, a pipe passing through the distributing and collecting pans for conveying a cooling agent, and nozzles carried by said pipe and arranged in the spaces between each of the collecting pans and the distributing pan thereabove for directing the cooling agent across the path of the drip in the transit of the liquid through the tower.

5. A cooling tower of the class described, comprising a plurality of convex distributing pans, a plurality of concave collecting pans associated therewith and alternately arranged with respect to the distributing pans, whereby each of the collecting pans is adapted to receive the drip from the distributing pan immediately above, each of the distributing and collecting pans being provided with flanges, the flanges of the collecting pans overlapping the distributing pans to prevent splashing of the liquid from the pans, a pipe passing through the distributing and collecting pans for conveying a cooling agent, and nozzles carried by said pipe and arranged in the spaces between each of the collecting pans and the distributing pan thereabove for directing the cooling agent across the path of the drip in the transit of the liquid through the tower, each of said nozzles comprising a valve chamber, and a valve adjustable relatively thereto.

[Claims 6 to 8 not printed in the Gazette.]

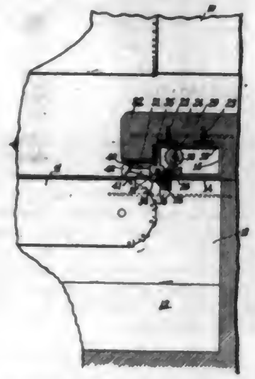
969,744. ANTISKIDDING PROTECTOR. GEORGE W. BIEBER, Pittsburg, Pa. Filed July 15, 1909. Serial No. 507,835.



An armor for pneumatic tires comprising a band having a circumferentially extending peripheral enlargement positioned at a point removed from each side and edge of the band whereby the band at each side of the enlargement will be of less thickness than said enlargement, said enlargement provided throughout with two circumferentially extending series of threaded sockets of a depth less than the thickness of the enlargement, each series arranged in proximity to an edge of the enlargement, a headed pin having a screw threaded shank detachably engaging in each of said sockets, the heads of said pins abutting against said enlargement, an asbestos filler arranged against the inner face of said band, a canvas strip positioned against said asbestos filler, and a circumferentially-extending series of hold-fast devices extending through reduced portions of the band and the asbestos and canvas for connecting the band and canvas together.

969,745. FURNACE. CHARLES A. CARLETON, Cumberland Mills, Me., assignor of one-half to William G. McClintock, Booth Bay Harbor, Me. Filed Mar. 30, 1910. Serial No. 552,295.

1. In a furnace, an ash pit, bearings, a movable grate adapted to carry the fuel bed toward said ash pit, a movable stop carrier located in said furnace and supported by said bearings, and a manually-operable member supported upon said carrier and in operative engagement with said bearings, whereby it can be actuated from the outside of the furnace, to adjust said carrier toward and away from said grate, said carrier having means for limiting the movement of the fuel bed.



2. In a furnace, a movable grate, an ash pit at the rear thereof, bearing housings at each side of said furnace adjacent to said ash pit, a carrier slidably engaging said housings, and having a plurality of stops, a shaft journaled upon said carrier and projecting to the outside of the furnace, said shaft at the projecting end having means permitting its manipulation, a gear rigid with said shaft, and a fixed rack in mesh with said gear.

3. In a furnace, a movable grate, an ash pit at the rear thereof, bearing housings at each side of said furnace adjacent to said ash pit, said housings comprising rectangular frames having upper and lower members, end members inwardly offset to form seats, a bridge wall supported upon said seats, said lower members of said housings constituting bearing surfaces and having upwardly-disposed flanges at their outer edges, a carrier slidably mounted on said lower members of said housings between said flanges and having a plurality of stops, a shaft journaled upon said carrier and projecting to the outside of the furnace, said shaft at the projecting end having means permitting its manipulation, and gears rigid with said shaft, said housings having fixed racks in mesh with said gears.

4. In a furnace, a movable grate, bearing housings at the sides of the furnace, a support extending transversely of said housings, a bridge wall carried by said support, a further support carried by said housings and extending transversely of the furnace, a covering wall carried by said other support and extending to said bridge wall, and an adjustable stop supported by said housings and serving to limit the fuel bed.

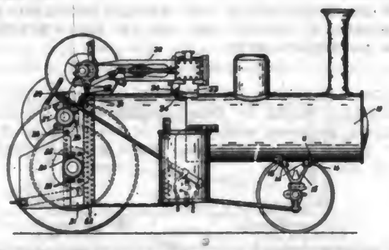
5. In a furnace, a movable grate, a carrier adjustably mounted adjacent to said grate, saddles mounted upon said carrier, and stops carried by said saddles.

[Claim 6 not printed in the Gazette.]

969,746. BOILER. HARRY C. CLAY, Columbus, Ind., assignor to Reeves & Company, Columbus, Ind., a Corporation of Indiana. Filed Dec. 13, 1909. Serial No. 532,775.

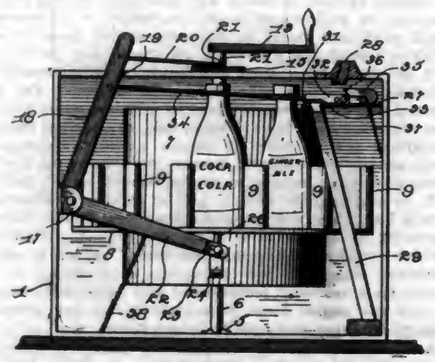
1. In a traction engine, the combination with the boiler shell, of a pair of circumferentially arranged angles permanently connected to said shell, and a king-post member detachably secured to the vertical arms of both said angles.

2. In a traction engine, the combination with the boiler shell, of a pair of circumferentially arranged angles permanently connected to said shell with their horizontal arms projected in opposite directions, and a king-post member detachably secured to the vertical arms of both said angles.



3. In a traction engine, the combination of the boiler shell, a circumferentially arranged fixture-receiving angle permanently connected to the shell, a second fixture-receiving member also attached to the boiler and a fixture connected to said second member and also detachably connected to the free arm of said angle in such manner that, upon expansion of the shell, the fixture will tend to swing the free arm of the angle away from the other arm of the angle.

969,747. BOTTLE-VENDING MACHINE. JOHN B. CLAY, Shelby, N. C., assignor of one-half to J. W. Spangler, Shelby, N. C. Filed June 26, 1909. Serial No. 504,585.



1. A vending machine comprising a casing provided with an opening, a bottle support rotatably mounted therein, a lever mounted in said casing, and a bottle lifter pivoted to said lever and adapted to lift a bottle from said receptacle and force the same through said opening.

2. A vending machine comprising a casing provided with an opening, a bottle supporting receptacle rotatably mounted therein, a plurality of bottle cells carried by said casing, a lever mounted in said casing, and a bottle lifter pivotally connected to said lever and adapted to remove a bottle from one of said cells and force the same through said opening.

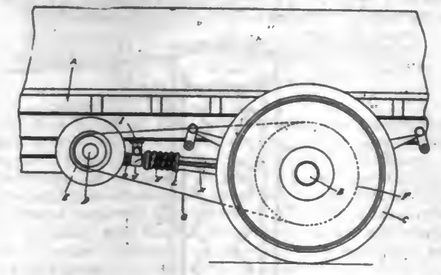
3. A vending machine comprising a casing, a bottle supporting receptacle rotatably mounted therein, a plurality of spaced apart bottle cells carried by said casing, each cell being provided with a bottom opening, a bell crank lever mounted in said casing, a locking bar carried by said lever, and a bottle lifter carried by said lever and adapted to be forced through the bottom opening of one of said cells to remove a bottle therefrom when said bar is released.

4. A vending machine comprising a casing with an opening in its top, a bottle support in said casing, a rocking lever pivotally mounted in said casing, a door for said opening having a connection with said lever, and a bottle lifter also carried by said lever and adapted to raise a bottle from said support and force the same through the opening in the casing when said lever is rocked to remove the door.

5. A vending machine comprising a casing provided with an opening, a receptacle rotatably mounted therein, a handle for rotating said receptacle, a shelf surrounding said casing and provided with a plurality of bottle cells, and a lifter adapted to be forced through said opening in said casing.

[Claims 6 and 7 not printed in the Gazette.]

969,748. RADIUS-ROD. HOWARD E. COFFIN, Detroit, Mich. Filed Apr. 13, 1908. Serial No. 426,759.



1. A radius rod comprising two members having a limited longitudinal adjustable engagement with each other, a spring for holding the members at the outer limit of their adjustment, and a bearing adjustably engaging one of said members whereby the length of the radius rod may be varied.

2. A radius rod comprising a member having a shoulder thereon and a projecting shank, a sleeve slidably engaging said shank, a spring interposed between said sleeve and said shoulder, a collar or stop on said shank upon the opposite side of said sleeve, and a bearing for said sleeve adjustably engaging the same.

3. The combination with a vehicle frame and an axle having a pivotal connection with said frame, of a radius rod pivotally secured at one end to said frame and at the other end to said axle, said rod comprising sections having a limited longitudinal adjustable engagement with each other, a spring for holding the members at the opposite limits of their adjustment, and a bearing adjustably engaging one of said members, whereby the length of the radius rod may be varied.

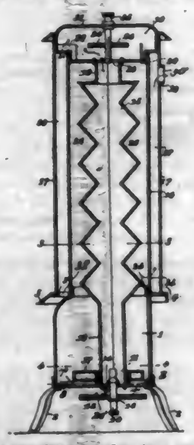
4. The combination with a vehicle frame and the axle, of a radius rod secured to the axle comprising a member having a shoulder thereon and a projecting shank, a sleeve slidably engaging said shank, a spring interposed between said sleeve and shoulder, a collar or stop on said shank upon the opposite side of said sleeve, and a bearing for said sleeve adjustably engaging the same, said bearin, being pivotally secured to the frame.

969,749. HEATER. CHARLES E. DE FORREST, Lima, Ohio, assignor of one-third to Ellis E. Jones and one-third to Russell L. Armstrong, Lima, Ohio. Filed Jan. 19, 1909. Serial No. 473,203.

1. A heater comprising a fire box, an air-shaft having its lower portion extended through the fire box, inner and outer casings surrounding the upper portion of the air-shaft and spaced therefrom and from each other, the space between the air-shaft and the inner casing being subdivided into vertical passages which are in communication at their upper ends, one of said passages having direct communication at its lower end with the fire box and the other being closed at its lower end and having direct communication with a portion of the space formed between the inner and outer casings.

2. A heater comprising a fire box, an air-shaft having its lower portion extended through the fire box, inner and outer casings surrounding the upper portion of the air-shaft and spaced therefrom and from each other, the space between the air-shaft and the inner casing being subdivided into vertical passages which are in communica-

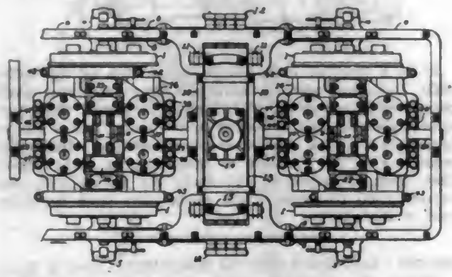
tion at their upper ends, one of said passages having direct communication at its lower end with the fire box and the other being closed at its lower end and having direct communication with a portion of the space formed between the inner and outer casings, and the space between the inner and outer casings being subdivided, the portion having direct communication with the lower end of the space surrounding the air-shaft being provided at its upper end with an outlet and the remaining portion having its upper end in communication with the upper portion of the air-shaft and having its lower portion in communication with the room or place in which the heater is situated to discharge the heated air into the said room.



3. A heater comprising a fire box, an air-shaft having its lower portion extended through the fire box, inner and outer casings surrounding the upper portion of the air-shaft and spaced therefrom and from each other, the space between the air-shaft and the inner casing being subdivided into vertical passages which are in communication at their upper ends, one of said passages having direct communication at its lower end with the fire box and the other being closed at its lower end and having direct communication with a portion of the space formed between the inner and outer casings, and the space between the inner and outer casings being subdivided, the portion having direct communication with the lower end of the space surrounding the air-shaft being provided at its upper end with an outlet and the remaining portion havings its upper end in communication with the upper portion of the air-shaft and having its lower portion in communication with the room or place in which the heater is situated to discharge the heated air into the said room, and a damper for regulating the communication between the upper portion of the air-shaft and the portion of the space between the inner and the outer casings having communication therewith.

4. A heater comprising a firebox having a damper controlled opening in its bottom, an air shaft extending through said firebox and in communication at its lower end with the damper controlled opening, casings spaced from each other and the air shaft, a transverse plate connecting the upper ends of the air shaft and casings and provided with a damper controlled opening in communication with the upper end of said air-shaft, a top plate fitted to said transverse plate and spaced from the latter to form an intermediate chamber, the space between the casings being divided vertically to form front and rear ducts, one of which is closed at its opposite ends and provided with an intermediate outlet, the other duct being in communication with said intermediate chamber and with the interior of the room, said transverse plate being provided with openings leading into the duct having communication with the interior of the room, and means sub-dividing the space between the air-shaft and the inner casing into vertical passages which are in communication at their upper ends about the upper portion of the air-shaft, one of said passages having direct communication at its lower end with the firebox and the other passage having direct communication at its lower end with the duct provided with said intermediate outlet.

969,750. RAILWAY-ENGINE FOR CARS AND LOCOMOTIVES. JAMES D. DONOVAN, Kansas City, Mo., assignor, by mesne assignments, of two-thirds to William F. Davis, Kansas City, Mo. Filed Mar. 17, 1909. Serial No. 484,024.



1. In combination with a pair of railway car or locomotive wheels and wheel axles, an engine frame adapted to receive vertical cylinders and journaled on said axle, bearings in said engine frame to receive a transverse crank shaft and means to hold said engine frame from rotating around said wheel axle, for the purpose set forth.

2. In combination with a railway car or locomotive wheel axle and pair of wheels, to which said wheel axle is secured, an engine frame adapted to receive vertical cylinders and supported by said wheel axle, said engine frame containing journal boxes to receive a transverse crank shaft and a supporting arm loosely connected to the truck frame of a car or locomotive, all for the purpose set forth.

3. In combination with a pair of car or locomotive wheels and wheel axle secured therein, an engine frame journaled on said axle between said wheels, cylinders arranged vertically on said engine frame, pistons in said cylinders, connecting rods connecting said pistons to a transverse crank shaft journaled in said frame and means to hold said engine frame from turning over and around said wheel axle, substantially as set forth.

4. In combination with a railway car or locomotive wheel axle and wheels secured thereon, an engine frame journaled to said axle between said wheels, cylinders arranged vertically and secured to said engine frame, pistons in said cylinders, connecting rods connecting said pistons to a transverse crank shaft journaled in said engine frame, a gear secured to said crank shaft, a coöperating gear encircling said wheel axle, and means to hold said engine frame from rotating around said wheel axle, substantially as set forth.

5. In combination with a railway car or locomotive wheel axle and wheels secured thereto, an engine frame journaled to said wheel axle between said wheels, cylinders arranged vertically and secured to said engine frame, pistons in said cylinders, connecting rods connecting said pistons to a transverse crank shaft journaled to said engine frame, a gear on each end of said crank shaft, coöperating gears encircling said wheel axle, means to engage said last named gear to the wheels or wheel axle and means to hold said engine frame from rotating around the wheel axle, substantially as set forth.

[Claims 6 to 34 not printed in the Gazette.]

969,751. FOLDING SHIPPING BOX AND CRATE. WILLIAM E. GRAZER, Pittsburg, and CHARLES J. GRAZER, Fairhaven, Pa. Filed May 21, 1910. Serial No. 562,713.

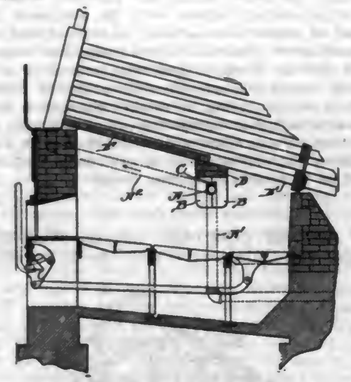
A folding box or crate embodying a bottom plate, a rear wall hinged upon the upper rear edge of said bottom plate, vertical links carried by the rear side of said

rear wall, a lid provided with yokes loosely connected to said links and adapted to receive when at the lower ends of said links said rear wall and said bottom plate, end walls hinged to the vertical edges of said rear wall and adapted to fold inwardly, lateral flanges carried by the lower edges of said end walls and adapted to support the



ends of said bottom plate, front wall formed of a pair of sections hinged to the vertical front edges of said end walls a latch carried by one of the sections of the front wall, and means carried by the other of the sections of the front wall and adapted to be engaged by the latch for locking said sections together.

969,752. DEFLECTOR FOR FURNACES. MALCOLM GREEN, Boston, Mass. Filed May 18, 1910. Serial No. 561,976.



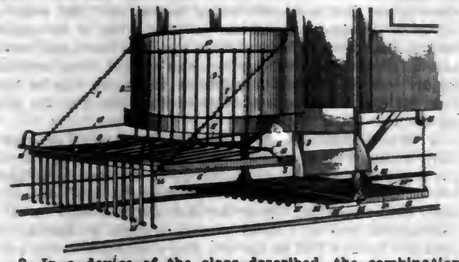
1. In a fire-box deflector, the combination of a tubular supporting girder, a saddle fitting over said girder and channeled on its upper side, mutually matching blocks of refractory material recessed to embrace the girder and fit the channeled saddle, inclosing the girder and suspended by the girder, and means to maintain cooling circulation in the tubular girder.

2. In a fire-box deflector, the combination of a tubular supporting girder, a saddle fitting over said girder composed of interlocking sections, channeled on their upper side, mutually matching blocks of refractory material recessed to embrace the girder and fit the channeled saddle, inclosing the girder and suspended by the girder, and means to maintain cooling circulation in the tubular girder.

969,753. AUTOMATIC CAR-FENDER. ALEXANDER JOSEPH HAGAN, Represa, Cal., assignor of one-half to Charles Murray, Represa, Cal. Filed Feb. 2, 1910. Serial No. 541,526.

1. In a device of the class described, the combination with a support, of a frame connected to said support, flexible suspension means for said frame, a plurality of flexible strips connected to said frame and suspension means, and a floating bar loosely engaging said strips and capable of movement relative thereto, for holding said strips in a cradle-like form.

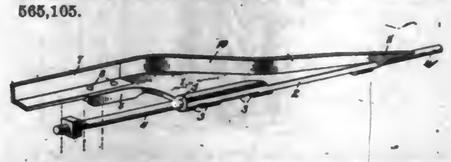
2. In a device of the class described, the combination with a support, of a frame pivotally connected to said support, flexible suspension means for said frame, flexible strips connected to said frame and said suspension means, a bar loosely engaging said strips intermediate their ends and capable of movement relative thereto, and flexible connections between said bar and said frame.



3. In a device of the class described, the combination with a support, of a frame pivotally connected to said support, flexible suspension members for said frame, a transverse bar connected to said frame, a transverse bar connected to said suspension members, a plurality of flexible strips connected to said bars at each end, a transverse bar engaging said flexible strips intermediate their ends, and a flexible connection between said last-mentioned bar and said frame.

4. In a device of the class described, the combination with a car, of supporting brackets depending from said car, a frame pivotally connected to the forward end of said brackets, flexible suspension members for said frame, a plurality of flexible strips connected to said frame and said suspension members, a trip pivotally connected to said frame, a fender pivotally connected to said brackets, a flexible connection between said trip and said fender, whereby said trip is adapted to actuate said fender, means for locking said fender, and means for releasing said locking means from the interior of said car.

969,754. TROLLEY-SHIFTER. SAMUEL L. HANSON, Albert Lea, Minn. Filed June 4, 1910. Serial No. 565,105.



1. The combination with a flexible track section, and a rigid track section arranged parallel therewith, of a trolley-shifting device comprising a base plate provided along one edge with means for securing the flexible track section and secured at its opposite edge to the end of the rigid track section, and having a trolley-guiding rib on its upper side extending between its edges and leading from the trolley-receiving surface of one track section to the similar surface of the other track section.

2. The combination with a flexible track section, and a rigid track section arranged parallel therewith, of a trolley shifting device comprising a base plate adapted to be secured to the rigid track section and provided on its under side with means for securing the flexible track section, and provided on its upper side with a trolley-guiding rib adapted to fit against the end of the rigid track section at one end and having its other end beveled to merge into the surface of the flexible track section.

3. The combination of a flexible track section, a base plate provided in its under side along one edge with a groove receiving the said track section and having means for clamping the said track section, the said base plate being further provided with a recess in its upper side at one end and a rib on its upper side having one end beveled to merge into the upper surface of the flexible track section, and a rigid track section rigidly secured within the recess in the upper side of the base plate and having a member corresponding to the rib on the base plate.

4. The combination of a flexible track section, a base plate provided in its under side along one edge with a groove receiving the said track section and having lips at the opposite sides of the groove to clamp the said track section, the said base plate being further provided with a recess in its upper side at one end and a rib on its upper side having one end beveled to merge into the upper surface of the flexible track section, and a rigid track section rigidly secured within the recess in the upper side of the base plate and having a member corresponding to the rib on the base plate.

5. In combination with the base plate having a substantially straight edge at one side and an upstanding rib at the opposite side, said rib being given an ogee form and having one end beveled to merge into the said straight edge, means provided along the said straight edge for attaching one end of a track section thereto in alinement with the beveled end of the rib, and a separate track section attached to the plate in alinement with the other end of said rib.

969,755. APPARATUS FOR CUTTING WELL-PUMPING CABLES. GEORGE A. SPANG, Butler, Pa. Filed Jan. 13, 1910. Serial No. 537,920.



1. The combination of a tubular body having opposite inwardly and downwardly extending cutter passages, cutters and cutter driving means telescoping and moving longitudinally of the body.

2. The combination of a tubular body having opposite downwardly and inwardly curved cutter passages with the outer ends of the passages opening upwardly, curved opposing cutters in said passages and extending upwardly therefrom, and cutter driving means movable longitudinally of the body.

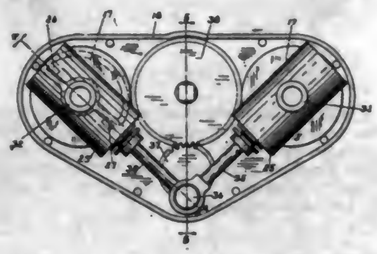
3. The combination of a tubular body having opposite inwardly and downwardly curved cutter passages with the outer ends of the passages opening upwardly, curved opposing cutters in said passages and extending upwardly therefrom, and cutter driving means telescoping and movable longitudinally of the body.

4. The combination of a tubular body having a shoulder forming enlargement adjacent its lower end and formed with opposite inwardly extending cutter passages which are open through the top surface of the shoulder, opposing cutters movable in and projecting from the passages, and cutter driving means.

5. The combination of a tubular body having a shoulder forming enlargement adjacent its lower end with opposite downwardly and inwardly curved cutter passages extending downwardly from the top surface of the shoulder, curved opposing cutters movable in the passages and at the outer side of the body above said shoulder, and cutter driving means movable vertically on the exterior of the body, and means for limiting such vertical movement.

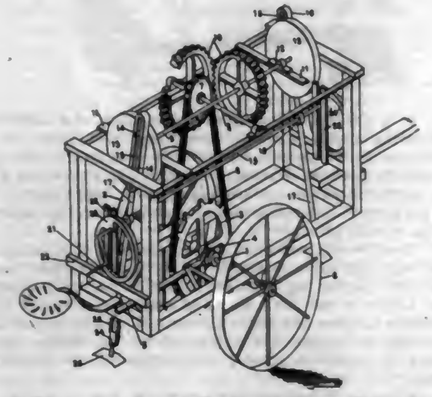
[Claims 6 to 9 not printed in the Gazette.]

969,756. GAS-ENGINE STARTER. FRANK THEADORE SWEIGART, Kokomo, Ind. Filed Jan. 29, 1909. Serial No. 475,014.



An automobile starter, comprising a main casing having admission chambers, a pair of oscillating cylinders journaled within the main casing and provided with ports adapted to alternately register with the admission chamber, a pair of pistons one mounted in each of said cylinders, a crank-shaft journaled in said casing and connected with said pistons, a main shaft also journaled in said casing and having its opposite ends projected from opposite sides of the casing, a ratchet connection having one member attached to a projected end of said main shaft and the other member adapted for connection with a shaft of an engine, the opposite end of said main shaft being so formed as to receive a starting crank.

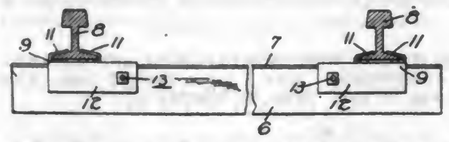
969,757. COTTON-CHOPPER. CHARLES WILB WEBER, McGregor, Tex. Filed Dec. 7, 1909. Serial No. 531,913.



1. In a cotton chopper, the combination with the frame, axle, and transporting wheels thereof, of a vertically adjustable rod extending longitudinally of the frame, a plurality of hoe shanks pivotally mounted upon said rod, each shank having a slotted upper extremity, a wheel rotatably mounted adjacent to the slotted portion of each shank, a pin carried upon each wheel, entering the slot of the adjacent shank, a shaft upon which said wheels are mounted, mechanism adapted to communicate rotation to said shaft from the transporting wheels, means by which the operation of said mechanism may be interrupted a hoe blade pivoted upon the lower extremity of each hoe shank, and resilient means by which the hoe blades are normally retained in their working positions.

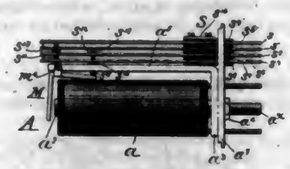
2. In a cotton chopper, the combination with the frame, axle, and transporting wheels thereof, of a horizontal rod, extending longitudinally of the cotton chopper, rings resting upon the frame at the extremities thereof, in which rings the rod is eccentrically mounted, means for manually rotating said rings, means for restricting the motion of the rod to a vertical direction, hoe shanks pivotally mounted upon said rod at their middle portions, the upper extremities of said shanks being slotted, wheels adapted to rotate adjacent to the slotted portions of said shanks, a pin carried by each of said wheels, projecting into the slot of the adjacent hoe shank, a shaft mounted longitudinally of the cotton chopper, upon which said wheels are fast, mechanism adapted to communicate rotation to said shaft from the transporting wheels, and blades carried by the hoe shanks.

969,758. RAILWAY-TIE. MANNIE R. WHARRAM, San Antonio, N. Mex. Filed Sept. 19, 1907. Serial No. 393,702.



The combination of a rail tie, a base plate on the upper side thereof and co-extensive in width therewith, so that the side edges of said plate are coincident with the vertical sides of said tie, a pair of rail securing devices on the ends of said base plate, each of said rail securing devices having a pair of down-turned flanges bearing against the side edges of said base plate and the vertical sides of said tie, and a pair of upwardly and inwardly extending flanges, bolts extending transversely through the tie and through said down-turned flanges and coacting with the latter to secure said base plate and said rail securing devices on the tie, fastening means extending through said rail securing devices and said base plate, securing said rail securing devices to said base plate and disposed under said upwardly and inwardly extending flanges of said rail securing devices, and rails disposed on said rail securing devices with their bases bearing on the upper ends of the said devices which secure said rail securing devices and said base plate together, the base flanges of the said rails being engaged and over-hung by the said upwardly and inwardly extending flanges of said rail securing devices.

969,759. ELECTRICAL RELAY. EDWARD E. CLEMENT, Washington, D. C., assignor to The North Electric Company, Cleveland, Ohio, a Corporation of Ohio. Filed Sept. 10, 1906. Serial No. 333,981.



1. An electrical relay comprising an electromagnet, a return bar carried by the core of said magnet, and extending to a point approximately flush with the front end of the core, circuit changing devices, an armature supported on the bar and an operating connection from the circuit changing devices through the bar to the armature.

2. An electrical relay comprising an electromagnet, a return bar secured to the core of said electromagnet, an armature pivotally carried by said bar, contact springs carried by said bar and an operating connection between the armature and the contact springs passing through the bar.

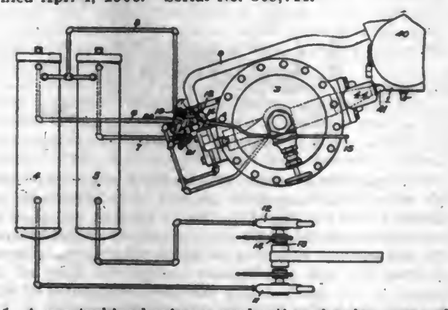
3. An electrical relay comprising an electromagnet, a return bar carried by the core of said electromagnet, contact springs mounted upon said bar, an armature pivotally suspended from the front end of said bar, and an operating connection between the contact springs and the armature which extends through the bar.

4. An electrical relay comprising an electromagnet, a return bar secured to the core of said electromagnet and extending forward to a point approximately flush with the front end of the core, contact springs secured upon the rear of said bar and extending forward so as to have their contact points visible and accessible from the front of the relay, an angular armature pivotally supported upon the front end of said bar, and an operating connection between the contact springs and the armature which extends through the bar.

5. An electrical relay comprising an electromagnet, a return bar secured upon the rear end of the core thereto and extending forward to a point approximately flush with the front end of the core, contact springs secured upon the rear end of said bar and extending forward parallel with the same so as to have their contact points visible and accessible from the front of the relay, an angular armature having a depending portion extending in front of the core and a substantially horizontal portion extending over the magnet spool and beneath the bar, with operating connections between the horizontal portion of the armature and the several contact springs.

[Claims 6 to 13 not printed in the Gazette.]

969,760. GAS-TURBINE. SANFORD A. MOSS, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Original application filed Dec. 31, 1904, Serial No. 239,089. Divided and this application filed Apr. 4, 1906. Serial No. 309,744.



1. A gas turbine having a combustion chamber, rows of wheel buckets for abstracting the energy of the gas received from the combustion chamber, in combination with a nozzle discharging products of combustion against the buckets to produce rotation, intermediate buckets, passages extending longitudinally through the intermediate buckets for conveying a cooling fluid to reduce the temperature, means separating the outer ends of the passages into sets, conduits that convey the cooling fluid to and from said sets, and conduit means connecting the inner ends of the passages.

2. A gas turbine having a combustion chamber and rows of wheel buckets for fractionally abstracting the energy received from the combustion chamber, in combination with intermediate buckets located between the wheel buckets, a segmental support therefor, a chamber in the support, and conduits for conveying cooling fluid to and from the chamber which pass through said intermediate buckets.

3. A gas turbine having a combustion chamber and rows of wheel buckets for fractionally abstracting the energy received from the combustion chamber, in combination with intermediate buckets located between the wheel buckets, passages extending through the intermediate buckets, conduits conveying fluid to certain of said passages and from others of the passages, and conduit means connecting said sets of passages.

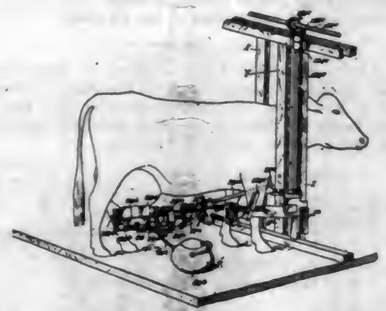
4. A gas turbine having a combustion chamber, rows of wheel buckets for fractionally abstracting the energy re-

ceived from the combustion chamber, a wheel shaft, and a casing, in combination with intermediate buckets located between the wheel buckets, a support for the intermediate buckets containing a chamber located between the casing and the wheel shaft, passages extending through certain of the buckets for conveying fluid into the chamber, and other passages extending through others of the buckets for conveying fluid from the chamber.

5. In a gas turbine, the combination of a wheel having buckets thereon, a combustion chamber, a nozzle for discharging the products of combustion directly against the buckets to cause rotation and so located that its discharge end is in close proximity to said buckets, and a casing for the wheel having a segmental annular opening in one side thereof adjacent the wheel buckets through which the nozzle extends, the said nozzle being separated from the wall of the opening by a passage through which air from the region surrounding the turbine passes to reduce the temperature of said nozzle.

[Claims 6 to 9 not printed in the Gazette.]

969,761. MECHANICAL MILKER. LEONARD LEACH STORY, East Fairfield, Vt. Filed Sept. 13, 1909. Serial No. 517,462.



1. A mechanical milker, comprising a supporting frame for the milking mechanism adapted to be adjustably attached to the building structure at stations provided, an arm extended from said frame adapted to extend between the fore legs and brisket of the animal and having a spring to press the said arm upward against the body of the animal, a teat manipulating mechanism supported by said frame, a driving mechanism permanently mounted on the structure, and a transmission mechanism mounted on said supporting frame adapted to connect said driving mechanism and teat manipulating mechanism.

2. A mechanical milker, comprising a supporting frame embodying a plurality of arms hingedly connected and provided with a spring to raise the outer end of the said arms, an arm extended from said frame adapted to extend between the fore legs and brisket of the animal, a teat manipulating mechanism supported by said frame, a driving mechanism permanently mounted on the structure, and a transmission mechanism mounted on said supporting frame adapted to connect said driving mechanism and teat manipulating mechanism.

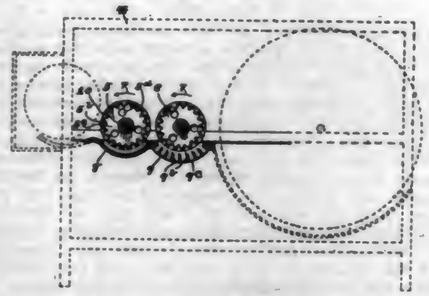
3. A mechanical milker, comprising a supporting frame embodying a plurality of arms hingedly connected and having a spring member to raise the same at the outer end thereof, adjustable tension devices to vary the tension of said spring member, a teat manipulating mechanism supported by said frame, a driving mechanism permanently mounted on the structure, and a transmission mechanism mounted on said supporting frame adapted to connect said driving mechanism and teat manipulating mechanism.

4. A mechanical milker, comprising a supporting frame for the milking mechanism, embodying a plurality of arms hingedly connected and having a spring member to raise the outer end thereof, an arm extended from said frame adapted to extend between the fore legs and brisket of the animal, a teat manipulating mechanism supported by said frame, a driving mechanism adapted to reciprocate said supporting mechanism vertically at the end carrying said manipulating mechanism, and a transmission mechanism mounted on said supporting frame adapted to connect the said driving mechanism and said teat and reciprocating mechanisms.

5. A mechanical milker, comprising a supporting frame for the milking mechanism adapted to be attached to the building structure at stations provided, a holding member attached to said frame and adapted to engage the body of the animal in guided relation thereto, a teat manipulating mechanism operating to compress the teats mechanically, an operating mechanism adapted to reciprocate the said supporting frame vertically at the end carrying said manipulating mechanism, a driving mechanism permanently mounted on the structure, and a transmission mechanism mounted on said supporting frame adapted to connect said driving mechanism and teat and reciprocating mechanisms.

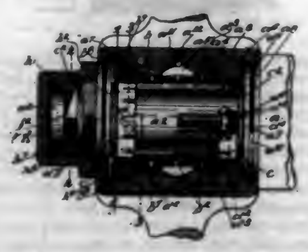
[Claims 6 to 41 not printed in the Gazette.]

969,762. MACHINE FOR CLEANING AND SEPARATING COTTON. JOHN S. LYLE, McCloud, Okla. Filed Aug. 17, 1909. Serial No. 513,328.



A machine for cleansing and separating cotton, comprising a casing with hollow rollers having heads journaled in said casing, said heads having a plurality of inlet air openings therein, said rollers provided with slats arranged at an angle to the radius thereof, one of the rollers having a reticulated concave arranged beneath the same, the other roller being arranged parallel with the first mentioned roller and having a support beneath the same parallel with a row of upwardly extended slats thereon arranged in concave form, the upper ends of said slats being rearwardly beveled to provide sharp front cutting edges which extend parallel with the axis of said roller, the angled position of the rollers permitting of air to radiate when said rollers revolve, and the inlet openings adapted to replace the air.

969,763. ROLLER-BEARING. JOHN NEWMANN, Brooklyn, N. Y. Filed Sept. 1, 1909. Serial No. 515,563.



1. In a roller-bearing, a cylindrical roller cage comprising annular end members and parallel rollers fitted in and rotatable in said annular end members, said annular end members being also provided with balls which are placed in suitable recesses formed therein and which operate in corresponding annular grooves formed in the end portion of said rollers.

2. In a roller bearing, a cylindrical roller cage, comprising annular end members and parallel rollers fitted in and rotatable in said annular end members, said annular end members being provided with longitudinally ranging web portions between which said rollers are placed, and said web portions being provided with balls which operate in corresponding annular grooves formed in the end portions of said rollers.

3. In a roller bearing, a cylindrical roller cage, comprising annular end members and parallel rollers fitted in and rotatable in said annular end members, said annular end members being provided with longitudinally ranging web portions between which said rollers are placed, and said web portions being provided with balls which operate in corresponding annular grooves formed in the end portions of said rollers, one of said web portions at each end being provided with a radial aperture which opens outwardly.

REISSUES.

13,149. TOILET ARTICLE. JOSIE A. WANOUS STUART, Minneapolis, Minn., assignor to Daniel Erb, Grand Rapids, Mich. Filed June 20, 1910. Serial No. 568,058. Original No. 893,117, dated July 14, 1908, Serial No. 389,913.

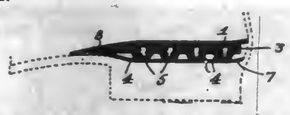


1. A permeable bag normally inclosed within an impervious covering, the said permeable bag serving as a receptacle and as a strainer for a hair tonic mixture, said hair tonic mixture embodying fibrous substances which are adapted to serve as a sponge when the tonic ingredients are extracted, and said impervious covering being adapted to serve as a portection for the said permeable bag and its contents until removed for use, substantially as set forth and for the purposes specified.

2. An article of manufacture comprising a permeable bag normally inclosed within an outer covering said permeable bag serving as a receptacle and strainer for a hair tonic mixture, said hair tonic mixture embodying fibrous substances which together with said permeable bag is adapted to serve as a sponge when the aqeuous extract is expressed, substantially for the purposes set forth.

3. An article of manufacture comprising a permeable bag 5 normally inclosed within a protective covering 7, said permeable bag serving as a receptacle and strainer for a hair tonic mixture 4, said hair tonic mixture embodying fibrous substances enabling said permeable bag and its contents to assume the consistency of a sponge when the aqueous extract is expressed, and said outer covering being adapted to confine the odors and other desirable qualities of said hair tonic mixture until removed for use, substantially for the purposes set forth.

13,150. HEEL-CUSHION. MATTHEW BYRNE, San Francisco, Cal. Filed Jan. 28, 1909. Serial No. 474,888. Original No. 897,874, dated Sept. 8, 1908, Serial No. 331,764.



1. A heel cushion for shoes comprising a relatively thick body having a plurality of frusto-conical projections depending from its lower face, hermetically-closed vertically disposed air-chambers arranged in each of the several projections of the body, a forwardly projecting tongue carried by said body, upwardly extending wells formed in the lower face of said body between said air cells, a retaining strap cemented in the shoe beneath said body, a pliable tread lift applied over said body, and a transverse row of stitching passing through the lift, the tongue and the retaining strap, said tread lift projecting beyond the tongue and lying well over the instep of the shoe.

2. A cushion for the inside of a shoe comprising a flexible and elastic sheet-like body of impervious material shaped to fit the inside of the shoe and having a multiplicity of small individual projections extending downwardly from its under surface and integral therewith, each of said projections having therein a hermetically-sealed air chamber whereby a series of separated pneumatic cushions having elastic walls extending below the sheet-like body are provided.

3. A cushion for the inside of a shoe comprising an upper layer of leather and a sheet-like body of soft rubber secured to the underside of said leather layer and having a multiplicity of individual projections spaced apart and integral with said rubber sheet and extending downwardly from its under surface, each of said projections having elastic walls and inclosing a cavity within the walls, the said cavities being connected across the top by the material of which the pad is formed to prevent spreading of the walls, the material above the cavities and the walls together serving to hermetically seal said cavities and confine the air therein.

4. A heel cushion for the inside of a shoe comprising a pliable sheet-like body of soft rubber shaped to fit the inside of the shoe and having a multiplicity of individual projections spaced apart and integral therewith extending downwardly from its under surface, each of said projections having elastic walls and a hermetically sealed internal air chamber, and said sheet-like body having cut out portions therein intermediate the projections to provide expansion spaces for the walls of the chambers.

5. A heel cushion for the inside of a shoe comprising a pliable upper layer of leather shaped to fit the inside of the shoe and a sheet-like body of soft rubber secured to the underside of the upper layer and having a multiplicity of individual projections spaced apart and integral therewith extending downwardly from its under surface, each of said projections having elastic walls and a single hermetically sealed internal air chamber, and said sheet-like body having cut-out portions therein intermediate the projections to provide expansion space for the walls of the chambers.

DESIGNS.

40,857. SHRINE. FELIX H. MCCANN, New York, N. Y. Filed June 21, 1910. Serial No. 568,225. Term of patent 7 years.



The ornamental design for a shrine, as shown.

40,858. COIN-HOLDER AND VINAIGRETTE. SIDNEY O. BIGNEY, Attleboro, Mass. Filed June 30, 1910. Serial No. 569,841. Term of patent 3½ years.

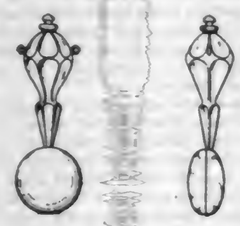


FIG. 1. FIG. 2.

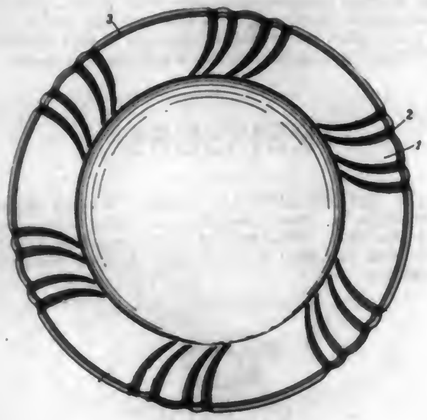
The ornamental design for a coin holder and vinaigrette, as shown.

40,859. CARD-CASE OR SIMILAR ARTICLE. ERLE R. SHEPPARD, New York, N. Y. Filed July 7, 1910. Serial No. 570,910. Term of patent 7 years.



The ornamental design for a card case or similar article, as shown.

40,860. CHINA PLATE. CHARLES J. AHRENFELDT, New York, N. Y. Filed Feb. 1, 1909. Serial No. 475,529. Term of patent 7 years.



The ornamental design for a china plate or similar articles, substantially as shown and described.

40,861. SEWING-STAND. LOUISE B. LABIDON, New York, N. Y. Filed July 5, 1910. Serial No. 570,502. Term of patent 7 years.



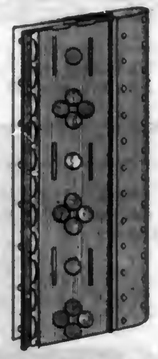
The ornamental design for a sewing stand, as shown.

40,862. FONT OF TYPE. WILLIAM E. ELCOME, Philadelphia, Pa., assignor to Western Electric Company, New York, N. Y., a Corporation of Illinois. Filed June 25, 1910. Serial No. 568,946. Term of patent 14 years.



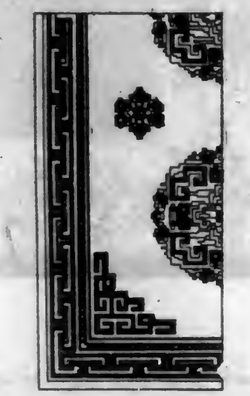
The ornamental design for a font of type substantially as shown and described.

40,863. RUBBER BINDING FOR MATTING ENDS OR SIMILAR ARTICLES. CLIFFORD H. OAKLEY, Trenton, N. J. Filed June 16, 1910. Serial No. 567,338. Term of patent 7 years.



The ornamental design for a rubber binding for matting ends or similar articles, as shown.

40,864. RUG. CHARLES FORRESTER, Jersey City, N. J., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 11, 1910. Serial No. 571,521. Term of patent 7 years.



The ornamental design for a rug, as shown.

40,865. RUG. WILLIAM G. REITH, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 11, 1910. Serial No. 571,523. Term of patent 3½ years.



The ornamental design for a rug, as showp.

40,866. RUG. EMIL G. SAUER, Richmond Hill, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 11, 1910. Serial No. 571,514. Term of patent 7 years.



The ornamental design for a rug, as shown.

40,867. RUG. WILLIAM A. SPRING, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 11, 1910. Serial No. 571,522. Term of patent 7 years.



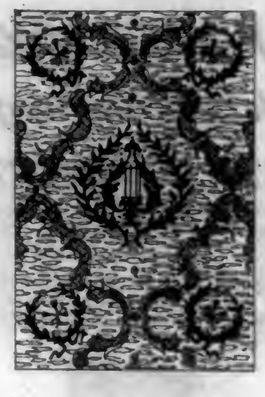
The ornamental design for a rug, as shown.

40,868. RUG. JOHN H. WITZEL, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 11, 1910. Serial No. 571,519. Term of patent 3½ years.



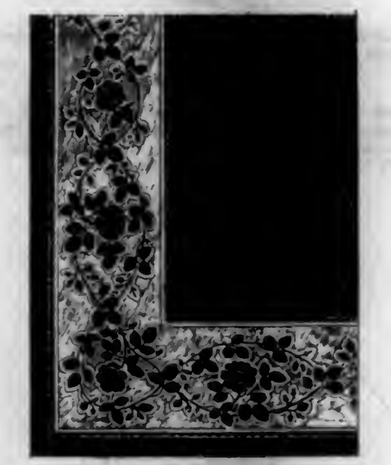
The ornamental design for a rug, as shown.

40,869. CARPET. JOHN B. MOFFAT, Bronxville, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 11, 1910. Serial No. 571,520. Term of patent 7 years.



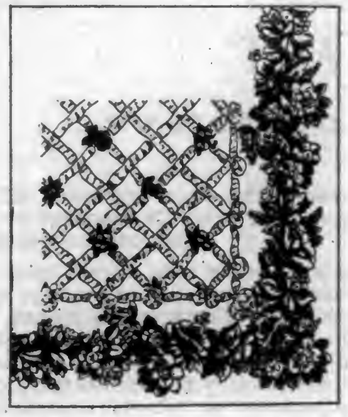
The ornamental design for a carpet, as shown.

40,870. CARPET. WILLIAM MURRAY MORTON, Darvel, Scotland. Filed Apr. 18, 1910. Serial No. 556,269. Term of patent 3½ years.



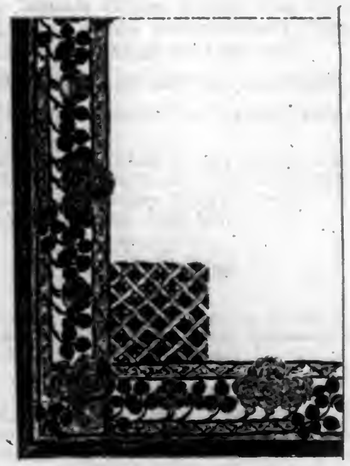
The ornamental design for a carpet, as shown and described.

40,871. CARPET. WILLIAM MURRAY MORTON, Darvel, Scotland. Filed Apr. 18, 1910. Serial No. 556,270. Term of patent 3½ years.



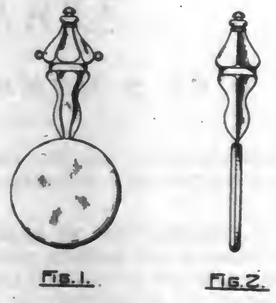
The ornamental design for a carpet, as shown and described.

40,872. CARPET. WILLIAM MURRAY MORTON, Darvel, Scotland. Filed Apr. 18, 1910. Serial No. 556,271. Term of patent 3½ years.



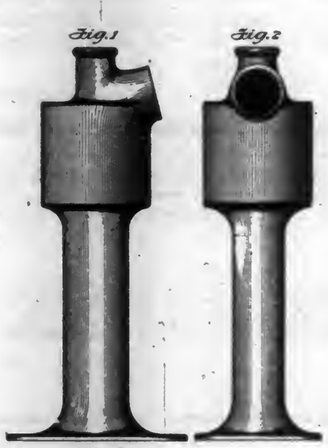
The ornamental design for a carpet, as shown and described.

40,873. LOCKET AND VINAIGRETTE. SIDNEY O. BIGNEY, Attleboro, Mass. Filed July 2, 1910. Serial No. 570,207. Term of patent 3½ years.



The ornamental design for a locket and vinaigrette, as shown.

40,874. STANDARD AND CASING FOR LIFTING-JACKS. EDWIN K. CONOVER, Paterson, N. J. Filed June 6, 1910. Serial No. 565,411. Term of patent 14 years.



The ornamental design for a standard and casing for a lifting jack, as shown.

TRADE-MARKS

PUBLISHED SEPTEMBER 6, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 40,735. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany. Filed Feb. 23, 1909.

TRYPAROSAN

Particular description of goods.—A Powder to be Used as a Remedy for Sleeping-Sickness, Trypanosomiatis, and other Tropical Infectious Diseases.

Ser. No. 43,919. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) GENERAL FIRE EXTINGUISHER COMPANY, New York, N. Y., and Providence, R. I. Filed July 31, 1909. Used ten years.

GRINNELL

Particular description of goods.—Fire-Extinguishing Apparatus.

Ser. No. 45,129. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) KIRBY BEARD & CO. LIMITED, Birmingham, England. Filed Oct. 4, 1909.

DIADEM

Particular description of goods.—Safety-Pins and Ordinary Toilet-Pins.

Ser. No. 45,838. (CLASS 37. PAPER AND STATIONERY.) CROWN-COLUMBIA PULP AND PAPER CO., San Francisco, Cal. Filed Nov. 11, 1909.

XX XX

Particular description of goods.—Wrapping-Paper.

Ser. No. 45,875. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE FISHER GOVERNOR COMPANY, Marshalltown, Iowa. Filed Nov. 13, 1909. Used ten years.

FISHER

Particular description of goods.—Governors for Air-Compressors, Fire-Pumps, Boiler Feed-Pumps, Waterworks-Pumps, Hydraulic Elevators, Mine-Pumps, Beer-Pumps, Railroad-Washout Pumps, Railroad-Water-Service Pumps, Gravity Open-Tank Elevator-Pumps, Vacuum-Pumps, and Steam-Engines.

Ser. No. 46,083. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) BLACK SILK STOVE POLISH WORKS, Sterling, Ill. Filed Nov. 23, 1909.



The portrait being that of Lewis D. Wynn, now deceased.

Particular description of goods.—Iron-Enamel.

Ser. No. 46,374. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ISABEL NORRIS, New York, N. Y. Filed Dec. 9, 1909.



Particular description of goods.—Toilet Creams, Lotions, and Pastes.

Ser. No. 47,275. (CLASS 12. CONSTRUCTION MATERIALS.) SIMONS BRICK COMPANY, Los Angeles, Cal. Filed Jan. 20, 1910. Used ten years.

SIMONS

Particular description of goods.—Bricks, Tiles, Sewer-Pipe, Building and Paving Blocks, Roof-Tiling, Floor-Tiling, and Ornamental Terra-Cotta.

Ser. No. 47,771. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) BERNARDUS LAMBERTUS BUIJVOETS, Almelo, Holland. Filed Feb. 12, 1910.



Particular description of goods.—Smoke-Dried and Preserved Meats.

Ser. No. 47,991. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) PORCELAIN ENAMELING ASS'N OF AMERICA, Sheboygan, Wis. Filed Feb. 24, 1910.



Particular description of goods.—Enamel Metal Ware.

Ser. No. 48,269. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) CHARLES H. BESLY & COMPANY, Chicago, Ill. Filed Mar. 8, 1910.

HELMET

Particular description of goods.—Grease-Cups, Disk Wheels to Support the Abrasive Disks in Grinding-Machines, and Screw-Threading Taps.

Ser. No. 48,698. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE KELLS COMPANY, Newburgh, N. Y. Filed Mar. 28, 1910.

W.R. Nat

Particular description of goods.—Shaving-Soap.

Ser. No. 48,838. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KELLEY-CLARKE CO., Seattle, Wash. Filed Apr. 4, 1910.

JESTER

Particular description of goods.—Canned Salmon.

Ser. No. 48,839. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KELLEY-CLARKE CO., Seattle, Wash. Filed Apr. 4, 1910.



Particular description of goods.—Canned Salmon.

Ser. No. 49,093. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) OLIVER REEDER & SON, Baltimore, Md. Filed Apr. 14, 1910.



Particular description of goods.—A Marine Paint.

Ser. No. 49,115. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CHARLES H. MCKEOWN, Cleveland, Ohio. Filed Apr. 15, 1910.

ZUMOTA

Particular description of goods.—Ointments.

Ser. No. 49,300. (CLASS 39. CLOTHING.) KONIG & STOLZ, New York, N. Y. Filed Apr. 26, 1910.

THE Gotham

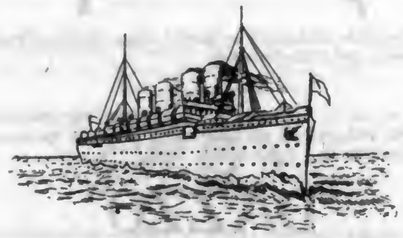
Particular description of goods.—Dress-Shirts and Negligée Shirts.

Ser. No. 49,314. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JULES FEROND, New York, N. Y. Filed Apr. 27, 1910.



Particular description of goods.—Hair Tonic or Invigorator and Scalp or Skin Remedy.

Ser. No. 49,349. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WILLIAM S. TROWBRIDGE, Meadville, Pa. Filed Apr. 28, 1910.



Particular description of goods.—Chocolate Chips.

Ser. No. 49,540. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SMITH'S ORIGINAL REMEDY COMPANY, Brooklyn, N. Y. Filed May 6, 1910.

A·C·M·E

Particular description of goods.—Remedies for the Diseases of Horses.

Ser. No. 49,563. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) DAVID LEON SOLOMAN, St. Louis, Mo. Filed May 7, 1910.

TERPELINE

Particular description of goods.—Chemical Solvents.

Ser. No. 49,702. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE HILLS BROTHERS COMPANY, New York, N. Y. Filed May 13, 1910.



Particular description of goods.—Currants, Dates, Figs.

Ser. No. 49,781. (CLASS 38. PRINTS AND PUBLICATIONS.) NEW YORK EVENING POST COMPANY, New York, N. Y. Filed May 18, 1910. Used ten years.

The Nation

Particular description of goods.—A Weekly Magazine.

Ser. No. 49,865. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) WILLIAM H. HOFFSTOT, Kansas City, Mo. Filed May 23, 1910.

WONDER

Particular description of goods.—Kerosene-Lamps, and Burners, Wicks, and Mantles Therefor.

Ser. No. 50,202. (CLASS 15. OILS AND GREASES.) THE RED "C" OIL M'F'G CO. OF BALTIMORE CITY, Baltimore, Md. Filed June 9, 1910.

DANDY

Particular description of goods.—Axle-Grease and Lubricating-Grease.

Ser. No. 50,343. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MERRELL-SOULE CO, Syracuse, N. Y. Filed June 16, 1910.



Particular description of goods.—Butter.

Ser. No. 50,345. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE MARJENHOFF COMPANY, Charleston, S. C. Filed June 16, 1910.



Particular description of goods.—Biscuits.

Ser. No. 50,419. (CLASS 50. MERCHANDISE NOT OTHERWISE CLASSIFIED.) AMELIA M. ENGELHARD, Waterloo, Iowa. Filed May 20, 1910.

RAVENS ROOST

Particular description of goods.—Advertising-Signs.

Ser. No. 50,438. (CLASS 37. PAPER AND STATIONERY.) THE MCCASKEY REGISTER COMPANY, Alliance, Ohio. Filed June 20, 1910.

SURETY

Particular description of goods.—Manifolding-Books, Certain Sheets of Which are Carbon-Coated.

Ser. No. 50,440. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) CHICAGO SPORTING GOODS MFG. CO., Chicago, Ill. Filed June 20, 1910.



Particular description of goods.—Base-Ball Gloves.

Ser. No. 50,519. (CLASS 17. TOBACCO PRODUCTS.) HIRAM F. MARTIN, York, Pa. Filed June 22, 1910.



Particular description of goods.—Cigars, Cigarettes, Smoking and Chewing Tobacco.

Ser. No. 50,638. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE RAPID KNIFE & FORK CLEANER CO., Astoria, N. Y. Filed June 30, 1910.



Particular description of goods.—Tools Adapted for Cleaning or Scouring Table and Kitchen Cutlery, Such as Knives and Forks.

Ser. No. 50,697. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ROSS W. BLACK, Pittsburg, Pa. Filed July 5, 1910.

SINCERITY

Particular description of goods.—Perfume and Toilet Water.

Ser. No. 50,727. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FRANCIS H. LEGGETT & CO., New York, N. Y. Filed July 6, 1910.

NABOB

Particular description of goods.—Biscuit.

Ser. No. 50,730. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FRANCIS H. LEGGETT & CO., New York, N. Y. Filed July 6, 1910.

EMPRESS

Particular description of goods.—Crackers and Biscuit.

Ser. No. 50,733. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FRANCIS H. LEGGETT & CO., New York, N. Y. Filed July 6, 1910.

NABOB

Particular description of goods.—Condensed Milk and Honey and White Rolled Oats.

Ser. No. 50,736. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FRANCIS H. LEGGETT & CO., New York, N. Y. Filed July 6, 1910.



Particular description of goods.—Cassava-Cakes, Plum-Pudding, and Clam-Chowder.

Ser. No. 50,761. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) JOHN E. PETERSON, Titusville, Pa. Filed July 9, 1910.

"DAZZO"

Particular description of goods.—A Shoe-Polish.

Ser. No. 50,769. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) NEW YORK WIRE CLOTH COMPANY, New York, N. Y., and York, Pa. Filed July 9, 1910.



Particular description of goods.—Wire Screen-Cloth.

Ser. No. 50,781. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) SWANSON-ERICSON MANUFACTURING COMPANY, Chicago, Ill. Filed July 11, 1910.



Particular description of goods.—Laundry Washing-Machines.

Ser. No. 50,799. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) GEORGE P. PILLING & SON CO, Philadelphia, Pa. Filed July 12, 1910.



Particular description of goods.—Instruments for Surgical, Dental, and Veterinary Use.

Ser. No. 50,838. (CLASS 37. PAPER AND STATIONERY.) HOLLINGSWORTH & WHITNEY CO., Boston, Mass. Filed July 14, 1910.

TOTEM

Particular description of goods.—Writing and Wrapping Papers.

Ser. No. 50,850. (CLASS 28. JEWELRY AND PRECIOUS-METAL WARE.) WENDELL AND CO., Chicago, Ill., and New York, N. Y. Filed July 15, 1910.



Particular description of goods.—Artificially-Made Rubies and Sapphires.

Ser. No. 50,906. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) KASSEL SIMON, New York, N. Y. Filed July 19, 1910.



The picture of the woman being fanciful.
Particular description of goods.—Cotton Piece Goods.

Ser. No. 50,923. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) DORMANT SOD COMPANY, Chicago, Ill. Filed July 20, 1910.

KALAKA

Particular description of goods.—A Mixture of Grass-Seed and Manure.

Ser. No. 50,935. (CLASS 9. EXPLOSIVES, FIREARMS, EQUIPMENTS, AND PROJECTILES.) FREDRIK EMIL KREUGER, London, England. Filed July 20, 1910.



Particular description of goods.—Matches.

Ser. No. 50,936. (CLASS 9. EXPLOSIVES, FIREARMS, EQUIPMENTS, AND PROJECTILES.) FREDRIK EMIL KREUGER, London, England. Filed July 20, 1910.



Particular description of goods.—Matches.

Ser. No. 50,973. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) GOLDEN AND COMPANY, Washington, D. C. Filed July 21, 1910.



Particular description of goods.—Eggs.

Ser. No. 50,976. (CLASS 38. PRINTS AND PUBLICATIONS.) FRED L. KIMBALL COMPANY, Waterloo, Iowa. Filed July 21, 1910. Used ten years.

THE EGG REPORTER

Particular description of goods.—A Periodical Publication.

Ser. No. 50,997. (CLASS 17. TOBACCO PRODUCTS.) BERNARDO MOREDA Y DEBEN, Habana, Cuba. Filed July 22, 1910.

LA IMPARCIAL DE M y G.

Particular description of goods.—Cigars.

Ser. No. 51,003. (CLASS 37. PAPER AND STATIONERY.) SAUGERTIES MANUFACTURING COMPANY, Saugerties, N. Y. Filed July 23, 1910.

KLIK

Particular description of goods.—Loose-Leaf Books, Binders, and Bond-Paper.

Ser. No. 51,060. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) AKIN-EASKINE MILLING COMPANY, Evansville, Ind. Filed July 26, 1910.

LIGHTNING

Particular description of goods.—Self-Rising Flour.

Ser. No. 51,073. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) J. ALLEN SMITH & COMPANY, Knoxville, Tenn. Filed July 26, 1910.

JASCO

Particular description of goods.—Wheat-Flour.

Ser. No. 51,075. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) J. ALLEN SMITH & COMPANY, Knoxville, Tenn. Filed July 26, 1910.

EVIDENCE

Particular description of goods.—Wheat-Flour.

Ser. No. 51,137. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SMITH, KLINE & FRENCH CO, Philadelphia, Pa. Filed July 29, 1910.

SISTO

Particular description of goods.—Antiseptic Powder.

Ser. No. 51,142. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) FAIRCHILD BROS. & FOSTER, New York, N. Y. Filed July 29, 1910.

HORMONADIN

Particular description of goods.—A Glycolytic Extract of Pancreas.

Ser. No. 51,170. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) WHITE, WILSON, DREW COMPANY, Memphis, Tenn. Filed July 30, 1910.

PUCK



Particular description of goods.—Cooking-Soda, Baking-Powder, and Laundry Starch.

Ser. No. 51,179. (CLASS 39. CLOTHING.) THE MCDONALD & KILEY COMPANY, Cincinnati, Ohio. Filed July 30, 1910.

M&K

Particular description of goods.—Leather Shoes.

Ser. No. 51,273. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) HARRY L. HUBBARD, Rathdrum, Idaho. Filed Aug. 5, 1910.

Acme

Particular description of goods.—Soldering-Fluid Compounds.

Ser. No. 51,274. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JOHN V. KLEIN, Battle Creek, Nebr. Filed Aug. 5, 1910.

INDEPENDENT

Particular description of goods.—Hair-Tonics.

TRADE-MARKS

REGISTERED SEPTEMBER 6, 1910.

79,383. CHEMICAL COMPOSITIONS FOR PURIFYING METAL. THE ALLYNE BRASS FOUNDRY COMPANY, Cleveland, Ohio.
Filed December 31, 1909. Serial No. 46,820. PUBLISHED JULY 5, 1910.

79,384. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 24, 1907. Serial No. 28,329. PUBLISHED JULY 5, 1910.

79,385. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 24, 1907. Serial No. 28,340. PUBLISHED JULY 5, 1910.

79,386. COTTON DUCK. ASHLAND MANUFACTURING COMPANY, Hillsdale, Md.
Filed May 25, 1910. Serial No. 49,903. PUBLISHED JULY 5, 1910.

79,387. PERFUME, TOILET POWDER, HAIR-LOTION, AND TOILET WATER. J. & E. ATKINSON, LIMITED, London, England.
Filed June 6, 1910. Serial No. 50,139. PUBLISHED JULY 5, 1910.

79,388. BEER. AUGUSTA BREWING CO., Augusta, Ga.
Filed June 8, 1910. Serial No. 50,184. PUBLISHED JULY 5, 1910.

79,389. CLEANSER FOR GENERAL HOUSEHOLD PURPOSES AND THE LIKE. B. T. BABBITT, Jersey City, N. J., and New York, N. Y.
Filed May 14, 1910. Serial No. 49,724. PUBLISHED JULY 5, 1910.

79,390. SOAP. B. T. BABBITT, Jersey City, N. J., and New York, N. Y.
Filed May 20, 1910. Serial No. 49,831. PUBLISHED JULY 5, 1910.

79,391. ALE, BEER, PORTER, STOUT, MALT SYRUP, AND MALT EXTRACTS. P. BALLANTINE & SONS, Newark, N. J.
Filed June 6, 1910. Serial No. 50,143. PUBLISHED JULY 5, 1910.

79,392. PIECE GOODS, LACE, TOWELS, RIBBONS, AND OTHER ARTICLES. BALTIMORE BARGAIN HOUSE, Baltimore, Md.
Filed May 23, 1910. Serial No. 49,870. PUBLISHED JULY 5, 1910.

79,393. JEWELRY, HOLLOW, FLAT, AND TABLE WARE, HANDLES, AND JEWEL-SETTINGS. BALTIMORE BARGAIN HOUSE, Baltimore, Md.
Filed May 23, 1910. Serial No. 49,871. PUBLISHED JULY 5, 1910.

79,394. CROCKERY, PORCELAIN, AND EARTHENWARE. BALTIMORE BARGAIN HOUSE, Baltimore, Md.
Filed May 23, 1910. Serial No. 49,872. PUBLISHED JULY 5, 1910.

79,395. CERTAIN STATIONERY AND TOILET ARTICLES. BALTIMORE BARGAIN HOUSE, Baltimore, Md.
Filed May 23, 1910. Serial No. 49,873. PUBLISHED JULY 5, 1910.

79,396. FANCY GOODS AND NOTIONS. BALTIMORE BARGAIN HOUSE, Baltimore, Md.
Filed May 23, 1910. Serial No. 49,874. PUBLISHED JULY 5, 1910.

79,397. CERTAIN KIND OF GLASS, GLASS BOTTLES, GLASS JARS. BALTIMORE BARGAIN HOUSE, Baltimore, Md.
Filed May 23, 1910. Serial No. 49,875. PUBLISHED JULY 5, 1910.

79,398. CERTAIN NAMED CLOTHING. BALTIMORE BARGAIN HOUSE, Baltimore, Md.
Filed May 23, 1910. Serial No. 49,876. PUBLISHED JULY 5, 1910.

79,399. DRESS-SHIELDS. JACOB BEYERLE, New York, N. Y.
Filed May 20, 1910. Serial No. 49,832. PUBLISHED JULY 5, 1910.

79,400. SHAFT-COUPLINGS. BOND FOUNDRY AND MACHINE COMPANY, Manheim, Pa.
Filed June 8, 1910. Serial No. 50,196. PUBLISHED JULY 5, 1910.

79,401. COTTON PIECE GOODS. BOOTT MILLS, Lowell, Mass.
Filed September 7, 1906. Serial No. 21,960. PUBLISHED JULY 5, 1910.

79,402. COTTON PIECE GOODS. BOOTT MILLS, Lowell, Mass.
Filed September 7, 1906. Serial No. 21,961. PUBLISHED JULY 5, 1910.

79,403. COTTON PIECE GOODS. BOOTT MILLS, Lowell, Mass.
Filed September 7, 1906. Serial No. 21,962. PUBLISHED JULY 5, 1910.

79,404. COTTON PIECE GOODS. BOOTT MILLS, Lowell, Mass.
Filed September 7, 1906. Serial No. 21,963. PUBLISHED JULY 5, 1910.

79,405. COTTON PIECE GOODS. BOOTT MILLS, Lowell, Mass.
Filed September 7, 1906. Serial No. 21,984. PUBLISHED JULY 5, 1910.

79,406. LEATHER-DRESSING. FRED R. BRADBURY, East Brownfield, Me.
Filed June 3, 1910. Serial No. 50,094. PUBLISHED JULY 5, 1910.

79,407. INSTRUCTION-BOOKS AND PRINTED PAMPHLETS. BROTHERHOOD OF LOCOMOTIVE FIREMEN AND ENGINEMEN, Peoria, Ill., and Indianapolis, Ind.
Filed December 11, 1909. Serial No. 46,443. PUBLISHED MARCH 8, 1910.

79,408. PILLS. EDWARD GEORGE BROWN, Tampico, Mexico.
Filed December 27, 1909. Serial No. 46,739. PUBLISHED JULY 5, 1910.

79,409. LEATHER BOOTS AND SHOES. BURT AND PACKARD COMPANY, Brockton, Mass.
Filed May 2, 1910. Serial No. 49,431. PUBLISHED JULY 5, 1910.

79,410. HORSE-NAILS. THE CAPEWELL HORSE NAIL COMPANY, Hartford, Conn.
Filed June 8, 1910. Serial No. 50,192. PUBLISHED JULY 5, 1910.

79,411. PHOTOGRAPHIC DRY-PLATES. CENTRAL DRY PLATE COMPANY, St. Louis, Mo.
Filed May 25, 1910. Serial No. 49,915. PUBLISHED JULY 5, 1910.

79,412. PAINTS FOR OUTSIDE USE. COLONIAL WORKS, Brooklyn, N. Y.
Filed October 12, 1909. Serial No. 45,262. PUBLISHED JULY 5, 1910.

79,413. CLEANSING COMPOUNDS AND SOAPS. EMPIRE SOAP COMPANY, New York, N. Y.
Filed April 21, 1910. Serial No. 49,224. PUBLISHED JULY 5, 1910.

79,414. CANNED SALMON. FIDALGO ISLAND PACKING CO., Anacortes, Wash.
Filed September 25, 1905. Serial No. 12,985. PUBLISHED JULY 5, 1910.

79,415. CERTAIN APPARATUS AND PARTS THEREOF. THE GAS MACHINERY CO., Cleveland, Ohio.
Filed June 7, 1910. Serial No. 50,176. PUBLISHED JULY 5, 1910.

79,416. ORANGES. W. F. GLYNN & CO., Crescent City, Fla.
Filed April 30, 1910. Serial No. 49,415. PUBLISHED JULY 5, 1910.

79,417. CANNED ASPARAGUS. GOLDEN STATE ASPARAGUS CO., San Francisco, Cal.
Filed January 29, 1909. Serial No. 40,223. PUBLISHED JANUARY 4, 1910.

79,418. REFRIGERATORS. GRAND RAPIDS REFRIGERATOR COMPANY, Grand Rapids, Mich.
Filed June 2, 1910. Serial No. 50,069. PUBLISHED JULY 5, 1910.

79,419. KID GLOVES. LOUIS GRÄSSER, Zwickau, Germany.
Filed April 14, 1910. Serial No. 49,080. PUBLISHED JULY 5, 1910.

79,420. BEER. ACTIEN-GESELLSCHAFT HACKERBRÄU, Munich, Germany.
Filed April 12, 1909. Serial No. 41,727. PUBLISHED JULY 5, 1910.

79,421. HORSE-NAILS. THE CAPEWELL HORSE NAIL COMPANY, Hartford, Conn.
Filed June 4, 1910. Serial No. 50,123. PUBLISHED JULY 5, 1910.

79,422. SPICES, FLAVORING EXTRACTS, AND BIRDSEED. CLOSSET & DEVERS, Portland, Oreg.
Filed November 30, 1909. Serial No. 46,215. PUBLISHED FEBRUARY 15, 1910.

79,423. FLAVORING-SYRUP FOR A SODA-FOUNTAIN DRINK. PAUL M. HARRIS, Dallas, Tex.
Filed March 22, 1910. Serial No. 48,592. PUBLISHED JULY 5, 1910.

79,424. FURNACES, FORGES, LAMPS, BOILERS, AND SIMILAR ARTICLES. AKTIEBOLAGET B. A. HJORTH & Co., Stockholm, Sweden.
Filed July 9, 1909. Serial No. 43,436. PUBLISHED JULY 5, 1910.

79,425. CHEWING-GUM. HYDE & CHAPPEL, Rochester, N. Y.
Filed May 23, 1910. Serial No. 49,867. PUBLISHED JULY 5, 1910.

79,426. SWEEPING COMPOUND. JANITORS & PORTERS SUPPLY COMPANY, St. Louis, Mo.
Filed May 29, 1909. Serial No. 42,747. PUBLISHED AUGUST 31, 1909.

79,427. VAPOR-LAMPS AND PARTS, GAS-BURNERS, AND INCANDESCENT MANTLES. KING LIGHT CO., Peoria, Ill.
Filed July 30, 1909. Serial No. 43,897. PUBLISHED JULY 5, 1910.

79,428. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed May 14, 1910. Serial No. 49,729. PUBLISHED JULY 5, 1910.

79,429. REMEDY FOR CERTAIN NAMED DISEASES. WILLIAM S. LANGHORNE, Jr., Portsmouth, Va.
Filed April 26, 1910. Serial No. 49,305. PUBLISHED JUNE 28, 1910.

79,430. SOAP. FRANCIS H. LEGGETT & COMPANY, New York, N. Y.
Filed June 1, 1910. Serial No. 50,041. PUBLISHED JULY 5, 1910.

79,431. SOAP. LEHN & FINK, New York, N. Y.
Filed November 26, 1909. Serial No. 46,106. PUBLISHED FEBRUARY 22, 1910.

79,432. BROOMS. JAMES S. LIDDLE, Lockport, N. Y.
Filed June 3, 1910. Serial No. 50,083. PUBLISHED JULY 5, 1910.

79,433. CIGARS, LITTLE CIGARS, CIGARETTES, AND SMOKING-TOBACCO. LILLY, DUNGAN & CO., Baltimore, Md.
Filed May 7, 1910. Serial No. 49,572. PUBLISHED JULY 5, 1910.

79,434. PAINTS, VARNISHES, OILS, TURPENTINE, AND DRIERS. LONGMAN & MARTINEZ, New York, N. Y.
Filed May 5, 1910. Serial No. 49,532. PUBLISHED JULY 5, 1910.

79,435. PAINTS, VARNISHES, OILS, TURPENTINE, AND DRIERS. LONGMAN & MARTINEZ, New York, N. Y.
Filed May 5, 1910. Serial No. 49,534. PUBLISHED JULY 5, 1910.

79,436. LEATHER BOOTS AND SHOES. W. J. MARTINEZ & BROS., New Orleans, La.
Filed May 20, 1910. Serial No. 49,835. PUBLISHED JULY 5, 1910.

79,437. DENTAL REGULATING APPLIANCES. THE MEIER DENTAL MANUFACTURING COMPANY, St. Louis, Mo.
Filed March 12, 1910. Serial No. 48,362. PUBLISHED JULY 5, 1910.

79,438. COFFEE PARTIALLY FREED FROM CAFFEIN. MERCK & CO., New York, N. Y.
Filed May 19, 1910. Serial No. 49,813. PUBLISHED JULY 5, 1910.

79,439. JAPANESE SAUCE COMMONLY KNOWN AS SHOYU OR SOY. SHICHIROEMON MOKI, Higashi-Katsushikagun, Chiba, Japan.
Filed December 15, 1909. Serial No. 46,501. PUBLISHED JULY 5, 1910.

79,440. FELT HATS. MOSSANT, VALLON & ARGOD, Bourg-de-Peage, France.
Filed March 15, 1910. Serial No. 48,419. PUBLISHED JULY 5, 1910.

79,441. CERTAIN HORSE EQUIPMENTS. THE NORTH & JUDD MANUFACTURING COMPANY, New Britain, Conn.
Filed June 13, 1910. Serial No. 50,285. PUBLISHED JULY 5, 1910.

79,442. BEER. THE OSHKOSH BREWING COMPANY, Oshkosh, Wis.
Filed June 9, 1910. Serial No. 50,215. PUBLISHED JULY 5, 1910.

79,443. PLOWS. PARLIN & ORENDORFF CO., Canton, Ill.
Filed June 3, 1910. Serial No. 50,095. PUBLISHED JULY 5, 1910.

79,444. CERTAIN NOTIONS. THE PITTSBURGH DRY GOODS COMPANY, Pittsburg, Pa.
Filed October 12, 1909. Serial No. 45,259. PUBLISHED FEBRUARY 15, 1910.

79,445. CERTAIN NAMED PAPER, ENVELOPS, AND TABLETS. POWERS PAPER COMPANY, ASSOCIATES, Springfield, Mass., and New York, N. Y.
Filed May 14, 1910. Serial No. 49,721. PUBLISHED JULY 5, 1910.

79,446. VARNISH. PRATT & LAMBERT, INC., Buffalo, N. Y.
Filed May 18, 1910. Serial No. 49,806. PUBLISHED JULY 5, 1910.

79,447. MOLDING AND MODELING MACHINES. PULVERMACHER UND BREMERMANN, GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Schöneberg, near Berlin, Germany.
Filed April 6, 1910. Serial No. 48,868. PUBLISHED JULY 5, 1910.

79,448. PERFUMERY AND OTHER TOILET PREPARATIONS. K. K. LANDESPRIV. MILLY-KERZEN-, SEIFEN- UND GLYCERIN-FABRIK VON F. A. SARG'S SOHN & CIE., Vienna, Austria-Hungary.
Filed March 7, 1910. Serial No. 48,232. PUBLISHED JULY 5, 1910.

79,449. CHOCOLATE CANDIES. THE SNYDER-CHAFFEE CO., Columbus, Ohio.
Filed May 3, 1910. Serial No. 49,476. PUBLISHED JULY 5, 1910.

79,450. COMPOUND FOR THE REMOVAL OF SCALE FROM BOILERS. SUGAR BEET PRODUCTS CO., Caro, Mich.
Filed September 30, 1909. Serial No. 45,019. PUBLISHED JANUARY 11, 1910.

79,451. REMEDIES FOR DISEASES OF DOGS. ALBÉRIC DE LA TEYSSONNIÈRE, Pau, France.
Filed June 5, 1909. Serial No. 42,838. PUBLISHED JULY 5, 1910.

79,452. CERTAIN ATHLETIC GARMENTS. TREINIS BROS., New York, N. Y.
Filed April 28, 1910. Serial No. 49,370. PUBLISHED JULY 5, 1910.

79,453. REMEDIES FOR CERTAIN DISEASES. HIRAM L. TRUE, McConnelsville, Ohio.
Filed May 18, 1910. Serial No. 49,783. PUBLISHED JULY 5, 1910.

79,454. METAL PLATES, MOLDINGS, FILLERS, NOSINGS, AND CORNICES. WHEELING CORRUGATING COMPANY, Wheeling, W. Va.
Filed April 9, 1910. Serial No. 48,978. PUBLISHED JULY 5, 1910.

79,455. LINEN AND HEMP PIECE GOODS. JOHN WILSONS' SUCCESSORS, LTD., London, England.
Filed April 14, 1910. Serial No. 49,098. PUBLISHED JULY 5, 1910.

79,456. MENTHOL, GLYCERIN, AND GUM-ARABIC TABLETS. J. H. ZEILIN & COMPANY, INC., Philadelphia, Pa.
Filed June 3, 1910. Serial No. 50,099. PUBLISHED JULY 5, 1910.

79,457. MEDICINE FOR CERTAIN DISEASES. J. H. ZEILIN & COMPANY, INC., Philadelphia, Pa.
Filed June 3, 1910. Serial No. 50,100. PUBLISHED JULY 5, 1910.

79,458. EVAPORATED MILK. SEMINOLE CONDENSED MILK CO., Holland Patent, N. Y.
Filed April 12, 1910. Serial No. 49,030. PUBLISHED JULY 5, 1910.

TRADE-MARKS CANCELED.

76,751. CHEWING-GUM. THE BEE BEE CONFECTION CO., Dayton, Ohio.
Registered February 15, 1910. Canceled August 9, 1910.

57,449. PHOTOGRAPHIC FILM. EASTMAN KODAK CO., Rochester, N. Y.
Registered November 13, 1906. Canceled August 9, 1910.

LABELS

REGISTERED SEPTEMBER 6, 1910.

15,313.—*Title:* "REGALIA IMPERIAL." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed August 19, 1910.

15,314.—*Title:* "WHITE ROSE SUNKIST BRAND." (For Honey.) HARRY LEE MEHARRY, San Francisco, Cal. Filed July 30, 1910.

15,315.—*Title:* "VIOLET CHIPS." (For Chewing-Gum.) COLGAN GUM CO., Louisville, Ky. Filed August 17, 1910.

15,316.—*Title:* "MINT CHIPS." (For Chewing-Gum.) COLGAN GUM CO., Louisville, Ky. Filed August 17, 1910.

15,317.—*Title:* "LOWRY'S 'BESTI WATER.'" (For Eye-Water.) HOMER T. LOWRY, San Diego, Cal. Filed April 27, 1910.

15,318.—*Title:* "PRYM'S SEE ITS SPRING." (For Dress-Fasteners.) THE WILLIAM PRYM COMPANY, LIMITED, New York, N. Y. Filed August 27, 1910.

PRINTS

REGISTERED SEPTEMBER 6, 1910.

2,637.—*Title:* "ALL SUITS ALL OVERCOATS $15 NO MORE NO LESS." (For Suits and Overcoats.) WILLIAM A. HERSCH, Parkersburg, W. Va. Filed August 11, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE NOYES.

Decided April 15, 1910.

RECOMMENDATION BY EXAMINERS-IN-CHIEF—PRACTICE.

Where the Examiners-in-Chief affirm the action of the Primary Examiner as to certain of the appealed claims, but reverse his action as to others and include in their decision a recommendation that the latter claims be rejected, *Held* that an appeal from the decision of the Examiners-in-Chief so far as it affirmed the action of the Primary Examiner will not be considered until the patentability of the other claims is determined or they are brought up on appeal.

ON PETITION.

ANTERIOR THROTTLE-CARBURETER.

Mr. Robert M. Pierson for the applicant.

MOORE, *Commissioner:*

This is a petition that the order of April 5, 1910, suspending action on the appeal in the above-entitled application be set aside and the appeal considered.

The Examiners-in-Chief, in a decision rendered September 10, 1909, affirmed the action of the Primary Examiner as to all the appealed claims except claims 3 and 13. They reversed his action on these claims, but recommended that they be rejected on grounds fully stated in their decision. On September 21, 1909, the Examiner rejected these claims on these grounds. No further action was taken by the applicant with reference to this rejection, but on March 4, 1910, appeal was taken from the decision of the Examiners-in-Chief. One of the reasons for appeal assigned was that—

the Examiners-in-Chief erred in holding that claims 3 and 13 do not clearly set out the invention, and in recommending the rejection of said claims.

On the same day on which the appeal was taken the Primary Examiner (the case had in the meantime been transferred to another division) rejected claim 10 as being unwarranted by the specification. It appears from a letter written by him on April 9, 1910, that this rejection is based upon the inaccurate use of certain terms in the claim and can be obviated by changing a few words, this change really being for the purpose of obviating a possible indeterminateness in the meaning of the claim.

As the case now stands the original rejection by the Examiner of claims 3 and 13 was reversed, and no appeal has been taken from the action of the Primary Examiner rejecting these claims on the ground recommended by the Examiners-in-Chief. Rule 139 provides that the Examiners-in-Chief will affirm or reverse the decision of the Primary Examiner only on the points on which the appeal has been taken and that if they discover any other reason for refusing Letters Patent they will annex a statement to that effect to their decision. It further provides that from an adverse judgment of the Primary Examiner on points embraced in the recommendation annexed to the decision appeal may be taken on questions involving the merits to the Board of Examiners-in-Chief.

The decision in *ex parte Shaw* (129 O. G., 2857) very clearly points out the practice to be followed where the Examiners-in-Chief recommend the rejection of claims the rejection of which by the Primary Examiner they had held was in error. No reason is seen for following a different practice in this case; nor can the applicant complain of the delay, since the action of the Examiner adopting the recommendation of the Examiners-in-Chief was entered September 21, 1909, and the appeal from the decision of the Examiners-in-Chief was not taken until March 4, 1910.

Claim 10 stands on a different footing from claims 3 and 13. As stated above, the rejection of the Examiner appears to have been mainly a formal one, and if applicant cares to adopt the suggestion made by the Examiner in his letter of April 9, 1910, the latter is given jurisdiction to enter such an amendment and to allow the claim. The present appeal, however, cannot be considered at this time. If applicant waives his appeal from the action of the Examiner rejecting claims 3 and 13, his appeal from the decision of the Examiners-in-Chief as to the other claims will be considered; otherwise action thereon will be suspended until these claims are formally allowed by the Examiners-in-Chief or come before me on appeal from their decision refusing the same.

The petition is denied.

LANDA v. KAVLE.

Decided June 13, 1910.

1. INTERFERENCE — REDUCTION TO PRACTICE — TEST — SIMPLE DEVICE.

A key-cup made of a single piece of sheet metal *Held* to be of that simple character which requires no test to demonstrate its practicability.

2. SAME—SAME—DELAY IN FILING APPLICATION.

A delay by L. of two and a half years in filing an application after reducing the invention to practice, during which time he was endeavoring to get his employers to undertake the manufacture of the device, *Held* not to constitute such concealment of the invention as to work a forfeiture of his right to a patent.

APPEAL from Examiners-in-Chief.

KEY-LEVER CUP.

Messrs. Briesen & Knauth for Landa.

Mr. Howard P. Denison for Kavle.

MOORE, *Commissioner:*

This is an appeal by Kavle from the decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences and awarding to Landa priority of invention of the following issue:

1. In a finger-key or manual, a cup and shank formed from the same piece of metal, the shank being flattened below its junction with the cup leaving a lengthwise opening elongated transversely.

2. The combination with a key lever or stem, of a key consisting of a cup having a flattened shank to fit the stem or lever, the cup being of larger diameter than the shank and formed integral therewith.

The tribunals below found that Landa conceived and reduced to practice the invention of the counts now constituting the issue of the interference in the fall of 1904; also that although Kavle conceived the invention in 1902 he did not reduce it to practice until 1905 and was not exercising diligence at the time Landa entered the field. They therefore awarded priority in favor of Landa.

The principal contentions urged by Kavle on this appeal and the only ones which need be considered are the following: first, that the devices constructed by Landa in the fall of 1904 were not tested, and therefore do not constitute a reduction to practice, and, second, that even if they be held a reduction to practice Landa forfeited his rights as against Kavle by his failure to file an application until March 21, 1907, some two and a half years thereafter.

Concerning the first of these contentions the Examiner of Interferences stated in his decision as follows:

The foregoing testimony is sufficient to establish that Landa had conceived on or before December 15, 1904, the date of disclosure to Garsden, a key-cup made of a single piece of metal, both bar metal and sheet metal. It is also found that he reduced to practice such a cup made from bar metal in October, 1904. No evidence is introduced to show that the cups he made from bar metal were ever tested, but said cups are held to belong to that class of simple devices which do not require a test to show that the invention is complete. This conclusion is reached after a consideration not only of the simplicity of "Exhibits 4 and 4a" themselves, but also after noting their very close resemblance in form, size and materials to the Kavle "Exhibit A" and Rice cup, which are cups such as have been operated.

This finding of the Examiner of Interferences is believed to be right. In my opinion the device of the issue is of that simple character which required no test to demonstrate its practicability and that it falls in the class concerning which the Court of Appeals of the District of Columbia in the case of *Sydeman and Meade* v. *Thoma* (141 O. G., 866; 32 App. D. C., 362) said:

The first class includes devices so simple and of such obvious efficacy that the complete construction of one of a size and form intended for and capable of practical use, is held sufficient without test in actual use. (*Mason* v. *Hepburn*, 13 App. D. C., 86, 89; *Lindemeyer* v. *Hoffman*, 18 App. D. C., 1, 5; *Loomis* v. *Hauser*, 19 App. D. C., 401, 404; *Couch* v. *Barnett*, 23 App. D. C., 446, 449; *Rolfe* v. *Hoffman*, 26 App. D. C., 342.)

As to the second contention of Kavle, the evidence shows that Landa was in the employ of the Underwood Typewriter Company, and that he disclosed the invention and the device he had constructed to the officials of said company in the fall of 1904, and that on November 12 of that year they obtained from the Hartford Machine Screw Company an estimate of the cost of manufacturing in quantity the device submitted by Landa. It was found that the cost of manufacturing a device as Landa had done by turning it from bar-steel would not permit of its use in competition with the old devices. It was realized that in order to be a commercial success the device must be shaped from sheet metal. It appears that the construction of the device from sheet metal involved many difficulties and required the designing and making of special tools therefor. It also appears that notwithstanding its repeated presentation by Landa the company did not find time to test the possibility of manufacturing the device from sheet metal until the fall of 1906. On account of the delay and because Landa feared that somebody else would be given credit for the invention by the Underwood Typewriter Company Landa finally employed an attorney and filed the application himself.

The circumstances of this case are not thought to show concealment of the invention on the part of Landa, nor such inactivity until after knowledge had been obtained of the perfection of the invention by a rival as to work a forfeiture of Landa's right in favor of his opponent. The case, on the contrary, is believed to fall in the class with *Seeberger* v. *Russell*, (121 O. G., 2328; 26 App. D. C., 344,) *Rolfe* v. *Hoffman*, (121 O. G., 1350; 26 App. D. C., 336,) *Rose* v. *Clifford and Newell*, (135 O. G., 1361; 31 App. D. C., 195,) *Rolfe* v. *Kaisling* v. *Leeper*, (143 O. G., 562; 32 App. D. C., 582,) in which cases a delay equal to or greater than that of Landa in filing his application and until after a rival had entered the field and perfected the invention was held by the Court of Appeals of the District of Columbia not to work a forfeiture of the rights of the first to reduce the invention to practice.

The decision of the Examiners-in-Chief awarding priority in favor of Landa is affirmed.

JAMES CHADWICK & BROTHER, LIMITED, v. FABBIQUE DE SOIE ARTIFICIELLE D'OBOURG.

Decided August 4, 1910.

TRADE-MARKS—OPPOSITION—AMENDMENT OF NOTICE OF.

In his notice of opposition the opposer alleged that he was the owner of the trade-mark shown in a certain certificate of registration and also stated of what his mark consists. *Held* that a proposed amendment to the notice of opposition stating that the opposer's mark was also shown in another certificate of registration did not constitution a new ground of opposition, the mark of the latter registration being included in that of the former and the ownership of both being stated in the original notice of opposition.

APPEAL from Examiner of Interferences.

TRADE-MARK FOR ARTIFICIAL-SILK THREAD.

Mr. Archibald Cox and *Mr. Wm. G. Henderson* for James Chadwick & Brother, Limited.

Mr. Alfred M. Allen and *Mr. Paul Finckel for* Fabrique de Soie Artificielle d'Obourg.

TENNANT, *Assistant Commissioner:*

This is an appeal from the decision of the Examiner of Interferences denying the motion of the opposer to amend its notice of opposition.

The trade-mark of the application consists of the representation of a lion rampant holding a globe in its paws.

The grounds of opposition are as follows:

This opposer is the owner of the trade-mark illustrated in United States certificate of registration No. 56,842, of October 23d, 1906, and the registered proprietor of the mark therein shown.

Said mark has been used by this opposer and its predecessors continuously from a date which, this opposer avers, on information and belief, is much earlier than the date upon which the applicant first began to use the mark, to the registration of which this opposition is filed. The mark of this opposer and any mark calculated to be mistaken therefor or confused therewith in connection with thread and yarn would be understood to mean that the goods were the product of this opposer.

The goods upon which this opposer has long used its mark as aforesaid and the goods for which the applicant seeks to register its mark are of the same class and of the same descriptive properties in that both are cotton threads, and otherwise.

The mark of this opposer and the mark of the applicant both consist of a lion rampant holding in its paws a device. In the conception or idea which both express the two marks are substantially identical and this opposer avers, upon information and belief, that the mark which the applicant seeks to register so closely resembles the mark owned, used and registered by this opposer that it is calculated to be mistaken therefor by the public and to promote and produce mistake, confusion and fraudulent substitution.

The amendment which it is desired to insert reads as follows:

This opposer is the owner of the trade-mark illustrated in United States certificate of registration No. 56,927 of October 23, 1906, and the registered proprietor of the mark therein shown, said mark appearing also in said certificate of registration No. 56,842 of October 23, 1906.

The Examiner of Interferences stated that the marks shown in the drawings forming part of registrations Nos. 56,927 and 56,842 show certain differences and that since the goods upon which the marks are to be used are of the same descriptive properties the issuance of these two registrations to the same party justifies the presumption that the marks shown in these registrations are different and that the addition of the later registration to the notice of opposition would constitute a new ground of opposition. He held, however, that it was not necessary to determine this question at the present time—

* * * since, if the proposed amendment does not set up new grounds of opposition, no advantage could result from the amendment, and if it does set up new grounds, it is brought too late. In either case the amendment should not be permitted.

The registered mark referred to in the original notice of opposition consists of a coat-of-arms comprising a shield above which appear a bar and crowned lion rampant holding a diamond-shaped device in its paws. Beneath the shield is a scroll bearing a motto. In the later registration, which it is sought to include in the notice of opposition, the mark illustrated comprises merely the representation of a crowned lion resting upon a roll and bearing a diamond-shaped device in its paws. Specimens were filed with each of these applications showing the separate use of these trade-marks.

It is to be observed that in the original notice of opposition the applicant first alleged the ownership of Trade-Mark No. 56,842, stating that—

the mark of this opposer and any mark calculated to be mistaken therefor or confused therewith in connection with thread and yarn would be understood to mean that the goods were the product of this opposer.

It would appear that the allegation in respect to the mark No. 56,842 thus made, when taken in connection with the allegation as to the identity of the merchandise, is complete in itself; but the opposition, continuing, sets forth that—

the mark of this opposer and the mark of the applicant both consist of a lion rampant holding in its paws a device. In the conception or idea which both express the two marks are substantially identical and this opposer avers, upon information and belief, that the mark which the applicant seeks to register so closely resembles the mark owned, used and registered by this opposer that it is calculated to be mistaken therefor by the public and to promote and produce mistake, confusion and fraudulent substitution.

This allegation is clearly sufficient to warrant the presentation of proofs of a mark of the character disclosed in the registration which is sought to be included in the amended pleadings.

I am therefore of the opinion that the proposed amendment is not new matter.

Although the two marks of the opposer are separately registered, still the later mark is included within the earlier and the ownership of both the marks is set forth with sufficient particularity in the notice of opposition to permit the inclusion of the later mark by the proposed amendment in this case.

The decision of the Examiner of Interferences is reversed.

EX PARTE GRANGER.

Decided August 10, 1910.

TRADE-MARKS—"DEAN"—NAME OF AN INDIVIDUAL—NOT REGISTRABLE.

The word "Dean" held to be an ordinary surname and not registrable as a trade-mark.

ON APPEAL.

TRADE-MARK FOR FURNACE-GRATES.

Messrs. Munn & Co. for the applicant.

TENNANT, *Acting Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing to register the word "Dean" as a trade-mark for furnace-grates.

Registration is refused upon the ground that the word "Dean" is an ordinary surname. It is, however, urged by the appellant that this word is not merely the name of an individual, but has also the significance of—

the oldest member in length of service of a constituted body or a body of persons of equal rank of whom he is the prescriptive leader in all joint actions.

It is stated that this word is more nearly analogous to the words "Queen," "Napoleon," "Caesar," etc., which have been registered by the United States Patent Office, notwithstanding the fact that

these words are also family names. It is, however, to be noted that each of the words referred to has a well-recognized predominating fanciful significance, which, where used as a trade-mark, would be understood by the purchasing public as an arbitrary term designating origin rather than as a mere individual or family name.

I agree with the Examiner that the word "Dean" is not of such common use in the sense suggested by the appellant as would be likely to suggest to the mind of the general purchasing public any other significance than that of the name of an individual. Probably the majority of family names were originally derived from some profession, trade, or occupation, and to hold that all family names of this character are registrable would, it is believed, pervert the meaning of the law.

The decision of the Examiner of Trade-Marks is affirmed.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Second Circuit.

SAFETY CAR HEATING & LIGHTING CO. *v.* CONSOLIDATED CAR HEATING CO.

Decided November 17, 1909.

PATENTABILITY—INVENTION—CAR-HEATING APPARATUS.

The introduction of an additional heater in the riser-pipe of a heating system to aid circulation do the work in the same way as a single heater *Held* not to amount to invention.

Messrs. Duell, Warfield & Duell (*Mr. Randolph Parmly, Mr. F. P. Warfield,* and *Mr. C. H. Duell* of counsel) for the appellant.

Mr. W. K. Richardson, Mr. Charles Neave and *Mr. J. Lewis Stackpole* for the appellee.

Before LACOMBE, COXE, and WARD, Circuit Judges.

PER CURIAM:

The patent to Searle relates to that class of circulatory heating systems in which a liquid, after being heated and freed of air and steam, may be employed for warming railway-cars; the heat being derived from a main source, preferably a steam-boiler.

He employs a circulatory system, which includes a heat-radiating portion with an ascending pipe on one side thereof and a descending pipe on the other, a heater located at substantially the lowest point of the circuit, and means for transferring heat derived from a main source into operative contact with the circulating liquid in the heater. In some instances he employs a circulatory system, including a heat-radiating portion with ascending and descending pipes, with a heater in the ascending pipe or upon one side thereof and a second heater located below the first at substantially the lowest point of the circuit. These heaters may be of any desired character. When used for car-heating purposes, the patentee preferably derives heat for one or more of said heaters from a common source, such as the locomotive-boiler. To this end he employs a main steam-pipe or other suitable mechanism adapted to be connected to a main source of heat-supply and also with a plurality of heaters. In practice, one or more heaters may impart heat to the said liquid by being in operative connection with the main source of heat-supply. This connection may be effected in various ways; for instance, by letting the heat derived from the main source be carried through a pipe or passage containing the circulating liquid, or by letting the steam derived from the main source be carried into a pipe or passage which incloses a portion of the system containing the circulating liquid. Searle also provides for an emergency-heater in case of a temporary failure of the heat derived from the main source. The claims are as follows:

1. The combination of a circulatory system that includes a heat-radiating portion and has an ascending pipe on one side thereof and a descending pipe on the other side thereof, a heater in the ascending pipe or upon one side thereof, and a second heater located below the first-named heater and at substantially the lowest point of the circuit.

2. The combination of a circulatory system that includes a heat-radiating portion and has an ascending pipe on one side thereof, a descending pipe on the other side thereof, and an expansion-chamber located above said pipes and having communication therewith, an emergency-heater having a combustion-chamber inclosing a portion of the ascending pipe of said system, a primary heater located at substantially the lowest point of the circuit, and means for transferring heat derived from a main source of heat-supply into operative contact with the circulating liquid in said last-named heater.

3. In combination, a water-circulating system having a radiating portion in the descending pipe or upon one side thereof, a heater in the ascending pipe or upon the other side thereof, and a second heater located below the first-named heater and at substantially the lowest point of the circuit.

All the claims are for combinations. The first claim is for a combination which contains the following elements: (1) circulatory system, including a heat-radiating portion, with an ascending pipe on one side and a descending pipe on the other; (2) a heater in the ascending pipe or upon one side thereof; (3) a second heater below the first and at substantially the lowest point of the circuit. The second claim is for a system similar to that of the first claim; but it adds an "expansion-chamber" to the combination, and substitutes for the heater of the first claim on the riser "an emergency-heater having a combustion-chamber." The third claim differs from the first claim only in requiring "a radiating portion in the descending pipe."

It will be observed that none of the claims specifies steam-heaters, or a combination of steam-heaters. The specification expressly states that the heat may be derived from any prime source, preferably a steam-boiler; but any suitable heat-generator will suffice. The upper and lower heaters, or either of them, may receive their heat from any suitable source. When, however, the invention is employed in warming railway-cars—and not the "other structures" for which it may also be used—it is preferable that one or more of the heaters derive the heat from a common source; for instance, the engine-boiler. It is as plain as language can state it that the patentee intended to claim a system where the heat was derived from the boiler, or any other heat-generator, adapted to heat the circulating liquid. A steam-pipe is preferably employed, which may be connected with one or a plurality of heaters. One or more of such heaters may be used. If, however, the specification be construed, as it may well be, to require at least one steam-heater, the specification makes it plain that the water in the pipes may be properly and sufficiently heated by contact with the steam in the lower heater. In other words, one steam-heater will do the work. The heater on the riser-pipe is mentioned as one which may be used separately, or simultaneously with the lower heater, to form part of a single-flow system. The patentee says that—

the location of the various parts within the limitations specified in the appended claims as to the location of the heaters, one below another and at substantially the lowest point of the circuit, may also to a considerable extent be varied without departing from the principle of my invention.

He also says that the expression used to designate the heaters—

is to be understood as a term employed in the art to embrace a heater of any suitable description adapted to impart its heat to the liquid in the pipes or passages of the system.

Infringement, except upon a theory of construction which it is unnecessary to consider, is admitted. It is conceded by the complainant that all of the elements of the combination, when segregated, are old; but it is argued that the combination produces a novel result, not known before March 23, 1888, the date of Searle's application. The combination of one transfer-heater in the riser-pipe and another at the lowest point of the circuit is the novel feature of the claims which the complainant contends supports invention. Unless this combined action produces a new result the patent is invalid for lack of patentability.

The circuit court held that the sole function of the upper heater is to heat the water in the pipe, taking it as it finds it when it arrives.

If this were so—

says complainant's brief—

there could be no possible claim of novelty in the combination, but the decision overlooks or fails to appreciate the facts, which show that there is coöperation between the two heaters which produces a result which could not be otherwise obtained. The fact is that the upper heater aids the lower heater in transferring heat to the water, since it aids it in starting and continuing a circulation, so that the heat can be transferred from the steam to the water.

So that the question can be still further narrowed: Do the heaters act independently or jointly? If they act independently, it is an aggregation; if they act jointly, and a new and useful result is produced, it is a combination.

The prior art, as stated in the opinion below, need not be repeated here, and in view of the express declaration of the patentee that his system may be used in railway-cars and other structures we do not see why "other structures" may not be examined in considering the prior art. Baker, in 1868, obtained a patent for a successful circulating hot-water system for heating cars; but he employed a combustion-heater, which was dangerous in case of accidents. It was found necessary, therefore, to substitute some other heater for the stove, and a steam-drum with steam supplied from the locomotive immediately suggested itself to a number of inventors. The interference which was declared between thirteen of these applicants, among them Searle and Towne, was declared in favor of Towne and against Searle. Towne shows that the steam-heater and combustion-chamber may be in two separate structures, and he says:

If separated, the combustion-chamber and its coil of water-pipes might be in one position, and the steam-heater or transfer-chamber and its coil be in another position, either in or under the car, the pipes of both and of the circulatory system all being connected together, substantially as indicated in Figure 7 at T, T.

Having in mind the statement of Searle that one steam-heater is sufficient and the language of the second claim, where one steam-heater and one combustion-heater are employed, it would seem that this statement in the Towne patent comes very near being an anticipation, and, in any view, leaves no room for invention. A mechanic, following the direction of the Towne patent, who left the stove in its usual place and located the steam-drum under the car, would infringe the second claim of Searle's patent; and, if the other claims, in view of the statements of the specification, are construed as covering a stove in the riser-pipe—and we see no escape from the conclusion that they may be so construed—it would infringe these claims also. Being before, it anticipates. The article in the *Railway Age* of May 13, 1887, is, in part, as follows:

The device consists of a drum, in which is placed a bench-radiator, through which the steam is forced. The cold-water pipe of the Baker or other water-circulating heater is tapped near the furnace, and the pipe is brought down and connected with the bottom of the drum. The hot pipe of the system is tapped at a point where it leaves the furnace and brought down to the top of the drum, which is placed horizontally under the cars just back of the trucks, and as near to the truck as possible. The drum is also placed, when possible, up between the sills, on the same side as the heater. By these connections the drum becomes a part of the regular circulating system of the car, the water in the drum being around the steam-pipes of the coil or radiator, the condensed steam being carried off by a trap. It is claimed that under the system about to be introduced by the Safety Car Heating & Lighting Company the now existing devices are kept intact for use as emergency-heaters, and there are no complicated changes to be made, in order to change from steam heat to fire, or from fire heat to steam; in fact, with the water circulating system, both could be used at once.

This article is criticised as describing an inoperative system; but we are unable to see why it should not operate, and especially so when it appears that it actually worked satisfactorily. The record contains many other patents and publications relied on as anticipating or limiting the field of invention; but in the light of the full discussion by Judge Ray we deem it unnecessary to refer to them in detail.

Even if it be conceded that claims 1 and 3 require two steam-heaters, we are not persuaded that a new result is produced by their use. If they act independently, it is admitted that the claims are for an aggregation. The patent says nothing about a new result. If such existed, it is remarkable that Searle should have failed to state it, but should, on the contrary, have stated that one steam-heater would do the work. We cannot resist the conclusion that as the cars grew larger and the radiating-surface greater a second heater was introduced to aid the circulation and maintain uniform radiation. That the additional heater does this there is no doubt, but it does it in the old way. There is nothing magical about it. The water had far to go, the single heater needed help in propelling it, and another heater was introduced to furnish this help. Its introduction did not produce a revolution in hydrostatics. It did its assisting work, but it did it

in the old way. It gave an auxiliary push to the circulation. The Dixon patent was for a minor improvement, and expired over a year ago. No injunction can, of course, be issued. The proof shows that the complainant waited for twelve years before bringing this action, and is guilty of such laches as will preclude a recovery for profits and damages. Nothing need be added to the opinion of the circuit court on this subject.

The decree is affirmed, with costs.

ADJUDICATED PATENTS.

The Vrooman and Vrooman patent, No. 580,742, for an onion-topping machine, construed and *Held* infringed. *Vrooman* v. *Penhollow*, (C. C. A.,) 179 Fed. Rep., 296.

The Vrooman patent, No. 676,549, for a vegetable-topping machine, construed and *Held* infringed. *Vrooman* v. *Penhollow*, (C. C. A.,) 179 Fed. Rep., 296.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., August 10, 1910.

The H. L. Berry Company, its assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of Hoffman Brothers Company, of Fort Wayne, Ind., for registration of a trade-mark and a trade-mark registration to The H. L. Berry Company, Whitfield, Fla., and the notice of such declaration sent by registered mail to the said The H. L. Berry Company at the address above given has been returned by the Post-Office Department as undeliverable.

Notice is therefore hereby given to the said The H. L. Berry Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

FREDERICK A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., July 27, 1910.

Bond's Soap Company, Limited, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of the Armstrong Packing Company, of Dallas, Tex., for registration of a trade-mark and a trade-mark registered to the Bond's Soap Company, Limited, of Worsley street, Salford, Manchester, England, and the notice of said declaration sent by registered mail to the said Bond's Soap Company, Limited, having been returned undelivered, notice is hereby given to the said Bond's Soap Company, Limited, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., July 27, 1910.

Reed, Walsh & Lange, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of The Montclair Jam Kitchens, of 15 Label street, Montclair, N. J., for registration of a trade-mark and a trade-mark registered to Reed, Walsh & Lange, of 65 South Water street, Chicago, Ill., and the notice of said declaration sent by registered mail to the said Reed, Walsh & Lange having been returned undelivered, notice is hereby given to the said Reed, Walsh & Lange, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., July 27, 1910.

Hard & Pike, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of the Crocker-McElwain Company of Cabot street, Holyoke, Mass., for registration of a trade-mark and a trade-mark registered to Hard & Pike, of 156 William street, New York, N. Y., and the notice of said declaration sent by registered mail to the said Hard & Pike having been returned undelivered, notice is hereby given to the said Hard & Pike, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., July 27, 1910.

Goodbar, White, Branch & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of White, Branch, Shelton Hat Company, of 1101 Washington street, St. Louis, Mo., for registration of a trade-mark and trade-mark registrations to the following named parties: (1) No Name Hat Manufacturing Company, 50 Mitchell street, Orange, N. J., and (2) Goodbar, White, Branch & Company, St. Louis, Mo., and the notice of such declaration sent to the said Goodbar, White, Branch & Company at the address given above has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said Goodbar, White, Branch & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

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OF THE
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CONTENTS

	Page.
ISSUE OF SEPTEMBER 13, 1910	233
REGULATIONS IN RELATION TO MAIL-MATTER	233
RENEWAL OF FORFEITED CASES	233
APPLICATIONS UNDER EXAMINATION	234
NOTICE	234
PATENTS GRANTED	235
REISSUES	None.
DESIGNS	468
TRADE-MARKS—REGISTRATION APPLIED FOR	471
TRADE-MARKS—REGISTERED	477
LABELS AND PRINTS	480
COMMISSIONER'S DECISIONS—	
Opalia v. Hughes	481
Ex parte Enterprise Bed Company	481
Stork Company v. Kabo Corset Company	482
DECISIONS OF THE U. S. COURTS—	
Westinghouse Electric & Manufacturing Company v. Allis-Chalmers Company	482
ADJUDICATED PATENTS	485
INTERFERENCE NOTICES	486

ISSUE OF SEPTEMBER 13, 1910.

Patents	691—No.	969,764 to No. 970,454, inclusive.
Designs	10—No.	40,875 to No. 40,884, inclusive.
Trade-Marks	83—No.	79,459 to No. 79,541, inclusive.
Labels	4—No.	15,319 to No. 15,322, inclusive.
Prints	4—No.	2,638 to No. 2,641, inclusive.
Reissues	None.	
Total	792	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	.....	Ohio	51	8
Arkansas	2	.....	Oklahoma	6	.....
California	24	.....	Oregon	6	.....
Colorado	15	2	Pennsylvania	60	8
Connecticut	27	1	Rhode Island	2	2
Delaware	2	.....	South Carolina	2	.....
Florida	1	1	South Dakota	4	.....
Georgia	4	.....	Tennessee	4	.....
Idaho	2	.....	Texas	15	1
Illinois	57	11	Utah	.....	1
Indiana	21	2	Vermont	3	.....
Iowa	14	.....	Virginia	3	1
Kansas	10	.....	Washington	11	4
Kentucky	3	.....	West Virginia	4	.....
Louisiana	2	.....	Wisconsin	13	3
Maine	7	.....	Wyoming	1	.....
Maryland	8	2			
Massachusetts	25	3	Alaska, District of	2	.....
Michigan	17	1	Arizona Territory	.....	.....
Minnesota	6	3	District of Columbia	1	1
Mississippi	5	.....	Hawaii Territory	.....	.....
Missouri	12	2	New Mexico Ter'ty	.....	.....
Montana	3	.....	Panama	.....	.....
Nebraska	13	.....	Philippine Islands	1	.....
Nevada	3	.....	U. S. Army	.....	.....
New Hampshire	4	.....	U. S. Navy	1	.....
New Jersey	33	2			
New York	99	22	Total to citizens of the United States	619	81
North Carolina	5	.....			
North Dakota	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	.....	.....	Netherlands	.....	1
Austria-Hungary	2	.....	Newfoundland	.....	.....
Belgium	1	.....	New South Wales	1	.....
Brazil	.....	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	1	.....
Canada	11	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Russia	2	.....
China	.....	.....	Scotland	2	.....
Colombia	.....	.....	South Australia	.....	.....
Costa Rica	.....	.....	Spain	.....	1
Cuba	.....	.....	Sweden	4	.....
Denmark	1	.....	Switzerland	1	.....
Ecuador	.....	.....	Tasmania	.....	.....
England	17	6	Transvaal, South Africa	.....	.....
France	7	1	Victoria	.....	.....
Germany	30	.....	Western Australia	.....	.....
Ireland	1	.....			
Italy	1	1	Total to citizens of foreign countries	82	10
Japan	.....	.....			
Mexico	.....	.....			

Regulations in Relation to Mail-Matter.

In order to insure the ready identification of the division from which mail-matter emanating from this Office was sent, and the prepayment of any foreign postage thereon, as well as to prevent the retention for general delivery in the post-office of the city of any wrongly-addressed letter when this Office could supply a fuller or more accurate address, it is directed that the following regulations be observed with reference to all mail-matter forwarded from this Office:

Each envelop forwarded from any division will be stamped or marked in the upper left-hand corner with the division number or letter, as the case may be.

Each envelop addressed to a foreign country must be forwarded to the mail-room and the proper stamps affixed thereto before mailing.

Such mail as is to be delivered in this city shall be directed "Washington, D. C." If a letter addressed to a person in this city and not marked for general delivery be returned to this Office, it will be promptly remailed with an accurate and full local address supplied, if possible. In remailing, the envelop should be marked or stamped "Held in General Delivery," but no envelop should be thus marked until the address thereon is as full and accurate as the Office can supply. A letter to a person in this city will not be filed "Undelivered" until it is returned to this Office in an envelop thus addressed and marked.

Renewal of Forfeited Cases.

A petition for the renewal of a forfeited application need not be signed by the inventor or assignee, but may be signed by the attorney.

A power of attorney in the original application authorizing an attorney to transact all business in the Patent Office in connection with the application construed to be of sufficient scope to include the signing of a petition for renewal and the subsequent prosecution of the application. (*Ex parte Agee*, 101 O. G., 1609.)

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business September 6, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended.	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Aug. 4	Aug. 4	298
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	July 25	Aug. 4	198
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Aug. 8	Aug. 23	122
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	July 23	July 20	393
167	5. Bookbinding; Harvesters; Jewelry; Music.	June 3	June 16	541
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	July 5	July 25	298
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	July 12	July 15	444
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Aug. 1	Aug. 4	291
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	June 1	July 15	456
235	10. Carriages and Wagons	July 12	July 11	627
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	July 15	July 13	314
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	July 9	July 15	698
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	July 16	July 7	552
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	July 25	July 25	342
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	July 6	July 14	635
100	16. Telegraphy; Telephony	June 16	June 23	347
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Aug. 3	Aug. 1	212
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	July 18	July 15	290
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	July 22	July 30	395
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Aug. 1	Aug. 2	208
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	July 13	July 16	361
349	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	May 7	July 2	613
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	July 9	July 11	385
144	24. Apparel; Apparel Apparatus; Electricity, Medical and Surgical; Sewing-Machines; Surgery.	July 6	July 5	614
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Aug. 8	Aug. 18	100
106	26. Electricity, Generation; Motive Power.	July 1	July 8	179
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Aug. 7	Aug. 7	305
65	28. Internal-Combustion Engines	July 1	July 2	455
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking; Woodworking-Tools.	July 15	July 23	344
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	July 5	July 16	353
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Aug. 3	July 26	213
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	July 9	July 15	276
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	July 16	July 26	357
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	July 8	July 23	380
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Aug. 1	Aug. 1	546
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	June 30	June 21	595
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	June 30	July 2	463
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	June 27	June 29	499
221	39. Water Distribution	June 21	June 27	320
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Aug. 8	Aug. 6	381
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	May 6	June 25	552
279	42. Electric Railways; Electric Signaling; Railway Signaling; Signals.	May 26	May 29	692
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	July 13	July 15	263

Oldest new case, May 6; oldest amended, May 20.

Total number of applications awaiting action..... 16,807

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	July 20	Aug. 19	781
	Designs	Aug. 8	Aug. 25	76
	Labels and Prints	Aug. 26	Sept. 2	26

Notice.

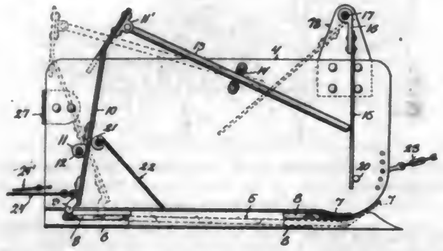
Decision leaflets of the OFFICIAL GAZETTE are sold as a separate publication—

Single numbers ..... 5 cents
Subscription per year $2.00

PATENTS

GRANTED SEPTEMBER 13, 1910.

969,764. SCRAPER. DANIEL J. ARPIN, Grand Rapids, Wis. Filed Apr. 1, 1910. Serial No. 552,882.



1. A scraper having the scoop thereof provided with a slidable lower front fender and a pivotal back coupled to the fender for which is constitutes a lever movable from normal position under load-pressure in said scoop to throw said fender into working position.

2. A scraper having the scoop thereof provided with a slidable lower front fender and a pivotal back coupled to the fender for which it constitutes a lever movable from normal position under load-pressure in said scoop to throw said fender into working position, and means in connection with said back for returning the same and said fender to their normal position preliminary to a dumping operation of the scraper.

3. A scraper having the scoop thereof provided with a slidable lower front fender, a pivotal back coupled to the fender for which it constitutes a lever normally opposed to load-pressure in said scoop, and a pivotal inclined plate forward of the back.

4. A scraper having the scoop thereof provided with a slidable lower front fender, a pivotal back coupled to the fender for which it constitutes a lever normally opposed to load-pressure in said scoop, forwardly extending rods in connection with said back, suitably arranged guides for the rods, and a gate arranged in opposition to the free ends of the rods.

5. A scraper having the scoop thereof provided with a slidable lower front fender, a pivotal back coupled to the fender for which it constitutes a lever normally opposed to load-pressure in said scoop, forwardly extending rods in connection with said back, suitably arranged guides for the rods, a pivot-rod, a gate rigidly secured to the pivot-rod in opposition to the rods aforesaid, and wings in rigid connection with said pivot-rod outside of the aforesaid scoop.

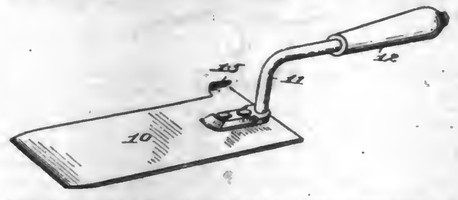
[Claims 6 to 8 not printed in the Gazette.]

969,765. DIPPER FOR TURPENTINE-CUPS. FESS BAILEY, Woodville, Fla., assignor to Angus J. Conoly, Quitman, Ga. Filed May 18, 1910. Serial No. 562,071.

1. A dipper of the character described comprising a relatively flat blade of rectangular form, tapering toward its forward end to fit cross-wise within a downwardly tapering turpentine cup, and a handle bar secured to, and extending rearwardly from the rear portion of said dipper and having a handle thereon.

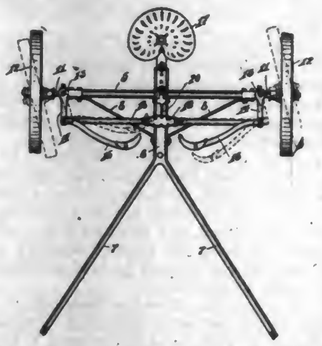
2. A turpentine dipper comprising a relatively rectangular blade, to fit cross-wise within a turpentine cup, having a handle, and a projection extending from one side thereof adjacent one end, for the purpose described.

3. A dipper of the character described comprising a relatively flat blade of rectangular form, tapering toward its forward end to fit cross-wise within a downwardly



tapering turpentine cup having an apron engaging lip, said blade having a handle and a projection extending from one side adjacent its rear end and bent upwardly and inwardly in a substantial semi-circle.

969,766. STEERING DEVICE FOR VEHICLES. ARTHUR D. BAKER, South Bend, Ind. Filed Mar. 19, 1910. Serial No. 550,383.



1. In a vehicle, the combination with the wheels, of pivotal spindles upon which said wheels are mounted, crank-arms carried by the spindles, a tie-bar connecting the ends of the crank-arms, foot levers attached to the ends of the crank-arms, and adjustable means for locking the tie-bar against movement.

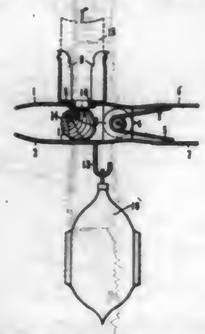
2. In a vehicle, the combination with the wheels, of pivotal spindles upon which said wheels are mounted, crank-arms carried by the spindles, a tie-bar pivotally connected at its ends to the crank-arms, foot levers attached to the ends of the crank-arms, a double convex notched plate mounted on the tie-bar, and means operable to engage said notches and lock the tie-bar against movement.

3. In a vehicle, the combination with the wheels, of pivotal spindles upon which said wheels are mounted, crank-arms carried by the spindles, a tie-bar pivotally connected at its ends to the crank-arms, foot levers attached at one end to the crank-arms and extending inwardly and upwardly so as to clear the tie-bar, and means operable to lock the tie-bar against movement.

4. In a vehicle, the combination with the wheels, of pivotal spindles upon which said wheels are mounted, crank arms connected with said spindles, a tie-bar con-

necting the ends of said crank arms, a notched plate secured to said tie-bar, a foot treadle adapted to engage said notches to lock the bar against movement, and foot levers connected with the ends of the crank-arms to serve as a foot rest and as means for steering the wheels.

969,767. CANDLE-HOLDER. HERMAN BERG, New York, N. Y. Filed Jan. 28, 1910. Serial No. 540,487.



1. In a device of the character described, in combination, a pair of pivoted members adapted to firmly grasp a branch of a Christmas tree therebetween, and a hook offset from one of said members adapted to hold an ornament in suspension therefrom.

2. In a device of the character described, in combination, a pair of pivoted members adapted to grasp a branch of a Christmas tree therebetween, and a hook formed integral with one of said members and laterally offset with respect thereto adapted to hold a suitable decoration suspended therefrom.

3. In a device of the character described, in combination, a pair of pivoted members adapted to grasp a branch of a Christmas tree, a candle supporting socket secured to one of said members, the other of said members being provided with a laterally extending hook adapted to hold a suitable decoration in suspension therefrom.

4. In a device of the character described, in combination, a pair of pivoted metal stampings provided with a spring adapted to close them firmly upon a branch of a Christmas tree, said members having extensions adapted to be gripped to spread said members apart, and a hook formed integrally upon one of said members and offset from the body thereof adapted to hold a Christmas tree decoration suspended therefrom.

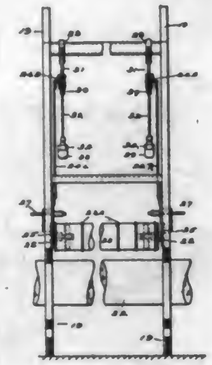
5. In a device of the character described, in combination, a pair of pivoted metal stampings provided with a spring adapted to close them firmly upon a branch of a Christmas tree, said members having extensions adapted to be gripped to spread said members apart, a hook formed integrally upon one of said members adapted to hold a Chirstmas tree decoration suspended therefrom, and candle supporting means attached to the other of said members.

[Claim 6 not printed in the Gazette.]

969,768. MECHANISM FOR GUIDING AND TENSIONING SPINDLE-DRIVING BANDS. JOHN BOYD, Bothwell, Scotland, assignor of one-half to David Phillips and James Scott & Sons (Limited), Dundee, Scotland. Filed Dec. 23, 1907. Serial No. 407,847.

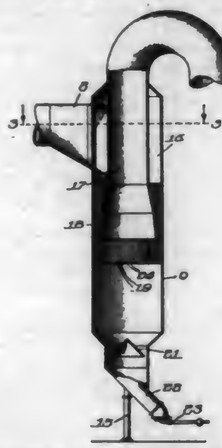
1. In a machine of the type described, a hollow tensioning cylinder made of thin metal and provided with guide ribs spaced apart for the spindle driving bands, said ribs being independently formed out of thin metal and spaced apart along the length of said cylinder in accordance with the number of bands to be guided thereby, substantially as described.

2. In a machine of the character described, a hollow tensioning cylinder of thin metal provided with guide ribs, triangular in cross section and spaced apart, for the spindle driving bands, said ribs being independently formed out of thin metal and arranged along the length of said



cylinder in accordance with the number of bands to be guided thereby.

969,769. METHOD AND APPARATUS FOR CLEANING GAS. HERMAN A. BRASSERT and ALBIN G. WITTING, Chicago, Ill. Filed Apr. 4, 1910. Serial No. 553,394.



1. An apparatus for cleaning gases including a closed conduit, means for producing a whirling motion to the gas in the conduit, and means to prevent the velocity of the gas falling below a minimum rate, substantially as described.

2. An apparatus for cleaning gases including a closed conduit having a dust collecting surface portion, means to produce a whirling motion of the gas in the conduit and means to prevent the velocity of the gas falling below a minimum rate when passing the dust collecting surface portion, substantially as described.

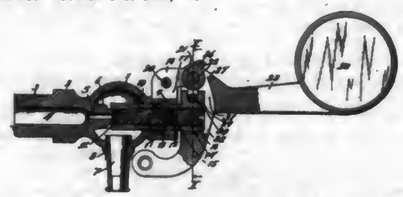
3. An apparatus for cleaning gases including a closed conduit having a dust collecting surface portion, and means to produce a whirling motion of the gas in the conduit, a portion of the cross sectional area of the conduit being contracted, and said contracted portion being provided with a dust collecting surface, substantially as described.

4. An apparatus for cleaning gases including a closed conduit, means for producing a whirling motion of the gas in the conduit, and means to increase the frictional resistance offered to the material contained in the gas, substantially as described.

5. An apparatus for cleaning gases including a closed conduit, means to produce a whirling motion of the gases in the conduit, a portion of the cross sectional area of the conduit being contracted, and means for pocketing the dust throughout the contracted area, substantially as described.

[Claims 6 to 18 not printed in the Gazette.]

969,770. GAGE-COCK. JOHN ROWLAND BROWN, Mansfield, Ohio, assignor to Ohio Brass Company, Mansfield, Ohio, a Corporation of New Jersey. Filed Mar. 24, 1910. Serial No. 551,340.



1. As an article of manufacture, a pencil valve for gage cocks provided on one end with a flat end face and with a flattened lug projecting endwise from the other end, said lug being adapted to engage the slotted end of a screw.

2. As an article of manufacture, a pencil valve for gage cocks comprising a cylindrical body and a flattened lug projecting endwise from said body and adapted to fit the groove in a screw head.

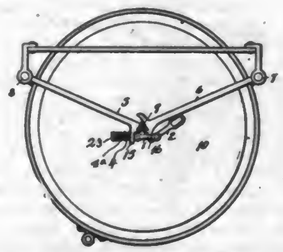
3. In a gage cock, the combination with a valve seat, of a valve slidable axially toward said seat, means rotatable and reciprocable relatively to said valve seat for moving said valve against the valve seat, and means interengaging between the valve in the first said means for preventing relative rotary movement between the first said means and the valve.

4. In a gage cock, a valve seat, a valve holder, gravity actuated means tending to force said holder toward said seat, a valve slidable in said holder, and means adjustably connected with said holder for supporting said valve against endwise movement, said means and valve being releasably connected to rotate together.

5. In a gage cock, the combination of a valve housing provided with a valve seat, a valve holder slidable in said housing toward the valve seat, a weighted lever movably engaging said holder, a valve slidable in said holder, and means adjustably engaging said holder for imparting an axial and rotary movement to said valve.

[Claims 6 to 11 not printed in the Gazette.]

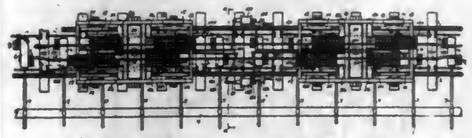
969,771. CLAMP. GEORGE E. BROWNE, Greenfield, Mich. Filed Sept. 13, 1909. Serial No. 517,409.



1. A clamp for wash tubs having in combination a body member, a lever provided with a locking terminal pivoted to said body member, an arm pivotally connected to said body member at a distance from the lever, a spring carried on said arm between the pivot and the terminal thereof, substantially as described.

2. A clamp for securing togther two bodies, a body member provided with an arm pivotally secured to one end thereof, a spring on said arm interposed between the pivot and the terminal of said arm, means adapted to prevent the free oscillation of said arm on its pivot but adapted to allow a limited oscillation thereof, a lever pivoted to the opposite end of said body member and provided with a locking terminal, substantially as described.

969,772. SYSTEM AND APPARATUS FOR PROPELLING VEHICLES BY COMPRESSED AIR. JULIUS O. COBB, Milwaukee, Wis. Filed Jan. 8, 1910. Serial No. 537,059.



1. The combination with a track and a car movable thereon, of propelling vanes carried by the car for propelling it in one direction, other propelling vanes also carried by the car for propelling it in the opposite direction, nozzles adapted to direct compressed air against said vanes for propelling the car, a pipe to conduct compressed air to said nozzles, valves to control the flow of compressed air from said nozzles and skees carried by the car and operable therefrom to actuate said valves.

2. The combination with a track and a train movable thereon, said train being composed of a plurality of cars coupled together, of propelling vanes carried by each of said cars, nozzles adapted to direct compressed air against said vanes for propelling the cars, a pipe to conduct compressed air to said nozzles, valves to control the flow of compressed air from said nozzles, and a skee carried by each car, the skees carried by the several cars being operable from a single car to actuate said valves.

3. The combination with a track and a train movable thereon, said train being composed of a plurality of cars coupled together, of propelling vanes carried by each of said cars for propelling the car in one direction, other propelling vanes carried by each of said cars for propelling the car in the opposite direction, nozzles adapted to direct compressed air against said vanes for propelling the cars, a pipe to conduct compressed air to said nozzles, valves to control the flow of compressed air from said nozzles and a plurality of skees carried by each car, all the skees carried by the several cars being operable from a single car to actuate said valves.

4. The combination with the wheels and truck of a car of a vane member, provided with propelling vanes, carried thereby and so supported thereon that it maintains a predetermined fixed postion with respect to said wheels.

5. The combination with a car of propelling vanes, a skee, a cylinder with a piston therein, motion transmitting mechanism connected to said piston for actuating said skee, an engineer's valve for supplying compressed air to said cylinder and adapted to permit it to exhaust therefrom and an auxiliary interposed between said cylinder and said engineer's valve, said auxiliary being provided with a restricted passage, a movable piston, an exhaust port for said cylinder and a valve secured to said movable piston for controlling said exhaust port.

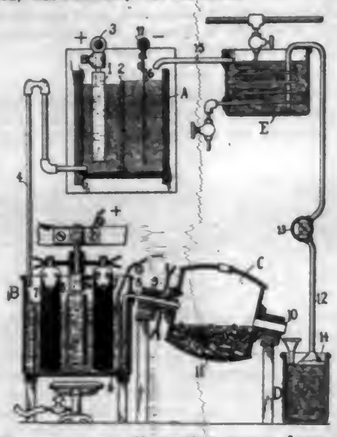
[Claims 6 and 7 not printed in the Gazette.]

969,773. PROCESS OF PRODUCING ALLOYS AND THE SEPARATION OF METALS. PERCY FOOTE COWING, New York, N. Y. Filed Nov. 11, 1909. Serial No. 527,407.

1. The process of eliminating copper from alloys containing nickel and copper which consists in bringing the original alloy into solution electrolytically, substituting iron for copper in this solution, and electrolytically depositing nickel and iron from the solution thus obtained, substantially as described.

2. The process of eliminating copper from alloys containing nickel and copper which consists in bringing the original alloy into solution electrolytically, substituting nickel and iron for copper in this solution, and electro-

lytically depositing nickel and iron from the solution thus obtained, substantially as described.



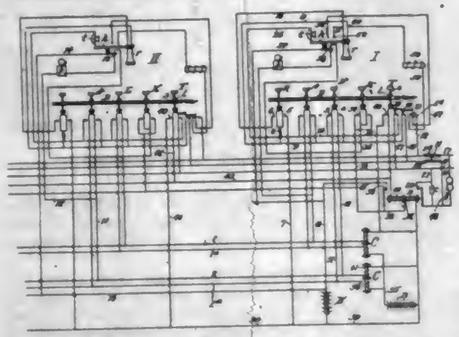
3. The process of eliminating copper from alloys containing nickel and copper which consists in bringing the original alloy into solution electrolytically so that the copper is in a cuprous state and any iron present is in a ferrous state, substituting iron for copper in this solution and electrolytically depositing nickel and iron from the solution thus obtained, substantially as described.

4. The process of eliminating copper from alloys containing nickel and copper, which consists in bringing the original alloy into solution electrolytically, so that the copper is in a cuprous state, substituting iron for copper in this solution so that the iron salts are in a ferrous state, and electrolytically depositing nickel and iron from the solution thus obtained, substantially as described.

5. The process of eliminating copper from alloys containing nickel and copper which consists in bringing the original alloy into solution electrolytically so that the copper is in a cuprous state and any iron present is in a ferrous state, substituting nickel and iron for copper in this solution, and electrolytically depositing nickel and iron from the solution thus obtained, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

969,774. INTERCOMMUNICATING TELEPHONE SYSTEM. HIRAM D. CUARINE, Chicago, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 23, 1907. Serial No. 403,528.



1. In a telephone system, a transmission circuit, a local circuit including a receiver and transmitter in series with each other, and means for controlling the flow of current in said receiver, comprising a normal shunt around said receiver, a retardation coil in said shunt, a condenser associated with said transmission circuit, and means for simultaneously removing said shunt and placing said condenser in series circuit with said receiver.

2. In a telephone system, the combination with a ringing circuit including a vibrating contact, of a resistance included in said ringing circuit, a telephone receiver in shunt on said resistance, and a retardation coil in shunt on said receiver, said retardation coil being of low ohmic resistance and of high impedance value.

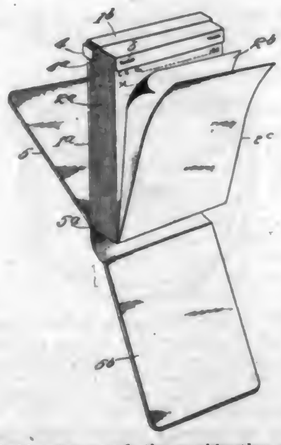
3. In an intercommunicating telephone system, the combination with a telephone circuit including a receiver and transmitter in series with each other and with a source of current for said circuit, of a circuit for ringing current, a resistance included in the ringing circuit, said resistance being in shunt on the telephone receiver, and a second shunt on said receiver, said second shunt including a retardation coil of low ohmic resistance and of high impedance value.

4. In an intercommunicating telephone system having a trunk line leading to said system and multiplied with two or more stations thereof, the combination with an induction coil and condenser individual to the trunk line and common to all of said stations, of a telephone set at each of said stations having the receiver and transmitter in series with each other, means for associating the telephone set with the local circuits of the intercommunicating system and with the trunk line, respectively, a normally closed shunt on said receiver, a retardation coil of low ohmic resistance and of high impedance value included in said shunt, and means for removing said shunt when said telephone receiver is associated with the trunk line.

5. In an intercommunicating telephone system having a trunk line leading to said system and multiplied with two or more stations thereof, the combination with an induction coil and condenser individual to the trunk line and common to all of said stations, of a telephone receiver at each of said stations, a retardation coil in shunt on said receiver, said retardation coil having a low ohmic resistance and a high impedance value, means for associating said receiver with the local circuits of the intercommunicating system and with the trunk line, respectively, and means for cutting said retardation coil in circuit when said receiver is associated with one of the local lines of the system and for cutting said retardation coil out of circuit when said receiver is associated with the trunk line.

[Claim 6 not printed in the Gazette.]

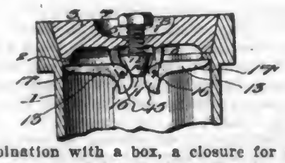
969,775. PAD-HOLDER. WILLIAM E. DUNNING, Alliance, Ohio, assignor to The McCaskey Register Company, Alliance, Ohio, a Corporation of Ohio. Filed Dec. 9, 1908. Serial No. 466,725.



1. In a holder for a pad, the combination of a base, an arm pivoted near one end to said base and having its free end inturned substantially parallel to said base and bifurcated, for the purposes described, and means on the base coöperating with said pivoted arm to hold a pad in place on the base.

2. In a holder for a pad, the combination of a base adapted to support a pad comprising a series of leaves bound together by binding means along one end, and a pair of arms, one of which is pivoted to the back of the base, the free ends of the arms being inturned and bifurcated and arranged between two adjoining leaves of the pad with the bifurcations disposed upon opposite sides of the pad binding means for holding the pad against vertical, lateral and twisting movements relatively to said base.

969,776. FASTENER FOR CLOSURES. THOMAS F. FOLEY, Washington, D. C. Filed Sept. 7, 1909. Serial No. 516,323.



1. The combination with a box, a closure for the box, said closure being provided with depending fingers, dogs being pivotally connected with the fingers, each of said dogs being provided with an arcuate inner face, the closure having a central threaded opening, a threaded key member engaging the opening, said key member being provided with a reduced extending portion, a cone-shaped member engaging this reduced extending portion, and means for sustaining the cone-shaped member upon the reduced portion and normally above the arcuate faces of the dogs, substantially as described.

2. The combination with a box provided with a bead, a closure adapted to normally rest upon the bead, locking dogs for the closure, said locking dogs being each provided with an arcuate face and being pivoted to the closure, the closure being centrally provided with a threaded opening, a threaded key member for the opening, said key having its upper portion provided with an enlarged head and being also provided with a downwardly extending reduced portion, a cone-shaped member upon the reduced portion, a washer between the upper face of the cone-shaped member and the threaded portion of the key, said washer being of a larger area than the threaded opening of the closure, means for securing the cone-shaped member to the reduced extension of the key, and said cone-shaped member adapted to normally lie directly above the central meeting portions of the arcuate faces of the dogs so as to contact and swing the dogs when the key is rotated to bring their ends into contact with the sides of the box.

3. In combination with a box, of a closure for the box, said closure being provided with an opening, a dog provided with an arcuate face and an extending arm pivotally connected adjacent its arcuate face to the closure, a key member for the opening of the closure, said key member having a cone-shaped end normally lying above the arcuate face of the dog substantially as described.

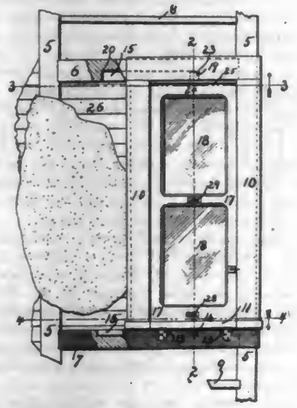
4. The combination with a box, of a closure for the box, said closure being provided with a threaded opening, the closure being further provided with a depending finger, a dog pivotally connected with the depending finger, said dog being provided with an arcuate face and an extending portion, a threaded headed key member for the opening, said key member being provided with a reduced extension normally positioned directly above the arcuate face of the dog, and the key member being further provided with a washer member of a larger area than the area of the threaded opening or the threaded portion of the key member.

969,777. FLY-SCREEN. HERMAN L. FRANKE, Chicago, Ill. Filed Oct. 18, 1909. Serial No. 523,281.

In a fly screen, the combination with a plurality of screen sections each thereof forming a complete frame and pivotally mounted at their upper edges to, and adapted to swing within a main frame in overlapping relation, springs carried by the lower edges of all but the lowermost of the sections and bearing against the upper edges of the adjacent section thereabove, to maintain the sections in spaced relation, and a rotatable member having offset portions in line with the lower edges of the frame of the sections, whereby when said member is turned it will press the sections together against the tension of the springs.



969,778. WINDOW. SAMUEL C. FRANKS, Fremont, Ohio. Filed Aug. 18, 1909. Serial No. 513,385.



1. The combination with a window frame, of a sash mounted for lateral sliding movement in its own plane, into and out of said frame, said sash closing the opening of said frame when moved thereinto, and said sash passing through an opening formed in one side of the window frame when moved out of said frame, and means at the top and bottom of the sash for pivotally mounting said sash adjacent to its limit of movement into said window frame.

2. The combination with a window frame, of a sash mounted for lateral sliding movement in its own plane, into and out of said frame, said sash closing the opening of said frame when moved thereinto, and said sash passing through an opening formed in one side of the window frame when moved out of said frame, means at the top and bottom of the sash for pivotally mounting said sash adjacent to its limit of movement into said window frame, there being an opening formed in the top of said window frame through which said sash may be raised, and means for holding said sash in an elevated position.

3. The combination with a window frame, of a sash mounted for lateral sliding movement in its own plane, into and out of said frame, said sash closing the opening

of said frame when moved thereinto, and said sash passing through an opening formed in one side of the window frame when moved out of said frame, means at the top and bottom of the sash for pivotally mounting said sash adjacent to its limit of movement into said window frame, there being an opening formed in the top of said window frame through which said sash may be raised, means for holding said sash in an elevated position, and there being an opening formed in the bottom of said window frame through which said sash may be lowered, and means for limiting the downward movement of said sash.

969,779. VEHICLE-WHEEL RIM. JOHN RUDOLPH GAMMETER, Akron, Ohio, assignor, by mesne assignments, to The United Rim Company, Akron, Ohio, a Corporation of Ohio. Filed Mar. 26, 1906. Serial No. 308,175.



1. In a wheel rim, in combination, a tire-seating member having a recess therein, a removable tire-retaining flange, and a substantially inextensible, endless locking ring shaped to enter said recess when out of operative position.

2. In a vehicle wheel rim, the combination of a tire-seating member, a removable, endless, tire-retaining flange, and a substantially inextensible endless locking ring, said tire-seating member being formed with a groove along one edge, and said locking ring being shaped to enter said groove, and to seat upon the edge of the outer wall thereof.

3. In a vehicle wheel rim, the combination of a tire seating member having an annular groove near one edge thereof, a removable endless tire retaining flange adapted to seat upon the said tire seating member, and a substantially inextensible endless locking ring, the said locking ring shaped to enter said groove and provided with a projecting flange having a diameter slightly less than that of the edge of the outer wall of said groove.

4. In a wheel rim, in combination, a tire seating member having a circumferential groove therein, a tire retaining flange having an inner diameter not less than the maximum diameter of those portions of the tire seating member at one side of said groove, and a substantially inextensible endless locking ring having an inner diameter less than that of the outer edge of a wall of said groove and an outer diameter greater than the inner diameter of the retaining flange.

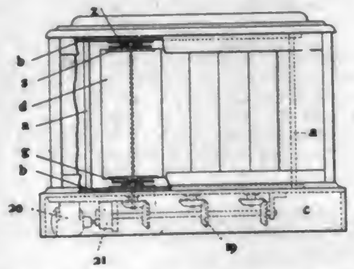
5. In a vehicle wheel rim, the combination of a tire-seating member having a groove adjacent one edge, a removable, endless, tire-retaining flange, and a substantially inextensible endless locking ring having an inner diameter less than the diameter of the outer edge of the wall of said groove, and an outer diameter greater than that of said edge, and being provided with a horizontally projecting shoulder adapted to seat upon the edge of said wall.

[Claims 6 to 11 not printed in the Gazette.]

969,780. EXHIBITING AND ADVERTISING APPARATUS. CHARLES ABRAM GEE, South Tottenham, London, England. Filed Jan. 4, 1909. Serial No. 470,620.

1. Exhibiting and advertising apparatus comprising movable slotted members, picture plates having their axes mounted in the slotted members, means for moving the slotted members, and means for rotating the picture plates about their own axes substantially as described.

2. Exhibiting and advertising apparatus comprising movable slotted members, picture plates having their axes mounted in the slotted members, means for moving the slotted members, and means for rotating the picture plates about their own axes and means for controlling the time exposure of the picture plates substantially as described.



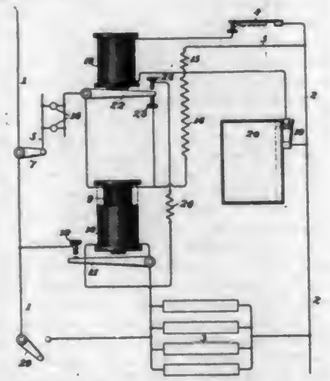
3. Exhibiting and advertising apparatus comprising a rotatable frame, picture plates mounted in the frame, means for rotating the frame and means for rotating the picture plates about their own axes said means consisting of a radially slotted plate and a plate provided with a cam groove for guiding the axes of the picture plates substantially as described.

4. Exhibiting and advertising apparatus comprising a rotatable frame, means for rotating the frame, picture plates mounted in the frame, spindles upon which the picture plates are mounted, rotatable arms mounted on the spindles, rollers mounted on the rotatable arms, fixed plates provided with cam grooves in which latter the rollers are guided and radially slotted plates attached to the frame by which the spindles of the picture plates are guided substantially as described.

5. Exhibiting and advertising apparatus comprising picture plates, a frame carrying the picture plates, means for rotating the frame, means for controlling the time of exposure of the plates and means for rotating the picture plates about their own axes consisting of a plate having a double cam groove in which latter the axes of the picture plates are guided substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

969,781. AUTOMATIC ELECTRIC HEAT CONTROL. HARRY G. GEISSINGER, New York, N. Y., assignor to Geissinger Regulator Company, New York, N. Y., a Corporation of New York. Filed Dec. 22, 1909. Serial No. 534,498.



1. A system of automatic heat control, comprising an electric heater, and a circuit closing device arranged to connect said heater to supply mains having an armature connected with the closer contacts and energizing coils comprising lifting and retaining coils coöperating to raise the armature, said lifting coil being short-circuited by said armature when in raised position.

2. A system of automatic heat control, comprising an electric heater, a circuit closing device arranged to connect said heater to supply mains having an armature connected with the closer contacts and energizing coils comprising lifting and retaining coils coöperating to raise the armature, said lifting coil being short-circuited by said armature when in raised position, and a regulating circuit for said circuit closing device having mechanism for short-circuiting said retaining coil.

3. A system of automatic heat control, comprising an electric heater, a circuit closing device arranged to connect said heater to supply mains having an armature connected with the closer contacts and energizing coils comprising lifting and retaining coils coöperating to raise the armature, said lifting coil being short-circuited by said armature when in raised position, a regulating circuit for said circuit closing device having mechanism for short-circuiting said retaining coil, and a thermostat controlling the operation of said mechanism.

4. A system of automatic heat control, comprising an electric heater, a circuit closing device arranged to connect said heater to supply mains having an armature connected with the closer contacts and energizing coils comprising lifting and retaining coils coöperating to raise the armature, said lifting coil being short-circuited by said armature when in raised position, a regulating circuit for said circuit closing device having mechanism for short-circuiting said retaining coil, a thermostat controlling the operation of said mechanism, and a switch for nullifying the controlling effect of the thermostat.

5. A system of automatic heat control, comprising an electric heater and a circuit closing device connecting the heater to supply mains, said device having an armature controlling main contacts and energizing coils for actuating the armature connected respectively in shunt and in series with the heater, and one of said coils being short-circuited when the armature is in attracted position.

[Claims 6 to 13 not printed in the Gazette.]

969,782. FLUID PULSATING APPARATUS. CHARLES C. GLIDDEN, Birmingham, Ala. Filed Feb. 20, 1909. Serial No. 479,294.

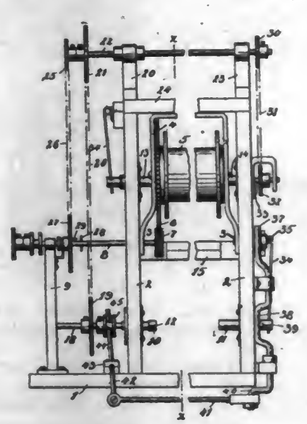


1. In an apparatus for pulsating fluid, a casing interposed in a pipe line, a diaphragm partition dividing said casing into intake and outlet chambers and having an aperture in alinement with and of substantially the same diameter as said pipe line, a rotatable disk valve pivoted centrally of said casing which moves over said diaphragm as a seat and has one or more ports of substantially equal area with said aperture which register with an intermittently open and close said aperture in said diaphragm, and an adjustable damper to vary the cross-sectional area of the aperture in the diaphragm, substantially as described.

2. In an apparatus for producing a pulsatory flow of fluid, a pipe line, a casing interposed in said pipe line and comprising two dished plates to which the adjacent ends of the sections of the pipe line are eccentrically joined, a diaphragm which divides said casing transversely and has an aperture in alinement with the pipe sections and of substantially the same diameter as the pipe line, a shaft journaled in said casing, an annular disk valve keyed to said shaft and positioned on the intake side of the casing and having a plurality of ports of like diameter with the said aperture with which they register successively, a damper valve adjustably supported by said shaft and interposed in the outlet side of the casing, a rod to adjust said damper valve which projects without said casing, means to pack said rod, and means to hold said rod in any desired position, substantially as described.

3. In an apparatus for producing a pulsatory flow of fluid, a pipe line, a casing interposed in said line, a transverse partition dividing said casing into intake and outlet chambers and having a single port in alinement with and of like diameter to the oppositely positioned openings in said casing for said pipe line, a rotatable valve mounted in the intake side which moves over said partition as its seat and intermittently and fully uncovers the port therein which establishes communication between the chambers of said casing, means to rotate said valve, and an adjustable regulating valve disposed in the outlet chamber and adapted to adjust the effective extent to which the port in said partition is opened by said valve for the passage of fluid between said chambers, substantially as described.

969,783. SWINGING MUSIC-ROLL ACTUATOR. NELSON D. HOSLEY, Meriden, Conn., assignor to The Wilcox & White Company, Meriden, Conn., a Corporation of Connecticut. Filed Mar. 27, 1908. Serial No. 423,649.



1. In a note sheet winding apparatus, a tracker-board, a plurality of pairs of roll-carrying spindles, a take-up spool and means to shift the position of said spool whereby it may operate note sheets in either direction over said tracker-board during the playing operation.

2. In a note sheet winding apparatus, a plurality of pairs of roll-carrying spindles, a tracker board, a swinging frame, a take-up spool carried thereby, and a power-shaft mounted concentrically with the pivots of said frame and having means for driving said spool in each of its shifted positions.

3. In a note sheet winding apparatus, a plurality of pairs of roll-carrying spindles, a tracker board, a take-up spool operatable in common with any of said pairs, and means for retracting said spindles whereby said spool may be positioned between them.

4. In a note sheet winding apparatus, a plurality of pairs of roll-carrying spindles, a tracker board, a shiftable take-up spool operatable in common with any of said pairs, and means actuated by the shifting of said spool for retracting said spindles whereby said spool may be positioned between them.

5. In a note sheet winding apparatus, a plurality of pairs of roll carrying spindles, a tracker-board, a shiftable take-up spool, operatable in common with said pairs respectively, and means for locking said spool in each of its shifted positions.

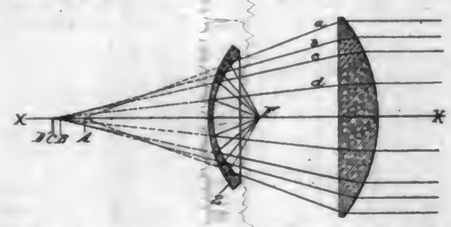
[Claims 6 to 8 not printed in the Gazette.]

969,784. VEHICLE-HEATER. GEORGE S. JOHNSTON, St. Louis, Mo. Filed Jan. 31, 1910. Serial No. 541,040.



A vehicle heater comprising a hollow heat-radiating device arranged in a compartment of the vehicle and provided with exhaust flues that communicate with the atmosphere, a conduit arranged under the floor of the vehicle and communicating with said device, the front end of said conduit being open so that air can travel through same, an engine exhaust pipe projecting into said conduit for heating the air that travels through same, and means for permitting the heated air to pass from said heat-radiating device into the compartment of the vehicle in which it is arranged.

969,785. PROJECTING-LAMP. GUSTAV A. HERMANN KELLNER, Rochester, N. Y., assignor, by mesne assignments, to Bausch & Lomb Optical Company, a Corporation of New York, (No. 2.) Filed Aug. 2, 1907. Serial No. 386,694.

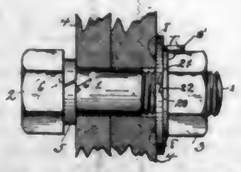


1. In a projecting lamp, the combination with a light source, of a lens and a reflector, having spherical aberration of opposite signs.

2. In a projecting lamp, the combination with a light source, of a lens and a reflector having spherical aberration of like amount, but of opposite signs, and arranged so that rays will be projected parallel to the optical axis of the lamp.

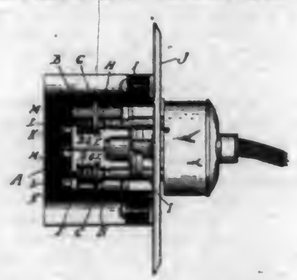
3. In a projecting lamp, the combination with a light source, of a condensing lens having spherical aberration and arranged to distribute rays received directly therefrom, and a lens reflector directing rays from the light source to the condensing lens and having spherical aberration of opposite sign to that of the condensing lens.

969,786. NUT AND BOLT LOCK. GEORGE R. KNOBELOCH, Coraopolis, Pa. Filed Apr. 13, 1908. Serial No. 426,646.



A device of the class described comprising a bolt and a washer positioned thereon, said washer provided with equally-spaced barbs on the inside face thereof, pockets formed in the outer face of said washer equal in number to said barbs, each of said pockets having a square radial shoulder and a sloping bottom and a tapering side wall, the side wall and shoulder of each pocket being perpendicularly arranged, said pockets being arranged at equal distances around and opening at the periphery of said washer and the directions of length of the pocket bottoms being the same with respect to the shoulders in each of the successive pockets, said shoulders alining and being diametrically-disposed, a set nut upon said bolt, a second washer rotatable in but a single direction and outward projecting opposite radial tongues carried thereby for engaging in said pockets and with said nut.

969,787. PLUG-SWITCH. HENRY E. LEPPERT, New Britain, Conn., assignor to The Hart Manufacturing Company, Hartford, Conn., a Corporation of New Jersey. Filed May 5, 1909. Serial No. 494,176.



1. In a plug switch, the combination of a plug, a contact having contact surfaces extending in the direction of the axis of the plug, one of said members being cup-shaped and the other fitting therein, and a support for said contact located in proximity to the outlet edges of said surfaces, said contact being connected to said support by a sliding connection so as to be transversely movable relatively to said support.

2. In a plug switch, the combination of a plug, a contact having contact surfaces extending in the direction of the axis of the plug, and a support therefor located in proximity to the mouth of said jaws, said contact being connected to said support so as to be transversely movable, and a longitudinally acting spring insuring good electrical continuity between said contact and said support.

3. In a plug switch, the combination of a plug, a spring contact having jaws extending in the direction of the axis of the plug, a support therefor located in proximity to the mouth of said jaws, a carrier for said contact interposed between said contact and said support, said carrier being connected to said support so as to be transversely movable.

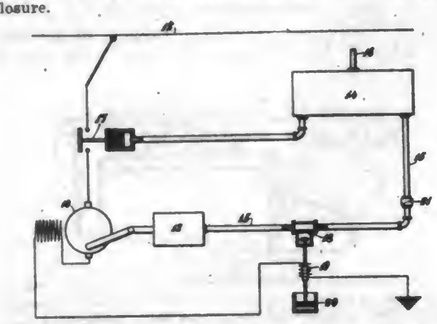
4. In a plug switch, the combination of a plug, a spring contact having jaws extending in the direction of the axis of the plug, and a support therefor located in proximity to the mouth of said jaws, a carrier for said contact interposed between said contact and said support, said carrier being connected to said support so as to be transversely movable, said carrier having two flanges on opposite sides of said support, and a spring interposed between one of said flanges and said support.

5. In a plug switch, the combination of a plug, a contact having an opening extending in the direction of the axis of the plug, a support therefor located in proximity to the mouth of said opening, a carrier for said contact interposed between said contact and said support, said carrier being connected to said support so as to be transversely movable, said contact being connected to said carrier by a pin, and a compression spring surrounding said pin.

[Claims 6 to 8 not printed in the Gazette.]

969,788. FLUID-PRESSURE SYSTEM. CHARLES E. LORD, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Sept. 24, 1906. Serial No. 336,023.

1. A fluid pressure system, comprising a pump, an electric motor for driving said pump, a preasure switch controlling the motor circuit, a reservoir supplied by the pump, a valve between the pump and the reservoir normally open to the source of fluid supply, an electromagnet for closing said valve, and means for retarding such closure.



2. A fluid pressure system, comprising a pump, an electric motor for driving said pump, a reservoir supplied by the pump, a switch controlling the motor circuit in response to variations in pressure of the fluid in the reservoir, and a slow-closing valve between the reservoir and the pump which is normally open to the source of fluid supply.

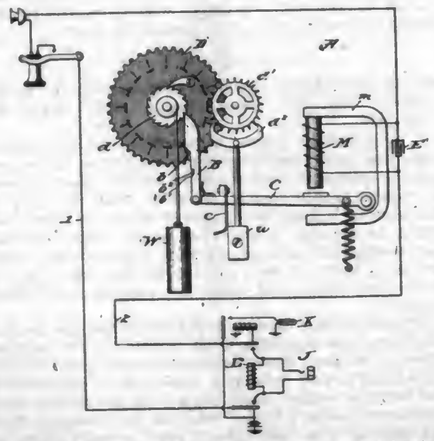
3. A fluid pressure system, comprising a motor-driven pump, a reservoir supplied by the pump, a normally open relief valve between the pump and the reservoir, and means for closing said valve gradually.

4. A fluid pressure system comprising a reservoir, a motor-driven air compressor supplying the reservoir, a switch in the motor circuit responsive to the pressure in the reservoir, a slow-closing relief valve between the compressor and the reservoir, and an electromagnet controlled by said switch for closing said relief valve.

5. A fluid pressure system comprising a reservoir, a motor-driven air compressor supplying the reservoir, a relief valve between the compressor and the reservoir, a solenoid for closing said valve, and a dash-pot for retarding such closure.

[Claims 6 to 12 not printed in the Gazette.]

969,789. TELEPHONE-METER AND CIRCUIT CONNECTION THEREFOR. RAY H. MANSON, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Filed Apr. 18, 1907. Serial No. 369,019.



1. In a telephone meter, a time registering mechanism, a clock movement for driving the same, an escapement therefor, a releasing and stopping device for the escapement of said clock movement, a rewinding device for said clock movement, and an electromagnet arranged to control said releasing and stopping device and to operate said rewinding device.

2. In a telephone meter, a time registering mechanism, a clock movement for driving the same, an escapement therefor, a releasing and stopping device for the escapement of said clock movement, a rewinding device for said clock movement, an electromagnet, and a lever controlled by said electromagnet and carrying means for rewinding the driving power of said clock movement and for controlling said releasing and stopping device.

3. In a telephone meter, a time registering mechanism, means for winding such mechanism, devices for releasing and stopping such mechanism, and a common electrically operated means for actuating such winding means and such devices.

4. In a telephone meter, a time registering mechanism, an electro-magnet, an armature for such electro-magnet, and devices carried by the armature for winding such mechanism and for releasing and stopping the same, such devices adapted to engage, wind and be disengaged from and also to start such mechanism by movement of the armature in one direction.

5. In a telephone meter, a time registering mechanism, an electro-magnet, an armature for such electro-magnet, and devices carried by the armature for winding such mechanism and for releasing and stopping the same, such devices adapted to engage, wind and be disengaged from and also to release such mechanism as the armature is attracted and to stop such mechanism when the armature is released.

[Claims 6 to 10 not printed in the Gazette.]

969,790. DYNAMO-ELECTRIC MACHINE. EMIL MATTMAN, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio, jointly. Filed Aug. 1, 1907. Serial No. 386,654.



1. In a dynamo-electric machine, the combination of a plurality of field poles, a yoke connecting said field poles, said yoke comprising a main portion and a pair of non-integral forged flanges, both main portion and flanges being provided with dovetail slots, and double dovetail connecting pieces each fitting in slots in both the main portion and one of the flanges but filling less than the whole of said slots, whereby ventilating openings are provided.

2. In a dynamo-electric machine, a field yoke of magnetic material comprising a main portion and a non-integral flange portion attached thereto, said flange portion being provided with ventilating openings.

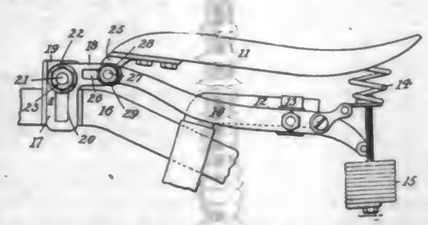
3. In a dynamo-electric machine, a rotatable member comprising a central portion mounted on a shaft, a flange portion on each side of said central portion, said flange portions being provided with radial ventilating openings, and means for attaching said flange portions to said central portions.

4. In a dynamo-electric machine, the combination of a plurality of field poles, with a yoke of magnetic material connecting said field poles, said yoke comprising a main portion and non-integral flanges attached thereto, and being provided with ventilating openings between the poles.

5. In a dynamo-electric machine, a revolving field member comprising a plurality of field poles, and a yoke for

said poles, said yoke comprising a main portion mounted on a shaft and flange portions attached to each side thereof, said yoke being provided with ventilating openings between adjacent field poles.

969,791. SADDLE FOR MOTOR-CYCLES. FREDERICK MESINGER, New York, N. Y. Filed June 16, 1910. Serial No. 567,176.

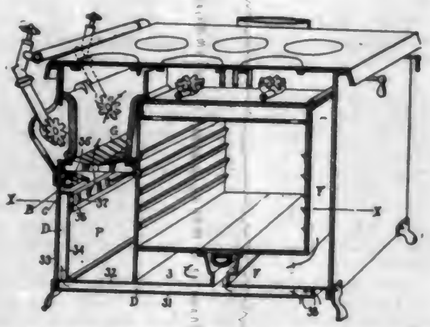


1. A saddle provided with a pair of L shaped frames, having vertical arms and rearwardly extending upper horizontal arms, means for vertically adjusting the vertical arms upon the cycle, a seat, and means for horizontally adjusting the seat upon the horizontal arms.

2. A saddle provided with a pair of L shaped frames having vertical slotted arms and rearwardly extending horizontal slotted arms, a first bolt engaging the slots of the vertical arms, a seat, an apertured projection on the seat, and a second bolt engaging said projection and the slots of the horizontal arms.

3. A saddle provided with a pair of L shaped frames having vertical slotted arms and rearwardly extending horizontal slotted arms, apertured jaws encompassed by the vertical arms, a first bolt engaging said jaws and the slots of the vertical arms, a seat having an apertured projection, an apertured seat-support, and a second bolt engaging said projection and support and passing through the slots of the horizontal arms.

969,792. STOVE. CARL H. MILLER, Cleveland, Ohio. Filed Oct. 11, 1909. Serial No. 522,110.

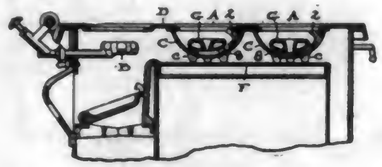


1. A kitchen range and the like provided with a grate for hard fuel and a recess horizontally in the wall thereof next beneath said grate and a shield plate over the said recess provided with a series of holes, and a gas burner located in said recess and adapted to start the fire in the grate when lighted.

2. A kitchen range having an oven, a fuel pot and a burner chamber next beneath said pot at one side, an air duct leading to said chamber from beneath the oven and having discharge openings next beneath the inner side of said chamber and a gas burner in said chamber.

3. A kitchen range having a fire box for fuel and a grate, in combination with a gas burner beneath one edge of said grate and a perforated shield over said burner, an air supply duct at the bottom of said range having discharge openings scattered along beneath said burner, whereby superheated air is supplied to both said burner and the fuel in said fire pot and uniform combustion is promoted.

969,793. COMBINED GAS AND HARD-FUEL RANGE. CHARLES H. MILLER, Cleveland, Ohio. Filed Feb. 3, 1910. Serial No. 541,673.



1. A combined hard fuel and gas range having one or more cooking holes in its top and front and a bowl seated within each of said holes provided with supporting lugs at its bottom and one of said lugs having a cavity open into the said bowl, in combination with a gas burner having a bottom projection seated in said cavity.

2. A combined solid fuel and gas range having a fire pot and provided with a draft passage under its top and cooking holes in its top and front above said passage, a metallic bowl beneath each of said front holes and constructed with a front opening above its bottom and a draft opening in the side thereof, a damper for said draft opening and a tubular extension for said front opening.

3. A kitchen range having a draft passage and cooking holes in its top, in combination with a bowl in the said draft passage in the top of the range engaged about its edge within the edge of one of said cooking holes, said bowl closed at its bottom and having an opening at its front, a tubular neck projecting through the wall of the range and engaged over said opening, in combination with a gas burner removably seated in said bowl and provided with a tubular shank extending into said neck.

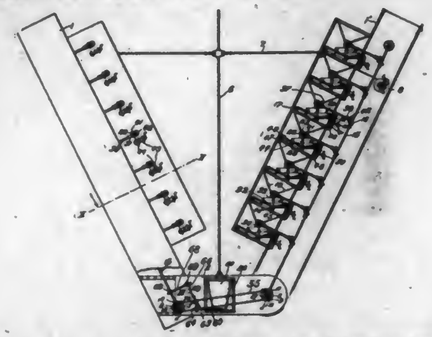
4. A cooking range adapted to use both solid fuel and gas and having a draft passage and cooking holes in its top over the said draft passage, in combination with a bowl closed at its bottom and engaged about its edge at the edge of one of said holes and provided with projections at its bottom resting on the bottom of said draft passage, and a gas burner removably seated in said bowl.

5. A cooking range having a draft passage in its top and cooking holes over said passage, in combination with a bowl arranged in connection with one of said cooking holes and seated in said passage, said bowl having lugs on its bottom resting on the bottom of said passage and adapted to raise the body of the bowl above said bottom, thereby providing draft space beneath the bowl.

969,794. CURRENT-MOTOR. CHARLES T. J. MINER, Kansas City, Mo. Filed June 9, 1909. Serial No. 501,060.

1. In a current motor, a vertically movable bracket comprising two depending arms connected at their upper ends; a horizontal shaft journaled in said arms; a housing secured to said bracket, a vertical shaft journaled on said housing, a gear wheel splined on the vertical shaft within the housing; a gear wheel on the horizontal shaft and meshing with said splined gear; a water wheel on the horizontal shaft; a fixed bearing for the lower part of the vertical shaft; and means for shifting said bracket vertically.

2. In a current motor, a vertically movable bracket comprising two depending arms connected at their upper ends; a horizontal shaft journaled in said arms; a housing secured to said bracket, a vertical shaft journaled on said housing; a gear wheel splined on the vertical shaft within the housing; a gear wheel on the horizontal shaft and meshing with said splined gear; a water wheel on the horizontal shaft; a fixed bearing for the lower part of the vertical shaft; said bracket having at its upper end a part mounted slidably on the vertical shaft, and means for shifting said bracket vertically.



3. In a current motor, a horizontal shaft suitably supported and adapted for revoluble movement, water wheels of different diameter mounted on said shaft, the wheel of less diameter being in advance of the wheel of greater diameter, so that water may flow to the larger wheel around the smaller, and a transmission shaft suitably connected with the wheel shaft.

4. In a current motor, a frame, a hanger frame depending therefrom, a horizontal shaft journaled on said frame, a series of turbines mounted on said shaft and a frusto-conical casing surrounding the peripheries of said turbines and permitting the flow of water therethrough.

5. In a current motor, a frame, a hanger frame depending therefrom, a horizontal shaft journaled on said frame, a series of turbines mounted on said shaft and a tubular casing surrounding the peripheries of said turbines and permitting the flow of water therethrough, said casing being tapered in the direction of the current, for the purpose specified.

[Claims 6 to 10 not printed in the Gazette.]

969,795. PLUME. LEONARD MONTILLI, New York, N. Y., assignor of one-half to Charles E. Heymann, New York, N. Y. Filed Dec. 11, 1909. Serial No. 532,623.



1. A flue comprising a plurality of sections knotted together with a fibrous filament having greater co-efficient friction than the material of the flues, the fibrous filament being severed close to each knot after the same is formed.

2. A flue comprising a plurality of sections knotted together with a fibrous filament having greater co-efficient friction than the material of the flues, said filament bearing an adhesive in the knot, the fibrous filament being severed close to each knot after the same is formed.

969,796. BRUSH FOR DYNAMO-ELECTRIC MACHINES. EDWARD T. MUO, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Sept. 19, 1904. Serial No. 225,064.



1. A carbon brush, and a flexible conductor composed of a plurality of strands having the strands at one end separated one from another and embedded in said brush.

2. A carbon brush, and a flexible conductor composed of a plurality of wires, one end of said conductor being flared and embedded in said brush.

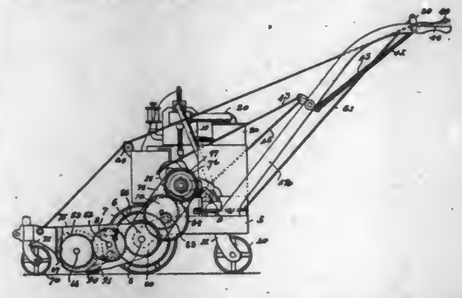
3. A carbon brush, and a flexible braided wire conductor having one end unraveled and embedded in said brush.

4. A carbon brush, and a flexible braided wire conductor having one end unraveled and embedded in said brush said conductor entering said brush an appreciable distance in its braided condition.

5. A carbon brush, and a flexible conductor composed of a plurality of wires in a compact bundle, one end of said conductor being spread out through the body of said carbon brush.

[Claims 6 to 9 not printed in the Gazette.]

969,797. MOTOR LAWN-MOWER. HERBERT S. MUSTIN, Chicago, Ill., assignor to Austin Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 22, 1908. Serial No. 468,810.



1. In a self-propelled hand lawn mower, the combination of a main frame carrying propelling mechanism, and a supplemental frame pivoted to the main frame and carrying the cutting mechanism, clutch mechanism between the propelling and cutting mechanism, handles connected to said main frame for guiding said lawn mower, means directly connected to one of said handles for engaging and disengaging the clutch mechanism, and means adjacent to the other of said handles for controlling the motor, substantially as described.

2. In a motor lawn mower, the combination of a main frame, a motor secured thereto, handles secured to said frame, means closely beside said handles for effecting the engagement of the clutch, and for controlling the motor, a main roller secured to said main frame and supporting the forward end, clutch mechanism between said motor and main roller, a supplemental frame pivotally secured to said main frame and carrying cutting mechanism, connections between said motor, roller and cutting mechanism for propelling the mower and for rotating the cutter, means on said supplemental frame for supporting said frame above the ground, and means for supporting the rear end of said main frame, substantially as described.

3. In a motor lawn mower, the combination of a main frame having a roller mounted at one end thereof, a motor carried by said main frame, gear connections between said motor and said roller, a clutch mechanism for coupling or uncoupling the connection between said motor and gears, a handle for guiding the mower, means on said handle for throwing the clutch into operative position, a supplemental frame pivotally secured to said main frame and carrying cutting mechanism, connections between said motor and cutting mechanism for operating the same, an adjustable support for said supplemental frame, a support for said main frame at the opposite end from said roller, and means for lifting said supplemental frame and cutting mechanism into an inoperative position, substantially as described.

4. In a motor lawn mower, the combination of a main frame, a lawn mower roller secured to said main frame at one end thereof, a ground engaging device secured to said main frame at the opposite end from said roller; a motor carried by said main frame, means for connecting said motor to said roller for propelling said main frame, a clutch mechanism between said motor and roller, handles connected to said main frame for steering said lawn mower, means carried by one of said handles for effecting the engagement or disengagement of the clutch, means adjacent the other handle for controlling the motor, a supplemental frame pivotally secured to said main frame and adapted to carry the cutting mechanism, a ground engaging device secured to said supplemental frame and adapted to support the cutting mechanism above the ground, a rotary cutter in said cutting mechanism, means between said motor and rotary cutter for effecting the driving of the latter, and means carried by said handle for raising the cutter mechanism and ground engaging device into an inoperative position, substantially as described.

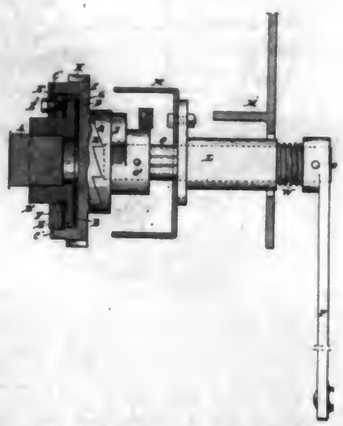
5. In a motor lawn mower, the combination of a main frame, a roller secured thereto at one end, a ground engaging device at the opposite end of said frame from said roller, a supplemental frame pivotally secured to said main frame, cutting mechanism carried by said supplemental frame, gear connections between said motor roller and cutting mechanism, a clutch mechanism for effecting the transmission of power from said motor to said roller, and said cutting mechanism, handles connected to said main frame for the steering of said lawn mower, means carried by one of said handles for effecting the engagement or disengagement of the clutch, and means adjacent to the other of said handles for the control of the motor, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

969,798. STARTING-LEVER FOR EXPLOSIVE-ENGINES. ROBERT MCKEE, Philadelphia, Pa. Filed Feb. 15, 1910. Serial No. 543,991.

1. In a device of the character described, the combination of the engine shaft having an annular flange rotatable therewith, friction driving devices clamping the annular flange for rotating it, means to prevent the friction driving devices from rotating in one direction but permitting it to freely rotate in the other direction, hand operated means rotatably supported and adapted to engage the friction driving devices for rotating them, in one direction only, and means controlled by the hand operated device in certain positions of adjustment for throwing out of operation the means for preventing the rotation of the friction driving devices.

2. In a device of the character described, the combination of the engine shaft having an annular flange rotatable therewith, friction driving devices clamping the annular flange for rotating it, means to prevent the friction driving devices from rotating in one direction but permitting it to freely rotate in the other direction, hand operated means rotatably supported and adapted to engage the friction driving devices for rotating them in one direction only, and means controlled by the hand operated device in certain positions of adjustment for throwing out of operation the means for preventing the rotation of the friction driving devices and also for locking the hand operated devices out of engagement with the friction driving devices when the engine shaft is being rotated in its normal direction.



3. In a device of the character described, the combination of the engine shaft, friction driving devices in connection therewith for rotating it when starting the engine, hand operated devices for rotating the friction driving devices and making a detachable engagement with said friction driving devices which become normally disengaged when the engine starts to rotate in its normal direction, retaining means to prevent rotation of the friction driving devices in a direction contrary to the normal rotation of the engine shaft, and devices to automatically throw and hold the said retaining means out of engagement with the friction driving devices when the hand operated devices are out of engagement with the friction driving devices.

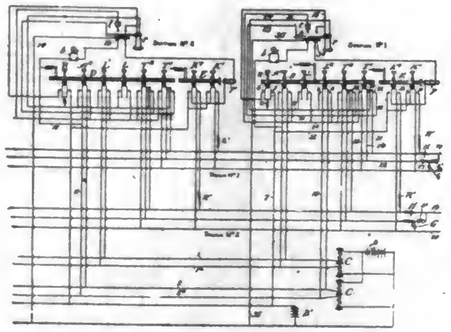
4. In a device of the character described, the combination of the engine shaft, friction driving devices in connection therewith for rotating it when starting the engine, hand operated devices for rotating the friction driving devices and making a detachable engagement with said friction driving devices which become normally disengaged when the engine starts to rotate in its normal direction, retaining means to prevent rotation of the friction driving devices in a direction contrary to the normal rotation of the engine shaft, and devices controlled by the hand operated devices to automatically throw the said retaining means out of engagement with the friction driving devices when the engine shaft is rotating in its normal direction.

5. In a device of the character described, the combination of the engine shaft, friction driving devices in connection therewith for rotating it when starting the engine, hand operated devices for rotating the friction driving devices and making a detachable engagement with said friction driving devices which become normally disengaged when the engine starts to rotate in its normal direction, retaining means to prevent rotation of the friction driving devices in a direction contrary to the normal rotation of the engine shaft, and devices controlled by the hand operated devices when the hand operated part is brought to its inoperative position below a horizontal plane through the engine shaft to automatically throw the said retaining means out of engagement with the friction driving devices when the engine shaft is rotating in its normal direction.

[Claims 6 to 15 not printed in the Gazette.]

969,799. PRIVATE-BRANCH INTERCOMMUNICATING TELEPHONE SYSTEM. JAMES L. MCQUARRIE, Oak Park, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 23, 1907. Serial No. 403,510.

1. The combination with an intercommunicating telephone system, of a trunk line leading from a central office exchange to said intercommunicating system and multiplied with two or more stations thereof, and means at each of said stations, additional to and in substitution of the telephone set thereof, for maintaining the circuit continuity of said trunk line.



2. The combination with an intercommunicating telephone system, of a trunk line leading from a central office exchange to said intercommunicating system and multiplied with two or more stations thereof, switching means at each of said stations for connecting the telephone set thereof either to said trunk line or to the local circuits of the intercommunicating system, and means at each of said stations, in substitution of the telephone set, for maintaining the circuit continuity of the trunk line while the connection of the telephone set is transferred from the trunk line to a local circuit of the intercommunicating system.

3. The combination with an intercommunicating telephone system, of a trunk line leading from a central office to said intercommunicating system and multipled with two or more stations thereof, switching mechanism at said stations for placing the telephone set thereof into telephonic communication over said trunk line, additional means associated with said trunk line for maintaining the circuit continuity of the trunk line, and switching means at each station for substituting said additional means for the telephone set to maintain the central office signals unchanged.

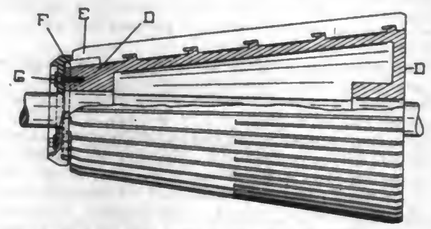
4. The combination with an intercommunicating telephone system, of a trunk line leading from a central office exchange to said intercommunicating system and multipled with two or more stations thereof, and means at said stations for transferring a call over the trunk line, said means including a circuit closing device individual to the trunk line for maintaining the circuit continuity of said trunk line during the intervals of the transfer.

5. The combination with an intercommunicating telephone system, of a trunk line leading from a central office exchange to said intercommunicating system and multipled with two or more stations thereof, and a circuit closing device at said stations associated with said trunk line and adapted to be substituted for the telephone set of the station for maintaining the circuit continuity of the trunk line.

[Claims 6 to 23 not printed in the Gazette.]

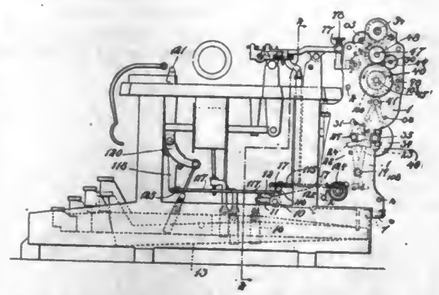
969,800. PAPER-MAKING MACHINERY. JAMES A. NOBLE, Hoosick Falls, N. Y., assignor to The Noble & Wood Machine Company, Hoosick Falls, N. Y., a Corporation of New York. Filed May 12, 1909. Serial No. 495,467.

The combination of a disk provided with a series of elongated slots therethrough; a flange on said disk flaring outwardly therefrom; a Jordan engine plug provided with a series of bars; shoulders on said bars at the small end of said plug, so arranged and connected up that said flange may be driven onto the said shoulders on said bars and hold them tightly in position on the plug; a series of non-corrosive screws extending through said elongated slots



in the disk for the purpose of holding the disk in position on the end of the plug.

969,801. CALCULATING-MACHINE. EDWARD H. PALMER, Reading, Mass. Filed Sept. 27, 1905. Serial No. 280,307.



1. A calculating machine having an indicator, a plurality of number-bearing members, movable to present a number adjacent the indicator, a single driven member, a plurality of manually-operated members controlling the action of said driven member, each adapted for operation to cause the registration of a different number, and a plurality of separate connections each connectible with the driven member and one of the number-bearing members and movable transversely of the driven member to make the connection.

2. A calculating machine having an indicator, a plurality of number-bearing members, movable to present a number adjacent the indicator, an independently-driven member, a plurality of manually-operated members controlling the action of said driven member, each adapted for operation to cause the registration of a different number, a plurality of separate connections normally out of connection with said number-bearing members, each movable transversely of the driven member to make connection between said driven member and one of said number-bearing members, and means for throwing in said connections successively.

3. A calculating machine having a plurality of number wheels, a plurality of manually-controlled members, each adapted to be operated to cause the registration of a different number, a plurality of similar independent connecting members between said manually-controlled members and each of the number wheels movable transversely of the axes of the latter into and out of operative connection, and carrying connections separate from said first connections between each of said number wheels and the next adjacent wheel, each constructed and arranged so as normally to lock the next number wheel at the left against all movement.

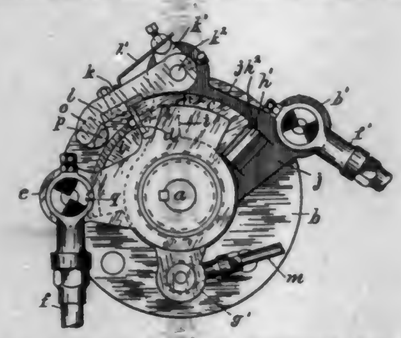
4. A calculating machine having a plurality of number wheels, a plurality of manually-controlled members, each adapted to be operated to cause the registration of a different number, a plurality of similar independent, normally inoperative, connections between said manually-controlled members and each of the number wheels, con-

nections between each of said number wheels and the next adjacent wheel, and means for throwing into operative position the connection between the manually-controlled members and one of said number wheels and simultaneously throwing out the connection between said wheel and the wheel at the right thereof.

5. A calculating machine having a plurality of number wheels, a plurality of manually-controlled members, each adapted to be operated to cause the registration of a different number, a single driven member, a plurality of independent normally inoperative connections engaged with said driven member and adapted to be engaged one with each of the number wheels, a reversing device adapted to be thrown into and out of gear for changing the direction of movement of said driven member, connections between each of said number wheels and the next adjacent wheel, and means for throwing into operative position the connection between the manually-controlled members and one of said number wheels and simultaneously throwing out the connection between said wheel and the wheel at the right thereof, whereby said number wheel may be moved in either direction.

[Claims 6 to 53 not printed in the Gazette.]

969,802. CORLISS VALVE-GEAR. FRANKLIN PHILLIPS, Newark, N. J. Filed June 27, 1908. Serial No. 440,640.



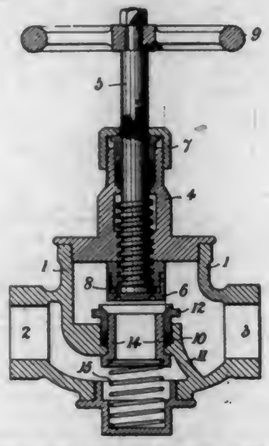
1. In a Corliss valve-gear, the combination, with a segmental hook-plate attached to the valve-stem and a rocker-plate oscillated by the side of the same, of the post or lug h' projected from the rocker-plate past the rear edge of the hook-plate and disposed to positively close the valve when required, by pressure upon the edge of the hook-plate.

2. In a Corliss valve-gear, the combination, with a segmental hook-plate having the catch-block d upon its forward edge and mortise s adjacent thereto, and a rocker-plate oscillated by the side of such hook-plate, of a latch pivoted upon the rocker-plate and movable in line with the edge of the hook-plate, and having the hook l to engage the catch-block, and the tooth r to rest upon the face of the hook-plate and adapted to enter the mortise when the hook engages the catch-block.

3. In a Corliss valve-gear, the combination, with a segmental hook-plate having the catch-block d upon its forward edge and mortise s adjacent thereto and a rocker-plate oscillated by the side of such hook-plate, of a latch pivoted upon the rocker-plate and movable in line with the edge of the hook-plate, and having the hook l to engage the catch-block, the slide t movable in the under side of the latch with tooth r projected therefrom, the spring v to press the slide endwise, and the stop u to limit such end movement, the construction operating to relieve the tooth from any longitudinal pressure.

969,803. STOP-VALVE. THOMAS POLLOCK, Folkestone, England, assignor to The Dover Engineering Works, Limited, Dover, England. Filed Mar. 12, 1910. Serial No. 548,962.

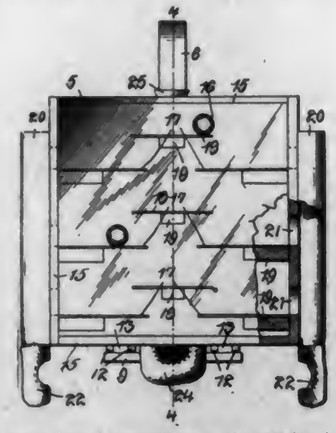
1. In a stop-valve, the combination, with a packed diaphragm and a piston-valve adapted to work therein, of a cylindrical sleeve, mounted co-axially with the valve, but separate therefrom, and means for causing said sleeve to occupy a position within the packing upon such position being vacated by the valve, substantially as herein described.



2. In a stop-valve, the combination, with a packed diaphragm and a piston-valve working therein, of a sleeve, separate from the valve, and following its movement and serving when the valve is open to shield the packing from the cutting action of the fluid under pressure, substantially as herein described.

3. In a stop-valve, the combination, with a valve-casing formed or provided with a packed diaphragm, of a piston-valve adapted to move into and out of the packing, a sleeve co-axial with and of the same diameter as the piston-valve, and means for causing the said sleeve to follow the movements of the said valve when being opened, substantially as and for the purposes set forth.

969,804. GAME. ALLAN M. POPE, Fort Ethan Allen, Vt. Filed May 9, 1910. Serial No. 560,143.



1. A game board comprising a rectangular box, a plurality of guide tubes arranged at each side of the box, said box having apertures through its sides communicating with said tubes, a pocket secured to the lower end of each of the tubes, and means arranged in said box for directing a movable member into any one of said tubes to deposit the same in the pocket.

2. A game board comprising a rectangular box having an entrance opening in its top, a plurality of tubes secured to each side of the box, a pocket secured to the lower end of each of said tubes, the sides of said box having apertures therein communicating with the tubes, and a plurality of deflecting members arranged in the pockets in staggered relation adapted to direct a movable member into any one of said tubes to deposit the same in said pockets.

3. A game board comprising a rectangular box, a plurality of tubes secured to each side of said box, the sides of said box having a plurality of openings formed therein communicating with each of said tubes, each having pockets secured to the lower end of each of the tubes, the lower end of said box having an opening centrally formed therein, a pocket secured thereto depending beneath the opening, and means arranged in the box adapted to direct a movable member into any one of said tubes or into said central pocket.

4. A game board comprising a shallow rectangular box having a transparent front, said box being provided with a flared entrance opening in its top, a plurality of guide-tubes secured to each side of the box exteriorly thereof, said box having spaced openings formed in its sides communicating with each of said tubes, a deflecting member extending inwardly from each of said openings, a deflecting member centrally arranged in the box intermediate of the first named deflectors and overlapping the ends of the same, a pocket secured to the lower end of each of said guide tubes, the bottom of the box having a semi-circular opening centrally formed in its edge, and a pocket secured to said box depending from the opening, said deflecting members being adapted to direct a movable member through said box into any one of the guide tubes or into said central pocket.

5. In a game, the combination with a vehicle, of a game board comprising a box having a transparent front and a plurality of pockets associated with said box, the box being provided with an entrance opening in its top, means for directing a movable playing piece through said box into any one of the pockets, a spring blade secured to the upper end of the box having a padded extremity adapted to engage over the dash board of the vehicle, padding arranged at the upper end of said box for engagement with the dash board, sliding bars arranged at the lower end of said box, guides for said bars, said bars being each provided with a padded head for engagement with the lower edge of the dash board, and a clamping bar movably carried by said box adapted to engage the sliding bars to rigidly secure them against longitudinal movement.

969,805. OUTLET-BOX. CHARLES T. PRATT, Frankfort, N. Y., assignor to The Pratt Chuck Company, Frankfort, N. Y., a Corporation of New York. Filed June 7, 1909. Serial No. 500,522.

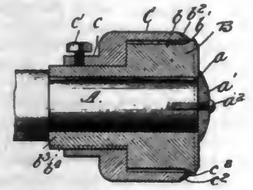


1. A plug for an outlet box formed of a disk of slightly larger diameter than the aperture to be closed, the edge of the disk being upset to provide a flange on each side of the disk and formed on a plane oblique to that of the disk face, one face being of less diameter than that of the aperture to be closely whereby the disk may be passed partly through the aperture and certain parts of the flange be upset to retain the disk in place, substantially as described.

2. In an outlet-box, a closure member consisting of a disk having oppositely-extending peripheral flanges, the latter lying in the same plane and forming a section of a cone.

3. In an outlet-box, apertured for conduits, a plug for said aperture consisting of a disk having oppositely-extending peripheral flanges which lie in a common plane and form a section of a cone, one end of the section being wider and the other narrower than the aperture and means to retain the plug in place.

969,806. LEATHER-WORKING TOOL. CARL F. PUNSKY, Valparaiso, Ind. Filed Mar. 27, 1908. Serial No. 423,776.



1. The combination with a forming head having a fillet on its outer edge of a sleeve integral and concentric therewith and having a keyway therein, a shaft adapted to receive said head thereon, a feather on the shaft fitting the keyway, a collar slidable on the sleeve and projecting over the forming head, teeth at the front edge of the collar provided with a bead and a feather secured on said sleeve and engaging said collar.

2. The combination with a shaft of a forming head, a sleeve slidable thereon integral and concentric with the head and feathered on the shaft, a collar feathered to slide on the sleeve and projecting over and fitting around the forming head and having teeth at the front edge thereof and shaped to form a beaded finish and a set screw for engaging the collar in adjusted position relatively the head.

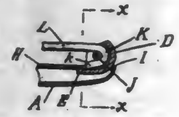
3. In a forming or shaping head a shaft having a feather secured thereon, a head having a sleeve concentric and integral therewith, a keyway therein to receive the feather on said shaft, a feather secured on said sleeve, a collar having a complemental seat to engage the feather on said sleeve and slidable on the sleeve, a set screw for engaging the same adjustably thereon, teeth on said head, teeth on the forward edge of said collar, a peripheral projection or fillet at the outer end of the shaping or forming head and means for preventing longitudinal movement of the head on the shaft.

4. In a device of the class described a shaft, a sleeve slidably engaged thereon, a head integral with the sleeve, peripheral teeth on the head, a collar providing a chamber inclosing the teeth, said collar having passages opening from the chamber, inclined teeth at the outer end of the collar, a fillet formed at the outer end of the teeth on the head and a bead in the teeth of the collar.

5. In a sole trimming device a head provided with teeth for trimming the edges of the sole, a fillet at the end of the teeth for trimming the top of the sole and a collar provided with teeth for trimming the bottom of the sole.

[Claims 6 to 8 not printed in the Gazette.]

969,807. PIN. WALTER H. RICE, Warwick, R. I., assignor of one-half to Philip Wunderle, Cranston, R. I. Filed Jan. 21, 1910. Serial No. 539,380.



1. In a pin, the combination with the body and ears thereon, of an independent auxiliary member fixed to the body and overlapped by the ears, a pintle mounted in the auxiliary member, and a pin tongue mounted upon the pintle.

2. In a pin, the combination with the body and joint ears thereon of an auxiliary member comprising side walls located between the ears, an upwardly directed rear wall, and a base engaging the body, a pintle mounted in the side walls and engaging the ears, and a pin tongue mounted upon the pintle.

3. In a pin, the combination with the body and joint ears thereon, of an auxiliary member comprising a base

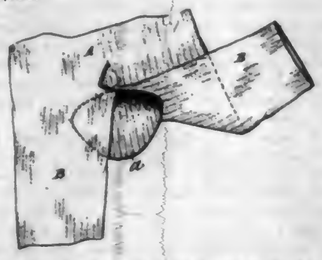
fixed to the body, side walls integral with the base engaging faces of the ears, a pintle mounted in the walls and engaging the ears, and a pin tongue mounted upon the pintle between the walls

4. In a pin, the combination with the body and joint ears thereon, of an auxiliary member comprising a base, upwardly directed side walls in contact with the ears, and an upwardly directed rear wall, a pintle mounted in the walls at a point below the plane of the top of the rear wall and engaging the ears, and a pin tongue mounted upon the pintle within the walls of the auxiliary member.

5. In a pin, the combination with the body, joint ears thereon, and pin tongue, of an auxiliary member formed independently of the body and supported upon the body in contact with the ears, and beads upon the body overlapping portions of the auxiliary member.

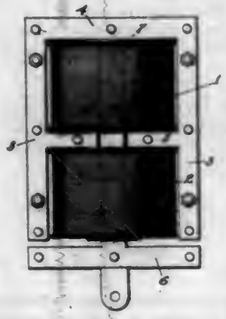
[Claims 6 and 7 not printed in the Gazette.]

969,808. LADY'S KNIT DRAWERS. MAX SALDIN, Brooklyn, N. Y., assignor to John H. Boyce and Harry R. Boyce, Brooklyn, N. Y. Filed May 28, 1909. Serial No. 498,958.



A ladies' undergarment of elastic fabric having a crotch opening and a single rear flap formed by an extension of the back and opposite leg portions of the garment across the crotch from one leg to the other, and depending below the crotch to close the crotch opening at the rear.

969,809. ALTERNATING-CURRENT MAGNET. ARTHUR SIMON, Milwaukee, Wis., assignor to The Cutler-Hammer Manufacturing Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Oct. 8, 1906. Serial No. 338,005.



1. In an alternating current magnet, in combination means for producing fluxes of different phase and means for distributing the fluxes symmetrical to a common axis and in the same plane.

2. In an alternating current magnet, in combination a plurality of coils for producing magnetic fluxes of different phase, means forming magnetic circuits or paths for said fluxes in the same plane, said paths being adapted to distribute the fluxes symmetrically about a common axis.

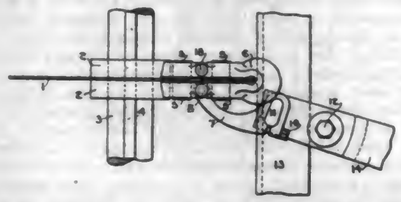
3. In an alternating current magnet, in combination, a plurality of coils adapted to produce magnetic fluxes of different phase and paths for said fluxes arranged symmetrically about a common axis in the same plane.

4. In an alternating current magnet, a plurality of coils for producing magnetic fluxes of different phase, paths for said fluxes arranged in the same plane, each path being provided with an airgap and said paths and said airgaps being arranged symmetrical to a common axis.

5. In an alternating current magnet, in combination a plurality of coils adapted to produce magnetic fluxes of different phase, a magnet frame, and an armature adapted to be attracted to said frame, said frame and said armature forming paths for said fluxes and said paths being arranged in the same plane and symmetrical to a common axis.

[Claims 6 to 17 not printed in the Gazette.]

969,810. SAW-GUIDE. ISAAC L. SKEITH, Milwaukee, Wis. Filed May 3, 1909. Serial No. 493,634.



1. The combination of a saw, a single guide in contact on both sides of the saw and in a plurality of points on at least one side thereof, means for shifting the guide, and a pivotal connection between the guide at a plural point contact side of the saw and the shifting means, the axis of said connection being parallel to the saw and its rectangular projection on the saw lying between two of the points of plural contact.

2. The combination of a saw, a horseshoe shaped guide extending on both sides of the saw, a pair of pins extending from each arm of the guide and opposite each other and in contact with the saw, shifting means connected by pivot to the guide said pivot lying between two of said pins.

3. The combination with a single saw guide adapted to bear upon both faces of a saw and at a plurality of points upon one face, of means for shifting the guide transversely to the plane of the saw, and a pivotal connection between said guide and means, having the pivotal axis parallel to the saw's plane and lying between two of the points of plural contact.

4. The combination with a single saw guide adapted to extend along both faces of a saw, two pins projecting inwardly from one branch of the guide to the plane of the saw, a pin projecting from the other branch to the plane of the saw, and guide-shifting means pivoted to said guide between the axial lines of said two pins, the pivotal axis being parallel to the plane of the saw.

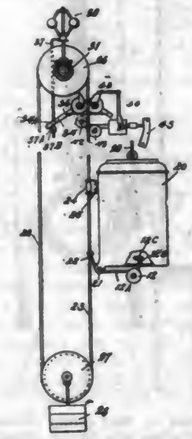
5. The combination with a horseshoe shaped saw guide having two projections extending from one branch inwardly to the plane of the saw and at least one projection similarly extending inward from the other branch, of a swinging guide-shifting arm pivoted to one of said branches between the projections borne by the branch first mentioned, the pivotal axis being parallel to the plane of the saw.

969,811. ELEVATOR SAFETY ACTUATING DEVICE. WALTER C. STRANG, Yonkers, N. Y. Filed Dec. 21, 1905. Serial No. 292,689.

1. A speed governor, an elevator-car, a rope connected with the car arranged to operate the governor, and means actuated by the governor for locking the rope and taking up the rope between the point of locking and the car.

2. A speed-governor, a rope, a clamping device actuated by the governor and arranged to lock the rope and a weighted lever arranged to exert a pull on the rope.

3. A speed-governor, a rope, a clamping device actuated by the governor and arranged to lock the rope and a weighted lever arranged to exert a pull on the rope, a locking device for the weighted lever and means actuated by the governor for releasing said locking device.

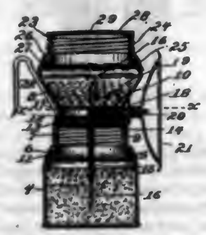


4. A centrifugal governor, a rope arranged to actuate the governor, a spring-actuated clamping device controlled by the governor and arranged to arrest the movement of the rope, a weighted lever arranged to exert a pull on the rope, a locking device for the weighted lever, means operated by the governor for releasing the locking device and means for preventing an upward movement of the weighted lever.

5. A centrifugal governor, a rope arranged to actuate the governor, a pair of clamping-pieces arranged to be moved against the rope, a spring for actuating the clamping-pieces, a pair of sheaves, one on either side of the rope, means for moving said sheaves and causing them to exert a pull on the rope and a locking device for the moving means, said governor arranged to control the movement of the clamping-pieces and to release the locking device.

[Claims 6 to 25 not printed in the Gazette.]

969,812. MINER'S LAMP. PETER TOGLESON, Deepwater, Mo. Filed Mar. 3, 1910. Serial No. 547,117.

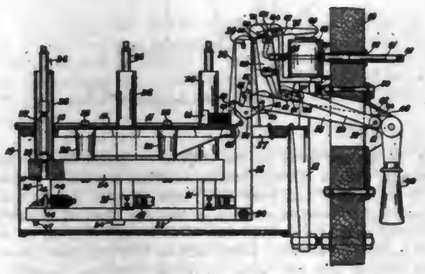


1. In a generator, a burner, a base for containing carbid, a receptacle having a flange threaded on the base, a pipe in communication with the base through the flange of the liquid receptacle, screens interposed between the base and the said pipe, means for supplying liquid from the receptacle to the carbid, and a cap for said receptacle having a flexible top provided with an aperture.

2. In a generator, a burner, a base for containing carbid having a threaded portion, a liquid receptacle having a flange threaded thereon, a tubular extension in communication with the liquid receptacle and the base, a rod slidable in the tubular extension, a pipe or conduit in communication with the base, screens interposed between the base and the pipe, a nipple for the pipe, a cap for the liquid receptacle and a flexible top for the cap, said top having an aperture therein.

3. In a generator, a burner, a base for containing carbid having a threaded portion, a liquid receptacle having a flange threaded thereon, a tubular extension in communication with the liquid receptacle and the base, a rod slidable in the tubular extension, a pipe or conduit in communication with the base, an annular shoulder formed on the flange, a strainer between the base and shoulder, a cap for the liquid receptacle, and a flexible top for the cap, said top having an aperture therein.

969,813. CIRCUIT-BREAKER. HERMON L. VAN VALKENBURG, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed June 16, 1906. Serial No. 321,961.



1. In an oil switch or circuit-breaker, a horizontal supporting member, stationary contacts supported below said member, a movable bridging contact, a longitudinally movable support therefor, a link pivoted to said horizontal supporting member, and extending downward below the same into engagement with the movable support, said support being adapted to move the bridging contact into and out of engagement with the stationary contacts, and means for operating the link.

2. In an oil switch or circuit-breaker, a supporting frame, stationary contacts supported from the lower side thereof, a movable contact, a longitudinally and horizontally movable operating bar upon which the movable contact is mounted, means for supporting and operating said bar comprising a guide and a link mounted on said supporting frame, and means for operating said link.

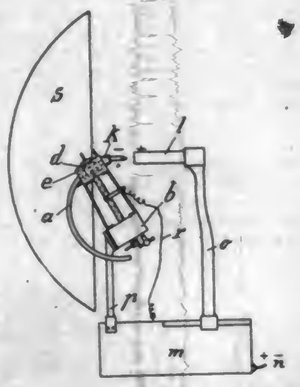
3. In an oil switch or circuit-breaker, a supporting frame, an insulating support mounted thereon, stationary contacts mounted on the lower side of said insulating support, a movable bridging contact, a member upon which said contact is mounted, said member being movable in a substantially horizontal plane, means for supporting said member comprising a link pivoted to the horizontal supporting frame, and means for moving said link.

4. In an oil switch or circuit-breaker, a supporting frame, an insulating support mounted on said frame, stationary contacts supported from the lower face thereof, one or more movable bridging contacts, a member upon which said contact or contacts are mounted, said member being movable in a substantially horizontal plane, and means for supporting said member comprising a guide mounted on the insulating support.

5. In an oil switch or circuit-breaker, a horizontal supporting frame, stationary contacts supported on the lower side of said horizontal frame, one or more movable bridging contacts adapted to move into and out of engagement with the stationary contacts, a longitudinally movable insulating bar upon which the bridging contact or contacts are mounted, and means for supporting said longitudinal movable bar comprising a stationary guide and a pivoted link.

[Claims 6 to 44 not printed in the Gazette.]

969,814. SEARCH-LIGHT, PROJECTOR, AND THE LIKE. HERMANN VIERTEL, Berlin, Germany, assignor to Gebrüder Siemens & Co., Lichtenberg, near Berlin, Germany. Filed Mar. 10, 1909. Serial No. 482,496.



1. In an arc lamp of the character described, the combination with a mirror, and a positive electrode disposed with its arcing end near the focus of said mirror; of a negative electrode substantially thinner than said positive electrode and longer than the focal length of said mirror, said negative electrode being curved and disposed between said mirror and its focus in nonintersecting relation to said mirror.

2. In a search-light, projector or like arc-lamp having a mirror, the combination, with the mirror, and a positive electrode having one end near the focus of the mirror, of a long, curved negative electrode of substantially smaller diameter than the positive electrode arranged between the focus and face of the mirror, substantially as shown, for the purpose specified.

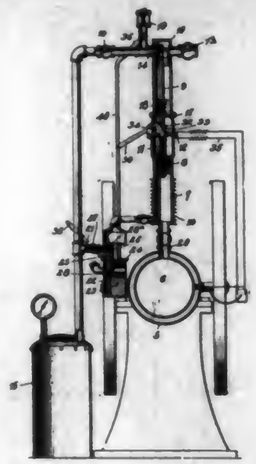
3. In an arc lamp of the character described, the combination with the mirror, and the positive electrode having its arcing end disposed toward the mirror and near the focus thereof; of a relatively thinner curved negative electrode and a feeding mechanism therefor adapted to support the same between said positive electrode and mirror and feed it through an arc of a circle toward the positive electrode.

4. In an arc lamp of the character described, the combination with a mirror, and a positive electrode disposed with its arc end toward said mirror and near the focus thereof; of a curved relatively thinner negative electrode, rotary water cooled shafts, feed rollers mounted thereon and engaging said negative electrode to feed the same through the arc of a circle toward said positive electrode, means for supplying current to said negative electrode through said feed device, and a water jacket near the arc end of said negative electrode.

969,815. STARTING DEVICE FOR INTERNAL-COMBUSTION ENGINES. FRANK H. WALKER, Atwood, Kans. Filed Dec. 2, 1909. Serial No. 530,954.

1. The combination with an internal combustion engine, of a carbureter, means to generate and store compressed air, a pipe connecting said means with the engine cylinder, having branches extending into and from the carbureter, a starting valve in said pipe, and means actuated by said first named means to automatically close the starting valve when the engine starts.

2. The combination with an internal combustion engine, of a carbureter, a source of compressed air, an automatic air pump to supply air to said source, a pipe connecting said source with the engine cylinder, having branches extending into and from the carbureter, a starting valve in said pipe, an igniting device actuated by said air pump,



and means actuated by said pump to automatically close the starting valve when the engine starts.

969,816. TERMINAL CASING. HERMAN L. WALLAU and EDWARD E. NOBLE, Cleveland, Ohio. Filed Aug. 23, 1909. Serial No. 514,197.



1. An insulating support for electric conductors and connections comprising an insulating body having a socket extending upwardly from the lower end thereof and having a plurality of openings spaced around the body portion and extending outwardly from the socket through the wall of said body portion, a terminal block secured to the body portion above each opening and an imperforate wing extending outwardly from the body portion between each pair of openings.

2. An insulating support for electric conductors and connections comprising an elongated body of insulating material having a socket extending downwardly into the upper end thereof and having a socket extending upwardly from the lower end thereof and separated from the first-mentioned socket, and having spaced openings extending through the wall of the body portion from the upwardly extending socket and a plurality of spaced wings located between said openings, for the purpose set forth.

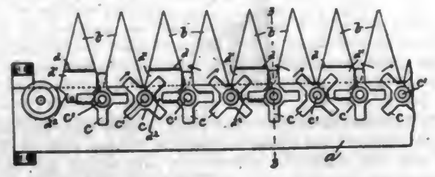
3. An insulating support for electric conductors comprising a body of insulating material having a chamber or socket extending upwardly from the lower end thereof, and having a plurality of openings extending outwardly from said socket through the wall of said body, and having a socket in the upper end of the body separated from the first-named socket, a plurality of terminal blocks at the upper end of said body, means securing said terminal blocks to the body comprising bolts or screws having their inner ends located in said upper socket, and spaced wings on said body, one of the openings and one of the terminal blocks being between adjacent wings.

4. In combination, an insulating support comprising an elongated body of insulating material, said body having a socket extending upwardly from the lower end thereof, and having a plurality of spaced upwardly inclined openings extending from said socket outwardly through the side wall of said body, and having a socket extending downwardly from the upper end of said body, a plurality of terminal blocks near the upper end of said body, screws or bolts securing said terminal blocks in position and having their inner ends located in said socket, there being one terminal block for each opening and located above the same, a plurality of wings extending outwardly from said body and separating the terminal blocks from one another, and underground conductors and overhead conductors secured to said terminal blocks, the underground conductors extending upwardly into the lower socket and through said openings.

5. A terminal casing or junction box comprising a body of insulating material, means for supporting the same, said body having an elongated socket extending upwardly from the lower end thereof and closed at its upper end and having a plurality of upwardly inclined openings extending from said socket outwardly through the side wall of the body, a terminal block secured on the side wall of the body above each opening, underground conductors extending upwardly into said socket and out through the different openings and secured to said terminal blocks and overhead conductors secured to said terminal blocks and extending downwardly over the side walls of said body.

[Claims 6 to 17 not printed in the Gazette.]

969,817. HARVESTER-CUTTER. BENJAMIN F. WEATHERN, West Farmington, Me. Filed Mar. 30, 1910. Serial No. 552,293.
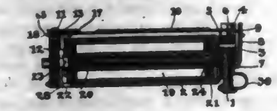


1. A harvester-cutter consisting of a finger-bar having a plurality of like fingers attached thereto, a plurality of revolving-cutters arranged on top of said bar and entirely exposed, stationary resilient cutting-blades with which said revolving cutters coöperate, to produce a shear cut, and operating means for the revolving-cutters arranged beneath the bar substantially as described.

2. A harvester-cutter consisting of a finger-bar having a plurality of like fingers attached thereto, a plurality of revolving cutters supported by the bar, means for revolving alternate cutters in opposite directions, stationary resilient blades arranged on the tops of alternate fingers, having their opposite sides formed as cutting-edges, with which said revolving cutters coöperate, substantially as described.

3. A harvester-cutter consisting of a finger-bar having a plurality of like fingers attached thereto, a plurality of cutters supported by said bar, means for revolving alternate cutters in opposite directions, stationary resilient blades attached to the finger-bar and extended over upon and contained in recesses formed in the tops of alternate fingers, and having cutting-edges at opposite sides with which said revolving cutters coöperate, substantially as described.

4. A harvester cutter consisting of a finger-bar bearing a plurality of like fingers, a plurality of revolving cutters borne by said bar, having radial cutting-blades, and stationary resilient cutting-blades mounted on said bar with which said revolving cutters coöperate to produce a shear cut, substantially as described.

969,818. TELEPHONE-DROP. ALFRED H. WEISS, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 25, 1907. Serial No. 403,616.



1. In a drop, the combination with an armature, of a pivot supporting said armature, a drop catch having flexible members also supported by said pivot by means of one of said members, said catch having another one of its said flexible members engaging said armature, substantially as described.

2. In a drop, the combination with an armature, of a support therefor, an integral drop catch having a flexible member secured directly to said support, said catch also having a flexible member engaging the armature, substantially as described.

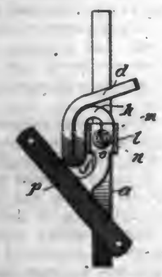
3. In a drop, the combination with an armature having a normal and a raised position, of a supporting pin passing through a portion thereof, a drop catch having a tongue engaging the pin and a tongue engaging the armature, said latter tongue engaging either of two faces of the armature according to the position of the armature, substantially as described.

4. In a drop, the combination with an armature, of a drop catch pivoted thereto, said catch having a flexible prong formed of a portion thereof engaging the armature and normally holding the armature in a position substantially at right angles to the catch but by its flexure permitting the armature to be moved substantially into the plane of the catch, substantially as described.

5. In a drop, the combination with a shell, of a hollow core within the shell, a screw passing through the core and into the base of the shell, an armature normally disposed across the end of said core and shell, a pin extending through a portion of said armature, a drop catch engaging said pin, said catch having a portion engaging said armature but permitting the armature to be moved away from the end of the core and shell, whereby the core may be removed from the shell, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

969,819. EYEGLASSES. JOEL CHENEY WELLS, Southbridge, Mass. Filed Feb. 5, 1907. Serial No. 355,813.



1. In combination with lenses and lens-posts, a bow spring the respective ends of which are attached to the lens posts, each of said ends being formed with vertical

arms lying in the same plane perpendicular to that of the lenses and connected by bends, some of which are located above the level of the attaching point of the spring to the post and some below said level.

2. In combination with lenses and lens posts, a bow spring the respective ends of which are attached to the lens posts, each of said ends being formed with vertical arms lying in the same plane perpendicular to that of the lenses and connected by bends located alternately at the upper and the lower ends of said arms, the central portion of the spring being connected with one arm of each set by a bend lying close to one of the upper connecting bends.

3. In combination with lenses and lens posts, a bow spring the respective ends of which are attached to the lens posts, each of said ends being formed with arms lying behind the lens posts in the same plane perpendicular to that of the lenses and connected by bends some of which are located above the level of the attaching point of the spring to the post and some below said level, the central portion of the spring being connected with one arm of each set by a bend lying close to one of the upper connecting bends.

4. In combination with lenses, posts and straps for eyeglasses, a bow-spring having folds at each end formed by shaping said spring from its central portion rearwardly and downwardly, thence forwardly and upwardly, thence forwardly and downwardly, thence by another bend upwardly, substantially as described.

5. In combination with lenses, posts and straps for eyeglasses, a bow-spring having a plurality of folds formed by shaping said spring from its central portion rearwardly and downwardly, thence forwardly and upwardly, thence forwardly and downwardly, thence by another bend upwardly, all said folds lying in the same plane, substantially as described.

[Claim 6 not printed in the Gazette.]

969,820. WINDOW-PANE FASTENER. WILLIAM H. WEST, Jr., Weston, Oreg. Filed Apr. 28, 1910. Serial No. 558,260.

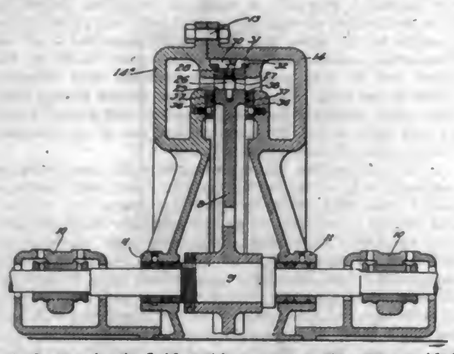


1. A frame adapted to bear within the rabbet of a sash and upon the glass, a plurality of hooks adapted to be inserted in the sash and bearing over said frame at one side and hingedly uniting the same to the sash, a plurality of hooks bearing over the frame at another side, and springs operating to maintain the last mentioned hooks yieldably in engagement with the frame.

2. A window sash having a glass supporting rabbet and with a plurality of apertures therethrough, a frame located in the rabbet of said sash and adapted to bear upon the glass, a plurality of hooks inserted in the sash and bearing over said frame at one side and hingedly uniting the frame to the sash, a plurality of hooks bearing over the frame at another side, and a spring in each of said apertures and connected to one of said last mentioned hooks and operating to maintain the same yieldably in engagement with the frame.

3. A window sash having a glass supporting rabbet and with a plurality of apertures therethrough, a frame located in the rabbet of said sash and adapted to bear upon the glass, a plurality of hooks inserted in the sash and bearing over said frame at one side and hingedly uniting the frame to the sash, a plurality of hooks bearing over the frame at another side, a spring located in each of said apertures, and connected to one of said last mentioned hooks, and a plate bearing upon the sash opposite each of said apertures and connected to one of said springs, said springs operating to maintain the frame yieldably coupled to the sash.

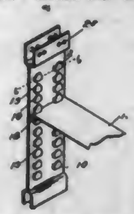
969,821. REENTRANT TURBINE. GEORGE WESTINGHOUSE, Pittsburg, Pa. Filed Feb. 26, 1909. Serial No. 480,225.



1. In an elastic fluid turbine, a rotor element provided with shrouded blades, a casing, fluid discharge devices carried by said casing and forming with said rotor element reëntrant stages and yielding fluid pressed packing means for minimizing the escape of working fluid radially outward and inward from said blades.

2. In an elastic fluid turbine, a rotor element provided with a row of shrouded blades, a casing surrounding said element, fluid discharge devices forming with said element, reëntrant stages extending circumferentially of said turbine, yieldingly mounted packing strips located above and below the working faces of said blades for minimizing the escape of working fluid from stage to stage, and means for limiting the movement of said strips toward said element.

969,822. BOOK-STACK. RAYMOND O. WHEELER, Cincinnati, Ohio, assignor to The Bankers Construction Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Mar. 8, 1909. Serial No. 481,939.



1. In combination in a book stack, a book shelf provided with laterally extending supporting flanges and alining or stop lugs integrally formed with said flanges and shelf supporting members provided with brackets adapted to engage said flanges and said lugs and to hold said book shelves in place.

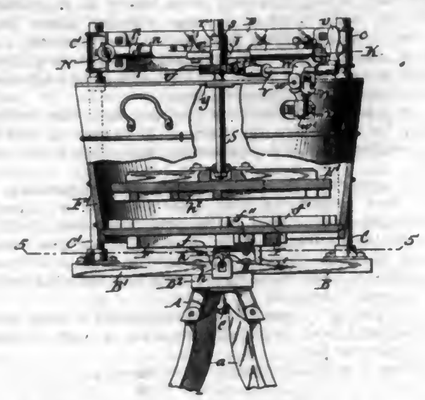
2. A metal book shelf provided with supporting flanges, and an alining or stop lug formed integrally with and turned at right angles to each flange.

3. A metal book shelf turned down at its ends to form supporting flanges, and an alining or stop lug formed integrally with and extending at right angles to each flange.

4. As an article of manufacture a shelf supporting member consisting of two metal strips located back to back and permanently secured together and provided on each side with shelf supporting brackets formed integrally with the respective metal strips, and a beam engaging flange provided at each end of both of said members.

5. As an article of manufacture a shelf supporting member consisting of two metal strips located back to back and permanently secured together and provided on each side with shelf supporting brackets, and a beam engaging flange provided at each end of both of said members.

969,823. WASHING-MACHINE. FREDERICK H. WIARD, Avon, N. Y. Filed Sept. 10, 1909. Serial No. 517,002.



1. A washing machine comprising a stationary support, an oscillating tub pivotally mounted on said stationary support, and means for assisting the return of the tub in either direction comprising a rocking arm pivoted on said support at one side of the pivot of the tub, a spring connecting the free end of said arm with said support, and lugs arranged on the tub and adapted to engage with opposite sides of the return arm.

2. A washing machine comprising a stationary frame, a platform arranged on top of said frame, a rotatable support pivoted on the frame, a tub removably seated on said support, and a return device comprising a rock arm pivoted on said platform at one side of the pivot of the tub support, a spring connecting the free end of said arm with said platform and lugs arranged on the tub and adapted to engage with opposite sides of said arm.

3. A washing machine comprising a rotatable tub, a rubbing disk arranged in said tub, a frame on which said tub is pivoted and having a support which overhangs said tub and disk, a yoke on which said disk is mounted, and means whereby said yoke is capable of a sliding and a swiveling movement relatively to said support comprising a swivel sleeve which is pivoted on said support and on which said yoke slides.

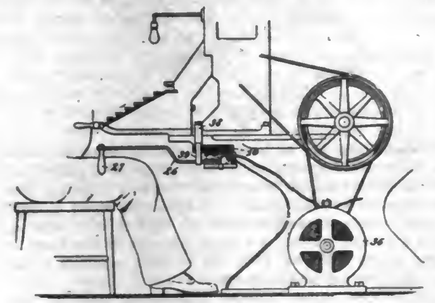
4. A washing machine comprising a rotatable tub, a rubbing disk arranged in said tub, a frame on which said tub is pivoted and having a support which overhangs said tub and disk, a yoke on which said disk is mounted, and means whereby said yoke is capable of a sliding and a swiveling movement relatively to said support comprising a swivel sleeve which is pivoted on said support and which has a guide rod and a guide sleeve forming part of the yoke and sliding on said rod.

5. A washing machine comprising a rotatable tub, a rubbing disk arranged in said tub, a frame on which said tub is pivoted and having a support which overhangs said tub and disk, a yoke on which said disk is mounted, and means whereby said yoke is capable of sliding and a swiveling movement relatively to said support comprising a swivel sleeve which is pivoted on said support and which has a guide rod, a guide sleeve forming part of the yoke and sliding on said rod and coöperating locking jaws arranged on the opposing parts of said guide sleeve and swivel sleeve.

[Claims 6 to 9 not printed in the Gazette.]

969,824. ELECTRIC SWITCH. GLENN S. WILLIAMSON, New York, N. Y. Filed Mar. 10, 1910. Serial No. 548,395.

1. In an electric switch of the character described, the combination with a base plate of insulating material, of an angular plate secured to the under side of said base and provided with stops, a lever pivoted to said plate and arranged to engage said stops on said angular plate, contacting plates secured to said base and to said lever, and a spring secured to said lever and said angular plate for holding said lever in its normal position against one of said stops and the plates on said lever out of contact with the plates on said base, substantially as described.



2. In a switch of the character described, the combination with a base plate of insulating material, of an angular plate secured to said base plate and provided with two stops and a post, a lever mounted on said post the movement thereof being limited by said stops, a spring coiled around said post and engaging with said angular plate and with said lever for holding the latter in its normal position against one of said stops, contact plates secured to said base plate, and plates secured to said lever to contact with said plates on the base when said lever is shifted, substantially as described.

3. In a switch of the character described, the combination with a base plate of insulating material, of an angular plate secured to said base plate and provided at its two ends with stops and at the angle thereof with a post, and having a conductor leading from said plate to a suitable source of electricity, a lever mounted on said post and adapted when shifted to engage said stops, contact plates secured to said base plate, plates secured to said lever and adapted to contact with said plates on said base plates, and a spring coiled around said post and engaging said angular plate and lever whereby to hold the latter in its normal position and the plates secured thereto out of contact with the plates on said base, substantially as described.

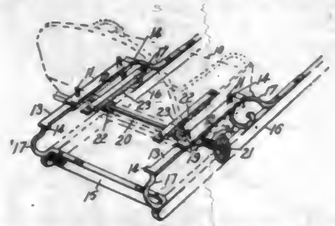
4. In a switch of the character described, the combination with a base plate of insulating material, of a V shaped plate secured to the under side of said base and provided at the angle thereof with a post, a plate 14 mounted on said post and having a lever secured thereto and insulated therefrom, a stop formed at each end of said V shaped plate protected by insulating material to limit the movement of said lever, a contact plate secured to said base, a shorter contact plate secured to said base plate, plates secured to the plate 14 and contacting with said contact plates on the base, and a coil spring encircling said post, one end thereof secured to the V shaped plate and the other end to the plate 14 whereby to hold said lever in its normal position, substantially as described.

969,825. ADJUSTABLE SEAT FOR SULKIES. ARTHUR WILSHIRE, Manilla, New South Wales, Australia. Filed Oct. 4, 1909. Serial No. 521,007.

1. Mechanism for adjusting slidable seats of sulkies or like vehicles comprising a transverse shaft rotatable in bearings beneath the seat framing and having a pair of pinions each engaging with a rack, said shaft being locked by a pivoted trigger taking in a notched extension of one of the said bearings as herein described and ascertained.

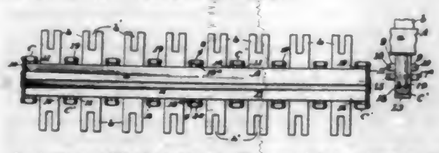
2. Mechanism for adjusting slidable seats of sulkies or like vehicles comprising a transverse shaft rotatable in bearings beneath the seat framing, and having a pair of pinions each engaging with a rack, a pivoted trigger engaging in a notched extension of one of said bearings lock-

ing the shaft against rotation, and a collar on the rotatable shaft contained in a recess in one of said bearings.



3. Mechanism for adjusting slidable seats of sulkies or like vehicles comprising stationary guide bars, guides slidably mounted thereon supporting the seat framing, bearings connected to the guides, an operating shaft mounted on said bearings, pinions fixed on said shaft, racks engaged with the pinions, a trigger pivoted to the shaft engaging at its free end with one of said bearings to prevent the rotation of the shaft.

969,826. REMOVABLE MOLD FOR MAKING PIANO-HAMMERS. EDMUND T. WOLF, New York, N. Y., assignor to Frank L. Zabriskie, New York, N. Y. Filed Jan. 27, 1905. Serial No. 242,954.



1. A removable hammer mold comprising a base or carriage, and cauls disconnected from each other and movable in arcuate paths on said base or carriage, said cauls when closed into parallel order producing a mold cavity.

2. A removable hammer mold comprising a base or carriage, and non-hinged cauls slidable in arcuate paths on said base or carriage, said cauls being free from hinged connection with each other and with said carriage.

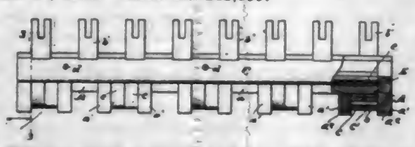
3. A removable hammer mold comprising a carriage having a plurality of curved bearing surfaces and disconnected cauls each having a plurality of curved bearing faces which engage said bearing surfaces of the carriage, whereby the cauls are mounted to slide in arcuate paths on the carriage.

4. A removable hammer mold comprising a carriage, and complemental disconnected cauls supported thereby, each caul having throughout its length a plurality of arcuate bearings adapted to turn within similar arcuate bearing surfaces on said carriage.

5. A removable hammer mold comprising a base or carriage, and non-hinged cauls supported thereby, each caul having a plurality of arcuate webs which rest individually upon the base and are adapted to ride in an arcuate path thereon.

[Claims 6 to 31 not printed in the Gazette.]

969,827. REMOVABLE MOLD FOR MAKING PIANO-HAMMERS. EDMUND T. WOLF, New York, N. Y., assignor to Frank L. Zabriskie, New York, N. Y. Filed Jan. 27, 1905. Serial No. 242,955.



1. A removable mold comprising a base adapted to be inserted into, and withdrawn from, a hammer making press, said base being provided with a part of the mold cavity, and jaws movable into registration with each other and with the base to produce a substantially complete mold cavity, said jaws being hinged to each other below the mold cavity of the base, and said hinged connection of the jaws being disconnected from the base.

2. A removable hammer mold comprising a base, jaws hinged to each other below the base, and cauls supported by the base and the respective jaws.

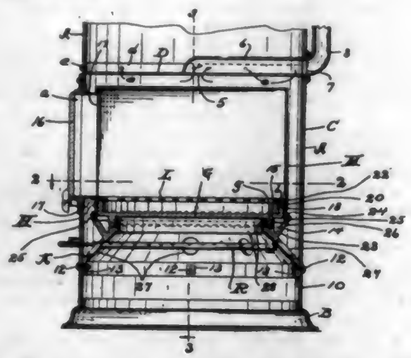
3. A removable hammer mold comprising a base having means for supporting the same at a number of points, and complemental jaws hinged to each other below the base.

4. A removable hammer making mold comprising a base, jaws coöperating with said base and with each other to produce a mold cavity, and members extending from the respective jaws, the members of one jaw being pivoted to the members of the other jaw, said pivots and the members being disconnected from and independent of attachment to the base.

5. A removable hammer mold comprising a base, and complemental jaws provided with arms pivoted to each other below the base.

[Claims 6 to 25 not printed in the Gazette.]

969,828. OVEN FOR COOKING-STOVES. FERDINAND ZIGANEK, Cleveland, Ohio, assignor, by mesne assignments, to The Revolving Stove Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 30, 1909. Serial No. 515,173.



1. The combination, with a bake-oven for a cooking-stove, which oven has a rotary bottom which is provided at its under side with a downwardly projecting annular flange arranged concentrically relative to the axis of the said bottom, and a stationary casing forming the top and upright walls of the oven, of a base for the oven, which base is provided with an annular seat under the aforesaid flange and has an upwardly projecting annular flange extending circumferentially of the inner side of the first-mentioned flange, and anti-friction bearings interposed between the said seat and the first-mentioned flange.

2. The combination, with a bake-oven for a cooking-stove, which oven has a rotary bottom, and a hood-shaped casing forming the top and upright walls of the oven, of a base for the oven, which base has an upwardly flaring annular wing provided with a seat for the aforesaid casing, said base being provided with an annular seat arranged under and concentrically relative to the axis of the oven-bottom, and anti-friction bearings interposed between the said seat and the oven-bottom.

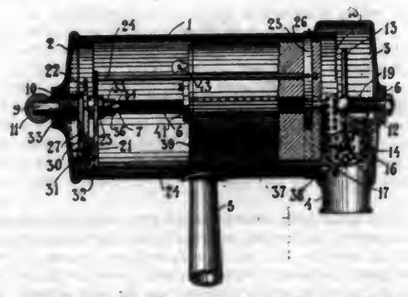
3. In a bake-oven for a cooking-stove, a suitably supported rotary circular bottom which is provided at its upper side with an upwardly projecting annular flange arranged concentrically relative to the axis of the said bottom, a hood-shaped casing forming the top and upright walls of the oven and extending circumferentially of the said flange, and a foraminated shelf supported from and operatively connected with the said flange

4. The combination, with the body of a cooking-stove, which body comprises a heating chamber having its surrounding wall formed by a substantially cylindrical upright casing which is provided with a lateral doorway, said chamber having a top wall arranged within and removably secured to the said casing; a flue communicating with the said chamber at the upper end of the chamber; means for heating the said chamber, and a door for closing the aforesaid doorway, of an oven arranged centrally of the aforesaid chamber and provided with a lateral opening which is in communication with the aforesaid doorway, and a base for the oven, which base is arranged within and removably secured to the aforesaid casing.

5. The combination, with the body of a cooking-stove, which body comprises a heating chamber having its surrounding wall formed by an upright casing which is provided with a lateral doorway, said chamber having a top wall which is provided with an outlet; a flue communicating with the said outlet; means for heating the said chamber, and a door for closing the aforesaid doorway, of an oven arranged centrally of the aforesaid chamber and provided with a lateral opening which is in communication with the aforesaid doorway, which oven has a rotary circular bottom supported from the aforesaid casing, said oven having its top and upright walls formed by a casing which is supported from the first-mentioned casing and is provided with the aforesaid opening.

[Claim 6 not printed in the Gazette.]

969,829. SOAP-DISPENSING MACHINE. FRANS GUNNAR AGRELL, Stockholm, Sweden, assignor to Lewis J. Doolittle, Brooklyn, N. Y. Filed June 14, 1907. Serial No. 379,026.



1. In a device for dispensing soap, the combination of a cutter, means for advancing said cutter over the surface of the soap, means for limiting the advancing movement of the cutter, means for returning said cutter to its original position after it has been advanced, and means for rendering the cutter in-operative during its return movement.

2. In a soap dispensing device, the combination of a soap container, a detachable end therefor and into which the end portion of the body of the container projects, cutting mechanism mounted in the container and comprising a shaft, a plurality of cutters mounted on said shaft for bodily movement therewith, and means for rotating said cutters independently of their bodily movement including pinions connected with the cutters, the adjacent projecting end of the container being formed with racks engaging the pinions for effecting the above independent rotation thereof.

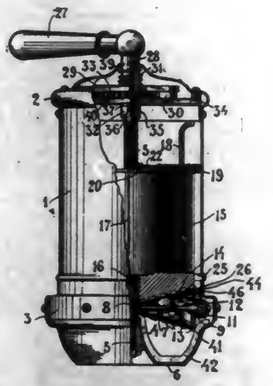
3. In a device for dispensing soap, the combination of a rotatable cutter, a pinion operatively attached to said cutter, a rack upon which said pinion is adapted to travel, a threaded shaft, a support carried by said shaft and projecting in a transverse direction therefrom carrying said cutter, means operated by said threaded shaft adapted to feed the soap against the cutter, and means for operating said threaded shaft to cause the cutter to rotate and advance over the surface of the soap.

4. In a device for dispensing soap, the combination of a cutter adapted to be advanced over the surface of the soap, means adapted to advance said cutter, means adapted to limit the movement of said first named means so that one operation causes the cutter to travel over a limited portion of the surface, means for restoring the cutter to its original position, and means for rendering said cutter inoperative by bodily movement while the same is being restored to its original position.

5. In a device for dispensing soap, the combination of a cutter adapted to be advanced over the surface of the soap, means adapted to advance said cutter, means adapted to cause said cutter to rotate upon the surface of the cake of soap as the same is being advanced, means for limiting the advancing movement of said cutter, means for returning said cutter after being so advanced to its original position, and means for rendering said cutter inoperative while the same is being returned.

[Claim 6 not printed in the Gazette.]

969,830. SOAP-DISPENSING MACHINE. FRANS GUNNAR AGRELL, Stockholm, Sweden, assignor to Lewis J. Doolittle, Brooklyn, N. Y. Filed June 14, 1907. Serial No. 379,027.



1. In a device for dispensing soap, the combination of a soap container, a hollow conical-shaped cutter, a horizontal shaft supporting said cutter, means for rotating the cutter about its horizontal axis, a conveyer on the shaft and within the cutter, and means for turning the cutter bodily while it is rotating to advance the same over the surface of a cake of soap.

2. In a device for dispensing soap, the combination of a soap container, a hollow conical-shaped cutter, a horizontal shaft supporting said cutter, means for rotating the cutter about its horizontal axis, means for turning the cutter bodily while it is rotating to advance the same over the surface of a cake of soap, and a conveyer in said cutter.

3. In a device for dispensing soap, the combination of a soap container, a hollow cutter, a horizontal shaft supporting said cutter, means for rotating the cutter about its horizontal axis, means for turning the cutter bodily while it is rotating to advance the same over the surface of a cake of soap, and a spiral conveyer arranged in said cutter.

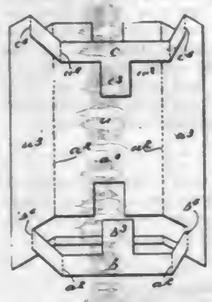
4. In a device for dispensing soap, the combination of a soap container, soap feeding means therein, a conical cutter, means for moving the cutter bodily to advance it over the surface of the soap, and means for effecting rotation of the cutter during its bodily movement aforesaid, said cutter having its larger end remote from the axis of its bodily movement.

5. In a soap dispensing device, the combination of a soap container, comminuting means therein, and soap feeding means comprising a feed screw, a feeding disk, threaded segments mounted on the disk and normally

connecting the same with the screw, and spring engaged rods connected with the segments, the container being provided with a groove into which the ends of the said rods are adapted to project at a predetermined point in the movement of the disk whereby to disengage the segments from the feed screw.

[Claims 6 and 7 not printed in the Gazette.]

969,831. ADVERTISING-CARD. CHARLES F. ALSOP, Ampere, N. J. Filed Mar. 5, 1909. Serial No. 481,550.



A device of the class described, comprising a card or sheet provided with parallel folding lines whereby said card or sheet is divided into central and side portions, said card or sheet being also provided with a transverse folding bar formed by slitting said card or sheet and across which said folding lines extend, the end portions of said bar being also formed by folding lines parallel with the first named folding lines.

969,832. TELEPHONE APPARATUS. GARRISON BABCOCK, Rochester, N. Y., assignor to Simplex Telephone Equipment Company, Rochester, N. Y., a Corporation of New York. Filed July 11, 1907. Serial No. 383,174.



1. In a telephone receiver, the combination with a suitable magnet and a coil for modifying the magnetic influence thereof, of a diaphragm arranged in coöperative relation with said magnet comprising flexible concavo-convex members arranged with their convex sides in engagement, said plates being compressed to form a laminated diaphragm.

2. In a telephone receiver, the combination with a suitable magnet and a winding therefor, of a diaphragm arranged in coöperative relation with said magnet, embodying a pair of soft iron plates of concavo-convex form having their convex sides superposed, the plates being compressed to arrange their surfaces in substantially parallel planes.

3. In a telephone receiver, the combination with a suitable magnet, and a winding therefor, of a diaphragm adapted to coöperate with said magnet, embodying a pair of magnetically permeable plates of concavo-convex form having their convex sides superposed, and means engaging the peripherics of the plates for compressing them.

4. In a telephone receiver, the combination with a casing having a rim thereon, and a core arranged therein, of a diaphragm adapted to coöperate with said casing and core embodying a pair of plates of magnetically-permeable metal, each concavo-convex in form and having their convex surfaces juxtaposed, and an ear cap coöperating with the periphery of one of the plates and fitting the rim of said casing for compressing said plates between the latter and the cap.

969,833. PRODUCTION OF FERRIC SALTS. ANSON G. BETTS, Troy, N. Y. Filed Jan. 7, 1909. Serial No. 471,120.

1. The process of oxidizing in solution a ferrous salt of a polybasic acid to a ferric salt, which consists in electrolyzing the solution with an insoluble anode while maintaining the temperature of the said solution sufficiently high, as described, to substantially prevent the evolution of oxygen-containing gas at the anode, as set forth.

2. The process of oxidizing in solution a ferrous salt of a polybasic acid to a ferric salt, which consists in electrolyzing the solution with an insoluble anode while maintaining the said solution at a temperature higher than 50° C., as set forth.

3. The process of oxidizing in solution a ferrous salt of a polybasic acid to a ferric salt, which consists in electrolyzing the solution with an insoluble anode while maintaining the said solution at a temperature between 50° and 100° C., approximately, as set forth.

4. The process of oxidizing ferrous sulfate to ferric sulfate, which consists in electrolyzing a solution containing ferrous sulfate with an insoluble anode, at a temperature sufficiently high, as described, to substantially prevent the evolution of oxygen-containing gas at the anode, as set forth.

5. The process of oxidizing ferrous sulfate to ferric sulfate, which consists in electrolyzing a solution containing ferrous sulfate with an insoluble anode at a temperature between 50° and 100° C., as set forth.

[Claim 6 not printed in the Gazette.]

969,834. BRAKE FOR HOISTING DEVICES. ANTON BOLZANI, Berlin, Germany. Filed Nov. 26, 1909. Serial No. 529,961.

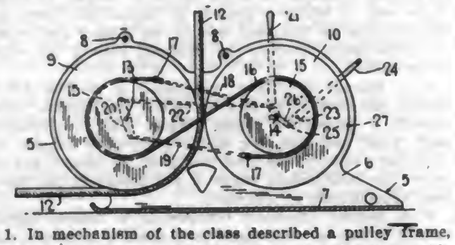


1. In a brake, the combination, with a brake cylinder, and means for preventing it from revolving backward; of a driving member and a driven member journaled concentric with the brake cylinder, brake jaws normally revoluble in the said brake cylinder, an operating lever arranged between the ends of the said jaws and provided with a laterally projecting pin which is pivoted in a hole in one member, and a lateral projection on the other member which engages with the said lever and which causes it to turn on its pivot pin by the resistance of the load to the forward movement of the driven member, said lever operating when turned on its pivot pin to spread apart the ends of the brake jaws thereby pressing their outer surfaces into frictional engagement with the brake cylinder.

2. In a brake, the combination, with a brake cylinder provided with means for preventing it from revolving backward, of a driving member and a driven member journaled concentric with the brake cylinder, said driven member being provided with projecting pins, brake-jaws formed in sections and normally revoluble in the said brake cylinder, and operating levers pivoted to the driving member between the ends of the sections of the brake-jaws and engaging with the said pins, said levers operating to spread apart the ends of the said sections and thereby press the outer surfaces of the brake-jaws into frictional engagement with the brake cylinder when moved from their normal positions by the resistance of the load to the forward movement of the driven member.

3. In a brake, the combination, with a supporting shaft, and a sleeve secured thereto and provided with laterally projecting pins; of a brake cylinder mounted loose on the said sleeve and provided with means for preventing it from revolving backward, a driving member secured to the said shaft, brake-jaws formed in sections and normally revoluble in the brake cylinder, and operating levers pivoted to the driving member between the ends of the sections of the brake-jaws and engaging with the said pins, said levers operating to spread apart the ends of the said sections and thereby press the outer surfaces of the brake-jaws into frictional engagement with the brake cylinder when moved from their normal positions by the resistance of the load to the forward movement of the driven member.

969,835. PULLEY BRAKE AND GRIP. CHARLES H. BOUTWELL and MARRILLA MARSHALL, Rawson, Ohio. Filed May 8, 1909. Serial No. 494,726.



1. In mechanism of the class described a pulley frame, opposed pulleys mounted within the pulley frame, a cable trained over one of said pulleys and adapted to travel between it and the other pulley, means for moving one of the pulleys toward and away from the other pulley to grip and release the cable and brake mechanism operated by said means to regulate the speed of rotation of the pulleys.

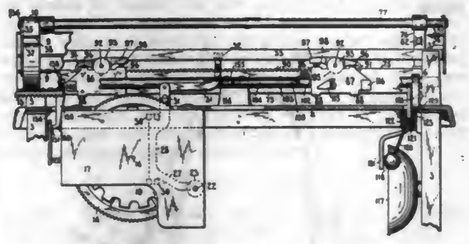
2. In mechanism of the class described a pulley frame, opposed pulleys mounted within the pulley frame, a cable trained over one of said pulleys and adapted to travel between it and the other pulley, means for moving one of the pulleys toward and away from the other pulley to grip and release the cable, brake mechanism operated by said means to regulate the speed of rotation of the pulleys, and means automatically actuated by said first named means for holding the movable pulley in its shifted position with respect to the other pulley when gripping the cable.

3. In mechanism of the class described a pulley frame, opposed pulleys mounted within the pulley frame, a cable trained over one of said pulleys and adapted to travel between it and the other pulley, means for moving one of the pulleys toward and away from the other pulley to grip and release the cable, brake mechanism operated by said means to regulate the speed of rotation of the pulleys, means automatically actuated by said first named means for holding the movable pulley in its shifted position with respect to the other pulley when gripping the cable, and means limiting the movement of the last mentioned means in one direction.

4. In mechanism of the class described, a supporting frame, rotatable pulleys mounted in said frame and normally spaced from each other, one of said pulleys movable with respect to the other to bring the pulleys toward and away from each other, friction wheels formed on opposite sides of the pulleys, brake bands trained over the friction wheels, a throw lever pivoted to the axis of the movable pulley, a cable adapted to travel between the pulleys, connections between the ends of said brake bands and the throw lever to enable the regulation of speed of the pulleys, and means automatically actuated by the throw lever to hold the movable pulley in close shifted relation to the other pulley when gripping the cable.

969,836. TYPE-WRITING MACHINE. ALEXANDER T. BROWN, Syracuse, N. Y. Filed June 10, 1907. Serial No. 378,271.

1. In a typewriting machine, the combination with a carriage and printing mechanism, of a line-lock stop carried by the carriage; a coöperating stop; a movable carrier for said coöperating stop, said stop and its carrier being moved by said line lock stop; means whereby such motion by said carrier locks said printing mechanism; and means for affording a motion of said coöperating stop with relation to its carrier into and out of the path of said line-lock stop on the carriage.



2. In a typewriting machine, the combination with a carriage and printing mechanism, of a line-lock stop carried by said carriage; a coöperating stop; a movable carrier on which said coöperating stop is pivotally mounted, said coöperating stop and its carrier being moved together by said line-lock stop on the carriage; and means for turning said coöperating stop on its pivot into and out of the path of said line-lock stop.

3. In a typewriting machine, the combination with a carriage and printing mechanism, of one or more margin stops on said carriage; a coöperating stop; a movable carrier on which said coöperating stop is movably mounted; a lever mounted on said carrier and engaging said coöperating stop; and a carriage release device operative on said lever to move said coöperating stop out of the path of said margin stop or stops.

4. In a typewriting machine, the combination with a carriage, carriage feeding devices and printing mechanism, of one or more margin stops carried by said carriage; a coöperating stop; a movable carrier on which said coöperating stop is movably mounted; a carriage release device; and means whereby said carriage release device moves said coöperating stop with relation to its carrier out of the path of said margin stop or stops.

5. In a typewriting machine, the combination with a carriage, of one or more margin stops mounted on said carriage; a coöperating stop normally in the path of said margin stop or stops; means for moving said coöperating stop into and out of the path of said margin stop or stops; and a support for said margin stop or stops movable with relation to the carriage to bring said margin stop or stops into or out of position to engage said coöperating stop.

[Claims 6 to 22 not printed in the Gazette.]

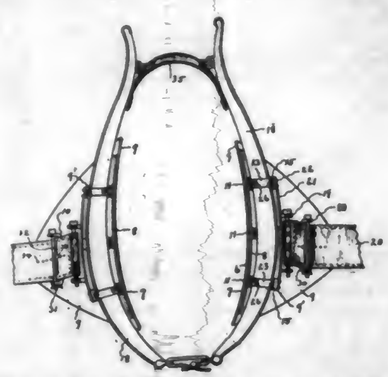
969,837. HORSE-COLLAR. EDWARD BROWN, Omaha, Nebr. Filed Mar. 8, 1910. Serial No. 548,104.

1. A horse collar comprising a pair of longitudinal bearing-plates, flexible contact-plates disposed upon the inner sides of and secured to the bearing-plates; means upon the bearing-plates for securing upon their outer sides the front end of the draft traces; and rearwardly-extending holding-arms having one of their ends pivotally mounted upon said flexible contact-plates, for a mounting of their opposite ends upon the draft traces.

2. A horse collar comprising rigid bearing-plates, said plates having their rear sides curved outwardly, their front sides being curved longitudinally and providing convexed outer surfaces; devices mounted upon the bearing-plates for securing upon their outer sides the front ends of the draft traces; and rearwardly extending holding-arms having their front ends connected with said rigid bearing-plates for a connection of their rear ends with the draft traces.

3. A collar of the class described consisting of a pair of side-sections each comprising a metallic plate, a leather contact-plate secured upon the inner side and extending

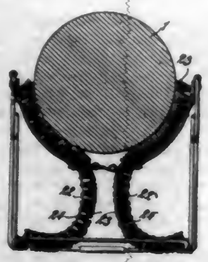
rearwardly of the metallic plate, a metallic supporting-frame secured upon the front side of said metallic plate and providing a mounting upon the outer side of the metallic plate for the front end-portion of a draft-trace; and means for forming a pivotal connection, rearwardly of said metallic plates, between said leather contact-plates and the draft-traces, whereby a part of the draft from the traces may be communicated to said contact-plates.



4. A horse collar comprising side sections provided with longitudinal supporting-members, said longitudinal members being provided with transverse sustaining-arms; a plurality of clips mounted upon the transverse sustaining-arms for engagement with the hames, whereby the hames may be normally sustained parallel with the longitudinal supporting-members; adjusting devices upon said transverse sustaining arms for adjusting said hames transversely with reference to said longitudinal supporting-members.

5. A horse collar comprising separate, rigid, curved side-sections, each being provided upon its inner side with a flexible contact-plate; devices upon the side-sections for securing thereon the draft-traces; means for removably securing the sections upon the hames, the seating of said sections being at selected distances from the ends of the hames; means for maintaining the hames in inclined relation with reference to the sections; and a connection provided rearwardly of the side-sections, between the flexible contact-plates and the traces whereby a part of the draft from the traces may be sustained by said contact-plates.

969,838. JOURNAL-LUBRICATOR. EGBERT B. BROWN, Los Angeles, Cal. Filed May 17, 1909. Serial No. 496,546.



1. A journal lubricator comprising a flexible fabric basket folded along its longitudinal edges, marginal wires inclosed in said folds, a spring wire supporting frame formed with longitudinal parallel reach bars, and tubular clamping strips inclosing the reach bars and the marginal wires of the basket, said clamping strips being permanently secured to the basket below the marginal wires whereby the basket will be permamently and pivotally secured to the reach bars of the supporting frame, an independent flexible lubricator mat carried within said basket and detachably secured thereto and having an upper soft wearing surface and a backing of fibrous material, said backing being in close contact with the upper surface of the fabric basket.

2. A journal lubricator comprising a flexible fabric basket folded along its longitudinal edges, marginal wires secured within said folds, a supporting frame adapted to be collapsed vertically and formed with upper parallel horizontal reach bars, coils at each end of said reach bars, downwardly and inwardly inclined legs, said legs extending from said coils and the legs connected to each bar crossing each other at about the longitudinal center of the frame, and lower bars connecting the lower ends of the legs which extend in the same direction, tubular clamping strips each of which is adapted to inclose one reach bar and the adjacent marginal wire of the basket, and means for permanently securing the clamping bars to the edges of the basket.

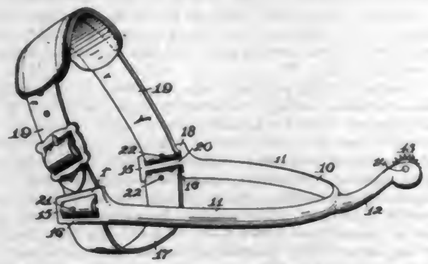
3. A journal lubricator comprising a flexible fabric basket, marginal wires secured to the longitudinal edges thereof, a supporting frame formed with longitudinal reach bars, and clamping strips adapted to engage the reach bars and the marginal wires of the basket and to secure the longitudinal edges of the basket to the reach bars, substantially as described.

4. A journal lubricator comprising a flexible basket formed in two sections separated a suitable distance from each other and secured together by a flexible connecting means whereby a space will be formed between said two sections, a resilient supporting frame, means for connecting said frame to the outer longitudinal edges of the basket sections, a lubricating mat connected to the basket sections and extending down through the opening between said basket sections, the part extending through said opening forming a feeding means for the mat.

5. A journal lubricator comprising a flexible fabric basket formed in two sections separated a suitable distance from each other and secured together at their ends by a connecting means, a spring supporting frame connected to the outer longitudinal edges of the basket, a two-part lubricating mat, one of said parts fitting within each basket section and extending down through the opening between said basket sections, means for detachably connecting the upper edge of each mat section to the upper edge of the basket, whereby the lower parts of the mat sections will serve as feeding means for the mat and the mat sections may be reversed end for end.

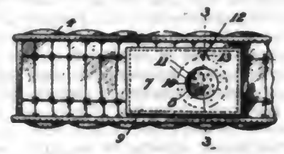
[Claims 6 and 7 not printed in the Gazette.]

969,839. SPUR. GEORGE BUHRMANN, Newark, N. J. Filed Apr. 8, 1908. Serial No. 425,853.



A spur comprising a U-shaped body portion having projecting arms, the arms having a substantially horizontal lower edge, a strand projecting from each arm and having its lower edge continuous with the lower edge of the arm, the strand being of the same width throughout, and an upper strand arranged at an acute angle to the lower strand and to the arm, whereby the strands form a loop having tapered sides, the narrow end of each loop being toward the projecting end of its arm.

969,840. MATTRESS. OLIVER M. BURTON, Chicago, Ill. Filed July 20, 1910. Serial No. 572,864.

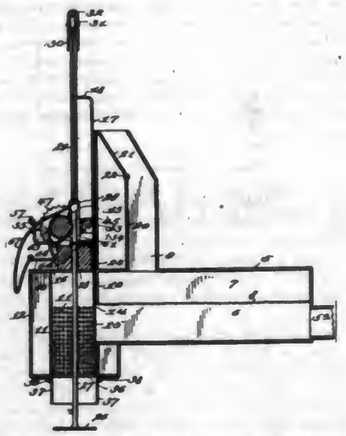


1. A mattress provided with an opening in its tick, a plate covering the opening, the plate being provided with an opening therein, and a shutter pivoted to the inner surface of the plate and adapted to close the opening in the plate.

2. A mattress provided with an opening in its tick, a flexible plate covering the opening, the plate being provided with an opening therein, and a flexible shutter pivoted to the inner surface and adapted to close the opening in the plate.

3. A mattress provided with an opening in the side of its tick, a flexible celluloid plate stitched to the outer surface of the tick and covering the opening therein, said plate being also provided with an opening, and a flexible celluloid shutter pivoted to the inner surface of the plate and adapted to cover the opening therein, said shutter being provided with a plurality of perforations therein.

969,841. LINT-PACKING APPARATUS. GEORGE W. CAMERON, Hondo, Tex., assignor of one-half to George Muennink and John Muennink, Hondo, Tex. Original application filed Dec. 3, 1909, Serial No. 531,217. Divided and this application filed Apr. 19, 1910. Serial No. 556,365.



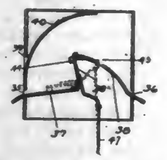
1. The combination with pneumatic means to remove and feed lint, of a packing chamber, a plunger operating therein, means actuated by the plunger to control the feed to said chamber, weight controlled means for moving said plunger in one direction, a driven shaft, a drum carried thereby, cables connecting said drum and said plunger, and means to clutch and unclutch said shaft actuated by said plunger at the limits of its outward and inward movements respectively.

2. The combination with pneumatic means to remove and feed lint, of a packing chamber, a plunger operating therein, weight controlled means for moving said plunger in one direction, a driven shaft, a drum carried thereby, cables connecting said drum and said plunger, means to clutch and unclutch said shaft, actuated by said plunger at the limits of its outward and inward movement respectively, a brake controlling said drum, and means actuated by said plunger adjacent its limit of outward movement, to actuate said brake and check rotation of said drum.

3. The combination with a lint receiving chamber, of a packing chamber adjacent and in communication with said receiving chamber and having a discharge opening, a plunger operating in said packing chamber to pack the lint, doors controlling said discharge opening and adapted to open by the pressure of the plunger, and means to close the doors actuated by the plunger when it recedes.

4. The combination with a lint receiving chamber having means to confine the lint therein and an air outlet flue leading therefrom, of a packing chamber communicating with said receiving chamber, an air outlet flue leading from said packing chamber adjacent said receiving chamber flue, a valve in said flues to alternately close one and open the other, and a gate slidable between said receiving chamber and said packing chamber to alternately establish and cut off communication therebetween, and having means to control said flue valve.

969,842. VENTILATOR. RUSH W. CARRINGTON, Kansas City, Mo. Filed Sept. 14, 1909. Serial No. 517,735.



1. In house ventilation a structure having a roof, and a chamber beneath the roof, a ventilator casing extending from the chamber upwardly through the roof having an opening extending therethrough, and air controlling baffle plates spaced apart one above another, and extending from opposite inner surfaces of the sides of said casing in the arc of a circle.

2. In house ventilation a structure having a roof, and a chamber beneath the roof, a ventilator casing having an opening extending therethrough, air controlling baffle plates spaced apart one above another extending from opposite inner surfaces of said casing in an arc of a circle and terminating upon opposite sides respectively of the vertical axial line of the ventilator casing.

3. In house ventilation a structure having a roof, and a chamber beneath the roof, and an opening in the roof, a ventilator casing or frame in said opening, said casing having an opening extending therethrough, and longitudinal openings in the sides of the casing, outwardly curved air deflecting or baffle plates on opposite inner surfaces of the sides of said casing, one of said plates extending inwardly and above another to form a direct and indirect passage for the currents of air between said plates, and extending outwardly through said longitudinal openings in the sides of said casing.

4. In a ventilator casing having an opening therethrough, an outwardly curved baffle plate extending from one side of said casing, and partially closing the opening in the outer end of said ventilator casing.

5. In a ventilator casing having an opening extending therethrough, a baffle plate forming a part of one of the sides to said casing, and having an outwardly curved outer end portion partially closing the opening at the outer end of said casing.

[Claims 6 to 9 not printed in the Gazette.]

969,843. SHROUDING OF TURBINE-BLADES. ATHOL WILFRID CLARKE, Manchester, England, assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Mar. 5, 1907. Serial No. 360,775.

1. In combination with the blades or vanes of an elastic fluid turbine, a shroud for the outer or free ends of said blades or vanes, a longitudinally extending projection formed integrally with said shroud and means secured to each blade or vane, for securing said shroud in place by being distorted to grip said projection.

2. In combination with the blades or vanes of an elastic fluid turbine, a shroud for the outer or free ends of said blades or vanes, a longitudinally extending dove-tail projection on said shroud, a notch in the outer or free end of each blade or vane adapted to receive said projection and means carried by each blade or vane, for securing said shroud in place by being permanently set to grip said projection.



3. In combination with the blades or vanes of an elastic fluid turbine, a shroud for the outer or free ends of said blades or vanes, a longitudinally extending dove-tail projection on said shroud, a notch in the outer or free end of each blade or vane adapted to receive said projection and tips, adapted to grip said projection and secure said shroud in place by being permanently distorted.

4. In combination with the blades or vanes of an elastic fluid turbine, a shroud for the outer or free ends of said blades or vanes, a longitudinally extending dove-tail projection on said shroud, a notch in the outer or free end of each blade or vane adapted to receive said projection and means, carried by each blade or vane, for securing said shroud in place by being permanently distorted.

969,844. COIN-CONTROLLED VENDING-MACHINE. CLEMENT C. CLAWSON, Flagtown, N. J. Filed Aug. 4, 1908. Serial No. 446,859.



1. In a vending machine, a cabinet containing a vertical chamber which is rectangular in cross-section and adapted to snugly receive a stack of uniformly piled rectangular packages to be sold, the bottom of said chamber being entirely open, as at 26, for the descent of said packages, a rotary goods ejector plate 25 below and free of said cabinet and having a rectangular opening 34 corresponding with and directly below the open lower end of said chamber and being of a depth to receive the lower one of said packages and of an outline to engage the edges of said package for turning it individually on its central vertical axis, and a base-plate 22 below said rotary goods ejector plate having a rectangular opening 39 corresponding with and directly below the open bottom of said chamber and said opening 34 and standing in cross-angular relation to the open bottom of said cabinet so that said base-plate may support the stack of packages at the four corner portions of the same over said opening 39 in the inoperated position of said goods ejector plate and said goods ejector plate support said stack at its four corner portions when in its operated position, said ejector-plate having means for operating it, combined with a receptacle 42 below the said plate 22 to receive the packages which fall through said opening 39, said receptacle being provided with an opening 43 for the removal of the packages therefrom; substantially as set forth.

2. In a vending machine, a cabinet containing a vertical chamber which is rectangular in cross-section and adapted to snugly receive a stack of uniformly piled rectangular packages to be sold, the bottom of said chamber being entirely open, as at 26, for the descent of said packages, a rotary goods ejector plate 25 below and free of said cabinet and having a rectangular opening 34 corresponding with and directly below the open lower end of said chamber, and being of a depth to receive the lower one of said packages and of an outline to engage the edges of said package for turning it individually on its central vertical axis, and a base-plate 22 below said rotary goods ejector plate having a rectangular opening 39 corresponding with and directly below the open bottom of said chamber and said opening 34 and standing in cross-angular relation to the open bottom of said cabinet so that said base-plate may support the stack of packages at the four corner portions of the same over said opening 39 in the inoperated position of said goods ejector plate and said goods ejector plate support said stack at its four corner portions when in its operated position, and a frame at the lower end of the cabinet comprising a plate 19 having an upwardly extending flange 20 to receive the lower edges of the cabinet and downwardly extending flanges 21, 23 engaging the said base-plate and affording a chamber for said goods-ejector plate, said ejector-plate having means for operating it, combined with a receptacle 42 below the said plate 22 to receive the packages which fall through said opening 39, said receptacle being provided with an opening 43 for the removal of the packages therefrom: substantially as set forth.

969,845. SPOON-GAGE. FREDERICK N. CRONHOLM, Naches, Wash. Filed Feb. 24, 1910. Serial No. 545,619.



1. A device of the class set forth comprising a plate cut away at one point to form a deep concave gage-portion and at another point to form a relatively shallow concave gage-portion whereby said concave gage-portions are adapted to measure, respectively, heaping and rounded spoonfuls with spoons of various sizes, said plate also having a plurality of convex gage-portions of different curvature formed on its edge for measuring fractional spoonfuls with spoons of various sizes.

2. A device of the class set forth comprising a plate whose outer edge is divided by means of projections into a series of divisions, the edge of one of said divisions being cut away to form a deep concave gage-portion and the edge of another of said divisions being cut away to form a relatively shallow concave gage-portion so that said concave gage-portions are adapted to measure, respectively, heaping and rounded spoonfuls with spoons of various sizes, and the edges of the other divisions being shaped to form convex gage-portions of different curvature to measure fractional spoonfuls.

3. A device of the class set forth comprising a plate whose outer edge is cut away at one point to form a deep concave gage-portion and at another point to form a relatively shallow concave gage-portion whereby said concave gage-portions are adapted to measure, respectively, heaping and rounded spoonfuls with spoons of various sizes, said plate also having a plurality of convex gage-portions formed on its edge each of which has a different curvature whereby each convex gage-portion is adapted for use with a spoon of a different size to measure a uniform fraction of a spoonful, and a straight edge portion adapted for use with spoons of various sizes to measure level spoonfuls.

969,846. DETACHABLE COLLAR AND CUFF FASTENER. MAURICE J. DAHILL, Jr., South Easton, Mass. Filed Feb. 20, 1909. Serial No. 479,169.



1. A fastening device having, in combination, a base, a shank projecting therefrom and having a head and a relatively narrower neck located between said head and said base, and a member pivoted to said head and said base, said member having a laterally extending arm located adjacent to said head, and said head being laterally recessed to receive said arm, said member having a second laterally extending arm located adjacent to said base, and said base having means to engage said second arm to lock said member against rotative movement relatively to said base and said head.

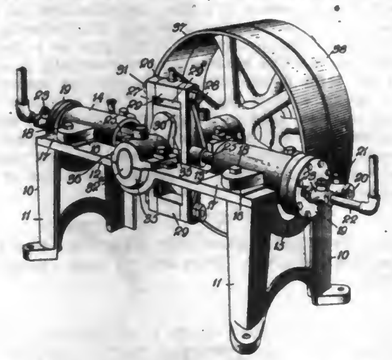
2. A fastening device having, in combination, a base, a standard projecting therefrom and having a head and a relatively narrower neck and being offset to form two lateral recesses on opposite sides thereof, and two members pivoted to said head and said base, each of said members having a laterally extending arm adapted to enter one of said recesses and having engaging means located adjacent to said base and coöperating therewith to lock said member against rotative movement relatively to said base and head.

3. A fastening device having, in combination, a base, a standard projecting therefrom having a head, a relatively narrower neck and two legs, and a member having a laterally extending arm located adjacent to said head and a shank located between said legs and pivoted to said base, said base and said shank having coöperative engaging means to lock said member against rotative movement relatively to said base and said head.

969,847. PNEUMATIC PUMP. THOMAS DAVIS, Orange, N. J., assignor to Orange Machine and Manufacturing Company, a Corporation of New Jersey. Filed Mar. 3, 1909. Serial No. 481,094.

1. In a pneumatic pump, the combination with a supporting frame comprising end pieces, and longitudinal bars connecting said end pieces, and formed with semi-circular bosses, of a crank shaft supported by said bosses, caps secured over said bosses and forming therewith bearings for said shaft, two alined cylinders supported upon the frame, a cross head between said cylinders provided with vertical guides, a block mounted on said shaft and grooved to receive said guides, piston rods rigidly connected to opposite sides of said cross head and pistons within said cylinders secured to said piston rods.

2. In a pneumatic pump, the combination with a supporting frame, comprising end pieces, and longitudinal bars connecting said end pieces, and formed with semi-circular bosses and reinforcing seats, of a crank shaft supported by said bosses, caps secured over said bosses and forming therewith bearings for said shaft, two alined cylinders supported upon the frame and provided with laterally projecting lugs overlapping said seats and detachably



secured thereto, a cross head between said cylinders consisting of side bars formed with vertical guides, and spacing blocks between said side bars, a block mounted on said shaft and provided with grooves to receive said guides, piston rods rigidly connected to opposite sides of said cross head, and pistons within said cylinders secured to said piston rods.

969,848. TEMPERATURE-REGULATOR. VERNER F. DAVIS, Orange, N. J. Filed Aug. 31, 1909. Serial No. 515,511.

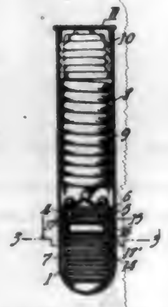


1. A temperature regulator comprising a casing, a tubular member projecting from the casing, an expanding member projecting from the tubular member, the tubular member forming a chamber, a screw-threaded portion beyond the chamber, a washer in the screw-threaded portion, a non-expanding member within the expanding member, an extension on the non-expanding member passing through the washer, a spring between the extension and the washer and normally adapted to force them apart, a pipe projecting from the casing and forming a valve seat, a valve in the end of the extension, means for limiting the outward movement of the valve from the extension, and a spring within the extension and bearing on the valve to compensate for undue contraction of the expanding member.

2. A temperature regulator comprising a casing, a tubular member projecting from the casing, an expanding mem-

ber projecting from the tubular member, the tubular member forming a chamber, a screw-threaded portion beyond the chamber, a washer in the screw-threaded portion, a non-expanding member within the expanding member, an extension on the non-expanding member passing through the washer, a spring between the extension and the washer and normally adapted to force them apart, a pipe projecting from the casing and forming a valve seat, the casing having a passage to a pipe connection and the pipe forming a valve seat having a passage longitudinally arranged therein and emerging from the pipe in a circumferential groove which is adapted to be constantly in register at any point in its rotation with the pipe connection in the casing, a valve in the end of the extension and adapted to close the pipe forming the valve seat, means for limiting the outward movement of the valve from the extension, and a spring within the extension and bearing on the valve to compensate for undue contraction of the expanding member.

969,849. PORTABLE ELECTRIC HEATER. FRANK L. DYER, Montclair, N. J. Filed May 25, 1909. Serial No. 498,359.



1. In a portable heater, the combination of a heater, a heating coil within said heater, a plug and connections between and joined to the same and said coil, and a chamber for inclosing said plug and connections when not in use integral with said heater, substantially as described.

2. In a portable heater, the combination of a casing, a plug inclosed within and electric connections therefrom coiled within said casing and adapted to be extended therefrom, a heater secured to said casing having a heat radiating extended surface and a heating coil secured within said heater and joined to said connections, substantially as described.

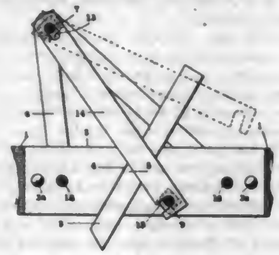
3. In a portable heater, the combination of a casing, electric connections coiled within said casing and adapted to be extended therefrom, a heater secured to said casing at several separated points only having a curved heat radiating extended surface almost entirely surrounding the same, and a heating coil secured within said heater and joined to said connections, substantially as described.

4. In a portable heater, the combination of a tubular casing, a plug and electric connections inclosed within said casing and adapted to be extended therefrom, a heater axially in line with said casing and secured thereto at several separated points only, and having a curved heat radiating surface surrounding the same except at the points of attachment, and a heating coil secured within said heater and joined to said connections, substantially as described.

5. In a portable heater, the combination of a closed hollow heater body having a polished heat-radiating surface, a heating coil within said body, a flexible connection joined to said coil and extending from said body, and means for retaining the connection in compact form when not in use secured to said body and axially in line therewith, substantially as described.

[Claim 6 not printed in the Gazette.]

969,850. RETAINING MEANS FOR TEETH OF ROAD-DRESSERS. HARVEY L. EGGLESTON, Tulare, Cal. Filed Sept. 16, 1909. Serial No. 518,018.



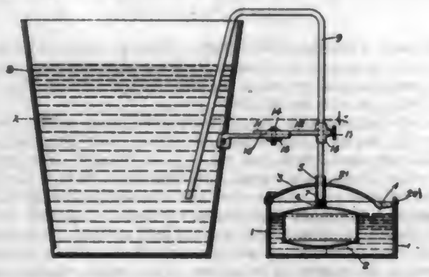
A device as described comprising a tooth receiving frame, a tooth therein, two rods spaced apart, a slotted bar movable over one rod, a hook in the other end of said bar adapted to engage said lower rod, and means movable on said rods to impinge against said bar to cause it to bear against said tooth.

969,851. MINE-PROP. JOHN H. EICKERSHOFF, Dusseldorf, Germany. Filed July 13, 1909. Serial No. 507,374.



A mine prop comprising a lower tubular member, an inclosed granular charge, an upper tubular member telescoped by the lower member, and a series of spaced superposed braces extending diametrically across the upper member and adapted to successively enter the charge.

969,852. DRINKING-FOUNTAIN FOR POULTRY. FRANK ENOS, Jr., Norwich, Conn. Filed June 18, 1910. Serial No. 567,714.



1. A drinking fountain for poultry, comprising a main reservoir, a bracket secured to the outer wall thereof, a fountain the rear portion of whose body is circular while the front portion thereof is enlarged and likewise circular, a perforated circular cover conforming to the rear body portion of the fountain whereby the front or enlarged portion of the latter is exposed and constitutes a drinking trough, a finger extending from the front end of said cover and bridging said trough and secured within the front edge of the latter, a float within said fountain and having secured to the upper wall thereof a tube which projects through the perforation in the cover, flexible disks within the bottom of said tube, and a feed pipe one leg of which extends within said reservoir while the other leg is secured within said bracket and depends in proximity to said disks.

2. A drinking fountain for poultry, comprising a reservoir, an adjustable bracket secured to the outer wall thereof, a drinking fountain whose rear portion is circular and whose front portion is enlarged and likewise circular, a circular perforated cover conforming to the rear portion of the fountain whereby the front portion thereof is exposed and constitutes an arcuate shaped drinking trough, the rear lower edge of said cover having a bifurcated lip which engages the rear upper edge of said fountain while a finger projects from the front edge of said cover and bridges said trough and engages a notch in the front edge of the latter, a float valve within said fountain and having secured to the upper wall thereof a tube, suitable disks of flexible material within the bottom of said tube the latter projecting through the perforation in the cover, and a bent tube one leg of which extends within the reservoir while the other leg is secured within the outer extremity of said bracket and depends within said tube in close proximity to said disks.

3. In a drinking fountain, for poultry, the combination of a reservoir, an adjustable bracket secured to the outer wall of said reservoir, a drinking fountain, a detachable perforated cover to said fountain, a float valve within said fountain and having secured to its upper wall an upright tube which projects through the perforated cover and contains at the bottom a suitable packing seat, a bent tube one leg of which extends within the reservoir while the other leg extends through the outer extremity of said bracket and depends within said float valve tube, and means for adjustably securing said leg within the bracket whereby the normal level of the water in said fountain may be varied.

969,853. METHOD OF MAKING LIQUID SODIUM AMALGAM. HERBERT P. EWELL, Detroit, Mich. Filed Jan. 2, 1909. Serial No. 470,427.

1. Method of making liquid sodium amalgam, which consists in introducing sodium into mercury, excluding air therefrom at the point of introduction, and maintaining an excess of mercury over the sodium at the point of union of said elements.

2. Method of making liquid sodium amalgam, which consists in mixing a minor portion of sodium with a major portion of mercury and excluding the air therefrom during the operation of mixing.

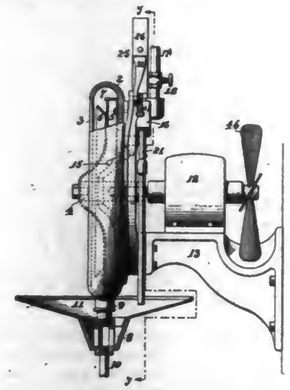
3. Method of making liquid sodium amalgam which consists in commingling sodium and mercury in the absence of atmospheric air, and maintaining the mercury in excess of the sodium.

4. Making liquid sodium amalgam for separating gold and silver from their ores by introducing a minor portion of sodium into a major portion of mercury in the absence of atmospheric air.

5. Method of making liquid sodium amalgam which consists in covering the surface of mercury with material for excluding air therefrom and introducing sodium into said mercury through said material.

969,854. HUMIDIFIER. JOHN W. FRIES, Winston Salem, N. C. Filed Apr. 11, 1910. Serial No. 554,590.

1. The combination of a humidifying apparatus having a spraying disk and a waste pipe, means for supplying a constant stream of water to the humidifying apparatus, and means controlled by the hygrometric condition of the air to vary the amount of the constant stream of water which passes to the spraying disk and the amount which passes to the waste pipe.



2. The combination of a humidifying apparatus, means for supplying a stream of water to the humidifying apparatus, and means controlled by the hygrometric condition of the air to regulate the supply of water to the humidifying apparatus having devices for diverting the stream of water away from the humidifying apparatus whenever the humidity of the air exceeds a predetermined degree.

3. The combination of a humidifying apparatus, means for supplying a stream of water to the humidifying apparatus, means controlled by the hygrometric condition of the air to regulate the supply of water to the humidifying apparatus having devices for diverting the stream of water away from the humidifying apparatus whenever the humidity of the air exceeds a predetermined degree, and a waste pipe for carrying away the water which is diverted from the humidifying apparatus.

4. The combination of a humidifying apparatus having vaporizing devices, means for supplying a variable stream of water to the vaporizing devices of the humidifying apparatus, a static hand valve for adjusting the size of the stream of water delivered to the humidifying apparatus whereby a constant stream of water of any determined size may be assured, and means controlled by the hygrometric condition of the air to regulate the total amount of the constant stream of water which reaches the vaporizing devices said means having automatic devices acting upon the stream of water independently of the static valve for varying the amount thereof which is delievered to the vaporizing devices.

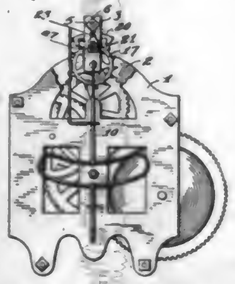
5. A humidifying apparatus comprising a rapidly rotating disk and a circular row of abutments for disrupting and vaporizing a film of water, and a nozzle for supplying water to the revolving disk, combined with means for supplying a constant and uniform stream of water to the nozzle, means arranged to control the volume of the said stream of water actually delivered to the nozzle and divert the remainder away from the nozzle and devices controlled by the humidity of the air to automatically operate the means for controlling the actual amount of water delivered to the nozzle to change the amount of vapor produced by the humidifying apparatus without affecting the total amount of water flowing to the apparatus.

[Claims 6 to 15 not printed in the Gazette.]

969,855. PLUMB-LEVEL ATTACHMENT. WILLIAM A. GOBLE, Conway Springs, Kans. Filed Jan. 21, 1910. Serial No. 539,211.

1. In a device of the character described, a clock work mechanism, vertical strips having lateral projections at their lower end rotatably mounted in the upper ends of the frame of the clock work mechanism and having bearings at their inner end, the escapement wheel arbor having its ends resting in said bearings, a verge having its

ends adjustably mounted in said vertical strips, a rod connecting together the upper ends of said strips, a pendulum suspended from one of said lateral projections, and a weight suspended from the end of the other lateral projection.



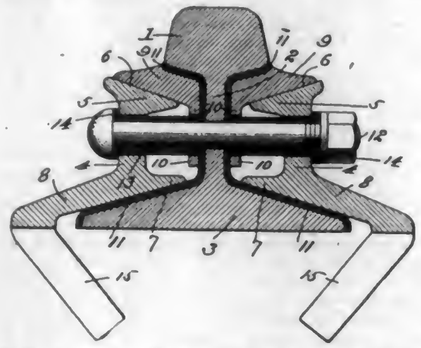
2. In a device of the character described, a clock work mechanism, a frame having outwardly-extending lateral projections rotatably mounted in the upper ends of the frame of the clock frame mechanism, an escapement wheel and arbor having the ends thereof resting in the inner ends of said lateral projections, elongated openings in the sides of said rocking frame, a verge having the ends of its arbor projecting through said openings and resting in a vertically adjustable plate having an elongated slot, a projection on the sides of said frame extending through said slotted plate, a nut for adjustably clamping said plate to the sides of said rocking frame, a pendulum suspended from one of the lateral projections, and a weight suspended from the end of the other lateral projection.

3. In a device of the character described, a clock work mechanism, a rocking frame consisting of two vertical plates having outwardly projecting arms secured to their lower ends and extending through sleeves in the upper ends of the frame of the clock work mechanism and rotatably mounted therein, an escapement wheel and its arbor having its ends resting in the inner ends of said outwardly-extending arms, a verge having its ends mounted in said vertical strips, a cross piece secured at one end to one of said vertical strips and detachably connected at its other end to the other vertical strip, a pendulum suspended from one of said outwardly projecting arms, and a weight having a vertically extending strip secured at its upper end to the end of the other outwardly extending arm.

4. In a device of the character described, a clock work mechanism, a rocking frame having at its lower end outwardly projecting arms rotatably mounted in the upper ends of the clock work mechanism frame and serving as trunnions for said rocking frame, an escapement wheel and arbor having its ends resting in the inner ends of said trunnions, a verge and its arbor having its ends vertically adjustable in the sides of said frame, a pendulum connected to one of said outwardly projecting arms, and a weight and its extension connected at its upper end to the outer end of the other outwardly projecting arm.

969,856. INSULATED RAIL-JOINT. LAWRENCE GRIFFITH, Yonkers, N. Y. Filed Sept. 2, 1908. Serial No. 451,318.

1. An insulated rail joint comprising a pair of fish plates having their upper surfaces downwardly and inwardly inclined and their lower surfaces downwardly and outwardly inclined to correspond to the inclination of the upper surface of the rail base, a pair of filler blocks having their lower surfaces inclined and adapted to fit closely against the upper surfaces of the fish plates, said lower surfaces extending inwardly beyond the inner surfaces of the fish plates, whereby the fish plates may move inwardly on the filler blocks, the inner and upper surfaces of the filler blocks corresponding in shape to the adjacent surfaces of the rail, and insulations fitting tightly between the filler blocks and the rail, and between the lower surfaces of the fish plates and the upper surfaces of the rail base, whereby the filler blocks will be held against movement on the insulations.



2. An insulated rail joint comprising a fish plate having an upper surface greater in width than the adjoining underside of the rail head and a lower surface adapted to fit over the base of the rail, a filler block having an under surface broader than the adjoining under surface of the head of the rail and extending inwardly beyond the inner edge of the fish plate, said filler block bridging the joint between the rails, and insulation interposed between the filler block and the rail and between the lower surface of the fish plate and the base of the rail, the filler block fitting closely against the insulation.

3. An insulated rail joint comprising a fish plate formed with a downwardly and inwardly inclined upper surface broader than the adjoining underside of the rail head, a filler block having a correspondingly inclined broad under surface adapted to contact with the upper surface of the fish plate, said under side of the filler block extending inwardly beyond the inner edge of the fish plate whereby the fish plate may move inwardly on the filler block, insulation interposed between the filler block and the rail, said insulation completely filling the space between the filler block and the rail whereby the filler block will be held against independent inward movement, and means for insulating the fish plate from the base of the rail.

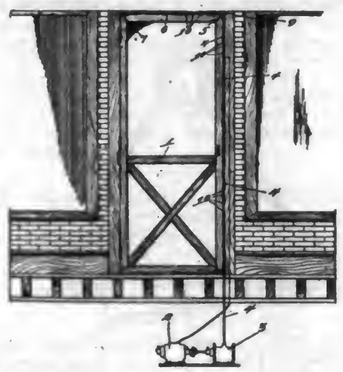
4. An insulated rail joint comprising a fish plate having its under surface broader than its upper surface and downwardly and outwardly inclined to adapt it to fit over the base of the rail, a filler block interposed between the upper surface of the fish plate and the underside of the rail head, the under surface of said filler block extending inwardly beyond the inner edge of the fish plate, whereby the fish plate may move inwardly on the filler block, and insulation interposed between the filler block and the rail and filling the space between said block and the rail to prevent inward movement of the filler block, and insulation interposed between the base of the rail and the under side of the fish plate.

5. An insulated rail joint comprising a pair of fish plates, each of said plates being formed with a downwardly and inwardly inclined upper surface, a filler block interposed between the upper surface of each fish plate and the rail head, said filler block fitting closely against the upper surface of the fish plate and being wedge-shape in cross section and tapering outwardly, whereby it will be held in position against lateral displacement, and insulation interposed between each of said filler blocks and the rail head.

[Claims 6 to 10 not printed in the Gazette.]

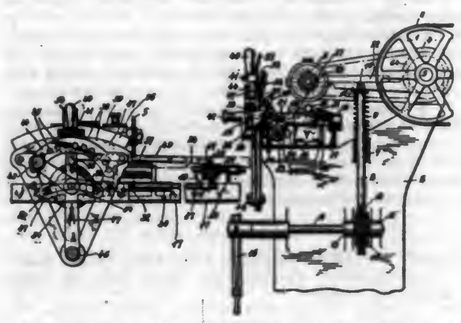
969,857. FLY-FRIGHTENER. AUGUST W. GROVE, Chicago, Ill. Filed Nov. 4, 1909. Serial No. 526,224.

In a device of the kind described, the combination with a door, a motor, a blower operated by said motor, pipes connected to said blower and extending adjacent the vertical free edge and upper longitudinal edge of said door, said pipes having openings formed therein for directing a blast of air from the blower, and means carried by the



door jamb and the door for automatically starting and stopping the motor when said door is opened and closed, respectively, substantially as described.

969,858. CUTTER FOR PIPE AND THE LIKE. JOHN R. HAMILTON, Yonkers, N. Y., assignor to Ventura Alarm Company, Dover, N. J., a Corporation of New Jersey. Filed Nov. 17, 1909. Serial No. 528,450.



1. In cutting apparatus for pipe or the like, a frame and connected track, a drive shaft mounted in said frame, a rotary cutter mounted in arms swingingly supported by said drive shaft, gearing operating said cutter from said drive shaft, an actuating wheel and gearing connected with said arms to actuate said cutter, cutter rolls cooperating with said cutter, a carriage provided with wheels engaging said track and connected guide blocks and rods, lugs mounted at intervals on said rods and movable stops mounted on said rods to coöperate with said lugs and provided with stop rolls, a cam shaft mounted on said carriage and carrying angularly spaced cams to coöperate with said stop rolls and selectively operate said stops and move the same into the path of an article upon said guide blocks, a controller having locking devices and gearing to operate said cam shaft, an adjuster mounted adjacent said controller and provided with a latch and latch plate, and an adjusting rod connecting said adjuster and carriage to adjust the same with respect to said cutter throughout a distance as great as the distance between adjacent stops.

2. In cutting apparatus for pipe or the like, a frame and connected track, cutter rolls mounted adjacent said track, a rotary cutter movably mounted to coöperate with said cutter rolls, an actuating wheel and gearing to actuate said cutter, a carriage coöperating with said track and comprising connected rods and guide blocks in line with said cutter rolls, movable stops mounted at intervals on said rods, a cam shaft mounted on said carriage and carrying angularly spaced cams to selectively operate said stops and move the same into the path of an article on said guide blocks, a controller to operate said cam shaft, and an adjuster and connected adjusting devices connected with said carriage to adjust the same with respect to said cutter throughout a distance as great as the distance between adjacent stops.

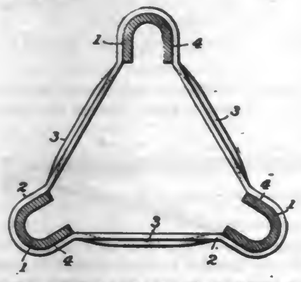
3. In cutting apparatus for pipe or the like, a frame and connected track, a movably mounted rotary cutter, actuating means to actuate said cutter, a carriage cooperating with said track and comprising rods and connected guides and movable stops mounted at intervals on said carriage, a controller to selectively operate said stops and move the same into the path of an article on said guides and an adjuster connected to said carriage to adjust the same with respect to said cutter.

4. In cutting apparatus for pipe or the like, a frame, a movably mounted cutter and actuating means to actuate said cutter, a rod and connected guides, movable stops mounted at intervals on said rod, a controller to selectively operate said stops and move the same into the path of an article on said guides, and an adjuster to adjust the relative position of said cutter and stops throughout a distance as great as the distance between adjacent stops.

5. In cutting apparatus for pipe or the like, a frame, a movably mounted cutter on said frame, means to actuate said cutter, guides for an article, a series of movable stops mounted at intervals, a controller to selectively operate said stops and move the same into the path of an article upon said guides and an adjuster mounted adjacent said controller to adjust the relative position of said cutter and stops.

[Claims 6 to 9 not printed in the Gazette.]

969,859. TELEGRAPH-POLE AND THE LIKE. BRODERICK HASKELL, Franklin, Pa. Filed May 22, 1909. Serial No. 497,727.

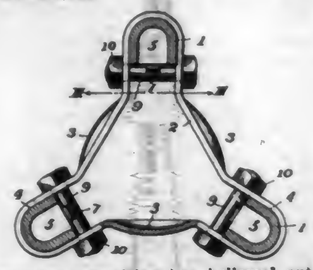


1. A pole comprising a series of uprights U-shaped in cross section and having the open side inward, said side being entirely free of reinforcing or fastening means, and means for securing the same in spaced apart relation, said means comprising a series of bands encompassing the outer U-shaped side of each of said uprights and permanently connected thereto in the area of such contact.

2. A structure comprising a plurality of longitudinal members U-shaped in cross section and having the open side inward, said side being entirely free of reinforcing or fastening means, and means for securing the same in spaced apart relation, said means comprising a series of bands wrapped around the outer U-shaped side of each of said members and welded thereto in the area of such contact, said bands having their intermediate portions corrugated for the purpose set forth.

3. A pole comprising a series of uprights U-shaped in cross section and having the open side inward, said side being entirely free of reinforcing or fastening means, and a series of transverse bands surrounding the outer U-shaped side of the uprights and securing the same in spaced apart relation, said uprights and bands being joined by molecular union of the connecting portions thereof.

969,860. TELEGRAPH-POLE AND THE LIKE. BRODERICK HASKELL, Franklin, Pa. Filed May 22, 1909. Serial No. 497,728.



1. A structure comprising two hollowed out members, one partly wrapped around the other, means for warping the same together, and means for rigidly clamping said members after a determinate amount of such warping.

2. A pole comprising U shaped legs, transverse bands secured thereto, and means for first warping inward together said legs and bands and then clamping the same rigidly in such warped position.

3. A pole comprising hollow legs, transverse bands secured thereto, clamping means for warping inward together said legs and bands, and an interior abutment arranged to co-act with said clamping means to rigidly clamp said legs and bands in warped position.

4. A pole comprising hollow legs, transverse bands secured thereto, clamping means for warping inward said legs and bands, and a filling block arranged to co-act with said clamping means, said block having a drawn-in intermediate portion.

5. A pole comprising hollow legs, transverse bands secured thereto, clamping means for warping inward said legs and bands, a filling block arranged to co-act with said clamping means, said block having a drawn-in intermediate portion, and a recess adjacent said drawn-in portion to receive said clamping means.

[Claims 6 and 7 not printed in the Gazette.]

969,861. BRAKE-BEAM. BRODERICK HASKELL, Franklin, Pa. Filed July 7, 1909. Serial No. 506,370.



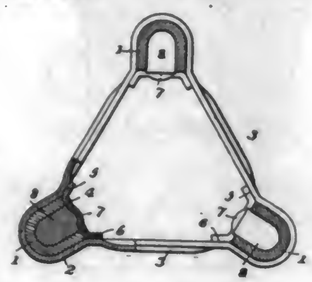
1. A brake beam comprising tension and compression members, blocks adapted to abut against the ends of said compression members, said blocks having openings to receive said tension member, and a readily plastic metal filler for said opening, the same forming a molecular union with said blocks and said tension members.

2. A brake beam comprising tension and compression members, blocks adapted to abut against the ends of said compression members and welded thereto, said blocks having openings to receive said tension member, and a readily plastic metal filler for said opening, the same forming a molecular union with said blocks and said tension members.

3. A brake beam comprising tension and compression members, blocks adapted to abut against the ends of said compression members, said blocks having enlarged flaring openings to receive said tension member, and a readily plastic metal filler for said openings the same forming a molecular union with said blocks and said tension members.

969,862. TELEGRAPH-POLE AND THE LIKE. BRODERICK HASKELL, Franklin, Pa. Filed Nov. 11, 1909. Serial No. 527,427.

1. A pole comprising longitudinal members, transverse bands therefor said bands having pockets formed therein to receive said members, straps secured to said bands adjacent said pockets, and means constructed and arranged to react against said straps and longitudinal members to cause wedging action and clamping engagement of said members and straps.



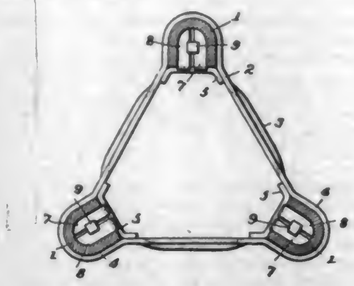
2. A pole comprising longitudinal members, transverse bands therefor said bands having pockets formed therein to receive said members, straps secured to said bands adjacent said pockets, and wedging means arranged to react against said straps to effect clamping engagement between said parts throughout the area of contact.

3. A pole comprising longitudinal members, a transverse band therefor having pockets formed therein to receive said members, straps secured to said band adjacent said pockets and members with inclined sides which react against said straps to clamp said members and said pocket portions throughout the area of contact.

4. A pole comprising U-shaped uprights, transverse bands having pockets formed therein to receive said uprights, straps secured to said bands adjacent said pockets, and wedges arranged to react against said straps and said uprights to cause clamping engagement between said pockets and said uprights throughout the area of contact.

5. A pole comprising U-shaped uprights, transverse bands having pockets formed therein to receive said uprights, straps secured to said bands adjacent said pockets said straps having centrally dished portions, and filling blocks having wedge portions to co-act with said dished portions for the purpose set forth.

969,863. TELEGRAPH-POLE AND THE LIKE. BRODERICK HASKELL, Franklin, Pa. Filed Nov. 11, 1909. Serial No. 527,428.



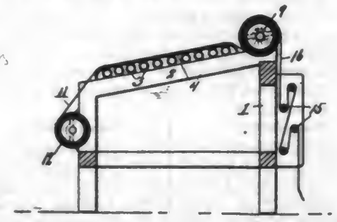
1. A pole comprising uprights, transverse bands having pockets to receive said uprights, straps secured to said bands adjacent said pockets, plural filling members for each pocket, means to expand said filling members and means to react against said straps so as to exert clamping pressure throughout the area of contact.

2. A pole comprising uprights, transverse bands having pockets to receive said uprights, straps secured to said bands adjacent said pockets, plural filling members for each pocket and a wedge to expand said filling members, and means to react against said straps, all arranged so as to exert clamping pressure throughout the area of contact.

3. A pole comprising longitudinal members, of U section, transverse bands having pockets to receive said members, straps secured to said bands adjacent said pockets, plural filling blocks for said pockets and means to expand said blocks against the walls of said pockets and push the straps toward the interior of the pole.

4. A pole comprising uprights, transverse bands having pockets to receive said uprights, straps secured to said bands adjacent said pockets, plural filling members for each pocket, said members having a wedge configuration at the outer ends thereof to react against the straps, and a separate wedge to expand said filling members for the purpose set forth.

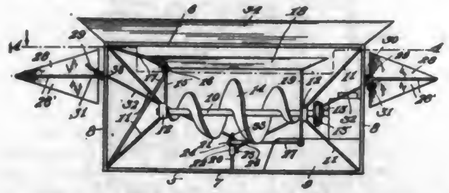
969,864. CLOTH SPONGING AND REFINISHING MACHINE. GEORGE HATT, Detroit, Mich. Filed Feb. 12, 1906. Serial No. 300,603.



1. In a machine for the purpose set forth, the combination of a rotary steam cylinder, a rotary drum, a flexible apron wound at its opposite ends upon the drum and upon the cylinder and adapted to pass from one to the other in reciprocal succession, means for directing a piece of fabric under tension onto the cylinder remote from or opposite the point at which the apron rolls thereon to expose the fabric to the action of the steam before being compressed by said apron, and means for heating the apron before it passes onto the roller.

2. In a machine for the purpose set forth, the combination of the rotary steam cylinder, a rotary drum, the apron wound at its opposite ends upon the drum and upon the cylinder and adapted to pass from one to the other in reciprocal succession, said apron being maintained in a dry state while on the drum, a heating table interposed between the drum and cylinder and having a flat surface over which the apron passes, tension bars for directing a piece of fabric onto the periphery of the cylinder at a point on its periphery remote from the point where the apron rolls thereon, to subject the fabric to the action of the steam before entering between the layers of said apron, means for introducing steam to the cylinder, and means for rotating the cylinder and drum.

969,865. AEROPLANE. ANDREW A. HEIL, St. Louis, Mo. Filed Oct. 5, 1909. Serial No. 521,052.



1. In an aero-plane, the combination of a frame, propelling mechanism mounted in said frame, longitudinal side wings pivotally supported at one of their ends on said frame, directing members universally pivoted on the opposite ends of said frame, and means for simultaneously adjusting the inclination of said wings and directing members.

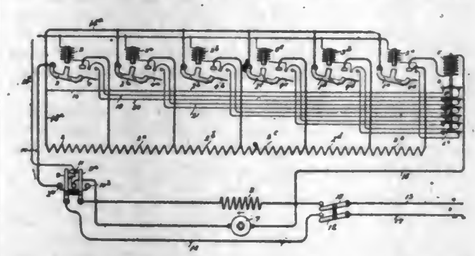
2. In an aero-plane, the combination of a frame, longitudinal side wings adjustably supported on said frame, adjusting means carried by the frame, and a screw propeller rotatably mounted in said frame adjacent to the wings, said propeller increasing in diameter from its ends to its center to direct the air currents against said wings.

3. In an aero-plane the combination of a frame, longitudinally disposed propeller shafts mounted in said frame, a propeller blade spirally disposed on each of said shafts and increasing in diameter from its ends to its center, longitudinal side wings pivotally supported at one of their ends on said frame, means for raising and lowering the other end of said wings, and directing members universally pivoted upon the ends of said frame, and means for vertically and transversely adjusting said members thereon.

4. In an aero-plane, the combination of a frame, propeller shafts longitudinally disposed in said frame, supporting rods for said shafts, said rods having journal bearings formed at their inner ends to receive said shafts, a propeller blade spirally disposed about said shaft, vertical standards secured on said bearings, transverse rods extending outwardly from the upper ends of said standards, brace rods connecting the outer ends of said transverse rod to the frame, a wing pivoted at one end of said transverse rod, a depending rod pivoted to the opposite end of said wings, a steering handle arranged centrally in the frame, a connecting rod connecting said handle to said depending rod and adapted to raise and lower the rear end of said wings, directing members universally pivoted upon the ends of said frame, and means connecting said members to said steering handle, whereby said members may be vertically or transversely directed.

5. In an aero-plane, the combination with a frame, propeller shafts rotatably mounted in said frame, a spiral propeller blade disposed about said shafts, a wing pivotally supported on opposite sides of the frame adjacent to the propellers, a supporting handle centrally disposed in said frame, connecting rods between said handle and the rear ends of said wings, substantially triangular directing members universally pivoted on the opposite ends of said frame, each of said members having ears secured thereto disposed in opposite directions, a connecting rod between said ears and the operating handle, said handle being positioned through a T-shaped sleeve, said sleeve being rotatably mounted upon the upper end of a supporting standard, said handle being rotatable within the horizontal tubular portion of said sleeve, means for securing said sleeve and handle against rotation, and a cover for said frame extending inwardly and upwardly from the sides thereof to provide a shallow air receiving chamber.

969,866. MOTOR-STARTER. CLARK T. HENDERSON, Pittsburg, Pa., assignor to The Cutler-Hammer Manufacturing Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Jan. 13, 1906. Serial No. 295,969.



1. In combination, a plurality of electromagnetic windings arranged to be energized successively, a plurality of relay switches, one for each winding, adapted to arrest the successive operation of said windings, and a single device for actuating said relay switches.

2. In combination, a plurality of electromagnetic windings, means for causing each winding to close the circuit of the next winding so as to make said windings operate successively, a plurality of relay switches, one for each

winding, adapted to arrest the successive operation of said windings, and an electromagnet for actuating all of said relay switches.

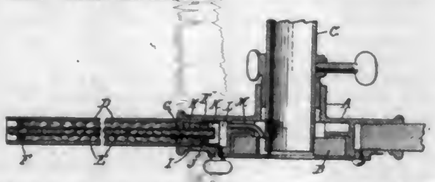
3. In combination, a plurality of successively operating electromagnetic windings, a plurality of relay switches, one for each winding, adapted to arrest the successive operation of said windings, an electromagnet for actuating said relay switches, and means for rendering each winding independent of its corresponding relay switch after the winding operates.

4. In combination, a plurality of electromagnetic windings, a switch actuated by each of said windings to close the circuit of the next winding so as to make said windings operate successively, a plurality of relay switches, one for the circuit of each winding, an electromagnet for opening said relay switches to arrest the successive operation of said windings, and means for short-circuiting each relay switch after its corresponding winding responds so as to render said winding independent of its corresponding relay switch.

5. In a motor starter, in combination, a plurality of electromagnetic windings, a resistance controlled thereby, means for causing said windings to operate successively, a plurality of relay switches, one for each winding, said relay switches being so arranged in circuit that the same may arrest the successive operation of said windings, an electromagnet for actuating said relay switches, said magnet being responsive to the motor current.

[Claims 6 to 26 not printed in the Gazette.]

969,867. OILING DEVICE FOR STOCKS AND DIES. GUSTAV T. E. HENRIKSEN, Chicago, Ill. Filed Aug. 5, 1907. Serial No. 387,073.



1. An oiling device for a stock and die comprising a hollow handle connected with the stock, and adapted to contain a liquid, a reciprocating part within said handle and extending therealong, two guides in said hollow handle separated from each other, both having holes therein just large enough for the reciprocating part to pass therethrough said reciprocating part passing through both of said guides and fitting tightly therein so as to normally prevent the escape of the liquid through the guides, but free to reciprocate, the guides acting as confining parts between which the liquid is contained, a spring located in the space between said guides and surrounding a portion of said reciprocating part, one end of said spring engaging one of said guides, and the other end said reciprocating part and means for releasing a portion of said liquid by a longitudinal movement of said reciprocating part.

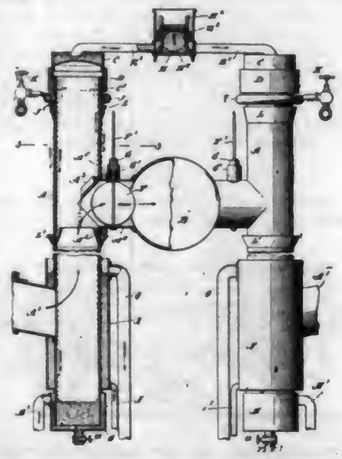
2. An oiling device for a stock and die comprising a hollow handle connected with the stock, and adapted to contain a liquid, a reciprocating part within said handle and extending therealong, two guides in said hollow handle separated from each other, said reciprocating part passing through both of said guides and fitting tightly therein so as to normally prevent the escape of the liquid through the guides, but free to reciprocate, the guides acting as confining parts between which the liquid is contained, and means for releasing a portion of said liquid by a longitudinal movement of said reciprocating part, and a compressing device for forcing the liquid out of said handle when the reciprocating device is moved comprising an enlargement on said reciprocating part in proximity to the guide through which the liquid escapes.

3. An oiling device for a stock and die comprising a hollow handle connected with the stock and adapted to contain oil, two guides at a distance from each other located within said hollow handle, a reciprocating part passing through both of said guides and fitting tightly therein so as to prevent the oil from escaping between the engaging faces of the guides and said reciprocating part, and means for releasing a portion of said oil when said reciprocating part is moved, said oil escaping through one of said guides, a chamber below the end of said hollow handle into which said oil is received, and a pipe at one side of said chamber connecting with said chamber near the back thereof, and having a curved end which discharges the oil at the point of use.

4. An oiling device for a stock and die comprising a hollow handle connected with the stock, two guides within said hollow handle forming between them a liquid chamber, a reciprocating part passing through both of said guides and projecting at each end beyond them, a spring associated with said reciprocating part and located between said guides and within the oil chamber, the opening through which the liquid escapes from said chamber being beyond said spring so that the liquid passes the spring before escaping from the chamber said spring adapted to move the reciprocating part to its initial position, and means for permitting the escape of the oil when the reciprocating part is moved.

5. An oiling device for a stock and die comprising a hollow handle connected with the stock and adapted to contain liquid, two guides in said hollow handle separated from each other and forming a liquid chamber between them, a reciprocating part passing through openings in said guides so as to fit tightly therein and prevent the escape of oil between the engaging faces of the reciprocating part and the guides, a passageway through said reciprocating part and communicating with the space between the guides and having its exit end opposite one of said guides so as to be closed thereby when the reciprocating part is in its normal position, means for moving said reciprocating part so that the exit end of said passageway moves beyond the guide to permit the escape of the liquid from the liquid chamber.

960,868. PROCESS OF TREATING BURNER-GASES. JOHN B. F. HERRESHOFF, New York, N. Y., assignor to General Chemical Company, New York, N. Y., a Corporation of New York. Filed Aug. 10, 1906. Serial No. 329,968.

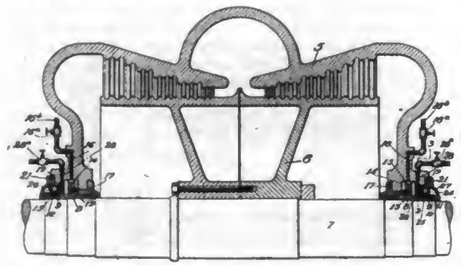


1. The process of treating burner gases, which consists in forming a continuous annular film or sheet containing sulfuric acid, and causing the gases to travel in the space surrounded by said film.

2. The process of treating burner gases, which consists in forming a continuous film or sheet containing sulfuric acid, causing the gases to travel in the space surrounded by the film, and cooling the film.

3. The process of treating burner gases, which consists in forming a continuous film or sheet containing sulfuric acid, causing the gases to travel in the space surrounded by said film, and passing a cooling medium around said film.

969,869. PACKING. FRANCIS HODGKINSON, Edgewood Park, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Feb. 13, 1909. Serial No. 477,633.



1. The combination of two parts, one of which is freely movable longitudinally with relation to the other, said parts having a space between them, a movable packing member in said space and means whereby said packing member will be caused to move into packing position.

2. The combination of two parts, one of which is freely movable longitudinally with relation to the other, said parts having a space between them, a movable packing member in said space and means for permitting said packing member to move out of packing position.

3. A motor having two parts, one of which is freely movable longitudinally with relation to the other, a packing ring and a water seal between said parts and means for releasing said packing ring from packing position when the water seal is established.

4. A motor comprising two parts, one of which is freely movable longitudinally with relation to the other, a packing ring and a water seal between said parts, a port for admitting water to the chamber of the water seal and means whereby the packing may be moved into or out of packing position.

5. The combination of a stator and a rotor having an annular chamber therebetween, a packing in the chamber movable longitudinally of the stator and the rotor, a water-seal chamber between the stator and rotor and means for admitting water to the water-seal chamber.

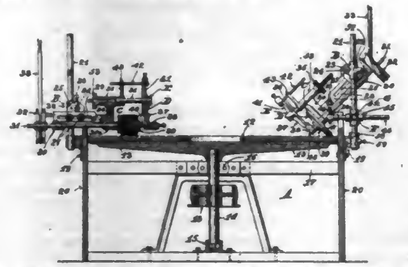
[Claims 6 and 7 not printed in the Gazette.]

969,870. SASH-FASTENER. HIRAM WALTER HOLMES, Oakville, Conn. Filed Jan. 20, 1910. Serial No. 539,087.



A lock of the character described comprising a lock casing having a cover, sliding bolts mounted in said casing having angular relative movement, an oscillatory actuating element pivotally mounted in said casing comprising a body and diverging arms integrally formed therewith, said arms having movable connection with the inner ends of said locking bolts, the body of said actuating element having a key receiving socket therein, a corrugated spring blade arranged within the casing engaged with said element and adapted to yieldingly hold the bolts against actuation, said cover plate having an arcuate slot above the socket in said actuating member and an opening adjacent to said slot, a key having lugs formed upon one end adapted to be received in said slot and opening, one of said lugs being disposed in the socket in the actuating member and adapted to move the same to slide the bolts when the key is turned.

969,871. APPARATUS FOR GRINDING AND POLISHING GLASS. AUGUST W. HORNIG, Chicago, Ill. Filed July 7, 1910. Serial No. 570,784.



1. In a machine for grinding the peripheries and beveling the edges of glass plates, an attachment to the rub-bed, comprising an upright post, a frame pivotally secured to said post, a shaft in said frame, said shaft carrying at one end a face-plate adapted to hold said glass plates, clamping-mechanism adapted to removably hold said glass plates to said face plate, means, independent of the means which rotate the rub-bed and directly connected to the shaft in said frame, adapted to slowly rotate said shaft, said means including a belt-driven pulley, and adjustable means adapted to limit the oscillatory movement of said pivoted frame to produce glass plates of uniform diameter, as described.

2. A machine for grinding the peripheries and beveling the edges of glass plates, adapted for use in connection with a rotating rub-bed, comprising a vertically disposed post, a double sleeve movably disposed upon said post, a plate pivoted in one member of said double sleeve, a frame secured to said plate, bearings on said frame, a rotatable shaft mounted in said bearings, a face-plate at the end of said shaft, a tubular socket on said frame, a screw-threaded rod movable in said socket, an arm at the outer end of said rod, an adjusting nut upon the screw-threaded portion of said rod, and a clamping disk mounted in the lower end of said arm and in axial line with said shaft.

3. A machine for grinding the peripheries and beveling the edges of glass plates, adapted for use in connection with a rotating rub-bed, comprising a vertically-disposed post, a double sleeve movably disposed upon said post, a plate pivoted in one member of said double sleeve, a frame adjustably secured to said plate, bearings on the lower edge of said frame, a rotating shaft mounted in said bearings, a pulley at one end of said shaft, a face-plate at the other end of said shaft, a tubular socket on said frame, a screw-threaded rod in said socket, an arm at the outer end of said rod, an adjusting nut upon the screw-threaded portion of said rod, a clamping disk mounted in the lower end of said arm and in axial line with said shaft, and means upon said post and adapted to coöperate with said frame to limit the downward movement of said frame.

4. The combination, with a vertically disposed post, of a double right-angled sleeve adjustably mounted upon said post, a plate, a shaft projecting from said plate and engaging one of the members of said double right-angled sleeves, a frame adjustably secured to said plate, bearings at the lower edge of said frame, an upwardly-projecting member on said frame, a tubular sleeve at the upper end of said upwardly-projecting member, a shaft in said bearings, a face-plate at the outer end of said shaft, a rod in said tubular sleeve, a downwardly projecting arm at the end of said rod, means adapted to draw said arm toward said frame, a clamping disk journaled in said arm and in axial line with said shaft, a stop on said frame, and means secured to said post and coöperating with said frame to limit the downward movement of said frame.

969,872. TROUSERS HANGER AND STRETCHER. LAURA GRANT HUNTER, Ewing, Ill., assignor of one-half to Wilhelmina A. M. Webb, Ewing, Ill. Filed Dec. 18, 1909. Serial No. 533,824.



1. A device of the class described consisting of a loop; a standard rising from the intermediate portion of the rear of the loop and provided at its upper end with a support engaging element; and a curved strip disposed substantially at right angles to the plane of the loop and secured at one end to the front of the loop and at the other end secured to the standard, the intermediate portion of the strip being arranged to project beyond the front portion of the loop.

2. A device of the class described consisting of a loop; a standard rising from the intermediate portion of the rear of the loop and provided at its upper end with a support engaging element; a curved strip provided with an eye and disposed substantially at right angles to the plane of the loop, the strip being secured at one end to the front of the loop and at the other end secured to the standard, the intermediate portion of the strip being arranged to project beyond the front portion of the loop; spaced stops extended across the loop upon either side of the eye and terminally secured to the loop; and a suspension device connected with the eye and disposed between the stops.

3. A device of the class described consisting of a loop having its ends united at the front of the loop to form an arcuate strip disposed at right angles to the plane of the loop and bent to extend beyond the front of the loop, the free end of the strip being carried upwardly at an angle to the loop adjacent the rear thereof, to form a standard, the end of which terminates in a support-engaging element; and a bipartite strip secured to the standard and having its constituent portions extended in spaced relation across the loop and secured to the front and rear portions thereof.

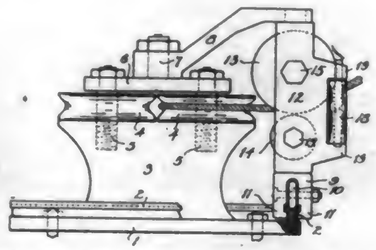
4. A device of the class described consisting of a loop having its ends united at the front of the loop to form an arcuate strip disposed substantially at right angles to the plane of the loop and bent to extend beyond the front of the loop, the free end of the strip being carried upwardly at an angle to the loop adjacent the rear thereof to form a standard, the end of which terminates in a support-engaging element; a bipartite strip secured to the standard and having its constituent portions extended in spaced relation across the loop to form stops, and secured to the front and rear portions thereof; the arcuate strip being bent upon itself to form an eye disposed above and between the stops; and a suspension device depending between the stops from the eye.

969,873. FAIR-LEADER. ARCHIE ISAAC, Tacoma, Wash. Filed July 26, 1909. Serial No. 509,496.

1. In a fairleader, the combination of a base; a pair of fixed horizontal sheaves rotatably mounted thereon; a carrier revolubly mounted about the central axis of the base and rotatable about an axis parallel with the said central axis; and a pair of vertical rotatable sheaves mounted in said carrier.

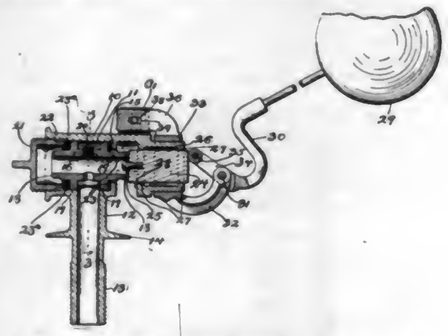
2. In a fairleader, the combination of a base; a pair of fixed horizontal sheaves rotatably mounted thereon; a circular rail formed on said base; a radius arm pivotally mounted above the horizontal sheaves, the axis of the pivot being coaxial with said circular rail; a carrier mounted between said rail and said radius arm and having rotatory motion therebetween and revoluble motion about the center of the radius arm and rail; and a pair of vertical rotatable sheaves mounted in said carrier.

3. In a fairleader, the combination of a base; a pair of fixed horizontal sheaves rotatably mounted thereon; a circular rail formed on said base; a radius arm pivotally mounted above the horizontal sheaves, the axis of the pivot being coaxial with said circular rail; a carrier mounted between said rail and said radius arm and having rotatory motion about a vertical axis therebetween and revoluble motion therewith; a pair of vertical rotatable sheaves mounted in said carrier; and a pair of horizontal rollers mounted on each side of and in front of said carrier.



4. In a fairleader, the combination of a base; a pair of fixed horizontal sheaves rotatably mounted thereon, a circular T-rail formed on said base; a radius arm pivotally mounted above the horizontal sheaves, the axis of the pivot being coaxial with said circular T-rail; a carriage engaging above and below the head of said T-rail and adapted to move to any position thereon; a carrier mounted between said carriage and said radius arm and having rotatory motion about a vertical axis therebetween and revoluble motion therewith; and a pair of vertical rotatable sheaves mounted in said carrier.

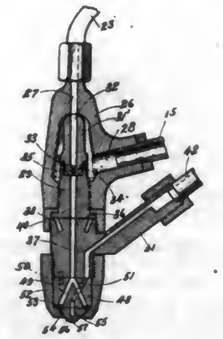
969,874. VALVE. JOHN F. JENNINGS, Cleveland, Ohio. Filed Dec. 20, 1907. Serial No. 407,273.



1. In a valve for flushing tanks the combination of a casing open at each end and provided with an inlet and an outlet port intermediate the said ends, said casing being provided with an interior annular flange between the inlet and outlet ports, a tubular member of less diameter than the interior diameter of the casing arranged within said casing so as to span said inlet opening, said tubular member being provided with a pair of spaced annular flanges of the same diameter as the interior diameter of the casing and with openings arranged between said flanges, a plug arranged to screw into one end of the valve casing and clamp said valve seat against the annular flange in said casing, a piston valve arranged to slide freely in the opposite end of said casing and extend beyond the end of said casing, a float operatively supported from said casing and means operatively connected with said float and adapted to come in contact with said valve and hold the same on the valve seat when the float is in its highest position.

2. In a valve for flushing tanks the combination of a casing open at each end and provided with an inlet and an outlet port intermediate the said ends, said casing being provided with an interior annular flange between the inlet and outlet ports, a removable tubular valve seat having a series of openings extending over the inlet and provided with a pair of spaced flanges intermediate the ends thereof, a plug arranged to screw into one end of the valve casing and clamp said valve seat against the annular flange in said casing, a piston valve arranged to slide freely in the opposite end of said casing and extend beyond the end of said casing, a collar slidably mounted on said casing, a lug formed on said casing adjacent to said collar, an arm secured to said collar and adjustably connected to said lug, a bracket arm secured to said collar, a float lever pivoted on said bracket and having its free end arranged to come in contact with said valve, a roller mounted on the end of said lever in contact with said valve and a float mounted on the opposite end of said lever substantially as described.

969,875. TORCH. CARL JOHNSON, Chicago, Ill. Filed Mar. 24, 1910. Serial No. 551,334.



1. In a device of the class described, an acetylene gas pipe, an enlarged chamber interposed in said pipe, and asbestos saturated with acetone in said chamber.

2. In a device of the class described, a fuel gas pipe, a hollow header connected thereto, multiple tubular chambers connected to the header, and means in said chamber for purifying the gas.

3. In a device of the class described, an acetylene gas pipe, a header connected thereto, a plurality of closely arranged tubular chambers connected to said header, asbestos saturated with acetone in said tubular chambers, and a valved inlet supply pipe connected by means of a header to the opposite end of the chambers.

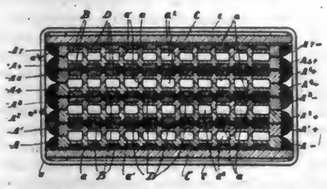
4. In a device of the class described, fuel gas and oxygen pipes lying side by side, a header connected to both said pipes, said header having a slot therein, a supplementary oxygen pipe having a laterally projecting arm adapted to enter said slot, and a set screw to engage said arm in the slot.

5. In a device of the class described, a head having a chamber therein, a plug adapted to be screwed into said head, a flange on the plug within the head, said flange having radial perforations therethrough, and an inner block adapted to fit within said flange and having an axial duct therein.

[Claims 6 to 11 not printed in the Gazette.]

969,876. SECONDARY BATTERY. GUSTAVUS J. JOHNSON, Chicago, Ill. Filed Mar. 28, 1910. Serial No. 551,987.

1. A plate for supporting active material in contact with the conductor of the electrodes of an electric battery, said plate having a surface permeable to the electrolyte and for the reception and retention of said active material, and having its edges impervious to the electrolyte and electrically non-conducting.



2. A plate for supporting active material in contact with the conductor of the electrodes of an electric battery, said plate having a surface permeable to the electrolyte and for the reception and retention of said active material, and having its edges beveled and impervious to the electrolyte and electrically non-conducting.

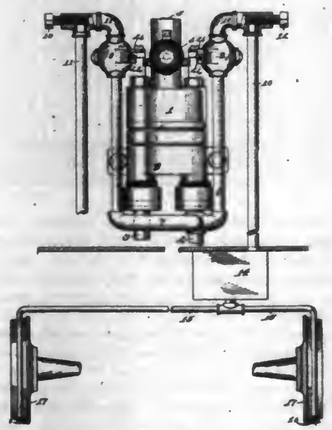
3. A plate for supporting active material in contact with the conductor of the electrodes of an electric battery, said plate having a surface permeable to the electrolyte and for the reception and retention of said active material, and having ribs on its opposite surface, and having its edges impervious to the electrolyte and electrically non-conducting.

4. A voltaic couple for a storage battery composed of a pair of compound elements, each of the elements composed of one or more pairs of porous plates having acid-resisting and electrically non-conducting edges, electrodes having their edges exposed to the free action of the electrolyte, the plates provided with the active material of the battery and having channels for the electrolyte.

5. A voltaic couple for a storage battery composed of a pair of compound elements, each of the elements composed of one or more pairs of porous plates, the adjacent plates of the elements having acid-resisting and electrically non-conducting edges, electrodes having their edges exposed to the free action of the electrolyte, the plates provided on one face with the active material of the battery and having channels on the opposite face for the electrolyte.

[Claims 6 to 8 not printed in the Gazette.]

969,877. AIR-BRAKE SYSTEM. OSCAR JOHNSON, Chicago, Ill. Filed Apr. 4, 1910. Serial No. 553,421.



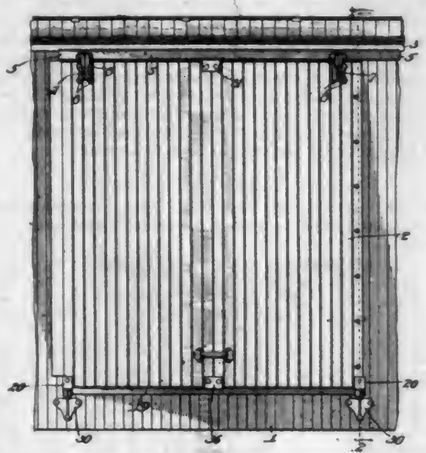
1. In an air brake system, the combination with an air valve having an operating lever, of a supplemental valve located in operative relation with said handle; a sand box; operative connections between said supplemental valve and said sand box; a rotatable handle on said lever; and a lug on said handle adapted to cause operation of said supplemental valve upon operation of said lever, substantially as described.

2. In an air brake system, the combination with an air valve having an operating lever, of a supplemental valve located in operative relation with said handle; a sand box; operative connections between said supplemental valve and said sand box; a rotatable handle on said lever; a lug on said handle adapted to cause operation of said supplemental valve upon operation of said lever; and a stop on said lever adapted to limit the rotation of said handle at operative position, substantially as described.

3. In an air brake system, the combination with an air valve having an operating lever, of a supplemental valve located in operative relation with said lever at either end of its stroke; a sand box; operative connections between one of said supplemental valves and said sand box; an operative connection for the other supplemental valve; a rotatable handle on said lever; and a lug on said handle adapted to cause operation of one of said supplemental valves upon operation of said lever in either direction, substantially as described.

4. In an air brake system, the combination with an air valve having an operating lever, of a supplemental valve located in operative relation with said lever at either end of its stroke; a sand box; operative connections between one of said supplemental valves and said sand box; an operative connection for the other supplemental valve, a rotatable handle on said lever; a lug on said handle adapted to cause operation of one of said supplemental valves upon operation of said lever in either direction; and a stop on said lever adapted to limit the rotation of said handle at operative position, substantially as described.

969,878. CAR-DOOR. BELDEN D. JONES, Chicago, Ill. Filed Jan. 19, 1910. Serial No. 538,866.



1. The combination with a car body provided with a car door opening, of a door adapted to be moved across said opening, a track member secured to the car body, a supporting bracket connected to the door, a track wheel carried by the bracket and riding in said track member, an angle iron mounted upon the upper edge of the door and having its vertical member extending upwardly into a recess formed between the track member and car body, and means for securing said angle iron to the door only at points adjacent the ends whereby the central portion of the door is free to warp without affecting the normal position of said angle iron.

2. The combination with a car body having a door opening, of a closed door adapted to be moved across said opening, a track member secured to the car body, a supporting bracket connected to the door, a track wheel mounted in said bracket and riding in said member, an angle iron extending over the upper edge of said door and having its vertical member projecting upwardly at the rear edge of the door, means for securing the said vertical member to the door only at points adjacent the ends of the latter whereby the warping of the intermediate portions of the door does not affect the normal position of said angle iron.

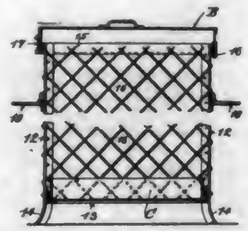
3. The combination with a car body having a door opening, of a wooden door adapted to be moved across said opening, a track member secured to the car body, supporting brackets connected to the door, track wheels carried by said brackets and riding in said track member, said track member forming in conjunction with the face of the car body a longitudinally extending recess, an angle iron mounted upon the upper edge of said door and having its vertical member extending into said recess, brackets secured to the inner face of said door and connected to the opposite ends of said vertical flange whereby the warping of the intermediate portions of said door does not affect the normal position of said angle iron.

4. The combination with a car body provided with a car door opening, of a substantially closed door adapted to be moved across said opening, a track member secured to the car body, supporting brackets carried by the door, track wheels mounted in said brackets and riding in said track member, an angle iron mounted upon the upper edge of the door and having its vertical member extending upwardly into a longitudinally extending recess, brackets carried by the door and connected to the angle iron only at points adjacent the ends of the latter whereby the central portion of the door is free to warp without affecting the normal position of said angle iron.

5. The combination with a car body having a door opening, of a door adapted to be moved across said opening, a track member, wheel carried by the door and riding in said track member, brackets secured to the lower edge of the door at either end of the latter, an angle iron extending along the lower edge of said door, and having its ends seated in said brackets, locking lugs carried by said brackets and confining members secured to the car body, and adapted to receive said lugs when the door is in closed position.

[Claim 6 not printed in the Gazette.]

969,879. TRASH RECEPTACLE AND CREMATORY. SELMA KARLSON, Chicago, Ill. Filed May 13, 1910. Serial No. 561,120.



1. A rectangular trash receptacle and crematory, comprising, in combination, vertically disposed corner angle bars, lower angle bars connecting said corner angle bars above the lower ends of the latter, said lower angle bars having one of their limbs inwardly disposed to afford shelving, the vertical limbs of said lower angle bars affording means for attachment of filling wires, a pan removably disposed upon said inwardly disposed limbs, upper angle bars connecting said corner angle bars at their upper ends, a cover hingedly secured to one of said upper angle bars, a catch adapted to lock said cover in closed condition, said upper angle bars having one limb outwardly disposed to afford a ledge, said cover being adapted to be carried upon said ledge in closed condition, and filling wires, said filling wires being attached to the limbs of the vertical corner bars and the horizontally disposed members of said upper and lower bars.

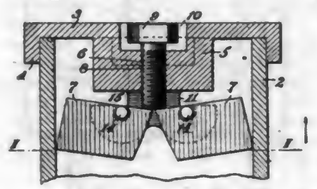
2. A rectangular trash receptacle and crematory, comprising, in combination, vertically disposed angle bars, lower angle bars connecting said corner angle bars above the lower end of the latter, said lower angle bars having one of their limbs inwardly disposed to afford shelving, the vertical limbs of said lower angle bars affording means for attachment of filling wires, a pan removably disposed upon said inwardly disposed limbs, an upper bar connecting said corner angle bars at their upper ends, a cover hingedly secured to said upper bar, a catch on said upper bar adapted to lock said cover in closed condition, and filling wires, said filling wires being attached to the limbs of the vertical corner angle bars and to the upper and lower connecting bars.

969,880. WRENCH. WILLIAM G. KELLER, Avon, N. Y. Filed Nov. 30, 1907. Serial No. 404,602.



A wrench comprising a handle, an inclined finger gripping jaw forming a part of the latter, a shank slidingly carried by said handle, an inclined finger gripping jaw forming a part of the shank, means for adjusting and holding said shank, the corresponding ends of said jaws being capable of adjustment to and from one another, an adjustable socket projecting from one side of the wrench thus formed, wings forming a part of said jaws and located in rear of the receiving end of the socket, said wings having engaging edges remote from the fingered ends of said jaws, the flat inner surfaces of said wings forming the base of the socket, the terminal reduced gripping ends of said jaws being adapted to grip a bolt adjacent to the head portion thereof with the latter located within the socket and out of contact with the wings thus formed.

969,881. COMBINED CLOSURE AND LOCKING MEANS. WILLIAM H. KLEMM, Pittsburg, Pa. Filed Mar. 15, 1910. Serial No. 549,477.

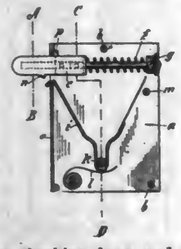


1. The combination with a cap or closure having a depending member formed with a threaded opening and with open pin-bearings, of locking members each provided with a projecting pin loosely and detachably mounted in the open pin-bearings, and a threaded bolt in engagement with the locking-members and coacting with the depending member for moving the locking-members.

2. The combination with a cap or closure having a depending member formed with a threaded opening and having its lower portion divided to form two spaced-members each having two curved open pin-bearings, of locking-members each provided with a projecting pin loosely and detachably mounted in the pin-bearings, and a threaded bolt directly in engagement with the locking-members and coacting with the depending member for moving the locking-members.

3. The combination with a cap or closure having a depending member formed with a threaded opening and its lower portion divided to form two spaced-members, each of the spaced-members formed with an open seat, of a locking-member movable between the space-members and having a pin projecting from two faces thereof and located in the open seats of the respective spaced-members, and a threaded bolt in engagement with the locking-member and coacting with the depending member for moving the locking-member.

969,882. DOOR AND THE LIKE CHECKING DEVICE. KARL KRAMP, Wusseken, near Borntuchen, Germany. Filed Feb. 23, 1910. Serial No. 545,469.



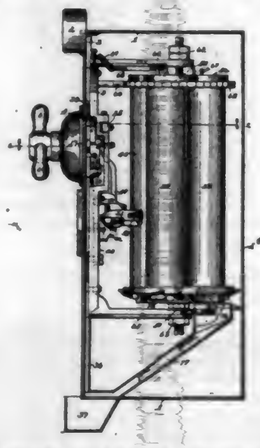
1. A device for checking doors and the like, comprising a buffer slidably arranged in the door-casing, a spring normally out of engagement with said buffer, and a lever adapted, when the door is forcibly closed, to be actuated by the draft created by such closing so as to turn the spring into engagement with the buffer, the latter then forming a resilient abutment for the door, substantially as and for the purpose set forth.

2. A device for checking doors and the like, comprising a buffer slidably guided between two plates mounted in the door-casing, a helical spring tending to hold the buffer in projecting position so as to be depressed by the door when closed, a lug on the lower side of the buffer, a lever pivoted between the front edges of the plates and adapted to be pressed inward by the draft created when the door is forcibly closed, a V-shaped spring slidably guided on a transverse bolt and pressed against the same by a lock-spring, one member of the V-shaped spring being weak and bearing against a stay-bolt, the other member bearing against said lever so as to be turned by the same, when the latter is actuated by the draft, into engagement with the lug on the buffer, the latter then forming a resilient abutment for the door, substantially as and for the purpose set forth.

969,883. VENDING-MACHINE. JOSEF KRIZ and FRANK SCHORIK, Chicago, Ill.; said Kriz assignor to said Schorik. Filed Feb. 7, 1910. Serial No. 542,584.

1. In a vending machine, the combination with a rotatable member provided with a coin chute having a notch in one side adapted to admit a dog to contact with a coin therein; an adjustable spring held pawl carried by said member and adapted to retain a coin in said chute opposite said notch; a stop adapted to contact with said pawl to release said coin upon rotation of said member; a spring held dog pivoted to a stationary support and adapted to enter said notch to lock said member against rotation but to release said member when riding on a coin held in said chute; a delivery chute registering with said coin chute when said member is in inoperative position; a retaining receptacle adapted to receive a coin from said coin chute when released by said pawl; and vending mechanism adapted to be operated by rotation of said member, substantially as described.

2. In a vending machine, the combination with a rotatable member provided with a coin chute having a notch in one side adapted to admit a dog to contact with a coin therein; an adjustable spring held pawl carried by said member and adapted to retain a coin in said chute opposite said notch; a stop adapted to contact with said pawl to release said coin upon rotation of said member; a spring held dog pivoted to a stationary support and adapted to enter said notch, the said dog being provided with a locking surface adapted to engage a side of said notch when no coin is in said chute but to disengage said side when riding on a coin in said chute; a delivery chute registering with said coin chute when said member is in inoperative position; a retaining receptacle adapted to receive coins from said coin chute when released by said pawl; and vending mechanism adapted to be operated by rotation of said member, substantially as described.

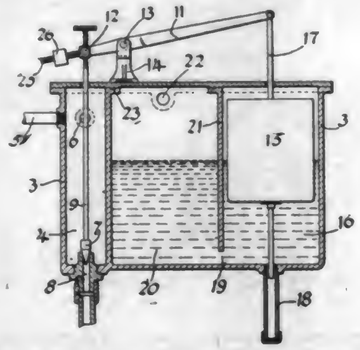


3. In a vending machine, the combination with a rotatable member provided with a coin chute having a notch in one side adapted to admit a dog to contact with a coin therein; an adjustable spring held pawl carried by said member and adapted to retain a coin in said chute opposite said notch; a stop adapted to contact with said pawl to release said coin upon rotation of said member; a spring held dog pivoted to a stationary support and adapted to enter said notch, to lock said member against rotation but to release said member when riding on a coin held in said chute; a delivery chute registering with said coin chute when said member is in inoperative position; a retaining receptacle adapted to receive coins from said coin chute when released by said pawl; a receiving chute registering with said coin chute when said member is in inoperative position; a secondary delivery chute communicating with said receiving chute and with said delivery chute; a magnet arranged to divert a magnetic slug from said receiving chute to said secondary delivery chute; and vending mechanism adapted to be operated by rotation of said member, substantially as described.

4. In a vending machine, the combination with a rotatable member provided with a coin chute having a notch in one side adapted to admit a dog to contact with a coin therein; an adjustable spring held pawl carried by said member and adapted to retain a coin in said chute opposite said notch; a stop adapted to contact with said pawl to release said coin upon rotation of said member; a spring held dog pivoted to a stationary support and adapted to enter said notch, the said dog being provided with a locking surface adapted to engage a side of said notch when no coin is in said chute but to disengage said side when riding on a coin in said chute; a delivery chute registering with said coin chute when said member is in inoperative position; a retaining receptacle adapted to receive coins from said coin chute when released by said pawl; a receiving chute registering with said coin chute when said member is in inoperative position; a secondary delivery chute communicating with said receiving chute and with said delivery chute; a magnet arranged to divert a magnetic slug from said receiving chute to said secondary delivery chute; a stop member on said rotatable member arranged to stop said receiving chute during rotation of said member, the said stop member being adapted to deliver a coin held in said receiving chute to said coin chute upon the inoperative rotation of said member; and vending mechanism adapted to be operated by rotation of said member, substantially as described.

5. In a vending machine, the combination with a rotatable member provided with a coin chute having a notch in one side adapted to admit a dog to contact with a coin therein; an adjustable spring held pawl carried by said member and adapted to retain a coin in said chute opposite said notch; a stop adapted to contact with said pawl to release said coin upon rotation of said member, a spring held dog pivoted to a stationary support and adapted to enter said notch, the said dog being provided with a locking surface adapted to engage a side of said notch when no coin is in said chute but to disengage said side when riding on a coin in said chute; a delivery chute registering with said coin chute when said member is in inoperative position; a retaining receptacle adapted to receive coins from said coin chute when released by said pawl, a receiving chute registering with said coin chute when said member is in inoperative position; a secondary delivery chute communicating with said receiving chute and with said delivery chute; a magnet arranged to divert a magnetic slug from said receiving chute to said secondary delivery chute; a stop member on said rotatable member arranged to stop said receiving chute during rotation of said member, the said stop member being adapted to deliver a coin held in said receiving chute to said coin chute upon the inoperative rotation of said member; a spring held stop in said delivery chute adapted to retain a coin therein; a transparent plate set in the wall of said delivery chute in front of a coin retained therein; an operative projection on said member adapted to contact with a coin resting on the top of said retained coin to force the former past the latter on the inoperative movement of said member; and vending mechanism adapted to be operated by rotation of said member, substantially as described.

969,884. GAS-PRODUCER REGULATING-VALVE. HENRY I. LEA, Pittsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Feb. 14, 1907. Serial No. 357,241.



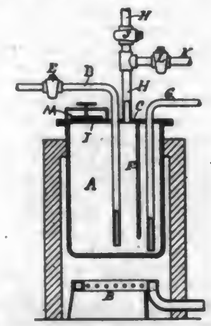
1. A device for controlling the volume of a gas or liquid passing a given orifice in accordance with variations in existing fluid pressure, comprising a delivery orifice, a valve controlling the delivery therethrough, a pressure chamber, a float chamber communicating therewith, a float located within said float chamber and responsive to variations of pressure within said pressure chamber, a lever between said float and said chamber for actuating said valve and a counterbalancing weight, carried by said lever, for controlling the operation of said valve.

2. A device for controlling the volume of a gas or liquid passing a given orifice in accordance with variations in fluid pressure, comprising a delivery orifice, a valve controlling the delivery therethrough, a pressure chamber subjected to variations of fluid pressure, a float chamber communicating therewith, a float located within said chamber and responsive to variations of pressure in said pressure chamber, a lever between said float and said valve for actuating said valve and means, carried by said lever, for controlling the operation of said float and for varying the adjustment of said valve.

3. A device of the character described comprising a liquid chamber, an orifice provided in said chamber, a valve controlling the delivery through said orifice and means for maintaining a constant head of liquid over said orifice, in combination with a pressure chamber subjected to varying degrees of pressure, a float chamber communicating therewith, a float located within said float chamber and responsive to variations of pressure in said pressure chamber and a lever, connected to said float, for operating said valve.

4. In a device of the class described, a pressure chamber, a float chamber communicating therewith, a liquid chamber independent of the pressure and float chambers and having inlet and outlet openings, a valve for the outlet opening of the liquid chamber, a float in the float chamber and connecting means between the float and valve, said float being responsive to variations in the pressure chamber to seat or unseat said valve.

969,885. PROCESS OF MAKING SODIUM CYANID. OTTO LIEBKNECHT, Frankfort-on-the-Main, Germany, assignor to The Roessler & Hasslacher Chemical Co., New York, N. Y., a Corporation of New York. Filed Feb. 28, 1910. Serial No. 546,489.



1. A process of making sodium cyanid from metallic sodium consisting in passing vapors of trimethylamin into highly heated molten sodium.

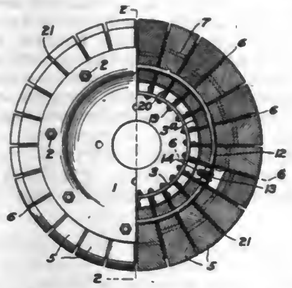
2. A process of making sodium cyanid from metallic sodium consisting in passing vapors of trimethylamin into highly heated molten sodium and freeing the resulting sodium cyanid from carbon.

3. A process of making sodium cyanid from metallic sodium consisting in passing vapors of trimethylamin into highly heated molten sodium in the presence of ammonia.

969,886. WHEEL. JOHN C. LIGHTHOUSE, Rochester, N. Y. Filed Mar. 30, 1907. Serial No. 365,596.

1. The combination of separable plates, together constituting a tire socket having a groove at the bottom thereof; tire sections fitting in said socket and groove, each having a plate extending into said socket and groove and a tire block attached to said plate and projecting from said socket; and means for forcibly contracting the set of tire sections against each other and toward the center of the wheel.

2. The combination of separable plates, together constituting a tire socket having a groove at the bottom thereof, radial ribs on the plates in said socket; tire sections fitting in said socket and groove, each having a plate extending into said socket and groove and a tire block attached to said plate and projecting from said socket; and means for fastening a series of said sections to each other.



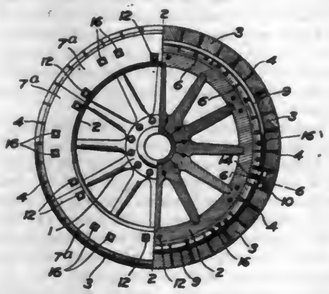
3. The combination of separable plates, together constituting a tire socket having a groove at the bottom thereof, which is reduced in dimensions at the point of connection with said socket portion; tire sections fitting in said socket and groove, each having a plate adapted to fit in said socket and groove and a tire block attached to said plate and projecting from said socket; and means for forcibly contracting the set of tire sections against each other and toward the center of the wheel.

4. The combination of separable plates, together constituting a tire socket having a T-shaped groove at the bottom thereof; tire sections each having a plate provided with a T-shaped head, and fitting in said socket and groove and a tire block attached to said plate; and means for forcibly contracting the set of tire sections against each other and toward the center of the wheel.

5. The combination of separable plates, together constituting a tire socket having a groove at the bottom thereof; tire sections fitting in said socket and groove, each having a plate extending into said socket and groove and a tire block attached to said plate and projecting from said socket; a circular rod passing through said sections; and means for tightening said rod for forcibly contracting the set of tire sections against each other and toward the center of the wheel.

[Claims 6 to 8 not printed in the Gazette.]

969,887. WHEEL. JOHN C. LIGHTHOUSE, Rochester, N. Y. Filed May 7, 1907. Serial No. 372,447.

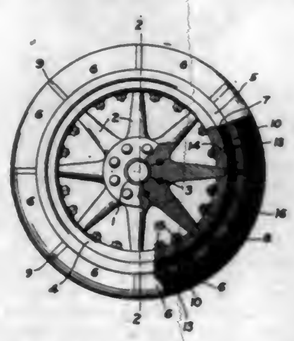


1. A wheel, having a circumferentially-divided wheel rim comprising removable, oppositely-placed plates that in position form a circumferential T-shaped socket; a series of tire block holders having heads fitting in said T-shaped socket; tire blocks attached to said holders; and means for fastening said plates to the wheel for retaining said tire block holders thereon.

2. A wheel, having a circumferentially-divided wheel rim comprising removable, oppositely-placed plates that in position form a circumferential T-shaped socket; tire block holders having heads fitting in said socket, and each consisting of metallic plates forming sockets for one or more tire blocks; tire blocks fastened in said holders; and means for fastening said plates to the rim for retaining said tire block holders thereon.

3. A wheel, having a circumferentially-divided wheel rim comprising removable, oppositely-placed plates that in position form a circumferential T-shaped socket; tire block holders having heads fitting in said socket; tire blocks attached to said holders; and an annular fastening piece passing through said tire block holders and adapted to be contracted to hold the same together and to the rim.

969,888. WHEEL AND TIRE. JOHN C. LIGHTHOUSE, Rochester, N. Y. Filed Feb. 7, 1908. Serial No. 414,794.



1. A wheel having a rim and a tire consisting of a series of abutting segments, each attached to the rim and consisting of a bottom holder having upturned ends, an outer flexible shoe having its bottom part in said holder, a block in said shoe, means for retaining the shoe between the block and the holder, and a compressible filling between the top of the block and the shoe.

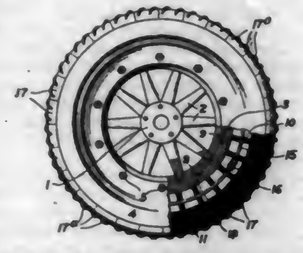
2. A wheel having a rim and a tire consisting of a series of segments, each attached to the rim and consisting of a bottom holder, an outer flexible shoe having its bottom in said holder and having end portions adapted to overlap the ends of adjacent shoes, a block in said shoe, a compressible filling between the top of the block and the shoe, and means for holding the block and shoe in the holder.

3. A wheel having a rim and a tire consisting of abutting segments, each attached to the rim and consisting of a bottom holder, an outer shoe having its bottom in said holder, a block in said shoe, a compressible filling piece between the top of the block and the holder and having end portions adapted to overlap the end portions of the filling of adjacent segments, and means for holding the shoe and block in the holder.

4. A wheel having a rim and a tire consisting of abutting segments, each attached to the rim and consisting of a bottom holder, an outer shoe having its bottom in said holder, and having end portions adapted to overlap the ends of adjacent shoes, a block in said shoe, a compressible filling piece between the top of the block and the holder and having end portions adapted to overlap the end portions of the filling of adjacent segments, and means for holding the shoe and block in the holder.

5. A wheel having a rim and a tire consisting of a series of abutting segments, each consisting of a bottom holder having upturned ends, an outer flexible shoe having its bottom part in said holder, a block in said shoe, one or more rods passing through the block and into the ends of the holder, a compressible filling between the top of the block and the shoe, and means for fastening the holder to the rim.

969,889. SECTIONAL WHEEL-TIRE. JOHN C. LIGHTHOUSE, Rochester, N. Y. Filed Nov. 18, 1908. Serial No. 463,297.



1. A wheel; side plates projecting peripherally therefrom and forming a peripheral groove and removable on one side; tread block holders in said groove each holder having hooked end portions; tread blocks in said holders having rigid plates embedded therein provided with edges adapted to be engaged by said hooked portions; and means for drawing said hooked end portions and the tread blocks toward the center of the wheel.

2. A wheel; side plates projecting peripherally therefrom and forming a peripheral groove and removable on one side; perforated tread block holders in said groove each holder having hooked end portions; tread blocks in said holders having rigid plates embedded therein provided with edges adapted to be engaged by said hooked portions; and an expanding and contracting ring passing through the perforations of the holders for drawing the hooked portions and the tread blocks toward the center of the wheel.

3. A wheel; side plates projecting peripherally therefrom and forming a peripheral groove and removable on one side; tread block holders in said groove each holder having hooked end portions; tread blocks in said holders having rigid plates embedded therein provided with edges adapted to be engaged by said hooked portions; and interlocking means between the side plates and the tread block holders.

4. A wheel; side plates projecting peripherally therefrom and forming a peripheral groove and removable on one side; perforated tread block holders in said groove each holder having hooked end portions; tread blocks in said holders having rigid plates embedded therein provided with edges adapted to be engaged by said hooked portions; an expanding and contracting ring passing through the perforations of the holders for drawing the hooked portions and the tread blocks toward the center of the wheel; and interlocking means between the side plates and the tread block holders.

5. A wheel; side plates projecting peripherally therefrom and forming a peripheral groove and removable on one side; tread block holders in said groove each holder consisting of hooked end plates and a bottom plate between said end plates; tread blocks in said holders having rigid plates embedded therein and adapted to slide transversely under said hooked end plates; and means for drawing said hooked plates and bottom plates toward the center of the wheel.

[Claims 6 to 9 not printed in the Gazette.]

969,890. WHEEL-TIRE. JOHN C. LIGHTHOUSE, Rochester, N. Y. Filed Nov. 18, 1908. Serial No. 463,298.

1. A wheel; side plates projecting peripherally therefrom and forming a groove between them and removable on one side; a series of tire sections in said groove; and means for pivoting each tire section to the wheel on a circumferential axis, whereby, after removal of said one side, each tire section is rotatable on its pivotal axis.

2. A wheel; side plates projecting peripherally therefrom and forming a groove between them and removable on one side; a series of tire sections in said groove having circumferentially arranged perforations; and a circumferential rod passing through said perforations for pivoting each tire section to the wheel on a circumferential axis, whereby, after removal of said one side, each tire section is rotatable on its pivotal axis.



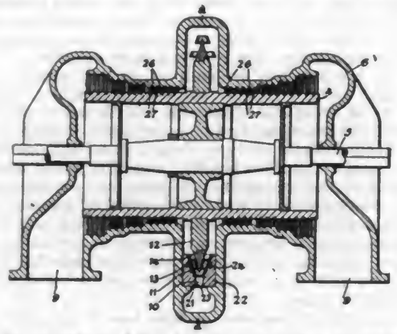
3. A wheel; side plates projecting peripherally therefrom and forming a groove between them and removable on one side; a series of tire sections in said groove having circumferentially arranged perforations; a circumferential rod passing through said perforations; and means for expanding and contracting said rod, whereby each tire section is pivoted to the wheel on a circumferential axis, and, after removal of said one side, is rotatable on its pivotal axis.

4. A wheel; side plates projecting peripherally therefrom and forming a groove between them and removable on one side, and provided with means for interlocking with tire sections; a series of tire sections in said groove provided with means for interlocking with said side plates; and means for pivoting each tire section to the wheel on a circumferential axis, whereby, after removal of said one side, each tire section is rotatable on its pivotal axis.

5. In combination with a wheel, a plurality of tire sections, each comprising a tread holder, a removable tread block therein and means for securing the tread block in the tread holder, and means for pivoting the tire sections circumferentially and end to end upon the wheel, said means having provision for independent pivotal movement of each tire section to one side of its normal position to facilitate the removal of the tread block therefrom.

[Claims 6 to 11 not printed in the Gazette.]

969,891. ELASTIC-FLUID TURBINE. WILLIAM JAMES ALBERT LONDON, Manchester, England, assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Apr. 13, 1906. Serial No. 311,481.



1. In an elastic fluid turbine, a plurality of inwardly discharging nozzles, a row of blades adjacent thereto and receiving fluid therefrom, means for dividing the fluid discharged from said blades into two streams, two rows of stationary vanes adapted to receive the fluid discharged from said blades, two rows of impulse blades adapted to receive the motive fluid delivered by said vanes and a series of alternate rows of blades and vanes at either side of said nozzles and communicating with said impulse blades.

2. In an elastic fluid turbine, a rotor element comprising a shank portion, a blade integrally formed therewith and mounted at one end of said shank portion and two blades integrally formed and located at either side of said shank portion.

3. In an elastic fluid turbine, a rotor element comprising a shank portion provided with three integrally formed blades.

4. In an elastic fluid turbine, a rotor element provided with a plurality of rows of blades, in combination with a nozzle block formed in separate sections, located at each side of said rotor element and provided with a plurality of rows of directing vanes, and means whereby the separate sections coöperate to form a row of fluid nozzles.

5. In an elastic fluid turbine, a blade carrying element comprising a shank portion, a plurality of blades integrally formed therewith, and an extending portion at the free ends of said blades.

[Claims 6 to 12 not printed in the Gazette.]

969,892. COMMUTATOR BAR AND LEAD. CHARLES E. LORD, Milwaukee, Wis., assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Dec. 21, 1908. Serial No. 468,625.



1. The combination with a commutator bar having grooves and an aperture communicating therewith, of a connector passing through said aperture and setting in said grooves.

2. The combination of a commutator bar having grooves and an aperture communicating therewith and provided with an integral lug in one of said grooves, with a connector provided with an opening into which said lug projects, said lug being upset or expanded, riveting said connector to said bar.

3. The combination of a commutator bar having grooves and an aperture communicating therewith and provided with an integral lug in one of said grooves, and a connector passing through the aperture and setting in said grooves, the connector being provided with an opening, into which said lug projects and in which said lug is expanded to rivet the bar and connector together.

4. A commutator bar having grooves and an aperture communicating therewith, said grooves being on opposite sides of said bar.

5. The combination of a commutator bar having grooves and an aperture communicating therewith, a connector passing through said aperture and setting in said grooves forming a loop, and means for clamping said connector together beyond said loop.

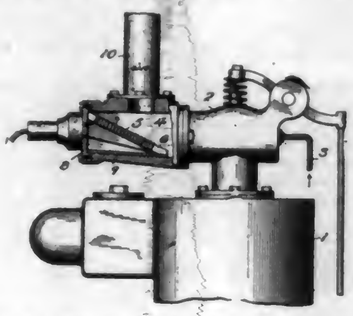
[Claim 6 not printed in the Gazette.]

969,893. VAPORIZING DEVICE. ABBOT A. LOW, Horseshoe, and MAURICE J. WOHL and HARRY HERTZBERG, New York, N. Y., assignors to said Abbot A. Low. Filed June 16, 1908. Serial No. 438,787.

1. In an explosive engine, a vaporizing chamber, a vaporizing coil having a flat side positioned in said vaporizing chamber, the plane of said flat side being inclined to the direction in which the fluid is injected, means for injecting the fluid to be vaporized into said chamber and against the flat side of said coil, and means for heating said coil.

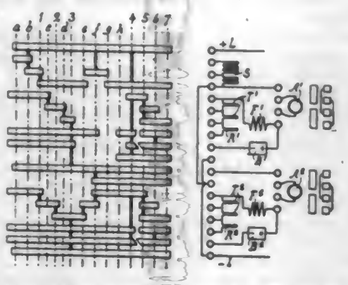
2. In an explosive engine, a vaporizing chamber, a coil support having a flat side positioned in said vaporizing chamber, the plane of said flat side being inclined to the direction in which the fluid is injected, a vaporizing coil positioned on said support with the turns traversing said flat side transversely to the direction of inclination there-

of, means for injecting the fluid to be vaporized into said chamber and against the flat side of said support and coil, and means for heating said coil.



3. In an explosive engine, a vaporizing chamber, a vaporizer comprising a flat support positioned diagonally in the vaporizing chamber, a heating coil positioned on said support with the turns projecting above the surface thereof in such a manner that the incoming stream of fluid to be vaporized flows successively over the turns of the coil, and means for passing a current through said coil for heating the same.

969,894. METHOD OF AND MEANS FOR CONTROLLING REGENERATIVE ELECTRIC MOTORS. ROBERT LUNDELL, New York, N. Y. Filed Dec. 21, 1909. Serial No. 534,302.



1. The method of operating a plurality of series motors arranged to drive a common load, which consists in connecting the motors to the line with each motor field in series with its armature, impressing independent and practically constant voltages upon the several field circuits and regulating the field excitation by varying the ohmic resistances of the said field circuits.

2. The method of operating a plurality of series motors arranged to drive a common load, which consists in connecting the motors to the line with each motor field in series with its armature, supplying independent currents of excitation to the several field circuits and varying the amounts of said currents by varying the ohmic resistances of the said field circuits.

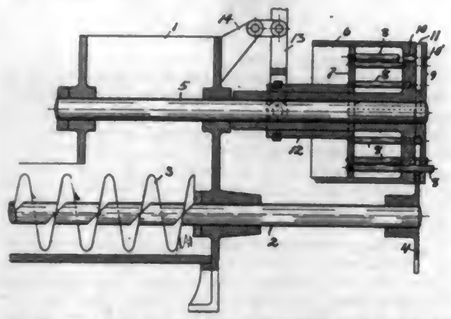
3. The method of operating a plurality of series motors arranged to drive a common load, which consists in connecting the motors to the line first in series and then in parallel, impressing independent and practically constant voltages upon the several field circuits and regulating the field excitation by varying the ohmic resistances of the said field circuits.

4. The method of regulating two or more series motors having their field circuits connected with independent sources of current supply, which consists in connecting the motors in series and in parallel and in changing the field strength so that it is practically independent of the armature currrent at the lowest speed combinations but dependent upon said armature current at the highest speed combinations.

5. The combination of a line circuit or main source of current supply, a series motor, a regulating resistance or resistances connected in series with the field winding of the motor, and an independent source of E. M. F. connected in shunt to both the field winding and the said regulating resistance or resistances for the purpose described.

[Claims 6 to 9 not printed in the Gazette.]

969,895. VARIABLE-FEED GEARING. ARTHUR H. C. MEYER, Fort Wayne, Ind. Filed Nov. 1, 1909. Serial No. 525,776.



1. A mechanical movement comprising a revoluble driven member; a driving member; a disk in adjustable relation with the driving member, the latter having an annular series of holes in its end; an annular series of pins extending from the disk and adapted to project through the corresponding holes in the driving member upon adjustment of the disk, said pins being of different lengths; and means to shift the disk.

2. A mechanical movement comprising a revoluble driven member; a driving member; an annular series of pins in adjustable relation with the driving member, said pins being of different lengths and adapted to be projected through the end of the driving member and into engagement with the driven member and actuate the same upon rotation of the driving member; and means to adjust the pins.

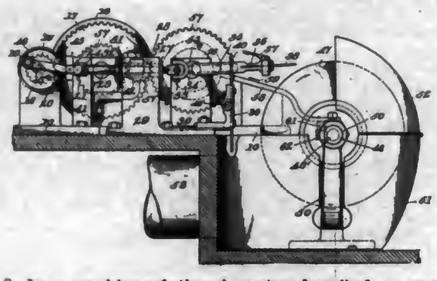
3. A mechanical movement comprising a revoluble driving member; a star wheel; an annular series of adjustable pins in connection with the driving member adapted to be shifted successively into engagement with the star wheel and actuate the same upon rotation of the driving member; and means to shift the pins.

4. In a mechanical movement, a driving member comprising a pulley having a radial flange adjacent thereto, the end of the pulley having an annular series of holes therein and the flange having a like series of holes correspondingly opposite those in the pulley; an annular series of adjustable pins in connection with the pulley adapted to be projected successively through the corresponding holes respectively; a star wheel suitably mounted and with a portion thereof extending between said pulley and flange and being adapted to become engaged and actuated by the pins when the latter are projected through the holes and upon rotation of the pulley; and means to shift the pins.

969,896. AWL-GRINDING MACHINE. WILLIAM B. MORSE, Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Aug. 22, 1905. Serial No. 275,286.

1. In a machine of the character described, a work-holder, mechanism for reciprocating said holder, and means for rotating said work-holder through a predetermined series of angles during its movement.

2. In a machine of the character described, a work-holder, means for reciprocating said holder, and means for automatically rotating the same through a series of varying angles during its reciprocation.



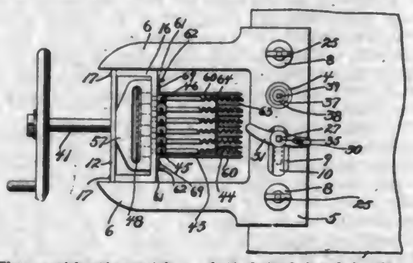
3. In a machine of the character described, a work-holder, mechanism for reciprocating said holder, and means for rotating the same through a series of varying angles in prearranged order during its reciprocation.

4. In a machine of the character described, a grinding surface, a work-holder, mechanism for reciprocating said holder, means for effecting a relative movement therebetween, and means for rotating said holder through a series of varying angles during said reciprocation.

5. In a machine of the character described, a grinding surface, a work-holder, means for effecting a relative reciprocatory movement therebetween, and means for automatically rotating said holder through a series of varying angles during said movement.

[Claims 6 to 22 not printed in the Gazette.]

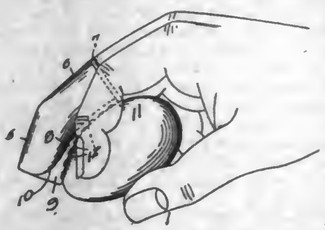
969,897. LOCK-MORTISER. LUKE MOSELY NEW, Waco, Tex. Filed Feb. 23, 1909. Serial No. 479,415.



The combination with a slotted tool head having two oppositely positioned slotted arms with guide ways, of clamping screws carried by said head, a housing having guide flanges working in said guide ways, the top portion of said housing having a central aperture while the lower portion has six openings in a row, a bit within each of said openings, a stop collar secured to each of said bits to limit the movement in one direction, a pinion secured to each bit to limit the movement in an opposite direction, a guide plate secured within said housing, having a bearing opening for each bit stem, said plate held upon said pinion, four arbors carried by said plate disposed in sets of two upon opposite sides of said pinion, meshing gears carried upon said arbors, one gear of each set meshing with two intermediate pinions, an operating stem held within said central aperture, an internal master gear upon said stem in mesh with the outermost pinions and gears, and a bit casement secured to the underface of said housing having extending cutting blades, each of said bits being positioned between two blades, as and for the purpose set forth.

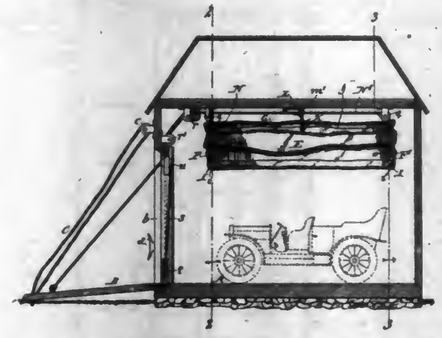
969,898. EGG-STAMP. DANIEL ORTIZ, Port Townsend, Wash. Filed May 11, 1910. Serial No. 560,734.

An egg stamp comprising a finger stall, a longitudinal thickened rib carried by the finger stall, and having printing characters upon its outer surface, said rib having a triangular portion at its forward end, said triangular portion having its inner face formed to conform to the shape of the ball of the human finger, and a spring



ring carried by the open end of the finger stall, said rib at its rearward end resting against the spring ring.

969,899. PROTECTOR FOR AUTOMOBILES, &c. SUSAN C. PARTINGTON, Buffalo, N. Y. Filed Jan. 18, 1909. Serial No. 472,837.



1. A protector for vehicles comprising a house having a doorway for the entrance and exit of a vehicle, a door pivoted at its lower end to the sill of the doorway to swing in a vertical plane, a cover movable over or away from the vehicle space; and means for causing said door to move said cover into and out of its operative position.

2. A protector for vehicles comprising a house having a doorway for the entrance and exit of a vehicle, a door pivoted at its lower end to the sill of the doorway to swing in a vertical plane, a cover movable over or away from the vehicle space, and means for causing said door to move said cover into and out of its operative position comprising flexible members operatively connecting the cover with the free end of the door, and guides over which said members pass.

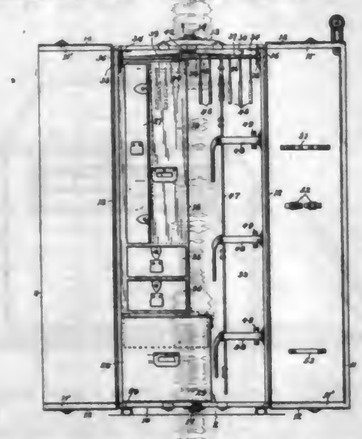
3. A protector for vehicles comprising a house having a doorway for the entrance and exit of a vehicle, a door pivoted at its lower end to the sill of the door to swing in a vertical plane, a flexible cover adapted to be lowered and raised into its operative and inoperative position, and means for causing the door to raise said cover as the door opens and to lower the cover as the door closes comprising lifting ropes secured to the lower parts of the cover at the corners thereof and passing loosely through openings in the upper part thereof, guides over which said lifting ropes pass, shifting ropes each connecting a pair of lifting ropes on the same side of the cover with the free end of the door, and guides which are arranged at the bottom and top of said doorway and over which said shifting ropes pass.

4. A protector for vehicles comprising a flexible cover which is closed at the top and open at the bottom, means for raising and lowering said cover relatively to the vehicle, and means limiting the downward movement of the cover comprising a cross bar secured transversely to the central upper part of the cover and provided at its opposite ends with eyes, and flexible hangers secured at

their lower ends to said eyes and attached at their upper ends to stationary supports.

5. A protector for vehicles comprising a flexible cover which is closed at the top and open at the bottom, and means for raising and lowering said cover relatively to the vehicle comprising lower longitudinal bars secured to the opposite sides of the lower part of the cover and each provided at opposite ends with eyes, upper longitudinal bars secured to the opposite sides of the upper part of the cover and each provided at opposite ends with eyes, and lifting ropes each secured to one of the eyes of one of the lower bars and passing loosely through one of the eyes of one of the upper bars, a transverse cross bar secured centrally in the upper part of the cover and provided at opposite ends with eyes, and flexible hangers secured at their lower ends to the eyes of said central bar and attached at their upper ends to a support.

969,900. TRUNK. CYRUS H. PAXTON, Oshkosh, Wis. Filed Apr. 9, 1908. Serial No. 426,002.



1. A trunk, comprising a trunk body having an open front side provided with a door, a tray positioned within and adjacent to one side of the trunk body, a compartment having a side opening formed in one side of the tray, tongue members connected to said tray, other tongue members having a hinged connection with the first mentioned tongue members, grooved guiding members connected to the inner side of the trunk body and in which the tongue members slide, and stops whereby the tray is limited in its sliding movement to a position permitting said tray to be swung in a direction at an angle to its sliding movement to move the open side of the compartment to a position of convenient accessibility.

2. A trunk, comprising a trunk body having an open front side provided with a door, a carrier rod positioned within the trunk body and extending transversely across the upper portion thereof, a tray positioned within the trunk body and having a sliding and a swinging connection therewith, and means for locking the tray to the carrier rod.

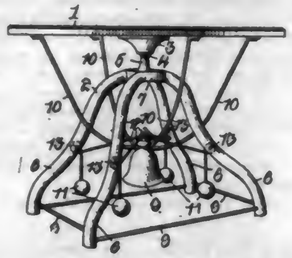
3. A trunk, comprising a trunk body having an open front side provided with a door, a carrier rod positioned within the trunk body and extending transversely across the upper portion thereof, a tray positioned within the trunk body and having a sliding and a swinging connection therewith, and a locking member provided with a recess connected to the tray and positioned to engage the carrier rod when the tray is moved into the trunk.

4. A trunk, comprising a trunk body having an open front side provided with a door, a carrier rod positioned within the trunk body and extending transversely across the upper portion thereof, a tray positioned within the trunk body and having a sliding and a swinging connection therewith, and a hinged locking member provided with a recess connected to the tray and positioned to be swung upwardly to engage the carrier rod when the tray is moved into the trunk.

5. A trunk, comprising a trunk body having an open front side provided with a door, a carrier rod positioned within the trunk body and extending transversely across the upper portion thereof, a tray positioned within the trunk body, tongue members connected to the tray, other tongue members having a hinged connection with the first mentioned tongue members, grooved guiding members connected to the inner side of the trunk body and in which the tongue members slide, and a locking member provided with a recess connected to the tray and positioned to engage the carrier rod when the tray is moved into the trunk.

[Claims 6 and 7 not printed in the Gazette.]

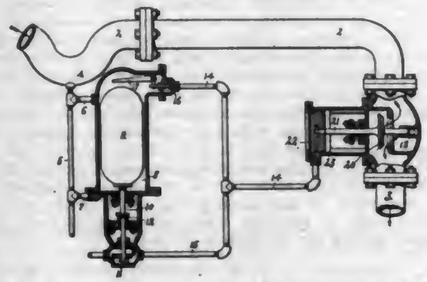
969,901. TABLE. WENZEL PELISHEK, Kewaunee, Wis. Filed May 21, 1910. Serial No. 562,668.



1. A table of the character set forth comprising a support, a top, a centrally arranged ball and socket connection between said parts, a weight suspended from the top to maintain the same in horizontal position, guides on the support, flexible elements engaged with said guides and connected to said weight, and supplemental weights on the free ends of said elements.

2. A table of the character described, a base having inwardly and upwardly inclined supporting legs, a top, a centrally arranged ball and socket connection between the base and top, rods extending downwardly and inwardly from the top and arranged between the legs of the base, a main weight suspended from said rods, guides upon said legs, flexible elements engaged with said guides and connected to said weight, and supplemental weights suspended by the free ends of said elements.

969,902. PRIMING CHECK-VALVE. JOSEPH A. H. PROVOST, Van Anda, Texada Island, British Columbia, Canada. Filed Nov. 15, 1909. Serial No. 528,061.



1. As an anti-priming device, the combination with a check valve adapted to be seated against the flow of steam to the engine, of means for closing that valve said means being operative by an excess of water in the steam pipe.

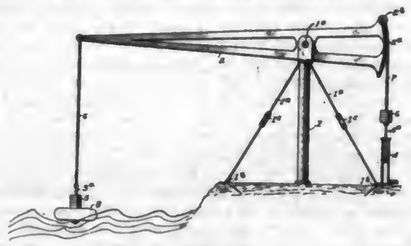
2. In a device of the class described, a check valve in a steam pipe said valve adapted to be seated against the flow of steam to the engine, a chamber connected to the under side of the steam pipe on the boiler side of the check valve, a float in that chamber, and means whereby the movement of the float will admit steam to close the check valve.

3. In a device of the class described, the combination with a check valve in a steam pipe adjacent to the engine said valve being seated against the flow of steam, means for draining the water from the under side of the steam pipe adjacent to the engine, a chamber into which any surplus drain water is free to flow, a float in said chamber, a passage connecting the upper end of the float chamber to a cylinder the piston of which closes the check valve, means for closing said passage when the float is at the upper limit of its movement, an exhaust pipe from the cylinder in which is a valve which is held open by the float when at the lower limit of its movement, and a means for closing said valve when the float is lifted off its stem.

4. In a device of the class described, the combination with a check valve situated in a steam pipe adjacent to an engine and seated against the flow of steam, a piston endwise movable in a cylinder and controlling the movement of said check valve, means for draining water from the steam pipe, means for connecting this drain pipe to a chamber that will receive any excess over what the drain pipe can carry away, a float endwise movable in said chamber which float normally holds open a valve controlling the exhaust from the cylinder the piston of which controls the steam pipe check valve, means for connecting the upper end of the float chamber to the steam pipe, means for connecting the upper end of the float chamber to the cylinder the piston of which controls the check valve, and means for closing this connecting pipe when the float rises to the upper limit of its movement.

5. In a device of the class described, the combination with a steam pipe that delivers steam from a boiler to an engine, a check valve located in said steam pipe adjacent to the engine and adapted to seat against the flow of steam, a cylinder, a piston endwise movable in said cylinder for controlling the closing movement of said check valve, said steam pipe including a trap bend, a drain pipe for draining water from said bend, a chamber, means for connecting said drain pipe with said chamber whereby said chamber will receive any excess over what said drain pipe can carry away, a float movable in said chamber, a valve normally held open by said float for controlling the exhaust from the cylinder the piston of which controls the steam pipe check valve, means for connecting the upper end of the float chamber with the steam pipe, means for connecting the upper end of the float chamber to the cylinder the piston of which controls the check valve, means for closing this connecting means when the float rises to the upper limit of its movement, substantially as shown and described.

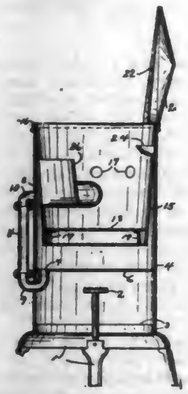
969,903. WAVE-MOTOR. WILLIAM L. RAHT, San Diego, Cal. Filed Feb. 21, 1910. Serial No. 545,191.



1. A wave motor, comprising a main supporting post mounted upon the shore, provided with a plurality of adjustable guy wires, a fulcrum piece mounted on said post, a lever pivotally mounted on said fulcrum piece, one end of said lever extending over the water and being of greater length than the inward extending end, a cable attached to the long end, a float attached to said cable, detachable weights adapted to change the weight of said float, a cable attached to the upper portion of the short end of said lever, an air or water pump in connection with said cable, detachable weights adapted to operate said pump piston in one direction and a service pipe in connection with said pump all substantially as set forth.

2. A wave motor, comprising, a main supporting post, guy wires to said post, turn-buckles in said guy wires all substantially anchored on the shore near the water's edge, a lever with extending ends pivotally mounted on said posts, the longer end extending over said water, a cable mounted on said extended end, a float adapted to float in the water, provided with an eye-bolt and with detachable weights attached to the lower extended end of said cable, the inner and short end of said lever provided with a segment concentric with its pivot point, a cable attached to the upper portion of said segment and to its lower extended end, a pump piston, a pump cylinder in connection with said piston, detachable weights in connection with said piston and a service pipe from said pump all substantially as set forth.

969,904. TOWEL-STERILIZER. JOSEPH P. REARDON, Cleveland, Ohio. Filed Jan. 15, 1906. Serial No. 472,426.



1. In a sterilizer a water chamber, means for heating the water therein, a receptacle removably mounted in said water chamber and provided with an imperforate bottom and having a series of perforations near the top thereof, a cover for closing the top of said receptacle and a division wall extending from side to side of the receptacle and spaced a distance above said bottom of said receptacle and a distance below the cover of said receptacle, for the purpose set forth.

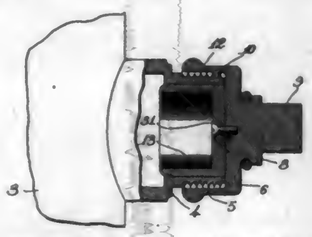
2. In a sterilizer, a water chamber, means for heating the water therein, a receptacle provided with perforations supported in said water chamber, a condensing plate arranged across the top of said receptacle and provided with a double series of corrugations, one series of corrugations being arranged on either side of the vertical center line of said plate when said plate is in a vertical position and being inclined downwardly toward said center line, for the purpose set forth.

3. In a sterilizer the combination of a casing provided with a water chamber, means for heating said chamber, a towel receptacle removably arranged within said water chamber and provided with a series of openings near the top thereof, a cover for said receptacle, a plate arranged on the under side of said cover and provided with drainage channels for the condensed water and a cup mounted on the inside of said receptacle for catching the water from said plate when the cover is lifted and returning it to the water chamber.

4. A sterilizer comprising a casing having a water chamber and a heating chamber, a burner arranged within the heating chamber, a reflector mounted in proximity to said

opening on the outside thereof, a gage arranged for indicating the height of water in said water chamber, a receptacle arranged within the water chamber and provided with a series of perforations near the top thereof, a support arranged in the lower part of the last-named receptacle a distance above the bottom thereof, a cover for said receptacle, an inclined plate secured on the inside of said cover and provided with drainage channels and a cup mounted on the inside of said receptacle for receiving the water from the drainage channels when the cover is lifted and returning the same to the water chamber.

969,905. CAP FOR HYDRANTS. WILLIAM S. REED, Leominster, Mass. Filed Dec. 12, 1908. Serial No. 467,224.



1. The combination with a screw-threaded nipple, of a cap therefor having adjacent the open end thereof a cylindrical portion separated from but overlying and protecting the screw-threads of the nipple, and also having on its interior adjacent its closed end locking means to hold said cap in place, said locking means being constructed to be released from the nipple by a partial turn of the cap.

2. The combination with a screw-threaded nipple, of a cap therefor having on its interior locking means to interlock with the nipple for holding said cap in place, said locking means being constructed to be released from the nipple by a partial turn of the cap, said cap also having a centering device of a size to fit the interior of the nipple and situated to center the nipple when the cap is applied thereto.

3. The combination with a screw-threaded nipple, of a cap therefor having adjacent the open end thereof a cylindrical portion separated from but overlying and protecting the screw-threads of the nipple, and also having on its interior locking means to engage the nipple for holding said cap in place, said cap being provided with a portion to receive a wrench, and said locking means being constructed to be released from the nipple by a partial turn of the wrench-receiving portion of the cap.

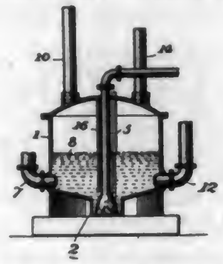
4. A hydrant cap having an annular flange to set over the nipple of a hydrant and protect the screw threads thereof, and also having an inner longitudinally-extending portion adapted to enter the nipple when the cap is in place, and a lock for locking the cap to the nipple, said lock being sustained by the cap and situated between said flange and the inner longitudinally-extending portion.

5. The combination with a nipple having exterior screw threads, of a cap therefor provided with an exterior flange to set over the nipple and protect the screw threads, and also provided with an inner centering portion to enter the nipple when the cap is placed thereon, said centering portion being detachable from the cap.

[Claim 6 not printed in the Gazette.]

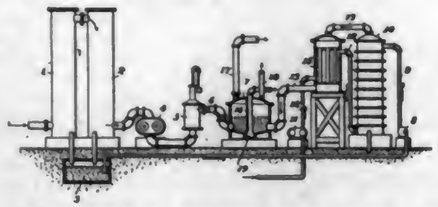
969,906. AMMONIA-SATURATOR. JAN ADOLF ROELOFSEN, Middlesbrough, England, assignor to The Actiengesellschaft fuer Kohlendestillation, Dusseldorf, Germany, a Corporation of Germany. Filed Apr. 19, 1910. Serial No. 556,401.

1. A saturation vessel for the production of solid salts from gases, having a diaphragm depending from the upper wall into the contained liquid and dividing the vessel into two compartments which are united at the bottom, and an inlet pipe and an outlet pipe in each compartment, said inlet pipes terminating below the surface of the liquid.



2. A saturation vessel for the production of solid salts from gases, provided with a pocket in the bottom and having a diaphragm depending from the upper wall into the contained liquid, dividing the vessel into two compartments which are united at the bottom, and an inlet pipe and an outlet pipe in each compartment, said inlet pipes terminating below the surface of the liquid.

969,907. METHOD OF RECOVERING AMMONIA FROM COAL-GASES AND THE LIKE. JAN ADOLF ROELOFSEN, Middlesbrough, England, assignor to The Actiengesellschaft fuer Kohlendestillation, Dusseldorf, Germany, a Corporation of Germany. Filed Apr. 19, 1910. Serial No. 556,402.



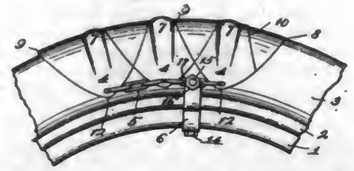
1. The method of recovering ammonium salts from gases of carbonization, which comprises cooling the gases to separate therefrom the tarry matters and condensing the aqueous vapor containing most of the combined ammoniacal products and a portion of the free ammonia, distilling said ammoniacal condensate, simultaneously introducing said gases and the vapors of distillation independently into a single acid solution of ammonium salts, and separately leading off the gases of carbonization and the noxious gaseous components of the vapors of distillation emerging from said solution.

2. The method of recovering ammonium salts from gases of carbonization, which comprises cooling the gases to separate therefrom the tarry matters and condensing the aqueous vapor containing most of the fixed ammoniacal compounds and a portion of the volatile ammoniacal compounds, introducing hot neutral gases which do not permanently combine with ammonia, into a mixture of the ammoniacal condensate obtained in the cooling of the gases, with an alkali, for the purpose of liberating the ammonia therefrom and conducting the resulting ammoniacal gas mixture to a saturation bath.

3. The method of recovering ammonium salts from gases of carbonization, which comprises cooling the gases to separate therefrom an ammoniacal condensate comprising the tarry matters and condensing the aqueous vapor containing most of the fixed ammoniacal compounds and a portion of the volatile ammoniacal compounds, introducing hot neutral gases which do not permanently combine with ammonia, into a mixture of said ammoniacal condensate with an alkali, for the purpose of liberating the ammonia therefrom, simultaneously introducing said gases and the vapors of distillation independently into a single acid solution of ammonium salts, and separately leading off the gases of carbonization and the noxious gaseous components of the vapors of distillation emerging from said solution.

4. The method of recovering ammonium salts from gases which comprises the superheating of the vapors obtained from the distillation of ammoniacal condensate by indirect application of heat from hot neutral gases, and conducting the superheated vapors thus formed into an acid solution of ammonium salts for the purpose of preventing condensation of said vapors and maintaining the concentration of said acid solution so that solid ammonium salts will separate therefrom.

969,908. PNEUMATIC-TIRE PROTECTOR. EDWIN RUSSELL, Kansas City, Kans. Filed July 22, 1909. Serial No. 508,951.

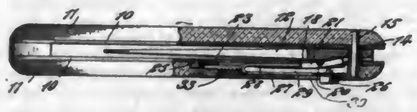


1. A protector for tires, comprising, in combination, a series of shells substantially diamond shaped and having their longitudinal end portions of reduced thickness and having upraised corrugations centrally dividing said reduced thickness, said shells overlapping one another to the extent of said reduced portions, the overlapping portions constituting the longitudinal apexes of the diamond shaped shells, flexible means connecting the transverse ends of said shells to cause them to assume an arcuate curvature, and yoke means supplied at intervals to yoke the protector to a wheel.

2. A protector for tires, comprising, in combination, a series of diamond shaped shells having their longitudinal end portions of reduced thickness, said shells overlapping one another to the extent of said reduced portions and the apex of each shell approaching the transverse diameters of the adjacent shells, link connections joining the transverse ends of said shells to conform them to a circle, and spaced yokes located at intervals around said circle and pivotally secured to said link connections.

3. A protector for tires, comprising, in combination, a series of shells substantially diamond shaped and having their longitudinal end portions of reduced thickness, said shells overlapping one another to the extent of said reduced portions, link connections joining the transverse ends of said shells to conform them to a circle, and spaced yokes located at intervals around said circle and pivotally secured to said link connections, said yokes comprising U-shaped straps adapted to engage around the inner periphery of a wheel felly and having its ends outturned to form pivot-members to engage certain of said link connections.

969,909. POCKET-KNIFE. JACOB LOUIS SCHRADE and WILLIAM SCHRADE, Walden, N. Y. Filed Aug. 14, 1909. Serial No. 512,779.



1. In a pocket-knife having automatic blade-opening means and recesses in the shank of the blade, a locking-lever bar pivotally mounted at a point between its ends whereby it is adapted at one end to enter said recesses, a locking-spring normally engaging said lever to hold it in its locking position, and a longitudinally slidable push-button for releasing said lever from the blade; substantially as set forth.

2. In a pocket-knife having automatic blade-opening means and recesses in the shank of the blade, a locking-lever bar pivotally mounted at a point between its ends whereby it is adapted at one end to enter said recesses, a locking-spring normally engaging said lever to hold it in its locking position, and a longitudinally slidable push-button for releasing said lever from the blade, the lining of the knife-handle having openings in it separated by a bar to receive said locking-lever, which is fulcrumed on said bar; substantially as set forth.

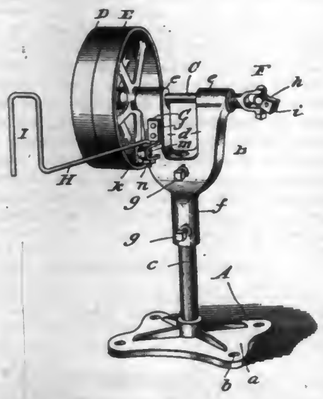
3. In a pocket-knife having automatic blade-opening means and recesses in the shank of the blade, a locking-lever bar pivotally mounted at a point between its ends whereby it is adapted at one end to enter said recesses, a locking-spring normally engaging said lever to hold it in its locking position, and a longitudinally slidable push-button for releasing said lever from the blade, the lining of the knife-handle having openings in it separated by a bar to receive said locking-lever, which is recessed to receive and seat on said bar; substantially as set forth.

4. In a pocket-knife having automatic blade-opening means and recesses in the shank of the blade, a locking-lever bar pivotally mounted at a point between its ends whereby it is adapted at one end to enter said recesses, a locking-spring normally engaging said lever to hold it in its locking position, and a longitudinally slidable push-button for releasing said lever from the blade, the lining of the knife-handle having openings in it separated by a bar to receive said locking lever which is recessed to receive and seat on said bar and slightly curved to dip through said lining; substantially as set forth.

5. In a pocket-knife having automatic blade-opening means and recesses in the shank of the blade, a locking-lever bar pivotally mounted at a point between its ends whereby it is adapted at one end to enter said recesses, a locking-spring normally engaging said lever to hold it in its locking position, and a longitudinally slidable push-button for releasing said lever from the blade, said locking-spring being a bar-spring fastened at one end and at its other end bearing against the locking-end of said lever and having an opening in it to permit the push-button to act against said lever to release it from the blade; substantially as set forth.

[Claims 6 to 16 not printed in the Gazette.]

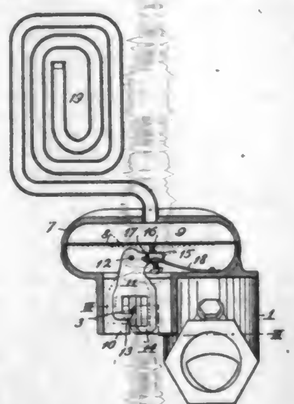
969,910. MOTION-TRANSMITTING DEVICE. DAVID E. SELDERS, Van Orin, Ill. Filed Jan. 29, 1910. Serial No. 540,886.



A device for the purpose described, comprising a lower frame-member having a base plate and an upright, of circular form in cross-section, on the base plate, an upper frame-member having a sleeve adjustable vertically and adapted to turn on the upright of the lower member, means for adjustably fixing the sleeve of the upper member to the upright of the lower member, a shaft journaled

in the upper frame member, fast and loose pulleys on said shaft, a universal joint on the shaft at one end thereof, a bracket fixed to the upper frame member and having a resilient loop, a belt-shifting lever having an angular stem journaled in the opposite portions of said loop, and a nut threaded on said stem and bearing against one of the said portions of the resilient loop.

969,911. AUTOMATIC CUT-OFF VALVE. JESSE C. SMITH, Kansas City, Mo. Filed Aug. 18, 1908. Serial No. 449,078.



1. An automatic cut-off valve, comprising, in combination, a valve having an oscillatory arm, a housing carried upon the valve casing, a diaphragm extending across the interior of said housing and forming an expansion chamber therein, and means adapted to engage said arm for holding said valve whereby upon automatic release from one position, said means automatically and simultaneously interposes itself in position to catch the valve in a second position, said holding means being adapted to be contacted by said diaphragm to operate said holding means.

2. An automatic cut-off valve, comprising, in combination, a valve having an oscillatory arm, a housing carried upon the valve casing, a diaphragm extending across the interior of said housing and forming an expansion chamber therein, and a device adapted to intercept said arm in its oscillations to hold the latter in one of a plurality of positions, said device consisting of arm supporting fingers, and a diaphragm contacting element.

3. An automatic cut-off valve, comprising, in combination, a valve having an oscillatory arm, a housing carried upon the valve casing, a diaphragm extending across the interior of said housing and forming an expansion chamber therein, and means adapted to engage said arm for holding said arm in one of a plurality of positions, said arm engaging means comprising a pivoted yoke having spaced fingers adapted to intercept said arm in succession, and an element in connection with said yoke for contacting said diaphragm.

969,912. SHUTTLE FOR LOOMS. ISAAC SNOW and GEORGE STUBBINGS, Lawrence, Mass. Filed June 17, 1909. Serial No. 502,717.



1. In a shuttle of the character described having a transverse circular passage connected with the interior of the shuttle and extending through the head to the outer surface and a passage extending from said transverse passage to the upper surface of the head, a thread-guide comprising a barrel circular in cross section and fitting in said circular passage, said barrel being provided with a port opening into the interior of the shuttle and registering with the inner end of the passage which extends to the outer surface of the head, and said barrel being further provided with two reversely formed and disposed sets of teeth, the teeth in one set being provided at their outer ends with substantially radial extensions or necks supporting and integral with a raised rib whereby longitudinal spaces or openings are formed beteween said raised rib and the periphery of the barrel, and the teeth in the other set extending into notches between the teeth in the first named set and corresponding approximately in shape to said notches and being formed on their inner surfaces on a true circle corresponding with the circle of the inner surface of the barrel and having their outer surfaces ground down toward the ends of the teeth whereby said surfaces toward the ends of the teeth are located within and at a distance from the line of the outer surface of the barrel but outside the line of the inner surface of the barrel; for the purpose of providing space for the passage of the thread between said rib and the barrel over the teeth provided with the ground surfaces into the interior of the barrel and under the teeth which are provided with said necks for supporting the rib.

2. A shuttle thread-guide comprising a barrel circular in cross section and adapted to be placed in a correspondingly shaped passage in the head of a shuttle provided with a passage extending from the circular passage to the exterior of the head, said barrel being provided with a port adapted to connect with both of said passages, and said barrel being further provided with two reversely formed and disposed sets of teeth, the teeth in one set being provided at their outer ends with substantially radial extensions or necks supporting and integral with a raised rib whereby longitudinal spaces or openings are formed between said raised rib and the periphery of the barrel, and the teeth in the other set extending into notches between the teeth in the first named set and corresponding approximately in shape to said notches and being formed on their inner surfaces on a true circle corresponding with the circle of the inner surface of the barrel and having their outer surfaces ground down toward the ends of the teeth whereby said surfaces toward the ends of the teeth are located within and at a distance from the line of the outer surface of the barrel but outside the line of the inner surface of the barrel; for the purpose of providing space for the passage of the thread between said rib and the barrel over the teeth provided with the ground surfaces into the interior of the barrel and under the teeth which are provided with said necks for supporting the rib.

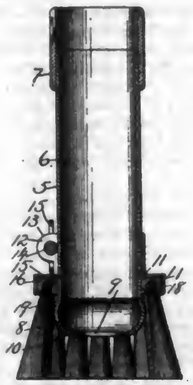
969,913. CLEANING-TOOL. IRA H. SPENCER, Hartford, Conn., assignor to The Spencer Turbine Cleaner Company, Hartford, Conn., a Corporation of Connecticut. Filed Jan. 27, 1908. Serial No. 412,711.

1. A handle having an intake opening and means for attachment of a hose, a brush movably supported upon the handle, and means for holding the brush upon the handle with the working face of the brush above the plane of the intake opening.

2. A tubular handle having an intake opening at its end and means for attachment of a hose at the opposite end, a clamp sleeve slidable along the handle, means for clamping the sleeve, and a brush secured to the sleeve.

3. A tubular handle having an intake opening at its end and means for attachment of a hose at the opposite end, a clamp sleeve slidable along the handle and having a recessed head at its end, a brush located within said recess and arranged to surround said intake opening, and means for clamping the brush in position on the handle.

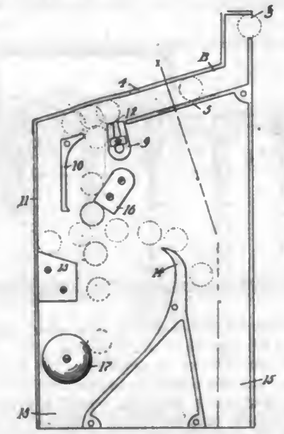
4. A tubular handle having means for attachment of a hose at one end and an enlargement forming a cleaning tip with an intake opening at the opposite end, a clamp sleeve slidably mounted upon the handle, a brush secured to said sleeve and arranged to surround said intake opening, and means for clamping the sleeve in position.



5. A tubular handle having means for attachment of a hose at one end and an enlargement forming a cleaning tip with an intake opening at the opposite end, a sleeve split lengthwise and slidably mounted upon said handle, means for compressing the sleeve to clamp it upon the handle, a recessed head formed upon the sleeve, and a brush secured within said recess and arranged to surround said cleaning tip.

[Claims 6 and 7 not printed in the Gazette.]

969,914. COIN-CONTROLLED APPARATUS. JOSEPH M. SPINDLER, Shakopee, Minn. Filed Sept. 17, 1908. Serial No. 453,458.

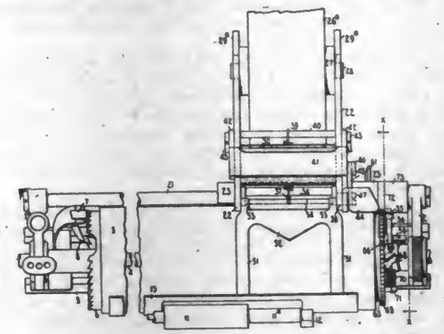


1. In an apparatus of the class described, the combination with a coin chute, a buffer arranged in the path of the coin passing through said chute and in position to hurl the coin laterally with reference to the path of descent, the path through which normal weight coins are laterally hurled by said buffer being unobstructed by any deflecting means, a discharge passage alongside said buffer, and means for deflecting coins passing above said lateral path of travel downwardly through said discharge passage.

2. In an apparatus of the class described, the combination of a coin chute, means arranged in the path of travel of a coin passing through said chute to hurl the coin laterally with reference to the path of descent, and an unyielding buffer block for downwardly deflecting a coin being hurled above a predetermined point and separate means for downwardly deflecting a coin being hurled below a predetermined point.

3. In an apparatus of the class described, the combination of a coin chute, a buffer block 13, an interspaced wall 14 whereby normal weight coins are deflected by said buffer block over said wall and a buffer 16 arranged intermediate of and above said buffer 13 and wall for deflecting coins passing above a predetermined point downwardly between said buffer block 13 and wall.

969,915. TYPE-WRITING MACHINE. HERBERT H. STEELE, Marcellus, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Mar. 12, 1910. Serial No. 548,994.



1. In a typewriting machine, the combination of a platen, releasable paper feeding devices, tally strip mechanism, and means connected therewith for preventing said paper feeding devices from being released.

2. In a typewriting machine, the combination of a platen, paper feeding devices, a release key connected therewith, tally strip mechanism, and means connected with said tally strip mechanism for locking and unlocking said release key.

3. In a typewriting machine, the combination of a platen, releasable paper feeding devices normally operative, releasable tally feeding devices normally inoperative, and means connected with said tally feeding devices and normally preventing said paper feeding devices from being released.

4. In a typewriting machine, the combination of a platen, a feed roller normally coöperative therewith, a separate tally feed roller coöperative with the platen but normally inoperative, a release key for said normally coöperative feed roller, and means connected with said tally feed roller for normally locking said release key.

5. In a typewriting machine, the combination of a platen, a feed roll normally engaged therewith, a separate tally feed roll which is coöperative with said platen but is normally disengaged therefrom, a normally operative lock preventing the release of said normally engaged feed roll, and means for throwing said tally feed roll into engagement with the platen and for unlocking said lock.

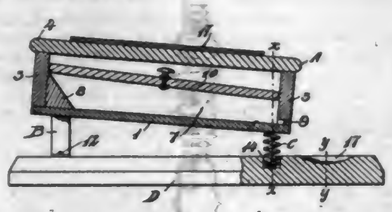
[Claims 6 to 48 not printed in the Gazette.]

969,916. MATCH-RECEPTACLE. STEPHAN STEHLIK and JOHN BARILLA, Derby, Conn. Filed May 21, 1910. Serial No. 562,650.

1. A match receptacle having an underside, and a vertically disposed end provided with a delivery slot, combined with yielding supports engaging said underside, the said receptacle being mounted to vibrate on said supports whereby matches may be shaken horizontally through said slot.

2. A match receptacle having one of its ends vertically disposed and provided with a delivery slot, combined with yielding supports on which the receptacle is mount-

ed to vibrate, whereby matches may be shaken horizontally through said slot.



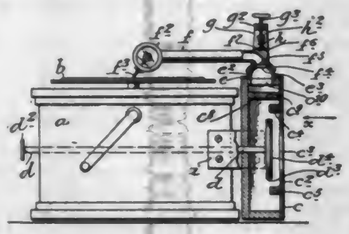
3. A device for confining and delivering matches comprising a match box provided with a match delivery slot in one end thereof, a spring support engaging the underside of said slotted end and a rigid support pivotally connected to the opposite end.

4. A device for confining and delivering matches comprising a box having one of its ends pivotally mounted on rigid standards and its opposite end on spring supports so that the pivoted end is higher than the opposite end whereby the box is inclined downwardly, the said box being provided with a trough or chute for holding matches and a slot in its lower end from which matches may escape.

5. A device for confining and delivering matches comprising a box having one of its ends pivotally mounted on rigid supports and its opposite end mounted to vibrate on spring supports, the said box being provided with a trough or chute for holding matches, a follower arranged to rest on the top of the matches and a slot in the spring supported end of the box from which the matches may escape.

[Claim 6 not printed in the Gazette.]

969,917. PHONOGRAPH, GRAPHOPHONE, AND LIKE INSTRUMENT. EMIL G. H. STEIN, New York, N. Y. Filed Jan. 6, 1910. Serial No. 536,727.



1. A resonance box for use in connection with talking machines and adapted to be supported adjacent thereto, one side of said box forming a sounding board and being provided with an aperture or opening, and a tubular arm rotatably connected with the top of said box and in communication therewith, said arm being provided with the usual sound reproducer and tracing needle, and said aperture or opening being provided with a damper and means for regulating the same, and said box being also provided in the top portion thereof with a horizontal partition, the opposite end portions of which are provided with openings.

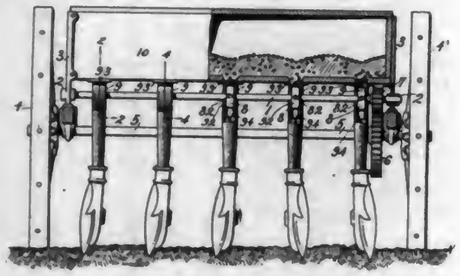
2. A resonance box for use in connection with talking machines and adapted to be supported adjacent thereto, one side of said box forming a sounding board and being provided with an aperture or opening, and a tubular arm rotatably connected with the top of said box and in communication therewith, said arm being provided with the usual sound reproducer and tracing needle, and said aperture or opening being provided with a damper and means for regulating the same, and said box being also provided in the top portion thereof with a horizontal partition, the opposite end portions of which are provided with openings, and the said sounding board being provided above and below the aperture or opening therein with horizontally arranged cleats.

3. The combination with a talking machine of a resonance box, formed independently thereof and supported in front thereof, the front of said resonance box forming a sound board and being provided with an aperture or opening, a damper for controlling said aperture or opening, a tubular arm rotatably connected with the top of said resonance box and provided with the usual sound reproducer and tracing needle, said resonance box being also provided in the top portion thereof with a horizontal partition having apertures or openings.

4. A resonance box for use in connection with a talking machine, means for supporting said box in front of said machine, the front of said box forming a sounding board and being provided with an aperture or opening, a damper for said opening (out of contact with said sounding board) and means for regulating same, and a tubular arm rotatably connected with the top of said box and in communication therewith and provided with a sound reproducer and tracing needle.

5. A resonance box for use in connection with talking machines, means for supporting said box in front of said machine, the front of said box forming a sounding board and being provided with an aperture or opening, a damper for said opening and a tubular arm rotatably connected with the top of said box and in communication therewith, the connection of said arm with the top of said box being formed by means of a ball and socket joint, part of which is connected with the top of said box and part with said arm, and a spring tension device supported above said ball and socket joint and adapted to bear on that part thereof that is connected with said arm, said arm being also provided with the usual sound reproducer and tracing needle.

969,918. SEED-DROPPING MECHANISM. JACOB STREITZ, Marine City, Mich. Filed Mar. 4, 1910. Serial No. 547,316.
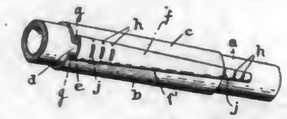


1. An attachment for seed planters, that comprises in combination with the seed box and the drive axle, of a planter, said box having a discharge; of a cylindrical casing having one end closed, a hopper mouth and an integral discharging leg, a dropping wheel, a shaft therefor that passes axially through the cylindrical casing, said dropper wheel being endwise shiftably mounted on the shaft and to rotate therewith, the wheel having peripheral pockets, the casing being so mounted with respect to the wheel that the space between it and the downgoing side of the wheel gradually reduces from the infeed to the discharge and a yieldable plunger mounted in said pockets.

2. The combination with the main axle, the seed box and the dropping wheel shaft journaled under the seed box and coupled with the main axle; of a series of casings each having a circular centrally disposed pocket, a cap plate for the pocket, said casings each having a hopper like infeed and a pendent leg discharge, of a hollow cup-shaped wheel mounted on the shaft, said wheel being endwise slidable on the shaft, a cap plate for holding the wheel in the casing, said wheel having a series of peripheral apertures, a plunger mounted in each aperture, spring pressed to extend up into said aperture.

3. A dropping means for planters that consists in combination with the main axle, the seed box, a shaft journaled under and lengthwise of the seed box, a series of circular shaped casings mounted on the drive shaft, said shaft being geared with the main shaft, the casing having one side open, a cover plate therefor, a dropping wheel endwise slidable, the wheel having radial apertures, a plunger operable in each aperture, means for keeping the plungers from projecting beyond the said front edge, and means for forcing the contents of the pockets therefrom when the wheel pockets pass over the discharge.

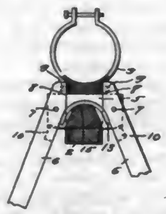
969,919. HOSE AND PIPE MENDER. FRED J. STULP, Muskegon, Mich. Filed July 22, 1909. Serial No. 509,059.



1. A device for the purpose described, comprising a body section of the form approximately of the major part of a hollow body of circular cross-section, provided with a longitudinal slot open at both ends, and having tapered edge walls provided with narrow substantially plane flange-extensions, and a tightening section of comparatively narrow character of greater length than said body and having tapered edge walls provided with narrow substantially plane flange-extensions capable of engagement with the flange extensions of the body section, said tightening section having alined slits and depressions for easy and smooth fracture.

2. A tightening section for the purpose described, having tapered edge walls provided with narrow substantially plane flange-extensions substantially parallel to the adjacent portions of the wall of the tightening section and having alined slits and depressions for easy and smooth fracture.

969,920. BICYCLE-SUPPORT. JAMES POLK TAYLOR, Longbeach, Cal., assignor to Cycle Support Company, Los Angeles, Cal. Filed Mar. 19, 1910. Serial No. 550,475.



1. A bicycle support comprising a bearing block attached to the frame of the bicycle, a pivot block mounted in said bearing block and having a groove in the ends thereof and the upper side thereof, legs pivotally attached to said pivot block and extending through the ends thereof and having shoulders projecting above said pivot block and adapted to engage said bearing block when the legs are in supporting position, a spring mounted in the groove in said pivot block and bearing against the said legs for spreading the same, and means for supporting the free ends of said legs when not in use.

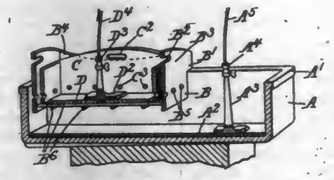
2. A bicycle support comprising a bearing block attached to the frame of the bicycle, a pivot block mounted in said bearing block and having a continuous groove in the ends thereof and along the side thereof, supporting legs extending through the ends of said pivot block and pivotally attached thereto and extending above said pivot block and forming shoulders to engage said bearing block when in supporting position, a spring lying in said groove and bearing against the said legs to spread the same, and pins in said bearing block to engage the upper ends of said legs to prevent forward movement of the bicycle.

3. A bicycle support comprising a bearing block attached to the frame of the bicycle, legs pivotally attached to said bearing block, pins in said bearing block to engage said legs to prevent forward movement of the bicycle when the legs are in supporting position and to lock said legs against movement relative to said block when the legs are folded, and hooks attached to said frame to support the free ends of said legs when not in use, said legs having recesses to receive said pins when in the folded position.

4. A bicycle support comprising a bearing block attached to the lower front frame piece of the bicycle, legs pivotally attached to said bearing block, and hooks formed of a single piece of metal and pivotally attached to said frame piece for supporting the free ends of the legs when not in use and to be swung down to engage the front wheel of the bicycle when the legs are supporting the bicycle.

5. A bicycle support having a bearing block attached to the frame of the bicycle, a pivot block journaled in said bearing block and having a continuous groove in the ends and along the side thereof, legs extending through the ends of said pivot block, pivot pins extending through said block and through said legs, and a spring mounted in said groove and bearing against said legs and being inclosed by said legs and pivot block and bearing block for automatically spreading said legs to supporting position.

969,921. ELECTROLYTIC APPARATUS. WILLIAM THUM, Hammond, Ind. Filed Nov. 22, 1909. Serial No. 529,181.



1. In an electrolytic apparatus, the combination of a tank having an inclined floor, with an anode cell supported in the tank above the higher part of the floor and provided with a perforated bottom and side perforations, and anode and cathode terminals connected respectively with the anode material and a cathode at the bottom of the tank.

2. In an electrolytic apparatus, the combination of a tank having an inclined floor with an anode cell supported in the tank above the higher part of the floor and provided with a perforated bottom and side perforations, an anode basket within the cell provided with a filtering bottom and side perforations, and anode and cathode terminals connected respectively with the anode material and a cathode at the bottom of the tank.

3. In an electrolytic apparatus, the combination of a tank having an inclined floor, with an anode cell supported in the tank above the higher part of the floor and provided with a perforated bottom and side perforations, an anode basket within the cell provided with a filtering bottom and side perforations, and anode and cathode terminals connected respectively with the anode material and a cathode at the bottom of the tank.

4. In an electrolytic apparatus, the combination of a tank having an inclined floor, with an anode cell supported in the tank above the higher part of the floor and provided with a perforated bottom and side perforations, an anode basket within the cell provided with a filtering bottom and side perforations, spacing bars within the basket, and anode and cathode terminals connected respectively with the anode material and a cathode at the bottom of the tank.

5. In an electrolytic apparatus the combination of a tank having an inclined floor with an anode cell supported in the tank above the higher part of the floor and provided with a perforated bottom and side perforations, an anode basket within the cell provided with a filtering bottom and side perforations, spacing bars upon the lining, and anode and cathode terminals connected respectively with the anode material and a cathode at the bottom of the tank.

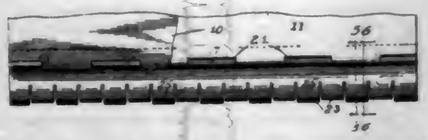
[Claims 6 to 8 not printed in the Gazette.]

969,922. DENTAL APPLIANCE. WILLIAM D. TRACY, New York, N. Y. Filed Oct. 24, 1908. Serial No. 459,353.



In a coupling for tubes, a hollow member provided with a tapered opening extending for a portion of its length, an annular shoulder formed within said hollow member near one end thereof, said end exceeding the other end of said member in diameter and a tapered surface extending from the edge portion of the annular shoulder to the termination of the first mentioned tapered portion, the tapered end of said member being adapted to receive a device one end of which conforms in shape to said tapered portion, the other end being cylindrical and adapted to enter a flexible member, the central portion of the member being provided with an enlarged grooved surface, and the other end of the hollow member being adapted to incase the end portion of a tube, the end of said tube being adapted to rest upon said annular shoulder.

969,923. BINDER. EMORY A. TRUSSELL, Chicago, Ill. Filed Nov. 12, 1908. Serial No. 462,207.



1. In a binder, a back consisting of two members having a plurality of interengaged spring fingers yieldingly connecting said members together.

2. In a binder, a back consisting of two members having a plurality of interengaged curved spring fingers yieldingly connecting said members together.

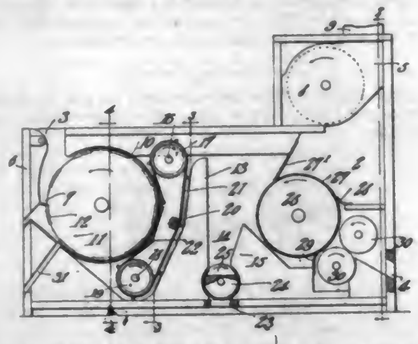
3. In a binder, a back consisting of two members each having throughout its length a plurality of parallel separated curved spring fingers, the fingers of one member being engaged with the fingers of the other member to connect said members together.

4. In a binder, a back consisting of two members each having a plurality of spring fingers and the fingers of one member having alternate overlapped and underlapped engagement with the fingers of the other member.

5. In a binder, a back consisting of two members each having a plurality of interengaging spring fingers, the fingers of each member being alternately provided with openings and with projections to engage said openings.

[Claims 6 to 15 not printed in the Gazette.]

969,924. COMBINED COTTON GIN AND CLEANER. WILLIAM B. TURMAN, Waldron, Ark. Filed Nov. 3, 1909. Serial No. 526,085.



1. A cotton gin comprising a casing having means for creating suction draft therethrough, a foraminous concave located in the casing, a cylinder journaled for rotation within the concave and having spaced doffer bars, and spaced lint confining bars arranged for movement upon the exterior and in contact with the exterior of the said foraminous concave.

2. A cotton gin comprising a casing having an inlet and outlet and means for creating suction draft therethrough, a foraminous concave located in the casing, a cylinder journaled for rotation within the concave and having spaced doffer bars, endless chains mounted for orbital movement behind the cylinder, lint confining bars attached to said chains and corresponding in number with the doffer bars upon the cylinder and arranged to move along and in contact with the exterior of the concave.

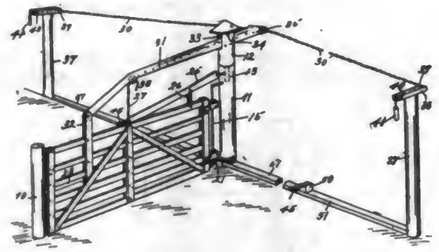
3. A cotton gin comprising a casing having an inlet and an outlet and means for creating a draft therethrough, a foraminous concave located in the concave and having spaced peripheral doffer bars, a series of lint confining bars arranged for movement along the exterior of the concave, said lint confining bars corresponding in number with the doffer bars upon the cylinder and arranged to move slightly in advance of the doffer bars.

4. A cotton gin comprising a casing having an inlet and an outlet and means for creating a draft therethrough, a foraminous concave located in the casing, a cylinder journaled for rotation in the concave and having a series of spaced peripheral doffer bars adapted to move cotton seed along the concave, chains mounted for orbital movement behind the concave, lint confining bars connected at their ends with said chains and spaced from each other, said lint confining bars corresponding in number with the doffer bars upon the cylinder and arranged to move slightly in advance of the said doffer bars.

969,925. GATE. LANDA A. WHEELING, Whiteland, Ind., assignor of one-half to Rufus W. Terhune, Whiteland, Ind. Filed July 19, 1909. Serial No. 508,487.

1. The combination of a gate post, a gate pivoted therewith so as to be vertically movable and horizontally oscillatable, a lever pivoted at one end to said gate post and projecting over the gate, a connection between the gate and said lever intermediate its ends, a cable connected with said lever, and means above the gate and laterally oscillatable on the gate post over which said cable extends for elevating and lowering the gate.

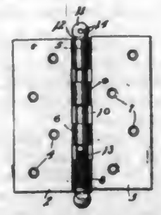
2. The combination of a gate post, a gate pivoted therewith so as to be vertically movable and horizontally oscillatable, a lever pivoted at one end to said gate post and projecting over the gate, a connection between the gate and said lever intermediate its ends, a bar pivotally mounted on said gate post and extending over said lever and gate and at its forward end pivotally connected to the top of the gate, and flexible means connected at the forward end of said lever and passing vertically therefrom over a pulley on said bar and thence along said bar to the rear end thereof.



3. The combination of a gate post, a gate, vertical means secured to the gate post on which the rear end of the gate is vertically movable and horizontally oscillatable, a lever pivoted at one end to the gate post and projecting forwardly over the gate, a connection with the gate located between the ends of said lever, a horizontally rotary bearing piece on the upper end of said gate post, a hollow bar pivoted between its ends in said bearing piece so as to be vertically oscillatory and projecting over the gate and pivoted at its front end to the gate, a pulley on said bar between the bearing piece and the connection with the gate, and flexible means connected to the forward end of said lever and running over said pulley and rearwardly through said bar.

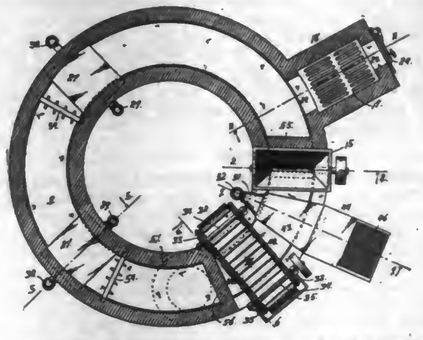
4. The combination of a gate post, a gate pivoted therewith so as to be vertically movable and horizontally oscillatable, a lever pivoted at one end to said gate post and projecting over the gate, a connection between the gate and said lever intermediate its ends, a bar pivotally mounted in connection with said gate post so as to be both vertically and horizontally oscillatory and longitudinally movable and extending over said lever and gate and at its forward end pivotally connected with the top of the gate, and flexible means connected at the forward end of said lever and passing vertically therefrom over a pulley on said bar and thence along said bar to the rear end thereof.

969,926. HINGE. WILLIAM T. WIGHTMAN, Half Moon Bay, Cal. Filed Jan. 21, 1910. Serial No. 539,386.



A hinge of the characted described, comprising a stationary leaf, having knuckles formed thereon, an adjustable leaf having knuckles formed thereon, a pintle passing through said knuckles and pivotally connecting said leaves, said pintle being rotatably mounted in said knuckles and having a screw-threaded end disposed within one knuckle formed upon said adjustable leaf.

969,927. ORE-ROASTER. ARTHUR B. WILFLEY, Denver, Colo., assignor of one-half to Joseph Seep, Scranton, Pa. Filed Dec. 11, 1908. Serial No. 466,928.



1. An ore roasting apparatus comprising an endless traveling horizontally disposed hearth, an endless traveling brush composed of hinged sections extending transversely across the hearth, and means for completely removing the ore from the hearth at a predetermined point of travel of said hearth, substantially as described.

2. An ore roasting apparatus comprising a circular hearth mounted to rotate in a roasting chamber, an endless traveling brush composed of hinged sections extending across said hearth as means of removing ore therefrom, and a blast for completely removing the ore from the hearth, substantially as described.

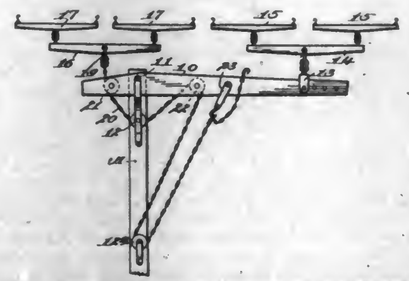
3. An ore roasting apparatus comprising an endless traveling hearth mounted to rotate in a roasting chamber, an endless traveling brush composed of hinged sections for removing ore therefrom, and means at a predetermined point for regulating the temperature of the ore, substantially as described.

4. In an ore roasting apparatus, the combination of a horizontally disposed hearth of circular shape mounted to rotate, means for feeding the ore to be treated to the hearth, and apparatus for delivering a blast of air crosswise of the hearth for the purpose of completely removing fine particles of the ore from the hearth, substantially as described.

5. The combination with an ore roasting chamber, of a hearth mounted to travel therein, and means for delivering to the hearth an air blast directed crosswise of the hearth for the purpose of completely removing fine particles of the ore from the hearth while in operation, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

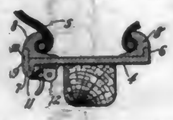
969,928. FOUR-HORSE EQUALIZER. CHRISTIAN F. WILLE, West Alton, Mo. Filed May 18, 1910. Serial No. 562,074.



The combination with a support, of rollers mounted thereon, one to the rear of the other, a beam pivoted adjacent one end upon said support, to swing in a horizontal plane, a roller mounted adjacent the extremity of the short

end of said beam, a second roller mounted thereon at a substantially central point, a doubletree clevised adjacent the extremity of the long end of said beam, an equalizing chain having one end adjustably clevised intermediately of said beam and adjacent its said intermediate roller, and passing rearwardly around the rear support roller, forwardly around the central beam roller, rearwardly around the forward support roller, and forwardly around the outside of the end beam roller, and a doubletree clevised to the free end of said chain adjacent the last named roller, all for the purpose described.

969,929. VEHICLE-RIM. MARTIN L. WILLIAMS, South Bend, Ind. Filed Feb. 28, 1908. Serial No. 418,179.



1. In a vehicle wheel, the combination with a rim provided at one side with an annular outstanding flange, and at the opposite side with a plurality of spaced apart inturned lugs, a pair of endless tire retaining rings detachably mounted upon said rim, and confined against slipping off one side of the latter by said outstanding flange, an endless locking ring for preventing said detachable members from slipping off of the opposite side of said rim, said locking ring having a plurality of spaced apart outturned channel shaped flanges adapted to receive the inturned lugs of said rim, and means for preventing circumferential movement of said ring upon the rim.

2. In a vehicle wheel, the combination with a rim provided at one side with an annular outstanding flange and at the opposite side with a plurality of spaced apart inturned lugs, a pair of endless tire retaining rings, detachably mounted upon said rim, and confined against slipping off one side of the latter by said outstanding flange, an endless locking ring for preventing said detachable members from slipping off of the opposite side of said rim, said locking ring having a plurality of spaced apart outturned channel-shaped flanges adapted to receive the inturned lugs of said rim and a locking lever having operative engagement with one of said channel-shaped flanges for preventing circumferential movement of said ring upon the rim.

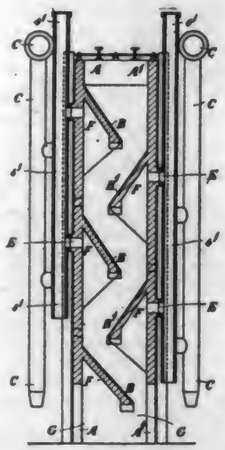
969,930. DETACHABLE VEHICLE-RIM. MARTIN L. WILLIAMS, South Bend, Ind. Filed Feb. 28, 1908. Serial No. 418,180.



1. In a vehicle wheel, the combination with an inner rim having an inclined bearing surface at one side thereof, a detachable outer rim supported at one side by said bearing surface, a wedge shaped locking ring having an inclined bearing surface supporting the other side of said outer rim, a downturned flange upon the outer edge of said locking ring, bayonet joint connections between the outer periphery of said inner rim and the opposed periphery of said locking ring comprising a plurality of spaced apart lugs upon the inner face of said locking ring, and coöperating recesses or slots upon the upper face of the stationary rim, said slots being open at one end to permit the entrance of said lugs, and means coöperating with the downturned flange of said locking ring to force the latter into position upon the inner rim.

2. In a vehicle wheel, the combination with an inner rim having an inclined bearing surface at one side thereof, a detachable outer rim supported at one side by said bearing surface, a wedge shaped locking ring having an inclined bearing surface supporting the other side of said outer rim, a downturned flange upon the outer edge of said locking ring, bayonet joint connections between the outer periphery of said inner rim and the opposed periphery of said locking ring comprising a plurality of spaced apart lugs upon the inner face of said locking ring, and coöperating recesses or slots upon the upper face of the stationary rim, said slots being open at one end to permit the entrance of said lugs, and a cranked-gear detachably journaled in the felly of the wheel, and coöperating with the downturned flange of said locking ring to force the latter into position upon the inner rim.

969,931. CALCINING-KILN. WILLIAM JOHN WILLIS, Ocker Hill, England. Filed Oct. 25, 1909. Serial No. 524,524.



1. A calcining kiln wherein inclined portions project from one side wall and oppositely inclined portions project from the opposite side wall at intermediate points so that the inclined portions are alternately disposed up the kiln, together with air inlets and gas inlets in each side wall at levels near or adjacent to the bottom edge of each inclined projecting portion.

2. A calcining kiln comprising in combination, inclosing walls forming a passage for the material, inclined shelves projecting from said walls into the passage, and independent fuel inlets communicating with said passage at points beneath said shelves.

3. A calcining kiln comprising in combination, inclosing walls forming a passage for the material, inclined shelves projecting from said walls into said passage, and independent fuel inlets in the walls from which said shelves project communicating with said passage from beneath said shelves.

4. A calcining kiln comprising in combination, inclosing walls forming a passage for the material, inclined shelves projecting from said walls into said passage, and independent fuel and air inlets communicating with said passage at points beneath said shelves.

5. A calcining kiln comprising in combination, inclosing walls forming a passage for the material, inclined shelves projecting from said walls into said passage, and fuel and air inlets communicating with said passage from beneath said shelves and outlets from beneath said shelves.

[Claims 6 to 12 not printed in the Gazette.]

969,932. COMPOSITE LAMP-CHIMNEY. GEORGE D. WILLITS, Adrian, Mich. Filed Mar. 26, 1910. Serial No. 551,702.

1. A composite chimney comprising a lower section having a depression in its inner side, an upper section rigidly connected to said lower section and having a bead on its outer side near the bottom, a transparent section interposed between the beads of the upper and lower sections, and expansible rings adapted to be inserted within said upper and lower sections and engage the beads and clamp the transparent section to said upper and lower sections.

connected to said lower section and having a depression in its inner side near the bottom, a non-combustible and transparent section interposed between the depressions of the upper and lower sections, and expansible rings adapted to engage the depressions of the lower and upper sections and clamp said transparent section between the upper and lower sections and rings.

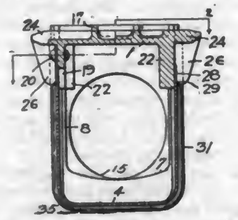


2. A composite chimney comprising a lower section having a bead on its outer side, an upper section rigidly connected to said lower section and having a bead on its outer side near the bottom, a transparent section interposed between the beads of the upper and lower sections, and expansible rings adapted to be inserted within said upper and lower sections and engage the beads and clamp the transparent section to said upper and lower sections.

3. A composite chimney comprising a lower section having a depression in its inner side, an upper section rigidly connected to said lower section and having a depression in its inner side near the bottom, a non-combustible and transparent section interposed between the depressions of the upper and lower sections, and expansible rings each having an external ridge adapted to be inserted in the depressions of the lower and upper sections and clamp said transparent section between the upper and lower sections and the remaining portion of the rings.

4. A composite chimney comprising a lower section having a bead on its outer side, an upper section rigidly connected to said lower section and having a bead on its outer side near the bottom, crimped uprights connecting said sections, a transparent section interposed between the beads of the upper and lower sections and having its vertical edges engaged by the crimped uprights, and expansible rings adapted to be inserted within said upper and lower sections and engage the beads and clamp the transparent section to said upper and lower sections.

969,933. JOURNAL-BOX. LEONARD G. WOODS, Pittsburg, Pa. Filed Feb. 28, 1908. Serial No. 418,336.

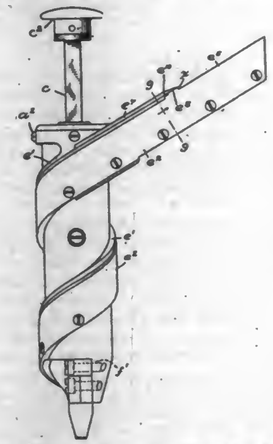


1. A journal box composed of a pressed plate body portion comprising sides and a bottom, and a rigid top portion of metal of a different character provided on its side edges with continuous deep vertical flanges to which the body portion is secured, and having outwardly projecting journal box lugs, and braces extending from the side flanges to said lugs, said braces being provided with vertical slots or kerfs for receiving the top edges of the sides of the body.

2. A journal box composed of a pressed plate body portion comprising sides and a bottom, and a rigid top portion of metal of a different character provided on its side edges with continuous deep vertical flanges to which the body portion is secured, and having outwardly projecting journal box lugs, and braces extending from the side flanges to said lugs, said braces being provided with vertical slots or kerfs for receiving the top edges of the sides of the body, said body being provided with vertical corrugations or ribs extending upwardly above the lower edges of said flanges.

3. A journal box composed of a pressed plate body portion comprising sides and a bottom, and a rigid top portion of metal of a different character provided on its side edges with flanges to which the body portion is secured, and having outwardly projecting journal box lugs, and braces extending from the side flanges of said lugs, said braces being provided with vertical slots or kerfs, and the sides of the body portion being cut away to fit around the braces and having the edges of said cut-away portions projecting up into the kerfs or slots in the braces.

969,934. MECHANISM FOR INSERTING FASTENERS. HARRIS A. BALLARD, Somerville, Mass., assignor to The Boylston Manufacturing Company, Boston, Mass., a Corporation of New Jersey. Filed Aug. 31, 1906. Serial No. 332,794.



1. A hand implement for inserting fasteners, comprising a driver, picking devices, an outer exposed continuous barrel or casing, and an open raceway extending helically around the exterior of said barrel or casing.

2. A hand implement for inserting fasteners comprising a driver, picking devices, an outer exposed continuous cylindrical barrel or casing, a raceway formed on the exterior of said barrel, and having its receiving end terminating exteriorly of said barrel, and its delivering end terminating interiorly of said barrel to deliver fasteners to said picking devices.

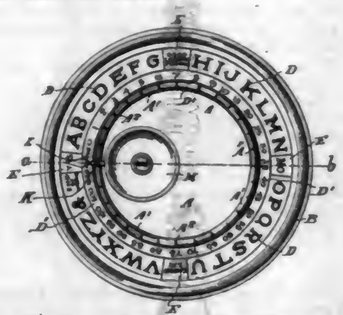
3. A hand implement for inserting fasteners comprising a driver, picking devices, an outer or inclosing barrel or casing, a helical raceway on the exterior of the barrel or casing, and a helical flange on said casing forming a cover for said raceway which renders the fasteners visible.

4. A hand implement for inserting fasteners comprising a driver, picking devices, a barrel or casing, and a raceway extending helically around the exterior of said barrel or casing, said raceway having an extension projecting tangentially from said barrel or casing.

5. A hand implement for inserting fasteners comprising a driver, picking devices, an outer barrel or casing, a helical flange on the exterior of said barrel or casing, and a helical strip attached to said flange and constituting, with the exterior of said barrel or casing, an open exposed raceway for the fasteners.

[Claims 6 to 10 not printed in the Gazette.]

969,935. PLANCHETTE GAME APPARATUS. DAVID BLAIKLEY, Partick, Glasgow, Scotland. Filed Oct. 27, 1900. Serial No. 524,815.



1. A planchette apparatus comprising in combination, a base provided with annular concentrically disposed elevated ridges, the space between said ridges being provided with designating characters, a crank revolubly mounted centrally with respect to said ridges, a disk member carried by said crank, and a pointer projecting from said crank and movable abreast of said characters.

2. A planchette apparatus comprising in combination, a base provided with an annular elevated ridge, said base being provided with designating characters disposed concentrically with respect to and adjacent said ridges, a crank revolubly mounted centrally with respect to said ridge, a disk member carried by said crank, and a pointer projecting from said crank and movable abreast of said characters.

3. A planchette apparatus comprising in combination, a base provided with an annular elevated ridge, said base being provided with designating characters disposed around said ridge, a crank revolubly mounted centrally with respect to said ridge, a disk member revolubly mounted on said crank, and a pointer projecting from said crank and movable abreast of said characters.

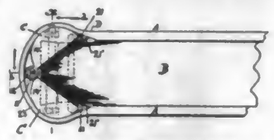
4. A planchette apparatus comprising in combination, a base provided with an annular elevated ridge, said base being provided with designating characters arranged abreast of said ridge, a crank revolubly mounted centrally with respect to said ridge, a disk member revolubly mounted on said crank, and a pointer pivotally connected with said crank and projecting therefrom and movable therewith abreast of said characters.

5. A planchette apparatus comprising in combination, a base provided with an annular elevated ridge, said base being provided with designating characters arranged around said ridge, said ridge being provided with notches, a crank revolubly mounted centrally with respect to said ridge, a disk member carried by said crank, and a pointer pivotally mounted on said crank and projecting therefrom abreast of said characters and arranged to coöperate with said notches.

969,936. LEAF-BINDER. HUGH GELLSOT BUCHAN, Woodbridge township, Middlesex county, N. J. Filed July 27, 1907. Serial No. 385,864.

1. In a binder, a back-piece the holding edges of which extend inward toward one another, and loose securing pins adapted to pass through the perforations in the body of leaves to be bound in such manner that the protruding ends will lie behind the holding edges of the back-piece.

2. In a binder, a segmental back-piece the holding edges of which extend inward toward one another, and loose securing pins adapted to pass through the perforations in the body of leaves to be bound in such manner that the protruding ends will lie behind the holding edges of the back-piece.



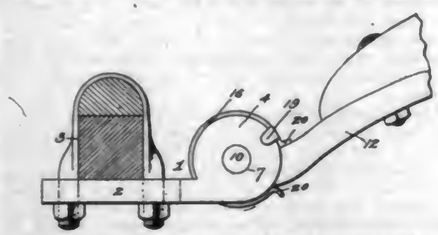
3. In a binder, a back-piece formed of two segmental shaped pieces hinged, the holding edges of which back-piece extend inward toward each other, and loose securing pins passing through the perforations in the body of leaves to be bound in such manner that the protruding ends lie behind the holding edges of the back-piece.

4. In a binder, a back-piece formed of two segmental shaped pieces hinged together by a spring hinge, the holding edges of which back-piece extend inward toward each other, and loose securing pins passing through the perforations in the body of leaves to be bound in such manner that the protruding ends lie behind the holding edges of the back-piece.

5. In a binder, a back-piece formed of two segmental shaped pieces hinged together by a spring hinge, the holding edges of which back-piece extend inward toward each other, loose securing pins passing through the perforations in the body of leaves to be bound in such manner that the protruding ends lie behind the holding edges of the back-piece, and means for locking the parts forming the back-piece together.

[Claims 6 to 21 not printed in the Gazette.]

969,937. THILL-COUPLING. RAYMOND COATES, Jackson, Mich., assignor of one-half to John H. Antis, Jackson, Mich. Filed Oct. 11, 1909. Serial No. 522,021.

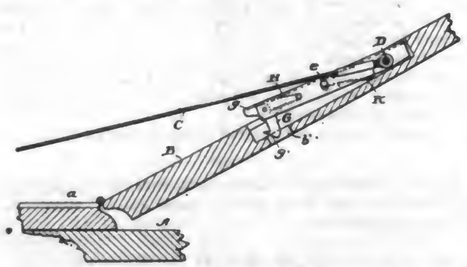


1. In a thill coupling an axle member comprising a base plate having a hollow head at one end provided with a rounded outer face, a bolt extending longitudinally through said head, said head having a recess in one face thereof, and said base plate having a transversely arranged slot adjacent said head, a curved plate spring arranged within said head below said bolt and having its inner end fixed to said head and its free end terminating adjacent the lower wall of said recess, a substantially cylindrical dust guard encircling said head with its ends spaced apart, said guard being mounted for longitudinal movement within said slot and a thill member having a hook shaped head for insertion through the recess in said head and adapted to engage the bolt thereof, the spring on said axle member head bearing on said hook shaped head to hold it yieldably in position.

2. In a thill coupling, an axle member comprising a base plate having a hollow head at one end provided with a rounded outer face, a bolt extending longitudinally through said head, said head having a recess in one face and said base plate having a transversely arranged slot adjacent said head, a curved plate spring secured at one end to the inner face of said head and having its free end arranged below said bolt, a split ring-shaped dust guard extending through the slot in said base plate and encircling said head, said guard being provided with a stop for limiting its longitudinal movement and a thill member having a hook shaped head for insertion through the recess in said axle member and adapted to engage the bolt thereof.

3. In a thill coupling, an axle member comprising a base plate having a hollow head at one end provided with a rounded outer face, a bolt extending longitudinally through said head, said head having a recess in one face and said base plate having a transversely arranged slot adjacent said head, a curved plate spring secured at one end to the inner face of said head having its free end arranged below said bolt, a split ring-shaped dust guard extending through the slot in said base plate and encircling said head, said guard having lateral extensions for engaging the base plate to limit its longitudinal movement and a thill member having means for engaging the bolt within the head of the axle member.

969,938. EXTENSION-LEAF-LATCHING MECHANISM FOR SEWING-MACHINES. CHARLES E. COLEGROVE, East Cleveland, Ohio, assignor to The White Sewing Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 28, 1910. Serial No. 540,480.



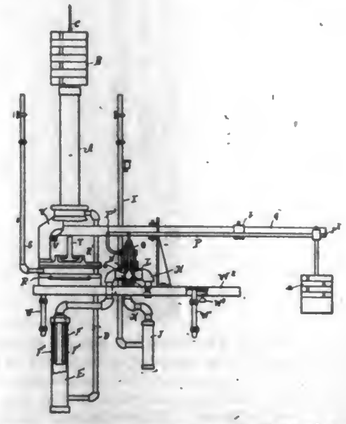
1. The combination with the hinged extension leaf of a drop head sewing machine table, and a cable connected with said leaf and adapted for operating the drop head mechanism, a latch bar pivoted to said leaf and having a portion adapted to be engaged by said cable, a spring latch carried by said bar and adapted to project through a hole in the leaf, and a plate fixed to the table top adapted to be engaged by said latch.

2. The combination with the hinged extension leaf having a recess in what is its top surface when the leaf is open and having a hole extending from said recess through the lower surface, a latch bar pivoted to said leaf and adapted to lie in said recess or to swing out of the same, a pin projecting from the side of said latch bar, a cable connected with the leaf and extending therefrom over said pin, a spring latch pivoted to said bar and adapted to extend therefrom downward through the hole in the leaf, and a plate fixed to the table top and adapted to be engaged by said latch.

3. The combination with the hinged extension leaf having a recess in what is its top surface when the leaf is opened and having a hole extending from said recess through the lower surface, a latch bar pivoted to said leaf and adapted to lie in said recess, a spring tending to swing it out of said recess, a pin projecting from the side of said latch-bar, a cable connected with the leaf and extending therefrom over said pin, a latch pivoted to said bar and adapted to extend therefrom downward through the hole in the leaf, a plate fixed to the table top for engagement with said latch, and a spring tending to swing said latch in the latching direction.

4. The combination with the hinged extension leaf having a recess in what is its top surface when the leaf is opened and having a hole extending from said recess through the lower surface, a latch bar pivoted to said leaf and adapted to lie in said recess, a spring tending to swing it out of said recess, a pin projecting from the side of said latch bar, a cable connected with the leaf and extending therefrom over said pin, a latch pivoted to said bar and adapted to extend therefrom downward through the hole in the leaf, a plate fixed to the table top for engagement with said latch, said latch having a releasing arm adapted to lie in said recess, and a spring for swinging said latch in the latching direction.

969,939. DAMPER-REGULATOR. JOHN A. COLLINS, Philadelphia, Pa. Filed May 10, 1909. Serial No. 495,149.



In a damper regulator, the combination of a cylinder containing a weighted piston, a condenser tank, a pipe connecting the lower portion of the condenser tank with the lower portion of the cylinder, a pipe leading into the upper portion of the condenser tank, two branch pipes leading from the last named pipe and extending upward in the condenser tank, two seats located in said valve, a valve plug adapted to close upon either of said seats, a steam supply pipe leading to the valve, an exhaust pipe leading from the valve, a lever connected to the valve plug, a scale beam to which the lever is connected, knife edges carried by the scale beam upon which the latter rocks and means dependent upon the pressure in the boiler for raising and lowering the scale beam, as and for the purpose set forth.

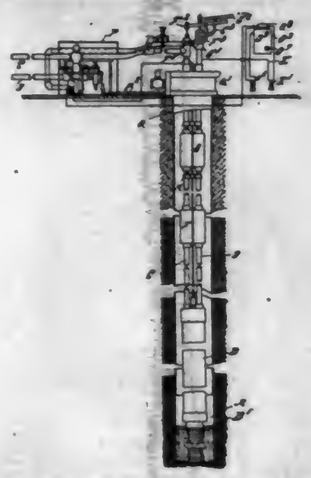
969,940. APPARATUS FOR ACTUATING LIQUIDS. RUDOLPH CONRADER, Erie, Pa. Filed Oct. 2, 1903, Serial No. 175,429. Renewed Jan. 31, 1910. Serial No. 541,160.

1. In an apparatus for actuating liquids the combination with a pump chamber adapted to be placed in a well; means for conveying liquid from said chamber by a following action of the actuating fluid through the lift; a connection with said chamber for actuating fluid; mechanism controlling said actuating fluid in said connection adapted to be located at a distance remote from said chamber; and devices actuated by the liquid in the well for controlling said mechanism so located.

2. In an apparatus for actuating liquids the combination with a pump chamber adapted to be placed in a well; means for conveying liquid from said chamber by a following action of the actuating fluid through the lift; a connection with said chamber for actuating fluid; mechanism controlling said actuating fluid in said connection adapted to be located at a distance remote from said chamber; and electrical devices controlled by the liquid in the well for actuating said mechanism so located.

3. In an apparatus for actuating liquids the combination with a pump chamber adapted to be placed in a well; means for conveying liquid from said chamber by a following action of the actuating liquid through the lift; a

connection with said chamber for actuating fluid; mechanism controlling said actuating fluid adapted to be located at a distance remote from said chamber; and devices actuated by the liquid in the pump chamber for controlling said mechanism so located.

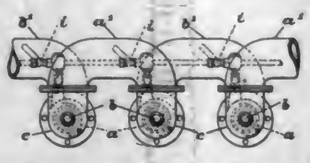


4. In an apparatus for actuating liquids the combination with a pump chamber adapted to be placed in a well; means for conveying liquid from said chamber by a following action of the actuating fluid through the lift; a connection with said chamber for actuating fluid; mechanism controlling said actuating fluid adapted to be located at a distance remote from said chamber; and electric devices for controlling said mechanism arranged to be controlled by the liquid in said pump chamber.

5. In an apparatus for actuating liquids the combination with a pump chamber adapted to be placed in a well; means for conveying liquid from said chamber by a following action of the actuating fluid through the lift; a check valve mechanism to prevent a back flow of fluid from the pump chamber; a connection with said chamber for actuating fluid; mechanism controlling said actuating fluid in said connection adapted to be located at a distance remote from said chamber; and electrical devices controlled by the liquid in the well for actuating said mechanism so located.

[Claims 6 to 52 not printed in the Gazette.]

969,941. CARBURETER. FREDERICK JOHN COX, Kentish Town, London, England. Filed Nov. 29, 1907. Serial No. 404,306.



1. A carbureter consisting of a casing having an air inlet and a mixture outlet, an involute spiral surface within the casing, a jet from which a volatile liquid is discharged upon the said involute spiral surface, and means for rotating the spiral surface so as to cause the volatile liquid to gradually move toward the axis of the involute spiral surface substantially as described.

2. A carbureter consisting of a casing having an air inlet and a mixture outlet, an involute spiral surface of reticulated substance, mounted within the casing, a spindle upon which said surface is mounted, means for causing the rotation of the said spindle and the involute spiral surface in the direction to cause the passage of the volatile liquid toward the spindle, and a jet from which a volatile liquid is discharged upon the said involute spiral surface, substantially as described.

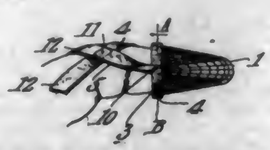
3. A carbureter consisting of a casing having an air inlet and a mixture outlet, an involute spiral surface of reticulated substance mounted within the casing, an inclined spindle upon which said surface is mounted, means for causing the rotation of the said spindle and the involute spiral surface in the direction to cause the volatile liquid to flow inwardly toward the end of spindle in a spiral path over the involute surface and a jet from which a volatile liquid is discharged upon the said involute spiral surface, substantially as described.

4. A carbureter consisting of a series of casings, connections by means of which air to be carbureted may pass therethrough in series, an involute spiral surface mounted within each of said casings respectively upon a spindle, jets through which volatile liquid is discharged upon the said spiral surface, and means for rotating the said involute spiral surface in the direction to cause the volatile liquid to pass inwardly toward the spindle, substantially as described.

5. A carbureter consisting of a series of casings slightly inclined downwardly, connections by means of which air to be carbureted may pass therethrough in series, an involute spiral surface mounted within each of said casings respectively upon a spindle, jets through which volatile liquid is discharged upon the said spiral surface, and means for rotating the said involute spiral surface in the direction to cause the volatile liquid to pass inwardly toward the spindle and in a spiral path over the surface downwardly toward the extremity of the spindle, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

969,942. THUMB-SUCKING PREVENTER. ALBERT B. CRANDALL, Red Wing, Minn. Filed Apr. 6, 1910. Serial No. 553,791.



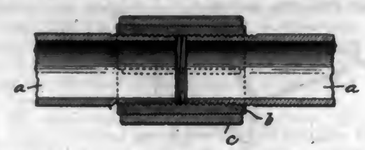
1. A device of the class described comprising a one-piece cap arranged to cover a thumb end; and an absorbent band inclosing the entire periphery of the cap at its open end and extended upon the inner and outer surfaces of the cap.

2. A device of the class described comprising a cap arranged to cover a thumb end; and absorbent strips folded over the edge of the cap at its open end, each strip being carried around the cap to inclose the end of the other strip; the free ends of the strips being crossed upon each other and secured together at their point of crossing, their extremities being left free to constitute tying ends.

3. A device of the class described comprising a cap fashioned from metallic netting of small mesh, and arranged to cover a thumb end; a reinforcing band inclosing the edge of the cap at its open end; absorbent strips folded over the lower edge of the band, each strip being carried around the cap to inclose the end of the other strip; their free extremities constituting tying ends.

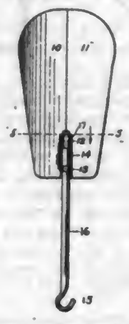
969,943. PIPE-COUPLING. FREDERICK N. CRONHOLM, Naches, Wash. Filed Nov. 8, 1909. Serial No. 526,845.

A pipe coupling, consisting of two pipe sections having their adjacent ends threaded, a coupling sleeve threaded internally and divided into sections longitudinally, the longitudinal edges of these sections being adapted to abut closely together and each pair of abutting edges being provided with a correspondingly-shaped rib and groove which extend nearly the full length of the coupling and have their longitudinal faces abutting closely together throughout their length and the ends of this rib and groove terminating in closely-abutting transverse shoul-



ders, and a device embracing the sections of said coupling sleeve and clamping them together on the pipe sections.

969,944. COMBINED SHOE-HORN AND BUTTON-HOOK. LOUIS DAVIDOFF, Stamford, Conn., assignor of one-half to Abram Speike, Stamford, Conn. Filed June 30, 1910. Serial No. 569,747.



1. A shoe horn and buttonhook comprising two curved members adapted to serve as a horn and provided with hinge eyes at one end and a buttonhook having a shank adapted to slide longitudinally in the eyes.

2. A shoe horn and buttonhook comprising two curved members adapted to serve as a horn and provided with hinge eyes at one end and a buttonhook having a shank adapted to slide longitudinally in the eyes, one of said eyes being provided with a notch and the shank being provided with a pin adapted to engage said notch to retain the hook against rotation relatively to the members when in the open position.

3. The combination with a shoe horn comprising two members provided with hinge eyes at one end, of a buttonhook having a shank adapted to slide longitudinally in said eyes, the outer eye being cut away to receive the bend of the hook and the point of the hook being adapted to pass between the members in the closed position.

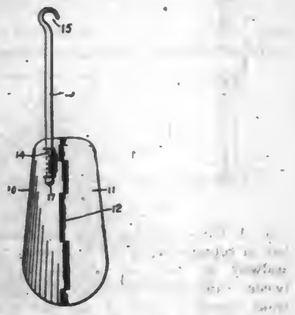
4. The combination with a shoe horn comprising two members provided with hinge eyes at one end, of a buttonhook having a shank adapted to slide longitudinally in said eyes, the inner eye being provided with a notch and the shank being provided with a pin adapted to engage said notch, for the purpose set forth, in the extended position.

969,945. COMBINED SHOE-HORN AND BUTTON-HOOK. LOUIS DAVIDOFF, Stamford, Conn., assignor of one-half to Abram Speike, Stamford, Conn. Filed July 23, 1910. Serial No. 573,444.

1. A shoe horn and buttonhook comprising two concavo-convex plates hinged together at their inner edges, one of said plates being provided on its inner side near the upper end with an eye and a button hook having a shank adapted to slide longitudinally in the eye.

2. A shoe horn and buttonhook comprising two concavo-convex plates hinged together at their inner edges, and provided with stops having angular faces adapted to bear against each other to limit the opening movement, one of said plates being provided on its inner side near the upper end with an eye and a buttonhook having a shank adapted to slide longitudinally in the eye.

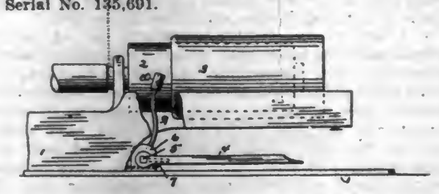
3. A shoe horn and buttonhook comprising two concavo-convex plates hinged together at their inner edges, one of said plates being provided on its inner side near the upper end with an eye and a buttonhook having a shank adapted to slide longitudinally in the eye, said shank having an angular face which lies against the plate and retains the shank and hook against other than longitudinal movement.



4. The combination with a shoe horn comprising two concavo-convex plates hinged together at their inner edges, one of said members being provided on its inner side near the upper end with an eye, of a buttonhook having a shank adapted to slide longitudinally in said eye and means for retaining the shank against rotation.

5. The combination with a shoe horn comprising two concavo-convex plates hinged together at their inner edges, and provided with angle faced stops, for the purpose set forth, one of said members being provided on its inner side near the upper end with an eye, of a buttonhook having a shank adapted to slide longitudinally in the eye.

969,946. RECORD-EJECTOR FOR PHONOGRAPHS. ELAM GILBERT, Portland, Oreg.; Mattie R. Gilbert guardian of said Elam Gilbert, insane. Filed Dec. 18, 1902 Serial No. 135,601.



1. In a phonograph, the combination with the record cylinder, of the ejector arms arranged to bear against the inner edge of the record, and means whereby the ejector arms are actuated to force the record outwardly upon the record cylinder.

2. In a phonograph, the combination with the phonograph bed, of the record cylinder, of an oscillatory shaft attached to the bed, a lever for actuating same, the ejector arms carried thereby, and a spring for restoring the oscillatory shaft to its normal position.

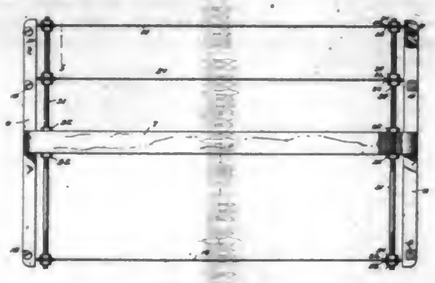
3. In a phonograph, the combination with the record cylinder, of lever actuated means whereby a record is ejected from the record cylinder.

4. In a phonograph, the combination with the record cylinder, of the ejector arm arranged to bear against the inner edge of the record, a protecting cushion or sleeve secured to said arm, and means whereby the ejector arm is actuated to force the record outwardly upon the record cylinder.

5. In a phonograph structure, a movable phonograph record ejector mounted upon the phonograph structure and operative to engage and remove the record from its mandrel.

[Claims 6 to 10 not printed in the Gazette.]

969,947. BUTTER-CUTTING TOOL. CHRISTIAN GLAUS, Milwaukee, Wis. Filed July 2, 1910. Serial No. 570,067.



1. A butter-cutting tool comprising a pair of rails, a bar in connection at its ends with the rails approximately midway of their extremities, taut wires extending between said rails at normally predetermined distances from opposite sides of the bar, rods held in connection with said bar to extend in opposite directions from the same adjacent to the rails, and wire-clamping devices adjustable on the rods.

2. A butter-cutting tool comprising a pair of rails, a bar in connection at its ends with the rails approximately midway of their extremities, taut wires extending between said rails at normally predetermined distances from opposite sides of the bar, rods held in connection with said bar to extend in opposite directions from the same adjacent to the rails, washers paired on the rods to oppose the wires in opposite directions, and clamp-nuts in engagement with said rods against the washers.

3. A butter-cutting tool comprising a pair of rails, a bar in connection at its ends with the rails approximately midway of their extremities, taut wires extending between said rails at normally predetermined distances from opposite sides of the bar, screw-threaded rods extending through the bar adjacent to the aforesaid rails, clamp-nuts on the rods against opposite faces of said bar, and wire clamping devices adjustable on the rods.

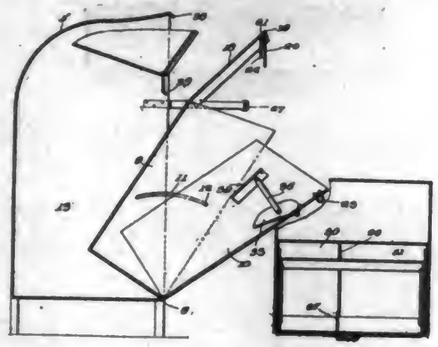
4. A butter-cutting tool comprising a pair of rails, a bar in connection at its ends with the rails approximately midway of their extremities, taut wires extending between said rails at normally predetermined distances from opposite sides of the bar, screw-threaded rods extending through the bar adjacent to the aforesaid rails, clamp-nuts on the rods against opposite faces of said bar, washers paired on said rods to oppose the wires in opposite directions, and clamp-nuts in engagement with the aforesaid rods against the washers.

969,948. MAIL-BOX. ODIORNE J. W. GLEASON, Worcester, Mass. Filed Aug. 30, 1909. Serial No. 515,261.

1. A mail box including a casing, an inner receptacle pivotally mounted within the casing a fastening device carried by the inner receptacle, and locking bars pivotally mounted on the opposite ends of the casing and extending transversely across the front of said casing for engagement with the fastening device.

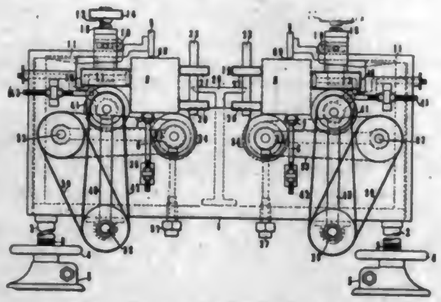
2. A mail box including a casing, sectional mail receiving receptacle pivotally mounted for lateral movement within the casing and having a pivoted top forming a closure for both sections of said receptacle, a fastening device carried by one of the sections of the mail receptacle, and locking bars pivotally mounted on the opposite ends of the casing and extending transversely across said casing for engagement with the fastening device.

3. A mail box including a casing, a receptacle pivotally mounted within the casing and formed of pivotally connected sections, a cover carried by one of the sections, a shield depending from the free end of the cover, a hasp pivotally connected with the shield, a fastening device carried by the other section of the receptacle, and locking bars pivotally mounted on the casing and adapted to engage said fastening device.



4. A mail box including a casing, a receptacle pivotally mounted within the casing and formed of pivotally connected sections, a cover pivotally mounted on one of said sections and adapted to form a closure for both sections, a staple secured to the mating section of the receptacle, locking bars pivotally mounted on the casing and provided with terminal slots adapted to register with each other to permit the passage of the staple, a transverse lock plate depending from the free end of the cover, and a hasp pivotally mounted on the inner face of the lock plate and adapted to engage the staple to permit the insertion of a locking device.

969,949. CAN-CLEANING MACHINE. CHARLES W. GRAHAM, Rome, N. Y., assignor, by mesne assignments, to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 19, 1907. Serial No. 358,320.



1. In apparatus of the class described, in combination, a supporting member, means adapted to adjust the height of said supporting member, a swinging guide adapted to rest upon and exert a resilient pressure upon the opposite end of a cam positioned upon said support, a pair of belts engaging the opposite sides of a can upon said support, means adapted to drive said belts in opposite directions and at different speeds, and means adapted to clean a seam of a can upon said belts.

2. In apparatus of the class described, in combination, a pair of belts adapted to engage one side of a can adjacent the ends thereof, a belt adapted to engage the other side of a can intermediate the ends thereof, means adapted to drive said belts in opposite directions and at different speeds, can cleaning means adapted to coact with a seam of a can upon the side of said second belt, and means adapted to adjust the position of said can cleaning means.

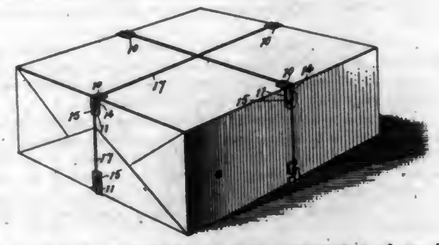
3. In apparatus of the class described, in combination, a pair of belts adapted to engage opposite sides of a can and impart rotary movement thereto, means adapted to drive said belts in opposite directions and at different speeds, means adapted to adjust one of said belts toward or away from the other thereof to accommodate cans of varying diameters, can cleaning means adapted to coact with a can between said belts, and means adapted to adjust the position of said can cleaning means to coact with cans of varying diameters.

4. In apparatus of the class described, in combination, a pair of belts adapted to engage opposite sides of a can and impart rotary movement thereto, means adapted to drive said belts in opposite directions and at different speeds, means adapted to adjust one of said belts toward or away from the other thereof to accommodate cans of varying diameters, can cleaning means adapted to coact with a can between said belts, and means adapted to adjust the position of said can cleaning means to coact with cans of varying diameters, said can cleaning means comprising a rotary member adapted to engage the side of the can.

5. In apparatus of the class described, in combination, a pair of belts adapted to engage one side of a can adjacent the ends thereof, a belt adapted to engage the opposite side of the can intermediate the ends thereof, means adapted to drive said second belt and said pair of belts at different rates and in opposite directions, adjusting means adapted to vary the distance between said second belt and said pair of belts to accommodate cans of varying diameters and rotary can cleaning means adapted to engage a can positioned betwen said belts on the side of said second belt and clean a seam thereof.

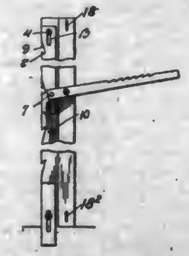
[Claims 6 to 33 not printed in the Gazette.]

969,950. PACKAGE-PROTECTOR. ALBERT GRIESBECK, New York, N. Y. Filed May 16, 1908. Serial No. 433,210.



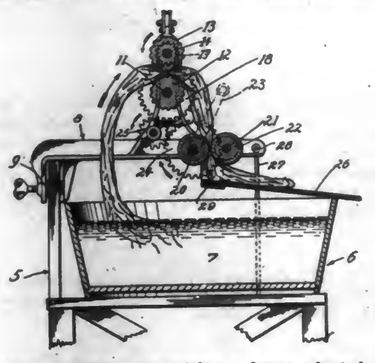
A corner protector for packages consisting of an L-shaped member adapted to engage the edge portions of a package, one of the extensions of said member being cut away to form a substantially S-shaped retaining member, the central portion of said retaining member being raised above the surface of the said member, both extensions being adapted to engage a surface of the box.

969,951. WIRE-STRETCHER. WILLIAM H. HANNAH, Yelk, W. Va., assignor of one-sixth to Hugh A. Hannah, Yelk, W. Va., and one-sixth to James F. Judy, Bartow, W. Va. Filed Jan. 5, 1910. Serial No. 536,519.



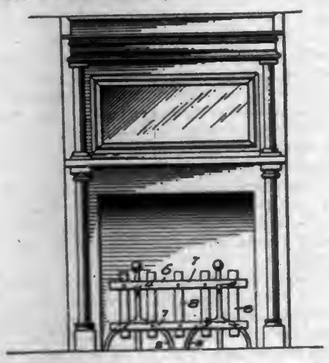
In a clamp for wire stretchers, a bar, a plate on the side of the bar remote from the direction of the strain of the wires it engages, said plate and bar having corresponding recesses, teeth formed on the plate by the recesses, a sliding plate having teeth oppositely disposed to the teeth of the first mentioned plate, means for retaining the sliding plate in operative relation to the first mentioned plate, means for reciprocating the sliding plate, and means for exerting pull on the bar on the side thereof containing the plate.

969,952. WASHING-MACHINE. LYDIA HARRIS, East Pasadena, Cal. Filed Aug. 13, 1908. Serial No. 448,314.



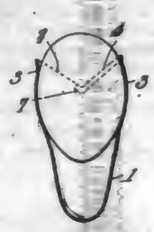
A washing machine comprising a frame adapted to extend over a tub, clamps at one end of said frame whereby the frame may be attached to a stationary member so that the frame will be above the tub, supporting legs pivoted to the other end of the frame, a pair of resilient corrugated rolls journaled in the frame, one of the rolls being movable toward the other, spring means to hold the rolls together, gear connection between the rolls to cause faster rotation of one roll than of the other, a pair of wringer rolls journaled on the frame, gear connection between the corrugated rolls and the wringer rolls, means on one of the rolls for normal rotation thereof, and a drain board supporting loop extending from the frame beneath said wringer rolls.

969,953. ANDIRONS AND FENDER. MICAJAH B. HELLER and JACOB K. HELLER, Townville, S. C. Filed Nov. 16, 1909. Serial No. 528,355.



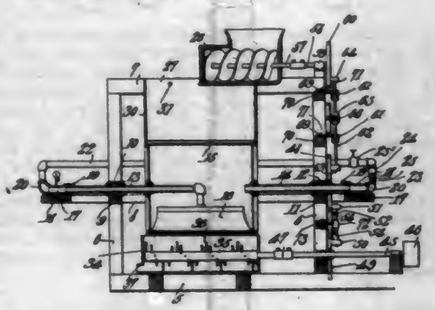
In an andiron and fender of the class described, a plurality of andirons each of which is adapted to stand alone and each of which is provided with a vertical member, an upturned hook formed integral with each member, a fender composed of a plurality of crosspieces and vertical uprights, the upper of the crosspieces engaged by the hooks, which hooks secure the fender against downward or sidewise movement, a loop partially encircling each vertical member of the andirons, each loop having its ends secured to adjacent vertical uprights of the fender.

969,954. DEVICE FOR PACKING EGGS. RUSH C. HOLMES, North Bend, Oreg. Filed Nov. 2, 1909. Serial No. 525,975.



An egg-container consisting of a sack having an opening for the reception of an egg, said opening being normally closed by resilient, overlapping lips formed integrally with the sack, one of said lips being provided, adjacent its edge, with an integral reinforcing rib terminally extended upon the body of the sack to points beyond the union of the lips.

969,955. APPARATUS FOR PREPARING FOOD PRODUCTS. HENRY L. HOLT, Camden, Ark. Filed Sept. 23, 1909. Serial No. 519,161.



1. In an apparatus of the class described, a rotary hollow cylinder, tubular shafts entering said cylinder through the heads thereof, said shafts being in axial alinement, supports for the shafts, driving means connected to one of the shafts, a steam pipe connected to one of the shafts whereby steam is discharged into the cylinder, the other shaft serving as an outlet for the steam from the cylinder and being rotatable with the cylinder, and a dipper connected to the last-mentioned shaft within the cylinder, said dipper being in communication with the bore of the shaft, and extending at its inlet end along the inner wall of the cylinder.

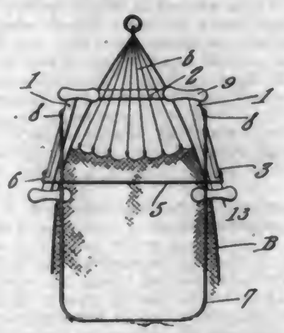
2. In an apparatus of the kind stated, a rotary drying cylinder, a hopper discharging onto the surface of the cylinder, a rotary grinder discharging into the hopper, and a variable speed driving mechanism for the cylinder and the grinder.

3. In an apparatus of the kind stated, a rotary drying cylinder, a hopper discharging onto the surface of the cylinder, a rotary grinder discharging into the hopper, and independent variable speed driving mechanisms for the cylinder and the grinder.

4. In an apparatus of the class described, a rotary drying cylinder, a hopper discharging onto said cylinder, a plate located adjacent the discharge end of the hopper, said plate being pivoted, and having at its ends outstanding flanges overlapping the ends of the hopper, and the lower edge of the plate extending parallel to the axis of the cylinder, and means for swinging the plate on its pivot to vary the distance between its lower edge and the surface of the cylinder.

5. In an apparatus of the kind stated, a rotary drying cylinder, a rotary grinder for the material to be discharged onto the surface of the cylinder, and a variable speed driving mechanism for the cylinder, and between the cylinder and the grinder.

969,956. CANOPY ATTACHMENT FOR HAMMOCKS. COYLE S. HUFFMAN, Ashland, Ohio. Filed Oct. 11, 1909. Serial No. 522,040.



1. A canopy attachment for hammocks, comprising front and rear fastening devices for detachably engaging one side edge of a hammock, similar fastening devices for detachably engaging the opposite edge of said hammock, connections between the fastening devices, and a canopy supporting element mounted upon said connections.

2. A canopy attachment for hammocks, comprising a canopy supporting element, a structure connected to said element, and spaced fastening clips upon said structure for detachably engaging the opposed side edges of a hammock.

3. A canopy attachment for hammocks, including side members, a canopy supporting element secured to said members, and spaced clips connected to each of said members for engaging the side edge of a hammock.

4. A canopy attachment for hammocks, including side members, spaced clips connected to each member for detachably engaging a side edge of a hammock, a bail-like canopy supporting element pivotally connected to said members, and means mounted upon the members for holding said elements at a predetermined angle to the side members.

5. A canopy attachment for hammocks, including side members, spring clips upon each member for engaging the side edge of a hammock, a bail-like canopy supporting element connected to said members, standards upon the side members, and a connection between the standards and constituting a support for the bail-like element.

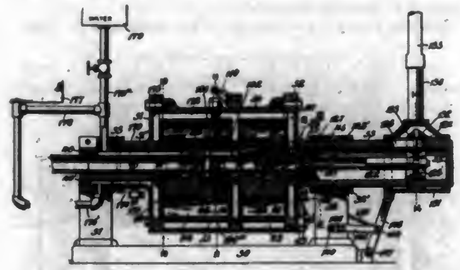
[Claim 6 not printed in the Gazette.]

969,957. ROTARY ENGINE. OLAUS B. JACOBS, Cleveland, Okla., assignor of two-ninths to Erd C. Mullendore, Cleveland, Okla. Filed Dec. 17, 1908. Serial No. 468,042.

1. In a rotary engine, an external cylindrical casing and an internal cylinder eccentric to each other, radially movable blades carried by one of said cylinders, the internal cylinder having an inlet passage and an outlet passage diametrically opposed to each other and located at opposite ends of the cylinder, a rotatable element on the internal cylinder, and means for connecting the blades with the element to move therewith.

2. In a rotary engine, an external piston casing carrying inwardly and outwardly sliding blades each mounted for lateral oscillatory movement to and from opposite sides of the radius of the external casing and a fixed internal cylinder, eccentrically set to the axis of the exterior casing, a carrier for the blades upon said cylinder and means for admitting motive fluid to the space between the casing and eccentric and exhausting it therefrom.

3. A rotary engine including an external rotary piston casing carrying centrally projecting, radially movable blades, a fixed internal cylinder, eccentric to the axis of the external casing, an annular carrier mounted on and extending around the circumference of the internal cylinder for supporting the inner parts of the blades and rotatable with the latter, and means for admitting motive fluid to the space between the casing and eccentric and exhausting it therefrom, said external casing having transverse outwardly extending pockets into which the piston blades are received.

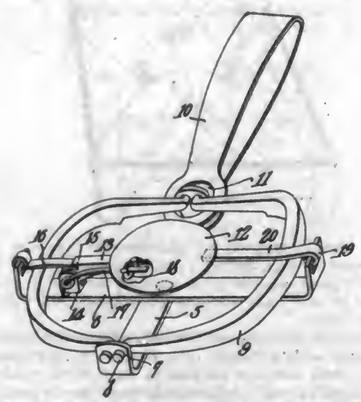


4. A rotary engine including an external rotary piston casing provided with transverse pockets, the walls of which are outwardly inclined, blades in each of said pockets, and movable inwardly and outwardly toward and from the center of the casing, a fixed internal cylinder, eccentric to the axis of the external casing, and means for admitting fluid to the space between the casing and eccentric and exhausting it therefrom.

5. A rotary engine including an external rotary piston casing having transverse pockets, centrally projecting radially movable blades mounted in said pockets, a fixed internal cylinder eccentric to the axis of the exterior casing, a sleeve surrounding and rotatably mounted upon said cylinder to which the inner ends of the blades are pivotally attached, and means for admitting motive fluid to the space between the casing and eccentric and exhausting it therefrom.

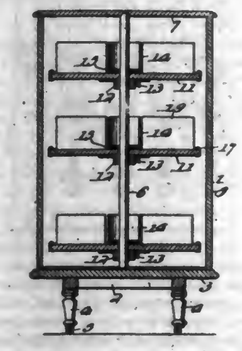
[Claims 6 to 77 not printed in the Gazette.]

969,958. GAME-TRAP. GERHARD L. JOHNSON, Cottonwood, S. D. Filed May 7, 1909. Serial No. 494,536.



In a trap, the combination with a base comprising crossed bars having turned up ends, jaws pivoted in an opposite pair of said ends, and a spring for normally closing the jaws; of long and short detents pivoted to the upturned ends of the other bar and adapted to overlie the jaws when open, a bearing mounted on this bar, an arm pivoted therein and having a notch adapted to be engaged by the short detent, a trip plate carried by said arm and having a bail on its under side, the edge of the plate being engaged by the inner end of the long detent, and a spring carried by said bearing and passing through said bail, for the purpose set forth.

969,959. REVOLVING BOOK AND FILE CASE. THOMAS H. KNIGHT, Atlanta, Ga. Filed Aug. 12, 1909. Serial No. 512,592.

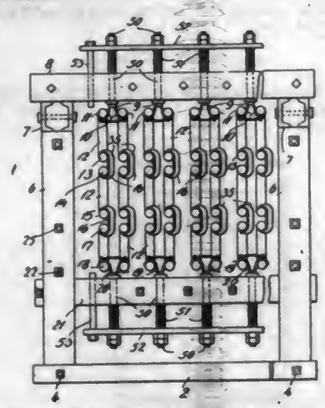


1. In a book case of the character described, a base, a casing arranged on said base and having an opening in one side, a closure for said opening, a supporting shaft revolubly mounted vertically in said casing, a series of shelves adjustably secured on said shaft, a receptacle arranged on each of said shelves around said shaft and adapted to limit the inward movement of the books, a series of laterally yieldable partitions arranged on the shelves to provide spaces to receive the books, and means to adjustably secure said partitions in place.

2. In a book case, a base, a casing arranged on said base, a supporting shaft revolubly mounted in said base and casing, a series of circular shelves adjustable vertically on said shaft, annular concentrically arranged receptacles secured to the center of the shelves around said shaft, an apertured flange formed on the lower side of each receptacle, binding strips arranged around the outer edges of said shelves, said strips having right angularly bent lower ends adapted to engage the lower sides of the shelves and upwardly extending flanges bent inwardly and downwardly to form beads around the edges of the upper sides of the shelves, said beads having a series of notches formed on their inner sides, and a series of partitions arranged on said shelves and having means for engaging the apertures in the flanges of said annular receptacles and the notches in said beads to secure said partitions in adjusted position.

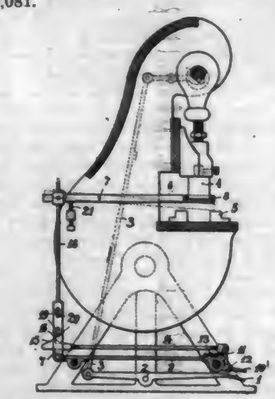
3. In a book case of the character described, a base, a casing arranged on said base, a supporting shaft revolubly mounted in said casing and base, a series of shelves adjustably secured to said shaft, an annular concentrically disposed receptacle arranged in the center of each of said shelves and around said shaft, said receptacle having a downwardly projecting annular flange provided with a series of closely spaced apertures, an annular bead arranged around the outer edge of each shelf, each bead having formed therein a series of notches, a series of notches, a series of combined book and file holders arranged on said shelves, said holders each comprising a V-shaped partition formed of yieldable material, and longitudinally projecting pins arranged at the inner and outer ends of the partition, said pins being adapted to be engaged with the apertures in said central receptacle and with the notches in the bead around the edge of the shelf, whereby the holders are held in their adjusted positions on the shelf, and the sides of the partitions held at the desired distance apart to form file holders of greater or less width.

969,960. APPARATUS FOR STRETCHING AND DRYING SKEINS OF SILK AND LIKE MATERIALS. JACOB KNOTT, Paterson, N. J. Filed Jan. 21, 1910. Serial No. 539,304.



Drying apparatus comprising in combination a supporting framework provided with hangers for carrying skein bars, and with stretching beams provided with stretching bolts likewise adapted to receive skein bars, tension applying means for moving said stretching beams, coiled springs secured to said hangers, and an equalizing bar for connecting said coiled springs as and for the purposes set forth.

969,961. PROTECTING MECHANISM FOR PRESSING, PUNCHING, AND CUTTING MACHINES, &c. GUSTAV KRAMER, Sandviken, near Christiania, Norway, assignor to Aktieselskabet. Sandvikens Blikvarefabrik, Sandviken, near Christiania, Norway. Filed Jan. 3, 1910. Serial No. 536,081.



1. The combination with a reciprocable operating member, of an oscillatory protecting member, mechanism for operating the protecting member, and mechanism operated by said operating mechanism to release the operating member.

2. The combination with a reciprocable operating member, of an oscillatory protecting member surrounding the latter, mechanism for operating the protecting member, and mechanism operated by said operating mechanism to release the operating member.

3. The combination with a reciprocable operating member, of a pivoted protecting member, a pivoted lever connected with the operating member, a pivoted arm mounted above said lever and movable into engagement therewith, and means to operatively connect the arm with the protecting member.

4. The combination with a reciprocable punching member, of a pivoted arm having its free end near said member, a foot lever for releasing the punching member, a bell-crank lever movable into engagement with the foot lever, a rod connected to the bell-crank lever, and a slide operable by the rod and connected to the pivoted arm.

5. The combination with a reciprocable operating member, of releasing mechanism therefor embodying a foot lever, a pivoted protecting member for the operating member, a slide adjustably connected with the protecting member, a bell-crank lever movable into engagement with the foot-lever, and a rod connected to the bell-crank lever adapted to actuate the slide.

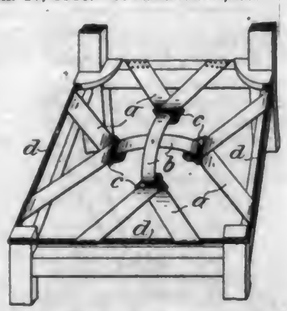
[Claims 6 and 7 not printed in the Gazette.]

969,962. SHADE-HANGER AND CURTAIN-SUPPORT. BARTLET KREUZBERGER, Meriden, Conn. Filed Sept. 16, 1909. Serial No. 518,050.



In a device of the class described, the combination of a vertical guide having spaced recesses on its outer face, a substantially triangular shaped member slidably mounted on said guide with one side bar thereof arranged in a horizontal plane and a laterally resilient tail depending from the apex of said member, a projection on the rear face of said tail for yieldably engaging the recesses in said guide and a shade bracket slidably mounted on the horizontal bar of said triangular member.

969,963. ELASTIC SUPPORT FOR UPHOLSTERED FURNITURE. GEORG LAA, Vienna, Austria-Hungary. Filed Jan. 17, 1910. Serial No. 538,465.



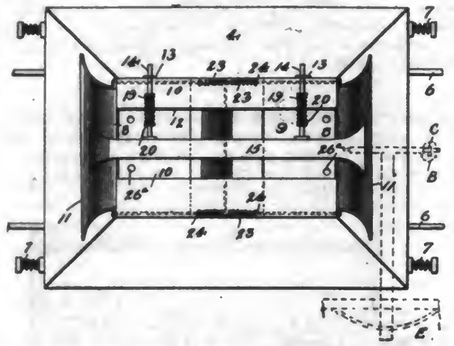
1. An elastic support for upholstered furniture comprising steel springs having yielding, comparatively large spiral end portions, and girth sections secured to the extremities of said ends adapted to be connected with the furniture frame.

2. In an elastic support for upholstered furniture the combination with a frame, of a yielding border mounted thereon; girth sections secured to said border, and flat steel springs having comparatively large spiral ends connecting the sections.

3. In an elastic support for upholstered furniture the combination with a frame, of a yielding support stretched thereon, adjustable girth sections connected to the support, and flat steel springs having spiral end portions connected at their extremities to oppositely positioned girth sections.

4. In an elastic support for upholstered furniture the combination with a frame, of a yielding support stretched on and forming a border for the frame, adjustable girth sections secured to the support on opposite sides of the frame, and flat steel springs having spiral end portions connected at their extremities to oppositely positioned girth sections.

969,964. MAIL-POUCH CATCHER AND DELIVERER. EDWARD J. LAHAN, Quincy, Ill. Filed July 7, 1909. Serial No. 506,266.



1. In a mail pouch catcher and deliverer, a box open at its two ends, and a slidable partition midway of its ends.

2. In a mail pouch catcher and deliverer, a box open at its two ends and longitudinally of its top, and a slidable partition midway of its ends.

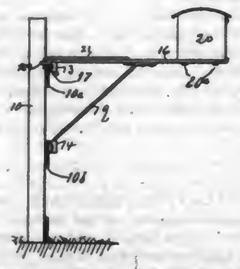
3. In a mail pouch catcher and deliverer, a box open at its two ends, and a spring mounted partition midway of its ends.

4. In a mail pouch catcher and deliverer, a box open at its two ends and longitudinally of its top, and a spring mounted partition midway of its ends.

5. In a mail pouch catcher and deliverer, a box open at its two ends, rods secured longitudinally of the box, a partition slidably mounted on said rods, and springs secured to the rods and bearing against the two sides of the partition.

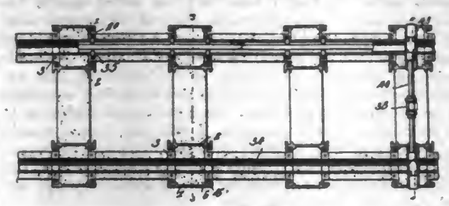
[Claims 6 to 21 not printed in the Gazette.]

969,965. MAIL-BOX HOLDER. EDGER U. LILLIE, Guthrie Center, Iowa. Filed June 5, 1909. Serial No. 500,784.



A mail box support, comprising, a strap adapted to be longitudinally secured to the upper rail of a fence, one end of the strap being bent to form a loop, and the other end provided with a flange adapted to rest upon the said upper rail, a holder pivoted in the loop to swing horizontally and adapted to support a mail box, a bearing secured to the fence directly below the loop, a brace having one end positively secured to the holder and the other end journaled in the bearing, and a link having one end connected to the holder and the other end detachably connected to the flange of the strap.

969,966. ROAD-BED. STANLEY W. LYMAN, Roberts, Mont. Filed Mar. 5, 1909. Serial No. 481,416.



1. A railroad road bed including composite ties and longitudinal members, and boxes fitting the members and forming the terminals of the ties.

2. A composite road bed including longitudinal members and connected cross ties, and boxes forming the terminals of the ties and arranged for the extension of the longitudinal members through them.

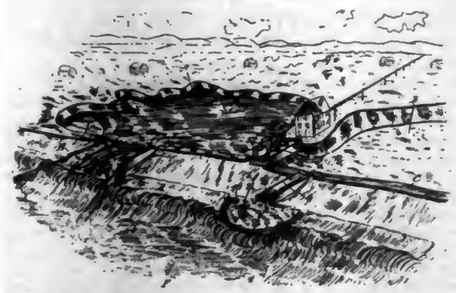
3. A road bed including a series of boxes arranged longitudinally of the bed and in opposing pairs transversely thereof, and tie members uniting the longitudinally disposed members of the transverse pairs.

4. A road bed including a series of boxes arranged longitudinally of the bed and in opposing pairs transversely thereof, and tie members uniting the longitudinally disposed members of the transverse pairs, said tie members extending diagonally from one box to the other.

5. A road bed including a series of connected metallic boxes arranged in spaced relation longitudinally of the bed, said boxes being formed to support mold forming walls extending longitudinally of the bed between the boxes.

[Claims 6 to 9 not printed in the Gazette.]

969,967. HYDRAULIC-POWER SYSTEM. THOMAS A. MACDONALD, Clifton, N. J., assignor of sixteen and one-third one-hundredths to Isaiah E. Zimmerman, Paterson, N. J., sixteen and one-third one-hundredths to William H. Castles, Kingsland, N. J., and sixteen and one-third one-hundredths to George Lentz, North Arlington, N. J. Filed Sept. 8, 1909. Serial No. 516,720.



1. In a hydraulic power system, the combination with a main body of water, of an upper reservoir disposed above the level of said main body of water, means for receiving water from said main body of water, and causing the projection of the water of the waves into said upper reservoir, a float in said upper reservoir connected with said water raising means for elevating and lowering the latter in accordance with the depth of the water in the upper reservoir, a lower reservoir, power devices arranged to be operated by the water from the upper reservoir in its flow to the lower reservoir, a tail race leading from said lower reservoir into said main body of water and having an automatic gate for permitting the flow of water from said lower reservoir into said main body, and for preventing a reverse flow therethrough and a break water closing the discharge end of the tail race.

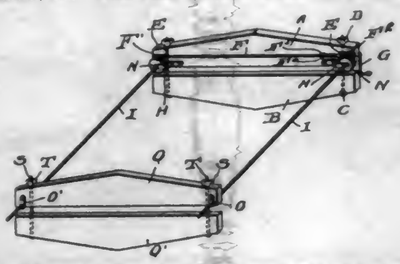
2. In a hydraulic power system, the combination with a main body of water of an upper reservoir disposed above the level of said main body of water, means for receiving waves from said main body of water and causing the projection of the water of the waves into said upper reservoir, automatic means for adjusting the water elevating means to the height of the water in said upper reservoir, a lower reservoir, power devices arranged to be operated by the water from the upper reservoir in its flow to the lower reservoir, a tail race, and a hinged gate provided with a float arranged to close to prevent the passage of water from said main body into said tail race, and to open to permit the exit of water through said tail race, into said main body.

3. In a hydraulic power system, the combination with a main body of water, of an upper reservoir disposed above the level of said main body of water, an inclined chute for receiving waves from said main body of water and projecting them into said upper reservoir, said chute being hinged at its lower end and being provided with a float at its upper end, disposed in the water of the upper reservoir and adapted to fall with the level of the water, a lower reservoir, and a tail race from said lower reservoir into said main body of water.

4. In a hydraulic power system, a main body of water, a reservoir, a water elevating device for raising the water from the main body into said reservoir, said water elevating device comprising an inclined chute having sides converging toward the top, means for concentrating the waves in said chute, means for preventing the interference of the water from the receding wave with that of an oncoming wave, and means for automatically adjusting the upper level of the inclined chute with respect to the level of the water in the reservoir.

5. In a hydraulic power system, a main body of water, a reservoir, means for elevating the water from the main body of water into said upper reservoir, said means comprising an inclined chute having sides converging toward its upper end, said sides being inclined outwardly, the bottom of said chute being provided with a series of channels and having pivoted strips arranged to be swung into the path of the receding water, to oppose the descent of the latter, and to return the water through the bottom of the chute, thereby eliminating the interference of an oncoming wave with a receding wave.

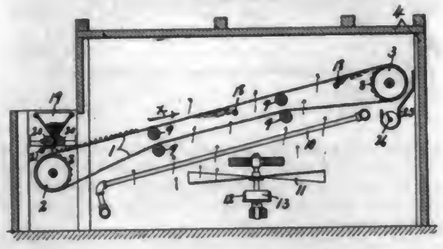
969,968. BELT-TIGHTENER. JULIAN G. MARTIN, Drybranch, Ga. Filed June 1, 1910. Serial No. 564,525.



1. A belt tightening apparatus comprising two pairs of clamping members, means for holding the same against the belt, bracket arms fastened to one of said members, each of said bracket arms having parallel portions which are provided with registering apertures and one of said projections having a countersunken portion about the aperture therein, threaded shafts journaled in said apertures and each having a head seated in said countersunken portion of the bracket arm, a worm wheel fixed to each shaft intermediate said parallel portions of the bracket arm, a worm shaft journaled upon the bracket member to which said arms are fastened and in mesh with said worm wheels, interiorly threaded bushings mounted upon one of the other of said sets of clamping members and adapted to engage the threaded portions of said shafts.

2. A belt tightening apparatus comprising two pairs of clamping members, means for holding the same against the belt, bracket arms fastened to one of said members, each of said bracket arms having parallel portions which are provided with registering apertures and one of said projections having a countersunken portion about the aperture therein, threaded shafts journaled in said apertures and each having a head seated in said countersunken portion of the bracket arm, a worm wheel fixed to each shaft intermediate said parallel portions of the bracket arm, a worm shaft journaled upon the bracket member to which said arms are fastened and in mesh with said worm wheels, interiorly threaded bushings each having a laterally projecting portion fastened to one of the clamping members of the other set, said bushings receiving the threaded shafts.

969,969. APPARATUS FOR TREATING DRIED FRUIT. IRVING S. MERRELL, Syracuse, N. Y., assignor to Merrell-Soule Company, Syracuse, N. Y., a Corporation of New York. Filed Nov. 20, 1905. Serial No. 288,217.



1. In an apparatus for treating dried fruit, a housing, a continuously traveling foraminous conveyer within and extending outwardly through an opening in one side of said housing, means at the exterior of the housing for feeding fruit on to the exterior portion of the conveyer, means for steaming the fruit in its passage from said feeding means on to the conveyer, and additional means for moistening the fruit while in transit through the housing on the conveyer.

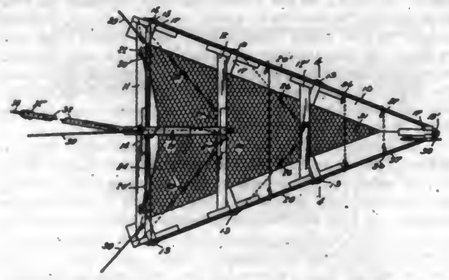
2. In combination with a closed housing having a return passage for moisture laden air in one side, a continuously moving foraminous conveyer extending into the housing, and mechanical means for continuously circulating such moisture laden air through the conveyer and through said passage.

3. In combination with a housing, an endless foraminous conveyer extending into the housing, means for introducing steam into the housing below the conveyer, a partition between one side but spaced apart from the top and bottom of the housing forming a return passage for moisture laden air, and mechanism for circulating moisture laden air through the conveyer and through said return passage.

969,970. FLOATING FISH-TRAP. NELS L. MOEN, Wrangel, Alaska, assignor of one-half to Iver Handseth, Seattle, Wash. Filed Jan. 31, 1910. Serial No. 540,960.

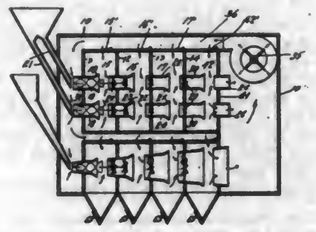
1. In a fish trap, a floatative frame, poles connected to the frame for individual vertical movements, means for securing said poles in adjusted positions, flexible connections between the lower ends of the adjacent poles, and a cord netting depending from said frame and extending exteriorly about said poles.

2. In a fish trap, a floatative frame, of a triangular shape comprised of side members which are directly connected with each other at their rear ends and transverse beams connecting the side members at the front end and intermediate their lengths, poles connected to the frame for individual vertical movements, means for securing said poles in adjusted positions, flexible connections between the lower ends of the adjacent poles, and a cord



netting depending from said frame and extending exteriorly about said poles.

969,971. GRADER. LAWRENCE N. MORSCHER, Lawrence, Kans., assignor to himself, and William J. Ehrsam, Enterprise, Kans., cotrustees. Filed Oct. 19, 1908. Serial No. 458,558.



1. The combination, of a plurality of alined but axially separated tubes, means associated therewith for producing a helical movement of a particle-laden fluid-current through said tubes, means for delivering a multiplicity of particles to the first of said tubes, and means for establishing a deflecting fluid current between the separated adjacent ends of said tubes and from thence into and through the advance tube in opposition to the issuance of projected particles from the preceding tubes.

2. The combination, of a plurality of alined but axially separated tubes, deflectors arranged within for producing a helical movement of a particle-laden fluid-current through said tubes, means for delivering a multiplicity of particles to the first one of said tubes, and means for establishing a deflecting fluid current between the separated adjacent ends of said tubes and from thence into and through the advance tube in opposition to the issuance of projected particles from the preceding tubes.

3. The combination of two alined tubes the first having an outwardly flaring unobstructed discharge end adjacent but separated from the receiving end of the other tube, means for delivering a particle-laden fluid-stream to the receiving end of the first tube and for establishing a helical movement of the said stream in said first tube, and means for introducing a deflecting fluid stream into the receiving end of said second tube.

4. The combination of two alined separated tubes, the first having an outwardly flaring delivery end delivering to the second, a helical deflector arranged in said first tube, means for delivering a particle-laden fluid-stream to the receiving end of the first tube, and means for introducing a deflecting fluid stream between the adjacent ends of the two tubes and from thence into and through the second tube.

5. The combination of two alined separated tubes, a delivery chute delivering to the receiving end of the first tube, means associated with the first tube for imparting a radial force to particles traversing said tube, a collecting chamber surrounding the separated adjacent ends of the two tubes and having an air inlet, and a suction fan connected with the discharge end of the second tube, whereby the air current will enter the second tube between the adjacent ends of the two tubes and pass through said second tube toward the fan.

[Claim 6 not printed in the Gazette.]

969,972. CAR-ROOF. PETER H. MURPHY, Pittsburg, PA. Filed May 2, 1910. Serial No. 558,986.



1. In a car roof, the combination with the side plates, of a carline comprising an I-beam whose web is parallel with the pitch of the roof, the ends of the web being slit parallel and close to the flanges and turned downwardly, and the slit portions of the flanges being turned outwardly parallel with and secured to the side plates.

2. In a car roof, the combination with the side plates, of pocket members secured to the inner faces of said side plates, said pocket members having a pair of oppositely disposed pockets on their inner faces, and a strut comprising an I-beam whose web portion is horizontally disposed and whose opposite end portions are split and turned laterally and fitted in the respective pockets of said pocket members.

3. In a car roof, the combination with the side plates, of pocket members comprising plate portions which are bolted at their opposite ends to the inner faces of said side plates and having a pair of oppositely disposed pockets on their inner faces, and an I-beam whose web portion is horizontally disposed and whose opposite end portions are split at the bases of its flanges, and the portions of said flanges which are severed from the web being turned laterally and fitted in the pockets on said pocket members.

4. In a car roof, the combination with the side plates, of pocket members comprising plate portions which are bolted at their opposite ends to the inner faces of said side plates and having a pair of oppositely disposed pockets on their inner faces, and an I-beam whose web portion is horizontally disposed and whose opposite end portions are split at the bases of its flanges, and the severed portions of said flanges being turned laterally and fitted in the pockets of said pocket members, and the web portion of the opposite ends of the beam being turned downwardly and bolted to the adjoining side plate.

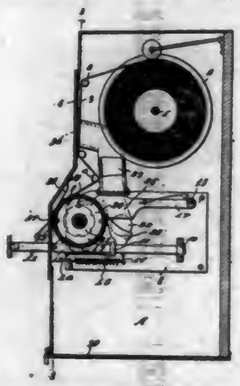
5. A metal carline comprising an I-beam whose web portion is horizontally disposed and whose opposite end portions are split parallel with the longitudinal axis of said beam at the bases of the flanges thereof, the severed flange portions being turned outwardly at right angles and the web portion at the ends of the beam being turned downwardly, and castings which are adapted to be secured to the side plates of the car, comprising plate portions having a pair of oppositely disposed pockets on their inner faces which are counterparts of the laterally-turned flange portions of the beam, the end portions of said castings being perforated to receive securing bolts, and said downturned web portion of the beam having a perforation arranged to register with a perforation in the adjoining casting to receive a securing bolt.

[Claim 6 not printed in the Gazette.]

969,973. STAMP-VENDING MACHINE. ERNEST A NIELSEN and FREDERICK C. PETERSEN, East Boston, Mass. Filed May 24, 1909. Serial No. 498,019.

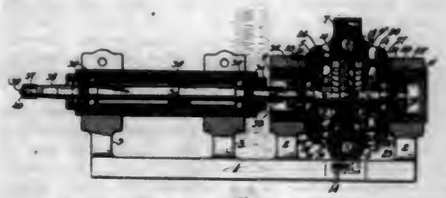
In a stamp vending machine, the combination of a casing having a delivery opening and an indicator opening formed on the forward side thereof, a spool mounted therein adapted to carry a series of stamps, a series of rolls supported by one side of the casing arranged to conduct the strip of stamps before the indicator opening, a delivery drum rotatably mounted adjacent to the delivery opening, rolls located in the casing between the

indicator opening and the delivery opening to conduct the stamps over said delivery drum, a series of radially extending spaced spikes carried on the delivery drum, a series of pins extending horizontally from the edge of said delivery drum, a plunger carrying a pivotal spring pressed pawl adapted to operate said drum through the instrumentality of said pawl upon the positive inward position of the plunger, stripping fingers projecting in-



wardly over the delivery opening into contact with said drum, a pressure plate secured to the casing above the drum projecting into contact therewith and terminating just above the stripping fingers whereby the said plate holds the stamps in close contact with the drum and guides the same from above the delivery opening and stripping fingers, and a brake operating against the periphery of said drum.

969,974. TURBINE. PAUL F. NYDEGGER, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Mar. 6, 1909. Serial No. 481,734.



1. A motor comprising a spindle, two spaced turbine-wheels fixed thereon and having oppositely extending vanes correspondingly inclined in relation to the space intermediate said wheels, a casing formed with a supply chamber, and a delivery member occupying the space intermediate said wheels and provided in opposite faces with divergently inclined series of laterally-open ducts each affording communication between the supply chamber and the adjacent ends of the vanes of said turbine-wheels, and annular cover-plates applied to said delivery member for laterally closing the said ducts excepting in their delivery end portions adjacent said wheels.

2. A motor comprising a spindle, two spaced turbine-wheels fixed thereon and having oppositely extending vanes correspondingly inclined in relation to the space intermediate said wheels, a casing formed with a supply chamber, and a delivery member occupying the space intermediate said wheels and provided with independent series of ducts each leading from the supply chamber at the periphery of said member to one of the side faces of said member adjacent the path of movement of the turbine-wheel vanes.

3. A motor comprising a casing formed with an annular supply chamber, an axial spindle journaled in said casing and extending through said chamber, two spaced turbine-wheels mounted on said spindle and provided with oppositely extending vanes correspondingly inclined in relation to the intermediate space, and a delivery member occupying the space intermediate said wheels and surrounded by said supply chamber, said delivery member being provided with series of laterally inclined ducts leading from its periphery to its opposite faces, respectively, and directed toward the turbine-wheel vanes and tangentially of their path of circular movement.

4. A motor comprising a casing formed with two exhaust chambers and an intermediate annular supply chamber, an axial spindle journaled in said casing and extending through said chambers, two spaced turbine-wheels mounted on said spindle and provided with oppositely extending vanes directed toward said exhaust chambers, and a delivery member occupying a space intermediate said turbine-wheels and surrounded by said supply chamber, said delivery member being provided with series of laterally inclined supply ducts leading from its periphery toward and tangentially of the path of movement of the vanes of the respective turbine-wheels.

5. A motor comprising a casing constructed with longitudinally separable sections having an intermediate supply chamber, an axial spindle journaled in said casing, two spaced turbine-wheels mounted on said spindle and provided with oppositely extending vanes correspondingly inclined in relation to the intermediate space, and a delivery member occupying the space intermediate said turbine-wheels and surrounded by said supply chamber, said delivery member comprising a disk having laterally inclined open grooves each extending from the periphery inwardly to one of its side faces tangentially to the path of movement of the adjacent turbine-wheel vanes, and annular cover-plates for laterally closing the outer end portions of said grooves.

[Claims 6 and 7 not printed in the Gazette.]

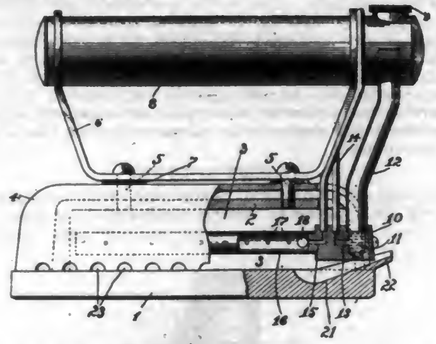
969,975. SHOVEL. BERTRAND C. OLMSTED, Deer Creek, Okla. Filed Sept. 22, 1908. Serial No. 454,169.



As a new article of manufacture, a shovel comprising a blade having at its rear edge a longitudinally extending uniformly tapered triangular socket opening outward through the rear edge of the shovel, said socket being rounded laterally, a shank separate from the blade and having an enlarged forward end approximately triangular in form, laterally rounded uniformly tapered and fitting said socket snugly, said shank, beyond the triangular head thereof, being upwardly curved above the face of the shovel, and then rearwardly extended, the rear end of the shank beyond the upwardly curved portion thereof being formed with a longitudinally extending tapered socket, a slot extending through the back wall of the socket, fastening rivets disposed in a line transverse to the longitudinal axis of the shank through the rear end of the shovel blade and through the head of the shank, a handle fitted at its forward end into the socket in said shank and having a recess registering with the slot, and a tapered plug passing through the slot and into the recess and detachably retaining the end of the handle in the socket.

969,976. SAD-IRON. LEON F. PARKHURST and HARRY G. WEEKS, Binghamton, N. Y., assignors to Diamond Electric Company, Binghamton, N. Y., a Corporation of New York. Filed Oct. 18, 1909. Serial No. 523,311.

1. A self heating sad iron comprising in combination a flat base, a hollow boss cast integrally with the base of the iron and forming a heating chamber, a hollow cover resting on the base around said boss and forming an air chamber around the same, a handle for said iron mounted on said cover and having a fuel reservoir formed as a part thereof, a burner in said heating chamber and supply connections between said reservoir and said burner.



2. A self heating sad iron having a heating chamber cast integrally therewith, a burner in said heating chamber, a handle, a reservoir forming a part of said handle, a fuel supply pipe for said burner, a vaporizing tube connecting with said supply pipe and extending over said reservoir and connecting with said burner.

3. A self heating sad iron comprising a body portion having a heating chamber, a handle for said iron comprising a handle bail and a fuel reservoir mounted on said handle bail and forming the grip for said handle, a burner in said heating chamber comprising a body portion having a supply passage and a jet passage therein, a burner tube connecting with said jet passage, a supply pipe connecting said reservoir and said supply passage and a vaporizing tube communicating with said supply passage and extending upwardly and over said reservoir and downwardly and connecting with said jet passage.

4. A self heating sad iron comprising a base having a heating chamber thereon, a cover mounted on said base and surrounding said heating chamber, a handle mounted on said cover and comprising a fuel reservoir as a part thereof, a burner body having a burner tube, a supply pipe connecting said reservoir and said burner body, and a vaporizing tube interposed between said supply pipe and said burner tube and extending from said burner body upwardly and over said reservoir and back to said burner body.

5. A self heating sad iron comprising a base having a heating chamber thereon, a cover detachably mounted on said base and surrounding said heating chamber, a handle mounted on said cover, a reservoir forming a part of said handle, a burner mounted in said heating chamber, a supply pipe connecting said reservoir and burner, a vaporizing tube communicating with said supply pipe and said burner and having a portion extending above the level of the fluid in said reservoir and a primer formed in said base and located beneath the junction between said burner and said vaporizing tube.

969,977. WINDOW-SCREEN. HENRY PETERSEN, Chicago, Ill. Filed Sept. 30, 1909. Serial No. 520,409.

1. In a window screen, the combination with a window sash and frame therefor, of a housing secured to the window sill; a spring roller mounted in said housing; a flexible sheet of netting wrapped upon said roller; a cord secured to the side edges of said netting; guides for said netting provided with an interior channel adapted to receive said cord and a narrower slot communicating therewith and adapted to receive said netting; a substantially U-shaped metallic member secured over the upper edge of said sheet by being compressed thereon and onto the upper ends of said side cords which are bent inwardly to lie within the same; and means for securing said member to the lower rail of said window sash, substantially as described.

2. In a window screen, the combination with a window sash and frame therefor, of a housing secured to the window sill; a spring roller mounted in said housing; a flexible sheet of netting wrapped upon said roller; a cord secured to the side edges of said netting; guides for said netting provided with an interior channel adapted to receive said cord and a narrower slot communicating therewith and adapted to receive said netting; a substantially U-shaped metallic member secured over the upper edge of said sheet by being compressed thereon and onto the upper ends of said cords which are bent inwardly to lie within the same, the said member being provided with keyhole slots; and buttons on the lower rail of said window sash adapted to enter said slots, substantially as described.



3. In a window screen, the combination with a window sash and frame therefor, of a housing secured to the window sill; a spring roller mounted in said housing; a flexible sheet of cloth netting having a loop woven in its side edges and wrapped upon said roller; a cord threaded in said loop; guides for said netting provided with an interior channel adapted to receive said cord and a narrower slot communicating therewith and adapted to receive said netting; a metallic member secured to the upper edge of said netting and having outwardly bent ends adapted to travel in said guide slot; and means for securing said member to the lower rail of said window sash, substantially as described.

4. In a window screen, the combination with a window sash and frame therefor, of a housing secured to the window sill; a spring roller mounted in said housing; a flexible sheet of cloth netting having a loop woven in its side edges and wrapped upon said roller; a metallic member secured across the top of said netting by being bent over the edge thereof and provided with outwardly bent ends; cords threaded in said netting loops and having their upper ends turned in and secured in the outwardly bent ends of said metallic member; a guide mounted on said frame adjacent said sash and provided with an interior channel adapted to receive said cord and a narrower slot communicating therewith and adapted to receive said outwardly bent ends of said metallic member and said netting; and means for securing said metallic member to said sash, substantially as described.

969,978. LIQUID-FUEL BURNER. BRADFORD R. PHILLIPS, Cement, Tex. Filed Sept. 15, 1909. Serial No. 517,926.

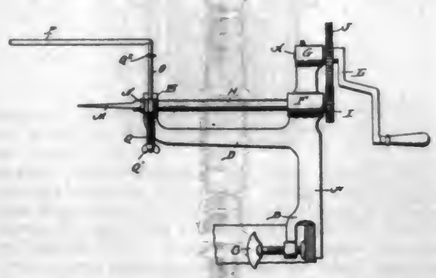


1. In a liquid fuel burner, a tube having a flared discharge end, a tube arranged concentrically within said tube and discharging into its flared discharge end, and a valve in the discharge end of the first-mentioned tube in

front of the discharge end of the other tube, said valve comprising a tapered body, the surface of the same, and the inner surface of the flared discharge end of the first-mentioned tube extending at different angles relative to each other, and at oblique angles to the longitudinal axes of the tubes, the said inner surface of the aforesaid flared discharge end terminating in a portion which extends parallel to said axes, and into which portion the end of the valve extends.

2. In a liquid fuel burner, a tubular casing having a flared discharge end, and enlarged at its other end, a head having a tubular portion entering the enlarged end of the casing, there being an inlet to the bore of the said tubular portion, said bore having the same diameter as the internal diameter of the casing intermediate its ends, a tube in said bore opening through one side of the head, and extending through the bore of the casing into the discharge end thereof, and discharging thereinto, and a valve located in the flared discharge end of the casing.

969,979. KRAUT-CUTTER. JOSEPH S. RANDOLPH, Glencoe, Ohio. Filed June 25, 1910. Serial No. 568,812.



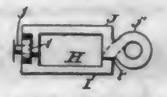
1. In a kraut cutter the combination with a standard provided with an arm having a bearing, of a shaft mounted in said bearing carrying a prong, a pair of diverging knives provided with shanks slidably mounted in bearings carried by said arm, and springs for actuating said knives.

2. A kraut cutter comprising a standard provided with means at its lower ends for securing the same to a support, and having bearings at its upper end, an arm extending outwardly from said standard provided with a bearing in alinement with one of the bearings of the standard, a shaft mounted in said alining bearings provided with a gear at one end and a prong at the other end, bearings formed on the sides of the bearing of the arm, diverging knives provided with shanks slidably mounted in said bearings having threaded lower ends, coil springs surrounding said shanks below said bearings, nuts working on said shanks for adjusting the tension of said springs, and a crank operated shaft mounted in the upper bearing of said standard carrying a gear meshing with the first mentioned gear.

3. The combination with a standard provided with an arm and having a bearing, of a shaft revolubly mounted within said bearing provided with a prong at one end, bearings formed on the bearing of the arm, diverging knives carried by shanks slidably mounted in said bearings, and provided with collars for limiting their downward movement, said shanks being provided with threaded lower ends, coil springs surrounding said shanks below said bearings, and wing nuts mounted on said threaded lower ends of said shanks for adjusting the tension of said springs.

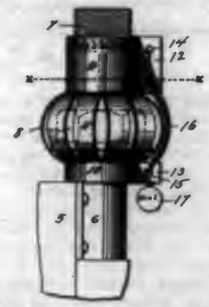
969,980. FENCE-STRETCHER. PETTIS A. REID, Richmond, Ind. Filed May 29, 1905. Serial No. 262,897.

In a fence-stretcher, the combination with a fence-clamp, of a stirrup comprising two separable half-parts adapted to embrace said clamp and to be self-locked in position, one half-part formed at one end with an eye at right-angles to the plane of the stirrup, and the other half-part having at the same end a rearwardly or outwardly projecting stud to enter and lock in said eye, and both half parts formed at their opposite ends with eyes turned



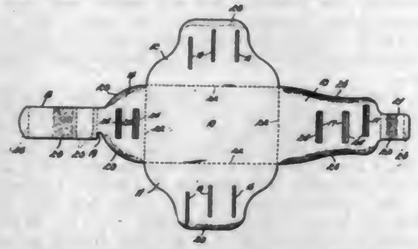
flatwise in the plane of the stirrup and overlapping so as to constitute a single eye for engagement by the hook of a fence-stretcher.

969,981. SHEET-METAL SEAL FOR PIPE CONNECTIONS. JOSEPH D. RENICK, Loudonville, and KAY C. KAICK, Columbus, Ohio. Filed Sept. 13, 1909. Serial No. 517,489.



A coupling seal of the character described, comprising a pair of bands adapted to encircle the annular portion of a coupling, a plurality of bowed strips connecting said bands within which an angular portion of said coupling lies, abutting perforated ears carried by both of said bands, and sealing means passing through all of the perforations.

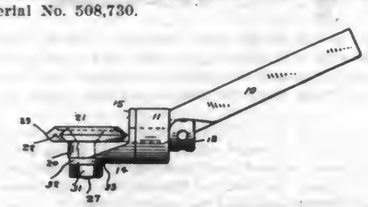
969,982. ENVELOP. FANNIE B. ROBERTSON, Lohn, Tex. Filed June 28, 1909. Serial No. 504,716.



1. An envelop including a body having closure flaps extending from two opposite sides and foldable over the body, one of said flaps having a plurality of slots with the slot nearest to the terminal of the flap offset laterally, and a tongue extending from the other flap with its sides in parallel relations and with a recess at the juncture of the tongue and the flap, the bottom of the recess being arranged to correspond to the inner end of the offset slot and the parallel sides of the tongue corresponding to the remaining slots, so that when the tongue is woven through the slots the offset slot will be engaged by the portion of the tongue in which the recess is located and the parallel sided portion of the tongue will cause the tongue to be retained in position when threaded through the remaining slots.

2. An envelop including a body having closure flaps extending at its edges and foldable over the body and overlapping three of said flaps each having a plurality of slots which register when the flaps are folded with the slots nearest to the other flap offset laterally, and a tongue extending from said other flap with its sides in parallel relations and with a recess at the juncture of the tongue and the flap, the bottom of the recess being arranged to correspond to the inner ends of the offset slots and the parallel sides of the tongue corresponding to the remaining slots, so that when the tongue is woven through the slots the offset slots will be engaged by the portion of the tongue in which the recess is located and the parallel sided portion of the tongue will cause the tongue to be retained in position when threaded through the remaining slots.

969,983. TOOL-HOLDER AND TOOL. ANDREW K. ROSENBECK, New Haven, Conn. Filed July 21, 1909. Serial No. 508,730.



1. The combination with a tool carrier having a transverse angular opening, of a disk tool having in its face a beveled serrated recess and a stud having a beveled serrated head corresponding with the recess, an angular portion corresponding with the angular opening and a threaded portion adapted to receive a nut whereby the tool may be locked with either cutting edge at any required angle.

2. The combination with a tool carrier comprising a base adapted for attachment to a holder and an arm with a transverse angular opening, of a disk tool having in its face a serrated recess and a stud having a serrated head engaging the recess, an angular portion engaging the opening in the arm and a threaded portion adapted to receive a nut.

3. The combination with a tool holder having a head with a beveled socket and a tool carrier comprising a base having a beveled portion engaging the socket and an arm with a transverse angular opening, of a screw passing through the head and engaging the base of the carrier, a disk tool in said carrier, and means for preventing rotation of said tool.

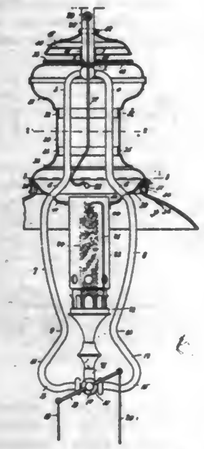
4. The combination with a tool holder having a head with a beveled circular socket and below the socket a hole, of a tool carrier having a base with a beveled circular portion engaging the socket and a screw having a head bearing on the head of the holder and passing through the hole and engaging the base of the carrier, whereby the carrier may be adjusted at any angle.

5. The combination with a tool holder having a head with a socket, a tool carrier having a base provided with a reduced portion engaging the socket and a screw passing through the head and engaging the carrier whereby the latter may be set at any angle, of means for adjustably securing a tool to the carrier.

969,984. INCANDESCENT GAS-LAMP. JOSEPH RUBIN, New York, N. Y. Filed May 18, 1910. Serial No. 562,046.

1. In a gas lamp, the combination of depending pipes and a gas burner mounted on the lower part thereof, a chimney for said burner, a valve controlling the supply of gas to the burner, a casing inclosing the upper part of said pipes and housing the same, an annular supporting plate secured concentrically to the lower end of said casing and engaging said pipes, said plate serving to support said casing on said pipes and to contract the opening in the lower end of said casing.

2. In a gas lamp, the combination of depending pipes provided with outwardly projecting shoulders or bends, a gas burner mounted on the lower part of said pipes, a chimney for said burner, a valve controlling the supply of gas to the burner, a casing inclosing said pipes and housing the same, an annular supporting plate secured to the lower end of said casing and having the edge of its central opening provided with notches for receiving said pipes and supporting said plate upon the shoulders or bends of said pipes.



3. In a gas lamp, the combination of depending pipes and a gas burner mounted on the lower part thereof, a chimney for said burner, a valve controlling the supply of gas to the burner, a casing inclosing the upper part of said pipes and housing the same, said casing having a contracted part acting as an intensifier or draft pipe, an annular supporting plate secured concentrically to the lower end of said casing and engaging said pipes, said plate serving to support said casing on said pipes and to contract the opening in the lower end of said casing, the upper end of said chimney communicating with the central opening in said plate.

4. In a gas lamp, the combination of depending pipes and a gas burner mounted on the lower part thereof, a chimney for said burner, a valve controlling the supply of gas to the burner, a casing inclosing the upper part of said pipes and housing the same, a shade holder mounted upon the lower end of said casing, an annular supporting plate secured concentrically to the lower end of said casing and engaging said pipes, said plate extending below said shade holder serving to support said casing on said pipes and to contract the opening in the lower end of said casing and also serving as a reflector.

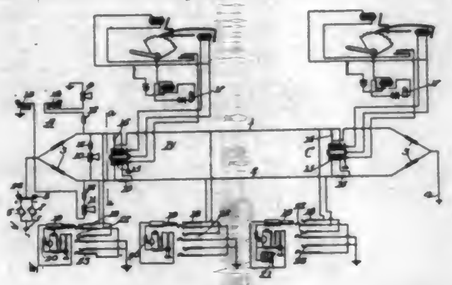
5. In a gas lamp, the combination of depending pipes and a gas burner mounted on the lower part thereof, a chimney for said burner, a valve controlling the supply of gas to the burner, a casing inclosing the upper part of said pipes and housing the same, an annular supporting plate secured concentrically to the lower end of said casing and engaging said pipes, said plate serving to support said casing on said pipes and to contract the opening in the lower end of said casing, a bracket mounted upon the upper part of said pipes and attached to the upper end of said casing to prevent the same from rising.

[Claim 6 not printed in the Gazette.]

969,985. SIGNALING SYSTEM. HARRY O. RUGH, Sandwich, Ill., assignor to Sandwich Electric Company, Sandwich, Ill., a Corporation of Illinois. Filed June 26, 1908. Serial No. 440,569.

1. A metallic circuit telephone system comprising a central station and a plurality of substations united by two line conductors and return conductor, of a substation telephone set at each station, switching instrumentalities at each station for connecting the telephone

set in bridge of said line conductors so that the telephone sets can all communicate metallically, switching instrumentalities at each station for connecting the telephone set thereat between a line conductor and the return conductor, when the remaining line conductor is temporarily defective, so that the various telephone sets can communicate over this second circuit, and signal receiving devices at the central station capable of receiving a signal from the substations either metallically over the line conductors or over either line conductor and the return circuit.



2. A metallic circuit telephone system comprising a central station and a plurality of substations united by two line conductors and a return conductor, of a substation telephone set at each station, each said telephone set having a transmitter and local battery and a switch for closing a local closed circuit through said transmitter and battery, switching instrumentalities at each station for connecting the telephone set in bridge of said line conductors so that the telephone sets can all communicate metallically, switching instrumentalities at each station for connecting the telephone set thereat between a line conductor and the return conductor, when the remaining line conductor is temporarily defective, so that the various telephone sets can communicate over this second circuit, and means whereby the substations may be called over the line conductors or over a line conductor and the return circuit.

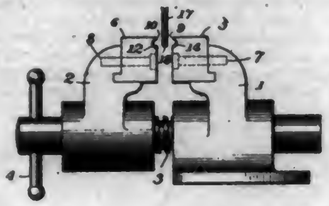
3. A metallic circuit telephone system, comprising a plurality of stations united by two line conductors, of a substation telephone set for each station, each said telephone set having a transmitter and local battery and a switch for closing a local closed circuit through said transmitter and battery, a jack for each telephone by means of which it is connected to the system aforesaid in bridge, switching means for each telephone for breaking said metallic bridge connection and connecting said telephone set between either line conductor and ground.

4. A metallic circuit telephone system, comprising a plurality of stations united by two line conductors, of a sub-station telephone set for each station, switching means at each telephone for connecting said telephone set in bridge of said line conductors, switching means for opening the connection between said telephone set and one of the conductors, and transferring said connection to a ground, and means at one of the stations for receiving calling signals metallically and over either line wire and ground.

5. A metallic circuit telephone system, comprising a plurality of stations united by two line conductors, of a telephone sub-station set for each station, each said telephone set having a transmitter and local battery and a switch for closing a local closed circuit through said transmitter and battery, a jack at each substation for metallically connecting said telephone set to said line conductors, a second jack at each station for connecting said telephone set between a line conductor and ground, a third jack at each station for connecting said telephone set, between the second line conductor and ground, and a plug for said telephone set.

[Claims 6 to 27 not printed in the Gazette.]

969,986. APPARATUS FOR MAKING BACKINGS FOR ARTIFICIAL TEETH. FARRIS S. SAWAYA, Baltimore, Md., assignor to James W. Ivory, Philadelphia, Pa. Filed Apr. 16, 1909. Serial No. 490,340.



1. In a device of the class described, a block having a flat face with a straight upper edge and being provided with a groove in said face parallel with said edge and the face of the block being cut away above said groove at one end.

2. In a device of the class described, a block having a flat face with a straight upper edge and being provided with a groove in said face parallel with said edge and enlarged at one end and the face of the block being cut away above said groove at the enlarged end.

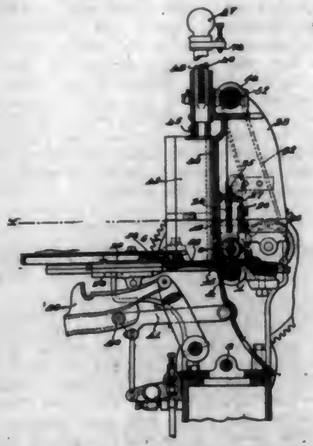
3. In a device of the class described a block having a flat face with a straight upper edge and being provided with a semi-cylindrical groove in said face parallel with said edge and enlarged at one end and the face of the block being cut away above said groove at the enlarged end.

4. In a device of the class described, a block having a flat face with a straight graduated upper edge and being provided with a semi-cylindrical groove in said face parallel with said edge and the face of the block being cut away above said groove at one end.

5. In a device of the class described, the combination with two blocks having graduated meeting edges, of means for forcing said blocks together the said blocks having complementary grooves below the top of said meeting edges and a portion of said blocks being cut away at one end above said groove.

[Claims 6 to 8 not printed in the Gazette.]

969,987. LEATHER-SKIVING MACHINE. JACOB R. SCOTT, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Sept. 23, 1907. Serial No. 394,083.



1. A leather skiving machine, having, in combination, a series of pressure disks, a carrier for each disk comprising separable parts provided with journals for the disk, means for yieldingly supporting the carriers, a rotary shaft passing through the disks, and connections between the shaft and disks for rotating the disks while permitting the disks to move transversely to the shafts.

2. A leather skiving machine, having, in combination, a series of pressure disks, a series of independently movable carriers in which the disks are journaled provided with stripping surfaces between the disks in position to remove a skiving from the disks, means for yieldingly supporting the carriers, a rotary shaft passing through the disks, and connections between the shaft and disks for rotating the disks while permitting the disks to move transversely to the shafts.

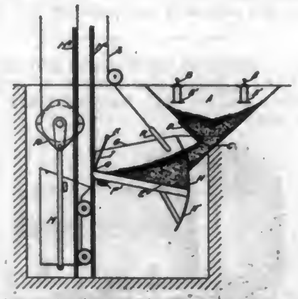
3. A leather skiving machine, having, in combination, a die, a pressure device, a skiving knife, and a feed slide for feeding blanks to the die and pressure device, provided with a central plate mounted thereon arranged to engage the rear portion of a blank and with a finger at each side of the central plate also mounted on the feed slide and arranged to engage the rear portion of a blank, said fingers being normally stationary with relation to the central plate and adjustable to fit the shape of the blank being operated upon.

4. A leather skiving machine, having, in combination, a die, a pressure device, a skiving knife, and a feed slide provided with a central plate mounted thereon arranged to engage the rear portion of a blank and with a finger at each side of the central plate also mounted on the feed slide and arranged to engage the rear portion of a blank, said fingers being normally stationary with relation to the central plate and means for adjusting the fingers simultaneously toward and from each other to fit the shape of the blank being operated upon.

5. A leather skiving machine, having, in combination, a die, a pressure device, a skiving knife, and a feed slide provided with a central plate arranged to engage the rear portion of a blank and with a laterally adjustable finger at each side of the central plate also arranged to engage the rear portion of a blank and a device connecting the fingers to cause them to be adjusted simultaneously, said device being removable to enable the fingers to be adjusted independently.

[Claims 6 to 9 not printed in the Gazette.]

969,988. MEANS FOR FILLING BUCKETS, &c., FROM HOPPERS. AUGUSTUS SMITH, North Plainfield, N. J., assignor to Bergen Point Iron Works, New York, N. Y., a Corporation of New Jersey. Filed Apr. 28, 1909. Serial No. 492,687.



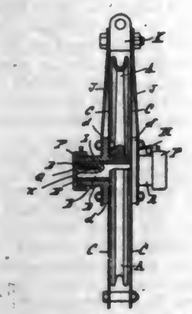
1. The combination of a hopper to contain granular materials with a tilting pan to receive a definite quantity of materials from said hopper, the pan having a transverse axis, and a cylindrically shaped back, to form a cut off gate from said hopper when the pan is tilted about said axis, and a pendent swinging baffle plate to prevent the escape of materials while the pan is being loaded, substantially as described.

2. The combination of a hopper to contain granular materials with a tilting pan having an axis of rotation with a cylindrically shaped back, which forms the cut off gate from the hopper during revolution of said pan, and a suitable framework to hold the receptacle to be filled, said framework being rigidly attached to the tilting pan, whereby when the weight of the receptacle to be loaded is applied to the framework attached to the pan, said weight will cause the pan to revolve about its axis and discharge its contents into the receptacle to be filled, substantially as described.

3. The combination of a hopper to contain granular materials with a tilting pan to receive a definite quantity of materials from the hopper, and having an axis of rotation with a cylindrically shaped back formed from said axis of revolution as a center, to cut off the flow of material from the hopper during the process of tilting said pan and a pendent swinging baffle plate to prevent the premature discharge of the materials from the filler, and a hoisting means for the receptacle to be filled, as above described.

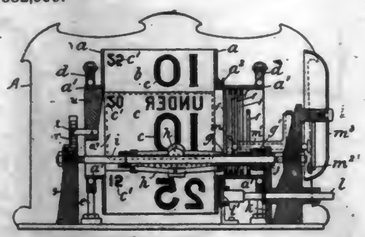
4. The combination of a hopper with outlet gate, a receptacle to be loaded and a tilting pan, and a framework rigidly attached to the pan, which is revolved by virtue of the weight of the receptacle to be loaded coming to rest on the framework attached to said pan.

969,989. PULLEY-BLOCK. AUGUSTUS SMITH, North Plainfield, N. J., assignor to Bergen Point Iron Works, New York, N. Y., a Corporation of New Jersey. Filed May 4, 1909. Serial No. 493,844.



In a pulley block, an axle and sheave wheel mounted on the axle to turn with it, in combination with the cheek plates and hanger straps of the block, journals having flanges to the inner faces of which are fixed said cheek plates, while to the outer faces of the flanges are fixed the hanger straps.

969,990. SPEED-INDICATOR FOR MOTOR-CARS AND OTHER VEHICLES. CUTHBERT COATES SMITH, Twickenham, England. Filed Apr. 2, 1910. Serial No. 552,999.



1. A speed indicator for motor cars and other vehicles, comprising a rotatably mounted body having numerals on its sides, a centrifugal governor device and means for operating it from the vehicle road wheel, a sleeve connected to the movable end of the governor and having a flange, cylindrical sectors arranged in parallel on the interior of the body and lying in the path of the flange on the governor sleeve and successively engageable thereby as the

speed of the vehicle varies, whereby the indicator is intermittently rotated, substantially as described and for the purposes stated.

2. In a speed indicator for motor cars and other vehicles, the combination with a rotatably mounted indicating body and cylindrical sectors fixed parallel to each other on its inner surface, of a centrifugal governor device and a sleeve attached thereto mounted within the rotatable body, means for operating the governor from the vehicle road wheel, and the governor sleeve having a flange adapted to engage the parallel sectors successively and to rotate the body intermittently, substantially as described and for the purposes stated.

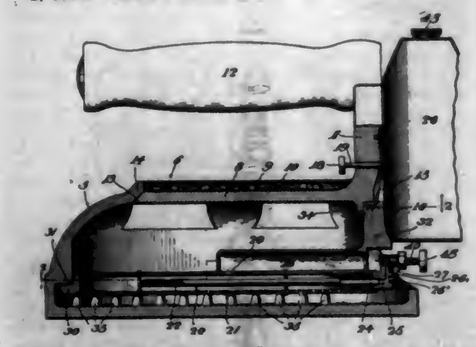
3. In a speed indicator for motor cars and other vehicles, the combination with a frame and a rotatable indicating body mounted therein, and having cylindrical sectors fixed parallel to each other on its inner surface, of a centrifugal governor device and a sleeve attached thereto mounted within the rotatable body, means for operating the governor from the vehicle road wheel, and the governor sleeve having a flange adapted to engage the parallel sectors successively and to rotate the body intermittently, substantially as described and for the purposes stated.

4. In a speed indicator for motor cars and other vehicles, the combination with a frame and a rotatable indicating body having cylindrical ends mounted in the frame, and cylindrical sectors fixed parallel to each other on and progressively around the inner surface of one of said cylindrical ends, of a centrifugal governor device and a sleeve attached thereto mounted within the rotatable body, driving mechanism for the governor, and the governor sleeve having a flange adapted to engage the parallel sectors successively and to rotate the body intermittently, substantially as described and for the purposes stated.

5. In a speed indicator for motor cars and other vehicles, the combination with a frame and a rotatable indicating body having cylindrical ends mounted in the frame, of cylindrical sectors fixed parallel to each other on, and progressively around, the inner surface of one of said cylindrical ends, a grooved ring secured to the outside of said end, a driving shaft having a wheel adapted to engage with said ring, a shaft within the rotatable body, a centrifugal governor device and a sleeve attached thereto mounted on said shaft, gearing connecting the same to the driving shaft, and the governor sleeve having a flange adapted to engage the parallel sectors successively and to rotate the body intermittently, substantially as described and for the purposes stated.

[Claims 6 and 7 not printed in the Gazette.]

960,991. LAUNDRY-IRON. EARLE R. SMITH, Los Angeles, Cal., assignor to Triumph Flat Iron Company, Los Angeles, Cal., a Corporation of California. Filed Dec. 2, 1908. Serial No. 465,630.



1. In a laundry iron, a body portion, a removable liquid fuel burner attached to the body portion, the burner comprising a flat mixing chamber having an opening for combustion on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, and means for injecting the generated vapor with air into the mixing chamber.

2. In a laundry iron, a body portion, a removable liquid fuel burner attached to the body portion, the burner comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the vaporizing coil, and means connected to the other end of the coil to inject the generated vapor into the mixing chamber.

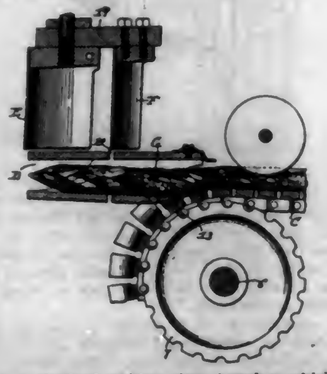
3. A laundry iron, comprising a hollow body having a slotted rear end, an open top, and a recess in its forward end, a removable cover for the body, a removable liquid fuel burner adapted to project into the body recess and through the slotted rear end, the burner comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the vaporizing coil, and means connected to the other end of the coil to inject the generated vapor into the mixing chamber.

4. A laundry iron, comprising a hollow body having a slotted rear end, an open top, and a recess in the forward end, upwardly extending lugs on the bottom interior of the body, a removable cover for the body, a removable liquid fuel burner adapted to project into the body recess, rest on the lugs, and project through the slotted rear end, the burner comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the vaporizing coil, and means connected to the other end of the coil to inject the generated vapor into the mixing chamber.

5. A laundry iron, comprising a hollow body having a slotted rear end, an open top, and a recess in its forward end, upwardly extending lugs on the bottom interior of the body, a removable liquid fuel burner adapted to project into the body recess, rest on the lugs, and project through the slotted rear end, the burner comprising a flat mixing chamber having combustion openings on its lower side, a vaporizing coil for the liquid fuel laid flatly within the mixing chamber, a liquid fuel reservoir connected to one end of the vaporizing coil, and means connected to the other end of the coil to inject the generated vapor into the mixing chamber, the cover engaging with the burner to prevent its upward movement, and resilient catch means to hold the cover in place on the body.

[Claim 6 not printed in the Gazette.]

969,992. METHOD OF MAKING CIGAR-BUNCHES. JAMES EDWARD SMITH, New York, N. Y. Filed Aug. 29, 1903. Serial No. 171,308. Renewed Jan. 5, 1910. Serial No. 536,482.



1. The method of making cigar bunches which consists in assembling leaves of tobacco lengthwise and into a strand of filler tobacco; dividing the strand or rope transversely and producing lengths of cut filler, each filler length being incised at one end and excised at the other end, the successive lengths of cut filler being arranged reversely in relation to their head and tuck ends, and rolling the successive lengths of filler in opposite directions individually within suitable binders.

2. The method of making cigar bunches which consists in assembling leaves of tobacco lengthwise and into a continuous strand of filler tobacco, moving the filler strand endwise with intervals of rest or dwell, cutting the filler in the intervals of rest and producing therefrom reversely arranged lengths of cut filler, each filler length having an incision at one end and a taper at the other, and rolling the successive lengths of filler right and left respectively within individual binders.

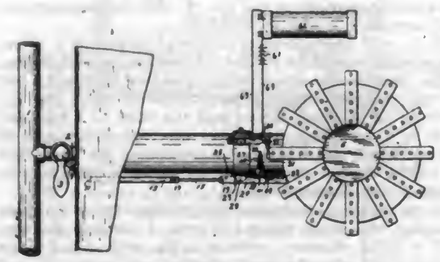
3. The method of making cigars which consists in assembling leaves of tobacco lengthwise and in overlapping order to produce a strand of filler tobacco; dividing from the strand a plurality of lengths of fillers each with an incision at one end and a taper at the other, said fillers being reversely arranged in relation to their head and tuck ends; closing the incision in each filler by rolling it within a binder, and individually wrapping the successively produced bunches in opposite directions and within wrappers from the opposite halves of stemmed tobacco leaves.

4. The method of making cigars which consists in cutting successively from a mass of tobacco a plurality of fillers, each having an excision at one end and an incision at the other, the successive lengths of fillers being reversely arranged in relation to their head and tuck ends, and inclosing the individual fillers by rolling the successive lengths in opposite directions within suitable tobacco leaves.

5. The method of making cigar bunches which consists, first, in assembling leaves of tobacco to produce a mass of tobacco of approximately circular form in cross section, and then severing from the mass a short filler length by two simultaneous cuts, one cut producing a single excision and the other cut a single incision, such excision and incision cuts being at the respective ends of the short filler, the incision differing both in shape and length from the excision.

[Claims 6 to 23 not printed in the Gazette.]

969,993. ELECTRIC IGNITING DEVICE FOR GAS-STOVES. CHARLES STAMM, Milwaukee, Wis., assignor of one-third to John Falbe, Milwaukee, Wis. Filed Mar. 16, 1908, Serial No. 421,313. Renewed July 9, 1910. Serial No. 571,226.



1. In an igniter of the described class, the combination with a burner a gas supply pipe therefor, and a valve for said pipe controlling the flow of gas to the burner, of a set of relatively movable electrodes, operatively located with reference to the burner, and connections for actuating said electrodes, attached to the gas valve below the supply pipe; said connections including a longitudinally sliding bar and a connecting rod formed in adjustable sections, whereby the motion of the rotary valve may be transmitted to the bar and the distance lengthened or shortened in correspondence with the distance from the valve to the burner.

2. In an igniter of the described class, the combination with a burner a gas supply pipe therefor, and a valve for said pipe controlling the flow of gas to the burner, of a set of relatively movable electrodes, operatively located with reference to the burner, and connections for actuating said electrodes, attached to the gas valve below the supply pipe, said connections including a spring retracted upright trip mechanism adapted to be actuated from the valve in one direction only, and a sliding bar operatively connected with the valve and having a projection adapted to engage and actuate the trip mechanism during the first portion of the inward movement of the bar and to move past the trip mechanism during the final inward movement.

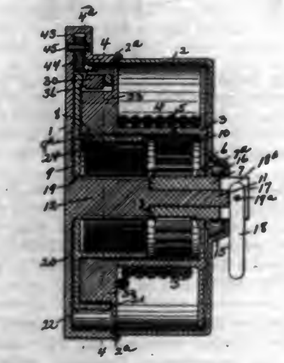
3. In an igniter of the described class, the combination with a burner and a gas supply pipe, of a valve therefor provided with a stem extending below the pipe, an electrical igniter operatively located with reference to the burner, a swinging arm rigidly connected with the lower end of the valve stem, a spring retracted trip mechanism for operating the igniter, and a sliding bar operatively connected with the swinging arm and arranged to operate the trip mechanism during its inward movement.

4. The combination with a gas supply pipe and burner, of a pipe engaging clamp, a fixed electrode supported therefrom, a bracket supported from the clamp, a sliding bar carried by the bracket, a swinging lever, a trip arranged to transmit motion from the sliding bar to the lever in one direction only, a spring arranged to restore the lever to normal position, an electrode mounted upon the upper end of the lever, and a fixed electrode mounted on an insulating support in the path of the other electrode.

5. The combination with a gas supply pipe and burner, of a pipe engaging clamp, a fixed electrode supported therefrom, a bracket supported from the clamp, a sliding bar carried by the bracket, a swinging lever, a trip arranged to transmit motion from the sliding bar to the lever in one direction only, a spring arranged to restore the lever to normal position, an electrode mounted upon the upper end of the lever, and a fixed electrode mounted on an insulating support in the path of the other electrode, said trip comprising a one way oscillating member mounted on said lever in the path of a projection on the sliding bar, together with a spring arranged to restore said oscillating member to normal position after it clears said projection.

[Claims 6 to 8 not printed in the Gazette.]

969,994. TROLLEY-RETRIEVER. WILLIAM CARLETON STARKEY, North East, Pa. Filed Nov. 23, 1908. Serial No. 464,023.



1. In a trolley retriever, the combination of a case having a stop; a retriever disk having a cylindrical flange; a pawl mounted on the flange and operating on the stop;

a spool; and means on the spool extending into the flange for actuating the pawl.

2. In a trolley retriever, the combination of a case having a stop; a retriever disk having a flange; a pawl mounted on the flange and operating on the stop; a spool; and means on the spool extending into the flange for actuating the pawl when the spool is rotated rapidly, the pawl being weighted to throw the pawl out of locking position when the disk is rotated rapidly.

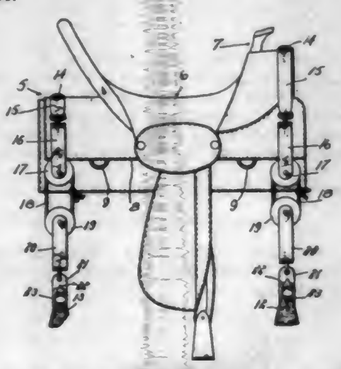
3. In a trolley retrieving device, the combination of a case having a stop; a retrieving disk having a flange with a peripheral recess; a pawl mounted in the flange for engaging the stop, said pawl extending through the recess; a rope spool within the flange; devices on the spool for actuating the pawl, and for locking the disk with the spool.

4. In a trolley retrieving device, the combination of a case having a stop; a retrieving disk having a flange with a peripheral recess; a pawl mounted in the flange for engaging the stop, said pawl extending into the recess; a rope spool; devices on the spool for actuating the pawl, and for engaging the end of the recess for locking the disk with the spool.

5. In a trolley retriever, the combination of a spool for the rope, said spool having locking device pockets; a retrieving device; means for locking the retrieving device normally against movement; locking pieces loose in the pockets and arranged to be thrown by centrifugal force into position to lock the retrieving device with the spool and to actuate the means to release the retrieving device the retrieving device being free to move a plurality of revolutions when released.

[Claims 6 to 19 not printed in the Gazette.]

969,993. RIDING-SADDLE. RICHARD W. STONE, Lincoln, Nebr., assignor of fifty-one one-hundredths to D. D. Thomas, Lincoln, Nebr. Filed June 9, 1910. Serial No. 566,081.

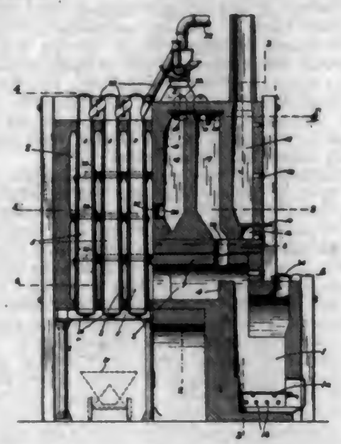


1. In a riding saddle, a girth connected to one side of the same, a curved strap iron pivoted to the saddle and adapted to swing to either side thereof, a plate having a hook bill, a connection between the plate and strap iron, and a loop connected to the girth and engaging the hook bill.

2. In a saddle of the class described, girths detachably connected therewith, swiveled members connected to opposite ends of the saddle and movable to opposite sides thereof, pulleys carried by said members, pulleys carried by the girths, and flexible means trained over the pulleys for tightening the girths.

969,996. VERTICAL-RETORT COAL-GAS APPARATUS. JOHN HAWLEY TAUSSIG, Philadelphia, Pa., assignor to The United Gas Improvement Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 1, 1908. Serial No. 413,784.

1. In coal gas apparatus the combination of a furnace, a retort chamber above and in rear of the same, vertical retorts in the retort chamber, a combustion chamber interposed between the furnace chamber and the retort chamber and external to the latter, and recuperators superposed on the combustion and furnace chambers and having between them secondary air flues which have communication with the combustion chamber near its inlet end, substantially as described.



2. In coal gas apparatus the combination of a furnace, a retort chamber containing vertical retorts and arranged in rear of the furnace, a combustion chamber having communication with the furnace and retort chambers, recuperators and secondary air and waste gas flues arranged above the furnace and combustion chamber, and an arch adapted to support the recuperators and flues and independent and distinct from the arch which forms the top of the combustion chamber, substantially as described.

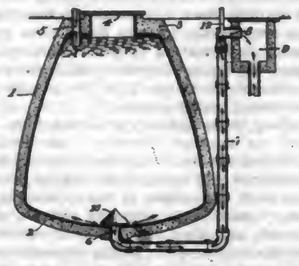
3. In coal gas apparatus the combination of a furnace, a retort chamber containing vertical retorts and arranged above and in the rear of the furnace, a combustion chamber interposed between the furnace and retort chamber, recuperators and a pair of secondary air flues superposed on the combustion chamber and one of said flues having communication with the combustion chamber and the other of said flues having communication with the retort chamber, and external dampers interposed between the recuperators and the outlets of each of said flues whereby secondary air may be variously divided and apportioned between the combustion and retort chambers, substantially as described.

4. In coal gas apparatus the combination of a retort chamber, recuperators divided into sections to provide separate passages for air, said recuperators having hot air outlets and provided with air intakes of which one appertains to the front section and the other to a rear section of a recuperator, dampers for controlling each of the air inlets, and dampers for controlling the air outlets to adjust the hot air distribution in the apparatus, substantially as described.

5. In coal gas apparatus the combination of a retort chamber containing vertical retorts, a furnace chamber, and a third chamber communicating with the furnace chamber and with the retort chamber and having its roof unloaded and free to expand and contract in respect to the setting of the apparatus and means for introducing secondary air to said third chamber, substantially as described.

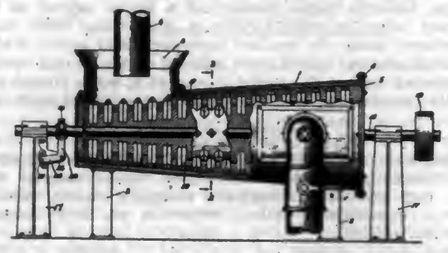
969,997. AUTOMATIC CISTERN-CLEANER. LOUIS THIEM, Toledo, Ohio. Filed Nov. 8, 1909. Serial No. 526,789.

1. The combination with a cistern, having a down spout adapted to supply water to the cistern, of an overflow pipe adapted to receive water and sediment from the bottom of the cistern and having a portion extending upward in direct line from near the level of the bottom to the level of the top of the cistern, said upwardly extending portion being open at the top and having a discharge branch extending horizontally therefrom at a desired upper level for water in the cistern, adapted to discharge the water received by the overflow pipe when the level of the water in the cistern is at or above the level of the branch, a conical receiver for the overflow pipe adapted to admit water and sediment to the pipe, said receiver having an open base of greater diameter than the overflow pipe and being supported by the base on and above the cistern bottom, said base forming with the bottom, openings between the base and the bottom adapted to admit water radially to the receiver along the bottom.



2. The combination with a cistern provided with a down spout, and having a concave bottom and an outlet central through the bottom, of an overflow pipe connected to the outlet and extending outward below the bottom and upward in direct line outside the cistern to or above the level of the top of the cistern, and having a branch below the upper end of the pipe at a desired upper level for water in the cistern, the outlet, the top end, and the free end of the discharge branch being open, and a conical receiver for the outlet, said receiver being closed at the top and having an open base of greater diameter than the outlet, said base being provided at intervals with and mounted by supports on and slightly above the bottom, and concentrically above the outlet.

969,998. ROUGH PULPER. JOHN D. TOMPKINS, Valatie, N. Y. Filed June 2, 1909. Serial No. 499,702.



1. In a device of the character described, the combination of a drum, a plurality of longitudinal knives therein, and a plurality of arms in the drum, said knives and arms being relatively movable.

2. In a device of the character described, the combination of a drum, a plurality of longitudinal knives therein, a rotary shaft therein and a plurality of arms upon the shaft.

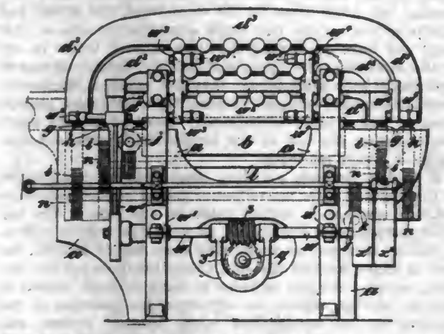
3. In a device of the character described, the combination of a conical drum, a plurality of longitudinal knives therein, and a plurality of arms in the drum, said knives and arms being relatively movable.

4. In a device of the character described, the combination of a conical drum, a plurality of longitudinal knives therein, a rotary shaft therein and a plurality of arms upon the shaft.

5. In a device of the character described, the combination of a conical drum, a plurality of longitudinal knives therein, and a plurality of arms in the drum, said knives and arms being relatively movable and adjustable toward and from each other.

[Claims 6 to 10 not printed in the Gazette.]

969,999. FELT-HAT-PLANKING MACHINE. ALBERT TURNER, Denton, Manchester, England. Filed Mar. 30, 1909. Serial No. 486,651.



1. In felt hat body planking machines, the combination of three sets of planking rollers and spindles therefor arranged one above another and in planes parallel with each other, a curved guide at one side of the machine and opposite the spaces between the sets of rollers, a pair of carriers for supporting each set of rollers, one pair also supporting the said guide, bearings for supporting the several carriers which allow the carriers to have a slight lateral to and fro motion, end frames for supporting the bearings, means for imparting to and fro movements to the carriers and rollers and in such way that the uppermost and lowermost sets of rollers and their carriers move in one direction while the middle set of rollers and their carriers move in the opposite direction, and means for rotating the rollers of the uppermost and lowermost sets in one direction and those of the middle set in the opposite direction, substantially as herein set forth.

2. In felt hat body planking machines, the combination of planking rollers and spindles therefor arranged in sets and in planes parallel with each other, a pair of carriers for each set of rollers, bearings for the said carriers which allow the carriers to have a slight lateral to and fro motion, end frames for supporting the bearings, a chain wheel on the spindle of each roller, a rotary shaft and bearings therefor supported by the end frames, chain wheels on said shaft, means for driving the shaft, an endless chain engaging the wheels on the said shaft and all the wheels on the several roller spindles and in such manner as to cause the rollers of each set to revolve in the same direction and those of one set to revolve in an opposite direction to those of the next adjoining set, and means for taking up the slack of the chain, substantially as herein set forth.

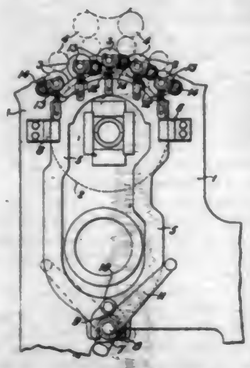
3. In felt hat body planking machines, the combination of planking rollers and spindles therefor arranged in sets and in parallel planes one above another, a pair of carriers for each set of rollers, anti-friction bearings for supporting the pairs of carriers and allowing them to have a slight lateral to and fro motion, racks for supporting the bearings of the carriers of the upper sets of rollers, means for adjusting the racks in sets of four vertically and simultaneously, and end frames for supporting the racks and their adjusting means and also supporting the bearings of the lower set of rollers, substantially as herein set forth.

4. In felt hat body planking machines, the combination of three sets of planking rollers, the several sets being arranged in parallel planes one above another, a curved guide arranged at one side of the machine opposite the

spaces between the sets of rollers, a pair of carriers for each set of rollers, one pair also supporting the said guide, bearings for the carriers, means for adjusting the bearings of the carriers of the upper and middle sets of rollers, end frames for supporting the carrier bearings and their adjusting means, a rotary shaft and bearings therefor passing longitudinally below the machine, chain wheels keyed to such shaft at one end, a chain wheel on each planking roller spindle, an endless chain engaging the chain wheels on the said shaft and all the chain wheels on the several roller spindles, a rock shaft and bearings therefor, two armed levers on such shaft and links connecting the lever arms to the carriers of the lower and middle sets of rollers, two single armed levers also on said shaft and links connecting the arms of such levers to one of the carriers of the uppermost set of rollers, and one of said single lever arms longer than the other, a further rotary shaft and bearings therefor, fast and loose pulleys thereon, and a block eccentrically mounted on the shaft and engaging the end of the longer single arm, substantially as herein set forth.

5. In felt hat body planking machines, the combination of three sets of planking rollers arranged in parallel planes one over another, a curved guide on one side of the machine and opposite the spaces between the sets of rollers, a pair of carriers for supporting each set of rollers, one pair of which support the said guide, bearings for the carriers, which allow the carriers to have a slight lateral to and fro motion, means for adjusting the bearings of the carriers of the middle and upper sets of rollers, end frames for supporting the carrier bearings and their adjusting means, means for imparting rotary motion to the several sets of rollers, a rock shaft and bearings therefor, two two-armed levers on such shaft and links connecting the lever arms to the carriers of the lower and middle sets of rollers, two single-armed levers also on said shaft and links connecting the arms of such levers to one of the carriers of the uppermost set of rollers, and one of said single lever arms longer than the other, a further rotary shaft and bearings therefor, fast and loose pulleys thereon, and a block eccentrically mounted on the shaft and engaging the end of the longer single arm, substantially as herein set forth.

970,000. ROTARY PRINTING-MACHINE. FRED WAITE, Otley, England. Filed June 18, 1910. Serial No. 567,574.



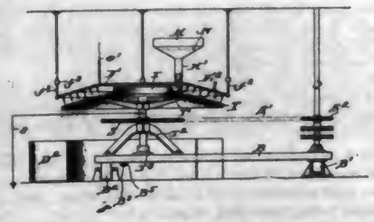
1. In a rotary lithographic printing machine; the combination with the machine framework, the printing cylinder and its inking rollers, of bearing arms pivoted to the machine framework and carrying the inking rollers which make contact with the surface of the printing cylinder to be inked, side frames made vertically slidable in the machine framework and being provided with adjustable stops engaging beneath the pivoted bearing arms of the cylinder contacting inking rollers, hand-operated means on the machine framework adapted to move the side frames up and down and cause the bearing arms to be rocked on their pivots to raise the contact inking rollers away from the printing cylinder when desired, and means for carrying the intermediate inking rollers to allow of their movement in unison with the movement of the cylinder contacting inking rollers.

2. In a rotary lithographic printing machine; the combination with the machine framework, the printing cylinder and its inking rollers, of bearing arms pivoted to the machine framework and carrying the inking rollers which make contact with the surface of the printing cylinder to be inked, side frames made vertically slidable on the machine framework and being provided with screws forming adjustable stops engaging beneath the pivoted bearing arms of the cylinder contacting inking rollers for adjusting their pressure on the printing cylinder, means such as cams operated by a hand-lever adapted to move the side frames up and down and cause the bearing arms to be rocked on their pivots to raise the contact inking rollers away from the printing cylinder when desired, and means for carrying the intermediate inking rollers to allow of their movement in unison with the movement of the cylinder contacting inking rollers.

3. In a rotary lithographic printing machine; the combination with the machine framework, the printing cylinder and its inking rollers, of bearing arms pivoted to the machine framework and carrying the inking rollers which make contact with the surface of the printing cylinder to be inked, side frames made vertically slidable on the machine framework and being provided with vertical adjustment screws forming stops engaging beneath the pivoted bearing arms of the cylinder contacting inking rollers for adjusting the pressure of the said rollers on the surface of the printing cylinder, means actuated by a hand-lever adapted to move the side frames up and down and cause the bearing arms to be rocked on their pivots to raise the contact inking rollers away from the printing cylinder when desired, and means for carrying the intermediate inking rollers to allow of their movement in unison with the movement of the cylinder contacting inking and for enabling the said intermediate inking rollers to be easily removed and replaced in the machine.

4. In a rotary lithographic printing machine; the combination with the machine framework, the printing cylinder and its inking rollers, of mechanism for enabling the inking rollers to be readily lifted away from the printing cylinder and for accurately adjusting the pressure of the said inking rollers, together with means for removably retaining each intermediate inking roller up to its work comprising two end devices each consisting of a half bearing normally thrust forward by a spring carried on a rear extension made slidable in a swiveling block fulcrumed inside the machine framework, said swivel block being provided with a catch adapted on the bearing being receded against the spring to engage a notch formed in the extension and hold the bearing in the inward position.

970,001. PROCESS OF ELECTRICAL SEPARATION. HENRY AZOR WENTWORTH, Lynn, Mass., assignor to Huff Electrostatic Separator Company, Boston, Mass., a Corporation of Maine. Filed Feb. 17, 1908. Serial No. 416,269.



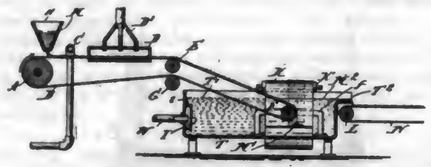
1. A process of separation of differentiated ingredients of comminuted solid material which consists in subjecting the material simultaneously to directionally divergent motive components and at the same time directing an electric spray discharge upon the material, thereby differentially modifying the responsiveness of ingredient particles to one of said motive components, and subsequently separately collecting the separated ingredients.

2. A process of separation of differentiated ingredients of comminuted solid material which consists in depositing the material upon a conductive surface, subjecting the material while on said surface simultaneously to directionally divergent motive components, at the same time directing an electric spray discharge upon the material, thereby differentially modifying the responsiveness of ingredient particles to one of said motive components, and subsequently separately collecting the separated ingredients.

3. A process of separation of differentiated ingredients of comminuted solid material which consists in subjecting the material simultaneously to movement in response to gravitative action and a movement of translation directionally divergent from the gravitative movement, at the same time directing an electric spray-discharge upon the material, thereby differentially modifying the responsiveness of ingredient particles to one of said motive components, and subsequently separately collecting the separated ingredients.

4. A process of separation of differentiated ingredients of comminuted solid material, which consists in depositing the material upon a conductive surface under mechanical conditions favorable to gravitative movement of the material over the surface, agitating the material and simultaneously subjecting it to a motive component directionally divergent from the gravitative movement, at the same time directing an electric spray-discharge upon the material, thereby differentially modifying the responsiveness of ingredient particles to one of said motive components and subsequently separately collecting the separated ingredients.

970,002. PROCESS OF SEPARATION. HENRY AZOR WENTWORTH, Lynn, Mass., assignor to Huff Electrostatic Separator Company, Boston, Mass., a Corporation of Maine. Filed Aug. 18, 1908. Serial No. 449,058.



1. The process of separating ingredients of comminuted material, which consists in associating with the material a substance chemically reactive upon particles thereof, thereby producing upon the particles affected by the reactive substance superficial coatings of a compound different from the original substance of the particles in respect to film-tension of a liquid, and thereupon separating the differentiated particles by film-tension of said liquid.

2. The process of separating the ingredients of comminuted material containing a metallic sulfid, which consists in treating the material with a halogen, thereby producing upon the sulfid particles affected by the halogen, superficial coatings of a compound differing from the original sulfid particles in respect to film-tension of a liquid, and thereupon separating the differentiated particles, by film-tension of said liquid.

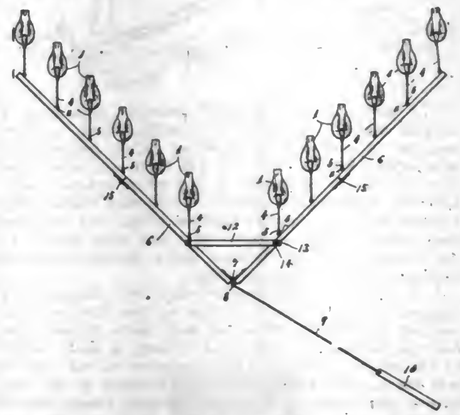
3. The process of separating ingredients of comminuted material containing a metallic sulfid, which consists in treating the material with a halogen, thereby producing upon the sulfid a compound possessing a superficial aversion for a liquid, transferring the material to the surface of a body of said liquid, and separately collecting the particles of the sulfid sustained by the surface tension of the liquid, and those engulfed thereby.

4. The process of separating ingredients of comminuted material containing a metallic sulfid, which consists in treating the material with a halogen, forming a haloid of sulfur superficially upon particles of metallic sulfid, thereby altering the said particles in respect to film-tension of a liquid, and thereupon utilizing the said altered property of these particles to effect flotation separation by said liquid.

5. The process of separating zinc sulfid from materials associated therewith in a comminuted mixture, which consists in chemically producing upon the zinc sulfid a superficial compound averse to contact with water, transferring the material to the surface of a body of water, and separately collecting the particles sustained by the surface tension of the water, and those engulfed thereby.

[Claims 6 to 8 not printed in the Gazette.]

970,003. FLOATING DECOY. HANS G. WETHALL, Minneapolis, Minn., assignor of one-half to Bernard J. Dahl, Minneapolis, Minn. Filed Jan. 10, 1910. Serial No. 537,160.



1. In a floating decoy kit, the combination with diverging drag bars connected by a hinge at their front ends and made up of hinge sections, of a spreader bar pivoted to one of said drag bars and detachably connected to the other drag bar, an anchor having an anchor line connected to the front end of said drag bars, a multiplicity of eyes on said drag bars, and a multiplicity of decoys provided with drag lines having snap hooks at their free ends adapted for application to the eyes of said drag bars, substantially as described.

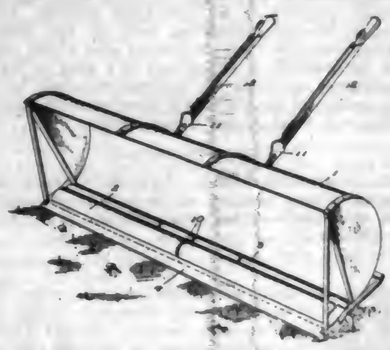
2. In a floating decoy kit, the combination with diverging drag bars connected by a hinge at their front ends and made up of hinge sections, of a spreader bar pivoted to one of said drag bars and detachably connected to the other drag bar, an anchor having an anchor line connected to the front end of said drag bars, the said anchor being of long and flexible material adapting it to be bent around said drag bars when the latter are folded, a multiplicity of eyes on said drag bars, and a multiplicity of decoys provided with drag lines having snap hooks at their free ends adapted for application to the eyes of said drag bars, substantially as described.

3. In a floating decoy kit, the combination with a drag bar having a multiplicity of longitudinally spaced eyes, of a multiplicity of decoys having individual drag lines provided at their free ends with snap hooks adapting them for application to said eyes, substantially as described.

970,004. GRASSHOPPER-CATCHER. MILTON V. WHITING, Denver, Colo. Filed Oct. 15, 1909. Serial No. 522,831.

1. A device of the character described, embodying a wheeled support, including a rotatable shaft, a hood mounted on said support, crushing rollers also mounted on the support at the bottom of the hood, sprocket wheels

carried by the shaft, chains extending over said sprocket wheels, one of said rollers embodying a shaft, and formed with recesses, and other sprocket wheels secured to said last-named shaft in said recesses, the sprocket chains extending around the last named sprocket wheels also.



2. A device of the character described, embodying a wheeled support including a rotatable shaft, a hood mounted on said support, crushing rollers journaled in said support at the bottom of the hood and in advance thereof, and one in advance of the other, scraper blades arranged to scrape the rollers, one of said blades being mounted in advance of the foremost roller, and the other blade engaging the rearmost roller and being formed by the lowermost edge of the hood, and a driving connection between the rollers and the shaft.

3. A device of the character described, embodying a support, a wheel, a shaft carried by the wheel and extending laterally therefrom on both sides thereof, connections between the shaft and support, a hood carried by the support, sprocket wheels mounted on the ends of said shaft, front and rear rollers journaled in the support at the bottom of the hood, sprocket wheels carried by the rearmost roller, chains extending over the first and last named sprocket wheels, and pinions secured to the respective rollers and meshing with each other, for the purpose specified.

970,005. DEMOUNTABLE TIRE. VALENTINE WILDNER, Chicago, Ill. Filed Nov. 5, 1909. Serial No. 526,445.



1. The combination with a vehicle-wheel and tire, of a supplemental rim to which the tire is attached split transversely to form ends which are movable to and from each other for expanding and contracting the rim on the wheel, a link connecting the ends of the rim and having a ring at one end, a cam operating in said ring to draw the ends of the rim together, a wall engaging one side of the ring to limit the throw of the parts in that direction, and a set-screw threaded in the rim and adapted to impinge against the other side of the ring, substantially as shown and for the purpose set forth.

2. The combination with a vehicle-wheel and tire, the periphery of the wheel having recesses therein, of a supplemental rim to which the tire is attached split transversely to form ends which are movable to and from each other for expanding and contracting the rim on the wheel, studs on the inner side of the supplemental rim adapted to take into the recesses in the periphery of the wheel, a link connecting the ends of the rim and having a ring at one end, a cam operating in said ring to draw the ends of the rim together, and a set-screw threaded in the rim to impinge against the ring for locking the parts, substantially as shown and for the purpose set forth.

3. The combination with a vehicle-wheel and tire, the periphery of the wheel having the recesses 7 and 21, of a supplemental rim to which the tire is attached split transversely to form ends which are movable to and from each other for expanding and contracting the rim on the wheel, studs on the inner side of the rim adapted to take into the recesses 21, and housings at the ends of the rim adapted to take into the recess 7; together with a link pivoted at one end in one of the housings and having a ring located in the other housing, a cam in the latter housing operating in the ring to actuate the link, and a set-screw threaded in said housing to bear upon the ring and lock the parts, substantially as shown and described.

4. The combination with a vehicle-wheel and tire, the periphery of the wheel having a recess therein, of a supplemental rim to which the tire is attached split transversely to form ends which are movable to and from each other for expanding and contracting the rim on the wheel, a rectangular housing at one end of the rim, and a housing on the other end of the rim having spaced apart arms adapted to embrace the rectangular housing to keep the ends of the rim in alinement; together with a link pivoted in one of the housings and having a ring located in the other housing, a cam in the latter housing operated in the link to actuate the latter, and means for locking the parts, substantially as shown and described.

970,006. SKIRT-MEASURING DEVICE. ANNA MARY ALLEN, Yuba City, Cal. Filed June 6, 1908. Serial No. 437,098.



1. A skirt measuring device which consists of a plurality of standards, parallel hoops, the terminals of each hoop overlapping, retainers for the hoops which serve as their supports, and means for securing adjustably the retainers to the standards respectively.

2. A skirt measuring device which consists of a plurality of standards, hoops, the terminals of which overlap, retainers for the hoops, one pair of retainers having a sliding engagement with one set of terminals of the hoops respectively, cloth supporting members having their terminals secured to the said retainers respectively, and means for adjustably securing the cloth supporting members relatively to the standards by which they are supported.

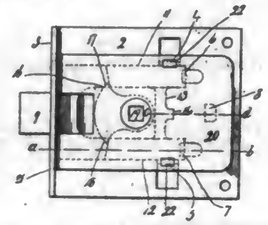
3. A skirt measuring device which consists of a plurality of standards, a hoop, the hoop being adjustable relatively to the standards, means for securing the hoop to the standards, and means serving to hold cloth against the hoop for its complete circumference.

4. A skirt measuring device which consists of a plurality of standards, a hoop, means for securing the hoop to the sandards, and means serving to hold cloth against the hoop for its complete circumference.

5. A skirt measuring device which consists of a plurality of standards, hoops, retainers for the hoops, and cloth supporting members having their terminals secured to the retainers respectively, the cloth supporting members being supported by the standards.

[Claims 6 to 8 not printed in the Gazette.]

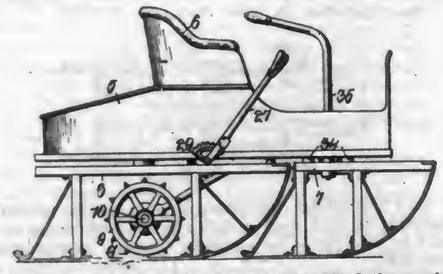
970,007. LATCH. FRANK C. ALTMANN, New Haven, Conn., assignor to The English & Mersick Co., New Haven, Conn., a Corporation. Filed June 13, 1910. Serial No. 566,489.



1. A latch comprising a sheet metal case-plate formed with an integral face-plate said case-plate provided with posts and spring stops struck inwardly therefrom, a bolt having a beveled nose projecting through the face-plate, said bolt formed on opposite sides with spring chambers, springs in said chambers and bearing against the bolt and said spring stops, a cap-plate secured to said posts, and a roll-back located between the case-plate and cap-plate and adapted when turned to withdraw the bolt.

2. A latch comprising a case-plate formed from sheet metal and provided with an integral face-plate, said face-plate formed with a bolt-opening and with perforations above and below it, said case-plate also formed with posts, spring stops and bolt stop struck inward therefrom, a bolt formed with a beveled nose projecting through the face-plate and on opposite sides with spring chambers adapted to pass between the said posts, springs in said chambers and bearing against the bolt and against said spring stops, a finger adapted to engage with the bolt stop to limit the inward movement of the bolt, a cap-plate engaged with perforations in the face-plate and with the said posts, and a roll-back mounted between the case-plate and cap-plate and provided with arms adapted to engage with the forward ends of said spring chambers whereby by the turning of the roll-back the bolt may be withdrawn.

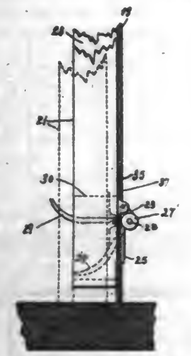
970,008. AUTOMOBILE SLED. ORLA A. ARNET, Woodland, Mich. Filed Mar. 23, 1910. Serial No. 551,070.



1. In a machine of the character described the combination with a body and runners supporting same, a transverse shaft mounted beneath said body, an engine carried by the body, driven connections between the engine shaft and the transverse shaft to rotate the latter, tubular hanger rods mounted on said transverse shaft adjacent to its ends, a transversely disposed spring bar connecting said hanger rods, drive wheels rotatably mounted in the rear ends of said bars, driven connections between the transverse shaft and said driving wheels whereby said wheels are rotated, means slidable on the shaft for disconnecting the same from the driven connections to the engine, a bell crank secured at one end to the spring bar connecting the hanger rods, and manually actuated means engaging the other end of the bell crank to raise the body and support the same on the hanger rods.

2. In a machine of the character described the combination with a body and runners for supporting the same, of a transverse shaft mounted beneath the body, an engine carried by said body, a connecting shaft between the engine shaft and said transverse shaft to rotate the latter, a tubular hanger rod mounted on each end of the transverse shaft and extending rearwardly therefrom, a transversely disposed spring bar connecting said hanger rods, drive wheels rotatably mounted in the rear ends of said rods, drive shafts rotatably mounted in the tubular hanger rods, a pinion on each end of the transverse shaft, a pinion carried by each of the drive wheels, and co-engaging pinions on the ends of the drive shafts engaging with the pinions on the transverse shafts and the drive wheels.

970,009. WINDOW. FREDERICK G. BAECHLIN, Bloomfield, N. J. Filed Nov. 27, 1909. Serial No. 530,184.



1. In a window frame, the combination of a pulley stile having a groove in its face, a guide member slidably mounted in said groove, a shaft journaled transversely of said groove, an arm on said shaft, means pivotally connecting said arm to said guide member, and means for turning said shaft extending to and adapted to be operated from the face of the pulley stile.

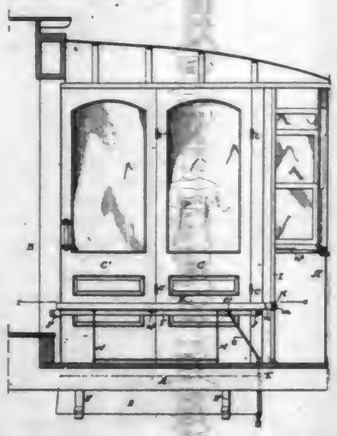
2. In a window frame, the combination of a pulley stile having a groove in its face, a guide member slidably mounted in said groove, a shaft journaled transversely of said groove, an arm on said shaft, means pivotally connecting said arm to said guide member, and operating means extending from said shaft toward the face of the pulley stile and adapted to project from said face when the guide member is retracted into its groove and to be retracted from said face when the guide member projects from its groove.

3. In a window frame, the combination of a pulley stile having in its face a groove and a slot, a guide member slidably mounted in said groove, a shaft journaled transversely of said groove, an arm on said shaft, means pivotally connecting said arm to said guide member, and means for turning said shaft extending into said slot.

4. In a window frame, the combination of a pulley stile having a groove in its face with openings through the bottom of said groove and a slot at one side of said groove a guide member slidably mounted in said groove, bearings upon the back of the pulley stile, shafts journaled in said bearings transversely of the grooves, arms fast on said shafts adapted to project into said groove through the said openings in its bottom, means pivotally connecting said arms to said guide member, and an operating lever fast on one of said shafts and projecting through said slot in the pulley stile into position to be operated from the face thereof.

5. In a window frame, the combination of a pulley stile having a groove in its face with openings through the bottom of said groove and a slot at one side of said groove, a guide member slidably mounted in said groove, bearings upon the back of the pulley stile, shafts journaled in said bearings transversely of the grooves, arms fast on said shafts adapted to project into said grooves through the said openings in its bottom, means pivotally connecting said arms to said guide member, and an operating lever fast on one of said shafts and extending into the said slot of the pulley stile, said lever adapted to lie within said slot when the guide member projects from its groove and to project from said slot when the guide member is retracted into its groove.

970,010. PASSENGER-CAR. SAMUEL T. BOLE, Philadelphia, Pa., assignor to The J. G. Brill Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 13, 1909. Serial No. 489,691.



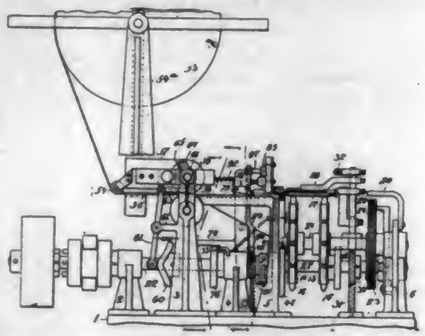
1. The combination in a passenger car, having a doorway, a door closing the doorway, a movable step in front of the doorway, a movable bar for locking the door, means connecting the bar with the step, so that when the bar is moved to the locking position, it will shift the step out of position and when moved to position to allow the door to be opened, the step will be moved into position.

2. The combination in a passenger car of a platform, a doorway at one side of the platform, a door closing the said doorway, a bar pivoted to the side of the doorway and adapted to be moved either into a vertical or a horizontal position, a step pivoted to the platform in front of the doorway, and a rod connecting the step with the bar some distance from its pivot, so that when the bar is raised or lowered, the step will be moved into or out of position.

970,011. CIGARETTE-TIPPING MACHINE. ALEXANDER BOUCHER, Boston, Mass. Filed Jan. 31, 1908. Serial No. 413,555.

1. In a cigarette tipping machine the combination with a plate, of means for presenting cigarettes successively for tipping, with their ends projecting over said plate, means for feeding a piece of tipping material over said plate and longitudinally of the cigarette and means for applying the tipping material to the cigarette comprising a plurality of retractable elements normally lying below the path of the cigarettes and means for moving said retractable elements to cause them to engage the tipping material while the cigarette is held over the said plate.

2. In a cigarette tipping machine, the combination with a stationary plate, of a carrier adapted to present the ends of cigarettes successively over the said plate and retain the same there during tipping, means for feeding a piece of tipping material to said plate and longitudinally of the cigarette and means for cutting and applying said tipping material to the end of the cigarettes.



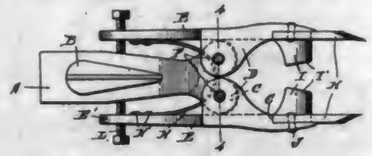
3. In a cigarette tipping machine, the combination of an intermittently moving carrier adapted to successively present cigarettes to a position for tipping, means for cutting and applying tips to the cigarettes when presented by the carrier, and an operating element provided with a plurality of presser fingers, one of which is adapted to hold the cigarette while being tipped and the other being adapted to press the seam of the tip after the cigarette passes from the tip applying means.

4. In a cigarette tipping machine, a carrier having holders for cigarettes and adapted to present the projecting ends of the cigarettes successively for tipping, means for cutting and applying tips to the cigarette ends thus presented and a flexible apron above the carrier, adapted to prevent the dislocation of the cigarettes on the carrier during their travel to the tipper.

5. In a cigarette tipping machine, the combination of a plate, a carrier adapted to be moved and bring the cigarettes successively over the said plate for tipping, with the cigarette projecting beyond the carrier, means for feeding the end of a strip of tipping material to the cigarette end, means for cutting the tipping material to provide a tip for the cigarette and means for attaching the tip to the cigarette, including a rocking arm having a spring pressed finger fulcrumed thereto adapted to press the tip on the cigarette through its spring action and means for operating said rocking arm.

[Claims 6 to 24 not printed in the Gazette.]

970,012. LOG-MARKER. OCTAVE BUREAU, Waterville, Me. Filed Nov. 15, 1909. Serial No. 528,160.



1. A log marker comprising a head, plates pivotally mounted on said head carrying blades, and means carried by said plates for adjusting the same in respect to the head.

2. A log marker comprising a head provided with an eye to receive a handle, blade carrying plates pivotally mounted upon said head, provided with stops for limiting the movement of said plates toward each other, blades carried by said plates and means for adjusting said plates.

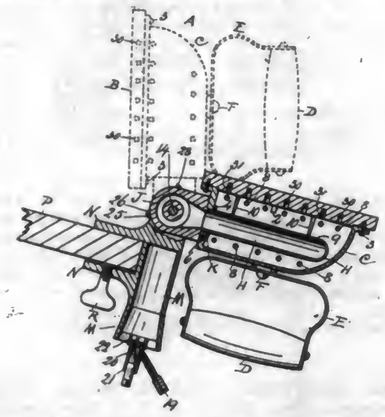
3. A log marker comprising a head provided with bearing lugs arranged in pairs, blade carrying plates provided with boxes pivotally mounted upon the respective bearing lugs, and means for adjusting said plates.

4. The combination with a head provided with an eye to receive a handle, of spring actuated blade carrying plates mounted upon said head, and set screws carried by said plates for engaging said head for adjusting said plates.

5. In a log marker, the combination with a head provided with an eye to receive a handle, of bearing lugs formed on said head, blade carrying plates provided with bearing boxes mounted upon said bearing lugs, pivot pins for securing said bearing boxes in position on said lugs, blades carried by said plates, a spring arranged between the inner ends of said plates and connected thereto for drawing said outer ends apart, and set screws carried by said blade carrying plates for moving said blades together.

[Claims 6 and 7 not printed in the Gazette.]

970,013. FLAT-IRON HEATER. SAMUEL G. BUSKARD, Hamilton, Ontario, Canada. Filed Aug. 27, 1909. Serial No. 514,848.

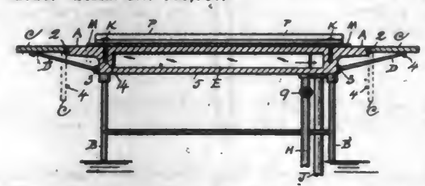


1. In a flat-iron heater, a table, a gas and air mixer, provided with a vertical face, adjustably secured to the table, and having gas and air ducts and a central hole through said face, means in the mixer to control the inlet of gas, an adjustable burner having upper gas ducts, a socket on the end of the burner having a vertical face with gas ducts, and provided with a central hub to fit and rotate in said central hole, the gas ducts through the face of the socket communicating with said ducts in the mixer, a central bolt through the mixer and the socket, a flat iron having a rear end opening, to slide in reversed position on the burner, means connecting the socket with the iron, to prevent the iron from turning on the burner, said iron and burner adapted to be rotated to a horizontal or a vertical position, rests for supporting the burner in either position, the flow of gas to the burner being partially cut off when the burner is moved to its vertical position.

2. In a flat-iron heater, a stationary gas and air mixer, having gas and air ducts through its upper face, an adjustable burner provided with an end socket, having gas and air ducts communicating with the ducts in the mixer, a bolt fastening the mixer and the socket together, a reversed flat iron adapted to slide on the burner, means on the socket and in the iron to prevent the same from turning, said iron and burner adapted to be rotated to a horizontal or a vertical position, rests for supporting the burner in either position, the flow of gas to the burner being partially cut off when the burner is moved to its vertical position.

3. In a flat-iron heater, a stationary gas and air mixer, having gas and air ducts through its upper face, an adjustable burner provided with an end socket, having gas and air ducts communicating with the ducts in the mixer, a bolt fastening the mixer and the socket together, a reversed flat iron adapted to slide on the burner, means on the socket and in the iron to prevent the same from turning, means on the mixer and the socket to hold the burner and iron in horizontal position for heating said iron, said iron and burner adapted to be rotated to a horizontal or a vertical position, rests for supporting the burner in either position the flow of gas to the burner being partially cut off when the burner is moved to its vertical position.

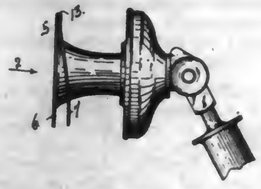
970,014. TABLE FOR GARMENT-WORKERS. SAMUEL G. BUSKARD, Hamilton, Ontario, Canada. Filed Jan. 8, 1910. Serial No. 535,960.



1. In a table for garment workers, a metallic table having a smooth level top and screw holes therein and a steam chamber having an inlet and an outlet communicating therewith, a guide board having a raised portion with parallel sides extending longitudinally on the table and having guide grooves longitudinally extending along the sides of said raised portion, and parallel therewith, and means extending through said board and into said holes, to secure the board to the top of the table, substantially as described.

2. In a table for garment workers, a metallic table having a smooth level top and screw holes therein and a steam chamber having an inlet and an outlet communicating therewith, a guide board having a raised portion with parallel sides extending longitudinally on the table and means extending through said board and into said holes, to secure the board to the top of the table, substantially as described.

970,015. COVERING FOR MOUTHPIECES OF TELEPHONE-TRANSMITTERS. ANNIE K. CANN, Watkins, Colo. Filed Oct. 18, 1909. Serial No. 523,268.



The herein described covering for the mouth piece of a telephone transmitter, consisting essentially of a body portion folded upon itself, the upper extreme ends of the folds caused to adhere by gumming, to form a pocket for removable engagement with the transmitter, said folds having circular openings, the opening in the outer fold being covered with a thin pliable fabric to cover the open end of the mouth piece of the transmitter, the inner fold being provided with a slit communicating with the lower part of the opening, the said opening in the inner fold being adapted to fit over the mouth piece of the transmitter, for the purpose of holding the cover in engagement with the mouth piece, substantially as described.

970,016. PORTABLE CIGARETTE-MACHINE. GEORGE HEBER CARTER, Richmond Hill, N. Y. Filed Sept. 17, 1909. Serial No. 518,155.

1. A portable cigarette maker comprising a slotted mold, a semi-circular shield, reversible upon the mold, adapted to cover the slot when the mold is being filled and to uncover it after it is filled, a removable rammer

and an abutment adapted to extend within the slot in the mold and retain the cigarette while the mold is withdrawn, substantially as described.



2. A portable cigarette maker comprising a slotted mold, a funnel attached thereto, a semi-circular reversible shield adapted to fit the exterior of said mold and reversible thereon, adapted to cover the slot when the mold is being filled and to uncover it after it is filled, a removable rammer and an abutment adapted to enter the slot in the mold and retain the cigarette while the mold is withdrawn, substantially as described.

3. A portable cigarette maker comprising a slotted mold, a semi-circular reversible shield adapted to fit the exterior of said mold adapted to cover the slot when the mold is being filled and to uncover it after it is filled and having a bottom shelf for the mold to rest on, a removable rammer and a removable abutment to permit the withdrawal of the mold, substantially as described.

4. A portable cigarette maker comprising a mold formed with a longitudinal slot having an enlarged head, a funnel on said mold, a semi-circular reversible shield adapted to fit the exterior of said mold, a shelf at the bottom of said shield, a rammer and a removable abutment to permit the withdrawal of the mold, substantially as described.

5. A portable cigarette maker comprising a slotted mold, a funnel thereon, a semi-circular shield provided with a bottom shield and a top mold holding ring, a rammer and a removable abutment to permit the withdrawal of the mold, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

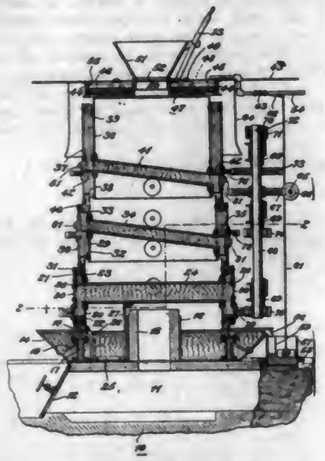
970,017. GAS-PRODUCER. WILLIAM B. CHAPMAN, New York, N. Y., assignor to Walter B. Hopping, trustee, New York, N. Y. Filed Aug. 1, 1906, Serial No. 328,806. Renewed Feb. 3, 1910. Serial No. 541,869.

1. A gas producer having a rotatable producer section, with spaced inner and outer walls, a hollow agitator beam extending across the producer section and fastened to the inner wall thereof, said beam communicating with the space between the walls of the section, and a bracing member fastened between the walls of the producer section adjacent to the end of the beam.

2. A gas producer having a rotatable producer section, with spaced inner and outer walls, a hollow agitator beam extending across the producer section and fastened to the inner wall thereof, said beam communicating with the space between the walls of the section, and a hollow orificed bracing member fastened between the walls of the producer section adjacent to the end of the beam.

3. A gas producer having a rotatable producer section, with spaced inner and outer walls, a hollow agitator beam extending across the producer section and fastened to the inner wall thereof, said beam communicating with the space between the walls of the section, a hollow orificed bracing member secured between the walls of the producer section and communicating with the interior of the agitator beam, the outer wall of the section having a manhole opposite the bracing member, and a cover for the manhole.

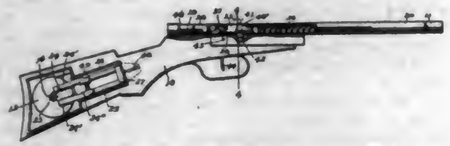
4. A gas producer having an annular track, a rotatable producer section having inner and outer walls, and a member fastened to and between said walls at the lower portion thereof to seal the same and bearing on the track.



5. A gas producer having an ash pan, an annular track located therein, a rotatable producer section having inner and outer walls, the inner wall projecting downwardly inside of the track below the upper edge of the pan, and a member fastened to and between the walls of said section to seal the same and bearing on the track or race.

[Claims 6 to 36 not printed in the Gazette.]

970,018. HARPOONING DEVICE. SAMUEL COLEMAN, Lexington, Miss., assignor to B. C. Farr, Lexington, Miss. Filed Aug. 6, 1909. Serial No. 511,544.



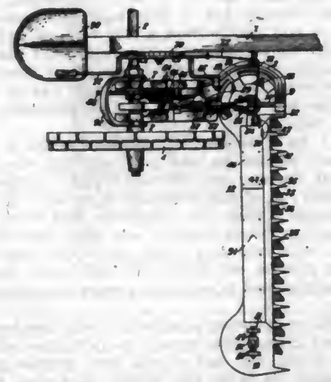
1. A device of the class described comprising a gun stock, a plurality of barrels arranged in fixed parallel relation to each other on said stock, a striker member longitudinally movable in one of said barrels, follower means arranged and movable in the other barrels and connected with said striker member, retractile means operative upon said follower means for forwardly advancing the same, manually operable members detachably connected with said follower means, a trip device arranged in the path of movement of the follower means and adapted to lock the same against the action of the retractile means, and trigger operated mechanism for simultaneously releasing the trip device and the manually operable members from the follower means whereby the latter will be freed for actuation by the retractile means.

2. In a device of the class described a gun barrel, a striker member, traversable therein, spring actuating follower means connected with said striker member, a trip device arranged in the path of movement of the follower means and engageable therewith for locking the same against movement by the spring, manually movable means engageable with the follower means to bring the same into engagement with the trip device, and means for simultaneously releasing the trip device and the manually movable means from said follower means.

3. The combination with a gun having a plurality of barrels, striker means slidable in one of said barrels, follower means slidable in the other barrels and having connection with said striker means, a trip device arranged in the path of movement of the follower means to lock the same against movement, means for advancing said follower means, manually operable means for bringing the follower means into engagement with the trip device, and means for simultaneously releasing the trip device and said manually operable means from engagement with the said follower means.

4. The combination with a gun having a plurality of barrels, of a striker element slidable in one of said barrels, follower blocks slidable in the other barrels, a spring controlled device for engagement with the follower blocks to hold the same against movement, connections between the follower blocks and the striker element, spring means connected with said follower blocks for forwardly advancing the same, finger actuated slidable blocks arranged in rear of the follower blocks, detachable connections between the slidable and follower blocks and a trigger for simultaneously releasing the said device from the follower blocks and the connections between the slidable and said follower blocks, whereby the latter may be freed for moving the striker element.

970,019. MOWING-MACHINE. JOHN PERRY CROSTHWAIT, Georgetown, Ky. Filed July 21, 1909. Serial No. 508,703.



1. A mowing machine having an arm mounted thereupon and adapted to swing downwardly, a mower bar pivotally supported on said arm and tending by gravity to swing downwardly, a stop on said arm limiting the downward swing movement of said mower bar, and means attached to said mower bar near the point of support thereof for raising the same and for simultaneously swinging the said arm upwardly.

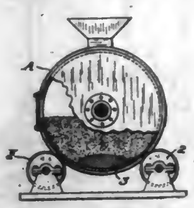
2. A mowing machine having an arm mounted thereupon and adapted to swing downwardly, a mower bar pivotally supported on said arm and tending by gravity to swing downwardly, a stop on said arm limiting the downward swinging movement of said mower bar, means attached to said mower bar near the point of support thereof for raising the same and for simultaneously swinging the said arm upwardly, cutters mounted on said mower bar, and means for driving said cutters from said axle.

3. A mowing machine having an arm supported thereupon and adapted to swing downwardly, a mower bar pivotally attached to said arm and normally projecting therefrom in a depressed position, a chain connected to said mower bar, and a lever attached to said chain and adapted to raise said mower bar and swing said arm upwardly simultaneously, said lever having an extension adapted to depress said arm by a complete movement of said lever so as to depress said arm and rotate said mower bar upon its pivotal mounting on said arm.

4. A mowing machine having an axle, an arm rotatably mounted on said axle, a mower bar rotatably mounted on said arm, a chain connected with said mower bar near said arm, and a lever attached to said chain for raising said mower bar by swinging said arm upwardly, said lever having an extension adapted to depress said arm so as to swing said mower bar upwardly by rotating the same upon its pivotal mounting on said arm.

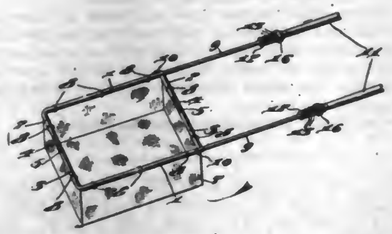
5. A mowing machine having an arm mounted to swing in a substantially vertical plane, a mower bar pivotally mounted on said arm, and a controlling member connected with said mower bar and having means for engaging said arm, said controlling member affording means for raising said mower bar and said arm simultaneously by a partial movement and affording means for depressing said arm and rotating said mower bar upwardly thereupon by a complete movement.

970,020. GRINDING-BARREL. DAVID C. DEMAREST, San Francisco, Cal. Filed Nov. 16, 1908. Serial No. 462,890.



An improved grinding barrel having in combination, a revolubly mounted barrel of cylindrical form and shoes operable within the barrel, said shoes being of substantially rectangular outline and having their opposite surfaces curved with a convexity which corresponds with the interior curvature or concavity of the barrel, the axis of convexity being from one angle to the other of the shoes, and the other two angles being transverse thereto and in the line of the circumference of the interior of the barrel, said shoes being reversible to present either side as a grinding surface.

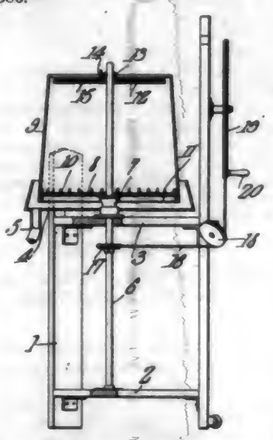
970,021. FEED-BAG. EDWARD R. DEMPSEY, Atlantic City, N. J. Filed Mar. 25, 1910. Serial No. 551,421.



1. A device of the character described, comprising telescoping side members, transverse members connecting the side members, and comprising two sections hinged together, said sections of tubular form, a tongue on one section, the other section cut away and underlying the tongue, whereby the upward movement of the hinged sections is limited, substantially as described.

2. A device of the character described, comprising telescoping side members, transverse members connecting the side members, and comprising two sections hinged together, said sections of tubular form, a tongue on one section, the other section cut away and underlying the said tongue, whereby the upward movement of the hinged sections is limited, clamps on the ends of said telescoping side members adapted to secure them to the shafts of a vehicle, a bag, and rings secured to the edges of said bag and positioned on the side members and the transverse members, substantially as described.

970,022. CENTRIFUGAL CLOTHES-DRIER. FRANK A. DINSMORE, Fredonia, N. Y. Filed Apr. 6, 1910. Serial No. 553,686.



1. A centrifugal clothes drier including an apertured basket having concentric corrugations on the bottom thereof the upper portions of which are disposed in the same plane, and means revoluble with the basket for holding fabrics upon said bottom.

2. A centrifugal clothes drier including a revoluble basket having apertures in the wall thereof, the bottom of said basket having concentric annular corrugations the upper portions of which are located in the same plane, and means adjustably and removably mounted in the basket for holding fabrics upon said bottom.

3. A centrifugal clothes drier including an apertured basket mounted for rotation, and means adjustably mounted within the basket for holding fabrics upon the bottom of said basket, said means including concentric annular corrugations.

4. A centrifugal clothes drier including a revoluble apertured basket, and means removably and adjustably mounted within the basket for holding fabrics upon the bottom of the basket, said means including concentric annular corrugations for engaging the fabrics.

5. A centrifugal clothes drier including an apertured basket mounted for rotation, said basket having concentric corrugations on the bottom thereof, and means adjustably mounted within the basket for holding fabrics upon said corrugations, said means including concentric corrugations for engaging the fabrics.

[Claims 6 to 8 not printed in the Gazette.]

970,023. OIL AND GAS BURNER. CHARLES DONALDSON, Coudersport, Pa., assignor of one-half to Elmer E. Myers, Coudersport, Pa. Filed June 7, 1909. Serial No. 500,517.



1. A device as specified comprising a cylindrical body portion being cut away intermediately at one side thereof, an inlet pipe engaged in the rear end of said body portion, a disk positioned over the forward end of said inlet pipe and having a plurality of apertures formed therethrough adjacent the edge thereof, a sleeve engaged over said disk, a shoulder formed in said sleeve for engagement with said disk to close the apertures at times, a disk valve carried upon the forward end of said sleeve for engagement within the forward end of said body portion to close the inner end thereof, and a nipple adjustably disposed through said disk valve to direct the flow of gases through said body portion to cause the passage of oil therethrough.

2. A device as specified comprising a cylindrical body portion being cut away intermediately at one side thereof, a sleeve disposed in threaded engagement upon the rear extremity of said body portion, a collar formed upon the rear end of said sleeve, an inlet pipe disposed through said collar and extended into said body portion, a disk disposed across the forward end of said pipe and having a plurality of apertures formed therethrough adjacent the edge thereof, a second sleeve disposed in threaded engagement over the forward end of said inlet pipe, a shoulder formed annularly in said second sleeve for engagement with said disk to control the flow of gas therefrom, a shank engaged in the forward end of said second sleeve, a disk valve mounted on said shank for engagement in the forward end of said body portion, a nipple adjustably engaged through said shank and said valve for directing gases into said body portion, a bead formed upon the inner face at the forward end of said body portion, and an oil inlet pipe connected to the forward end of said body portion.

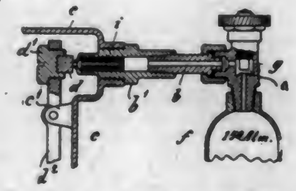
3. In a burner as specified the combination of a cylindrical body portion having an opening in one side thereof, an inlet pipe adjustably positioned through the rear end of said body portion, a valve mechanism mounted upon the forward end of said inlet pipe opposite the opening in said body portion, a disk valve carried by said mechanism for coöperation with the forward end of said body portion to regulate the inflow of air therethrough upon the reciprocation of said inlet pipe, and an oil inlet pipe connected to said body portion forwardly of the opening therein.

4. In a device as specified the combination of a cylindrical body portion, an inlet pipe connected to said body portion at the rear end thereof, a sleeve mounted over the forward end of said inlet pipe to regulate the flow of gas therefrom, a disk valve carried by said sleeve, a bead formed in the forward end of said body portion for coöperation with said disk valve, means for reciprocating said inlet pipe for controlling said disk valve, and an oil inlet pipe connected to said body portion forwardly of said bead.

5. A burner including a cylindrical body portion having an opening in one side thereof, an inlet pipe adjustably disposed in the rear end of said body portion, a sleeve carried upon the inner end of said inlet pipe, a shank adjustably engaged in said sleeve, a disk carried by said shank for movement across the opening to control the flow of air through the forward end of said body portion, and a nipple adjustably engaged through the outer end of said shank to extend beyond said disk valve.

[Claim 6 not printed in the Gazette.]

970,024. DEVICE FOR PREVENTING THE IGNITION OF PRESSURE-REDUCING VALVES. ALEXANDER BERNHARD DRÄGER, Lübeck, Germany. Filed May 23, 1910. Serial No. 562,887.



1. In a device of the character described, the combination with a pressure chamber having an outlet passage and a pressure reducing valve controlling the latter, of a heat absorbing and gas sub-dividing device mounted in said outlet passage.

2. In a device of the character described, the combination with a pressure chamber having an outlet passage and a pressure reducing valve controlling the latter, of a foraminous body mounted in said outlet passage.

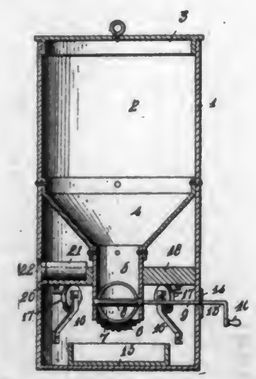
3. In a device of the character described, the combination with a pressure chamber having an outlet passage and a pressure reducing valve controlling the latter, of a foraminous heat absorbing body mounted in said outlet passage.

4. In a device of the character described, the combination with a pressure chamber having an outlet passage and a pressure reducing valve controlling the latter, of a strip of wire gauze mounted in said outlet passage.

5. In a device of the character described, the combination with a pressure chamber having an outlet passage and a pressure reducing valve controlling the latter, of a spiral strip of wire gauze mounted in said passage.

[Claims 6 and 7 not printed in the Gazette.]

970,025. KITCHEN-CABINET. GEORGE W. DRULINER, Benkelman, Nebr. Filed Jan. 20, 1910. Serial No. 539,005.



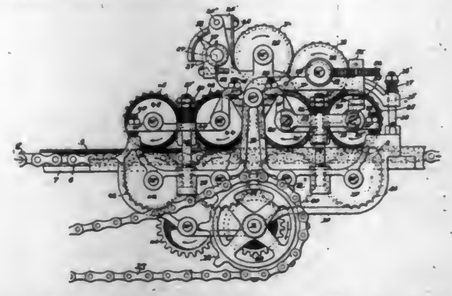
The herein described kitchen cabinet comprising a cylindrical casing formed in its side with an opening, a funnel-shaped hopper bottom secured in the casing to form a receptacle, said hopper bottom having a depending cylindrical tubular extension arranged concentric with the wall of the casing and opposite the opening in the latter, an annular series of brackets secured to the inner wall of the casing, anti-friction rollers journaled in said brackets, a circular tray supported for rotary movement on said rollers and formed with a central opening to receive the cylindrical extension on the hopper bottom, said tray being formed in its top with an annular series of radially extending semi-circular recesses opening through the periphery of said tray and adapted to be brought into register with the opening in said wall of the casing, and a series of horizontally disposed cans arranged lengthwise in the radial recesses in said tray and adapted to have their outer ends brought successively opposite the opening in the casing to permit of the removal of the desired can through said opening.

970,026. SLACK-ADJUSTER. ALVIN RAY DUFFY, Manhattan, Kans. Filed June 2, 1910. Serial No. 564,674.



The combination with brake mechanism; of a slack adjuster extending between and connected to the lower portions of the brake lever and dead lever and comprising a rod section having a portion, of angular form in cross-section, bearing teeth, a second rod section having a housing, interiorly of angular form in cross-section and receiving the toothed portion of the first-named rod section, and also having an aperture in the wall of the housing, a pawl disposed in said aperture, and a spring connected to the housing and backing said pawl; and a retainer extending between and connected with the brake beams and comprising a rod section having a portion, of angular form in cross-section, bearing teeth, a second rod section having a portion of angular form in cross-section and lateral studs thereon, a housing, interiorly of angular form in cross-section, slidably arranged on said angular portion and receiving the toothed portion of the other section and having longitudinal slots receiving said studs and also having an aperture in its wall, a pawl disposed in said aperture, and a spring connected to the housing and backing the pawl.

970,027. INKING MECHANISM. JOSEPH S. DUNCAN, Chicago, Ill., assignor to Addressograph Company, Chicago, Ill., a Corporation of Illinois. Filed June 25, 1908. Serial No. 440,219.



1. In an inking mechanism, the combination of a frame, bearing blocks supported in said frame, shafts mounted in said bearing blocks, rolls carried on said shafts, means for positively limiting the movement of the blocks in one direction, means for yieldingly limiting the movement of the blocks in the opposite direction, a pivotally mounted lever connected at either end with said shafts, and means for oscillating said lever on its pivot whereby to feed said rolls longitudinally back and forth in opposite directions.

2. In an inking mechanism the combination of a frame, posts on the frame, bearing blocks movably mounted on said posts, a plurality of shafts journaled in said bearing blocks, inking rolls carried by said shafts, means for positioning said rolls relatively to the work, and means engaging said blocks to yieldingly retain said rolls in adjusted position.

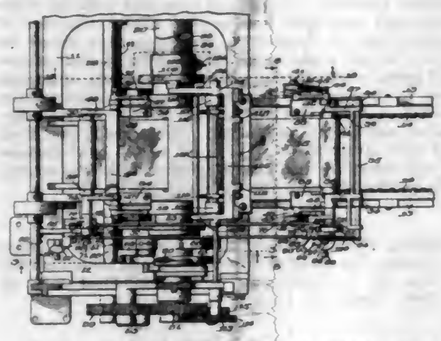
3. In an inking mechanism, the combination of a frame, a pair of inking rolls, shafts carrying said rolls and supported in the frame, peripheral grooves on said shafts, a lever pivotally mounted between said shafts and having its ends arranged to engage said grooves, a lengthwise groove on said lever at one end thereof, an eccentric disk arranged to work in said lengthwise groove, a shaft carrying said eccentric disk, and means for rotating said shaft to oscillate said lever and feed the inking rolls back and forth in opposite directions.

4. In an inking mechanism, the combination of a frame, posts on the frame, bearing blocks movably mounted centrally on the posts, shafts journaled in the ends of said bearing blocks, inking rolls on said shafts, springs arranged on the posts to bear on said blocks projections on the ends of said blocks, and adjusting screws on said projections to engage the frame.

5. In an inking mechanism, the combination of a main frame, a bearing frame yieldingly mounted on said main frame, means for limiting the movement in one direction of the bearing frame, a plurality of inking rolls mounted therein, a yielding frame pivotally mounted on the main frame, and a transfer roll mounted on said yielding frame and arranged in contact with the inking rolls.

[Claims 6 to 11 not printed in the Gazette.]

970,028. RIBBON-FEEDING MECHANISM. JOSEPH S. DUNCAN, Chicago, Ill., assignor to Addressograph Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 6, 1910. Serial No. 553,738.



1. In a ribbon feeding mechanism, the combination of a pair of ribbon rolls mounted to move in a direction transverse to their axes, means for feeding the ribbon from one roll onto the other, and means controlled by the position of the rolls for reversing the feeding operation.

2. In a ribbon feeding device, the combination of a pair of ribbon rolls, pivotally mounted frames in which said rolls are rotatably mounted whereby the rolls are capable of movement about the frame pivots, means for feeding the ribbon from one roll onto the other, and means for reversing the feeding operation upon substantial depletion of one of the rolls.

3. In a ribbon feeding mechanism, the combination of a pair of ribbon rolls, pivotally mounted frames in which said rolls are journaled, whereby each roll is capable of independent movement in a direction transverse to its axis, means for feeding the ribbon from one roll onto the other, and means controlled by the relative positions of the rolls for reversing the ribbon feeding operation.

4. In a ribbon feeding mechanism, the combination of a pair of ribbon rolls, pivotally mounted frames in which said rolls are mounted, plates upon which said rolls are adapted to rest, means for feeding the ribbon from one roll onto the other, and means controlled by the position of the axis of one of said rolls relatively to its plate for reversing the feeding operation.

5. In a ribbon feeding mechanism, the combination of a pair of ribbon rolls mounted so as to be capable of movement transversely of the path of travel of the ribbon, means for feeding the ribbon from one roll onto the other, means adapted to move with said ribbon rolls for reversing the feeding operation and stationary means for actuating said reversing means.

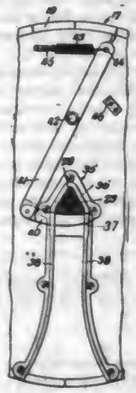
[Claims 6 to 23 not printed in the Gazette.]

970,029. PROCESS FOR MAKING GRAPE-SUGAR. GÖSTA EKSTRÖM, Limhamn, Sweden. Filed Aug. 22, 1907. Serial No. 389,608.

A process for obtaining grape sugar from acid cellulose, consisting in mixing acid cellulose with sufficient concentrated mineral acid to form a paste, meanwhile heating the mixture to not more than 100° C. until the acid cellulose is converted into cellose soluble in water, adding water thereto and boiling the whole under pressure of the atmosphere, precipitating the acid by adding a suitable base, and separating out the grape sugar.

970,030. JOURNAL AND BEARING. ALVA J. FISHER, Chicago, Ill., assignor to Hurley Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 28, 1908. Serial No. 455,027.

1. A journal bearing embracing a journal member, a bearing member, the one member being rotatable with reference to the other, a socket member open at one side adapted to embrace one of said members, and being removable therefrom in a direction at right angles to the longitudinal axis of said journal member, and means for locking said member embraced by the socket member in position.



2. A journal bearing embracing a journal member, a bearing member, the one member being rotatable with reference to the other, and one member being provided with a part which is polygonal in cross-section, a socket member open at one side adapted to embrace said part, and being removable therefrom in a direction at right angles to the longitudinal axis of said journal member, and means for locking said polygonal part in said socket member.

3. A journal bearing embracing a journal member, a bearing member, the one member being rotatable with reference to the other and being provided with a part which is polygonal in cross-section, a socket member open at one side, adapted to embrace the polygonal part of said rotatable member and being removable therefrom in a direction at right angles to the longitudinal axis of said journal member, a locking device for locking said rotatable member in said socket member, and lock operating means having a fixed relation with said socket member.

4. A journal bearing embracing a journal member, a bearing member, the one member being rotatable with respect to the other and having a part which is polygonal in cross-section, a socket member open at one side adapted to embrace the said polygonal member and being removable from said rotatable member in a direction at right angles to the central axis of said rotatable member, and locking means rotating with said rotating member adapted to lock said rotatable member in said socket.

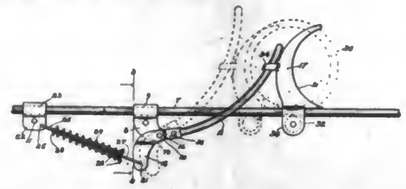
5. A journal bearing embracing a fixed journal, a rotatable hub having bearing on said fixed journal, said hub being of polygonal cross-section at one end, a rotating socket member open at one side adapted to embrace the polygonal end of said hub, said socket member being removable from said hub in a direction at right angles to the axis of said hub, and a tapered key having guiding engagement with said socket member adapted to lock said hub within said socket member.

[Claims 6 and 7 not printed in the Gazette.]

970,031. STOP AND REBOUNDER FOR ELEVATED CARRIERS. JEREMIAH C. FITZGERALD, De Kalb, Ill., assignor to Smith Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed June 6, 1910. Serial No. 565,222.

1. A stop and rebounder for elevated carriers, consisting of an elevated track, a buffer slidably mounted thereon, and equalized resilient means applied at one end to the track and at its other end to the buffer directly in line with the center of the carrier wheel.

2. A stop and rebounder for elevated carriers, consisting of an elevated track, a buffer slidably mounted on and above the track, and equalized resilient means applied at one of its ends to the track and at its other end to the buffer at a point thereon in a line with the line of pressure exerted by the carrier.



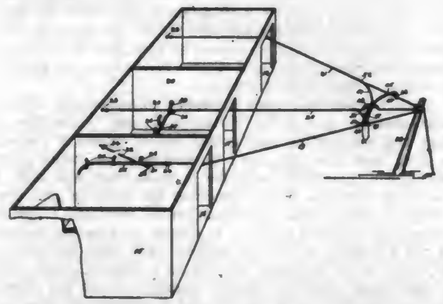
3. A stop and rebounder for elevated carriers, consisting of an elevated track, a buffer slidably mounted thereon and having its contacting face formed to fit the wheel of the carrier, and equalized resilient means applied at one of its ends to the track and at its other end to the buffer at a point thereon in line with the center of the contacting wheel of the carrier.

4. A stop and rebounder for elevated carriers, consisting of an elevated track, a buffer slidably mounted thereon, a bracket on the track near the buffer and having a depending extension, a yoke having a downturned arm and pivotally secured to said extension, a bow astride the track connected at one of its ends to the yoke and loosely connected near its other end to the buffer, and a spring applied at one of its ends to the arm on the yoke and at its other end to the track.

5. A stop and rebounder for elevated carriers, consisting of an elevated track, a buffer slidably mounted thereon, a bracket on the track near the buffer and having a depending extension, a yoke having an arm and pivotally secured to said extension, a connection secured at one of its ends to the yoke and loosely connected to the buffer, and a spring applied at one of its ends to the arm on the yoke and at its other end to the track.

[Claims 6 to 8 not printed in the Gazette.]

970,032. ELEVATED-TRACK SYSTEM FOR OVERHEAD CARRIERS. JEREMIAH C. FITZGERALD, De Kalb, Ill., assignor to Smith Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed June 9, 1910. Serial No. 565,922.



1. In an elevated track system, the combination with a plurality of main tracks, of a plurality of track sections, each connected at one of its ends to a different main track, a by-pass support for one of the main tracks disposed across one of said sections, and a switch member connected to one of the main tracks and adapted to be moved from one of said sections to another.

2. In an elevated track system, the combination with a plurality of main tracks, of a plurality of track sections supported thereby and each connected at one of its ends to a different main track, a by-pass support supporting one of the main tracks across one of said sections, and a switch member supported on the main tracks and connected to one of the same and adapted to be moved from one of said sections to another.

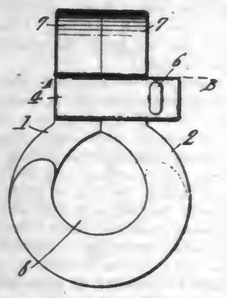
3. In an elevated track system, the combination with a plurality of suitably supported main tracks, of a plurality of track sections each connected at one of its ends to a different main track and diverged therefrom, the other ends of said sections being located common to another of the main tracks, a switch member loosely connected at one of its ends to the said common track and adapted to be moved at its other end from one track section to another.

4. In an elevated track system, the combination with a plurality of main tracks, of a plurality of track sections, each connected at one of its ends to a different main track, a bridge extended across the main tracks and supported thereon, a by-pass support for one of the main tracks disposed across one of said sections and mounted on said bridge, and a switch member connected to one of the main tracks and adapted to be moved from one of said sections to another.

5. In an elevated track system, the combination with a plurality of main tracks, of a plurality of track sections, each connected at one of its ends to a different main track, a bridge extended across the main tracks and supported thereon, a by-pass support for one of the main tracks disposed across one of said sections and mounted on said bridge, a switch member connected at one of its ends to one of the main tracks and having its other end extended to one of the track sections, a keeper mounted on the bridge above the switch member and having recesses in its lower portion, a hanger connected at its lower end to the switch member and having an extension at its upper end to rest in the recesses of the keeper, and means to shift the position of said hanger and switch member.

[Claims 6 to 11 not printed in the Gazette.]

970,033. SISTER-HOOK. LINWOOD E. FOSTER, Hoquiam, Wash. Filed June 1, 1910. Serial No. 564,407.

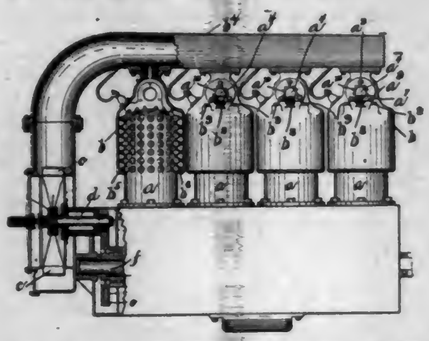


1. A device of the class described comprising two disconnected, freely separable hooks, adapted to be united to form an eye, one of the hooks having spaced, outstanding arms, between which the other hook may be slid, that portion of the hook which is disposed between the arms being polygonal to register closely between the arms; the hooks having coöperating elements to receive a line.

2. A device of the class described comprising two disconnected, freely separable hooks, adapted to be united to form an eye, one of the hooks having spaced, outstanding arms, between which the other hook may be slid; the hooks having coöperating line-receiving eyes, the eye of the last named hook being adapted to engage the arms to limit the movement of said hook transversely of the arms.

3. A device of the class described comprising two disconnected, freely separable hooks, adapted to be united to form an eye, one of the hooks having spaced outstanding arms between which the other hook may be slid, the arms being prolonged beyond the last named hook, and having openings in their prolongations, adapted to receive a securing element; the hooks having coöperating elements to receive a line.

970,034. EXPLOSIVE-ENGINE. LEE A. FRAZER, Columbus, and WILLIAM J. MILLER, Springfield, Ohio, assignors, by mesne assignments, to The Kelly Motor Truck Company, Springfield, Ohio, a Corporation of Ohio. Filed Aug. 3, 1908. Serial No. 446,556.



1. In a hydrocarbon engine, the combination with a cylinder, of a jacket which partially incloses said cylinder, an air conduit which communicates with said jacket at the top of the cylinder, said air jacket being closed with the exception of a few small openings at the bottom thereof, and a valve casing also surrounded by said air jacket, said air jacket having a number of openings formed in the wall thereof adjacent said valve casing.

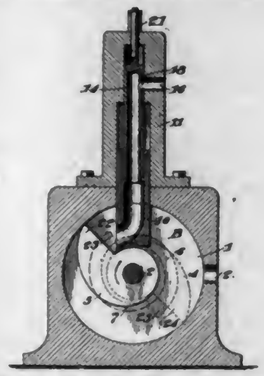
2. In a gas engine, the combination with a plurality of cylinders, and air jackets partially inclosing each of said cylinders, a fan, a conduit leading from said fan and extending along the tops of all of said cylinders, said conduits being in communication with each of the air jackets at the top thereof, valve casings also inclosed by said air jackets, said air jackets having a number of openings formed in the walls thereof adjacent said valve casings, and said air jackets being closed at their bottoms with the exception of a few small openings to thereby cause the major portion of the air from the conduit to pass out around the valve casings.

3. In a gas engine, the combination with a plurality of cylinders, of air jackets partially inclosing each of said cylinders, a fan, a conduit leading from said fan and extending along the tops of all of said cylinders, said conduits being in communication with each of the air jackets at the top thereof, valve casings also inclosed by said air jackets, said air jackets having a number of openings formed in the walls thereof adjacent said valve casings, said air jackets being closed at their bottoms with the exception of a few small openings to thereby cause the major portion of the air from the conduit to pass around the valve casings, and a plurality of pins which extend between the cylinder and the air jacket.

970,035. ROTARY ENGINE. TERRY H. FRAZER and WILLIAM W. VANLANDINGHAM, Lone Oak, Tex. Filed Dec. 27, 1909. Serial No. 535,026.

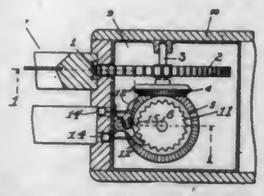
1. In a rotary engine, the combination with a casing having cylinders, of a shaft, pistons mounted upon the shaft in the cylinders, a valve casing, sliding abutments in the casing adapted to be received in the cylinders, valve stems movably mounted in the valve-casing and in engagement with the abutments for conducting the steam to the cylinders, whereby the pistons are operated, and means for operating the valve stems whereby the steam is cut off from one cylinder before steam is admitted to the other.

2. In a rotary engine, the combination with a casing having cylinders, of a shaft, pistons mounted upon the shaft in the cylinders, a valve casing, sliding abutments in the valve casing adapted to engage the pistons and for delivering steam to the cylinders for causing the pistons to be rotated, sliding valve stems mounted in the valve casing and in engagement with the sliding abutments, cams on the shaft, and means engaging the cams and valve stems whereby the stems are alternately operated



and the steam is shut off from one valve stem before steam is admitted to the other valve stem.

970,036. SASH-CLOSING MECHANISM. EVAN GEORGEFF, Seattle, Wash. Filed Feb. 14, 1910. Serial No. 543,861.

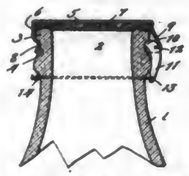


1. In combination with a window frame and a sliding sash therein, means for lifting said sash comprising a rack and coöperating mechanism one of which is secured to said sash and the other to said window frame, said mechanism comprising a pinion in mesh with said rack, a vertically disposed shaft supported for rotation, beveled gears on said shaft and pinion meshing with one another, a spring connected with said shaft to be wound by rotation thereof in one direction, and means for securing said shaft against rotation by action of said spring, said last means including a pawl and ratchet mechanism the ratchet of which is fixed to said shaft.

2. In combination with a window frame and a sliding sash therein, means for lifting said sash comprising a rack and coöperating mechanism one of which is secured to said sash and the other to said window frame, said mechanism comprising a pinion in mesh with said rack, a vertically disposed shaft supported for rotation and connected to said pinion for simultaneous rotation, a spring connected with said shaft to be wound by rotation thereof in one direction, means for holding said shaft against rotation in either direction comprising a ratchet wheel fixed to said shaft, a double ratchet member, means for swinging said member to bring its pawls alternately into engagement with the teeth of said ratchet wheel, and a spring for yieldingly holding said member with one or the other of its pawls in operative position, said spring being shifted by reverse movements of said member to act alternately on the pawls of the latter.

970,037. CLOSURE FOR RECEPTACLES. ESSINGTON N. GILFILLAN, Syracuse, N. Y., assignor of fifty-one one-hundredths to John Hunter, Fulton, N. Y. Filed Aug. 14, 1909. Serial No. 512,793.

1. A closure for receptacles comprising a flanged cap provided with a projection on its inner wall and a catch having moving contact with the flange of said cap to coöperate with said projection for securing the cap on a receptacle.



2. A closure for receptacles comprising a flanged cap provided with a ledge on its inner wall, and means having movable contact with the flange of said cap for coöperating with said ledge to lock the cap on a receptacle.

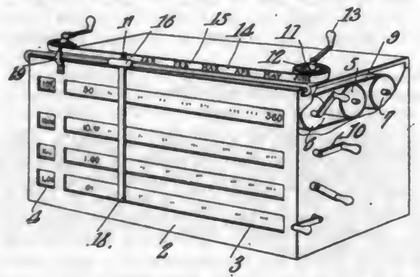
3. The combination with a receptacle provided with a protuberant lip, of a closure therefor comprising a flanged cap detachably engaging said protuberant lip, and a catch pivotally mounted in the flange of said cap to engage said lip.

4. The combination with a receptacle provided with a depression in the outer wall thereof, of a closure therefor comprising a cap having a slotted flange provided with a protuberance on the inner wall of said flange, said protuberance being adapted to releasably engage in said depression, and a stop movably mounted in the slot in said flange to adapt it to be moved into and out of engagement with the outer wall of the receptacle.

5. The combination with a receptacle provided with an annular depression in the outer wall thereof, of a closure therefor comprising a cap having a depending flange provided with a protuberance on the inner wall thereof adapted to releasably engage in said depression, said flange being provided with a slot parallel to the axis of said receptacle, and a stop pivotally mounted in said slot, said stop being oppositely disposed with reference to said protuberance and movable into and out of locking engagement with said depression.

[Claims 6 to 9 not printed in the Gazette.]

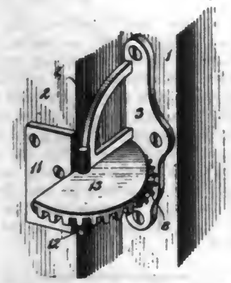
970,038. CALCULATOR. GEORGE WILSON GOSS, Orlo, Tex., assignor of one-half to Charles M. Acrey, Carlsbad, N. Mex. Filed Nov. 18, 1909. Serial No. 528,811.



1. A calculator comprising a suitable casing having a series of alined and respectively long and short passages for the display of circumscribed portions of the contents of the casing, bands within the casing each movable into visible relation to respective alined passages, a band on top the casing adjustable in the direction of its length, a rod along the top of the casing adjacent to the band thereon, a fixed pointer on the casing in operative relation to the band, and a sleeve on and movable along the rod and provided with a pointer on one side in operative relation to the band on the casing and a rod on the opposite side movable over all the passages in the casing simultaneously, the sleeve and rod being relatively shaped to prevent turning of the sleeve on the rod.

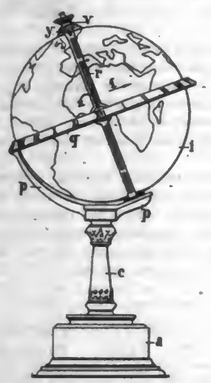
2. A calculator comprising a suitable casing having passages therethrough for the display of circumscribed portions of the contents of the casing, bands within the casing movable into visible relation to the passages therethrough and each provided with distinctive zones with series of numbers thereon differentiated by the distinctive zones, all the zones on each band being movable into visible relation to a respective passage through the casing, and an indicator member movable lengthwise of all the passages simultaneously.

970,039. SHUTTER-WORKER. CHARLES A. GOTHING, Worcester, Mass. Filed Oct. 20, 1908. Serial No. 458,646.



A device of the kind described comprising a wall plate, a bracket projecting outwardly from the wall plate, a pintle carried by the bracket, a plate carrying a sleeve on one edge and adapted to be fitted against the inner face of a shutter, said sleeve receiving the pintle, a segmental gear carried by said sleeve, the gear when in position extending transversely across the shutter edge, a pinion meshing with said gear, and means for operating said pinion.

970,040. CLOCKWORK-GLOBE. ETIENNE DE GOUNEVITCH, Paris, and ARMAND COUAILLET, St. Nicolas d'Allermont, France. Filed June 28, 1909. Serial No. 504,747.



1. In a device of the character described, the combination with a globe, of means for rotatably supporting the same at the poles, a uniformly driven actuating member for said globe and an automatic clutch device between said actuating member and globe, whereby said globe may be moved independently of said actuating member in one direction only, said clutch device serving, when the movement is reversed, to lock said parts in their original relative positions.

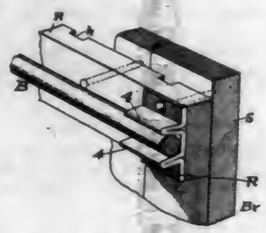
2. In a device of the class described, the combination with a globe, of means for rotatably supporting the same at the poles, a continuously driven actuating member for said globe, a semi-circular strip extending from one pole to the other adjacent the surface of the globe, an automatic clutch between the globe and its actuating member, and a second automatic clutch between the said semi-cir-

cular strip and the globe, whereby the several parts normally move together, but whereby the globe may be moved independently of the actuating member and the said strip independently of the globe.

3. In a device of the class described, the combination with a globe, of an inclined shaft on which said globe is journaled, an actuating member for said globe, means for driving said actuating member at uniform speed, and a clutch between the globe and actuating member permitting the globe to be moved independently of such member in one direction but serving, when the globe is returned, to lock it in its original position relative to the actuating member.

4. In a device of the class described, the combination with a globe, of an inclined shaft on which said globe is journaled, a uniformly driven actuating member at one end of such shaft, a semi-circular strip arranged adjacent the surface of the globe and having its ends loosely journaled on said shaft, and an automatic clutch device between the actuating member and the globe and also between the globe and semi-circular strip, the arrangement being such that all of said parts normally move together, but that the globe may be moved in one direction independently of the actuating member and the strip moved in the same direction independently of the globe, substantially as described.

970,041. SILO. GLEN G. GRISWOLD, Madison, Ohio. Filed May 31, 1910. Serial No. 564,029.

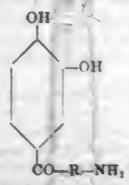


1. A silo having wooden hoops at intervals top to bottom, tie rods about said hoops and yokes connecting the ends of said rods adapted to tighten the said rods, and rests on said hoops at intervals supporting said rods, said rests being constructed from sheet metal bent into opposite walls and channels between said walls in which said rods rest.

2. A silo having wooden hoops, in combination with tie rods about the same and metallic rests at intervals for said rods fixed on said hoops and having channels adapted to confine said rods, yokes connecting the ends of the rods constructed to tighten the same on the hoops, and said hoops nailed to the staves of silo.

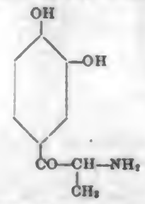
970,042. AMINOACIDYLPYROCATECHIN AND PROCESS OF MAKING SAME. WILHELM GRÜTTEFIEN, Vohwinkel, near Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Mar. 9, 1909. Serial No. 482,302.

1. The process of producing aminoacidylpyrocatechins having probably the following general formula:



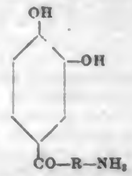
(R having the above defined meaning) which process consists in first treating dialkyl ethers of pyrocatechin with the hereinbefore defined chlorids of phthalimino acids in the presence of aluminium chlorid, then saponifying the resulting products by means of acids and finally isolating the free bases by means of alkali.

2. The process of producing aminopropionylpyrocatechin having probably the following formula:



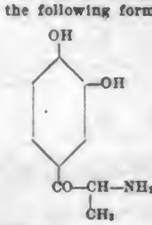
which process consists in first treating the dimethylether of pyrocatechin with the chlorid of alpha-phthaliminopropionic acid in the presence of aluminium chlorid, then saponifying the resulting products by means of acids and finally isolating the free base by means of alkali.

3. The herein-described new aminoacidylpyrocatechins having probably the following general formula:



(R having the above-defined meaning), being crystalline powders, very little soluble in water and in organic solvents, forming with hydrochloric acid salts readily soluble in water, the aqueous solutions of these salts yielding with ferric chlorid green colorations, and possessing valuable therapeutic properties, substantially as described.

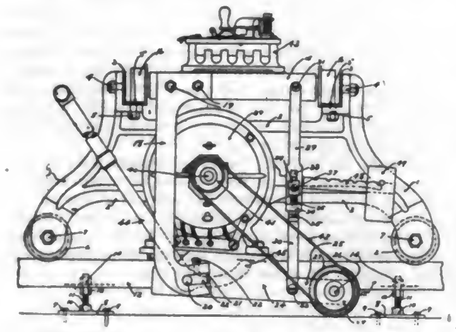
4. The herein-described aminopropionylpyrocatechin having probably the following formula:



having a melting point of about 212° C., being a yellowish crystalline powder, scarcely soluble in water and in the ordinary organic solvents, its hydrochlorid being in the form of faintly reddish leaflets melting at 236° C., its aqueous solution giving a green coloration with ferric chlorid, possessing valuable therapeutic properties substantially as described.

970,043. COMBINED FLOOR LEVELING AND SURFACING MACHINE. GEORGE F. HALL, Providence, R. I. Filed June 21, 1907. Serial No. 380,132.

1. In a combined floor-dressing and floor-leveling machine: the combination of a truck having wheels; a frame carried by the truck and capable of a limited oscillation on pivotal supports; means for giving said oscillation to the frame; a dressing roller rotatably mounted in the frame and movable to and from the floor surface; a motor on said frame; means operated by the motor to rotate the roller; parallel tracks on which the truck wheels travel; a pair of parallel rails upon the truck extending transversely of the machine at right angles with the first named tracks; a platform mounted on the last named rails and adapted to travel thereon and supporting said oscillating frame; and an adjustable link bar extended between said two frames and adapted to limit the depth of the cut of the dressing roller in the floor.



2. In a machine of the class described, the combination of a truck having wheels; a frame carried by said truck and capable of a limited vertical oscillation on pivotal supports; means for giving said oscillation to the frame; a dressing roller rotatably mounted in the frame and movable to and from the floor surface; a motor on said frame; means operated by the motor to rotate the roller; parallel tracks on which the truck wheels travel; a pair of parallel rails upon the truck extending transversely of the machine at right angles to the first named tracks; a second set of four wheels traveling on the last named rails; a platform mounted on said wheels supporting said oscillating frame; and means for regulating at will the vertical extent of action of the dressing roller upon the floor.

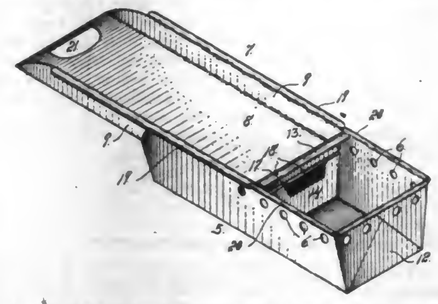
3. In a machine of the class described, the combination of two parallel rails; adjustable means of supporting said rails in a true plane; a wheeled truck movable on said rails and having thereon a second set of parallel rails extending crosswise of said truck in a plane exactly parallel to the first named plane; a platform having wheels mounted on the second named rails; a vertically oscillating frame; a dressing roller rotatably mounted in the oscillating frame; means operated by the motor to rotate the roller; and means of adjusting the height of the roller and thereby to regulate the depth of its abrasive action upon the floor.

4. In a machine of the class described, the combination of two parallel horizontal rails; a wheeled truck adapted to travel on said rails; two parallel horizontal rails upon the upper portion of said truck extending in directions at right angles with the first named rails; a platform having wheels which is adapted thereby to travel on the second named rails; two downwardly extending arms or hangers fastened at their upper ends to the platform on opposite sides thereof and each having its lower end bent and provided with a slot; an oscillating frame carrying a dressing roller at its forward end and having two studs or shafts on its opposite sides, respectively, which studs or shafts extend into the slots of said hangers or arms, respectively; means for suspending the said frame from the platform; and a handle having its lower end bent to underlie said frame in contact therewith and pivotally mounted on said studs or shafts.

5. In a machine of the class described, the combination of two parallel horizontal rails; a wheeled truck adapted to travel on said rails; two parallel horizontal rails upon the upper portion of the truck and extending in directions at right angles with the first named rails; a traveling platform provided with wheels adapted to travel on the second named rails; an oscillating frame suspended at its rear end on supports extending from said platform and having at its forward end a dressing roller rotatably mounted thereon; a motor upon said frame adapted to assist by its weight in bringing the dressing roller into operative contact with the floor surface; a lever arm extending from said motor; a weight adjustably mounted on the lever arm; and means to rotate the dressing roller from the motor.

[Claims 6 to 17 not printed in the Gazette.]

970,044. ORCHARD-HEATER. JAMES L. HAMILTON, Grand Junction, Colo. Filed Aug. 28, 1909. Serial No. 515,036.



1. An orchard heater comprising a fuel receptacle and a cover slidably mounted thereon, the cover having an apron hinged thereto forming a swinging partition adapted to divide the receptacle into two compartments and arranged to allow the fuel to pass from one compartment to the other, the said apron having an opening above the fuel of the receptacle, for the purpose set forth.

2. An orchard heater comprising a substantially rectangular fuel receptacle having draft openings along the sides thereof and a slidable cover mounted on the receptacle and adapted to successively close the draft openings as it is adjusted to its closed position.

3. An orchard heater comprising a substantially rectangular fuel receptacle with draft openings along the sides thereof and a slidable cover mounted on the receptacle adapted to successively close the draft openings as it is adjusted to its closed position, the rear extremity of the receptacle forming a support for the bottom of the cover which is provided with sides projecting upwardly from its bottom and fitting the interior of the receptacle.

4. An orchard heater, comprising a fuel receptacle having draft openings at the sides and the forward end thereof, the opposite end of the receptacle being relatively short, an adjustable cover having a bottom resting upon the upper edge of the rear end of the fuel receptacle, the said bottom having upwardly projecting side members and an upwardly-projecting forward end member, the sides and end members of the cover serving to close the draft perforations of the receptacle on the inside, when the cover is in the closed position, and an apron hinged to the cover at the exterior angle formed by the front end of its bottom and the upwardly projecting front end member, the said apron being arranged to divide the receptacle into two compartments.

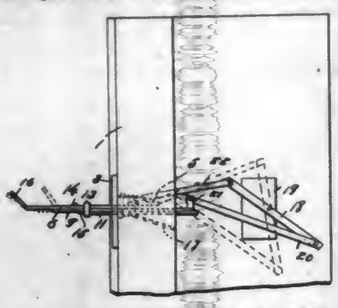
5. An orchard heater, comprising a fuel receptacle, a cover slidably mounted thereon and an apron hinged to the cover serving to separate the receptacle into two compartments and adapted to allow the fuel to pass from one compartment to the other, the apron having an opening in its upper portion for the escape of any gases that may accumulate within the storage compartment of the receptacle, when the device is in use, substantially as described.

[Claim 6 not printed in the Gazette.]

970,045. COIN-CONTROLLED SLIDE. ROBERT P. HAMMOND, Fort Worth, Tex. Filed July 11, 1910. Serial No. 571,421.

1. A coin control comprising a casing, an escutcheon having a bearing sleeve and a guide attached to said casing, a discharge plate having a coin passage therethrough,

a coin receiving slide and a coin shifting slide having coin openings therein, a pivoted bar, and link bars pivotally connected with said pivoted bar and pivotally connected to said slides whereby said slides are reciprocated first to cause the openings therein to register with each other and then to cause the opening in said coin shifting slide to register with the opening through said plate.



2. A coin control comprising a casing, an escutcheon attached to said casing and having a bearing sleeve and a guide projecting within the casing, a discharge plate rigid with said escutcheon and sleeve and provided with a coin passage therethrough, a coin receiving slide and a coin shifting slide movable through said sleeve and provided with coin passages therethrough, a pivoted bar, link bars pivotally connected to said pivoted bar and to said slides whereby said slides are reciprocated in opposite directions first to cause the openings therein to register with each other and then to cause the opening in said coin shifting slide to register with the opening in said plate, and a spring serving to press a coin out of said coin receiving slide into said coin shifting slide.

970,046. STAND FOR HOLDING PRINTING-PRESS ROLLS. EDWARD J. HAMPTON, Berkeley, Cal. Filed Feb. 18, 1908. Serial No. 416,502.



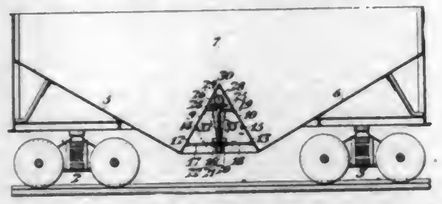
1. A rack for printers' rollers comprising an oil receptacle having feet and an upstanding collar in the middle, a base plate for the lower ends of printing rolls having a sinuous flange on its upper surface, being arranged to rotate on said collar and having itself a collar, a standard resting on said oil receptacle and being rotatable in said collars, and a top plate having notches registering with the outer sinuosities of said base plate, fixed to said standard and of smaller radius than said base plate, whereby printing rolls having their lower ends inserted in said outer sinuosities and upper ends inserted in the corresponding notches, are normally fixed in position.

2. In a rack for printers' rolls, a two part base comprising an oil receptacle having feet, an upstanding collar in the middle thereof, and a base for the lower ends of printing rolls rotatably supported by said collar.

3. In a rack for printers' rolls, clips for securing the upper ends of said rolls, comprising a finger movable about an arbor set on a top plate for said rolls, said arbor being set in bosses and inclined at an angle with the vertical, beveled edges on the finger, and a stop for preventing said finger from moving too far toward the vertical, whereby the entrance of the upper end of a roll will automatically back said finger admitting the roll.

4. A stand for printing press rolls comprising a two part base consisting of an oil receptacle having feet, an upstanding collar in the middle thereof, and a base for the lower ends of printing rolls rotatably supported by said collar, and means for supporting the upper ends of said rolls consisting of a rotatably supported notched plate having a smaller diameter than said base.

970,047. RAILROAD-CAR. ANDERS HANSEN, Philadelphia, Pa. Filed Apr. 17, 1909. Serial No. 490,485.



1. In a hopper car, the combination with a transverse double inclined central partition having outlets at the bottom thereof, leading respectively from opposite ends of the car; of shutters extending transversely with respect to the car and respectively hinged at the tops of said outlets; a vertical rotary screw shaft inclosed by said partition; a bar extending transversely with respect to the car, inclosed by said partition and having a bearing for the lower end of said screw shaft; a strut inclosed by said partition and having a bearing for the upper end of said screw shaft; a horizontal shaft extending transversely beneath said partition and projecting exterior to one side of the car; a hand-wheel upon said horizontal shaft, exterior to the car; a beveled gear-wheel on said horizontal shaft, beneath said partition; a beveled gear-wheel on the upper end of said screw shaft in mesh with the gear-wheel on said horizontal shaft; a screw nut forming a crosshead engaging said screw shaft; links pivoted to said crosshead and to said shutters; and, a dust shield for said screw shaft, comprising a series of cylindrical tubular sleeve sections arranged to slide in telescopic relation and inclosing said shaft; one of said sleeve sections being connected with said strut and the other with said crosshead.

2. In a hopper car, the combination with a transverse double inclined central partition having outlets at the bottom thereof, leading respectively from opposite ends of the car; of shutters extending transversely with respect to the car and respectively hinged at the tops of said outlets; a vertical rotary screw shaft inclosed by said partition; a bar extending transversely with respect to the car, inclosed by said partition and having a bearing for the lower end of said screw shaft; a strut inclosed by said partition and having a bearing for the upper end of said screw shaft; a horizontal shaft extending transversely beneath said partition and projecting exterior to one side of the car; a hand-wheel upon said horizontal shaft, exterior to the car; a beveled gear-wheel on said horizontal shaft, beneath said partition; a beveled gear-wheel on the upper end of said screw shaft in mesh with the gear-wheel on said horizontal shaft; a screw nut forming a crosshead engaging said screw shaft; links pivoted to said crosshead and to said shutters; and,

a dust shield for said screw shaft, comprising a series of cylindrical tubular sleeve sections arranged to slide in telescopic relation and inclosing said shaft.

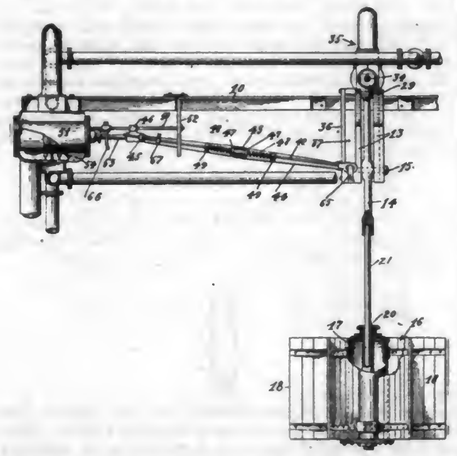
3. In a hopper car, the combination with a double inclined central partition having outlets at the bottom thereof; of shutters respectively hinged at said outlets; a rotary screw shaft inclosed by said partition; an operating shaft extending beneath said partition; gearing connecting said shafts; a screw nut forming a crosshead engaging said screw shaft; means operatively connecting said crosshead and said shutters; and, a dust shield for said screw shaft comprising a series of cylindrical tubular sleeve sections arranged to slide in telescopic relation and inclosing said shaft.

4. In a hopper car, the combination with a double inclined central partition having outlets at the bottom thereof; of shutters respectively hinged at said outlets; a rotary screw shaft inclosed by said partition; bearings inclosed by said partition supporting said shaft; an operating shaft extending beneath said partition; gearing connecting said shafts; a screw nut forming a crosshead engaging said screw shaft; means operatively connecting said crosshead and said shutters; and, a dust shield for said screw shaft connected to move with said crosshead.

5. In a hopper car, having outlets, the combination with shutters for said outlets; of a rotary screw shaft operatively connected with said shutters; and, a dust shield for said screw shaft comprising a series of cylindrical tubular sleeve sections arranged to slide in telescopic relation in accordance with the movement of said shutters.

[Claims 6 and 7 not printed in the Gazette.]

970,048. WAVE-MOTOR. NATHANIEL O. HARMON, Los Angeles, Cal. Filed Sept. 7, 1909. Serial No. 516,564.



1. A wave motor comprising a wharf structure; a dependent power lever hanger mounted on said wharf structure and adapted to oscillate; a power lever pivotally mounted in said hanger and adapted to oscillate in said hanger transversely to the plane of oscillation of said hanger; an impact member mounted on said power lever; and means to utilize the motion of said power lever.

2. A wave motor comprising a wharf structure; a depending power lever secured thereto by a universal joint; a wave impact member slidably mounted upon said lever; power transmitting means mounted upon said wharf structure; a connection from said power transmitting means to said lever; means to lock said connecting means to said lever during a predetermined portion of the stroke thereof, and to unlock the same from said lever after the predetermined portion of the stroke has been reached.
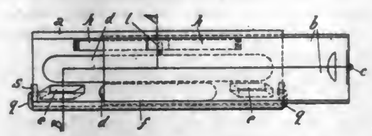
3. A wave motor comprising a wharf structure; a dependent power lever hanger revolubly mounted on said wharf structure and adapted to oscillate; a power lever pivotally mounted in said hanger and adapted to oscillate therein transversely to the plane of oscillation of said hanger; an impact member mounted upon the bottom of said power lever; power transmitting means connected to said power lever hanger; and other power transmitting means connected to the top of said power lever.

4. A wave motor comprising a wharf structure; a depending power lever secured thereto by a universal joint; an impact member mounted upon said power lever; pumps mounted upon said wharf structure; an equalizing tank; means operable by wave action connected to said pumps and adapted to operate the same; a connection from said pumps to said equalizing tank; an elevated reservoir; a connection from said reservoir to the bottom of said equalizing tank; a water wheel; and means leading from the bottom of said equalizing tank to deliver the said water from said tank to said water wheel.

5. A wave motor comprising a wharf structure; a depending power lever mounted on said wharf structure by a universal joint; a buoyant impact member having a plurality of vertical wings slidably mounted upon said lever; and means to utilize the oscillation of said lever.

[Claims 6 to 8 not printed in the Gazette.]

970,049. PEN AND PENCIL BOX. FRIEDRICH HASSELBERGER, Munich, Germany. Filed Oct. 12, 1909. Serial No. 522,218.



1. In a device of the character described, the combination with the box proper being provided with oppositely disposed inclined recesses, of a lid for said box comprising hinged sections adapted to be opened out and have their ends inserted into said recesses thereby to form an inclined book support.

2. In a device of the character described, the combination with the box proper being provided with oppositely disposed inclined recesses, of a lid for said box comprising hinged sections adapted to be opened out and have their ends inserted into said recesses thereby to form an inclined book support, and a rail pivoted to the box and adapted to be swung toward and from the support.

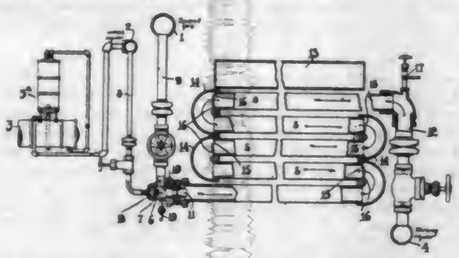
3. In a device of the character described, the combination with the box proper being provided with oppositely disposed inclined recesses, of a lid for said box comprising hinged sections adapted to be opened out and have their ends inserted into said recesses thereby to form an inclined book support, a notched disk secured to each end of the box, and a rail pivoted in said disks and adapted to be swung in the arc of a circle and retained at various points of said arc by the notches in the disk.

970,050. ABSORBER. NICOLAI H. HILLER, Carbondale, Pa. Filed Sept. 28, 1908. Serial No. 455,094.

1. An absorber comprising one or more pipe-units, and an injector at the receiving end of such unit or units, each such injector adapted for connection of its nozzle to a weak liquor line and for connection of its combining space to a gas return line, the discharge end of the pipe adapted for connection to a strong liquor line, each said pipe-unit provided at an intermediate point in its length with means obstructing the flow of liquid and gas therethrough.

2. An absorber comprising one or more return bend pipe units comprising sections of pipe and return bend fittings therefor, such sections of pipe located approximately horizontally one above another progressively, and means for supplying weak liquor and gas to the lower

portion of such unit or units, and for carrying away strong liquor from the upper portions thereof, one or more of such return bend pipe fittings of each such unit having an obstruction to its bore in its upper nearly horizontal part, whereby siphoning off of large portions of the contents of such units is prevented.

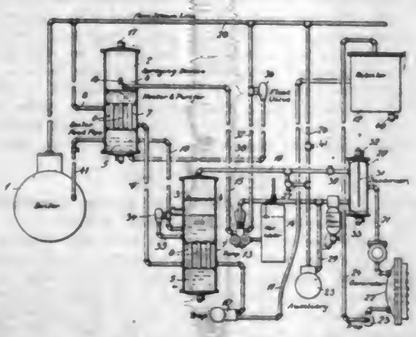


3. An absorber comprising one or more return bend pipe units comprising sections of pipe and return bend fittings therefor, such sections of pipe located approximately horizontally one above another progressively, and means for supplying weak liquor and gas to the lower portion of such unit or units, and for carrying away strong liquor from the upper portions thereof, one or more of such return bend pipe fittings of each such unit having an obstruction to its bore in its upper nearly horizontal part, there being an opening for the passage of liquid between the lower portion of such obstruction or obstructions, and the bottom of the corresponding return bend pipe fitting, whereby siphoning off of large portions of the contents of such units is prevented.

4. An absorber comprising a plurality of pipe units, said units having multiple connections to a weak liquor header, to a gas header, and to a strong liquor header, and having valves in such connections, and having each a valved vent at substantially its top, through which air and foul gas may be drawn off.

5. An absorber comprising one or more pipe units and an injector at the receiving end of such unit or units, each such injector adapted for connection of its nozzle to a weak liquor line and for connection of its combining space to a gas return line, and having in rear of its nozzle a sediment pocket, the bore of the nozzle of gradually increasing diameter from the sediment pocket onward.

970,051. METHOD OF EVAPORATION AND APPARATUS THEREFOR. NICOLAI H. HILLER, Carbondale, Pa. Filed Feb. 20, 1909. Serial No. 479,049.



1. The method of evaporation and purification herein described, comprising spraying heated liquid to be evaporated into a heated chamber maintained under pressure, and thereby disengaging gaseous impurities, blowing off such impurities, conducting the liquid to a separate chamber and there evaporating it, and condensing the resulting vapor.

2. The method of evaporation and purification herein described, comprising spraying heated liquid to be evaporated into a heated chamber maintained under pressure, and thereby disengaging gaseous impurities, blowing off such impurities, conducting the liquid to a separate chamber and there evaporating it by exchange of heat with a condensing current of similar nature, condensing the vapor formed by such evaporation, mingling the two condensates and reboiling the same.

3. The herein described method of obtaining pure water which comprises evaporating water to steam by exchange of heat with heating steam of higher pressure derived from another source and in so doing condensing such heating steam and collecting the water of condensation so obtained, and supplying the steam so produced to heating means of a steam-heated apparatus and supplementing such steam by steam derived from another source and in such apparatus abstracting heat from the steam so supplied, and as a result of such abstraction of heat, condensing such steam, and collecting the water of condensation so obtained.

4. The herein described method of obtaining pure water which comprises evaporating water to steam by exchange of heat with heating steam of higher pressure derived from another source and in so doing condensing such heating steam and collecting the water of condensation so obtained, and supplying the steam so produced to heating means of a steam-heated apparatus and supplementing such steam by exhaust steam derived from another source and in such apparatus, abstracting heat from the steam so supplied, and as a result of such abstraction of heat condensing such steam, and reboiling the water of condensation so obtained.

5. The herein described process of obtaining pure water which comprises heating and evaporating water to steam by exchange of heat with heating steam derived from a primary steam generator operated under higher pressure and in so doing condensing such heating steam and collecting the water of condensation so obtained, feeding hot feed water into such generator from the water so heated, supplying the steam produced by such exchange to heating means of a steam-heated apparatus and supplementing such steam by steam derived from another source and in such apparatus abstracting heat from the steam so supplied, and as a result of such abstraction of heat condensing such steam.

[Claims 6 to 17 not printed in the Gazette.]

970,052. TYPE-WRITING MACHINE. CURTIS HOLLAND, Butte, Mont., assignor to Charles W. Blair, Missoula, Mont. Filed Mar. 10, 1910. Serial No. 548,465.



1. A new article of manufacture comprising a typewriter platen end-piece having a peripheral flange with a centrally disposed annular rib formed upon its periphery.

2. A new article of manufacture comprising a typewriter platen end-piece having a peripheral flange with a plurality of annular rabbeted run-ways upon its periphery, and a plurality of notches or indentations within one of the said run-ways.

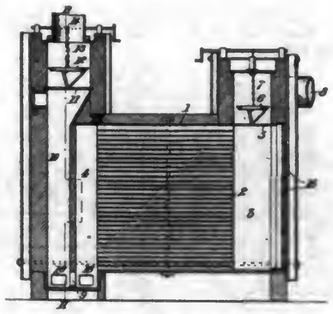
3. A new article of manufacture comprising a typewriter platen end-piece having a peripheral flange with a plurality of annular slotted run-ways upon its periphery, a plurality of notches or indentations within one of the said run-ways, a raised and centrally disposed rib formed upon the periphery of the flange, and characters upon the periphery of the said rib.

4. In a typewriting machine, the combination of a rotative platen, a platen end-piece having a peripheral flange with a raised and centrally disposed annular rib, and a plurality of annular rabbeted run-ways on the periphery of the said flange.

5. In a typewriting machine, the combination of a rotative platen, a platen end-piece having a peripheral flange with a raised and centrally disposed annular rib, a plurality of annular rabbeted run-ways on the periphery of the flange, and a plurality of notches or indentations within one of the said rabbeted run-ways.

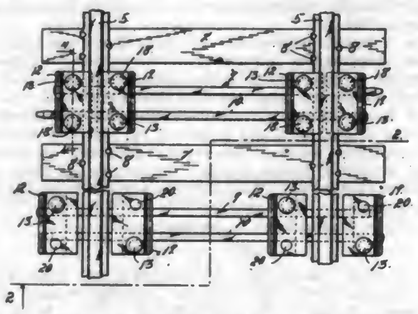
[Claims 6 to 15 not printed in the Gazette.]

970,053. METHOD OF SEPARATING DUST FROM GASES. HENRY HOWARD, Boston, Mass. Filed Jan. 29, 1909. Serial No. 474,956.



The method of separating dust from gases, which consists in passing dust-laden gases at low velocity through interspaces between parallel dust-retaining surfaces, regulating the passage of the gases to secure substantial uniformity of flow between the surfaces, and confining the gases in close proximity to said surfaces.

970,054. TRACK-BINDER. JOHN F. HUDSON, Radium, Colo. Filed Apr. 26, 1909. Serial No. 492,376.



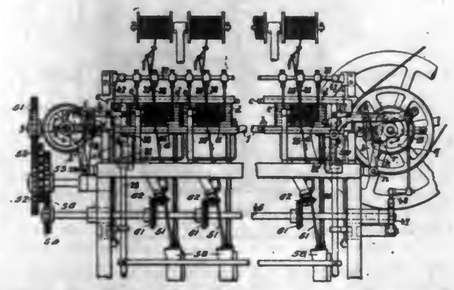
1. A track binder comprising two bars arranged in parallel relation and two pairs of clamping members mounted upon the said bars, the two members of the two pairs on the right hand side of the two rails being normally fast to one bar and the two members on the opposite side of the rails being normally fast to the other bar, the members which are fast on one bar being normally loose and slidable on the other bar, and means for securing the track binding members to the bars upon which they are normally loose, substantially as described.

2. A device of the class described comprising a pair of bars and two pairs of rail clamping members mounted thereon, each pair being adapted to engage one of the rails on opposite sides and in opposing relation, and suitable means for securing the clamping members to the bars when in clamping engagement with the rails, substantially as described.

3. In a track binder, means for connecting the two rails of the track to prevent spreading, comprising two pairs of clamping members, two parallel spaced bars upon which the said members are mounted, said bars passing through perforations of the track clamping members, whereby the two pairs of members engage the respective track rails, and means for locking the clamping members upon the bars when in engagement with the track rails, substantially as described.

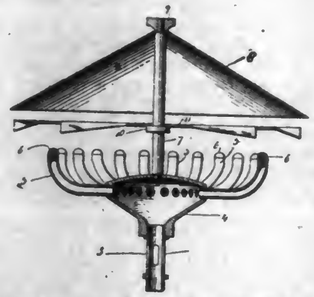
4. A track binder composed of two parallel bars, two pairs of clamping members mounted on the bars, one pair being adapted to engage each rail, the members on one side of the two rails being normally fast upon one bar and loose on the second bar, while the two members on the opposite side of the two rails are normally loose on the first named bar and fast on the second bar, substantially as described.

970,055. APPARATUS FOR THE PRODUCTION OF FRINGES. ERNST HUEBLER, Dresden, Germany. Filed June 30, 1908. Serial No. 441,259.



In an apparatus for the production of fringes provided with a woven sewing selvage, a hooked needle, means for rotating the needle and simultaneously moving the same axially for drawing out and twisting a predetermined amount of thread, and a thread guide capable of a horizontal reciprocating movement, in combination with an automatic weaving device comprising a reed, means for horizontally reciprocating the reed, heddles situated in rear of the reed and means for positively and horizontally reciprocating the heddles in a direction transverse to the movement of the reed.

970,056. GAS-BURNER. WILLIAM H. HURLEY, New Haven, Conn. Filed Feb. 23, 1909. Serial No. 479,428.

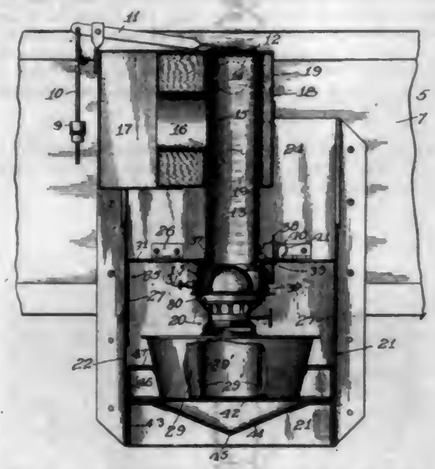


A gas burner comprising a tube having air openings, a hollow head or mixing chamber mounted on the upper end of said tube, said head round in transverse section, closed at its upper end and larger in diameter at its upper end than at its lower end forming tapered sides, and a series of burner arms mounted in the sides of said head near the top and extending radially outward and then upwardly therefrom.

970,057. HEATER FOR INCUBATORS. MANANDER M. JOHNSON, Clay Center, Nebr. Filed Feb. 8, 1909. Serial No. 476,597.

1. In an incubator, the combination of a lamp comprising a reservoir, a burner and a chimney mounted on the burner, a fire-proof receptacle inclosing the reservoir

and burner, said receptacle comprising a cover adapted to be opened to permit the removal of the reservoir and burner bodily from the receptacle, and means for causing the cover to lift the chimney clear of the burner as the cover is opened.



2. In an incubator, the combination of a fire-proof receptacle comprising a movable cover having an opening therein, a lamp comprising a reservoir and a burner arranged within said receptacle, and a movable chimney mounted on said burner and projecting upward through the opening in said cover, and means connecting said chimney to the cover, said cover being movable independently of and conjointly with said chimney.

3. In an incubator, the combination of a fire-proof receptacle, said receptacle having a hinged cover provided with an opening in the top thereof, a lamp comprising a reservoir and a burner inclosed within the receptacle, and a vertically movable chimney mounted on the burner and projecting upward through the opening in the cover, and means loosely connecting the chimney to the cover so that said cover may swing partly open without affecting the chimney and then as it is farther opened lift the chimney clear of the burner.

4. In an incubator, the combination of a fire-proof receptacle having a hinged cover having an opening in the top thereof, a lamp comprising a reservoir and a burner inclosed within said receptacle, and a vertically movable chimney mounted on the burner and projecting upward through the opening in the cover, an arm on the lower part of the chimney within the receptacle and projecting upward through and above said cover, and means on said arm at a distance above the cover to be engaged by said cover as it is swung open to lift the chimney clear of the burner.

5. In an incubator, the combination of a fire-proof receptacle having a hinged cover having an opening in the top thereof, a lamp comprising a reservoir, a burner and a chimney, said reservoir and burner being wholly inclosed within the receptacle and bodily removable therefrom and separable from each other to permit the reservoir to be filled, and said chimney being mounted on said burner and movable vertically, and means connected with said chimney and adapted to be engaged by said cover as it is swung open to lift the chimney clear of the burner and permit the removal of the reservoir and burner from the receptacle.

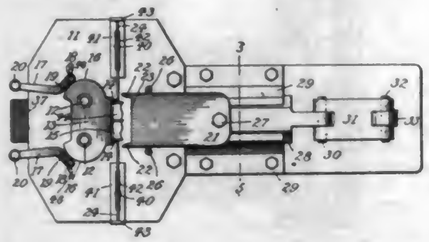
[Claims 6 to 10 not printed in the Gazette.]

970,058. ART OF CANNING GREEN CORN. ARTHUR I. JUDGE, Baltimore, Md. Filed Sept. 3, 1909. Serial No. 516,076.

1. The process of canning green corn which consists in cooking the ears of corn by boiling or steaming, and then at once stripping the kernels from the cob, and canning them while they are in a steaming hot condition, substantially as specified.

2. The process of canning green corn which consists in cooking the ears of corn by boiling or steaming, then removing the grain from the cob while steaming hot, then placing the said grain while still hot in cans, then hermetically sealing the cans, and then immersing the sealed cans in boiling water whereby the inclosed grain is subjected to a second cooking operation, substantially as specified.

970,059. HANDLE-MAKING MACHINE. MYER KAMENSTEIN, New York, N. Y. Filed June 29, 1910. Serial No. 569,421.



1. A handle making machine comprising a die having a pair of spaced abutments, a reciprocative follower, and a pair of levers, each having a pair of pins that are adapted to engage the handle wire.

2. A handle making machine comprising a die having a pair of convex sides, and a pair of levers having upwardly extending pivots, and adapted to coöperate with said sides.

3. A handle making machine comprising a die having a pair of convex sides, and a pair of coöperating levers having upwardly extending pivots and pins in proximity to said pivots.

4. A handle making machine comprising a die having a pair of abutments and a pair of convex sides, a follower adapted to coöperate with the abutments, and a pair of levers adapted to coöperate with the convex sides.

5. A handle making machine comprising a recessed die having convex sides and a pair of opposed abutments, a reciprocative follower coöperating with the abutments, and a pair of levers flanking the convex die-sides and each having a pair of pins that are adapted to engage the handle-wire.

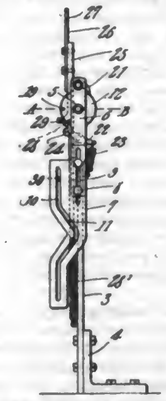
[Claim 6 not printed in the Gazette.]

970,060. SLUBBER, INTERMEDIATE, AND FINE FRAME DOFF-GOVERNOR. GEORGE ROBERT KINDRICK, Spray, N. C. Filed Mar. 31, 1910. Serial No. 552,614.

1. A doff governor comprising an upright standard or support, a lever mounted at the upper end thereof and adapted to retain a throw-off mechanism in operative position, a ratchet wheel carried by the standard below the pivot point of the lever, a projecting member on the ratchet wheel adapted to cause a movement of the lever to release the throw-off mechanism, a pawl lever on the standard below the ratchet wheel for actuating the latter step by step, and means on the pawl lever responsive to reciprocatory movement to rock said pawl lever.

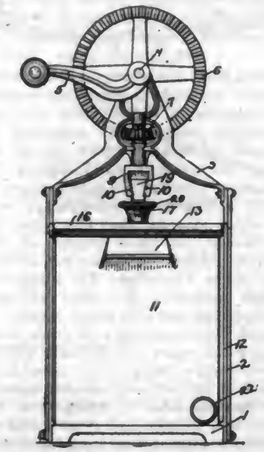
2. In a device of the character described, a standard or support, an upholding member thereon adapted to retain a throw-off mechanism in operative position, a ratchet wheel carried by the standard, a projecting member on the ratchet wheel adapted to cause the upholding member to release the throw-off mechanism, a pawl lever on the standard for actuating the ratchet wheel step by step, and a member on the pawl lever having an elongated slot with a lateral divergence and a reciprocatory member engaging said slot and imparting a rocking movement to the pawl lever by its travel along said slot.

3. In a device of the character described, a standard or support, an upholding member thereon adapted to retain a throw-off mechanism in operative position, a ratchet wheel carried by the standard, a projecting member on the ratchet wheel adapted to cause the upholding member to release the throw-off mechanism, a pawl lever on the standard for actuating the ratchet wheel step by step, an adjustable slotted plate on the pawl lever with the slot elongated and provided with a central lateral divergence, and a reciprocatory member engaging the slot and operating to cause a rocking of the pawl lever.



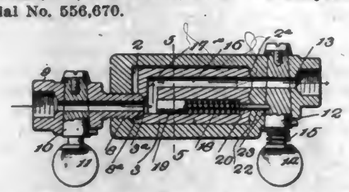
4. In a device of the character described, a standard or support, a lever mounted thereon and constrained toward one position, said lever being provided at one end with a shoulder, a ratchet wheel on said standard provided with a projecting member adapted to engage the lever and move the same against its constraining means, another lever mounted on the standard and provided with a pawl in operative relation to the ratchet wheel, and a slotted member adjustable lengthwise of the lever and carried thereby, the slot in said member being elongated in the direction of the length of the member and provided with a lateral divergence, and a reciprocatory member adapted to said slot and operating to rock the lever on movement lengthwise of said slot along the side divergence of said slot.

970,061. CHURN. WILLIAM C. KINSER, Omaha, Nebr. Filed June 1, 1909. Serial No. 499,608.



In a device of the class described, a rectangular receptacle, a dasher suspended within said receptacle, and actuating means for rotating said dasher upon a vertical axis, the outline of the dasher being that of a semisphere superposed upon a short cylindrical base, and the dasher being formed by a series of blades of which the lower edges extend substantially radially to the axis of rotation, the lower parts of the blades having a considerable inclination to the axis of rotation and the upper parts of the blades curving upwardly so that the upper extremities thereof have no inclination to the axis of rotation.

970,062. AUTOMATIC SAFETY GAS-VALVE. ALBERT H. LAKE, Jr., Fentonville, N. Y. Filed Apr. 21, 1910. Serial No. 556,670.



1. An automatic safety gas valve, embodying a casing formed with a supply passage and a turn plug, adapted to control said passage, a spring pressed plunger mounted in said casing in communication with the supply passage and arranged to be held in one position against the tension of its spring, by the pressure of the gas flowing through said passage, the turn plug being formed with a socket, and the plunger being provided with a locking pin adapted to enter said socket whereby to automatically hold the plug in an open position.

2. An automatic safety gas valve, having a casing formed with a supply passage, a turn plug controlling said passage and spring pressed toward the closed position, a plunger mounted in the casing and spring pressed away from the plug, the plunger communicating at one end with the supply passage and arranged to be held by the pressure of the gas in locking engagement with the plug whereby to hold the latter open against the tension of its spring.

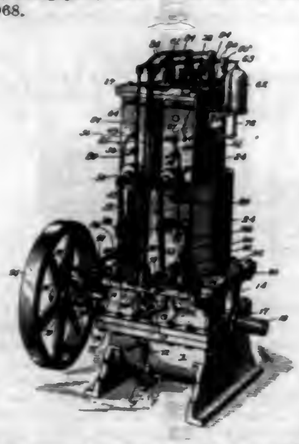
3. An automatic safety gas valve, comprising a casing formed with a supply passage, a turn plug controlling said passage and spring pressed toward the closed position, a plunger mounted in said casing and spring-pressed in a direction away from the plug, the plunger communicating at one end with the supply passage for the purpose specified and provided at its opposite end with a locking pin, the turnplug being formed with a socket which in the open position of the plug is adapted to receive the extremity of said pin.

4. An automatic safety gas valve comprising a casing, a plug mounted within the casing, the plug and casing being formed with a supply passage, a turn-plug controlling said passage and spring-pressed to closed position, the supply passage in the first-named plug being offset at its inner end, and said plug being formed with a longitudinal opening communicating with the offset end of said passage, and a spring pressed plunger mounted in said opening, the spring of the plunger tending to move it away from the turn-plug, and the plunger being provided with a pin adapted to engage the turn-plug in the open position of the latter whereby to hold the turn-plug open.

5. An automatic safety gas valve comprising a casing formed with a chamber, a plug mounted in said chamber, the plug and casing being formed with a supply passage for the gas, a turn plug mounted in said casing and controlling said passage and spring-pressed toward the closed position, the supply passage in the plug being offset at its inner end, the plug being further formed with an opening in its wall communicating with the offset inner end of said supply passage, an auxiliary cock provided with a nipple mounted in the adjoining end of the casing and seated in said last-named opening, the plug being further formed with a longitudinal opening extending forwardly from the last named opening and in communication therewith, and a plunger mounted in said forwardly extending

opening, said plunger being spring-pressed in a rearward direction and provided at its forward end with a locking pin, the turn plug being formed with a socket adapted to receive said pin.

970,063. INTERNAL-COMBUSTION ENGINE. SIMON LAKE, Bridgeport, Conn. Filed Dec. 8, 1906. Serial No. 346,968.



1. An internal combustion engine, comprising a cylinder containing an air compressing chamber and a power chamber, a trunk piston having heads fitted to the respective chambers, an air-tight base upon which the cylinder is mounted, a power shaft within said base, a connecting rod connecting the shaft and piston, a passage connecting said compressing chamber and base, and means to admit air into the base to be compressed therefrom on the down-stroke of the piston into the air compressing chamber through said passage at intervals, the said piston adapted to compress the air in and discharge it from the compressing chamber on the up-stroke, combined with a furnace communicating with the compressing chamber and into which the highly compressed air is conducted from the compressing chamber before entering the power chamber, a fuel supply for said furnace and means for igniting the charge, and a passage connecting said furnace with the power chamber whereby the products of combustion are conducted into the power chamber.

2. An internal combustion engine, comprising a cylinder containing an air compressing chamber and a power chamber, a trunk piston having heads fitted to the respective chambers, an air-tight base upon which the cylinder is mounted communicating with the air compressing chamber, a power shaft within said base, a connecting rod connecting the shaft and piston, and means to admit air into the base to be compressed therefrom into the air compressing chamber at intervals, and means to discharge the air from the compressing chamber, combined with a furnace communicating with the compressing chamber and into which the air is discharged from the compressing chamber, a fuel supply for said furnace, and means for igniting the mixture of air and fuel, a steam boiler adjacent to said furnace and exposed to its heat, and means to admit the products of combustion and steam to the power chamber.

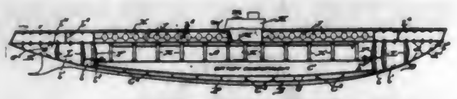
3. An internal combustion engine, comprising a cylinder containing an air compressing chamber and a power chamber, a trunk piston having heads fitted to the respective chambers, an air-tight base upon which the cylinder is mounted communicating with the air compressing chamber, a power shaft within said base, a connecting rod connecting the shaft and piston, and means to admit air into the base to be compressed therefrom into the air compressing chamber at intervals, combined with a furnace communicating with said compressing chamber and into which the air is discharged from the compressing chamber, a fuel supply for the furnace and means for igniting the mixture of air and fuel, a steam boiler adjacent to said furnace and exposed to its heat, passages to admit the products of combustion and steam to the power chamber, and valves for controlling the admission of air from the base into the compressing chamber and from the compressing chamber into the furnace, and valves for controlling the admission of steam and products of combustion into the power chamber.

4. An internal combustion engine, comprising a cylinder containing an air compressing chamber and a power chamber, a trunk piston having heads fitted to the respective chambers, an air-tight base upon which the cylinder is mounted, a passage connecting said base with the compressing chamber, a power shaft within said base, a connecting rod connecting the shaft and piston, and means to admit air into the base to be compressed therefrom on the down-stroke of the piston into the air compressing chamber at intervals, the said piston adapted to compress the air in and discharge it from the compressing chamber on the up-stroke, combined with a furnace communicating with the power chamber and into which the highly compressed air is discharged from the compressing chamber before entering the power chamber, a fuel supply for said furnace, and means to ignite the mixture of air and fuel in said furnace, and a valve to control the admission of the products of combustion into the power chamber from said furnace.

5. An internal combustion engine, comprising a base constituting a compression chamber, a cylinder having a compressing chamber adapted to communicate with said base, and a power chamber, a plurality of furnaces adjacent to said cylinder adapted to communicate with the said cylinder compressing chamber, means for admitting air to the base, a piston in said cylinder for compressing the air from the base into the cylinder compressing chamber on the down-stroke and from the cylinder compressing chamber into the furnaces alternately on the up-strokes, means for controlling the admission of the highly compressed air from the cylinder compressing chamber to the furnaces, means for admitting fuel to the furnaces, means for igniting the air and fuel in the furnaces, and means for alternately admitting the products of combustion from the furnaces to the power chamber of the cylinder.

[Claims 6 to 9 not printed in the Gazette.]

970,064. SUBMARINE BOAT. SIMON LAKE, Milford, Conn. Filed Dec. 26, 1908. Serial No. 469,460.



1. A submarine boat, comprising an inner hull section of sufficient strength to resist the pressure incident to submergence and constituting a living and a machinery compartment, a battery compartment suspended below said inner hull section, the sides of which provide longitudinal girders, a lower hull section also of sufficient strength to resist the pressure incident to submergence, the space formed by said hull sections providing a water-ballast compartment which extends upon both sides of the said battery compartment, an upper section of light weight construction arranged over said inner hull section which is adapted to be made water-tight for surface navigation only, and braces connecting said inner hull section with said lower hull section and said upper section.

2. A submarine boat, comprising an inner hull section of sufficient strength to resist the pressure due to submergence and constituting a living compartment and a machinery compartment, a battery compartment suspended below said hull section, the sides of which form longitudinal girders, a lower hull section also of sufficient strength to resist the pressure incident to submergence, the space formed by said hull sections providing a water-ballast compartment, means for admitting water into said ballast compartment, means for displacing the water taken in, an upper section of light weight construction arranged over said hull sections and connected air and water-tight to said lower hull section to provide an air-tight compartment for surface navigation only, and means for admitting water to said last mentioned compartment upon submergence.

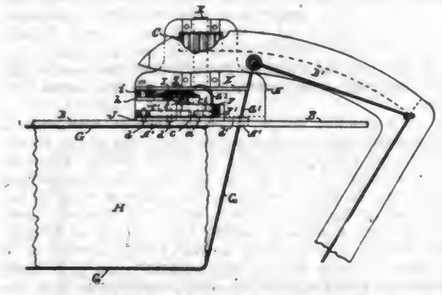
3. A submarine boat, comprising an inner hull section, an outer hull section connected to the inner hull section air and water-tight, braces arranged between and connected to the hull sections, a central storage battery compartment having sides forming longitudinal girders by which the compartment is suspended from the inner hull section, partitions arranged in the space formed by the hull sections and forming a plurality of water-ballast tanks, means for controlling the admission of water to said tanks, means for emptying said tanks, a superstructure fixed to the hull sections air and water-tight and cut off from communication with the water-ballast tanks and having its sides connected to the sides of the outer hull sections, and means for admitting water to the space formed by said superstructure.

4. A submarine boat, comprising an inner hull section adapted to resist external pressure when the boat is submerged, and an outer hull section connected to the inner hull section and of sufficient strength to resist external pressure when the boat is submerged, braces connecting the hull sections, a trough forming a storage battery compartment suspended centrally from the lower side of the inner hull section, water-ballast tanks surrounding the trough, means for controlling the admission of water to said tanks, means for emptying said tanks, a superstructure arranged over the hull sections, tanks held in the space formed by the superstructure, and means for admitting water into the superstructure space to counterbalance the external water pressure when the boat is submerged.

5. A shallow draft submarine boat, comprising an inner hull section substantially oblong in transverse section, and an outer hull section substantially semicircular in cross-section arranged below and connected to said inner hull section, braces connecting said sections, strengthening columns arranged in the inner hull section, a storage battery compartment arranged in the space formed by the hull sections, water-ballast tanks also arranged in said space, means for controlling the admission of water to the tanks, and means for emptying said tanks, a superstructure of light weight construction arranged over the inner hull section, and means for admitting water into the superstructure space to counterbalance the external pressure when the boat is submerged.

[Claims 6 to 17 not printed in the Gazette.]

970,065. TYING DEVICE FOR HAY-BALES OR PACKAGES. WILLIAM H. LEAVITT, Stamford, Tex. Filed Dec. 1, 1909. Serial No. 530,886.

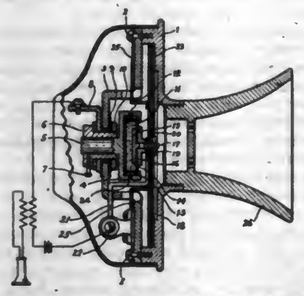


1. A tying device for hay bales or packages, comprising a needle bar having cogs radially disposed on a portion of the lower side thereof, a journaled pinion arranged in a suitable frame work beneath and in the path of the toothed needle portion and rotated by the same, a disk secured to the inner end of the pinion shaft and a similar disk rotatably secured to its face, both provided with notches to receive and grip the wire band, as set forth.

2. The combination, in a tying device for hay bales or packages, of a rotary wire holder disk having wire receiving notches and provided with means to impart an intermittent, rotary movement thereto, a similar disk with corresponding notches rotatably secured against its face and provided with a segmental projection, a suitable pawl or stop co-acting with said projection for causing the disks to alternately grip or release the wire, a guard adjacent to the face of the outer disk having an inclined projection extending to near the lower side of needle to carry the wire from the needle to the notches, said guard having a slot communicating with a circular recess that prevents the displacement of the wires while being twisted, substantially as described.

3. The combination of a pair of wire holding and twisting disks, one rigidly secured to the end of a pinion shaft, the other loosely pivoted on the face of the fixed disk, both provided with notches to receive the wire, and means permitting the movement of the former a slight distance while the latter remains stationary, causing them at intervals to grip and hold the wires and again to release them, a wire holder having a series of notches about its periphery arranged to receive and clamp the wire extending from the needle, a knife between the twisting disks and wire holder to cut the wire extending between them, permitting the disks to revolve and twist the ends held by them, and means for removing the preceding short end of wire left in the holder, substantially as herein described and shown.

970,066. TELEPHONE-TRANSMITTER. OSCAR M. LEICH and NIELS PEDERSEN, Genoa, Ill., assignors to Cracraft-Leich Electric Co., Genoa, Ill. Filed June 19, 1908. Serial No. 439,306.



1. A telephone transmitter comprising a suitable body, a diaphragm mounted therein, a bridge having apertures likewise mounted upon said body, for carrying the current varying device, and leaf springs impinging against said diaphragm, having one extremity rigid with respect to said body, projecting through the apertures in said bridge and extending from the outer portion of said body toward the center of said transmitter, whereby a long spring action is obtained.

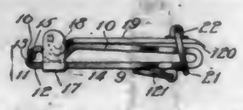
2. A telephone transmitter comprising a suitable body portion, a bridge firmly fixed thereto for carrying the current varying device, a diaphragm associated with said current varying device and mounted in said body, leaf springs provided upon said bridge and impinging against said diaphragm, and insulating material interposed between said leaf springs and said diaphragm in combination with means carried by said bridge for holding said insulating material in place.

3. A telephone transmitter comprising a suitable body portion, a bridge firmly fixed thereto for carrying the current varying device, a diaphragm associated with said current varying device and mounted in said body, leaf springs provided upon said bridge and impinging against said diaphragm, and mica interposed between said leaf springs and said diaphragm and means carried by said bridge for holding said mica in place.

4. A telephone transmitter comprising a suitable body portion, a bridge having an aperture firmly fixed thereto for carrying the current varying device, a diaphragm associated with said current varying device and mounted in said body and a leaf spring provided upon said bridge projecting through said aperture in said bridge, said dampening spring impinging against said diaphragm and extending from the outer portion of said body toward the central portion of said transmitter, thereby to secure a long spring action.

5. A telephone transmitter comprising a suitable body portion, a bridge firmly fixed thereto for carrying the current varying device, a diaphragm associated with said current varying device and mounted in said body, a leaf spring provided upon said bridge projecting through an aperture in said bridge, said leaf spring impinging against said diaphragm, and a sheet of insulating material interposed between said dampening spring and said diaphragm in combination with means carried by said bridge for holding said insulating material in place.

970,067. NAIL-CLIPPER. HERMAN LEINEWEBER, South Chicago, Ill. Filed Oct. 16, 1908, Serial No. 457,995. Renewed Apr. 9, 1910. Serial No. 554,530.



1. In a nail-clipper of the character described, a relatively stationary member provided with a blunt-edged stop-forming cutting-jaw, and a member movable relative to said stationary member and provided with a blunt-edged cutting-jaw coöperating simultaneously throughout its length with said stop-jaw to exert a die-punching cutting action, for the purpose set forth.

2. In a nail-clipper of the character described, a relatively stationary member provided with a stop-forming cutting-jaw tapering to thinness toward its opposite ends, and a member movable relative to said stationary member and provided with a blunt-edged cutting-jaw having a concave cutting-edge conforming to that on said stop-jaw and coöperating therewith to exert a die-punching cutting action, for the purpose set forth.

3. In a nail-clipper of the character described, a relatively stationary member provided with a blunt-edged stop-forming cutting-jaw tapering to thinness toward its opposite ends, a member movable relative to said stationary member and provided with a blunt-edged cutting-jaw to exert a die-cutting action, and an operating-lever for said movable member, for the purpose set forth.

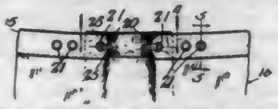
4. In a nail-clipper of the character described, the combination of a relatively stationary member provided with a cutting-jaw, a spring-member provided with a cutting-jaw coöperating with that of said stationary member, an operating lever for actuating said spring-member, and loops pivotally supported, respectively, on said lever and stationary member near their rear ends, for the purpose set forth.

5. In a nail-clipper of the character described, the combination of a relatively stationary member provided with a cutting-jaw, a spring-member provided with a cutting-jaw coöperating with that of said stationary member, an operating lever for actuating said spring-member, loop-supports pivotally fastened respectively on said lever and stationary member near their rear ends, and loops pivotally connected with said supports, for the purpose set forth.

[Claims 6 and 7 not printed in the Gazette.]

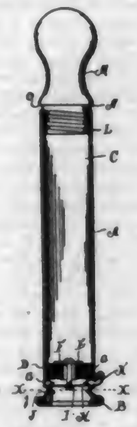
970,068. ADJUSTING DEVICE FOR PETTICOAT-BANDS. CHARLES H. LEWY, Chicago, Ill., assignor to Bernhard Sterne and Hugo L. Klein, Chicago, Ill. Filed Sept. 30, 1908. Serial No. 455,506.

A petticoat having a single side placket and a band extending continuously from one side of said placket to the other, the top of the skirt at the band being unslitted and goreless from one side of the placket to the other, and adjusting means for said band comprising a bar provided at its ends with integral hooks and attached to the band at the back center of the petticoat so that said band will be continuous or unbroken for a considerable distance at each side of said bar, and a series of pairs of eyelets at-



tached to the band at each side of said bar, and so arranged that the band at the sides of said bar may be brought flatwise together to form loops, with the eyelets in alinement to engage with the hooks, and to form the material of the unslitted and goreless portion of the petticoat body in a single flat lying plait inside the general line of the band.

970,069. SPOT-CLEANER. GUSTAV MALMROS and FRANK F. ADAMS, New York, N. Y. Filed Dec. 20, 1909. Serial No. 534,095.



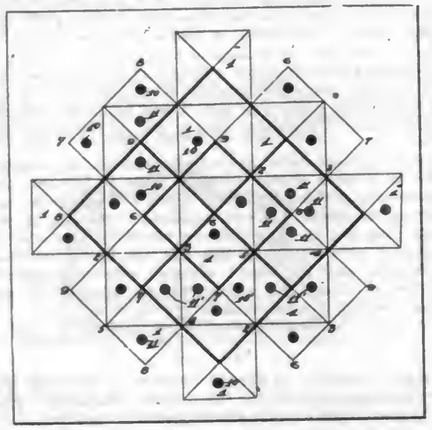
1. In a cleaning device, the combination of a barrel open at both ends, a tubular piston fitted to slide in said barrel, said piston having an opening in its bottom, a packing disk carried by the lower end of the piston, a valve adapted to open and close the opening in the bottom of the piston, a stem projecting downward from the valve, a cross strip having springs, secured to the lower end of the stem, adapted to contact with a shoulder formed upon the barrel, a handle having a shank threaded into the upper end of the piston, and a gasket interposed between the shoulder formed upon the handle and the upper edge of the piston, as and for the purpose set forth.

2. In a cleaning device, a barrel open at both ends, a compressible ring attached to the lower end of the barrel, an internal shoulder formed upon the barrel, a hollow piston adapted to slide in the barrel, said piston having an opening in its bottom, a packing disk secured to the lower end of the piston, a valve adapted to normally close said opening, a stem projecting from the valve through said opening, a cross strip secured to the lower end of the stem, its ends having springs, said cross strip being adapted to strike against the shoulders formed upon the barrel, a handle provided with a shoulder, the shank of which is threaded into the upper end of the piston, a gasket interposed between the shoulder formed upon the handle and the upper edge of the piston, and a check valve located below the limit of the downward stroke of the piston, as and for the purpose set forth.

3. A cleaner of the character described, consisting of a barrel, a hollow piston adapted to slide in said barrel, said piston acting as a holder for the liquid to be used, a spring actuated valve located in the lower end of the piston, a handle adapted to seal the upper end of the piston, and means for opening the valve upon the downward stroke of the piston, as specified.

4. A cleaner of the character described, consisting of a barrel, a hollow piston adapted to slide in said barrel, said piston acting as a holder for the liquid to be used, a spring actuated valve located in the lower end of the piston, a handle adapted to seal the upper end of the piston, means for opening the valve upon the downward stroke of the piston, and a check valve for admitting air to the barrel below the piston, upon the upward stroke of the latter, as specified.

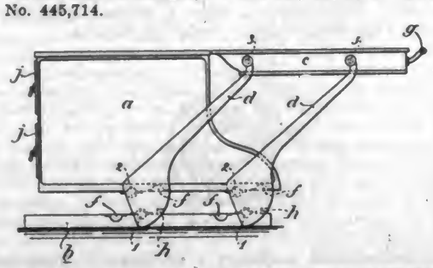
970,070. GAME APPARATUS. GEORGE W. MATTHEWS, Chicago, Ill. Filed Mar. 30, 1910. Serial No. 552,426.



1. A game apparatus comprising a member having a geometrical figure thereon consisting of right-angled isosceles triangles grouped together to form single and double squares, the innermost double squares being indicated by heavier lines, substantially as shown, and two sets of distinguishable pieces adapted to be placed on said member, substantially as described.

2. A game apparatus comprising a member having a geometrical figure thereon consisting of sixty right angled isosceles triangles grouped together to form thirteen single squares and nine double squares, substantially as shown; and two sets of distinguishable pieces adapted to be placed on said member and consisting of nineteen pieces each, substantially as described.

970,071. EXTENSIBLE TABLE. STEPHAN MAUTNER, Vienna, Austria-Hungary. Filed July 28, 1908. Serial No. 445,714.



1. A table comprising a base portion, a movable body portion and a movable top portion, normally arranged in superimposed relation and in contact with each other, and links pivotally connected to each of said three portions so as to enable the top portion to be swung into a position back of the simultaneously rising body portion to form an extension of its surface in the same plane thereof, the said two movable portions being supported only by the said links.

2. A table comprising three separate parts, viz. a base, a body portion adapted to be raised from said base, a movable top normally resting on the surface of said body portion, and bell-crank levers connecting said parts, the longer arms of said bell-crank levers being pivotally connected with the said movable top, the shorter arms being connected with the said base by pivots forming the fulcrum for said levers, and the angle portions of the bell crank levers being pivotally connected to the said body portion so that upon moving the bell crank levers about their pivots in the said base, the said movable top is swung to a position extending the surface of the said body portion, the latter being raised at the same time.

3. A table comprising three separate parts, viz. a base, a body portion adapted to be raised from said base, a movable top normally resting on the surface of said body portion, and bell-crank levers connecting said parts, the longer arms of said bell-crank levers being pivotally connected with the said movable top, the shorter arms being connected with the said base by pivots forming the fulcrum for said levers, and the angle portions of the bell-crank levers being pivotally connected to the said body portion so that upon moving the bell-crank levers about their pivots in the said base, the said movable top is swung to a position extending the surface of the said body portion, the latter being raised at the same time, the said bell-crank levers being provided with abutments adapted to engage the said base and limiting the outward movement of the said bell-crank levers.

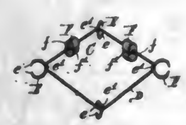
970,072. YELLOW LAKE. ERNST MECKBACH, Vohwinkel, near Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed May 17, 1910. Serial No. 561,866.

The new yellow color lake prepared from the symmetrical 1.8-dibenzoyldiaminoanthraquinone, said lake being distinguished by its valuable yellow shade and its fastness to light, water and oil, substantially as described.

970,073. NEW YELLOW LAKE. ERNST MECKBACH, Vohwinkel, near Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed May 17, 1910. Serial No. 561,867.

The new yellow color lake prepared from the symmetrical 1.5-dibenzoyldiaminoanthraquinone, said lake being distinguished by its valuable yellow shade and its fastness to light, water and oil, substantially as described.

970,074. EGG-MARKING DEVICE. STANLEY A. MEEKLEY, Buffalo, N. Y. Filed Apr. 18, 1910. Serial No. 556,049.



1. The combination of an egg marking-element and means for attaching said marking-element to a hen.

2. The combination of an egg marking-element and an expansible supporting-element adapted to be attached to a hen in operative relation to the vent of the hen.

3. An egg marking-device adapted to be attached to a hen in operative relation to the vent thereof.

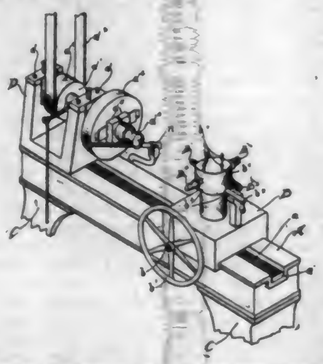
4. An egg marking-device adapted to be attached to a hen, comprising securing-means, a supporting-element, and a marking-element secured on said supporting-element.

5. An egg marking-device adapted to be attached to a hen, comprising a supporting-band, means for securing said supporting-band to the hen, and a marking-device carried by said supporting-band.

[Claims 6 to 14 not printed in the Gazette.]

970,070. PROCESS OF FORMING PLUMBERS' FERRULES. ROBERT A. [illegible], Cincinnati, Ohio, assignor to The Eagle White Lead Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Sept. 22, 1909. Serial No. 519,111.

WITHDRAWN.

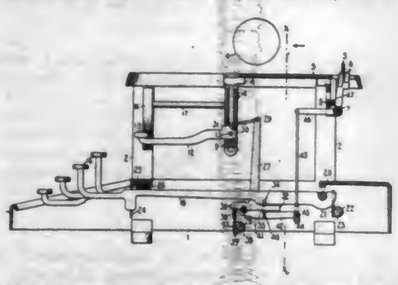


1. A process of forming plumbers' ferrules from a section of lead pipe and an iron ferrule, and consisting of expanding one end of the lead pipe by revolving a tool within said end, inserting the iron ferrule into the expanded end and turning the edge of the lead pipe over the end of the ferrule.

2. A process of forming plumbers' ferrules from a section of lead pipe and an iron ferrule, and consisting of expanding one end of the lead pipe by means of revolving graded tools within said end gradually to expand it, inserting the iron ferrule into the expanded end and securing it therein.

3. A process of forming a plumber's ferrule from a section of lead pipe, and an iron ferrule consisting of clamping one end of the pipe in a manner such as to prevent the expansion of that end, expanding the opposite end by rotatory tools, and inserting the iron ferrule into the expanded end.

970,076. TYPE-WRITING MACHINE. HENRY W. MERRITT, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Sept. 7, 1905. Serial No. 277,381.



1. In a typewriting machine, the combination of a key lever; a type bar; a sub-lever between said key lever and type bar, said sub-lever being pivoted below said key lever and having an upstanding arm connected with said type bar and having below the key lever a rearwardly extending arm and a forwardly extending arm; a member on said key lever engaging one of the last mentioned arms; and a returning spring connected to the other of said arms.

2. In a typewriting machine, the combination of a key lever; a sub-lever having three arms; a type bar connected with one of said arms; a grooved roller mounted on said key lever and engaging another of said arms; and a returning spring connected with the other of said arms.

3. In a typewriting machine, the combination of a series of key levers; a series of angular sub-levers, each having an upstanding arm and an approximately horizontal arm; a series of type bars, each connected with one of said upstanding arms, said series of type bars being of less width than said series of key levers and the upstanding arms of those sub-levers near the ends of the series being bent toward the middle of the machine to bring them into proper relation with their respective type bars; and grooved rollers connecting said key levers and said approximately horizontal arms of said sub-levers.

4. In a typewriting machine, the combination of a series of key levers; a series of type bars of less width than said series of key levers; a series of sub-levers, one for each of said key levers, each of said sub-levers having an upstanding arm connected with one of said type bars and having also an approximately horizontal arm; and a grooved roller connecting each of said key levers and said approximately horizontal arm of the corresponding sub-lever.

5. In a front-strike typewriting machine, the combination of a series of key levers; a series of upwardly and rearwardly striking type bars; a series of sub-levers, each having an upstanding arm connected with one of said type bars and an approximately horizontal arm, the upstanding arms vibrating fore and act of the machine; means on said key levers engaging said approximately horizontal arms; and a universal bar operated by said approximately horizontal arms.

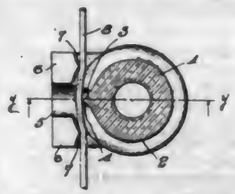
[Claims 6 to 15 not printed in the Gazette.]

970,077. METAL CAPSULE. CHRISTIAN WILLIAM VILHELM MESSERSCHMIDT, Copenhagen, Denmark. Filed Aug. 18, 1907. Serial No. 388,414.



A capsule for bottles and similar receptacles composed of readily rupturable but imperforate material and comprising a depending flange adapted to engage the neck of the receptacle, said flange having a finger piece projecting therefrom and a single diagonal notch or slit at one side of said finger piece so arranged that a continuous pull upon the finger piece will first tear the capsule along a single line across its body and finally remove the capsule bodily from the receptacle.

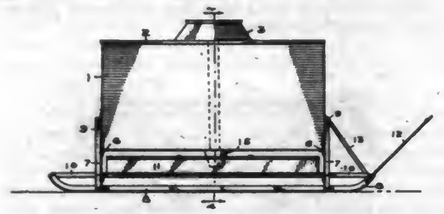
970,078. INSULATOR. JOHN A. MEURLING, Chicago, Ill. Filed Mar. 19, 1910. Serial No. 550,314.



1. An insulator comprising a substantially cylindrical body having an interior opening for the reception of a supporting pin, said body being formed of a single piece of insulating material, a transversely extending wire-receiving groove in the outer surface of said body, a projection formed in said groove, an enlargement formed at one side of the bottom of said body, extending upwardly, posts formed upon said enlargement in a plane with said groove at either side of said projection, said posts being so positioned that a wire introduced into said groove will be kinked or buckled by contact therewith and with said projection, substantially as described.

2. An insulator comprising a substantially cylindrical body formed of a single piece of insulating material, a circumferential groove in the lateral surface of said body, a projection formed in said groove, an enlargement formed at one side of the bottom of said body, extending upwardly, posts formed upon said enlargement extending coplanar with said groove at either side of said projection, said posts being so positioned that a wire introduced into said groove contacting said projection will be kinked or buckled by contact with said posts, the contacting portions of said posts being straight and sharp edged and of said projection being concave and sharp edged, the contacting edges of said posts extending parallelly with the axis of said body, substantially as described.

970,079. WATERING-TROUGH. ANCEAL C. MICHAEL, Goshen, Ind., assignor to Sanford D. Helm, William Q. O'Neall, and Charles E. Lacy, Crawfordsville, Ind. Filed June 13, 1910. Serial No. 566,563.



1. A drinking fountain, comprising sled-runners, posts supported by said runners the tops of said posts being connected in pairs by arches, brackets on said posts, and a water storage tank held between said arches and supported by said brackets.

2. A drinking fountain, comprising sled-runners, upwardly extended in curves at each of their ends, horizontal bars supported by said curved extensions, posts supported by said runners, the tops of said posts being connected in pairs by arches, brackets on said posts, a water storage tank held between said arches and supported by said brackets, and a trough below the tank supported upon said horizontal bars of the sled runners.

3. A drinking fountain, comprising sled-runners, upwardly extended in curves at each of their ends, longitudinal bars supported by said curved extensions, posts supported by sled-runners the tops of said posts being connected in pairs by arches, a water storage tank between said arches supported by the posts, a tube extending down from the inside top of the tank and terminating below the tank, a valve seat within the tube near its lower end, a valve in said seat, an air-tube taking air from the inside of the tank above the water level and discharging below the tank, and a trough below the tank supported upon said horizontal bars of the sled-runners.

4. A drinking fountain, comprising a water storage tank, a cup secured to the bottom of the tank, a tube within the tank extending down from the top of the tank and terminating at the bottom of the cup, said tube having holes through its walls near its upper end and openings through its walls near its lower end, a second tube within the first tube starting from the top of the tank and having openings through its wall discharging through the openings near the bottom of the first tube, said tubes having an air space between them which only discharges through the bottom of the cup, a valve in said cup to prevent the escape of water from the tank when the valve is closed, and a trough below the tank into which the cup projects.

5. A drinking fountain, comprising a water storage tank, a tube within the tank extending down from the top of the tank and terminating below the bottom of the tank, said tube having holes through its walls near its upper end and openings through its walls above and near the bottom of the tank, a second tube within the first tube starting from the top of the tank and having openings through its walls which discharge through the openings near the bottom of the first tube, said two tubes having an air space between them which only discharges at the bottom of both tubes, a valve at or near the bottom of both tubes to prevent the escape of water from the tank when the valve is closed, and a trough below the tank into which the lower ends of the two tubes project.

[Claim 6 not printed in the Gazette.]

970,080. METHOD OF PRODUCING DESIGNS ON GLASS OR OTHER MATERIALS. CHARLES MONOT, Lyon, France. Filed Feb. 14, 1908. Serial No. 415,947.



1. The method of producing designs consisting in applying to the surface of the base a liquid containing depositable matter, freezing the liquid and subsequently evaporating the frozen liquid, while keeping the temperature of the liquid below its freezing point.

2. The method of producing designs consisting in varnishing a base, applying to the varnished surface of the base a liquid containing depositable matter, freezing the liquid and subsequently evaporating the frozen liquid while keeping the temperature of the liquid below its freezing point.

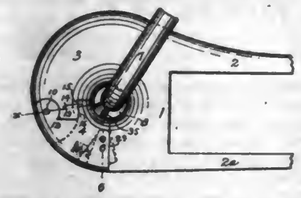
3. The method of producing designs consisting in applying to the surface of the base a liquid containing depositable and vitrifiable matter, freezing the liquid, evaporating the frozen liquid while keeping the temperature of said liquid below its freezing point, and subsequently vitrifying the deposit.

4. The method of producing designs consisting in applying to the surface of a sheet of glass a liquid containing depositable matter, freezing the liquid, and subsequently evaporating the frozen liquid while keeping the temperature of the liquid below its freezing point.

5. The method of producing designs consisting in varnishing the surface of a sheet of glass, applying a liquid containing depositable matter to said varnished surface, freezing the liquid, and subsequently evaporating the frozen liquid while keeping the temperature of the liquid below its freezing point.

[Claims 6 to 8 not printed in the Gazette.]

970,081. POLE-TIP. LEWIS L. MOORE, Canton, Ohio. Filed Dec. 4, 1909. Serial No. 531,325.



1. A pole tip having a ring formed thereon including a body portion and a hinged gate portion adapted to receive a neck-yoke ring, the hinge ends of the body and gate portions including laterally contiguous longitudinal flanges on the outer side, a transverse pivot through the longitudinal flanges, a transverse flange on the body inside the pivot and a transverse flange on the inner side of the

gate adapted to close against the inner side of the transverse body flange, the abutting sides of the transverse flanges being arranged to protect the pivot from the thrusts of the neck-yoke ring.

2. A pole tip having a ring thereon including a body portion and a hinged gate portion, the hinge ends of the body and gate portions including laterally contiguous longitudinal flanges on the outer side, a transverse pivot through the longitudinal flanges, a transverse flange on the body inside the pivot and a transverse flange on the inner side of the gate adapted to close against the inner side of the transverse body flange, the abutting sides of the transverse flanges being extended squarely across the plane passing through the ring and pivot axes.

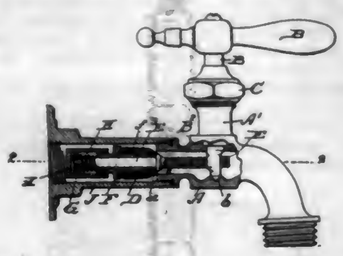
3. A pole tip having a ring thereon including a body portion and a hinged gate portion, the hinge ends of the body and gate portions including laterally contiguous longitudinal flanges on the outer side, a transverse pivot through the longitudinal flanges, a transverse flange on the body inside the pivot and a transverse flange on the inner side of the gate adapted to close against the inner side of the transverse body flange, the abutting sides of the transverse flanges being curved concentric with the pivot axis.

4. A pole tip having a ring formed thereon including a body portion and a hinged gate portion adapted to receive a neck-yoke ring and having recesses in their free ends, a transversely pivoted latch in the gate recess having a lock lug on its side adapted to engage in the body recess, there being an abutment in the gate for the inner end of the latch and an abutment in the body for the outer end of the lock lug adapted to protect the latch pivot from the thrusts of the neck-yoke ring, with a countersink in the gate and a face plate on the latch adapted to operate in the countersink and to close the opening of the recess.

5. A pole tip having a ring formed thereon including a body portion and a hinged gate portion adapted to receive a neck-yoke ring and having recesses in their free ends, a transversely pivoted spring latch in the gate recess having a lock lug on its side adapted to engage in the body recess, there being an abutment in the gate for the inner end of the latch and an abutment in the body for the outer end of the lock lug adapted to protect the latch pivot from the thrusts of the neck-yoke ring.

[Claims 6 to 10 not printed in the Gazette.]

970,082. FAUCET. JOHN MORRHEAD, Detroit, Mich. Filed Dec. 10, 1909. Serial No. 532,366.



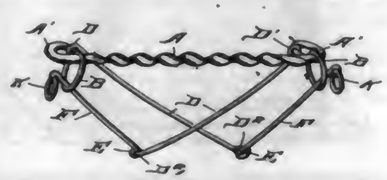
1. In a faucet, a valve, a plunger rod for actuating the valve and upon which it is slidably mounted, a rotatable stem operable at right angles to the plunger rod adapted to actuate said rod to open or close the valve, and means carried by the rod and bearing against the valve said means being sufficiently yieldable to allow the stem to be rotated in one direction to alternately seat and unseat the valve without placing the valve under increasing or variable tension.

2. In a faucet, a body portion, a valve, a plunger rod for actuating the valve upon which said valve is slidably mounted, means for limiting the movement of the valve upon the plunger rod, a rotatable stem one end of which is journaled in a bearing formed in the body portion, means carried by said stem for actuating the plunger rod, an adjustable nut mounted upon the opposite end of the plunger rod, and a spring carried by said plunger rod between the valve and adjustable nut whereby said rod may be actuated independently of the valve, substantially as described.

3. In a faucet, a body portion, a valve, a plunger rod for actuating the valve, a suitable casting sleeved upon the plunger rod upon which the valve is mounted, means for limiting the movement of the valve upon the plunger rod, a rotatable stem adapted to actuate the plunger rod having one end journaled in the body portion, an adjustable nut engaging the end of the plunger rod, and a spring carried by the plunger rod one end of which bears against the adjustable nut and the other against the casting carrying the valve whereby said plunger rod may be further actuated when the valve is upon its seat.

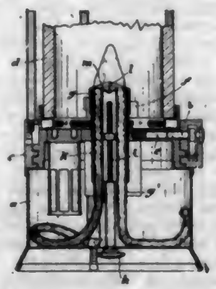
4. In a faucet, a valve, a plunger rod for actuating said valve, a suitable casting sleeved upon said rod and upon which the valve is mounted, an adjustable nut secured to the end of the plunger rod, a spring carried by said plunger rod adapted to bear against the casting carrying the valve and the adjustable nut, a cap engaging said casting designed to inclose the spring and the end of the plunger rod, and means for actuating the plunger rod, substantially as described.

970,083. BRIDLE-BIT. MARTEN DILLARD MOSS and ARCHIE QUILLAIN MOSS, Elberton, Ga. Filed Mar. 28, 1910. Serial No. 552,003.



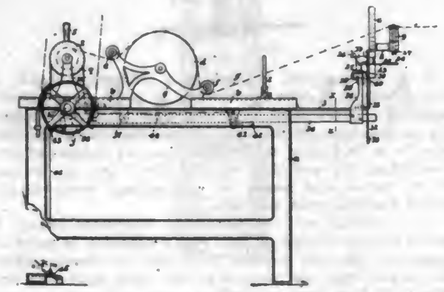
A bit comprising a bar, the ends of which are bent laterally and upon the same side of the bar to form eyes, a ring in each of said eyes, rods each pivotally connected to one of said eyes, said rods substantially the length of the bit intermediate the eyes at the ends thereof, links one passing through each of said rings and having pivotal connection at its inner end with one of said rods, which latter intersect each other midway the length of the bit, the outer end of each link formed into an eye, and a ring connected to each eye of said links.

970,084. LAMP-BURNER. OTTO MAX MÜLLER, Gelsenkirchen, Germany. Filed May 27, 1909. Serial No. 498,757.



A burner provided with a pair of spaced circular wick-tubes, an oblong shell encompassing the same, and a bridge that extends across the shell intermediate said tubes and projects vertically above such tubes.

970,085. WARPING-MACHINE. ARTHUR MURPHY, Paterson, N. J., assignor to Frank and Dugan, Paterson, N. J., a Firm. Filed July 6, 1909. Serial No. 506,009.



1. The combination of the frame, a rotary beam, a rotary driving part for the beam, disconnective connecting means between the beam and said driving part, mechanism controlling said means and comprising a part normally movable in one direction, fallers, a pivoted detent having a hook engaging and normally restraining said part against movement, and a lever-structure projecting beneath the fallers and fulcrumed in the frame, said lever-structure being movable upon the impact of a faller therewith into actuating contact with the detent, substantially as described.

2. The combination of the frame, a rotary beam, a rotary driving part for the beam, disconnective connecting means between the beam and said driving part, mechanism controlling said means and comprising a gravity actuated part, fallers, a pivoted detent having a hook engaging and normally restraining said part against movement, and a lever-structure projecting beneath the fallers and fulcrumed in the frame, said lever-structure being movable upon the impact of a faller therewith into actuating contact with the detent, substantially as described.

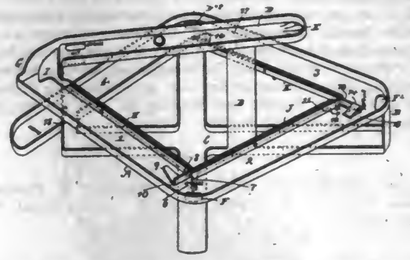
3. The combination of the frame, a rotary beam, a rotary driving part for the beam, disconnective connecting means between the beam and said driving part, mechanism controlling said means and comprising a part normally movable in one direction, fallers, and mechanism for controlling the position of said part comprising a faller-controlled detent pivoted in the frame and having a hook and an arm projecting in substantially opposite directions therefrom, the hook being adapted to engage said part to restrain the same and the arm being adapted to be engaged by said part and effect the movement of the detent into restraining relation to said part upon resetting the mechanism, substantially as described.

4. In a stop-motion mechanism for a warping machine or the like, the combination of a frame, fallers, a part normally movable in one direction, and a pivoted detent controlled from the fallers and having a hook and an arm projecting in substantially opposite directions therefrom, the hook being adapted to engage said part to restrain the same and the arm being adapted to be engaged by said part and effect the movement of the detent into restraining relation to said part upon resetting the mechanism, substantially as described.

5. The combination of the frame, a rotary beam, a rotary driving part for the beam, disconnective connecting means between the beam and said driving part, a continuously moving part, a member arranged to rotate and move longitudinally of its axis in said frame and having a crank engageable by said continuously moving part and another crank engageable with said means to actuate the same, and mechanism, controlled from the thread, for effecting the longitudinal movement of said momber, substantially as described.

[Claim 6 not printed in the Gazette.]

970,086. BASE-BALL-GAME APPARATUS. THOMAS E. MURRAY, New York, N. Y. Filed Feb. 23, 1910. Serial No. 545,292.



1. A base-ball game apparatus of the type set forth, comprising a continuous diamond-shaped runway trough, a gate at the lower end of a member of said runway, and a lever arm controlling said gate and pivoted on one wall of said member.

2. A base-ball game apparatus of the type set forth, comprising a continuous diamond-shaped runway trough, a gate at the lower end of a member of said runway, a delivery trough communicating at its lower end with the upper end of said member, and a lever arm controlling said gate pivoted on one wall of said member and having its upper extremity extending over said member and receiving the ball from said delivery trough.

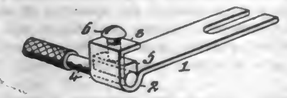
3. A base-ball game apparatus of the type set forth, comprising a continuous diamond-shaped runway trough, gates at the angles of said runway, and levers for controlling said gates: said levers being pivoted on said runway and engaging one with the other.

4. A base-ball game apparatus of the type set forth, comprising a continuous diamond-shaped runway trough, gates at the angles of said runway, and levers for controlling said gates: said levers engaging one with the other and each pivoted to the inner wall of said runway.

5. A base-ball game apparatus of the type set forth, comprising a continuous inclined diamond-shaped runway, a movable gate normally closed at the lower end thereof, and on said gate an inclined cam arm operable by a descending ball to open said gate.

[Claims 6 to 12 not printed in the Gazette.]

970,087. BINDING DEVICE FOR CIRCUIT-CONDUCTORS. THOMAS E. MURRAY, New York, N. Y. Filed Mar. 10, 1910. Serial No. 548,360.



1. A binding device for electric conductors comprising two plates having hook-shaped edges, seated one within the other, and having inwardly turned mutually overlapping flanges opposite to said hooks, and a clamping screw passing through both of said flanges to engage a conductor seated in the inner hook.

2. A binding device for electrical conductors comprising a plate bent to form a loop, a block in said loop, a spacing bar on said block, and a screw passing through said plate and said bar and bearing on said block.

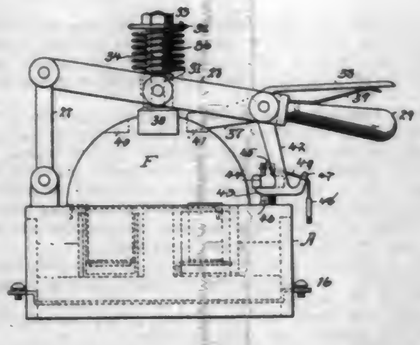
3. A binding device for electrical conductors comprising a plate bent to form a loop, a block in said loop, a cover plate receiving said loop and having a flange extending over said loop, a screw passing through said plate and said flange, and a nut on said screw bearing on the under side of said flange.

4. A binding device for electrical conductors comprising a plate bent to form a loop, a block in said loop, a conductor on said block, a cover plate receiving said loop and

having a flange extending over said loop, a screw passing through said plate and said flange and bearing on said conductor, and a nut on said screw bearing on the under side of said flange.

5. A binding device for electrical conductors comprising a plate having two extensions disposed relatively at an angle and each bent to form a loop, a block in each loop, cover plates receiving said loops and each having a flange extending above its respective loop, screws passing through said plates and flanges and bearing on said blocks, and clamping nuts on said screws.

970,088. ELECTRIC CUT-OUT. THOMAS E. MURRAY, New York, N. Y. Filed June 16, 1910. Serial No. 567,130.



1. An electric cut-out comprising a base having two pairs of sockets and circuit terminals therein, a removable fuse plug, a partition dividing said plug into two compartments, a fuse in each compartment, projections on said plug, and contact plates on said projections, to which plates the ends of said fuses are connected; the said projections entering said sockets to close circuit through said terminals and plates to said fuses.

2. An electric cut-out comprising a base having two pairs of sockets and pairs of clip arms forming circuit terminals therein, a removable fuse plug, a partition dividing said plug into two compartments, a fuse in each compartment, projections on said plug, and contact plates on said projections, to which plates the ends of said fuses are connected; the said contact plates on said projections being placed with reference to the clip arms in said sockets so that when the projections are inserted in said sockets circuit shall be closed through said fuses, and when the plug is reversed end for end and the projections again inserted in said sockets, circuit through said fuses shall be opened.

3. An electric cut-out comprising a base, a fuse plug supported thereon, circuit terminals on said base and plug, relatively so disposed that circuit through the plug may be broken by reversing said plug end for end, a device for lifting said plug from said base, and means on said lifting device for reversing said plug.

4. An electric cut-out comprising a base, a fuse plug supported thereon, circuit terminals on said base and plug, relatively so disposed that circuit through the plug may be broken by reversing said plug end for end, a device for lifting said plug from said base, means on said lifting device for reversing said plug, and a latch engaging said plug.

5. An electric cut-out comprising a base, a fuse plug supported thereon, circuit terminals on said base and plug, relatively so disposed that circuit through the plug may be broken by reversing said plug end for end, a device for lifting said plug from said base, and locking mechanism for preventing the operation of said device.

[Claims 6 to 14 not printed in the Gazette.]

970,089. BINDING-POST. THOMAS E. MURRAY, New York, N. Y. Filed June 22, 1910. Serial No. 568,262.

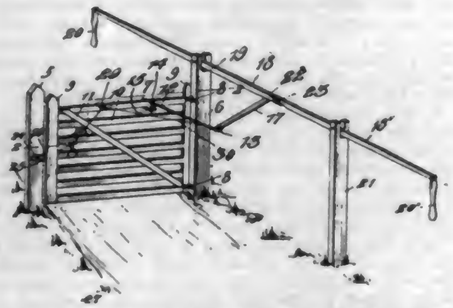


1. A binding post comprising a bifurcated shank, a sleeve thereon having a plurality of pairs of oppositely disposed recesses in its edge, each pair of recesses differing in size from the recesses of the other pairs, and the wire to be held being received in a pair of recesses of corresponding size and between said sleeve and the bottom of the shank, and means for holding said sleeve in adjusted position upon said wire.

2. A binding post comprising a bifurcated shank, a sleeve thereon having in each edge a plurality of pairs of oppositely disposed recesses, each pair of recesses differing in size from the recesses of the other pairs, and the wire to be held being received in a pair of recesses of corresponding size and between said sleeve and the bottom of the shank, and means for holding said sleeve in adjusted position upon said wire.

3. A binding post comprising a bifurcated shank, an elongated grooved head integral therewith and provided with notches in its edges adjacent to said shank, a sleeve on said shank having a plurality of pairs of oppositely disposed recesses in its edge, each pair of recesses differing in size from the recesses of the other pairs, and the wire to be held being received in said recesses and between said sleeve and the bottom of said shank, and means for holding said sleeve in adjusted position upon said wire.

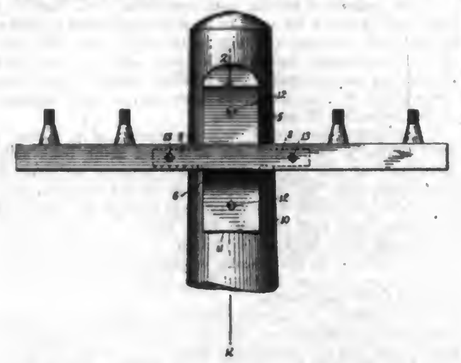
970,090. GATE. NATHANIEL JOSEPH MCADAMS, Smyrna, Tenn. Filed June 4, 1910. Serial No. 564,992.



1. The combination with inner and outer gate posts and a gate hinged upon the inner post for swinging movement, of a resilient rod rigidly secured at one end to said gate and extending laterally therefrom, pivotally mounted operating levers loosely connected at their ends, a connecting bar between one of said levers and said resilient rod, latch operating mechanism connected to one end of said rod, said rod being upwardly movable in the operation of the gate to operate said latch mechanism.

2. The combination with inner and outer gate posts and a gate hinged upon the inner post for swinging movement, a resilient rod secured to and extending transversely from the gate, pivotally mounted operating levers extending upon opposite sides of the gate, a connecting bar between one of said levers and said resilient rod, a latch bar pivoted to said gate for movement in a vertical plane, guide means for said bar carried by the gate, a latch member secured to the outer gate post adapted to be engaged by said bar to hold the gate in closed position, and a wire connecting said latch bar and resilient rod, the initial movement of the operating levers being adapted to flex said rod and draw upon the wire to release said latch bar whereby the gate may be swung to its open position.

970,091. COMBINED CROSS-ARM SUPPORT AND BRACE. JAMES WATT MCCUNE, New Albany, Miss. Filed May 27, 1910. Serial No. 568,806.



1. In combination, a pole having a shoulder, a cross-arm support secured to the pole, with the lower end of the support seating on the shoulder, the support having laterally-extending braces and provided with a shoulder extending across its outer face, and a cross-arm seating on the shoulder and secured to the braces, with the support extending a substantial distance above and below the cross-arm.

2. A cross-arm support comprising a plate having a cross-arm supporting shoulder extending across its outer face at an intermediate point of the length of the plate, and cross-arm braces laterally extending from the opposite side edges of the plate above the shoulder.

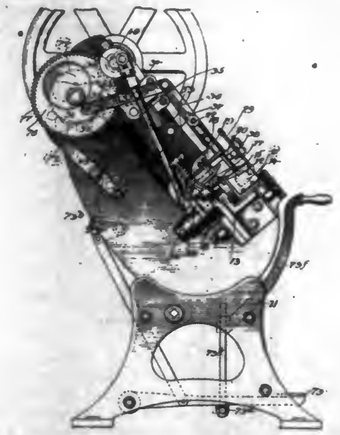
3. A cross-arm support comprising a plate having a flat seating face, said plate having a cross-arm supporting shoulder extending thereacross intermediate its length, and cross-arm braces extending laterally from the opposite side edges of the plate above the shoulder, with the front faces of the braces lying in a plane with that portion of the front face of the body of the plate immediately above the shoulder.

4. In combination, a pole, a plate secured to the pole, having a shoulder extending thereacross intermediate its length, braces laterally extending from the opposite side edges of the plate above the shoulder, and a cross-arm seated on the shoulder and secured to the braces, with the upper edges of the braces arranged a substantial distance below the upper face of the cross-arm.

970,092. AUTOMATIC DIE-PRESS. CHARLES D. MCDONALD, Chicago, Ill., assignor to McDonald Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 7, 1909. Serial No. 531,800.

1. In a device of the class described, the combination of a framework, a receptacle for the work secured to said framework, die members mounted upon said framework, means for automatically feeding the work into position to be acted upon by the dies, means for automatically forcing the work into position to be acted upon by the feeding means, a hollow cup-shaped member for separating the work and lifting it into position to be brought into engagement with the feeding means, and a valve member actuated by the contacting of the cup-shaped member with the work, for creating a suction within the chamber of the cup-shaped member, to hold the work in engagement with the cup-shaped member during the lifting operation, substantially as described.

2. In a device of the class described, the combination of a framework, a receptacle for the work secured to said framework, die members mounted upon said framework, a feed bar for automatically feeding the work into position to be acted upon by the dies, fingers for automatically forcing the work into position to be acted upon by the feed bar, sucker heads for automatically separating the work and lifting it into position to be acted upon by said fingers, means for automatically raising and lowering the sucker heads, a valve operated by the contact of the heads with the work to permit of the creation of a suction within the heads, means for automatically ejecting the waste work from the machine, and means for automatically ejecting the stamped article from the male die member, substantially as described.



3. In a device of the class described, the combination of a framework, a receptacle for the work secured to said framework, die members mounted upon said framework, a feed bar for automatically feeding the work into position to be acted upon by the dies, fingers for automatically forcing the work into position to be acted upon by the feed bar, sucker heads for automatically separating the work and lifting it into position to be acted upon by said fingers, means for automatically raising and lowering the sucker heads, a valve operated by the contact of the heads with the work to permit of the creation of a suction within the heads, means for automatically ejecting the waste work from the machine, and means for changing the speed of the mechanism actuating the fingers which force the work into position to be fed forward by the feed bar, the mechanism that lifts the work into position to be acted upon by the fingers, and the mechanism for ejecting the waste work from the machine, substantially as described.

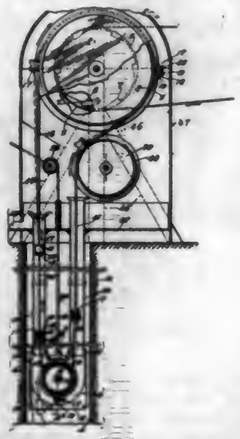
4. In a device of the class described, the combination of a framework, a receptacle for the work secured to said framework, die members mounted upon said framework, a feed bar for automatically feeding the work into position to be acted upon by the dies, fingers for automatically forcing the work into position to be acted upon by the feed bar, sucker heads for automatically separating the work and lifting it into position to be acted upon by said fingers, means for automatically raising and lowering the sucker heads, a valve operated by the contact of the heads with the work to permit of the creation of a suction with the heads, means for automatically ejecting the waste work from the machine, means for automatically ejecting the stamped article from the male die member, and means for changing the speed of the mechanism actuating the fingers which force into position to be performed by the feed bar, the mechanism that lifts the work into position to be acted upon by the fingers, and the mechanism for ejecting the waste work from the machine, substantially as described.

5. In a device of the class described, the combination of die members, a feed bar for feeding the work into position to be acted upon by said die members, sucker heads for automatically separating the work and lifting it into position to be brought into engagement with the feed bar, a pipe connected to said heads, leading from a suitable source of vacuum supply, and a valve operated

by the contacting of the sucker heads with the work to permit of the creation of a suction within said heads, substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

970,093. OIL AND WATER ELEVATOR. THOMAS HARVEY MCDONALD, Tropico, Cal., assignor to The McDonald Oil and Water Elevator Company, Tropico, Cal., a Corporation of Washington. Filed Mar. 15, 1909. Serial No. 483,637.



1. In a water elevator, a foot having a bucket-way, an inlet to such way and a foot-wheel, jointed tubing secured to the foot and communicating with the way, and means to lower and raise the foot.

2. In a water elevator, a foot, a wheel and pump-tubing carried by the foot, and means connected with the foot to lower and raise the foot.

3. In a water elevator, the combination with a drive-wheel and a foot-wheel, of a line and buckets on said line; both the buckets and the line engaging the wheels in the operation of the elevator, said buckets being bored to receive the line, and the bores of the buckets being flared at their ends to accommodate the flexure of the line when the buckets pass around the wheel.

4. A water elevator bucket composed of a core tapering down from the top toward the middle and segmental sections secured thereto, the core being provided with an annular groove and with a bore flared at its ends to accommodate a line, and the segments being loosely fitted to the groove and secured to the core by a band and terminating below the top of the bucket.

970,094. IMITATION BUTTONHOLE. CHESTER MCNEIL, Chicago, Ill., assignor to United Special Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 2, 1909. Serial No. 520,613.



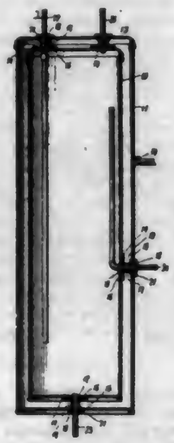
1. An imitation button hole, consisting of a fabric, cord portions laid upon said fabric in parallel lines, said cord portions being bent at one end to form a closed loop, lines of stitching passing through said cord portions, said lines of stitching having a connected thread whereby said cord portions are secured to the fabric so they cannot separate or be drawn out of parallelism.

2. An imitation button hole consisting of a fabric, a cord bent between its ends to form parallel cord portions, which cord portions are laid in parallel lines, and lines of stitches passing through said cord portions, said lines of stitches having connecting threads whereby said cords are secured to the fabric, so that they cannot separate or be drawn out of parallelism.

3. An imitation button hole, consisting of a fabric, a cord having a projecting rib, said cord being bent upon itself so that the projecting ribs are brought adjacent to each other and the folded portions of the cord are laid in parallel lines and lines of stitches passing through said projecting ribs and through said fabric, a cross thread connecting said lines of stitching on the opposite side of the fabric from said cords, whereby said cords are secured to the fabrics so that they cannot separate or be drawn out of parallelism.

4. An article of manufacture consisting of a fabric, cords laid simultaneously on said fabric in parallel lines said cords having projecting abutting ribs and parallel lines of stitches passed simultaneously through the ribs of said cords respectively as they are laid on the fabric whereby said cords are secured in parallel relation to each other.

970,095. VACUUM-WALL HOT-WATER TANK. GEORGE C. H. MCPHEETERS, Palo Alto, Cal. Filed Jan. 20, 1910. Serial No. 539,089.



1. In a device of the kind described, an inner receptacle, an outer casing entirely surrounding the inner receptacle and spaced therefrom, and means to hold the casing in spaced relation to the receptacle, said means comprising a plurality of tubular spacers secured to the inner receptacle and to the casing to prevent access of air or the contents of the receptacle to the space between the casing and receptacle, and inlet and outlet pipes leading through and secured within the spacers.

2. The combination with an inner receptacle provided with a plurality of apertures, and an outer casing spaced from the receptacle and having threaded apertures opposed to the apertures in the receptacle; of a plurality of spacers holding said receptacle and casing in fixed spaced relation, each spacer comprising a flange secured to the receptacle around one of the apertures and provided with a centrally disposed threaded opening, a thimble having threaded ends one of which is engaged in the opening of said flange, and a threaded sleeve screwed into the aperture of the casing and onto the other end of said thimble.

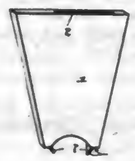
970,096. ART OF FORMING CASTINGS. CHARLES B. MCPHILLIPS, Suffern, N. Y. Filed Jan. 27, 1910. Serial No. 540,381.



1. As an article of manufacture for use in securing a part adapted to form an integral casting to one of the members of the mold in which the casting is to be formed, an elongated device having two opposed broad, and two opposed narrow, faces and having a head at one end thereof and also having oppositely disposed V-shaped recesses formed in the broad faces thereof in proximity to the head, substantially as described.

2. In combination, with one of the complementary members of a separable mold and a part adapted to form an integral portion of a casting to be formed in the mold, elongated devices each having the major portion thereof projecting into said mold member and securing said part thereto, each of said devices being of substantially uniform transverse dimension from end to end of the portion of said device which projects relatively from said part and being locally weakened in said portion in proximity to said part, substantially as described.

970,097. COIN-HOLDER. LOUISE NELSON, Chicago, Ill. Filed Nov. 1, 1909. Serial No. 525,726.



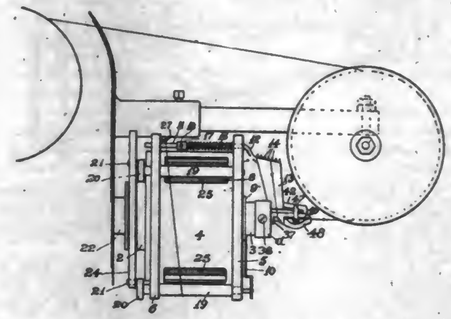
In a device of the class described, a body comprising parallel front and back plates and downwardly converging sides, the space between said plates being slightly greater than the thickness of the coins to be used and the distance between the lower ends of said sides being slightly greater than the diameter of said coin, a spring secured to the back plate, the ends of said spring projecting below the bottom of the body and bent inwardly beneath the same, a closure for the top of said body having a slot at one end thereof, a spring tongue struck inwardly from one of said parallel plates and at substantially the center of said slot, and means for attaching the device to the person, substantially as described.

970,098. MACHINE FOR COVERING OR INSULATING WIRE WITH YARN OR ITS EQUIVALENT. DONALD NOBLE, Bridgeport, Conn. Filed Aug. 5, 1909. Serial No. 511,374.

1. In a machine for covering or insulating wire with yarn or its equivalent, the combination with the yarn covering instrumentalities which carry the yarn cop, a suitable tension acting against said cop, means for revolving said instrumentalities, and an independent positively rotating auxiliary tension device which has a slipping engagement with the yarn and is interposed between the cop and said instrumentalities.

2. In a machine for covering or insulating wire with yarn or its equivalent, the combination of the wire covering instrumentalities carrying the yarn cop, a suitable tension acting thereagainst, means for revolving said instrumentalities, and means, carried by said instrumentalities and having a slipping engagement with the yarn and operating independent of said instrumentalities, for paying out the yarn to the wire at a tension that is always less than that required to draw the yarn from the cop itself.

3. In a machine for covering or insulating wire with yarn or its equivalent, the combination with the wire covering devices which carry the yarn cop, a proper tension thereagainst and means for revolving said devices, of means interposed between said cop and devices and having slipping frictional engagement with the yarn and operating always with a tendency to pay out to the wire an amount of yarn in excess of that required and at a tension less than that required to draw the yarn from the cop itself.

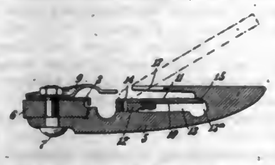


4. In a machine for covering or insulating wire with yarn or its equivalent, the combination with the covering devices carrying the yarn cop, a suitable tension thereagainst, and means for revolving said devices, of means having a slipping frictional engagement with said yarn intermediate of said cop and devices and operating to draw the yarn from the cop and to pay out to said devices an amount of yarn at a predetermined and diminished tension.

5. In a machine for covering or insulating wire with yarn or its equivalent, the combination with the covering devices which carry the yarn cop, a suitable tension thereagainst, and means for revolving said devices, of means interposed between said devices and the cop and operating to draw the yarn from the latter at the cop tension and to pay out said yarn to the wire to be covered at a predetermined and diminished tension.

[Claims 6 to 11 not printed in the Gazette.]

970,099. GUARD. DAVID D. OGILVIE, Lee, Nev. Filed Oct. 22, 1909. Serial No. 524,040.

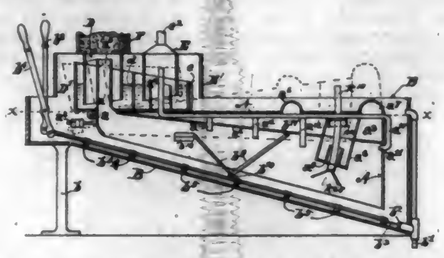


1. The combination of a guard finger having a pocket at its forward end provided with a downwardly and outwardly-inclined wall, and a ledger-plate seated on and slidably engaged with the guard finger, with the end of the plate passing into and engaging the said downwardly and outwardly-inclined wall, forcing the plate to its seat.

2. The combination of a guard finger having upwardly-extending lugs and provided with a pocket arranged in advance of said lugs, said guard finger having a way, and a ledger-plate seating on the finger and engaged at opposite sides adjacent to its rear edge by said lugs and having a lug secured to its under side slidably received in the way of the finger, with the forward end of the plate engaging the wall of the said pocket, forcing the plate to its seat.

3. The combination of a guard finger, and a ledger plate removably seated on the finger, the forward end portion of the plate engaging with a portion of the finger, with the said engaging portions arranged and constructed to cause the plate to be depressed to its seat when the said plate is forced forwardly.

970,100. ACETYLENE-GAS GENERATOR. DANIEL O'KEEFE, Cincinnati, Ohio, assignor, by mesne assignments, to Edwin McFarland. Filed Apr. 8, 1907. Serial No. 367,092.

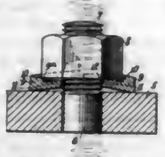


1. A gasometer having a bell and a tank, the former pivoted to the latter at one side below the level of liquid in said tank, and a normal outlet for gas contiguous to said pivot and at all times submerged.

2. A gasometer having in combination a tank with a sloping bottom, a bell hinged to the tank at the side next the highest portion of the tank bottom, with gas outlet adjacent to the hinge and normally submerged.

3. In a gasometer, in combination with a tank with a slanting bottom and a bell provided with a gas outlet, said bell pivoted to one side of the tank in such a manner as to keep the gas outlet submerged, an agitator slidably seated upon the slanting bottom of the tank.

970,101. NUT-LOCK. MICHAEL OMALIA, Scranton, Pa., assignor of one-sixth to William S. Robinson and one-sixth to William W. Baylor, Scranton, Pa. Filed Dec. 16, 1909. Serial No. 533,326.



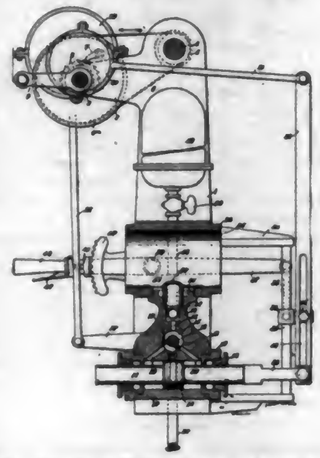
1. A nut lock, comprising a single member of spring metal bent spirally around an imaginary axis and provided with ends normally staggered relatively to each other, so as to occupy different planes, but adapted to be sprung into the same plane, said member being further provided with an inwardly extending rabbet which is normally inclined relatively to said imaginary axis, but is adapted to be sprung into a plane crossing said axis at a right angle.

2. A nut lock, comprising a single member of spring metal bent spirally around an imaginary axis, and provided with a rabbet extending inwardly, said rabbet being normally inclined relatively to the said imaginary axis, but adapted to be pressed flat into a plane crossing said axis at a right angle.

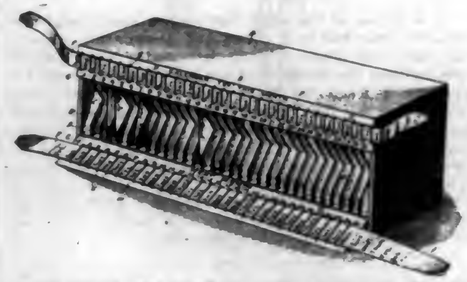
3. A nut lock, comprising a single member of spring metal provided internally with an inclined wall for the purpose of enabling pressure of a nut to spread said member, and thereby increase its general diameter, said member being further provided with a portion extending beneath said nut and adapted to undergo distortion, so as to press upwardly against said under side of said nut.

970,102. CARBURETING APPARATUS. FREDERICK OSTERMAYER, Elizabeth, N. J. Filed June 10, 1909. Serial No. 501,287.

Mechanism for supplying explosive mixture to internal combustion engines, comprising a tubular mixing chamber, through which air may pass, a pump disposed below said chamber and including a cylinder and a bracket extending upwardly and connected to said mixing chamber, a nozzle within said mixing chamber and having passages connected to opposite ends of the cylinder, a valve for controlling the communication through said passages, a piston within said pump, a frame connected to said cylinder and said mixing chamber, a slide block guided by said frame and having a fulcrum pin, a lever having a slot engaging with said fulcrum pin and connected to said piston, an engine shaft, and means for driving said lever from said engine shaft.



970,103. MEMORANDUM-RACK. RICHARD D. A. PARROTT, New York, N. Y. Filed June 24, 1910. Serial No. 568,752.



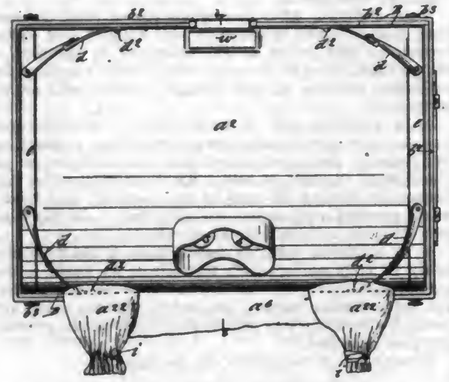
1. A memorandum rack, comprising a receptacle having transverse partitions forming card-receiving pigeon holes, one alongside the other, and monthly calendars on the said receptacle, one above and the other below the said pigeon holes, one calendar indicating the week days and days of the present month, and the other calendar indicating the week days and the days of the ensuing month.

2. A memorandum rack, comprising a receptacle open at the front and having spaced transverse partitions forming card-receiving pigeon holes one alongside the other, each partition having its front edge provided with a cut out portion for convenient removal of the cards, and monthly calendars on the front of the said receptacle one above and the other below the said pigeon holes, one calendar being for the present month and the other for the ensuing month, each calendar consisting of guideways, a ribbon mounted to slide lengthwise in the said guideways and bearing the names of the days of the week for a month, and consecutive numerals fixed on the front of the receptacle adjacent to one edge of the said ribbon and adapted to register with the said week day names.

3. A memorandum rack, comprising a receptacle open at the front and having spaced transverse partitions forming card-receiving pigeon holes one alongside the other, each partition having its front edge provided with a cut-out portion for convenient removal of the cards, and monthly calendars on the front of the said receptacle one above and the other below the said pigeon holes, one calendar being for the present month and the other for the ensuing month, each calendar consisting of guideways, a ribbon mounted to slide lengthwise in the said guideways and bearing the names of the days of the week for a month, and consecutive numerals fixed on the front of the receptacle adjacent to one edge of the said ribbon and adapted to register with the said week day names, and legends on the calendars, one indicating the present month and the other the ensuing month.

4. A memorandum rack, comprising a receptacle open at the front and having spaced transverse partitions forming card-receiving pigeon holes one alongside the other, each partition having its front edge provided with a cut out portion for convenient removal of the cards and monthly calendars on the front of the said receptacle one above and the other below the said pigeon holes, one calendar being for the present month and the other for the ensuing month, each calendar consisting of spaced staples in transverse alinement with the said partitions and forming guideways, a ribbon mounted to slide lengthwise in the said guideways and bearing the names of the days of the week for a month, and a row of consecutive numerals fixed on the front of the receptacle adjacent one edge of the ribbon and in alinement with the pigeon holes and the names of the week days on the corresponding ribbon.

970,104. PORTABLE INCLOSURE FOR PHOTOGRAPHIC PURPOSES. ORAZIO PASCALE, New York, N. Y. Filed Mar. 7, 1910. Serial No. 547,780.



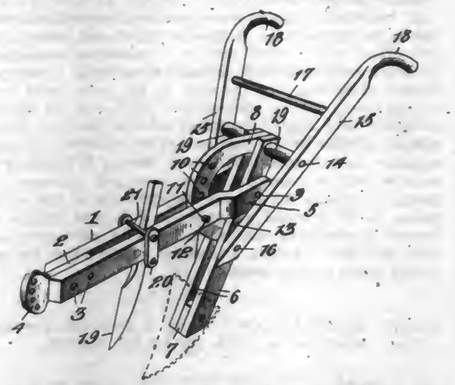
1. A portable inclosure of the character set forth, comprising a foldable base, consisting of side members hinged to a central section, a floor sheet covering and secured to said foldable base, semi-circular end frames pivotally secured to said base, a flexible canopy body and end sections secured to said end frames, folding braces pivotally attached to said end frames and adapted to sustain them in their upright positions, and a non-actinic window and non-actinic eye sights in said canopy body, the latter being also formed with elastic armlets, all for the purpose and substantially in the manner described.

2. A portable inclosure of the character set forth, comprising a foldable base consisting of a central section b', and flanged side members b, b, hinged to said central section b', and formed with hinged flange sections a^7, a^7, a floor sheet secured to said foldable base, semi-circular end frames pivotally secured to said base, a flexible canopy body and end sections secured to said end frames, folding braces pivotally attached to said end frames and adapted to sustain them in their upright positions, and a non-actinic window and non-actinic eye sights in said canopy body, the latter also being formed with elastic armlets, all for the purpose and substantially in the manner described.

3. A portable inclosure of the character set forth, comprising a foldable base, semi-circular end frames pivotally secured thereto, a flexible canopy and end sections secured to said end frames, folding braces each pivotally attached at one extremity to an end frame and formed with a loop, studs on the base for engagement with the looped ends of the folding braces, and a non-actinic window and non-actinic eye sights in said canopy body, the latter being formed with elastic armlets, all for the purpose and substantially in the manner described.

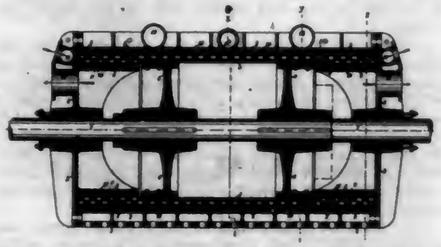
4. A portable inclosure of the character set forth, comprising a foldable base B, consisting of a central section b', hinged side sections b, b, formed with the hinged flanged sections a^7, a^7, the floor sheet a, the semi-circular end frames e, e, pivotally attached to the foldable base, the flexible roof a^2, and end sections a', a', forming the canopy attached to the said end frames e, e, the folding braces d, d, pivotally attached to said end frames e, and formed with the end loops d', the studs d^2, on the base for engagement with said loops d', the elastic armlets a^{12}, a^{12}, forming part of the canopy, and the non-actinic window w, and eye sights s, s, also forming part of the canopy, substantially as and for the purpose described.

970,105. PLOW. OSCAR HAMPTON PEEPLES, Kincaid, Miss. Filed May 4, 1910. Serial No. 559,345.



The combination of a beam composed of spaced bars united at their forward ends and having their rear ends laterally off-set, the off-set ends at intermediate portions of said bars being formed with transverse alining openings, a standard composed of spaced bars united at their lower ends, a segmental shaped bar having its ends arranged between the upper and intermediate portions of the bars of the standard and having its central portion formed with an arcuate series of openings adapted to register with the transversely alining openings in the intermediate portion of the bars of the beam, a pivot passed through the openings in the off-set rear ends of the bars of the beam and through the bars of the standard at a point concentric with said segmental bar, whereby the standard is pivotally mounted, a pin removably arranged in the transversely alining openings in the intermediate portions of the bars of the beam, and in one of said openings in the central portion of said segmental bar to lock the standard in adjusted position, connected handle bars arranged in downwardly and forwardly converging relation and having their lower ends secured to the opposite sides of the standard, a fastening rod passed through the bars and the upper end of the segmental bar and spacing sleeves arranged on said fastening rod between the inner face of the handle bars and the outer faces of the standard bars.

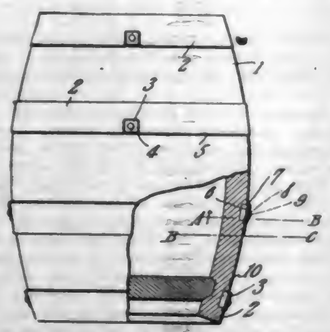
970,106. STEAM-TURBINE. HERMANN PETERS, Hamburg, Germany. Filed Aug. 4, 1910. Serial No. 575,529.



1. In a steam turbine which can run forward and backward, the combination, with a shaft, of one hollow steel cylindrical rotor secured thereon, a cylindrical casing surrounding said rotor and having one or more internal cylindrical portions projecting into the rotor, said rotor having outer, cell-like, blade-shaped cavities in its exterior periphery and inner, oppositely-directed cell-like, blade-shaped cavities in the one or more portions of its interior periphery opposite the one or more internal cylindrical portions of the casing, said casing having nozzles and wave-shaped passages for altering the direction of flow of the steam in its internal peripheries arranged in operative communication with said outer and with said inner cavities, and steam supply pipes for supplying steam to said nozzles.

2. In a steam turbine which can run forward and backward, the combination, with a shaft, of one hollow steel cylindrical rotor secured thereon, a cylindrical casing surrounding said rotor and having two internal cylindrical flanges projecting into the ends of the rotor, said rotor having outer, cell-like blade-shaped cavities in its exterior periphery and inner, oppositely-directed cell-like, blade-shaped cavities in the portions of its interior periphery opposite said flanges, said casing having a plurality of nozzles, and a plurality of wave-shaped passages arranged in groups, for altering the direction of flow of the steam, in its internal periphery and in said flanges arranged in operative communication with said outer and with said inner cavities, and steam supply pipes for supplying steam to said nozzles.

970,107. BARREL-HOOP. FRANK X. PFLUGER, Portland, Oreg. Filed Oct. 4, 1909. Serial No. 520,823.

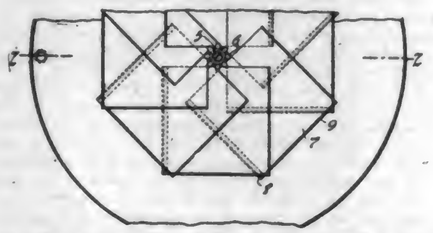


1. A cooperage hoop having an integral apertured socket, and a keeper having a body portion adapted to slidingly fit the exposed surface of cooperage staves, and having a stem formed on one of its faces for engagement with said apertured socket, and a blade formed on its opposite face adapted to penetrate said staves.

2. In a cooperage hoop, an integral socket carried by the hoop having an annular opening centrally disposed in its top face, and a keeper having a body portion adapted to conform to the inner outline of said socket and having a central stem projecting from its top face engageable with said annular opening, and a blade projecting from the opposite face, said blade being tapered from the leading end to following end from working edge to root.

3. In a cooperage hoop, an integral socket carried by the hoop, and a keeper carried within said socket, said keeper having a body portion adapted to conform to the inner outline of said socket and a wedge shaped blade disposed perpendicular to said body portion, said blade having its working edge rounded at its leading end.

970,108. DRYING-RACK FOR PHOTOGRAPHIC PLATES. ALEXANDER N. PIKRAMAN, Newark, N. J., assignor of one-half to Frank L. Dyer, Montclair, N. J. Filed Jan. 11, 1909. Serial No. 471,654.



1. In a drying rack, in combination, a shaft, a plurality of plate holders radially disposed about and secured to said shaft, and means for revolving said shaft, substantially as described.

2. In a drying rack, in combination, a revoluble shaft and a plate holder comprising a flat plate disposed radially to said shaft and secured thereto at one edge, substantially as described.

3. In a drying rack, in combination, a revoluble support, a plate holder mounted on said support, and means supporting said holder at an inclination to the axis of said support, the axis to which said holder is inclined intersecting the axis of said support, substantially as described.

4. In a drying rack, in combination, a revoluble support, a plate holder, comprising a flat plate, mounted on said support, and means supporting said holder at an inclination to the axis of said support, an element of said holder intersecting the axis of said support, said holder being provided with means for retaining a photographic plate thereon, substantially as described.

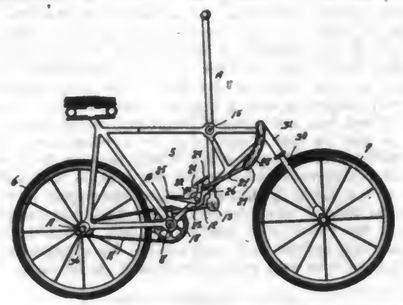
5. In a drying rack, in combination, a shaft, a plurality of plate holders each inclined at an angle to the axis of said shaft, the axes about which the said holders are inclined being radially disposed to the said shaft, and means for securing said holders to the said shaft, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

970,109. PROPELLING MECHANISM FOR VELOCIPEDES. JOHN T. PLUMMER, Denver, Colo. Filed Aug. 2, 1909. Serial No. 510,745.

1. In propelling mechanism for velocipedes, the combination with a transverse crank shaft, an operative connection between the said shaft and the rear wheels of the vehicle, a propelling lever fulcrumed on the machine and also connected in operative relation with the center of the crank shaft, and steering mechanism comprising bell-crank foot levers connected in operative relation with the opposite extremities of the handle-bar of the machine, the propelling lever occupying a position within convenient reach of the hands of the rider, substantially as described.

2. The combination in a velocipede, of a crank shaft connected in operative relation with the rear wheels of the machine, a hand lever operatively connected with the center of the crank shaft, and bell-crank foot levers fulcrumed on opposite sides of the machine and connected in operative relation with the opposite extremities of the handle-bar, substantially as described.



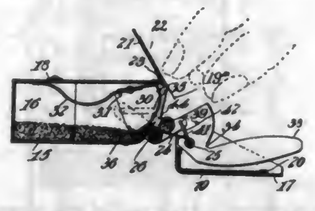
3. In a machine of the class described, the combination with propelling mechanism connected in operative relation with the rear wheels of the machine, and steering mechanism connected in operative relation with the handle-bar of the machine, the steering mechanism comprising bell-crank foot levers fulcrumed on opposite sides of the center of the framework, and arms pivotally connected with the said levers at one extremity and with the opposite extremities of the handle-bar, by means of universal joints at their opposite extremities.

4. In a velocipede, the combination with the framework thereof, of hand-operated mechanism for propelling the same, steering mechanism comprising two bell-crank foot levers independently fulcrumed on opposite sides of the center of the machine and adapted to form rests for the feet of the rider, and an operative connection between the forward arm of the said levers and the opposite extremities of the handle-bar of the machine for steering purposes, substantially as described.

5. In a machine of the class described, the combination of a gearing mechanism connected in operative relation with the rear wheels of the machine, and steering mechanism connected in operative relation with the handle-bars of the machine, the steering mechanism comprising bell-crank foot levers fulcrumed on opposite sides of the framework, arms pivotally connected at one extremity with the said levers, and at their opposite extremities with the handle-bars, the said arms being turned inwardly from the extremities of the handle-bars, and connected in operative relation with the said levers, substantially as described.

[Claim 6 not printed in the Gazette.]

970,110. CIGARETTE-MACHINE. MAX POLLAK, Waterbury, Conn. Filed Feb. 10, 1909. Serial No. 477,127.



1. In a pocket cigarette machine, the combination of a casing adapted to hold tobacco, a belt for forming a cigarette, end guides around which the belt is passed to deflect the same into a cylindrical pocket form, rolls upon which the belt is mounted, a cover for the casing with means for supporting a series of sheets of paper therein, a handle for drawing the belt and a sheet of paper around the guides and tobacco to form a complete cigarette.

2. In a pocket cigarette machine, the combination of a casing adapted to hold tobacco, a belt for forming a cigarette, a pair of rolls upon which the belt is mounted, fixed guides around which the belt is passed to deflect the same into a pocket form, means for supporting a series of sheets of paper within the case, and a handle for drawing the belt and a sheet of paper around the guides to roll the tobacco when placed therein.

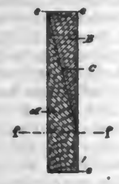
3. In a pocket cigarette machine, the combination of a casing adapted to contain tobacco and a cover with means for supporting a series of sheets of paper, a pair of rolls one of which is manually operated, a belt mounted upon the said rolls whereby a sheet of paper is drawn in and wound around the tobacco, end guides for twisting and inclosing the ends of the paper after being wound around the tobacco.

4. In a pocket cigarette machine, the combination of a casing adapted to contain tobacco and a cover to hold a series of sheets of paper, means for taking the paper from the pad and placing it in position to be wound around the tobacco, of a belt one end of which is mounted upon a spring roll and the other upon a manually operated roll whereby a sheet of paper is drawn in and wound around the tobacco, fixed end guides adapted to twist and inclose the end of the paper after being wound around the tobacco.

5. In a pocket cigarette machine, the combination with a casing adapted to contain tobacco, means for also retaining a series of cigarette papers within the casing, of cigarette forming mechanism comprising a belt mounted upon a spring roll and manually operated shaft, a cut-off to regulate the supplies of tobacco to the belt, means for deflecting one of the sheets of paper in against the belt drawing it around the tobacco as it is rolled by the movement of the belt.

[Claims 6 to 12 not printed in the Gazette.]

970,111. COLOR-SCREEN FOR OPTICAL PURPOSES. CARL RAMSTEIN-GSCHWIND, Basel, Switzerland. Filed Dec. 12, 1906. Serial No. 347,461.



1. A color screen for optical purposes, consisting of an integral body of glass composed of a colorless part and a colored part, the colored part decreasing in thickness toward one edge of the screen and terminating at a distance from said edge, so that a material portion of said screen, adjacent to such edge, will be colorless in its entire thickness.

2. A color screen for optical purposes, composed of a colorless part and a colored part, the colored part decreasing in thickness toward one edge of the screen and terminating at a distance from said edge, so that a material portion of said screen, adjacent to such edge, will be colorless in its entire thickness.

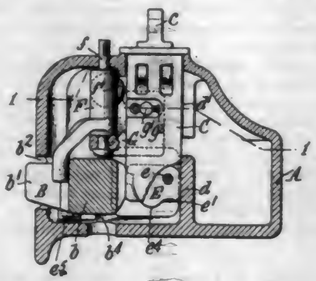
970,112. PROCESS OF MAKING COMPOUNDS OF THE ACTIVE SUBSTANCE OF SUPRARENAL GLANDS, AND SAID COMPOUNDS. BAPTIST REUTER, Höchst-on-the-Main, Germany, assignor, by mesne assignments, to The Firm of H. A. Metz & Co., New York, N. Y. Filed Dec. 1, 1903. Serial No. 183,371.

1. As a new product, a solid compound produced by the union of one and one half (1½) molecules of boric acid and one (1) molecule of the base of the suprarenal glands, stable in air, readily soluble in water and difficultly soluble in alcohol, and having the physiological properties of the base of the suprarenal gland.

2. The herein-described process of producing a dry, stable substance containing the principle of the suprarenal glands, consisting in dissolving the base of said glands and boric acid in molecular proportions of one (1) to one and one-half (1½) in water and then separating the boric acid compound of the base of the glands from the water.

3. The herein-described process of producing a dry, stable substance containing the principle of the suprarenal glands, consisting in dissolving the base of said glands and boric acid in molecular proportions of one (1) and one and one-half (1½) in water and then separating the boric acid compound of the base of the glands from the water by adding alcohol to said water so as to precipitate this borate of the base in the form of a dry crystalline substance which is stable in air, readily soluble in water, and possesses the physiological properties of the base of the suprarenal glands.

970,113. CAR-COUPLING. WILLARD F. RICHARDS, Lancaster, N. Y., assignor to Gould Coupler Company, New York, N. Y. Filed Apr. 6, 1908. Serial No. 425,307.



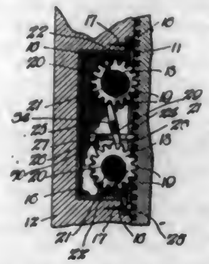
1. In a car coupler, the combination of a coupler head having a fixed bearing part for the lock set, a horizontally-swinging knuckle, a vertically movable lock for the knuckle, and a lock set which is pivoted to said lock and has a part adapted when the lock is lifted to bear on said fixed part in the coupler head to hold the lock in released position, said lock set having a part which is engaged by the upper portion of the tail of the knuckle to disengage the lock set from said fixed part in the head when the knuckle is opened and which rests on the upper portion of the tail of the knuckle to hold the lock up until the knuckle is closed, substantially as set forth.

2. In a car coupler, the combination of a coupler head having a fixed upright bearing part, a horizontally-swinging knuckle, a lock for the knuckle which is movable vertically into and out of locking position between the tail of the knuckle and said fixed part in the head, a lock set pivoted to the lower end of said lock and having a part which is adapted to bear on said fixed part in the head to hold the lock in released position, said lock set having a part which depends below said lock and is engaged by the upper portion of the tail of the knuckle to disengage the lock set from said fixed part in the coupler head when the knuckle is opened and which rests on top of the knuckle tail to hold the lock up until the knuckle is closed, substantially as set forth.

3. In a car coupler, the combination of a coupler head having a fixed upright internal part, a horizontally-swinging knuckle having a tail, a lock for the knuckle which is slidable vertically between said upright part in the coupler head and the tail of the knuckle, and a lock set which is pivoted to the lower end of said lock and has a part adapted when the lock is lifted to bear on said fixed part in the coupler head to hold the lock up with its lower end above the tail of said knuckle so that the tail of the knuckle can swing beneath said lock, said lock set having a part which depends below said lock and is engaged by the tail of the knuckle to disengage the lock set from said fixed part in the coupler head when the knuckle is opened and which rests on the top of the knuckle tail to hold the lock up until the knuckle is closed, substantially as set forth.

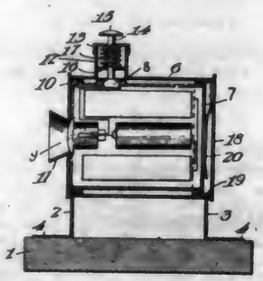
4. In a car coupler, the combination of a coupler head having an upright bearing wall therein, a horizontally-swinging knuckle having a tail, a lock for the knuckle arranged to slide vertically between said upright wall and the tail of the knuckle, a kicker lever for opening the knuckle pivoted in the head to swing horizontally and having an arm engaging the tail of the knuckle and a laterally projecting arm, a lock set connected to the lower end of said lock and adapted to project therefrom at one side to bear on said upright wall for holding the lock in the raised position, and a lug which projects from said lock at the opposite side thereof and engages said lateral arm of the kicker lever for swinging the kicker lever to open the knuckle when the lock is lifted whereby the pressure of the kicker lever against the lock forces the lock against said upright wall and insures the engagement of the lock-set with said wall, substantially as set forth.

970,114. WINDOW. JOHN EDWARD RICHARDSON, Grandview, W. Va. Filed Feb. 24, 1909. Serial No. 479,757.



In a device of the class described, a stationary toothed rack, a case, spring actuated ratchet wheels mounted in said case and engaging the rack, a double locking pawl mounted in the case between the ratchet wheels and normally engaging the same to lock them against movement, means detachable from the case and adapted to release said pawl, a spring actuated locking member engaging the said rack, and means insertible in the case for releasing said locking member.

970,115. EGG-TESTER. WILBERT ROGERS, Brookville, Ind. Filed Aug. 30, 1909. Serial No. 515,207.



In an egg tester, the combination of a holder comprising a supporting base, bracket plates extending upward therefrom and secured thereto, a housing supported by said plates and closed at one end and having a removable cover at the other, an outwardly flaring nozzle communicating with a central opening in the closed end of the housing, a tubular extension projecting upward from said housing, a spring-sustained plunger stem operating through said extension, and an electric flashing lamp embodying a casing removable from said housing, a lens at one end of said casing which registers with the nozzle of the housing, and a push button forming the circuit closer of the lamp and arranged to lie in the path of the plunger stem.

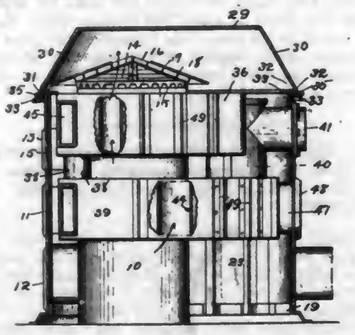
970,116. SUPPORTING-POST. BERTRAND E. RUDD, Harrison, Mich. Filed Jan. 8, 1910. Serial No. 537,047.



1. A post of the character described comprising an angle bar centrally split at its upper end to provide extensions, said extensions being bent inwardly and overlapping one another, and provided with alined openings therethrough, and a hitching device embodying a threaded bolt engaging through said alined openings whereby to hold said device and, at the same time, secure said overlapping extensions together.

2. A post of the character described comprising an angle bar having longitudinal slots intermediate its ends and centrally split at its upper end to provide extensions, said extensions being bent inwardly and overlapping one another and being secured together to form a closed top and provided with alined threaded openings, and a hitching device comprising a bolt having a threaded shank to engage within said openings and provided with an enlarged flattened head, and a hitching ring fastened through said head.

970,117. HOT-AIR HEATING APPARATUS. CARLISLE ST. JOHN, Des Moines, Iowa. Filed July 31, 1908. Serial No. 446,286.



1. In a device of the class described, the combination of a combustion chamber, a furnace wall surrounding the combustion chamber and arranged eccentrically relative thereto, the front of the furnace wall being closer to the combustion chamber than the other parts, two radiating drums at the upper portion of the space between the combustion chamber and the furnace wall, each of said upper radiating drums having its rear end spaced apart from a rear central line, and being extended to a point spaced apart from the front central line, and also being tapered from a maximum width at its rear end to a minimum at its front end, means for providing communication direct from the upper portion of the combustion chamber to the rear end of each radiating drum, a radiating drum below the upper drums extended from points spaced apart from a front central line all around the space between the combustion chamber and the furnace wall, pipes communicating between the front ends of the upper drums and the front ends of the lower drum to convey the products of combustion from the upper drums to the lower one, and a discharge pipe communicating with the rear central portion of the lower drum and leading to a point of discharge, said pipe being extended upwardly between the rear ends of the upper drums and then rearwardly through the furnace wall.

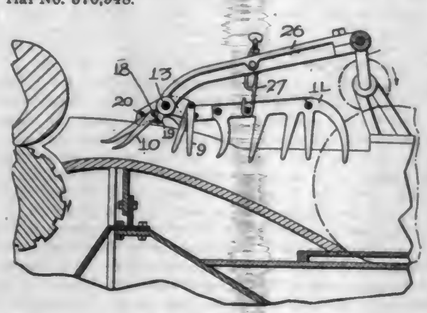
2. In a device of the class described, the combination of a combustion chamber, a furnace wall surrounding the combustion chamber and arranged eccentrically relative thereto, the front of the furnace wall being closer to the combustion chamber than the other parts, two radiating drums at the upper portion of the space between the combustion chamber and the furnace wall, each of said upper radiating drums having its rear end spaced apart from a rear central line, and being extended to a point spaced apart from the front central line, and also being tapered from a maximum width at its rear end to a minimum at its front end, means for providing communication direct from the upper portion of the combustion chamber to the rear end of each radiating drum, a radiating drum below the upper drums extended from points spaced apart from a front central line all around the space between the combustion chamber and the furnace wall, pipes communicating between the front ends of the upper drums and the front ends of the lower drum to convey the products of combustion from the upper drums to the lower one, and a discharge pipe communicating with the rear central portion of the lower drum and leading to a point of discharge, said pipe being extended upwardly between the rear ends of the upper drums and then rearwardly through the furnace wall, and an open-ended pipe in the center of said discharge pipe so arranged that the products of combustion passing through the discharge pipe will surround the open-ended pipe and heat the air passing upwardly through said open-ended pipe.

3. In a device of the class described, the combination of a combustion chamber, a furnace wall surrounding the combusiton chamber and arranged eccentrically relative thereto, the front of the furnace wall being closer to the combustion chamber than the other parts, two radiating drums at the upper portion of the space between the combustion chamber and the furnace wall, each of said upper radiating drums having its rear end spaced apart from a rear central line, and being extended to a point spaced apart from the front central line, and also being tapered from a maximum width at its rear end to a minimum at its front end, means for providing communication direct from the upper portion of the combustion chamber to the rear end of each radiating drum, a radiating drum below the upper radiating drums, extending from points spaced apart from a front central line all around the space between the combustion chamber and the furnace wall, pipes communicating between the front ends of the upper drums and the front ends of the lower drum to convey the products of combustion from the upper drums to the lower one, a discharge pipe communicating with the rear central portion of the lower drum and leading to a point of discharge, said pipe being extended upwardly between the rear ends of the upper drums and then rearwardly through the furnace wall, and an open-ended pipe in the center of said discharge pipe so arranged that the products of combustion passing through the discharge pipe will surround the open-ended pipe and heat the air passing upwardly through said open-ended pipe.

4. In a device of the class described, the combination of a combustion chamber, a furnace wall surrounding the combustion chamber and arranged eccentrically relative thereto, the front of the furnace wall being closer to the combustion chamber than the other parts, two radiating drums at the upper portion of the space between the combustion chamber and the furnace wall, each of said upper radiating drums having its rear end spaced apart

from a rear central line, and being extended to a point spaced apart from the front central line, and also being tapered from a maximum width at its rear end to a minimum at its front end, means for providing communication direct from the upper portion of the combustion chamber to the rear end of each radiating drum, a radiating drum below the upper radiating drums extended from points spaced apart from a front central line all around the space between the combustion chamber and the furnace wall, pipes communicating between the front ends of the upper drums and the front ends of the lower drum to convey the products of combustion from the upper drums to the lower one, a discharge pipe communicating with the rear central portion of the lower drum and leading to a point of discharge, said pipe being extended upwardly between the rear ends of the upper drums and then rearwardly through the furnace wall, and an open-ended pipe in the center of said discharge pipe so arranged that the products of combustion passing through the discharge pipe will surround the open-ended pipe and heat the air passing upwardly through said open-ended pipe, all of said radiating drums being provided near their forward portions with clean-out openings.

970,118. CARRIER FOR WOOL-WASHING MACHINES. FREDERICK G. SARGENT, Westford, Mass., assignor to C. G. Sargent's Sons Corporation, Graniteville, Mass., a Corporation of Massachusetts. Filed July 8, 1910. Serial No. 570,948.



1. In a wool washing machine, the combination with a carrier, swinging teeth on the carrier, and means on the carrier for positively swinging up the points of the teeth as the carrier moves backwardly.

2. In a wool washing machine, the combination with a carrier, swinging teeth on the carrier, and means on the carrier for positively swinging up the points of the teeth as the carrier moves backwardly and for permitting the teeth to drop at the beginning of the forward motion of the carrier.

3. In a wool washing machine, the combination with a bowl, of a carrier adapted to travel back and forth to deliver the wool from the bowl, swinging teeth mounted on the carrier, and means on the carrier for positively lifting said teeth during the backward travel of the carrier and allowing them to drop during its forward travel.

4. In a wool washing machine, the combination of a carrier adapted to travel back and forth, a set of pivoted teeth thereon, each tooth having a rearward projection, a connecting arm for operating said carrier, and means connected with the connecting arm for engaging said projections as the carrier moves back to lift the teeth.

5. In a machine of the character described, the combination of a crank, a connecting arm pivoted at one end to the crank, a carrier having a rod or shaft on which the other end of said connecting arm is pivoted, a projection on said connecting arm beyond said shaft, whereby as the crank rotates, said projection will oscillate, a set of teeth pivoted on the carrier, and means connecting the said teeth for engaging said projection, whereby the teeth will be lifted when the projection oscillates downwardly.

970,119. DRAFT-HARNESS. THOMAS W. SCHLATER, Plaquemine, La. Filed Apr. 8, 1910. Serial No. 554,186.



In a harness, a collar having hames, tug straps secured to the hames, spring devices secured to the tug straps and to the shafts, and additional straps secured to the hames, the additional straps being led forwardly and being adapted to be secured to the forward terminals of the shafts, the spring devices on the tugs being adapted, with the tugs, for holding the collar in place on an animal when the animal is being backed and there is a strain on the said additional straps.

970,120. GARMENT-SUPPORTER. JOSEPH W. SCHLOSS, New York, N. Y., assignor to Joseph W. Schloss & Co., New York, N. Y., a Firm. Filed July 17, 1909. Serial No. 508,104.



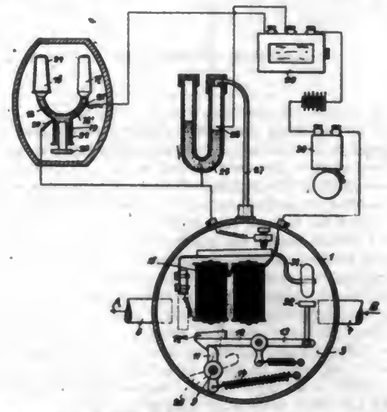
A garment stiffener comprising an elongated and normally flat fabric cover having closed ends, said cover having a narrow slit in one of the flat faces thereof and substantially on its longitudinal median line; a flat bowable and resilient core disposable into and removable from said flat cover while the flat face of the core is faced toward a flat side of the cover, the slit being positioned directly over a flat face of the core when the parts are assembled and said core being of somewhat greater length than the normal length of the cover; the strands of the cover fabric being placed under tension by the insertion of the core and thereby normally maintaining the lips of the slit closed before the said face.

970,121. GARMENT-SUPPORTER. JOSEPH W. SCHLOSS, New York, N. Y., assignor to Joseph W. Schloss & Co., New York, N. Y., a Firm. Filed Aug. 11, 1909. Serial No. 512,397.



A garment stiffener comprising a fabric strip having a tubular portion intermediate the ends thereof, substantially flat-non-tubular portions adjoining said tubular portion at either end thereof, said flat portions affording closures for said tubular portion ends, said tubular portion having a slit disposed longitudinally of said strip and normally in substantial alinement with the median lines of the flat faces of the non-tubular portions, and a bendable stiffening core inclosed by said tubular portion and removable therefrom through said slit.

970,122. AUTOMATIC GAS CUT-OFF. LUDWIG SCHMIDT and HERBERT SCHMIDT, Kaiserswerth, near Dusseldorf, Germany. Filed Feb. 2, 1910. Serial No. 541,639.

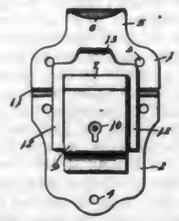


1. A device of the character described, comprising a gas service pipe, a catalytic substance adapted to be subjected to the action of gas escaping therefrom, means controlled by the catalytic substance for closing an electric circuit, and means actuated by said circuit for closing the gas service pipe.

2. A device of the character described, comprising a gas service pipe, a vessel having a catalytic wall, a mercury column connected to the vessel, an electric circuit controlled by said mercury column, and means actuated by said circuit for closing the gas service pipe.

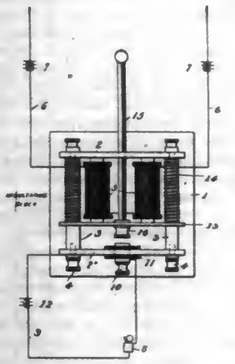
3. A device of the character described, comprising a gas service pipe, a pair of vessels one of which has a catalytic wall, a U-shaped mercury pipe the legs of which communicate with said vessels, an electric circuit controlled by the mercury pipe, and means actuated by said circuit for closing the gas service pipe.

970,123. LOCK. ALBERT F. SCHROEDER, Cleveland, Ohio. Filed Dec. 13, 1909. Serial No. 532,959.



In a device of the character described, upper and lower body plates arranged upon the lid and body of a box respectively, said upper plate being provided with a plurality of openings, a third plate removably arranged upon the upper plate and provided with openings in registration with said openings upon said upper plate, screws to extend through said openings to detachably secure the upper and third plate together and to said lid, said upper plate having a portion thereof bent to form a lift, said third plate being provided with a retaining lug, and means connected with the lower plate to engage the retaining lug.

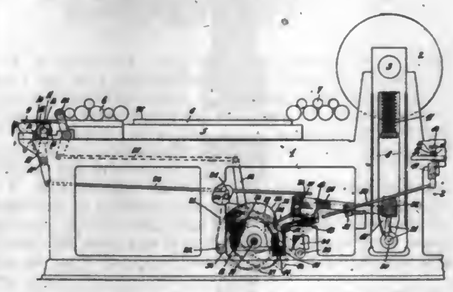
970,124. CIRCUIT-CLOSER FOR ALARMS. FRANK A. SCHULTZ, Wilkes-Barre, Pa., assignor of one-half to George Rollman, Wilkes-Barre, Pa. Filed Feb. 26, 1910. Serial No. 546,163.



1. In a circuit closer for electric alarm circuits, a base, standards mounted on the base, rods secured to said standards, a contact button secured to one of the standards and insulated therefrom, an open alarm circuit connected to said contact button and one of the rods aforesaid, magnet coils mounted on the other standard, an armature plate slidably mounted on the rods, and coil springs mounted on the rods and engaging said armature plate said springs normally tending to actuate the armature plate into engagement with the contact button to close the alarm circuit.

2. In a circuit closer for electric alarm circuits, a base, standards mounted on the base, rods secured to said standards, a contact button secured to one of the standards and insulated therefrom, an open alarm circuit connected to said contact button and one of the rods aforesaid, magnet coils mounted on the other standard, an armature plate slidably mounted on said rods, a rod secured to said armature plate and slidably mounted in the last mentioned standard between the magnet coils, and coil springs mounted on the rods and engaging said armature plate, said springs normally tending to actuate the armature plate into engagement with the contact button to close the alarm circuit.

970,125. PRINTING-MACHINE. WALTER SCOTT, Plainfield, N. J.; Isabella Scott and David John Scott executors of said Walter Scott, deceased. Filed July 11, 1905. Serial No. 269,160.



1. In a printing machine, the combination of an impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll and a distributing surface, automatic means for tripping and untripping the impres-

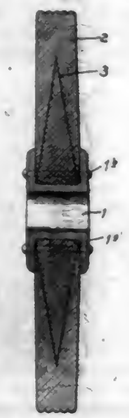
sion one to each cycle of the machine, a connection for operating the fountain roll, means for operating the said connection, means for interrupting the operation of the automatic means so as to maintain the impression tripped and for simultaneously therewith lifting the connection out of engagement with its operating means.

2. In a printing machine, the combination of an impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll and a distributing surface, automatic means for tripping and untripping the impression one to each cycle of the machine, a connection for operating the fountain roll, means for operating the said connection, means for interrupting the operation of the automatic means so as to maintain the impression tripped and for simultaneously therewith lifting the connection out of engagement with its operating means, and means whereby the impression can be maintained tripped without lifting the connection out of operative engagement with its operating means.

3. In a printing machine, the combination of an impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll and distributing surface, a connection for operating the fountain roll, means for operating the said conection, a member adapted to automatically trip and untrip the impression once to each cycle of the machine, a projection on said member normally protruding in the plane of the said connection, and means for lifting the member aforesaid thereby interrupting its normal operation and maintaining the impression tripped, thereby also lifting the connection out of operative engagement with its operating means by the projection.

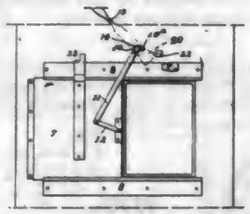
4. In a printing machine, the combination of an impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll and distributing surface, a connection for operating the fountain roll, means for operating the said connection, a member adapted to automatically trip and untrip the impression once to each cycle of the machine, a projection on said member normally protruding in the plane of the said connection, and means for lifting the member aforesaid thereby interrupting its normal operation and maintaining the impression tripped, thereby also lifting the connection out of operative engagement with its operating means by the projection, and means for withdrawing the said projection so that the member can be lifted to maintain the impression tripped without lifting the connection out of engagement with its operating means.

970,126. VEHICLE-WHEEL. HARRY SCULLIN, St. Louis, Mo. Filed July 2, 1900. Serial No. 505,713.



A vehicle wheel composed essentially of rubber and differentially vulcanized from its tread to its hub.

970,127. PHOTOGRAPHIC-PRINTING MACHINE. WILLIAM E. SERVICE, Bridgeton, N. J. Filed Mar. 27, 1908. Serial No. 423,545.



1. In a printing machine, the combination of a frame, means for retaining a negative therein, said means being apertured to permit the placing of printing paper over the negative, means for cutting off access of light to the negative during the placing of such printing paper, such light cutting off means tending to remain in the open position, means for moving said light cutting off means to the closed position, means for holding it in the closed position, a hinged member carried by the negative holding means for maintaining the printing paper in contact with said negative when said hinged member is in closed relation with said negative holding means, and a handle carried by said hinged member for operating the same, said handle serving to displace the means holding the light cutting off means in the closed position after said printing paper has been set in place, and being retained by the means for moving the light cutting off means.

2. In a printing machine, the combination of a frame, means for retaining a negative therein, said means being apertured to permit the placing of printing paper over the negative, a shutter for cutting off access of light to the negative during the placing of such printing paper, such shutter tending to remain in the open position, means for moving said shutter to the closed position, a catch for holding the shutter in the closed position, a hinged door carried by the negative holding means for maintaining the printing paper in contact with said negative when said door is in closed relation with said negative holding means, and a handle carried by said door for operating the same, said handle serving to displace the catch holding the shutter in the closed position after said printing paper has been set in place, and being retained by the means for moving the shutter.

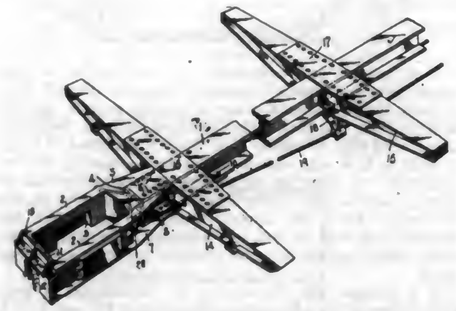
3. In a printing machine, the combination of a frame, a removable back for holding a negative therein, said back being apertured to permit the placing of printing paper over the negative, a door normally closing said aperture and serving to hold the printing paper in place, a sliding shutter for cutting off access of light to the negative during the placing of such printing paper, means carried by the frame for holding the shutter open, means for closing said shutter, means for holding the same in a closed position, and a handle carried by the door for closing the same over the printing paper, said handle releasing the shutter holding means as said door is closed.

4. In a printing machine, the combination of a frame, means for holding a negative therein, said means being apertured to permit the placing of printing paper over the negative, a door normally closing said aperture and serving to hold the printing paper in place, a sliding shutter for cutting off access of light to the negative during the placing of such printing paper, means carried by the frame for holding the shutter open, means for closing said shutter, means for holding the same in a closed position, a handle carried by the door for closing the same over the printing paper, said handle releasing the shutter holding means as said door is closed, and a catch carried by said handle for engagement by the shutter moving means so as to hold said door closed while the shutter is open.

5. In a printing machine, the combination of a frame, means for holding a negative therein, an independent door hinged to said means and arranged to uncover said negative for the purpose of placing printing paper against the same, a shutter for covering the opening giving access of light to the negative while said door is open, means for moving said shutter to the closed position, means for holding the same closed, a handle for closing the door, a projection carried by said handle for releasing the shutter holding means, a spring for causing the shutter moving means to move said shutter to the open position when said holding means are released, and a catch carried by said handle for engagement by the shutter moving means so as to hold said door closed while the shutter is open, said shutter moving means releasing said handle and allowing the door to open when the shutter is brought to the closed position.

[Claims 6 to 16 not printed in the Gazette.]

970,128. UNDERFRAME FOR RAILWAY-CARS. CHARLES S. SHALLENBERGER, St. Louis, Mo., assignor to Scullin-Gallagher Iron & Steel Company, St. Louis, Mo., a Corporation of Missouri. Filed Feb. 26, 1909. Serial No. 480,177.



1. In a car underframe, the combination with a center sill, of castings fixed to the ends of said sill, which castings each comprise top and bottom plates, draft sills integral with the outer ends of said top and bottom plates and an end plate integral with the outer ends of the sills.

2. In a car underframe, a center sill, end castings comprising top and bottom plates for attachment to the end of the center sill, and draft sills integral with the forward ends of the plates.

3. In a car underframe, a center sill, castings secured to and forming extensions on the ends of said center sill, said castings having draft sills formed integral therewith, struts intermediate the ends of the center sill and truss rods passing under said struts and whose ends are connected to said castings.

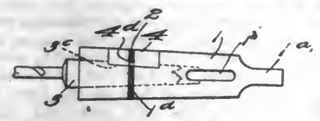
4. In a car underframe, a center sill, castings secured to and forming extensions on the ends of said center sill, and having integral draft beams, top and bottom plates, bolster members secured to said bottom plate and to said center sill, and a top tension plate uniting the inner ends of the bolster members and extending across the top of the center sill.

5. In a car underframe, a center sill member, castings having abutments for the ends of said center sill member, said castings having integral draft sills in the horizontal plane of the center sill member whereby buffing and pulling stresses are directly transmitted, and truss rods for the center sill connecting said castings.

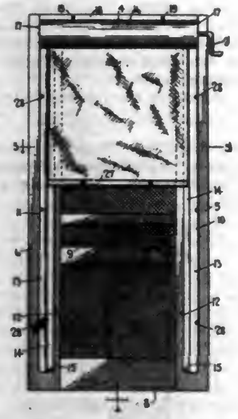
[Claims 6 to 18 not printed in the Gazette.]

970,129. COLLET. ANTHONY R. SIMMERLY, Cleveland, Ohio. Filed Jan. 26, 1909. Serial No. 474,248.

A collet having a segmental recess in the side thereof, a segmental locking member fitting in said recess and adapted to engage the shank of a tool in the socket of the collet, the outer surface of the collet and said locking member having registering grooves, and a split ring fitting and rotatable in said grooves and around the collet and locking member, to hold the latter in place.

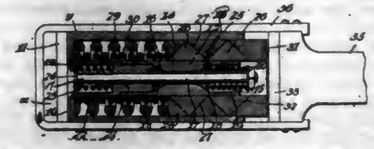


970,130. CURTAIN-GUIDE. JOHNEY E. SMITH, De Lamere, N. D. Filed Feb. 27, 1909. Serial No. 480,357.



The combination with a curtain having beaded edges, of guides each consisting of a strip having a portion adjacent its side curved over the outer face of the strip and embracing a beaded edge of the curtain, the edge of said curved portion being abruptly bent toward the outer face of the strip and engaging the neck of the beaded edge, one end of said strip being abruptly bent across the path of the curtain and providing a stop approximately flush with the end of said curved portion.

970,131. FRICTION DRAW-GEAR. FRANK M. SNYDER, Cresson, Pa. Filed July 21, 1909. Serial No. 508,849.



1. In a friction draw gear, the combination with the draw bar, of a friction mechanism including an internal, sectional expansible core, a core expanding device located within the core, means for yieldingly resisting movement of said device, and a plurality of sectional ring wedges operated by movement of the draw bar and arranged to encircle and grip the core.

2. In a friction draw gear, the combination with the draw bar, of a friction mechanism comprising an expansible core, a core expanding device movable longitudinally within the core, and a plurality of sectional rings wedging one upon the other and arranged to encircle and grip the core.

3. In a friction draw gear, the combination with the draw bar, of a friction mechanism comprising a friction case, a central expansible core, core expanding means operated upon movement of the draw bar, and alternating compression and expansion devices arranged side by side

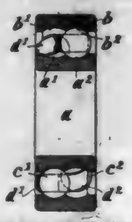
and encircling the core between the latter and the friction case, said devices being also operated upon movement of the draw bar.

4. In a friction draw gear, the combination with the draw bar, of a friction mechanism comprising a friction case, a central expansible core, core expanding means operated upon movement of the draw bar, and alternating compression and expansion devices in the form of sectional rings wedging one upon the other and encircling the core between the latter and the friction case, said devices being also operated upon movement of the draw bar.

5. In a structure of the character set forth, the combination with an expansible core formed of sections and having a central bore and tapered counterbores, of a draw-bar-operated bolt passing through the bores, cones arranged on the bolt and bearing against the tapered walls of the counter-bores, springs located on the bolt a compressible sectional friction ring surrounding the core, a draw gear having a yoke disposed longitudinally of and surrounding the core, and means operated by the draw gear for compressing the ring.

[Claim 6 not printed in the Gazette.]

970,132. BALL-BEARING. WILHELM SONNBERG, Berlin, Germany, assignor to Deutsche Waffen-und Munitionsfabriken, Berlin, Germany. Filed July 31, 1908. Serial No. 446,271.



1. A cage for ball bearings adapted to engage two or more rows of balls, said cage comprising a circular body having curved recesses adapted to receive the balls of one row and forks or lugs arranged in staggered relation to said recesses and connected to said body between the same, said forks or lugs being adapted to receive the balls of another row.

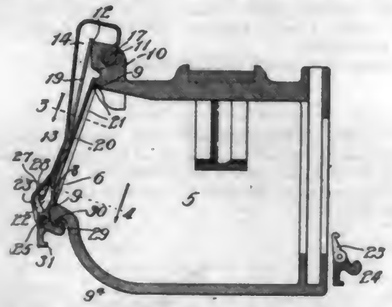
2. A cage for ball bearings adapted to engage two or more rows of balls, said cage comprising a circular body having curved recesses adapted to receive the balls of one row and forks or lugs arranged in staggered relation to said recesses, and pliable clips connecting said forks or lugs to the parts of said body between said recesses, said forks or lugs being adapted to engage an adjacent series of balls.

3. A ball bearing comprising two rings having ball races arranged so closely together that the balls of one race overlap the balls of the other race, and a cage for separating said balls and holding them in staggered relation, said cage comprising a circular body having recesses for receiving one set of balls and between said recesses forks or lugs connected to said body and adapted to receive the other set of balls.

4. A ball bearing comprising two rings having ball races arranged so closely together that the balls of one race overlap the balls of the other race and a cage for separating said balls and holding them in staggered relation, said cage comprising a circular body having recesses for receiving one set of balls and between said recesses forks or lugs connected to said body by pliable clips engaging the portions of said body between said recesses, and said forks or lugs being adapted to receive the other set of balls.

970,133. JOURNAL-BOX. SVEN J. STRID, Chicago, Ill., assignor of one-half to Ralph G. Coburn, Chicago, Ill. Filed Dec. 10, 1908. Serial No. 466,787.

1. A journal-box comprising, in combination, a box-proper provided with a swingingly mounted lid and with a catch-engaging shoulder on the outside surface thereof, said lid containing a chamber near its lower end with spaced lugs extending from the walls thereof, a catch pivoted to said lugs and extending at one portion into said chamber and at another portion in substantially the plane of the lid into engagement with the shoulder on the box-proper, and a spring in said chamber for holding the catch in position for engaging with said shoulder, for the purpose set forth.



2. A journal box comprising, in combination, a box-proper provided with a swingingly mounted lid and with a catch-engaging shoulder on the outside surface thereof, said lid being provided with a chamber near its lower end and spaced lugs extending from the walls thereof, a catch pivoted to said lugs and extending at one portion in substantially the plane of the lid into said chamber and at another portion into engagement with the shoulder on the box-proper, and a leaf spring secured at one end in the chamber and with its free end engaging the portion of the catch which extends into the chamber, for the purpose set forth.

3. A journal box comprising, in combination, a box-proper provided with a swingingly mounted lid and with a catch-engaging shoulder on the outside surface thereof formed at the lower edge of the mouth, said lid containing a chamber near its lower end with spaced lugs extending from the walls thereof, a catch pivoted to said lugs and extending at one portion into said chamber and at another portion in substantially the plane of the lid into engagement with the shoulder on the box-proper, and a spring in said chamber for holding the catch in position with said shoulder for the purpose set forth.

4. A journal box, comprising, a box-proper provided with a swingingly mounted lid and with a catch-engaging shoulder on the outside surface thereof, said lid containing a chamber near its lower end with spaced lugs extending from the walls thereof, a catch pivoted to said lugs and extending at one portion into said chamber, at another portion in substantially the plane of the lid into engagement with the shoulder on the box-proper, and at another portion into position to be engaged for operating the catch, and a spring in said chamber engaging a portion of the catch extending into the chamber for holding the catch in position to engage with said shoulder for the purpose set forth.

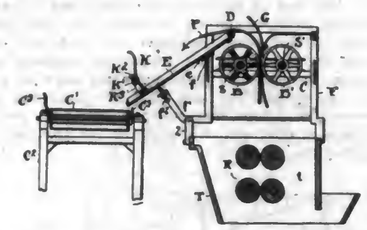
970,134. TIN-PLATE-CATCHING MACHINE. GEORGE J. SZABO, Portvue, Pa., assignor of one-half to Joseph Tomcsanyi, Homestead, Pa. Filed Oct. 26, 1908. Serial No. 459,447.

1. In a machine for handling tin plate, two series of rolling members opposite each other having spring pressed bands about their periphery adapted to engage the plate between them.

2. In a tin plate machine, two series of rolling members oppositely arranged to catch and carry the plate and shafts supporting the same, said members having bands about their periphery and spokes with springs to cushion the bearing of the bands upon the plate.

3. A tin plate catching machine having a series of

catching members with two part radial spokes, springs about said spokes and bands about said wheels.

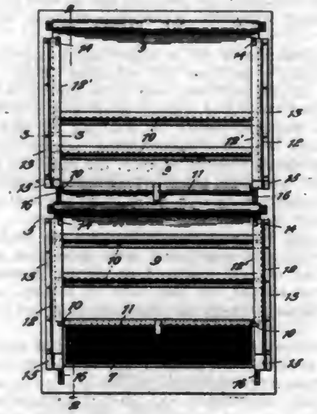


4. A tin plate catching machine having feed rollers in its base and carrying rolls above the same, in combination with speed varying mechanism adapted to vary the speed of said rolls.

5. The combination of the base and the frame thereon and the plate catching rolls mounted on said frame, speed varying mechanism for said catching rolls and a separate frame in which the same are mounted upon said base, and means to operatively connect and disconnect said speed varying mechanism with said plate catching rolls.

[Claims 6 to 16 not printed in the Gazette.]

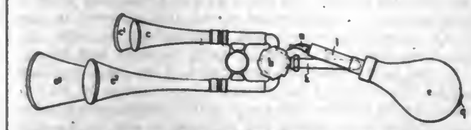
970,135. STORM-CURTAIN. ISAAC L. TAYLOR, Goltry, Okla. Filed Mar. 9, 1910. Serial No. 548,243.



1. An attachment of the character described comprising a roller curtain adapted to be arranged upon a screen door, an angular guide rail secured to each side of said door and spaced therefrom, a plurality of rods carried by said curtain to weight the same, guide rods secured to the lower ends of the curtain having their ends disposed upon the opposite faces of the guide rails, and a stop upon the upper end of each of the guide rails adapted to be engaged by one of said rods, substantially as and for the purpose set forth.

2. An attachment of the character described comprising a roller curtain adapted to be arranged upon a screen door, a guide rail angular in cross section secured to each side of said door, the inwardly extending flanges of the rails being spaced therefrom, a downwardly extending hook formed upon the upper end of the rails, a hook secured to the door below each of the rails, a rod secured in the end of the curtain and adapted to engage beneath the guide rails, a longitudinally extending strip of fabric looped upon itself and secured to the lower end of the curtain, a rod arranged in said loop extending beyond the ends thereof, the ends of said rod engaging with the outer faces of the rails, said rod being adapted to engage the hooks secured beneath the guide rails to hold the curtain in its lowered position, the hooks on the upper ends of said guide rails engaging the rod to retain the edges of the curtain beneath said guide rails, substantially as and for the purpose set forth.

970,136. HORN. ETIENNE TESTE, Paris, France. Filed Dec. 2, 1908. Serial No. 465,661.



1. A horn, comprising a plurality of trumpets, a cylinder with which the trumpets are connected, a movably mounted distributer in the cylinder, an air forcing device connected with the cylinder, and means for intermittently operating the distributer from the air forcing device and simultaneously therewith admitting air from the said air forcing device to the cylinder.

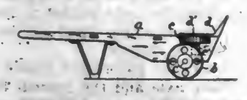
2. A horn, comprising a plurality of trumpets, a cylinder with which the trumpets are connected, a revoluble distributer in the cylinder, an air forcing device connected with the cylinder, and means for intermittently operating the distributer from the air forcing device, said means controlling the admission of air from the air forcing device to the said cylinder.

3. A horn, comprising a plurality of trumpets, a cylinder with which the trumpets are connected, a hollow perforated distributer revolubly mounted in the cylinder, an air bulb, a connection between the air bulb and the cylinder, a piston operated by the air bulb and controlling the connection between the bulb and cylinder, and means for operating the distributer from the piston.

4. A horn, comprising a plurality of trumpets, a cylinder with which the trumpets are connected, a distributer revolubly mounted in the cylinder, a ratchet wheel on one end of the distributer, an air bulb provided with a tube projecting therefrom, a connection between the tube and cylinder, a spring pressed piston in the tube and controlling the connection between the tube and cylinder, and a pawl carried by the piston and adapted to engage the ratchet wheel of the cylinder.

5. A horn, comprising a plurality of trumpets, a cylinder to which the trumpets are secured, a hollow perforated distributer revolubly mounted in the cylinder, a ratchet wheel on one end of the cylinder, an air bulb provided with a tube projecting therefrom, a pipe connecting the tube with the cylinder, a hollow spring pressed piston in the tube and controlling the communication from the tube to the pipe, and a spring pressed pawl carried by the piston and adapted to engage the ratchet wheel of the cylinder.

970,137. HAND-TRUCK. FRANK E. THOMES, Portland, Me. Filed Oct. 18, 1909. Serial No. 523,187.



1. The herein described hand truck of the class specified having a pair of supporting wheels at its forward end and a pair of operating handles at its rear end and having an auxiliary rolling member on its side and adjacent to the forward end positioned to support the forward end of the truck when tipped up on its side.

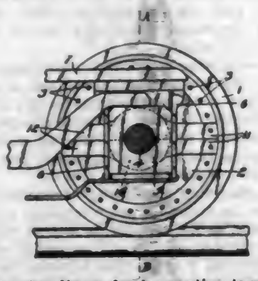
2. The herein described hand truck of the class specified having a pair of supporting wheels at its forward end and a pair of operating handles at its rear end and having an auxiliary wheel journaled at the side and adjacent to one of the supporting wheels and positioned to support the forward end of the truck when the same is tipped up on one side.

3. The herein described hand truck of the class specified, having a pair of supporting wheels on its forward end and a pair of operating handles on its rear end and having an auxiliary wheel journaled at the side and adjacent to one of the supporting wheels with a substantially vertical axis for supporting the forward end of the truck when tipped up on its side.

4. The herein described hand truck of the class specified having two side bars one of which has a recess in its top edge near its forward end and a pair of supporting wheels, an auxiliary wheel journaled above and adjacent to one of the supporting wheels and substantially at right angles thereto and extending laterally through said recess.

5. The herein described hand truck of the class specified having two side bars one of which has a recess in its top edge near its forward end and a pair of supporting wheels, an auxiliary wheel above and adjacent to one of the supporting wheels and substantially at right angles thereto, a bracket beneath said auxiliary wheel, a supporting plate secured to the top of the side bar and covering said recess and a pivoting pin passing through said plate, auxiliary wheel and bracket to journal said wheel in place.

970,138. SIDE-PLAY LINER FOR LOCOMOTIVE-TRUCKS. WILLIAM H. THOMS and HORACE WALTER DUMMER, Carleton Place, Ontario, Canada. Filed May 7, 1910. Serial No. 559,985.



1. In side play liners for locomotive trucks, the combination with the wheel, axle and the journal box through which said axle extends, of a plate of metal split centrally and having a central axle orifice therethrough and arms rigid with said plate of metal and extending laterally therefrom and securely bolted to said wheel.

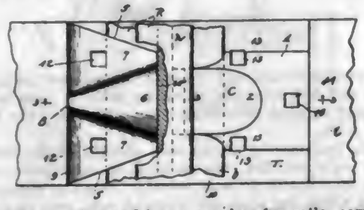
2. In side play liners for locomotive trucks, the combination with the wheel, axle and the journal box through which said axle extends, of a plate of metal split centrally and having the axle orifice therethrough, and arms rigidly secured to the halves of said plate of metal respectively and formed in the central portion into a corresponding axle orifice and securely bolted to said wheels.

3. In side play liners for locomotive trucks, the combination with the wheel, axle and the journal box through which said axle extends, of a metal disk split centrally having its halves form an axle orifice therethrough and a plurality of arms extending from a central split body portion, the latter being securely welded to the halves of said disk and the former being rigidly secured to said wheel adjacent to the rim thereof.

4. In side play liners for locomotive trucks, the combination with the wheel, axle and the journal box through which said axle extends, of a metal disk split centrally and having its halves form an axle orifice, and a pair of arms centrally forming a corresponding axle orifice and rigidly secured to said disk halves respectively and having a tongue and groove formation respectively on their inner sides and at their outer end bolt holes and bolts rigidly securing said arms to said wheel adjacent to the rim thereof.

970,139. RAIL-SUPPORTING MECHANISM. ROBERT D. TOWNSEND, Chicago, Ill. Filed Apr. 30, 1910. Serial No. 558,559.

1. In combination, a rail, a supporting member for the rail comprising a flat base part engaging under the rail and a bent over end part forming a pocket for receiving one flange of the rail, said bent over end part being deflected outwardly along a median area to form a strengthening arch, the end of said bent over part and the arch formed therein abutting against the web of the rail, registering spike holes through the bent over end and base part, a bed for said rail and supporting member, and spikes driven through said spike holes for drawing said bent over end toward the base part to clamp the rail flange between said bent over end and base part and to clamp the end of said bent over part and the arch therein firmly against the rail web.



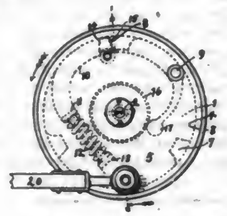
2. A supporting and brace member for rails, comprising a flat base part for engaging under the rail flange, and a bent-over end part forming an acute angle with the base part and separated throughout its length from said base part to form a V-shaped pocket for receiving the rail flange, said bent-over part being deflected outwardly along a median area to form a strengthening arch, there being registering spike openings through the bent-over part and the base part adjacent the junction line of said parts and communicating with the inner end of said V-shaped pocket.

3. In combination, a rail, a supporting member for the rail, comprising a flat base part engaging under the rail flange, and an end part bent over to be parallel with and to rest against the top of the rail flange and to form with said base a V-shaped pocket for receiving the flange, the depth of said V-shaped pocket being greater than the width of the flange received thereby, the bent-over end being deflected outwardly along a longitudinal median line to form a strengthening arch, there being registering spike holes through the bent-over end and the base, a tie for supporting the rail and supporting member, and spikes driven through said registering spike holes and through the inner end of said V-shaped pocket for drawing the bent-over end toward the base part to thereby securely clamp the flange between the bent-over end and the base part.

4. In combination, a supporting bed, a rail supporting and brace member comprising a flat base part engaging said supporting bed and an end section bent along a transverse line and toward said base part to be parallel with the top of the flange of a rail to be supported to form a V-shaped pocket for receiving the rail flange, a rail mounted on said base part with a flange extending a distance into said V-shaped pocket and with its web abutting against said bent-over end, said bent-over end being deflected outwardly along a median longitudinal area to form a strengthening arch, there being registering spike holes through the bent-over end and said base part, the inner faces of said spike holes being in line with the edge of the flange extending into said V-shaped pocket, and spikes driven through said spike holes and through the inner end of said pocket for drawing said bent-over end against said base part to securely clamp the rail flange between said bent-over end and base part.

970,140. PITMAN-WHEEL FOR REAPING AND MOWING MACHINES. HENRY O. TROWBRIDGE, Millerton, Pa. Filed Mar. 13, 1909. Serial No. 483,337.

1. In a reaper or mowing machine, in combination, a rotary pitman shaft, a wheel member on the shaft positively rotated thereby, a secondary wheel member loosely journaled on the pitman shaft, a cutter bar, a pitman connecting the cutter bar to the loosely journaled wheel, means for interlocking the two wheel members to drive the cutter bar, and means whereby the resistance from the cutter bar when obstructed will disengage the two wheel members.

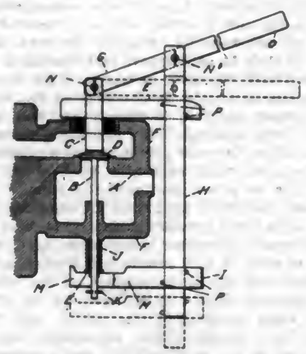


2. In a reaper or mowing machine, in combination, a rotary crank shaft, a wheel fixed on the shaft composed of driving and driven members, the driven wheel member having a spring actuated lever and crank-pin attached to it, a cutter bar with means for connecting it to the crank-pin, a shoulder provided on the lever, having an inclined face, and a shoulder provided on the driving wheel, for slip engagement with the shoulder of the lever.

3. In a reaper or mowing machine, the combination with the cutter bar and pitman shaft, of a wheel composed of driving and driven members having a chambered space between them, a bell fixed on the shaft within the chamber, a spring actuated lever with hammer for ringing the bell, and means for engaging the lever to drive the cutter bar through the medium of the driven wheel member.

4. In a reaper or mowing machine, the combination with the cutter bar and crank wheel shaft, of a wheel composed of a driving wheel case and an inner disk having a chambered space between them, a bell fixed on the shaft within the chamber, a spring actuated lever with bell hammer carried by the disk and fixed to ring the bell and to engage with the outer wheel case, and a locking bolt arranged to project into the chamber to engage the lever and lock it whenever its permanent engagement for rotation with the crank wheel and shaft is desired.

970,141. VALVE-SPRING REMOVER. JOHN TURNER, Colorado Springs, Colo. Filed Apr. 5, 1909. Serial No. 488,121.



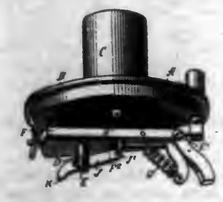
1. In a valve spring remover, the remover bar H, connecting the valve spring compressor arm J, having two prong ends M, M, with the valve arm E, the hand lever G, pivoted at the top of remover bar H, by means of bolt N', and having pivoted at one end by means of bolt N, the valve compressor C, substantially as set forth and for the purposes specified.

2. In a valve spring remover, the remover bar H, having adjustably attached by means of locking pins near its lower end, the forked compressor arm I, having the two prong ends M, M, suitable to engage the under side of the valve spring cap L, and having near its upper end, the single bar E, projecting from its side or edge and parallel with the compressor arm I, and adjustably clamped by means of locking pins P, to the opposite edges of the said remover bar H, the hand lever G, pivoted near its middle near the top of the remover bar H, by means of bolt N', and having pivoted to its short end by means of bolt N, the double bar, forming the valve compressor C, all substantially as set forth and for the purposes specified.

3. In a valve spring remover, the combination of a flat metal bar H, bent upon itself so that the two parts extend parallel to each other leaving room between to insert, edgewise, a flat bar, a flat metal bar E, inserted between the two parts of said bar H, and having locking pins P, near each of its edges provided to engage the opposite edges of the bar H, a flat metal bar I, folded upon itself so that its parts are parallel to each other and separated so as to inclose said bar H, and formed appropriate to engage near its connected end, the lower part of said arm H, and being provided with locking pins P, near its edges adapted to engage the opposite edges of said bar H, and having at its open or forked end two prongs M, M, arranged appropriately to allow the valve stem E, to pass between them and yet close enough together to engage the under side of the valve spring cap L, said bars E, and I, being provided to slide longitudinally on said bar H, and lock thereon, a hand lever O pivoted near the top end of bar H, at N', a compressor bar C, parallel with bar H, and pivoted at its top end at N to the end G, of the hand lever O, all substantially as set forth and for the purposes specified.

4. In a tool of the class described, a bar H, consisting of two thin flat bars of metal, their flat sides rigidly attached together at one end and extending parallel to each other, an arm I, composed of two thin flat bars of metal, their flat sides rigidly attached together at one end and extending parallel to each other and having the other end open forming two prongs M, M, and having two locking pins P, at the attached end, a compressor post C, composed of two thin flat bars of metal, their flat sides rigidly attached together at their lower end and extending parallel to each other and pivoted at their forked or top end to the end of a hand lever G, said hand lever G, consisting of one flat bar of iron passing between the forked top ends of said compressor post C, and between the forked top ends of the said bar H, and being pivoted to both by means of the bolts N, and N', an arm E, composed of a flat bar of iron of about the same dimension in width and thickness as said lever G, and adapted to pass between the plates or bars of said compressor post C, and between the plates or bars of said bar H, and having locking pins P, one near each edge adapted to engage the opposite edges of said remover bar H, and to lock thereon, and extending at right angles to said bar H, and parallel with said arm I, all substantially as set forth and for the purposes specified.

970,142. PHONOGRAPH-REPRODUCER. ANTHONY URBAHNS, Minden, Iowa. Filed Mar. 17, 1910. Serial No. 549,837.



1. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess notched at different distances from its end, a fulcrum pin extending through said recess and adapted to become seated in said notches, and a spring

carried by the lever and engaging the fulcrum pin on the side opposite said notches.

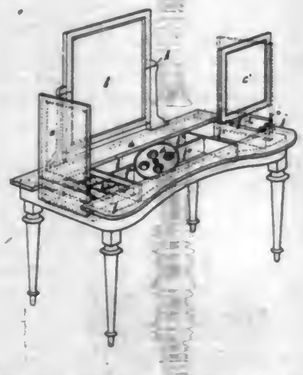
2. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess notched at different distances from its end, and with a longitudinal recess intersecting said transverse recess, a fulcrum pin extending through said transverse recess and adapted to become seated in said notches, and a spring carried by the lever and extending lengthwise of the lever within its longitudinal recess, said spring engaging the fulcrum pin on the side opposite to said notches.

3. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess notched at different distance from its end, a fulcrum pin extending through said recess and adapted to become seated in said notches, and elastic means for holding the fulcrum pin in any one of said notches.

4. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess notched at different distances from its end, and provided with a bevel faced projection between adjacent notches, a fulcrum pin extending through said recess and adapted to become seated in said notches, and elastic means for holding the fulcrum pins in any one of said notches.

5. A reproducer for talking machines, provided with a vibrating diaphragm, a reproducing lever operatively connected with the diaphragm and adapted to engage the sound record, said lever being provided with an elongated transverse recess, a fulcrum pin extending through said recess, and elastic means for pressing said pin against one of the walls of the recess and preventing accidental longitudinal movement of the lever.

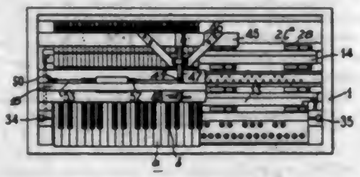
970,143. TOILET AND DRESSING TABLE. GEORGE M. UTTERBACK, Seattle, Wash., assignor to Utterback Manufacturing Company, Seattle, Wash., a Corporation of Washington. Filed Sept. 21, 1908. Serial No. 453,984.



1. A toilet or dressing table, formed with an interior compartment, and with swinging top leaves or sections hinged at the sides and adapted when in horizontal position to close such compartment and when elevated to reveal such compartment, said leaves provided with mirrors which are exposed in operative position when the said leaves are elevated to vertical position, and means for holding such leaves in vertical position, and an upright mirror at the rear of the table which is between the mirrors carried by said leaves when the latter are elevated.

2. A toilet or dressing table, formed with an interior compartment, and with swinging top leaves or sections hinged at the sides and adapted when in horizontal position to close such compartment and when elevated to reveal such compartment, said leaves each formed in two parts one of which is hinged to the table frame to be swung up or down, the other of which is pivoted to the first part and is provided on one surface with a mirror and means for holding such leaves in vertical position, and an upright mirror at the rear of the table which is between the mirrors carried by said leaves when the latter are elevated.

970,144. EXERCISING-KEYBOARD FOR MUSICIANS. ALMON K. VIRGIL, New York, N. Y. Filed Oct. 20, 1908. Serial No. 458,603.



1. In an exercising apparatus, in combination with a series of keys, a click producing device consisting of a spur operatively mounted on each key, a click rail extending below the keys and mounted to move in a channel, said click rail bearing a metal bar coöperating with the spurs of the keys, springs for holding said click rail in its groove and means for raising and lowering said rail.

2. In an exercising apparatus in combination with a series of keys each bearing one member of a click device, a click rail extending below the keys and mounted to slide in a groove, said click bearing a hard plate to cooperate with the click members of the keys, a series of cam openings formed in the body of the click rail, a series of cams located in the grooves and coöperating with the cam openings and a series of springs arranged on opposite sides of the rail groove and operatively connected with the click rail to hold the latter within the groove with the cams and cam openings in contact.

3. In an exercising apparatus in combination with a series of keys, each provided with one member of a click device, a groove extending beneath the keys, a click rail mounted to slide in said groove and bearing a click plate coöperating with the click members of the keys, a series of cam openings formed in the body of the click rail, a series of cams mounted in the groove and coöperating with said cam openings, pins extending from the click rail adjacent to the cam openings and a series of spring bars coöperating with said pins to hold the click rail firmly within its groove and upon the cams.

4. In an exercising apparatus in combination with a series of keys, each provided with one member of a click device, a groove extending beneath the keys, a click rail mounted to slide in said groove and bearing a click plate coöperating with the click members of the keys, a series of cam openings formed in the body of the click rail, a series of cams mounted in the groove and coöperating with said cam openings, pins extending from the click rail adjacent to the cam openings and a series of spring bars coöperating with said pins to hold the click rail firmly within its groove and upon the cams, a portion of said springs extending in one direction over the pins and a portion extending in the opposite direction.

5. In an exercising apparatus, a balance rail, a series of keys mounted to rock thereon, each key provided with a curved shoulder, and a series of springs mounted above said keys and provided with curved ends bearing against said shoulders where by said keys are under uniform pressure of the springs in all positions of movement.

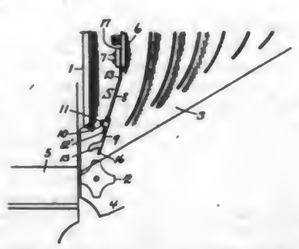
[Claim 6 not printed in the Gazette.]

970,145. METHOD OF MAKING FORMIC ACID. WILLIAM H. WALKER, Boston, Mass. Filed Apr. 28, 1908. Serial No. 429,710.

1. The method of making formic acid from formates, which consists in reacting upon a formate with sulfuric acid in less than the molecular equivalent and in proportion to form a relatively mobile mass, adding to the resulting mass further quantities of formate and sulfuric acid in proportion to maintain the proper degree of fluidity while controlling the temperature, then adding the sulfuric acid requisite for completing the reaction, and recovering the formic acid by distillation.

2. The method of making formic acid from formates, which consists in reacting upon a formate with approximately one-half the molecular equivalent of sulfuric acid, adding to the resulting mass further quantities of formate and sulfuric acid in proportion to maintain the proper degree of fluidity while controlling the temperature, then adding the sulfuric acid requisite for completing the reaction, and recovering the formic acid by distillation.

970,146. CHUTE-SPRING FOR LINOTYPE-MACHINES. GUSTAF E. WALLIN, Kansas City, Mo., assignor to Inland Manufacturing Company, Kansas City, Mo., a Corporation of Missouri. Filed Jan. 3, 1910. Serial No. 536,149.

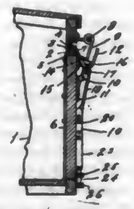


1. The combination, in a linotype chute for feeding matrices to an assembler of a chute spring constructed in two parts, said parts being connected by a transverse hinge; and a spring to resist the movement of one of the parts in one direction.

2. The combination, in a linotype chute for feeding matrices to an assembler of a chute spring comprising a fixed part adapted to be secured to a bracket, a movable part hinged to the fixed part, and a spring to restore the movable part to initial position.

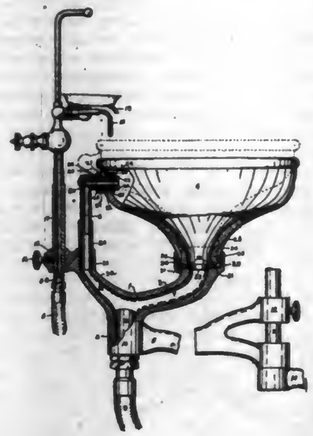
3. The combination, in a linotype chute for feeding matrices to an assembler, of a chute spring comprising a fixed part adapted to be secured to a bracket, a movable part hinged to the fixed part and provided with lateral lugs adapted to engage a matrix, and a spring to restore said movable part to initial position.

970,147. CAR-DOOR. FRANK WARD and JOSEPH C. HOLLINGSWORTH, Dallas, Tex. Filed Oct. 28, 1909. Serial No. 525,203.



A car having a doorway, a metallic casing fitting in the doorway and comprising an inwardly extending transverse portion closely engaging the transverse vertical sides of the doorway and a laterally extending channel portion embedded in the side of the car about the doorway, the bottom of the channel inclining inward from the edge of the doorway, a flush door somewhat smaller than the casing and adapted to swing therein, and a metallic frame embracing the door and fitting the casing and comprising a transverse portion engaging the ends and top of the door and a flange extending inward from the transverse portion and engaging in the channel of the casing and a flange extending oppositely to the channel engaging flange and lying flat against the rear side of the door, there being a space between the casing and the frame whereby the door may expand.

970,148. CUSPIDOR. HENRY E. WEBER, Canton, Ohio, assignor to The Weber Dental Manufacturing Company, Canton, Ohio, a Corporation of Ohio. Filed July 26, 1909. Serial No. 509,488.



1. A swinging bracket, a cuspidor bracket having a stem and two diverging branches, the stem being swiveled in the free end of the swinging bracket, a cuspidor bowl mounted on one branch and a supply pipe secured to and an outlet pipe connected with the other branch, there being waste and overflow channels in the branches and an outlet channel in the stem of the cuspidor bracket.

2. A swinging bracket, a cuspidor bracket having a stem and two diverging branches, the stem being swiveled in the free end of the swinging bracket, a cuspidor bowl mounted on one branch and an outlet pipe connected with the other branch, there being waste and overflow channels in the branches and an outlet channel in the stem of the cuspidor bracket.

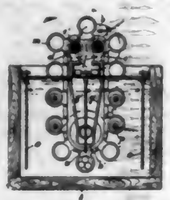
3. A swinging bracket, a cuspidor bracket having a stem and two diverging branches, the stem being swiveled in the free end of the swinging bracket, a cuspidor bowl mounted on one branch and a supply pipe secured to the other branch, there being a waste channel in the one branch of the cuspidor bracket.

4. A support, a bracket having an axial stem and two diverging branches, the stem being swiveled in the support, a cuspidor bowl mounted on one branch and a supply pipe secured to and an outlet pipe connected with the other branch, there being waste and overflow channels in the branches and an outlet channel in the stem of the cuspidor bracket.

5. A support, a bracket having an axial stem and two diverging branches, the stem being swiveled in the support, a cuspidor bowl mounted on one branch and an outlet pipe connected with the other branch, there being waste and overflow channels in the branches and an outlet channel in the stem of the cuspidor bracket.

[Claims 6 to 27 not printed in the Gazette.]

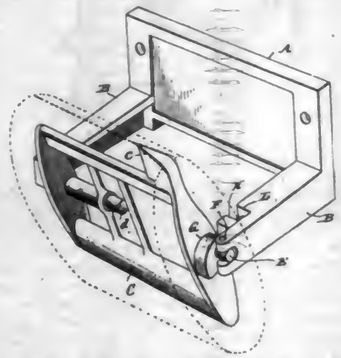
970,149. APPARATUS FOR GALVANIZING METAL TUBES, RODS, &c. FEDERICO WERTH, Milan, Italy. Filed Dec. 11, 1909. Serial No. 532,634.



1. In an electroplating apparatus, the combination of an electrolytic vat, a driving shaft, an endless carrier operated by the driving shaft, and rings attached to the endless carrier and supporting the objects to be electroplated.

2. In an electroplating apparatus, a vat, a driving shaft, a pair of gear wheels carried by the driving shaft, a pair of endless chains actuated by the gear wheels, rings attached to said chains, hollow tubes supported in said rings, anodes lying within the hollow tubes, in combination with an auxiliary chain actuated by the driven shaft and carrying the inner anodes at the same rate of speed as the hollow tubes.

970,150. TOILET-PAPER FIXTURE. HARRY J. WILLIAMS, Meriden, Conn., assignor to United States Envelope Company, Springfield, Mass., a Corporation of Maine. Filed Apr. 12, 1910. Serial No. 554,970.

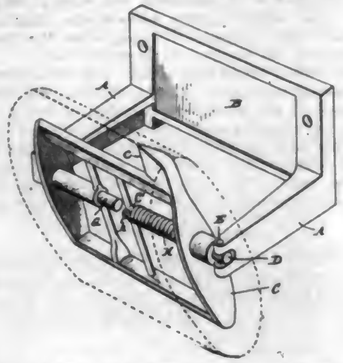


In a toilet paper fixture, the combination with the base, the supporting arms, one of which is provided with a socket and a pivot pin permanently hinged in the other of said arms, of a core inseparably pivoted on said pin, a sliding pivot pin mounted in the core in position to enter the socket, a cam projection on one end of the core, and a spring pressed plunger mounted in the supporting arm and having a head constantly engaging and coöperating with the cam, the relation of the cam and plunger being such that complete rotation of the core in prevented.

970,151. TOILET-PAPER FIXTURE. HARRY J. WILLIAMS, Meriden, Conn., assignor to United States Envelope Company, Springfield, Mass., a Corporation of Maine. Filed Apr. 12, 1910. Serial No. 554,971.

1. In a toilet paper fixture, the combination with the supporting arms, the core and a sliding pivot pin on the core adapted to detachably engage one supporting arm, of a pivot pin for the core permanently hinged in the other supporting arm to swing outwardly and a spring intermediate said last mentioned pivot pin, and core for resisting the rotation of the core on said pin and returning the core to normal position.

2. In a toilet paper fixture, the combination with the supporting arms, the core and a pivot pin detachably connecting the core and one supporting arm, of a pivot pin permanently hinged in the other supporting arm to swing outwardly and a spring intermediate the inner end of the hinged pivot pin and core, said spring being located within the core and adapted to resist rotation of and return the core to normal position.



3. In a toilet paper fixture the combination with the supporting arms, the core and a pivot pin connecting the core and one supporting arm, of a pivot pin held against rotation in the other supporting arm and projecting into the core, a coil spring connected at one end with the inner end of the last mentioned pivot pin and at the opposite end connected with the core for resisting rotation of the core and returning the same to normal position.

4. In a toilet paper fixture, the combination with the supporting arms, the core and a pivot pin connecting the core and one supporting arm, of a pivot pin held against rotation in the other supporting arm and projecting into the core, a spring intermediate the last mentioned pivot pin and core for resisting rotation of and returning the core to normal position and coöperating stop shoulders for preventing complete rotation of the core.

5. In a toilet paper fixture, the combination with the supporting arms, the core and a pivot pin connecting the core and one supporting arm, of a pivot pin held against rotation in the other supporting arm and extending into the core, a spring intermediate the last mentioned pivot pin and core for resisting rotation of and returning the core to normal position, a stop projection on said pin and a coöperating stop projection on the core for preventing complete rotation of the core.

970,152. METHOD OF OPERATING COMBUSTION-ENGINES. PAUL WINAND, Cologne, Germany. Filed Aug. 3, 1905. Serial No. 272,621.

1. The method of effecting combustion in combustion engines under conditions which exclude supplying air directly from the atmosphere to the engine, as, for instance, in submarine boats, torpedoes, and the like, which consists in effecting the combustion of the motive fluid by means of nitric dioxid (NO_2) as the oxygen bearer, and making up for the deficiency of the released nitrogen to moderate the otherwise destructive heat of combustion, by supplying to the charge a compensating heat-absorbing diluent; substantially as described.

2. The method of effecting combustion in combustion engines under conditions which exclude supplying air directly from the atmosphere to the engine, as, for instance, in submarine boats, torpedoes, and the like, which consists in effecting the combustion of the motive fluid by means of nitric dioxid (NO_2) as the oxygen bearer, and making up for the deficiency of the released nitrogen to moderate the otherwise destructive heat of combustion, by supplying to the charge a compensating heat-absorbing diluent, the combustion taking place only within the engine itself, thereby avoiding back-firing; substantially as described.

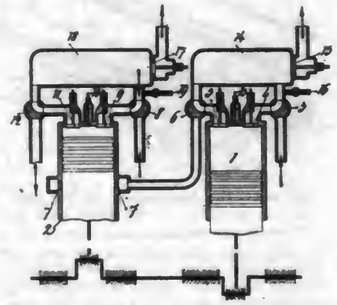
3. The method of effecting combustion in combustion engines under conditions which exclude supplying air directly from the atmosphere to the engine, as, for instance, in submarine boats, torpedoes, and the like, which consists in effecting the combustion of the motive fuel by means of nitric di-oxid (NO_2) as the oxygen bearer, together with a heat-absorbing diluent consisting of a fluid whose vapors are decomposed at the temperature of combustion; substantially as described.

4. The method of effecting combustion in combustion engines under conditions which exclude supplying air directly from the atmosphere to the engine, as, for instance, in submarine boats, torpedoes and the like, which consists in effecting the combustion of the motive fuel by means of nitric dioxid (NO_2) as the oxygen bearer, together with ammonia; substantially as described.

5. The method of effecting combustion in combustion engines under conditions which exclude supplying air directly from the atmosphere to the engine, as, for instance, in submarine boats, torpedoes, and the like, which consists in preliminarily admixing the fuel with a supply of nitric di-oxid (NO_2) so as to make up a storage quantity thereof, of a composition such that ignition at the place of combustion will not propagate itself into the body contained in the storage receptacle, and subsequently effecting the combustion of the fuel by the nitric di-oxid as oxygen bearer; substantially as described.

[Claim 6 not printed in the Gazette.]

970,153. COMBUSTION-ENGINE PLANT FOR SUBMARINE CRAFT. PAUL WINAND, Cologne, Germany. Filed Nov. 9, 1906. Serial No. 342,757.



1. A combustion engine plant for submarine craft, comprising a multiple cylinder combustion engine, a pressure receptacle for storing under pressure an artificial oxygenating element, connections for establishing and cutting off the supply of such artificial oxygenating element to the explosive charge, and connections for admitting atmospheric air to one of the multiple cylinders and for pumping it therefrom into the charge of the other cylinder; substantially as described.

2. A combustion engine plant for submarine craft, comprising a multiple combustion engine, a pressure receptacle for storing under pressure an oxygenating element, connections for supplying the explosive charge to one of the cylinders at a pressure of the charge before compression equal or nearly equal to that of the atmosphere and for cutting off the supply to the other cylinder so that the engine may operate at reduced power (as, for instance, at cruising speed), and connections for supplying air to the second cylinder, when a greater amount of power is desired and pumping air therefrom into the explosive charge of the first cylinder at a pressure of the charge before compression greater than that of the atmosphere; substantially as described.

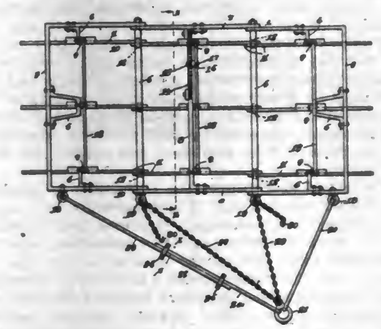
3. A combustion engine plant for submarine craft, comprising a multiple cylinder combustion engine, connections for supplying fuel to the several cylinders thereof, connections for supplying atmospheric air to said cylinders, conections for supplying under pressure an artificial oxygenating element thereto, a connection between individual cylinders, and cut-offs for all of said connections; whereby the several cylinders may all operate conjointly as exlosion cylinders either with air or with the artificial oxygenating element as the oxidizer for the fuel, and whereby, when operating with air any individual cylinder may serve as an air pump to convey air under compression into the explosion chamber of any other cylinder; substantially as described.

970,154. METHOD OF CONTROLLING COMBUSTION-ENGINES. PAUL WINAND, Cologne, Germany. Filed Mar. 8, 1907. Serial No. 361,223.

1. The method of actuating combustion engines for submarine boats and the like, in which the oxidizing element of the combustion charge is an oxygen vehicle having a greater oxidizing capacity than air, which consists in introducing into the working cylinder of the engine a given quantity of the combustible element and likewise introducing into said working cylinder a quantity of the oxygen vehicle in amount less than that necessary to unite with all of the combustible element present, and thereupon effecting the combustion of the charge in said working cylinder, whereby, for said combustion charge of the working cylinder the oxygen of the oxygen vehicle is completely utilized and a surplus of unconsumed combustible remains as a diluent.

2. The method of actuating combustion engines for submarine boats and the like, in which the oxidizing element of the combustion charge is an oxygen vehicle having a greater oxidizing capacity than air, which consists in introducing into the working cylinder of the engine a given quantity of the combustible element and likewise introducing into said working cylinder a quantity of the oxygen vehicle in amount less than that necessary to unite with all of the combustible element present, and thereupon effecting the combustion of the charge in said working cylinder, whereby, for said combustion charge of the working cylinder the oxygen of the oxygen vehicle is completely utilized and a surplus of unconsumed combustible remains as a diluent, and further diluting the charge with a separate third constituent.

970,155. DRAG. JOHN E. WRIGHT, Chicago, Ill. Filed Dec. 29, 1909. Serial No. 535,487.



1. A device of the class described comprising a sectional body frame, sectional scraper blades arranged beneath said frame, rocker arms connecting said frame and said blades, means for adjusting the angular disposition of said blades relative to said frame, and adjusting draft bars connected to said frame, substantially as described.

2. A device of the class described comprising a sectional body frame, sectional scraper blades arranged under said frame, rocker arms connecting said frame and said blades, and means connected with said arms for adjusting the

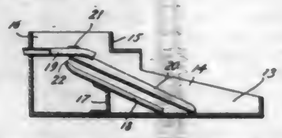
angular disposition of said blades relative to said frame, substantially as described.

3. A device of the class described comprising a sectional body frame, sectional scraper blades arranged below said frame, rocker arms pivoted to said frame and rigidly connected to said blades, means connected with said arms for adjusting the angular disposition of said blades relative to said frame, and adjustable draft members connected to said frame, substantially as described.

4. A device of the class described comprising a sectional body frame, sectional scraper blades arranged below said frame, rocker arms pivoted to said frame and rigidly connected at their lower ends to said blades, a lever mounted upon said frame and operatively connected with the upper ends of said arms for adjusting the angular disposition of said blades relative to said frame, and longitudinally adjustable draft members loosely connected to said frame, substantially as described.

5. A device of the class described comprising a body frame, said frame being comprised of a plurality of loosely pivoted sections, scraper blades arranged below said frame, each of said blades being comprised of a plurality of loosely pivoted sections adapted to move freely with the sections of said frame, rocker arms pivoted to said frame and connected at their lower ends to said blades, bars connecting the upper ends of longitudinally alining of said arms, a lever mounted upon said frame and operatively connected with said connecting bars for adjusting the angular disposition of said blade relative to said frame, and a plurality of adjustable draft members connected at their rearward extremities to said frame and at their forward extremities to a common eyelet or link whereby, when said frame is drawn through the medium of said draft members, the same will be obliquely disposed relative to the line of travel thereof, substantially as described.

970,156. OIL-BURNER. MOLLIE J. WRIGHT and WILLIAM L. WRIGHT, Dunlap, Kans. Filed Mar. 1, 1910. Serial No. 546,727.

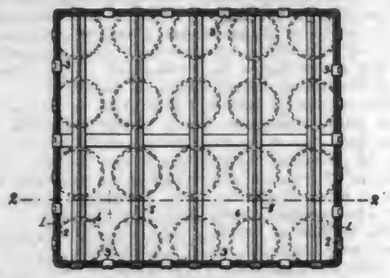


1. The herein described burner comprising in combination a burner pan adapted to rest normally in a stove, a flue compartment connected therewith and projected from said stove, a vertical partition separating said flue compartment from said burner pan, a supply pipe extending to said flue compartment, a burner pipe connected to said supply pipe and extending partially through said flue compartment, a trough slidably mounted on said burner pipe, adapted to conduct hydrocarbon liquid to said burner pan, and means supported by said partition adapted to catch the overflow from said stove and conduct the same to the burner pan.

2. The herein described burner comprising in combination a burner pan adapted to rest normally in a stove, a flue compartment connected therewith and projected from said stove, a vertical partition separating said flue compartment from said burner pan, a supply pipe extending to said flue compartment, a burner pipe connected to said supply pipe and extending partially through said flue compartment, a trough slidably mounted on said burner pipe, adapted to conduct hydrocarbon liquid to said burner pan, and a plate supported by said partition adapted to catch all overflow from said trough and conduct the same to the burner pan.

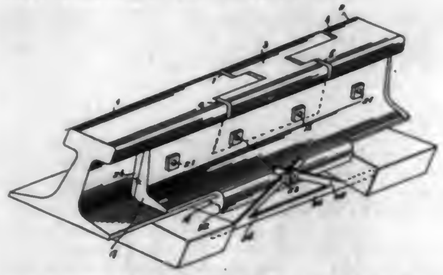
970,157. BORDER-WIRE REINFORCEMENT FOR SPRING-SEAT STRUCTURES. LEONARD A. YOUNG, Detroit, Mich. Filed June 17, 1909. Serial No. 502,758.

1. In a spring seat structure, a base, border springs mounted upon the base, a resilient border wire embracing the tops of said springs, clips connecting the upper ends of said springs to said border wire, a resilient reinforcement for the border wire conforming to and lying within the plane thereof, and clips connecting said reinforcement directly to said border wire.



2. A spring seat structure comprising border springs, a resilient border wire embracing said springs at the top, a second resilient border wire conforming to and reinforcing said first-mentioned border wire, clips connecting said border wires together, and clips connecting said joined border wires to the tops of said border springs.

970,158. RAIL-JOINT. POWELL O. ADAMS, Cameron, Tex. Filed Dec. 5, 1908. Serial No. 466,087.

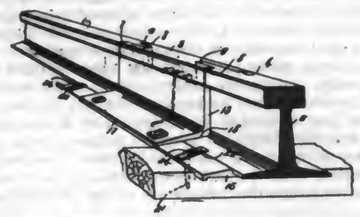


1. In a rail joint, the combination of the ends of abutting rails having portions of the balls and portions of the webs cut away, the portions of the balls on the same side of said rails being cut longer on one rail than on the other, a union block filling the spaces of the cut away portions of said rails and having downwardly projecting flanges engaging the webs of said rails, fish-plates engaging said union block and the base flanges of said rails and having lips projecting under said base flanges, and bolts clamping said fish-plates and union block on said rails.

2. In a rail joint, the combination of the ends of abutting rails having portions thereof cut away, a union block filling the spaces of the cut away portions of said rails, fish-plates secured to said union block and said rails and having downwardly projecting flanges engaging the bases of said rails, a bolt clamping said flanges on the bases of said rails, cross-ties, and binders engaging said cross ties and said bolt.

3. In a rail joint, the combination of the ends of abutting rails having portions thereof cut away, a union block filling the spaces of the cut away portions of said rails and having flanges engaging the webs of said rails, fish-plates secured on said union block and on said rails and having downwardly projecting flanges engaging the bases of said rails, bolts binding said fish-plates on said union block and rails, nuts for said bolts, and means for preventing the removal of said nuts consisting of a perforated block of wood and a sheet of spring steel bent about said wood and perforated for each bolt and having a tongue struck therefrom for engaging said nut, said nut having recesses on the inner side for said tongue.

970,159. RAIL-JOINT. POWELL ORGAIN ADAMS, Cameron, Tex. Filed July 9, 1909. Serial No. 506,746.



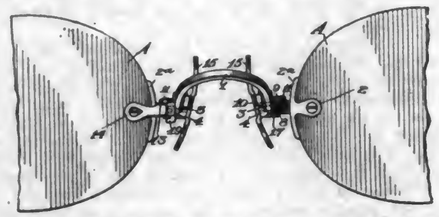
1. The combination of the abutting ends of railway rails, a joint block, and a bed plate, said joint block having a ball intercepting the balls of said rails and having a longitudinal groove therein to receive the webs of said rails and having a recess intermediate the ends of said groove and said webs having lugs occupying said recess.

2. In a rail joint, the combination of the ends of abutting rails a joint block having a longitudinal groove in the underside thereof, and a bed plate secured to said joint block, said joint block having a ball intercepting the balls of the abutting rails along irregular lines and having a recess intermediate the ends of said groove and said rails having webs extending in said groove and lugs carried by said webs lying in said groove.

3. In a rail joint, the combination of the ends of abutting rails, a joint block having a longitudinal groove in the underside thereof and having a ball intercepting the balls of said rails at different vertical planes, and a bed plate binding said joint block to said rails, said abutting rails having webs occupying said groove and carrying locking lugs on the upper sides of the ends of the webs and said joint block having a recess to receive said lugs.

4. In a rail joint, the combination of the ends of abutting rails, a joint block having a longitudinal groove in the underside thereof and a recess intermediate the ends of said groove and having a ball intercepting the balls of said abutting rails at different vertical planes, a bed plate having a seat for the bases of said rails and vertical flanges on the edges thereof for bracing said joint block, said rails having webs occupying said groove and said webs carrying locking lugs occupying said recess, bolts binding said block to said base plate, and cleats binding said rails to said base plate.

970,160. EYEGLASS-MOUNTING. LEO F. ADT, Albany, N. Y. Filed Jan. 17, 1910. Serial No. 538,380.



1. In an eyeglass mounting, the combination with a lens attaching device and a bridging portion; of means for connecting them comprising a seat on one of said parts having its greatest dimension extending in a direction transverse to the length of the mounting, an attaching portion on the other part fitting said seat and a fastener for securing together the seat and the attaching portion having its longitudinal axis transverse to the length of the mounting; and a nose guard mounted to turn about an axis coincident with the longitudinal axis of the fastener.

2. In an eyeglass mounting, the combination with a lens attaching device and a bridging portion; of means connecting them comprising a horizontally arranged seat on one of said parts having its greatest dimension transverse to the plane of the lenses, an attaching portion on the other part coöperating with the seat and a fastener for securing together the seat and the attaching portion having its longitudinal axis transverse to the length of the mounting; and a nose guard mounted to turn about an axis coincident with the longitudinal axis of the fastener.

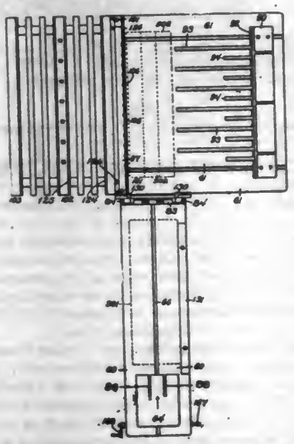
3. In an eyeglass mounting, the combination with a lens attaching device and a bridging portion; of means connecting them comprising a seat on one of said parts having its greatest dimension extending in a direction transverse to the length of the mounting, an attaching portion on the other part fitting said seat and a screw fastener extending transverse to the length of the mounting and having a shoulder for drawing said seat and attaching portion together and a bearing formed thereon; and a guard mounted to turn on said bearing.

4. In an eyeglass mounting, the combination with a bridging portion and a lens attaching device; of means connecting them comprising a horizontal seat on one of said parts having its greatest dimension extending transverse to the plane of the lens held by the attaching device, a horizontal attaching arm on the other part cooperating with the seat, a screw fastener having a shoulder for drawing said arm and seat together and provided with a projecting bearing; and a nose guard mounted to swing on the bearing and to one side of the support.

5. In an eyeglass mounting, the combination with a lens attaching device and a bridging portion; of means connecting them comprising a horizontally arranged box on one of said parts having its greatest dimension transverse to the length of the mounting, an attaching portion on the other fitting in the box and a screw fastener extending transversely to the length of the mounting, and having a shoulder for pressing said box and attaching portions together and also having a bearing projecting from one side of the box; and a nose guard mounted to turn on said bearing.

[Claims 6 to 15 not printed in the Gazette.]

970,161. MACHINE FOR CUTTING SOAP. CHARLES W. AIKEN, West New Brighton, N. Y., assignor to Houchin-Aiken Co., Brooklyn, N. Y., a Corporation of New York. Filed May 21, 1907. Serial No. 374,855.



1. A soap-cutting machine comprising a longitudinal table, a transverse table at one end of the first table, a cutting-head interposed at the junction of the tables, a transverse cutting-head at one end of the transverse table, a pusher adapted to transfer soap from the first table, through the interposed head to the transverse table, a pusher for pushing the deposited soap through the transverse head, an actuator for reciprocating the first pusher,

an actuator for reciprocating the transverse pusher, a driving member adapted to drive both actuators, manually-operative controlling means adapted to be moved back or forth from initial position to form driving connection for either one of said actuators and simultaneously disconnect the other; means actuated by the first actuator for reversing said controlling means, and means actuated by the transverse actuator for restoring the controlling means to initial position.

2. A soap-cutting machine comprising a table, a pair of parallel endless actuators, a pair of reciprocatory carriages, one adjacent each of said actuators, guides for said carriages extending parallel to the actuators, means for driving the actuators uniformly in one direction, means connecting each actuator to its adjacent carriage and adapted to move relatively to the carriage, whereby reciprocatory motion is imparted by said actuator to its carriage, and means supported by said carriages adapted to engage and move soap lying on said table.

3. A soap-cutting machine comprising a table, a cutter-head having adjustably spaced cutting wires, a pusher rail, means for supporting the rail and reciprocating the same laterally, a plurality of fingers carried by said rail and adapted to engage and move soap lying on said table, said fingers being individually movable along the rail, and means for fastening each of said fingers independently to the rail.

4. A soap-cutting machine having a cutting-head comprising a movable frame having an opening for the passage therethrough of soap, a plurality of cutting wires extending across said opening, and means on said frame for holding said wires at variably spaced intervals, said means being adapted to apply a variable tension to each wire, and having wire-engaging hooks in exposed positions.

5. A soap-cutting machine having a cutting-head comprising a frame, an opening in the frame for the passage therethrough of the soap, a series of fixed members supported by the frame on one side of said opening, a series of cutting-wires looped over said fixed members and their ends extending across said opening to the opposite side thereof, and a series of adjusting members mounted on the frame and connected to the ends of the wires and adapted to draw the wires tight and to be moved toward or from each other when not subjected to tension of the wires.

[Claims 6 to 14 not printed in the Gazette.]

970,162. SCREEN-FRAME. SAMUEL T. ASHBAUGH, Canton, Ohio, assignor of one-half to Homer H. Hill, Canton, Ohio. Filed July 3, 1909. Serial No. 505,910.



1. A screen frame including two channel sub-frames each made of sheet metal joined at the corners and having rectangular flanges provided with plain sheared edges, the flanges of one sub-frame being inserted between the flanges of the other sub-frame and adapted to clamp the screen fabric between corresponding flanges.

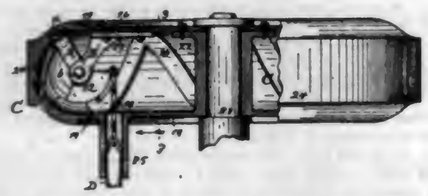
2. A screen frame including two channel sub-frames each made of sheet metal joined at the corners and having rectangular flanges provided with plain sheared edges, the flanges of one sub-frame being inserted between the flanges of the other sub-frame and adapted to clamp the screen fabric between corresponding flanges, with means for securing the sub-frames together.

3. A screen frame composed of two members each including sheet metal channel sub-frames, there being interengaging tongues formed by folding the sheet metal upon itself on the contiguous sides of the respective sub-frames, upon which tongues the members are adapted to slide.

4. A screen frame including an outer channel sub-frame having rectangular flanges, and an inner rectangular sub-frame inserted between the flanges of the outer sub-frame and adapted to clamp the screen fabric against the flanges, there being an inturned tongue on one outer end flange of the outer sub-frame adapted to engage the corresponding end of the inner sub-frame, and means for securing the other ends of the sub-frames together.

5. A screen frame including an outer channel sub-frame having rectangular flanges, and an inner rectangular sub-frame inserted between the flanges of the outer sub-frame and adapted to clamp the screen fabric against the flanges, there being an inturned tongue on one outer end flange of the outer sub-frame adapted to engage the corresponding end of the inner sub-frame, and a spring catch for securing the other ends of the sub-frames together.

970,163. MECHANICAL MOVEMENT. JAMES H. AUSLE, Cincinnati, Ohio, assignor of one-half to Harry A. Barrett, Cincinnati, Ohio. Filed July 21, 1909. Serial No. 508,712.



1. In a mechanical movement for converting rotary motion into reciprocating motion, the combination of a circular rim having on its inner side an annular groove with a transversely concaved bottom, said groove being provided in its bottom with a cam-way which is zig-zag shaped and extends alternately from one side of the groove to the other, an arm, one end of which extends into this cam-way and a pivot on which it is supported in the space surrounded by the rim and opposite the groove with the cam-way therein in a manner that when the rim is rotated with respect to this pivot, one rotation of it produces a number of oscillations of the arm.

2. In a mechanical movement for converting rotary motion into reciprocating motion, the combination of a circular rim having on its inner side an annular groove with a transversely concaved bottom, said groove being provided in its bottom with a cam-way which is zig-zag shaped and extends from one side of the groove to the other, a support on which the rim is mounted for rotation and an arm pivotally connected to this support and extending with one of its ends into the cam-way of the groove in the inner side of the rim whereby rotation of this latter causes said arm to oscillate.

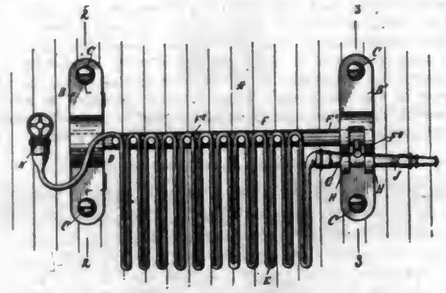
3. In a mechanical movement for converting rotary motion into reciprocating motion, the combination of a circular rim having on its inner side an annular groove with a transversely concaved bottom, said groove being provided in its bottom with a cam-way which is zig-zag shaped and extends from one side of the groove to the other, a support within the space surrounded by the rim on which it is supported for rotation and an arm pivotally connected to this support and extending with one of its ends into the cam-way of the groove in the inner side of the rim whereby rotation of this latter causes said arm to oscillate.

4. In a mechanical movement for converting rotary motion into reciprocating motion, the combination of a circular rim having on its inner side an annular groove with a transversely concaved bottom, said groove being provided in its bottom with a cam-way which is zig-zag-shaped and extends from one side of the groove to the other, a support on which the rim is mounted for rotation, an arm pivoted to this support and extending with one of its ends into the cam-way of the groove mentioned and a reciprocating member connected to the other end of this arm, the operation being so that rotation of the rim causes oscillation of the arm and linear movement of the reciprocating member on it, in a direction parallel to the axis of rotation of the rim.

5. In a mechanical movement for converting rotary motion into reciprocating motion, the combination of a circular rim having on its inner side an annular groove with a transversely concaved bottom, said groove being provided in its bottom with a cam-way which is zig-zag shaped and extends from one side of the groove to the other, a support for this rim within the space surrounded by it, a lever pivoted to this support and extending from its pivot in opposite direction, one end occupying the cam-way of the internal groove of the rim, a reciprocating member connected to the other end of this lever and means on the rim-support to guide the reciprocating-member to move parallel to the axis of rotation of the rim when this latter causes oscillation of the lever.

[Claim 6 not printed in the Gazette.]

970,164. HOSE-SUPPORT. JAMES EDWIN AUSTIN, Fresno, Cal. Filed Nov. 2, 1909. Serial No. 525,862.



1. In combination, a hose provided with a nozzle, a tiltable rack for normally supporting the said hose, a holder for the said nozzle, provided with a slot, and an arm on the said rack adapted to operate in the said slot and releasably engaging the said nozzle.

2. In combination, a hose provided with a nozzle at one end and having the other end thereof secured to a hydrant, a tiltable rack for normally supporting the said hose, a holder for the said nozzle, provided with a slot, and an arm on the said rack adapted to operate in the said slot and releasably engaging the said nozzle, the said rack being adapted to tilt when the said nozzle is disengaged from the said arm.

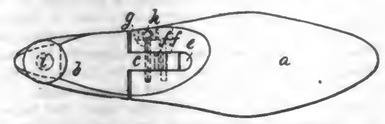
3. In combination, a hose provided with a nozzle at one end and having the other end thereof secured to a hydrant, a tiltable rack for normally supporting the said hose, mounted to tilt between two bearings, one of which constitutes a holder for the said nozzle, and having a slot therein, and an arm on the said rack releasably engaging the said nozzle, the said arm being adapted to operate in the said slot when the said nozzle is disengaged from the said arm.

4. In a hose support, a tiltable rack adapted to normally support a hose provided with a nozzle, a holder for the nozzle and provided with a slot, and an arm on the rack adapted to operate in the slot and releasably engaging the nozzle.

5. In a hose support, a tiltable rack mounted to tilt between two bearings and adapted to normally support a hose provided with a nozzle with one of the said bearings constituting a holder for the nozzle and having a slot therein, and an arm adapted to operate in the said slot when the nozzle is disengaged from the said arm.

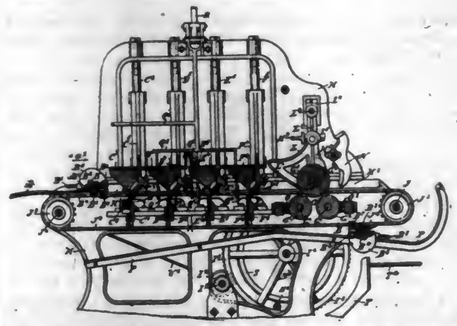
970,165. BOOT AND SHOE TREE. CHARLES A. BATCHELDER, Stoughton, Mass., assignor to O. A. Miller Treeing Machine Company, Portland, Me., and Brockton, Mass., a Corporation of Maine. Filed May 15, 1902. Serial No. 107,511.

A shoe tree comprising a forepart formed in one piece bifurcated at its rear end and shaped to conform to the forepart of a boot or shoe and provided with a plurality of transverse openings in its bifurcated portion, a heel part shaped to conform to the heel part of said boot or shoe provided with a rigid handle and having its forward end of the same width as the adjacent end of the forepart, a tongue rigid with the heel part and extending centrally therefrom into the bifurcated portion of the forepart, a distensible bifurcated pin formed to be inserted in the openings of the forepart and heel part to form a pivotal connection between said parts and to permit the tree



to be adjusted to different lengths of boots and shoes, the head of said pin being entirely received in a recess formed in the forepart of the last, said openings being arranged to permit the adjacent faces of said forepart and heel part to be in contact when the tree is adjusted to its shortest position whereby the sides of the tree in said position are smooth and uninterrupted, the distance between each perforation in the tongue and the next perforation in the series differing from the distance between the two perforations in the forepart of the tree, substantially as shown and described.

970,166. MACHINE FOR SEPARATING FIBERS FROM THE PULP AND EXTRANEOUS MATTER OF PLANTS AND TREES. EUGENE BEHRENDT, Manila, Philippine Islands. Filed June 16, 1908. Serial No. 438,720.



1. A machine for separating fibers from the pulp of plant or tree material, comprising, in combination, a shaving device for shaving off the pulp, sets of fiber-separating devices in the rear of the said shaving device, and independent of the shaving device and of each other, the separating devices being in rear of one another and graduated to separate the width of the band of fibers into successively narrower strips and finally into individual fibers, and means for drawing the material through the said devices.

2. A machine for separating fibers from the pulp of plant or tree material, comprising, in combination, a shaving device for shaving off the pulp, sets of fiber separating and cleaning devices in the rear of the said shaving device, and one in the rear of the other, each fiber-separating and cleaning device consisting of a single knife and a bar having a serrated edge, the knives being independently mounted and the serrations of successive bars increasing in number to the inch, and means for drawing the material through the said devices.

3. A machine for separating fibers from the pulp of plant or tree material comprising in combination, a shaving device for shaving off the pulp, a plurality of fiber separating and cleaning devices in rear of the shaving de-

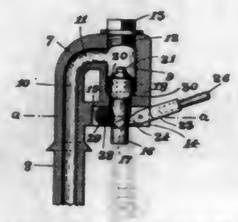
vice and in rear of one another, the separating and cleaning devices each consisting of a stationary bar having a serrated edge and a vertically movable and independently mounted knife adjacent to said bar, said knives serving to press the fiber upon the bars and strip the extraneous matter from the fiber, and means for drawing the material through the said devices.

4. A machine for separating fibers from the pulp of plant or tree material, comprising, in combination a shaving device consisting of a block and a knife coöperating with the block to shave off the pulp, a plurality of separating and cleaning devices arranged in rear of the shaving device and in rear of one another, each separating and cleaning device consisting of a stationary bar having a serrated edge and a vertically movable knife in rear of the bar, said knives being mounted independently of one another and serving to press the fiber upon the bars and strip the extraneous matter from the fiber, the serrations of successive bars being gradually finer to successively separate the band of fibers into strips and finally into individual fibers, and means for drawing the material through the said devices.

5. A machine for separating fibers from the pulp of plant or tree material, comprising, in combination, a block and a knife coöperating therewith for shaving off the pulp, sets of bars and knives, the bars having serrated edges, the sets of knives and bars being arranged in the rear of the said knife and block and one in the rear of the other, the serrations of successive bars being gradually finer to successively separate the band of fibers into narrow strips and finally into individual fibers, means for drawing the material through the said devices, and cutters capable of being moved transversely adjacent to the serrated bars for cutting stray fibers.

[Claims 6 to 18 not printed in the Gazette.]

970,167. FLOAT-CONTROLLED VALVE. WINFIELD S. BELLOWS, Steelton, Pa. Filed June 17, 1909. Serial No. 502,692.



1. The combination of a casting forming a valve casing provided with a valve seat and having a downward discharge, a vertically movable valve disposed within the casing and movable by gravity toward said seat, a stem projecting downwardly from said valve, a roller mounted in the casing on one side of said stem and engaged therewith, and an arm pivoted to the casing on the side of the stem opposite to the roller and engaged with said stem for raising the same.

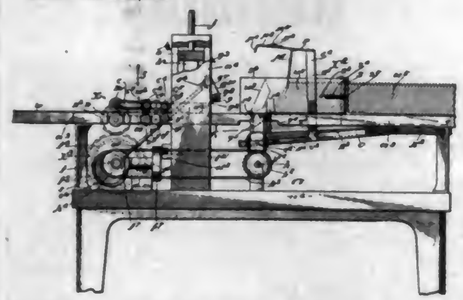
2. The combination of a casting forming a valve casing provided with a valve seat and having a downward discharge, a valve disposed within the casing and movable toward and from said seat, a stem projecting from said valve and having a recess formed therein, a roller mounted in the casing on one side of said stem and engaged therewith, and an arm pivoted to the casing on the side of the stem opposite to the roller and extending into said recess and arranged to operate said stem, said stem having a wall between said arm and said roller.

3. The combination of a casting forming a valve casing provided with a valve seat and having a downward discharge, a valve disposed within the casing and movable toward and from said seat, a stem projecting from said valve and having a recess formed therein, a roller mounted in the casing on one side of said stem and engaged therewith, and an arm pivoted to the casing on the side of the stem opposite to the roller and extending into said recess and arranged to operate said stem, said stem having side walls engaged by the sides of said arm, said stem having end walls arranged to be engaged by said arm when moved to open and close the valve and said stem having a wall between said arm and said roller.

4. The combination of a casting forming a valve casing and having a vertical bore, a vertically movable valve disposed within the casing, means for closing the upper end of said bore, the latter being contracted to form a seat for the valve, and the casting being recessed adjacent the outlet controlled by the valve, a roller disposed in one of said recesses for engagement with the stem of the valve and an arm pivotally mounted in the other recess for engagement with said valve stem.

5. The combination of a valve casing having a downward discharge, a vertically movable valve mounted therein, a stem carried by said valve, the seat for such valve being within the casing and the stem of the same projecting through the discharge opening of the latter, such valve being arranged to close with pressure passing through said opening, said stem having a recess, an arm pivoted to the casing and having a projection for engagement with said recess whereby the valve may be raised from its seat, a float connected to said arm, and a roller carried by the casing for steadying the movements of the valve, the recess of the valve stem being slightly enlarged so as to provide for slight movement of the arm in both directions independent of its engagement with the valve stem.

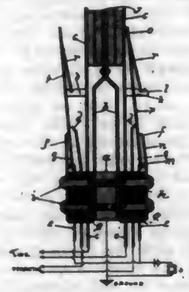
970,168. MACHINE FOR MAKING PAPER DISHES. ISAAC BERTIN, New York, N. Y. Filed June 15, 1909. Serial No. 502,199.



1. In a machine for forming dishes from paper or similar material, a main drive shaft, a frame member adapted to receive the dish forming mechanism, an eccentric connected with said main drive shaft, a nesting and delivery mechanism arranged rearwardly of said frame member, an arm connected with said eccentric and devices connected with said frame member and with which said arm is connected for removing the dishes from the dish forming mechanism and depositing said dishes in the nesting and delivery mechanism, said devices consisting of connected side parts, a slotted tube mounted in said side parts, a rod passing through said tube and provided with a projecting finger, a corresponding finger connected with said tube and means connected with said rod and with said frame member for rotating said rod when said devices are operated by said arm.

2. In a machine for forming dishes from strips of paper or similar material, a frame adapted to receive mechanism for forming the dishes, nesting and delivery devices arranged rearwardly of said mechanism, and means for removing the dishes from the dish forming mechanism and depositing the same in the nesting and delivery devices, said nesting and delivery devices, consisting of a table having a longitudinal opening therein, a slide mounted beneath the rear portion of the table, an arm pivoted to said slide and extending forwardly and adapted to operate in said opening and provided at its front end with upwardly directed dish receivers movable in said opening, a crank shaft for operating said arm, side plates mounted above said table, and means whereby as the crank shaft is operated the said dishes will be successively received in the dish receiver and deposited in a nest between said side plates, and the said nest gradually fed backwardly as the dishes are deposited therein.

970,169. ELECTRICAL PROTECTIVE APPARATUS. JULES A. BIRSFIELD, Rochester, N. Y., assignor to Charles A. Brown and Lynn A. Williams, Chicago, Ill., a Copartnership. Filed Mar. 13, 1906, Serial No. 305,876. Renewed July 18, 1907. Serial No. 384,414.



1. In protective apparatus of the character specified, the combination of a ground and a line spring, a lightning arrester interposed between said springs, a second ground spring electrically connected with the first mentioned ground spring, an apparatus spring, the line and apparatus springs being insulated from each other and from the ground springs, and a thermal device arranged to operate between the apparatus spring and the second ground spring and normally in electrical connection with the apparatus spring.

2. In protective apparatus of the character specified, the combination of a ground and a line spring, a lightning arrester interposed between said springs, a second ground spring electrically connected with the first mentioned ground spring, an apparatus spring, the line and apparatus springs being insulated from each other and from the ground springs, and a thermal device arranged to operate between the apparatus spring and the second ground spring, said thermal device comprising a body portion and a supporting leg, the latter being normally under tension and serving upon elongation of the body portion to interrupt the apparatus circuit and to establish the ground circuit.

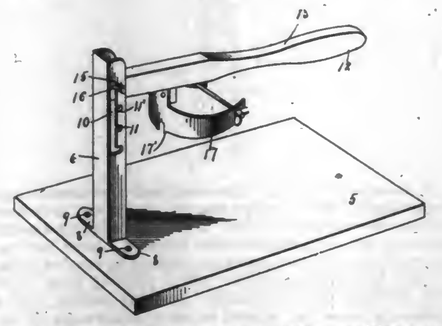
3. In protective means for electrical apparatus, the combination of a line spring, an apparatus spring and a ground spring, the several springs being electrically insulated from one another, and a thermal device arranged to operate between the apparatus spring and the ground spring and normally in electrical connection with the apparatus spring and comprising a slender body portion and a supporting leg, the latter having electrical connection with the line spring and normally deflected from a given position to place it under lateral tension and adapted upon elongation of the said body portion to regain its normal position and interrupt the apparatus circuit and close the ground circuit.

4. In apparatus of the character set forth, the combination of a line spring having a support, an apparatus spring and a ground spring, the several springs being electrically insulated from one another, and a thermal device comprising a body portion and a spring member, the latter being mounted upon the support of the line spring and normally deflected from a given position to place it under lateral tension and serving upon expansion of the said body portion to regain its normal position and interrupt the circuit through the apparatus and to ground the line.

5. In apparatus of the character described, the combination of a line spring, an apparatus spring, an alarm spring and a ground spring, the several springs being electrically insulated from one another, a thermal device having electrical connection with the alarm spring and with the line spring and normally in contact with the apparatus spring and comprising a body and a supporting member which normally are under lateral tension and are adapted to have their relative position changed upon the passage of a current of high voltage to interrupt and ground the circuit through the apparatus and to simultaneously close the signal or alarm circuit.

[Claims 6 to 26 not printed in the Gazette.]

970,170. CAN-OPENER. ELMER W. BISHOP, Serdo Woolley, Wash. Filed Dec. 20, 1909. Serial No. 534,052.



1. A device of the character described comprising a vertical supporting standard of channel cross sectional form, the parallel flanges of said standard having vertical-alined slots adjacent to their upper ends, a plurality of lateral recesses in each of said flanges communicating with said slots, said recesses being upwardly inclined and having curved edges, and an operating lever adapted to be disposed between the channel flanges carrying a transversely extending pivot pin positioned in said slots and movable into said recesses, said pin having flattened faces disposed at right angles to the entrances to said recesses when the lever is in operative position.

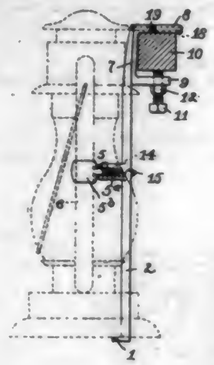
2. A device of the character described comprising a vertical supporting standard of channel form in cross section, the parallel flanges of said standard having vertical alined slots adjacent to their upper ends and a plurality of laterally extending recesses communicating with said slots, said recesses extending at an angle to the slots and having continuously curved edges, and an operating lever positioned between the channel flanges carrying a transversely extending pivot pin, said pin being movable in the slots in the flanges and adapted to be positioned in any of the opposed recesses communicating with said slots, said pin having flattened faces normal to the length of the operating handle and disposed vertically in the recesses when the lever is in operative position, said lever being adapted to be positioned vertically whereby said pivot pin may be moved into the slots for vertical movement therein.

970,171. LANTERN-HOLDER. NILS D. BJORKLUND, Manchester, N. H. Filed Jan. 20, 1910. Serial No. 539,079.

1. The combination with a tubular hand lantern, of a skeleton frame, a pair of horizontally extending arms carried by the frame to embrace the side tubes of the lantern, one rigid and the other yieldingly pivoted in relation thereto, with means for securing said frame rigidly to the vehicle, substantially as described.

2. In a lantern holder of the class described, a skeleton frame, comprising a bottom supporting bar, a pair of side bars having intermediate of their height horizontally extending arms to embrace the side tubes of a hand lantern, one rigid and the other yieldingly pivoted in relation thereto, said side bars converging into a plate at their

upper ends, provided with rearwardly extending flanges adapted to engage with the vehicle axle or other part of the running-gear, and lock-bolts for securing the whole in rigid position, substantially as described.



3. In a lantern of the class described, a skeleton frame comprising a bottom supporting bar, a pair of side bars having, intermediate of their height, horizontally extending arms for embracing the side tubes of a hand lantern, one rigid and the other yieldingly pivoted in relation thereto, said side bars converging into a plate at their upper ends provided with rearwardly extending flanges, and a spring clip removably secured to one of said flanges for engagement with a vehicle dash-board, substantially as described.

970,172. BILLIARD-CUE. ORVIS DARWIN BLOOM and JESSE HARMON HILL, Portland, Oreg. Filed Feb. 16, 1910. Serial No. 544,240.

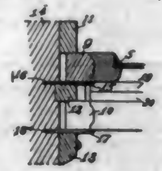


1. In a billiard cue, the combination of cue sections, a screw arranged centrally and longitudinally of the cue sections, detachably connecting them together, and a relatively wide ring arranged concentrically of the screw and projecting into and enveloped by the two sections of the cue.

2. In a billiard cue, the combination of cue sections, a screw arranged centrally and longitudinally of the cue sections, and telescoping rings arranged concentrically of the screw and carried by the respective sections of the cue.

3. In a billiard cue, the combination of a cue shaft, a cue butt, each having a central longitudinal socket, a member fitting into the socket of the cue shaft and cue butt, connecting them together, and telescoping rings arranged concentrically of the member and projecting into and enveloped by the butt and shaft of the cue.

970,173. AIR-TIGHT REVOLVING WINDOW-SASH. LOUIS BOFIAD, New York, N. Y. Filed Mar. 19, 1910. Serial No. 550,526.



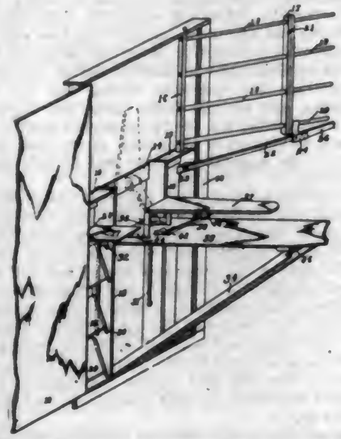
1. The combination with a sliding, revolving window sash provided with lateral stiles having astragals fitting grooves in the sash, of check plates rigidly fixed to said stiles and extending beyond the edge thereof for the thickness of the astragal for the purpose set forth.

2. The combination with a sliding, revolving window sash provided with lateral stiles, of jambs provided with vertical grooves, check plates rigidly fixed to said stiles and entering at their outer edges into said grooves to a depth such as to retain a seat therein whatever the position of the stile and at their inner edge overlapping the sash when the latter are in vertical position.

3. The combination with sliding, swinging window sashes, of beveled strips joined respectively to their meeting rails, horizontal swinging plates pivoted to the stiles at their lower ends, and middle stops provided with shoulders for engagement with said horizontal plates for the purpose set forth.

4. The combination with the upper sash of a window fitted with sliding, swinging sashes provided with lateral stiles, of check plates secured to said stiles and provided at their lower ends with plates for closing the opening between the middle stops of the window frame and the ends of the meeting rails of said sash.

970,174. IRONING-CABINET. CHARLES D. BOOTON, Audubon, Iowa. Filed June 10, 1909. Serial No. 501,407.

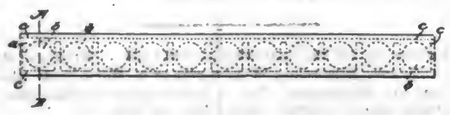


1. An ironing cabinet, comprising a frame, upright frame members in the frame, vertical slots in the frame members extending slightly forwardly and downwardly at the top, and slightly forwardly at the bottom, an ironing board pivotally mounted on the frame at one end, and slidingly mounted in said vertical slots at the other, a support designed to fasten on the wall with outwardly extended projections thereon, and pins in the frame arranged to rest in holes in said projections.

2. An ironing board, comprising a frame, upright frame members in the frame, slots in the upright members, an ironing board arranged to fit between said frame members, journals on the board designed to travel in said slots, connecting links pivotally connected at one end to the frame, at the other to the board, a sleeve board, links connecting said sleeve board to said ironing board, a brace pivotally connected to the sleeve board, and extending through an opening in the ironing board, a lug on the brace to engage the ironing board at the top, and pins in the brace to engage the ironing board at the bottom.

3. An ironing cabinet, comprising a frame, upright frame members in the frame, an ironing board slidingly mounted at its inner end and supported at its outer end by connecting links secured to the frame bottom, a sleeve board pivotally mounted at one end on links pivotally secured to the ironing board, said sleeve board being supported near its other end by a pivotally connected brace running downwardly and inwardly through an opening in the ironing board, a lug secured to the brace to engage the top of the ironing board near its opening, and pins in the brace to engage the ironing board at the bottom.

970,175. DRESS-WEIGHT. EDWARD J. BROOKS, East Orange, N. J. Filed Apr. 11, 1910. Serial No. 554,644.



1. A dress-weight article of manufacture having a flexible tape-like body of uniform width composed of flat woven fabric, stitching interacting with said body to complete a longitudinal series of interspaced pockets, and flat weights of lead or the like arranged flatwise with reference to said body within said pockets, and secured against edgewise displacement by said stitching.

2. A dress-weight article of manufacture having a flexible body composed of two textile tapes of flat woven fabric and of uniform width, flat weights of lead or the like arranged flatwise with reference to said body and in a longitudinal series between said tapes, a straight line of stitching uniting said tapes near one edge, and a zig-zag line of stitching near the other edge of the tapes completing a pocket for each weight with suitable interspaces.

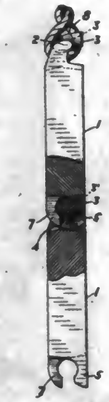
3. A dress-weight article of manufacture having a flexible tape-like body of flat woven fabric and of uniform width, a flat weight-strip of lead or the like composed of disk-shaped weight portions and narrow easily severed connecting portions integral with said weight portions forming suitable interspaces, and stitching whereby said strip is fastened within said body and secured against the edgewise displacement of said weight portions when the article is cut at any point, substantially as hereinbefore specified.

970,176. SECTIONAL SASH-WEIGHT. CLARENCE R. BROWN, Philadelphia, Pa., assignor to Elmer E. Brown, Philadelphia, Pa. Filed June 15, 1910. Serial No. 566,911.

1. A sash weight section provided at one end with a pair of similar jaws having a recess between them together with an oppositely extending jaw in the plane of said recess, and provided at the other end with a pair of jaws extending oppositely to said jaws first named, a tongue between and extending beyond said second named pair of jaws, and a recess between said second named pair of jaws.

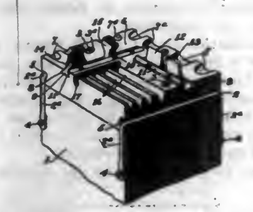
2. A sash weight section provided at one end with a pair of similar jaws having a recess between them together with an oppositely extending jaw in the plane of said recess, and having at the other end a pair of jaws together with a tongue extending oppositely to said jaws first named and a recess between said second named pair of jaws.

3. A sash weight section having a pair of similar jaws with their points disposed transversely to the length of said section, a recess between said jaws and a jaw opposite said recess with its point disposed oppositely to those of said first named jaws, in combination with a sash weight section having a pair of jaws and a tongue with



their points extending in the same general direction transversely to the length thereof and a recess between said last named jaws.

970,177. TOOL-HOLDING BLOCK. JEREMIAH C. BUCKLEY, Detroit, Mich. Filed Aug. 10, 1909. Serial No. 512,117.



1. In a tool holding block, a post or pedestal, a tool-holding block mounted thereon and provided on opposite sides with horizontally extending pocket-grooves, and vertically arranged yoke straps pivotally secured on opposite sides of said post or pedestal and resting in said pocket-grooves.

2. In a tool holding block, a block provided on its face with a series of graduated calk-receiving grooves extending from one of its edges and terminating in a common clean-out groove intersecting the adjacent edge thereof.

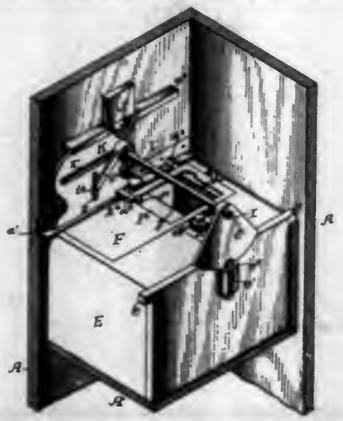
970,178. FARE-BOX. EZRA S. BUCKNAM and GEORGE B. KOHLER, Philadelphia, Pa., assignors to The J. G. Brill Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 6, 1908. Serial No. 431,113.

1. The combination in a fare box, of a casing having a fare receiving section, a drawer mounted in the casing, a fare receptacle detachably mounted in the drawer, a chute forming communication between the fare receiving section and the fare receptacle, an opening in the fare receptacle, a closure for said opening, means for locking the drawer in its closed position, and means actuated by the locking mechanism of the drawer to move the closure of the fare receptacle to its locked position before the drawer can be withdrawn.

2. The combination in a fare box having a fare receiving section, of a drawer mounted in the casing, a fare receptacle mounted in the drawer, and means for preventing the closing of the drawer unless the fare receptacle is in place.

3. The combination in a fare box, of a fare receiving section, a drawer mounted in said fare box, a fare recep-

tacle mounted in the drawer, a latch carried by the drawer, a movable keeper mounted in the fare box and adapted to be engaged by the latch, and means for actuating the movable keeper to release the drawer.

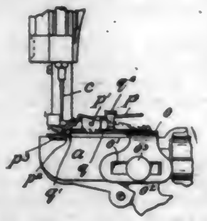


4. The combination in a fare box having a fare receiving section, of a drawer, means for locking the drawer, a fare receptacle mounted in the drawer, a closure for the fare receptacle, a slide mounted in the fare box and arranged to engage the closure, means for reciprocating the slide and actuating the keeper of the drawer lock, so that when the means are moved to release the drawer the slide will close the receptacle.

5. The combination in a fare box having a fare receiving section, of a drawer, a fare receptacle mounted in the drawer, said fare receptacle having an opening, a sliding closure for said opening having a lug, a slide mounted in ways in the fare box, and a projection on the slide, so that when the slide moves into the position to release the drawer it will close the sliding closure.

[Claims 6 to 11 not printed in the Gazette.]

970,179. WORK GUIDE OR GAGE FOR SEWING-MACHINES. LOUIS BULASKY, New York, N. Y. Filed Mar. 29, 1909. Serial No. 486,507.



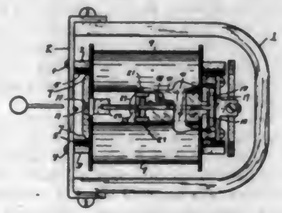
1. In a sewing machine, a work table; a reciprocating needle; a supporting plate adapted to be secured to said work table; a front work guide carried by said supporting plate; and a rear work guide also carried by said supporting plate and located immediately to the rear of said front guide with reference to the direction of travel of the material operated upon, said rear guide being disposed to one side of or laterally of the path of travel of the needle and the said rear guide being yieldable in a direction transverse to the path of travel of the material operated upon; whereby lateral thrust resulting from contact of the needle with an unyielding part of the work operated upon will be transmitted to and will cause said rear guide to yield in the manner aforesaid.

2. A work gage for sewing machines comprising a work supporting plate adapted to be secured to the base of the machine, a front work guide mounted on the supporting plate with its end close to the machine base, a rear work guide mounted on the supporting plate with its end close to the machine base and in line laterally with the needle, said guide being mounted movably toward and away from the needle in a horizontal plane independently of the front guide, a spring to press the rear guide yieldingly toward the needle whereby the guide may yield laterally as the thicker portion of the needle passes through the work adjacent to the base plate and a latch independent of said rear guide but adapted to engage the same to hold it away from the work.

3. In a sewing machine, the combination of a work supporting plate, a front outside work guide mounted on the supporting plate, and a rear outside work guide mounted yieldingly in a horizontal plane from the needle, said rear guide being adapted to engage the front guide, whereby the rear guide is adjusted with the front guide and may yield independently thereof.

4. In a sewing machine, the combination of a work supporting plate, an outside work guide mounted adjustably on the supporting plate, and a spring pressed plate lever pivoted on the supporting plate above the work guide and having a lip to rest under the fabric and form a guide for the edge of the material.

970,180. ELECTROMAGNETIC DEVICE. WILLIAM S. BURNETT, Milwaukee, Wis., assignor to Morse Code Signal Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Apr. 12, 1909. Serial No. 489,319.



1. In a device of the described class, an electro-magnetic coil provided with a plurality of magnetizable core pieces magnetically separated from each other and a plurality of devices each separately controlled by one of the core pieces.

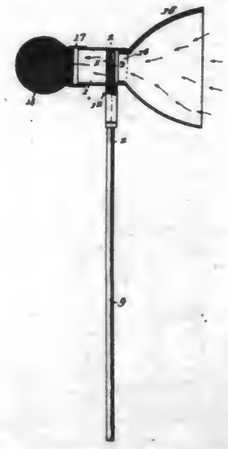
2. In a device of the described class, an electro-magnetic coil provided with a plurality of magnetizable core pieces, mechanically connected with, and magnetically separated from, each other by a body of material having less magnetic permeability in combination with a set of movable armatures, one in operative relation to one of said core pieces and the other in operative relation to another of said core pieces.

3. In a device of the described class, the combination with a permanent magnet, of a conducting coil, a magnetizable core piece connected with the permanent magnet and extending through said coil, another magnetizable core piece mechanically supported from the first mentioned core piece and separated therefrom by a body of non-magnetizable material, and a movable armature in operative relation to each core piece.

4. In a device of the described class, the combination with a permanent magnet, of a set of magnetizable core pieces supported therefrom, another set of auxiliary magnetizable core pieces mechanically supported from the first mentioned core pieces and magnetically separated therefrom by a body of non-magnetizable material, electrical conducting coils, each encircling one of said first mentioned pole pieces and the auxiliary pole pieces supported therefrom, said auxiliary core pieces having their ends extending through the coils and turned in the direction of the like core pieces of an adjacent coil to form a nearly closed magnetic circuit, and movable armatures, each arranged in operative relation to like core pieces of such adjacent coils.

5. In a device of the described class, an electro-magnetic coil provided with a plurality of magnetizable core pieces, separated from each other by material having less magnetic permeability, and a plurality of devices, each separately controlled by one of the core pieces.

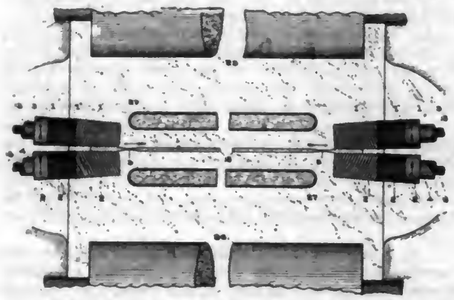
970,181. INSECT-CATCHER. FRANK M. CARTER, Stonington, Me. Filed June 5, 1909. Serial No. 500,286.



1. A device of the class described comprising a sleeve, a revolving fan located in the sleeve, a bell-shaped member at one end of the sleeve, a removable receptacle of foraminous material engaged with the other end of the sleeve and disposed directly in line with the said bell-shaped member, said fan having a toothed peripheral rim, and a motor geared to the toothed peripheral rim for driving the fan.

2. A device of the class described comprising a sleeve, a fan located in the sleeve, a casing connected with the sleeve and opening thereinto, a bell-shaped member at one end of the sleeve, a receptacle of foraminous material at the other end of the sleeve, a handle secured to the casing, and a driving motor located in the casing and geared to the fan for driving the same.

970,182. MEANS FOR DRAWING SHEET-GLASS. IRVING W. COLBURN, Franklin, Pa., assignor to Colburn Machine Glass Company, Franklin, Pa., a Corporation of New Jersey. Filed Feb. 12, 1908. Serial No. 415,587.



1. In sheet-glass drawing apparatus, the combination of sheet-drawing mechanism, with width-maintaining and sheet-stretching means, and devices limiting the stretching action of said means.

2. In sheet-glass drawing apparatus, the combination of sheet-drawing mechanism, with two sets of revolubly mounted screw-threaded rolls, the rolls of each set having the one a right and the other a left screw-thread, and means imparting a peripheral speed to said rolls in excess of the lineal speed imparted to the sheet of glass by the drawing mechanism.

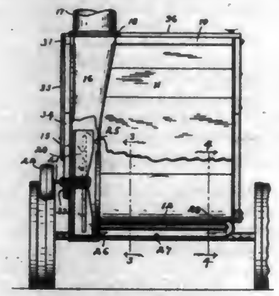
3. In sheet-glass drawing apparatus, the combination of sheet-drawing mechanism, with two sets of juxtaposed, horizontally related, oppositely-screw-threaded revolvible rolls, means yieldably holding the two rolls of each set in juxtaposition, means driving said drawing mechanism and said rolls, and means varying the speed of said rolls independent of the speed of said drawing mechanism.

4. In sheet-glass drawing apparatus, the combination of sheet-drawing mechanism, with a plurality of sets of width-maintaining devices engaging the opposite edge portions of the sheet, each of said sets comprising two cooperating screw-threaded rolls, and means driving said rolls at a peripheral speed exceeding the lineal speed of said drawing mechanism.

5. In sheet-glass drawing apparatus, the combination of sheet-drawing mechanism, with a plurality of sets of width-maintaining devices engaging the opposite edge portion of the sheet, each of said sets comprising a pair of coöperating rolls, and means driving said rolls at a peripheral speed exceeding the lineal speed of said drawing mechanism.

[Claims 6 to 20 not printed in the Gazette.]

970,183. PNEUMATIC STACKER. GEORGE F. CONNER, Port Huron, Mich., assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed Oct. 8, 1909. Serial No. 521,648.



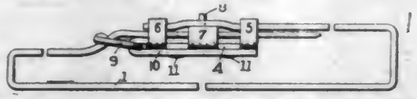
1. The combination, in a pneumatic stacker, of a hopper; a vertically-arranged fan casing at one side of said hopper having a material-receiving inlet, a blast discharging outlet and a material-discharging outlet; a single fan in said casing for drawing material through said inlet, discharging air through said blast outlet and material through said material-discharging outlet; and means connected to said blast outlet for conveying air from said fan to the side of the hopper opposite said fan and directing the same through said hopper and toward said inlet for propelling material into said fan.

2. The combination, in a pneumatic stacker, of a hopper; a vertically-arranged fan casing at one side of said hopper having a material inlet communicating therewith, a blast-discharging outlet adjacent said inlet and a peripheral material-discharging outlet; a single fan in said casing for drawing material from said hopper through said inlet, discharging air through said blast outlet and material through said peripheral outlet; and a duct leading from said blast outlet to the side of the hopper opposite said fan for conveying air from said fan into said hopper and propelling material therethrough into said fan.

3. The combination, in a pneumatic stacker, of a hopper; a fan casing at one side thereof having a material-receiving inlet and a blast-discharging outlet in its inner wall, and a peripheral discharge outlet; a single fan in said casing for drawing material from said hopper

through said inlet, discharging air through said blast outlet and material through said peripheral outlet; and an air conductor communicating with said blast outlet and leading to the side of the hopper opposite said fan for conveying air into said hopper and propelling material therethrough into said fan.

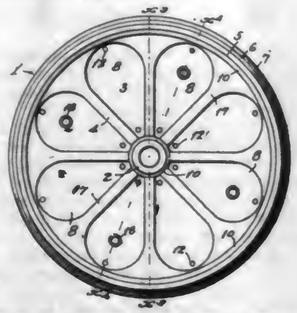
970,184. BUCKLE AND STRAP LOOP. FREDERICK CONWAY, Buffalo, N. Y. Filed Apr. 27, 1909. Serial No. 492,456.



1. The combination with a strap, of a buckle and loop therefor having a base plate, and a loop extending laterally from the base plate in which one end of the strap is adapted to be inserted, means for securing the end of the strap in said loop and a buckle attached to one end of the base plate, the opposite or free end of the strap being adapted to be fitted through and secured to the buckle with its extreme end extending through the loop and lapping beneath the first-mentioned end of the strap.

2. The combination with a strap, of a buckle and loop therefor having a base plate, a series of loops extending laterally from the base plate and one of said loops being shorter in height than the others and but sufficiently thick to permit the passage of but one end of the strap, and the other loops being considerably thicker and sufficiently high to permit the passage in lapping position of both ends of the strap, and the thinner loop having an upwardly projecting pin and a buckle attached to one end of the base plate; one end of the strap being adapted to be fitted through the thicker and higher loops and over the lower loop, and having a perforation in which the upwardly projecting pin is adapted to be fitted, and the other end of the strap being adapted to be fitted through the buckle and all of the loops in a lapping position beneath the first-mentioned or buckle end of the strap.

970,185. NOISELESS CAR-WHEEL. PETER PARK COOKINGHAM, Longbeach, Cal., assignor of one-third to William R. Bruner, Longbeach, Cal. Filed Mar. 15, 1910. Serial No. 549,544.



1. A car wheel comprising a hub and rim, a plate connecting the hub and rim, a cavity being provided between the hub and rim, an annular seat formed in the hub and rim, a face plate in said seat, bolts fastening the face plate to the plate that connects the hub and rim, and a non-resonant filling in the cavity between the plates.

2. A car wheel comprising a frame having a rim, a hub, a plate, and spokes on one side of said plate connecting the hub and rim and forming an annular cavity extending around inside the rim and between the spokes, said spokes being reduced outwardly; a filling of non-resonant material in said cavity, a face plate to close the cavity and means to fasten the face plate to the frame.

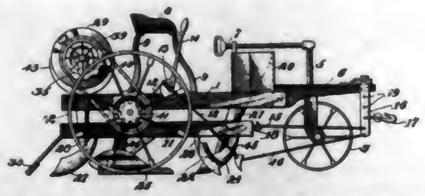
3. A car wheel comprising a casting consisting of a plate with bosses thereon, a frame comprising a hub, a rim, a plate and spokes, said bosses fitting between said spokes; a plate to cover the casting, and bolts to secure said plate and the frame together.

4. A car wheel comprising a frame having a hub, a rim, and a plate connecting the hub and rim; a cavity being provided on one side of said plate between the hub and rim, and ports extending through the plate; and a face plate secured to the frame for the purpose of inclosing the cavity into which sound-deadening material may be poured through the ports.

5. In a wheel a frame having a hub, a rim, and a plate and spokes connecting said hub and rim and forming a cavity on one side of the plate with inter-spoke spaces, said plate being provided with tubular ports; and a plate closing the cavity and secured to the frame, so that liquid plaster of paris or other cement-like material may be poured into the cavity to close the same.

[Claim 6 not printed in the Gazette.]

970,186. COTTON-PLANTER. GEORGE W. COPELAND, Ensley, Ala., assignor of one-half to George R. Byrum, Ensley, Ala. Filed Mar. 25, 1909. Serial No. 485,644.

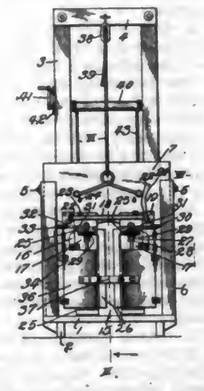


1. A machine of the class described comprising a wheeled main frame, a perforated hanger depending from the forward end of the main frame, a supplemental frame disposed beneath the main frame and having furrow opening blades arranged at the front and rear ends thereof, a rod having one end detachably connected to the supplemental frame and its opposite end adjustably connected to the perforated hanger, stirrer blades fixed to the supplemental frame outside of the front furrow opening blades, a fertilizer box fixed to the front of the main frame and having a discharge spout extended between the front furrow opening blades, and seed distributing means arranged at the rear of the main frame and having a discharge spout disposed between the rear furrow opening blades.

2. A machine of the class described comprising a wheeled main frame, a perforated hanger depending from the forward end of the main frame, a supplemental frame disposed beneath the main frame and having furrow opening blades arranged at the front and rear ends thereof, a rod having one end detachably connected to the supplemental frame and its opposite end adjustably connected to the perforated hanger, stirrer blades fixed to the supplemental frame outside of the front furrow opening blades, a fertilizer box fixed to the front of the main frame and having a discharge spout extended between the front furrow opening blades, seed distributing means arranged at the rear of the main frame and having a discharge spout disposed between the rear furrow opening blades, a cover carried by the supplemental frame in rear of the rear furrow opening blades, and flexible means for holding the supplemental frame in various elevated positions.

3. In a machine of the class described, a wheeled main frame, a supplemental frame loosely suspended therefrom, furrow opening and closing means carried by the last named frame, uprights rising from the rear ends of the main frame, a stationary shaft mounted in the uprights, a centrally bulged cylinder rotatably mounted on the shaft and having a circumferential row of spaced openings in its bulged portion, a stationary discharge spout having a convexed enlarged end adjacent to the bulged portion of the cylinder and communicating with the latter, driven connections between one of the wheels of the main frame and the cylinder to rotate the latter, and radially arranged outwardly diverging stirrer fingers fixed centrally to the shaft.

970,187. HOG-HOLDING MACHINE. GEORGE W. COX, Edison, Nebr. Filed July 28, 1909. Serial No. 509,980.



1. A hog holding machine comprising a chute inclosing structure, a closing member located at the front of the chute and provided with an aperture, doors hinged on said member and adapted to swing in front of the aperture, guides for said member, and means for lifting the member to open the chute.

2. A hog holding machine comprising a chute inclosing structure, a closing member located at the front of the chute and provided with an aperture, strips fixed to said member at the sides of the aperture, doors hinged to said strips and adapted to swing in front of the aperture, means for barring said doors, and means for elevating the closing member.

3. A hog holding machine comprising a chute inclosing structure, perpendicular beams at the front of the structure, guide strips spaced forwardly from the beams, a closing member located between the strips and beams and adapted for closing the front of the chute and provided with an aperture, doors hinged to the closing member and adapted for closing the aperture, springs yieldingly retaining the doors in closing position, slotted brackets carried on the closing member at the sides of the aperture, a bar adapted to seat in said slots and secure said doors against outward movement, and means for lifting the closing member.

4. In a hog holding machine, a chute inclosing structure, slides mounted at the front of the structure and provided with racks, shafts revolubly mounted adjacent to said racks and having pinions meshing with said racks, chains fixed near said shafts, and levers fixed to said shafts and having hooks adapted for engagement with the links of said chains.

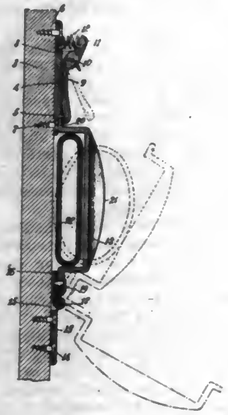
5. In a hog holding machine, a chute inclosing structure, doors hinged at the front of the structure, slides movably mounted on said doors, and means for actuating said slides.

[Claims 6 to 10 not printed in the Gazette.]

970,188. SELF-RELEASING HOSE-RACK. SAMUEL L. CROSSING, New York, N. Y. Filed Oct. 22, 1909. Serial No. 524,032.

1. A device of the character described, comprising a hasp for temporarily holding a hose while the latter is empty, said hasp being controllable by pressure within the hose for swinging in either of a plurality of planes crossing each other.

2. A device of the character described, comprising a hasp for temporarily holding a hose while empty, said hasp being mounted to swing directly outward in a plane crossing said hose, and also journaled to swing in a plane parallel with the general direction of the length of said hose.



3. The combination of a plate, a hasp journaled relatively thereto and adapted to swing in a direction crossing the general direction of said plate, means for permitting said hasp to swing in a general direction parallel with said plate, said hasp being journaled upon two independent centers of rotation, and means controllable by pressure applied in different directions relatively to said hasp for releasing said hasp.

4. The combination of a hasp, means for mounting said hasp upon a wall or the like so as to allow said hasp to swing in a plurality of independent planes crossing each other, and a jaw engaging said hasp and normally restraining the same, said jaw being controllable by pressure applied to said hasp for the purpose of releasing said hasp from said jaw.

970,189. SPINNING-MACHINE SPINDLE. JOHN V. CUNNIFF, Fall River, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Jan. 13, 1910. Serial No. 537,878.



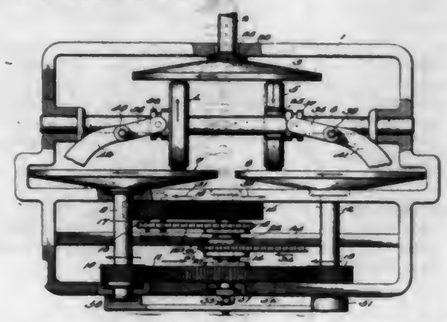
1. The combination, with a rotatable spindle, and a bobbin removably mounted thereon, of resilient bobbin-engaging means comprising an elongated spring coiled loosely around the spindle near its upper end and oppositely to

the direction of rotation of the spindle, said spring having one end free and the other end fixedly connected with the spindle, rotation of the latter causing the coils of the spring to be expanded laterally by or through centrifugal action and brought throughout substantially the length thereof into driving engagement with a bobbin, and means coöperating with the free end of the spring to limit expansion thereof.

2. The combination with a spindle, and a bobbin removably mounted thereon, of a coil spring having one end free and its other end fixedly secured to the spindle and wound loosely about the spindle oppositely to the direction of rotation thereof, whereby rotation of the spindle at high speed will tend to unwind and laterally expand the coils and cause the peripheral portions thereof to frictionally engage the bobbin and drive it in unison with the spindle, and means to prevent engagement of the free end of the spring with the bobbin.

3. In combination with a spindle and a bobbin received thereon, said spindle having its outer end reduced in diameter to form a shoulder, a coil spring encircling said reduced end and having its inner end seated on the shoulder and secured thereto, a cap on the outer end of the spindle to restrict the expanding movement of the spring, said bobbin having a bore of a diameter slightly greater than that of the coil spring, the coil spring being wound in a direction opposite to the direction of rotation of the spindle, whereby when the spindle revolves at a high rate of speed the spring will be unwound to frictionally contact with the bore of the bobbin.

970,190. FRICTION TRANSMISSION-GEARING. ALONZO A. DE LOACH, Bridgeport, Ala. Filed Oct. 4, 1909. Serial No. 521,010.



1. In a friction driving gearing the combination of a driving shaft; a friction disk rigid therewith; a plurality of friction power transmitting disks in frictional engagement with said first mentioned disk; a plurality of frictionally driven disks in engagement with said transmitting disks; shafts rigid with said driven disks; pinions on said shafts; a single gear 11 driven in the same direction by said pinions; a means 24 for transmitting power from said gear 11; and connections between said means and said gear; substantially as described.

2. In a friction driving gearing, the combination of a shaft; a friction disk rigid therewith; a plurality of friction power transmitting disks in frictional engagement with said first mentioned disk; a plurality of frictionally driven disks in engagement with said transmitting disks; shafts rigid with said driven disks; pinions on said shafts; a single gear 11 driven in the same direction by said pinions; a shaft 14 on which said gear is mounted; a means 24 for transmitting power from said gear 11; and connections comprising a pinion 15 and a loose wheel 19 on said shaft 14 between said means and said gear; substantially as described.

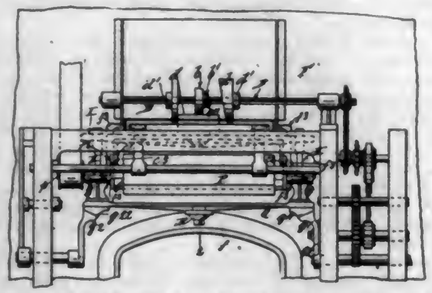
3. In a friction driving gearing the combination of a driving shaft; a friction disk rigid therewith; a plurality of friction power transmitting disks in frictional engagement with said first mentioned disk; a plurality of frictionally driven disks in engagement with said transmitting disks; shafts rigid with said disks; pinions on said shafts; a single gear 11 driven in the same direction by said pinions; a shaft 14 on which said gear is mounted; a means 24 for transmitting power from said gear 11; connections between said means and said gear, comprising a pinion 15 and a loose sprocket wheel 19 on said shaft 14; a shaft 17; a pinion 16 on said shaft 17 engaging said pinion 15; a sprocket wheel 18 on said shaft 17; and a sprocket chain connecting said sprockets 18 and 19; substantially as described.

4. In a friction driving gearing, the combination of a driving shaft; a friction disk rigid therewith; a plurality of friction power transmitting disks in frictional engagement with said first mentioned disk; a plurality of frictionally driven disks in engagement with said transmitting disks; shafts rigid with said driven disks; pinions on said shafts; a single gear 11 driven in the same direction by said pinions; a shaft 14 on which said gear is mounted; a means 24 for transmitting power from said gear 11; connections between said means and said gear, comprising a pinion 15 and a loose sprocket wheel 19 on said shaft 14, a shaft 17; a pinion 16 on said shaft 17, engaging said pinion 15; a sprocket wheel 18 on said shaft 17; a sprocket chain connecting said sprockets 18 and 19; and a clutch mechanism adapted to reverse the motion of said means 24, without reversing the motion of said driving shaft; substantially as described.

5. In a friction driving gearing the combination of a driving shaft; a friction disk rigid therewith; a plurality of power transmitting disks engaging the same side of said friction disk; a plurality of frictionally driven disks engaging said power transmitting disks; different shafts on which said driven disks are mounted and means to slide said power transmitting disks radially of the first mentioned disk, and also radially of the said driven disks, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

970,191. AUTOMATIC FUEL-FEED MECHANISM FOR FURNACES. GEORGE DINKEL, Jersey City, N. J. Filed Feb. 11, 1910. Serial No. 543,304.



1. The combination of a furnace front provided with a feed opening, a chute provided with a ball and socket joint, said chute suspended in said feed opening by means of the ball and socket joint, means for oscillating said chute on said ball and socket joint, a rotatable propeller arranged to precipitate fuel through said chute, means for imparting to said propeller an oscillatory motion in two planes at right angles to each other, and means for feeding fuel to said rotatable propeller, substantially in the manner and for the purpose set forth.

2. The combination of a furnace front provided with a feed opening, a chute provided with a ball and socket joint, said chute suspended in said feed opening by means of said ball and socket joint, means for oscillating said chute vertically, a rotatable propeller arranged to precipitate fuel through said chute, means for imparting to said propeller an oscillatory motion in two planes at right angles to each other, and means for feeding fuel to said rotatable propeller, substantially in the manner and for the purpose described.

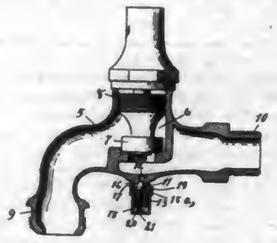
3. The combination of a furnace front provided with a feed opening, a chute provided with a ball and socket joint, said chute suspended in said feed opening by means of the ball and socket joint, means for oscillating said chute horizontally, a rotatable propeller arranged to precipitate fuel through said chute, means for imparting to said propeller an oscillatory motion in two planes at right angles to each other, and means for feeding fuel to said rotatable propeller, substantially in the manner and for the purpose set forth.

4. The combination of a furnace front provided with a feed opening, a chute provided with a ball and socket joint, said chute suspended in said feed opening by means of said ball and socket joint, means for oscillating said chute both vertically and horizontally, a rotatable propeller arranged to precipitate fuel through said chute, means for imparting to said propeller an oscillatory motion in two planes at right angles to each other, and means for feeding fuel to said rotatable propeller, substantially in the manner and for the purpose set forth.

5. The combination of a furnace front provided with a feed opening, a chute provided with a ball and socket joint, said chute suspended in said feed opening by means of the ball and socket joint, means for oscillating said chute on said ball and socket joint, means for securing said chute in a prescribed position, a rotatable propeller arranged to precipitate fuel through said chute, means for imparting to said propeller an oscillatory motion in two planes at right angles to each other, and means for feeding fuel to said rotatable propeller, substantially in the manner and for the purpose set forth.

[Claims 6 to 8 not printed in the Gazette.]

970,192. SAFETY COMPRESSION BIB-RELIEF. JOHN J. DIVEKEY, Aurora, Ill. Filed Aug. 13, 1909. Serial No. 512,657.

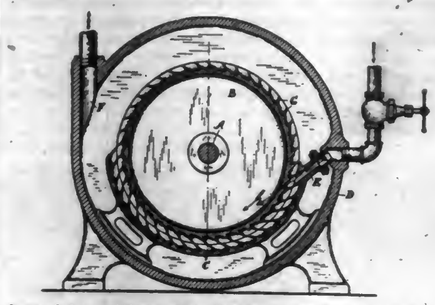


1. In a bib, the combination with a hollow extension on the under side of the bib body communicating with the interior of the bib, a valve arranged in said extension, a spring normally urging said valve against its seat, and a perforated cap having threaded connection with the extension and engaging said spring.

2. A safety bib comprising an exteriorly threaded connection arranged on the under side of the bib body and having a passage therethrough, said passage communicating with the interior of the bib, a relief valve in said passage, a coiled spring surrounding the valve stem and tending to close the valve, an adjustable perforated cap engaging the threads on said extension and adapted to vary the tension of said spring when adjusted, and a lock nut on said extension adapted to engage said cap.

970,193. TURBINE. WILLIS G. DODD, San Francisco, Cal. Filed Aug. 7, 1909. Serial No. 511,722.

A steam turbine comprising a rotating element and a stationary element, said elements between them forming an annular elliptical chamber, within which are located a series of guide vanes, constituting a series of tangential chambers, forming paths of constant deflection for the impelling medium, an expanding nozzle located within the first chamber of the series, a neutral axis or annular space between the stationary and rotating elements,



formed by cutting away the guide vanes as and for the purpose specified.

970,194. SLEEVE CABLE-TERMINAL. ROBERT S. DONALDSON and VINCENT E. FURNAS, Louisville, Ky., assignors to Furnas, Brown & Plummer, Louisville, Ky., a Copartnership. Filed Aug. 3, 1908. Serial No. 446,755.



1. In a distributing terminal for telephone cables, the common lead sleeve applied with wiped joints and provided with an integral receptacle, fusible insulating compound in said receptacle, wires extending from the cable within said sleeve, said sleeve being provided with orifices in its wall in the bottom of said receptacle for the exit of said wires from the cable, a cover for said receptacle, hollow screws secured in said cover, means provided on said screws to make connections, and the terminal wires from the cable being soldered in the upper end of said screws.

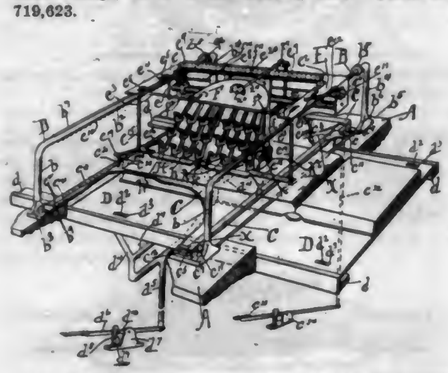
2. In a distributing terminal for cables, the common lead sleeve, provided on the outside of its wall with an integral receptacle, in said receptacle fusible compound, wires of the cable cut and extended, said sleeve being provided with orifices in its wall in the bottom of said receptacle for the exit of said wires from the cable, a cover for said receptacle, having its sides extending beyond the wall of said receptacle, and provided with holes to receive bridle wires, hollow screws secured in said cover, means provided on said screws to make connections, and said wires from the cable being soldered in the upper end of said screws.

3. In a distributing terminal for telephone cables, the common lead sleeve applied with wiped joints, said sleeve provided with an integral receptacle, fusible insulating compound in said receptacle, said sleeve being provided with orifices in its wall in the bottom of said receptacle for the exit of wires from the cable, wires from the cable cut and extended, fusible insulating compound around the wires from the cable where they pass through said orifices in said sleeve in the bottom of said receptacle, a cover for said receptacle, hollow screws secured in said cover, means provided on said screws to make connections of bridle wires, and said wires from the cable being soldered in the upper end of said screws.

4. In a distributing terminal for telephone cables, the common lead sleeve applied with wiped joints, said sleeve provided with an integral receptacle for fusible insulating compound, fusible insulating compound in said receptacle, said sleeve being provided with orifices in its wall in the

bottom of said receptacle for the exit of wires from the cable, wires extending from the cable, said fusible insulating compound being placed around the wires from the cable where they pass through said receptacle, a cover for said receptacle, hollow screws secured in said cover, means provided on said screws to make connections of bridle wires, said wires from the cable being soldered in the upper end of said screws, and an inverted can-top cover on said receptacle.

970,195. BOOK TYPE-WRITER. GEORGE W. DONNING, New York, N. Y. assignor, by direct and mesne assignments, of fifty one-hundredths to Harry T. Ambrose, East Orange, N. J. Filed June 6, 1899. Serial No. 719,623.



1. In a typewriter, the combination with a flat-platen, of tracks or rails disposed adjacent to, but independent of and normally occupying a plane away from the platen to present a clear space between said platen and the tracks or rails, a carriage suspended from said tracks, a second carriage mounted on said first-mentioned carriage, downward-acting writing-mechanism mounted on the last-mentioned carriage, line-, and letter-spacing mechanisms mounted on the first- and last-mentioned carriages respectively and movable therewith, and key-mechanism for operating the said writing-mechanism, substantially as described.

2. In a typewriter, the combination with a tiltable flat platen, elevated tracks disposed above and movable independent of, and normally occupying a plane away from, the platen, the platen being hinged at its one edge, being tiltable independent of the tracks, and constructed to be elevated bodily with the tracks, a traveling carriage suspended from said tracks, downward-acting writing-mechanism mounted in said traveling carriage, letter- and line-spacing mechanism, and key-mechanism for operating the writing-mechanism, substantially as described.

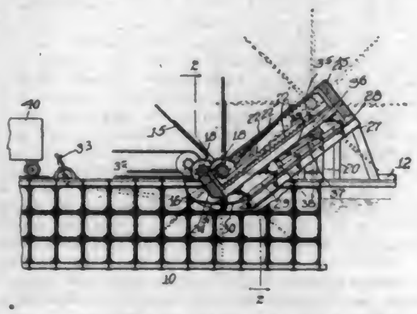
3. In a typewriter, the combination with a flat platen, a downward-acting writing-mechanism operable longitudinally and transversely over said platen and, elevated tracks normally located a distance away from the operative surface of the platen and constituting a support for the writing-mechanism, means coöperating with said elevated tracks for effecting line-spacing of the writing-mechanism and means for effecting letter-spacing of the writing-mechanism, substantially as described.

4. In a typewriter, the combination with a flat platen, a downward-acting writing-mechanism operable longitudinally and transversely over said platen, and elevated tracks, normally located a distance away from the operative surface of the platen and constituting a support for the writing-mechanism, and means coöperating with said elevated tracks for effecting line-spacing of the writing-mechanism, substantially as described.

5. In a typewriter, the combination with a flat platen, a downward-acting writing-mechanism operable longitudinally and transversely over said platen, and elevated tracks, normally located a distance away from the operative surface of the platen and constituting a support for the writing-mechanism, instrumentalities supported upon the writing-mechanism and coöperating with said elevated tracks to effect line-spacing of the writing-mechanism, and independent means for effecting letter-spacing thereof, substantially as described.

[Claims 6 to 91 not printed in the Gazette.]

970,196. HYDRAULIC-POWER PLANT. JAMES T. DOUGINS, Kenosha, Wis. Filed Aug. 2, 1909. Serial No. 510,810.



1. The combination with a water wheel and shaft, of an inclined elevating track therefor, a shaft-bearing arranged to open to said track, a pinion upon said shaft, a rack paralleling the track, and means for throwing said rack into or out of operative association with the pinion upon the shaft.

2. The combination with a water wheel and shaft, of an elevating track for the shaft; a bearing arranged to open to said track, a pinion upon the shaft, having a pitch line of substantially the same radius as the portion of the shaft bearing on the track; a rack element paralleling said track, having upper and lower racks adapted for alternative engagement with opposite sides of the pinion; and means for shifting said rack members to bring either rack into operative relation to the pinion.

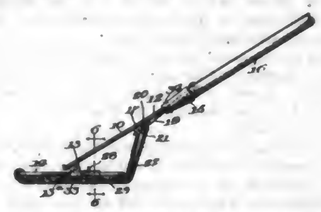
3. The combination of a hull providing separated floats and an intermediate passage, a water wheel in said passage, a shaft therefor, inclined tracks for the opposite ends of the said shaft, bearings for said shaft ends communicating with said tracks, pinions upon the shaft ends, rack members disposed for coöperation with the said pinions to cause the wheel in its rotation to elevate or lower itself upon the inclined tracks, and means for simultaneously shifting the rack members associated with the opposite pinions to cause either up or down movement of the shaft.

4. The combination of a hull, a water wheel mounted upon said hull, an inclined track, a water-wheel shaft adapted to roll upon the track, means for applying the rotation of the water wheel to cause it to elevate or lower itself upon said inclined track, and a longitudinally shiftable counterpoise upon said hull.

5. The combination of a hull, a water wheel mounted upon said hull, an inclined track, a water wheel shaft adapted and arranged to roll upon said track, and means for applying the rotation of the water wheel to cause it to elevate or lower itself upon said inclined track.

970,197. COMBINED MOP HEAD AND WRINGER. ARTHUR R. DOUGLASS and JAMES F. WILLETT, Charlton, Iowa, assignors of one-third to Peter E. Vail, Charlton, Iowa. Filed Jan. 21, 1910. Serial No. 539,259.

1. In a combined mop head and wringer, the combination with a handled frame, of a mop holder pivotally secured on said frame, a roller journaled on the frame, a mop cloth connected to the front portion of the mop holder and also to the roller, and a spring arranged with respect to the frame and mop holder to exert its tension against the mop cloth as it is wound on the roller.



2. In a combined mop head and wringer, the combination with a handled frame comprising spaced forwardly extending side arms, each provided with a hanger, of a mop holder having a transverse rod journaled in said hangers, a roller journaled on the upper portion of the frame, a mop cloth connected to the front portion of the holder and also to the roller, a spring coiled around the rod of the holder and having one of its ends resting against a part of the holder, and its other end resting against one of the side arms whereby said spring will exert its tension against the mop cloth as it is wound on the roller.

3. In a combined mop head and wringer, the combination with a handled frame comprising spaced forwardly extending side arms, each provided with a hanger, of a mop holder having a transverse rod journaled in said hangers and provided at its front end with a transverse slot, a slotted roller journaled on the upper portion of the frame, a crank handle to turn said roller, a mop cloth extended through the slot in the front portion of the holder and also through the slot in the roller, springs coiled around the rod of the holder and having one of their ends resting against a part of the holder, and their other ends resting against the side arms whereby said springs will exert their tension against the mop cloth as it is wound on the roller.

970,198. CLOCK. ELMER ELLSWORTH DUNGAN, Philadelphia, Pa., assignor of one-half to Charles M. Klump, Philadelphia, Pa. Filed Apr. 26, 1910. Serial No. 557,671.



1. In a clock, a frame, a vertical scale, an object movable thereover, a multilated gear wheel attachable to the hour arbor of a clock, a drum revoluble by said gear, a ligament passed over said drum and connected with said object, and a pinion movable with said drum and meshing with said gear wheel.

2. In a clock, a vertical scale, an object movable thereover, a frame, a clock mechanism mounted therein, a mutilated gear mounted on the arbor of the clock, a drum, a ligament connected with the drum and with said object, and a pinion on the shaft of the drum and movable therewith, said pinion coöperating with the gear to raise the drum, and when coincident with the mutilated portion of the gear allowing said object to fall by gravity.

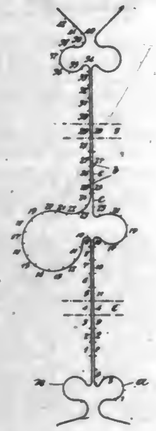
3. In a clock, a vertical scale, a movable object movable thereover, means for moving said object, a ligament, and wedge means for connecting said ligament to said object.

4. In a clock, a vertical scale, a movable object movable thereover, means for moving said object, a ligament, screw eyes in said object, and a fastening pin engageable at one end with said ligament and one of said eyes and at the other end with the other eye.

5. In a clock, a vertical scale, a movable object movable thereover, means for moving said object, a ligament, screw eyes engaged in said object, and a fastening pin having one end engageable with said ligament and one eye and the other end adapted to be sprung into engagement with the other eye to turn the first-named eye into a position parallel with the other of said eyes.

[Claim 6 not printed in the Gazette.]

970,199. METHOD OF PRINTING MOVING-PICTURE FILMS. FRANK L. DYER, Montclair, and DELOS HOLDEN, Upper Montclair, N. J., assignors to Edison Manufacturing Company, West Orange, N. J., a Corporation of New Jersey. Filed Nov. 8, 1905. Serial No. 286,444.

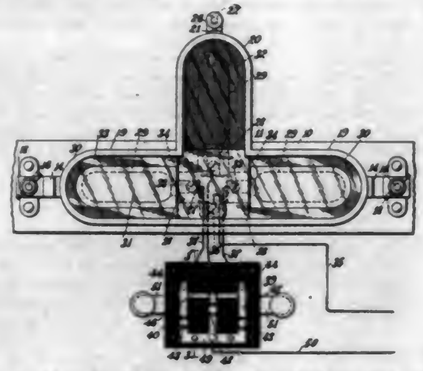


1. The method of printing a moving picture film from a negative containing a continuous straight line sequence of photographic impressions in regular order of successive positions of a moving object or objects, which consists in superimposing the negative upon the sensitive film, passing the two films together across a suitable exposure opening, printing upon the sensitive film at said opening an arithmetical series of positive pictures separated by blank spaces, in then causing the two films to follow paths of unequal length to a second exposure opening whereby the negative film is shifted longitudinally with respect to the positive, and in then printing at said second opening upon the blank spaces of said positive the pictures not printed at the first operation, substantially as set forth.

2. The method of printing a moving picture film from a negative containing a continuous straight line sequence of photographic impressions in regular order of successive positions of a moving object or objects, which consists in superimposing the negative upon the sensitive film, passing the two films together across a suitable exposure opening, printing upon the sensitive film at said opening an arithmetical series of positive pictures separated by blank spaces, in then causing a relative longitudinal shift between the two films equal to an integral even number of pictures, and passing the two films together across a second exposure opening, and in then printing at said second opening upon the blank spaces of

said sensitive film the pictures not printed at the first operation, in an arithmetical series, displaced from their proper numerical positions with respect to the first named series, an amount equal to the relative shifting of the films, substantially as set forth.

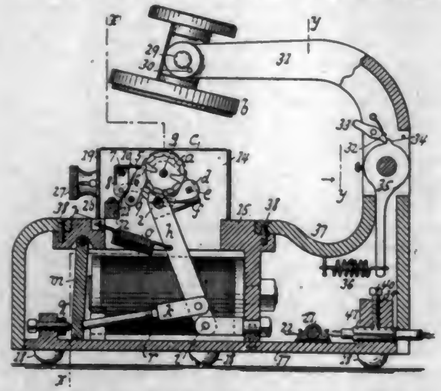
970,200. INDICATOR. CHARLES EMSHEIMER, New York, N. Y. Filed Sept. 24, 1909. Serial No. 519,305.



1. A casing having horizontal and alined portions and a vertical central portion, the front and back being parallel, the back being hinged and the front having transparent material therein, the transparent material of the vertical portion being a different color from that of the other portions, the casing being provided with vertical partitions at the inner ends of the horizontal portions, an electric light in each portion of the casing, and a switch, whereby the light in the vertical portion of the casing may be lighted alone, or it and either of the other lights lighted.

2. A casing having horizontal and alined portions and a vertical central portion, the front and back being parallel, the back being hinged and the front having transparent material therein, the transparent material of the vertical portion being a different color from that of the other portions, the casing being provided with vertical partitions at the inner ends of the horizontal portions, an electric lamp bracket carried by the hinged back, incandescent lamps carried by the bracket and projecting into the portions of the casing, and means for controlling the lamps.

970,201. TIME-STAMP. WILLIAM J. ENGLISH, New York, N. Y. Filed Dec. 13, 1905. Serial No. 291,614.



1. A time stamp having live pawls and a live pawl frame, a slotted sleeve, a pin for supporting the sleeve on the frame, an actuating lever extended into the slot in the sleeve, a link connected to the pin, a lock engaged by the link, locking pawls against which the lock is made to squarely sit so as to be rigidly held thereby, and ratchets engaged by the live and locking pawls.

2. A time stamp comprising live pawls and a live pawl frame, a link loosely connected to the frame by a pin and slot connection, a lock engaged by the link, locking pawls disconnected from and engaged by the lock, and ratchets engaged by the pawls.

3. A time stamp comprising a live pawl frame and an actuating armature therefor, a noncircular rock shaft in the frame, pawls fixed to the shaft to rock together or swing in unison, ratchets actuated by the pawls, a lock actuated by the frame, locking pawls for the ratchets engaged by the lock, springs for the locking pawls and a supporting bar for the springs capable of being set or turned for regulating the tension of the springs.

4. A time stamp comprising an inner casing having time printing mechanism mounted thereon, and an outer casing surrounding said inner casing and horizontally adjustable at different angles therewith and having mounted thereon an arm carrying a platen vertically movable above the time printing mechanism.

5. A time stamp having a case, wheel actuating pawls and mechanism in the case, locking pawls, a pivot back of the locking pawls, a releasing link, a lock mounted on the pivot and having arms, one of which is extended from the pivot to the locking pawls to sit squarely thereagainst when such pawls engage the wheels and the other of which is connected to the releasing link and is accessible from the exterior so that it can be actuated by hand or by a hand tool or pusher for enabling the lock to be freed or disengaged.

[Claims 6 to 19 not printed in the Gazette.]

970,202. FOLDABLE PERAMBULATOR. CHARLES EDWARD FANNING, Davenport, Iowa. Filed Apr. 3, 1908. Serial No. 424,960.



1. A perambulator comprising a running gear including side rock shafts, wheels mounted on the rock shafts, and front and rear pivoted standards arranged to swing longitudinally of the perambulator, coöperating means mounted on the rock shafts and on the standards for partially rotating the rock shafts when the standards are oscillated, and a foldable handle located in rear of the rear standards.

2. A perambulator comprising a running gear including longitudinal rock shafts, front and rear pivoted standards arranged to swing longitudinally of the perambulator and connected with and rotating the rock shafts, front and rear wheels carried by the rock shafts and foldable beneath the running gear by the rotary movement of the rock shafts, a foldable body carried by the standards, and a handle pivotally connected with the running gear and located in rear of the rear standards.

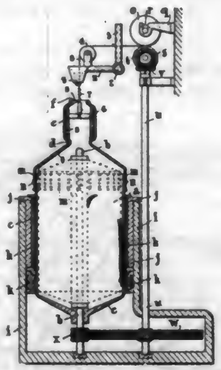
3. A perambulator comprising a running gear including longitudinal rock shafts, pivoted front and rear standards arranged to swing longitudinally of the perambulator and connected with and rotating the rock shafts, front and rear wheels carried by the rock shafts and foldable beneath the running gear by the rotary movement of the rock shafts, a foldable body carried by the front and rear standards, and a pivoted handle connected with the running gear in rear of the rear standards and arranged to actuate the latter.

4. A perambulator including a running gear having longitudinal rock shafts, front and rear wheels mounted on the rock shafts and foldable beneath the running gear, front and rear pivoted standards arranged to swing longitudinally of the perambulator, a body having a frame connected with the front and rear standards, means operated by the standards for rotating the rock shafts, and a handle pivoted to the running gear in rear of the rear standards and arranged to actuate the same.

5. A perambulator including a running gear having longitudinal rock shafts, front and rear wheels mounted on the rock shafts and foldable beneath the running gear, and front and rear pivoted standards, a body having a frame connected with the standards, means operated by the standards for rotating the rock shafts, and a pivot handle located in rear of and arranged to oscillate the standards.

[Claims 6 to 19 not printed in the Gazette.]

970,203. SPINNING-MACHINE. SEBASTIAN ZIANI DE FERRANTI, Grindleford, near Sheffield, England. Original application filed Aug. 3, 1905, Serial No. 272,560. Divided and this application filed Apr. 10, 1909. Serial No. 489,126.



1. In apparatus for the treatment of fibrous material, the combination of a rotatable element containing a certain quantity of liquid maintained in juxtaposition to inner superficial areas thereof by forces dependent on the rotation of said element; means for rotating the said element; and means for causing relative movement between said liquid and said material progressively to wet the same.

2. In apparatus for the treatment of fibrous material, the combination of a rotatable element containing liquid symmetrically wetting certain parts thereof, said symmetrical wetting being in part dependent on forces due to the rotation of said element; means for rotating the said element; and means for causing relative movement between said liquid and said material progressively to wet the same.

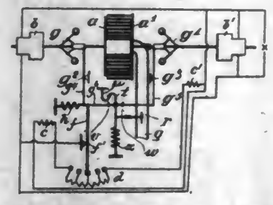
3. In apparatus for the treatment of fibrous material, the combination of a rotatable element containing an annulus of liquid maintained therein by forces dependent on the rotation of said element; means for rotating the said element; and means for causing relative movement between said liquid and said material progressively to wet the same.

4. In apparatus for the treatment of fibrous material, the combination of a rotatable element containing liquid, means for rotating the said element, and means in part dependent on forces due to the rotation of said element for progressively contacting said liquid and said material to wet the same.

5. In apparatus for the treatment of fibrous material, the combination of a rotatable element containing a certain quantity of liquid, means for rotating the said element, and means for causing relative movement between said liquid and said material, forces due to the rotation of said element acting both to maintain liquid in juxtaposition to inner superficial areas of said element, and also to assist in the progressive contacting of said material and said liquid.

[Claims 6 to 17 not printed in the Gazette.]

970,204. GAS-TURBINE. ERIK AUGUST FORSBERG and BIRGER LJUNGSTRÖM, Stockholm, Sweden. Filed Apr. 13, 1907. Serial No. 367,955.



1. In a steam or gas turbine, the combination with two oppositely rotating vane systems and a direct current electric generator connected to each system connected to the same circuit; of counteracting speed regulators connected to the systems, the movement of the regulators changing at a variance of speed between the systems, a circuit regulator operated by the speed regulators to regulate the exciting circuit to the field magnets of the generators in proportion to the different speeds of the systems.

2. In a steam or gas turbine, the combination with two oppositely rotating vane systems and a direct current electric generator connected to each system connected to the same circuit; of counteracting speed regulators connected to the systems, the movement of the regulators changing at a variance of speed between the systems, a variable electrical resistance inserted in the exciting circuit to the field magnets and controlled by the regulators and thereby automatically regulating the exciting circuit to the field magnets of the generators.

3. In a steam or gas turbine, the combination with two oppositely rotating vane systems and a direct current electric generator connected to each system connected to the same circuit; of a speed regulator for each system, movable means to connect the regulators, a variable resistance in circuit with the field magnets of the generators and controlled by said movable means and a steam throttling device actuated by said movable means.

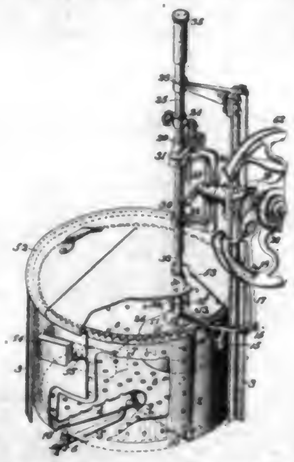
4. In a steam or gas turbine, the combination with two oppositely rotating vane systems and a direct current electric generator connected to each system connected to the same circuit; of counteracting speed regulators and means to connect them, said means actuated by the regulators, and a variable resistance in circuit with the field magnets of the generators controlled by said means.

970,205. WASHING-MACHINE. JOHN C. FORSTER, Pittsburg, Pa. Filed Nov. 16, 1909. Serial No. 528,320.

1. In a washing machine, the combination of a tub, a perforated clothes carrier movably mounted therein, a toothed rack encircling the carrier, a dog engaging the rack, dog actuating means, and a pounder operative within the carrier.

2. In a washing machine, the combination of a clothes container, a horizontal bearing supported above the container, guide arms projected from the bearing, a vertically movable pounder having an operating stem guided by said arms, a crank shaft journaled in the bearing with the crank thereof arranged between said arms, and an adjustable connection between the crank and the pounder stem.

3. In a washing machine, the combination of a tub, a perforated clothes container rotatable within the tub, a circular rack carried by the upper portion of the container, a dog movably mounted on the tub and operatively engaging the rack, and dog operating means.

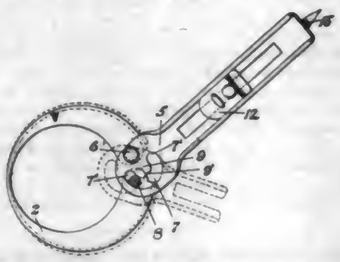


4. In a washing machine, the combination of a tub, a perforated clothes container rotatably mounted in the tub, a cover for the tub, and container moving means operative at the exterior of the tub and extending into a portion thereof beneath the cover and operatively engaging the upper portion of the container.

5. In a washing machine, the combination of a tub, a perforated clothes container rotatably mounted in the tub, a cover for the tub, a circular rack secured to the upper portion of the container, an arm mounted to oscillate on the tub and extending into the space beneath the cover, a dog on the arm for engaging the rack, and arm oscillating means at the exterior of the tub.

[Claims 6 to 11 not printed in the Gazette.]

970,206. HOUSEHOLD-TOOL. JOHN C. FORSTER, Pittsburg, Pa. Filed Dec. 16, 1909. Serial No. 533,414.



1. The combination of a curved one-piece cap-embracing member having its ends adjacent each other, said member having a top portion which bears on the top surface of the cap with said top portion flanged downwardly to grip the side face of the cap, the end portions of said member being inflexible and its intermediate portion resilient, a handle pivoted to one end of the member, and a cam-slot and pin connection between the handle and the other end of the member.

2. The combination of a cap-embracing band of resilient contractile material, the band being curved in ring-like form with the ends thereof adjacent each other, a handle pivoted to one end of the band, a cam-slot and pin connection between the handle and the other end of the band, the wall of the slot having a seat for engaging the pin of said connection for setting the said band in an expanded inoperative position.

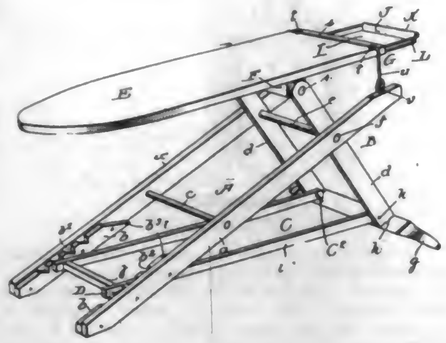
3. The combination of a cap-embracing member shaped from a single piece of metal with its ends adjacent each other, said member having flat top portions decreasing in width backwardly from said ends and also formed with a depending cap engaging flange, a handle pivoted to the flat surface at one end of said member, and a pin and slot connection between the handle and the flat top surface of the other end of said member.

4. The combination of a cap-embracing member formed of resilient contractile material and of ring-like form with its ends adjacent each other, a handle pivoted to one end of the member, the handle formed with a double cam-slot, both ends of the slot being nearer the handle pivot than the other portions of the slot with the slot forming a tongue-like projection, the end of said projection being formed with a seat, and a pin carried by the other end of said member and entered in the slot and adapted to be engaged by said seat for setting said cap-embracing member in an expanded inoperative position.

5. The combination of a cap-embracing member shaped from a single piece of metal with its ends adjacent each other, the metal being widest adjacent its ends and decreasing in width from said ends to form the resilient intermediate portion, a handle pivoted to one of said ends, and a cam-slot and pin connection between the handle and the other of said ends.

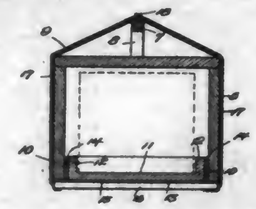
[Claims 6 and 7 not printed in the Gazette.]

970,207. IRONING-TABLE. GEORGE FOSTER, East Auburn, Cal. Filed May 31, 1910. Serial No. 564,238.



The combination in an ironing table, of a long supporting member having side bars connected together and also having strips fixed to the inner sides of said side bars and provided with notched upper edges and rear beveled ends, a comparatively short supporting member having side bars pivoted at an intermediate point in their length to the inner sides of the side bars of the long supporting member and also having a transverse base fixed to the lower ends of the side bars and angular connections extending between and fixed in said side bars and base, a locking member having side bars connected together and pivoted on the transverse portions of the said angular connections and also having connecting pins fixed to and extending beyond the outer sides of said side bars and adapted to seat in the notches and rest on the beveled ends of the said strips, a board having a block fixed to its under side and also having reduced end portions on said block disposed in the upper portions of the side bars of the short supporting member, and a bail having a transverse portion pivoted to the upper side of the rear portion of the board and also having depending arms connected to the rear ends of the side bars of the long supporting member.

970,208. GRAVE-VAULT. JOSEPH W. FREEMAN, Peebles, Ohio. Filed Apr. 22, 1910. Serial No. 557,065.



1. A grave vault comprising a wooden box open at the bottom and having an outer air-tight covering of sheet metal, said covering being extended around the lower edges of the box and up within the same, and a wooden bottom adapted to fit within the opening of the box, said bottom having an outer sheet metal covering extended up beside the edges of said bottom.

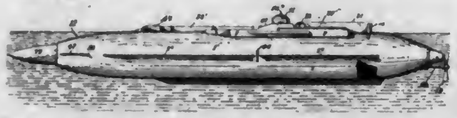
2. A grave vault comprising a wooden box open at the bottom and having an outer air-tight covering of sheet metal, said covering being extended around the lower edges of the box and up within the same, and a wooden bottom adapted to fit within the opening of the box, said bottom having strips around the edge thereof to confine the casket in position, and also having an outer sheet metal covering extending upwardly beside said strips.

970,209. WRENCH. ALIX FRESKO and BELA W. FRESKO, Amsterdam, Ohio. Filed July 26, 1910. Serial No. 573,904.



A wrench of the type described, embodying a plate, a housing carried thereby, a tubular handle carried by said housing, a rod arranged in said handle and extending into said housing, a crank carried by the outer end of said rod, a ratchet actuating head carried by the opposite end of said rod within said housing and having a cam path, a plunger arranged in said housing and adapted to engage the cam path of said head, a toothed pawl carried by said plunger, a coiled retractile spring having one end thereof attached to said plunger adjacent to said housing and the opposite end thereof attached to the wall of said housing, a ratchet collar revolubly mounted in said plate and adapted to be engaged by said pawl, a cover plate inclosing said ratchet collar and said plunger, said ratchet collar having a bore formed therein for a nut or drill socket, substantially as described.

970,210. SUBMARINE TORPEDO-BOAT. ALVARADO M. FULLER, Topeka, Kans. Filed Apr. 14, 1908. Serial No. 427,070.



1. The combination with a buoyant tube or shell, of a torpedo carried thereby and forming a bow therefor, and means thrown into action on the expulsion of the torpedo to form a temporary bow for the said tube or shell.

2. A buoyant tube or shell having a chamber therein for the reception of a single torpedo, devices within the chamber for holding a torpedo locked therein with its front end projecting to form the bow of the tube or shell, mechanism for releasing the torpedo and expelling the same from within its chamber, and a movable device within the chamber thrown into action on the expulsion of the torpedo to form a temporary bow for the said tube or shell.

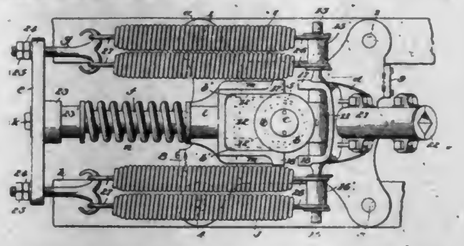
3. An enveloping tube or shell for a torpedo, the same comprising a buoyant body, having a chamber therein for the reception of a single torpedo, of means arranged within the tube or shell for controlling the movement thereof through the water, devices within the torpedo chamber connected to the rear end of the torpedo for locking the torpedo therein with its front end projecting beyond the tube or shell to form a bow therefor, and of mechanism for releasing the torpedo and expelling the same from within its chamber.

4. The combination with a torpedo, of a buoyant tube or shell within which the torpedo is held, to form the bow portion thereof, of devices connected to the rear end of the torpedo for locking the torpedo therein, means within the shell for releasing the torpedo and expelling the same from within the buoyant tube or shell, mechanism for propelling the tube or shell on the surface of the water and when submerged, and devices controlling the submergence of the buoyant tube or shell.

5. A buoyant tube or shell having a chamber therein for the reception of a single torpedo, a sabot with which the torpedo interlocks working within the said chamber, devices for locking the sabot within the chamber and holding the torpedo therein to cause its front to project therefrom and form a bow for the tube or shell, mechanism for releasing the sabot and forcing it outwardly to expel the torpedo, devices for locking the sabot at the opter end portion of the torpedo chamber to cause the same to form a temporary bow for the tube or shell on the torpedo being released therefrom, and means within the said tube or shell for propelling the same.

[Claims 6 to 64 not printed in the Gazette.]

970,211. TROLLEY-BASE. CHARLES E. GIERDING, Newark, N. J., assignor to Sterling-Meaker Company, Newark, N. J., a Corporation of New Jersey. Filed June 7, 1909. Serial No. 500,487.



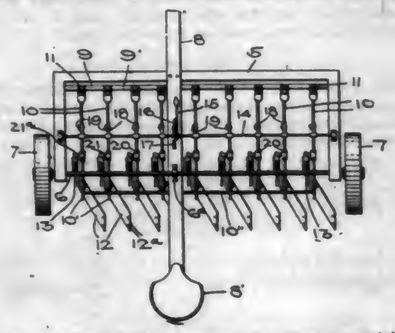
1. A trolley base having, in combination, a base plate constructed with a dished middle portion, a turret having its vertical pivot within said dished portion and constructed with a transverse horizontal pivot socket on its front within and near the bottom of said dished portion and a strut socket at right angles to said pivot socket on its back immediately above the plane of said dished portion, a pole fork having recurved lower ends pivoted to said turret at said pivot socket within said dished portion and having buffer surfaces at its back, a strut seated in said strut socket, a cross bar supported by the rear end of said strut, connections including tensile springs between said cross bar and said pole fork, a buffer spring embracing said strut and seated on said cross bar, and a buffer fork having a sleeve portion slidable on said strut in contact with said buffer spring and bifurcations arranged to interact with said buffer surfaces of the pole fork.

2. The combination, in a trolley base, of a turret having a vertical axis of rotation and constructed with a transverse horizontal pivot socket on its front near its bottom, a superjacent strut socket at right angles to said pivot socket on its back, a pair of guides at the sides of

said strut socket, and horizontal runways in the plane of said guides, a pole fork pivoted to said turret at said pivot socket and having buffer surfaces at its back, a strut seated in said strut socket, a crossbar supported by the rear end of said strut, connections including tensile springs between said crossbar and said pole fork, a buffer spring embracing said strut and seated on said crossbar, and a buffer fork having a sleeve portion slidable on said strut in contact with said buffer spring and bifurcations constructed with extremities arranged to interact with said buffer surfaces of the pole fork and inwardly projecting fins arranged to slide within said runways of the turret.

3. The combination, in a trolley base, of a base plate having a dished middle portion, a turret mounted in said dished portion and having a vertical axis of rotation and constructed with a transverse horizontal pivot socket near the bottom of said dished portion and a strut socket at right angles to said pivot socket immediately above the plane of said dished portion, a pole fork constructed with recurved lower ends pivoted to said turret at said pivot socket within said dished portion and having convexly curved buffer surfaces at its back, a strut seated in said strut socket, a crossbar supported by the rear end of said strut, connections including tensile springs between said crossbar and said pole fork, a buffer spring embracing said strut and seated on said crossbar and a buffet fork having a sleeve portion slidable on said strut in contact with said buffer spring, and bifurcations arranged to interact with said buffer surfaces of the pole fork, substantially as hereinbefore specified.

970,212. WEEDING-MACHINE. HENRY HARLAN GOE, Prescott, Wash. Filed Jan. 7, 1910. Serial No. 536,848.

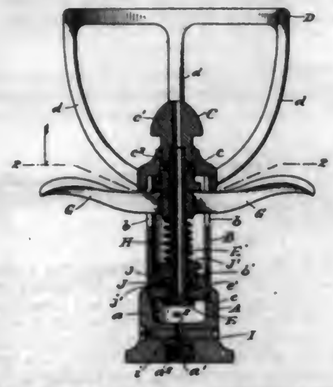


1. A machine of the character described comprising a wheel supported frame, a transverse rod secured in the forward end of said frame, a plurality of parallel longitudinal cutter beams hingedly secured to said rod, the rear end of each of said beams being downwardly curved to lie in a plane transverse to the vertical plane of the beams, a transverse brace bar secured to the beams, a cutting blade secured to the extremity of the curved end of each of the beams, said blades extending rearwardly of the beams and obliquely thereto, said blades having two edges and being adapted to be turned end for end and means for elevating or lowering said blades.

2. A machine of the character described comprising in combination, a wheel supported U-shaped frame, the rear of said frame being open, a transverse rod secured in the forward end of said frame, a plurality of parallel longitudinal cutter beams hingedly secured to said rod, obliquely disposed cutter blades secured to the rear ends of said beams, said blades being disposed at a vertical inclination, a transverse brace bar secured at its ends to each of the beams, a rod extending transversely and secured in the frame, a plurality of laterally extending arms carried by said rod, a vertical arm secured to each of said beams, said arms being pivotally connected at their ends, a tongue positioned centrally on the frame, and an adjusting lever secured at its lower end to said rod and adapted to rotate the rod to raise or lower the cutting blades.

3. A machine of the character described comprising in combination, a wheel supported U-shaped frame, a shaft secured in the front end of said frame, a plurality of cutter beams hingedly secured at their forward ends to said shaft, the rear ends of said beams being downwardly curved and twisted to lie in a plane transverse to the vertical plane of the beams, a cutting blade secured to the extremity of the curved end of each of the beams, said blades extending rearwardly of the beams and in oblique relation thereto, a rotatable cutting disk carried by each of the beams adjacent to the forward end of the blade, a transverse rod rotatably mounted in said frame, a lateral arm secured upon said rod adjacent to each of the cutter beams, said arms being pivotally connected to the beams, a tongue centrally positioned upon the frame, an adjusting lever rigidly secured at its lower end to the rod, a rack segment mounted upon the tongue and a spring actuated dog carried by the lever adapted to hold said lever in its adjacent position, to retain the cutting blades and disks against vertical movement.

970,213. SANITARY DRINKING-FOUNTAIN. JOHN GOEBEL, New York, N. Y., assignor to Joseph H. Jasper and John Goebel, composing The Firm of Jasper & Goebel, New York, N. Y. Filed Jan. 31, 1910. Serial No. 540,997.



1. In a drinking fountain, a stationary nozzle, a guard positioned adjacent to the nozzle, a tubular valve stem reciprocating with respect to the nozzle and adapted to supply liquid thereto, a valve on said valve stem, and means independent of the nozzle for operating said valve stem.

2. In a drinking fountain, a stationary nozzle, a protecting guard extending around and beyond the outlet of the nozzle, a tubular valve stem reciprocating with respect to the nozzle and adapted to supply liquid thereto, a valve chamber, a valve in said chamber, and means independent of the nozzle for operating said valve and valve stem.

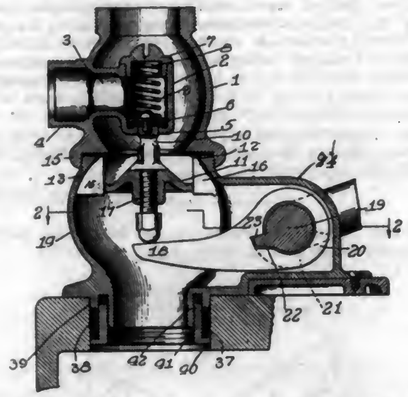
3. In a drinking fountain, a stationary nozzle, a protecting guard positioned adjacent to the nozzle, a valve chamber, a valve in said chamber, a tubular valve stem cooperating with the nozzle and valve and adapted to supply liquid to the nozzle, inlet ports in said valve stem, tension means independent of the nozzle for normally cutting off the flow of water by closing said valve, and separate means for actuating the stem and valve against the tension means, whereby the valve is adapted to be opened.

4. In a drinking fountain, a base, a hollow column thereon, a cap on said column, a nozzle rigidly attached to the cap, a valve in said base, a tubular reciprocable valve stem coöperating with the valve and the fixed nozzle, and means on said valve stem for controlling the flow of water through the nozzle.

5. In a drinking fountain, a base provided with a threaded opening, a valve chamber, and a port connecting said threaded opening and valve chamber, a plug on said base, a hollow valve stem extending to said nozzle and slidably mounted within said plug, ports within said valve stem, a valve on said stem, and means independent of the nozzle for placing said valve under tension and controlling the flow of liquid through the valve stem.

[Claims 6 to 9 not printed in the Gazette.]

970,214. CLOSET-FLUSHING APPARATUS. WILLIAM SYDNEY GRAHAM, Chicago, Ill., assignor to Federal-Huber Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 28, 1908. Serial No. 455,178.



1. In combination with a flush-tank and closet-bowl, a member intermediate of said tank and bowl whereby the water is conveyed from the former to the latter, a second member located within the other and having an opening whereby communication between the two members is had, said second member having a service-pipe connection, a valve normally seated in the opening in the second member, a second valve intermediate of the first mentioned valve and the bowl-connecting end of the first mentioned member, means whereby said valves are operatively connected, and a lever adapted to be operated by the closet-seat and arranged to actuate said means to force one of said valves from its seat while the other valve is forced toward its seat.

2. A closet-flushing apparatus comprising a flush-tank and a closet-bowl, a casing communicating at its opposite ends with the tank and bowl and provided with a service-pipe connection intermediate of its ends, a pair of operatively connected valves adapted to control the service-pipe connection and the communication with the bowl, means whereby the valves are maintained in normal position so that the bowl connection is established while the service pipe connection is cut-off, means whereby the valves are guided in their movement, in combination with a spring-controlled closet-seat and a lever operatively connected therewith, said lever being adapted to oscillate and control the position of said valves.

3. In a closet flushing apparatus, a casing having normally open communication at opposite ends with a flush tank and closet-bowl respectively and communicating between its ends with the service-pipe, a valve-seat on the lower end of said casing, an oppositely disposed valve-seat disposed between the ends of said casing, valves having a common stem and seating on said respective valve-seats and controlling the connections between said casing and said closet-bowl and service-pipe respectively, a spring normally maintaining said valves in position to maintain the service connection closed and the closet-bowl connection open, and a lever operatively connected with the closet-seat and serving when the latter is depressed to reverse the positions of said valves.

4. In a closet flushing apparatus, a member connected between its ends with the service pipe, a centrally disposed cylinder therein closed at its upper end and equipped with a valve seat at its lower end interposed in said service pipe connection, a valve seat on the lower end of said member, a reciprocating member equipped at its ends with valves seating on said respective valve seats, one of said valves being normally closed and the other open, connection between said member at opposite ends with a flush tank and closet bowl respectively, one of said valves controlling the closet bowl connection, and means actuated and controlled by the closet seat and operatively engaging said reciprocating member to actuate said valves.

5. The combination with a closet bowl having an opening therein for the admission of water to flush the same, of a casing supported upon the upper face of the closet bowl and communicating with the latter through the said opening, a flange on said casing entering said opening, an expansion gasket disposed between said flange and the wall of said opening, a member operatively engaging said flange and said gasket to laterally expand the latter, valve controlled connection between said casing and a flush tank, valve controlled connection between said flush tank and the service pipe, and means movable in said casing actuated by the closet-seat and operatively controlling said valve controlled connections.

[Claims 6 to 12 not printed in the Gazette.]

970,215. PREPARATION IMPERMEABLE FOR ROENTGEN RAYS. OSCAR GROS, Leipzig, Germany. Filed June 29, 1910. Serial No. 569,556.

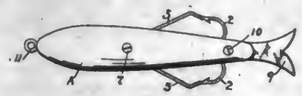
1. The hereindescribed composition of matter impermeable to Roentgen rays, consisting of a comminuted substance indifferent to animal fluids, said substance being coated with a metal compound impermeable to Roentgen rays.

2. The hereindescribed composition of matter impermeable to Roentgen rays, consisting of a comminuted silica compound insoluble in water and diluted acids, said substance being coated with a metal compound impermeable to Roentgen rays.

3. The herein described preparations impermeable for Roentgen rays, consisting of white bolus coated with a metal compound impermeable for Roentgen rays.

4. The herein described preparations impermeable for Roentgen rays, consisting of white bolus coated with bismuth oxids.

970,216. ARTIFICIAL BAIT. CLYDE GROVE, Warren, Ohio. Filed July 10, 1909. Serial No. 506,910.



1. An artificial bait comprising a body portion split at one end, and a hook, tail, and guard, all held and partially housed in the slit of the split end of the body portion.

2. An artificial bait comprising a body portion having a slot in one end whereby it is split, a guard comprising a shank, and arm, and a hook and means extending through the shank for holding the guard and hook within the slot.

3. An artificial bait comprising a bifurcated body, hooks held in the bifurcated portion and a guard having spring arms held in the bifurcated portion of the body.

4. An artificial bait comprising a bifurcated body, a guard received in the bifurcation, hooks received in the bifurcation, and means passing through the bifurcation connecting the guard and hooks together and connecting them to the bifurcated body.

5. An artificial bait comprising a bifurcated body, hooks received in the bifurcated portion, a guard for the hooks comprising a loop, means connecting the guard and hooks together and connecting them to the body, and arms connected to the loop adapted to engage the hooks.

970,217. PROCESS OF PRODUCING AMINOACETYLPYROCATECHIN. WILHELM GRUETTEFIEN, Vohwinkel, near Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Original application filed Mar. 9, 1909, Serial No. 482,392. Divided and this application filed July 22, 1909. Serial No. 508,986.

1. The process for producing aminoacetylpyrocatechin, which process consists in first reacting upon dialkyl ethers of pyrocatechin with phthalylglycyl chlorid in the presence of aluminum chlorid and then saponifying the products thus produced, substantially as described.

2. The process for producing aminoacetylpyrocatechin which process consists in first reacting upon veratrol with phthalylglycyl chlorid in the presence of aluminum chlorid and then saponifying the product thus produced, substantially as described.

3. The process for producing aminoacetylpyrocatechin which process consists in first reacting upon dialkyl ethers of pyrocatechin with phthalylglycyl chlorid in the presence of aluminum chlorid and then saponifying the products thus produced with acids, and isolating the free base by means of alkali substantially as described.

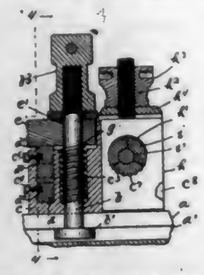
4. The process for producing aminoacetylpyrocatechin which process consists in first reacting upon veratrol with phthalylglycyl chlorid in the presence of aluminum chlorid and then saponifying the product thus produced with acids, and isolating the free base by means of alkali substantially as described.

970,218. COAL-HOD. JAMES L. HAIR, St. Elmo, Tenn. Filed Jan. 18, 1909. Serial No. 473,014.



A coal hod comprising a body having a concaved annular shoulder at a suitable distance above its lower edge, a rigid, flat, true bottom secured within the body of the hod and at a suitable distance below the said annular concaved shoulder, a concavo-convex false bottom disposed with the central portion of its convex face bearing on the corresponding portion of the upper face of the true bottom and having its periphery arranged in the concavity of the said shoulder whereby an annular increasing space is formed from the central contact points of the two bottoms to the body.

970,219. TOOL-POST FOR LATHES. HENRI HALDY, Waltham, Mass., assignor to John Stark, Waltham, Mass. Filed Apr. 18, 1910. Serial No. 556,190.

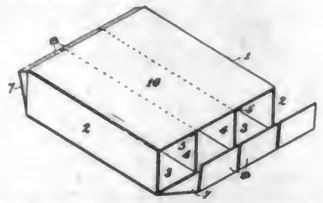


1. A tool-post for lathes comprising a lower clamping-member having a recess extending from end to end of it, upper and under clamping-jaws, both contained in said recess, separate means arranged on the front wall of said recess for loosely engaging each jaw, permitting a rocking movement of the upper jaw and a longitudinal movement of the lower jaw, and disposed to hold said jaws sufficiently remote from each other to receive a tool between them, said recess in the lower clamping-member being of a width corresponding to the width of the jaws and of the tool which is held by them, and an upper clamping-member movable into engagement with the upper clamping-jaw, substantially as described.

2. A tool-post for lathes comprising a lower clamping-member and an upper clamping member movable toward and from the lower clamping-member, an upper clamping jaw and a lower clamping jaw, the lower clamping-member having a recess extending from end to end of it, of a depth sufficient to receive both jaws and a tool between them, and of a width corresponding to the width of the jaws and of a tool held by them, whereby said jaws and tool are supported by the front and back walls of said recess, substantially as described.

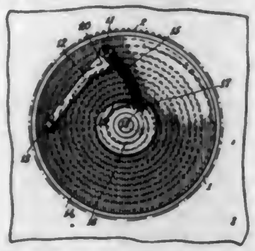
3. A tool-post for lathes comprising a lower clamping-member and an upper clamping-member movable toward and from the lower clamping-member, an upper clamping-jaw having a hole in its front side and an attaching-screw for said jaw which enters and loosely fits said hole, whereby said jaw is free to rock, and a lower clamping-jaw having a slot in its front side, extending along its intermediate portion only, and an attaching-screw for said jaw, which enters and loosely fits said slot, whereby said lower clamping-jaw is free to move longitudinally, substantially as described.

970,220. CARTON. FREDERICK W. HANDSCHY, Seattle, Wash. Filed Nov. 12, 1909. Serial No. 527,711.



A three-cell carton formed of two pieces of board, one piece having a central section constituting one wall of all three cells of the completed carton, a series of three consecutive sections at opposite sides of this central section adapted to be bent to form the remaining side walls of the two outer cells, the other piece having a central portion secured to the central ones of the said end series of sections and forming the remaining side wall of the central cell and having extensions at two opposite sides each consisting of a section adapted to close the end openings of all the cells and this having three independent flaps extending therefrom and adapted each to enter one of the cells.

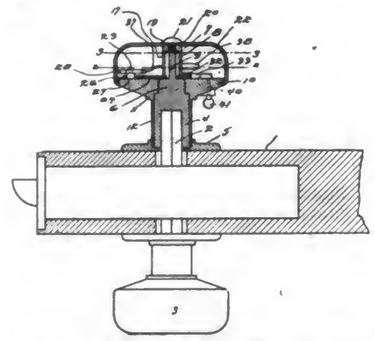
970,221. SAFETY WINDING DEVICE. ELWOOD HAWKINS, St. Michael, Alaska. Filed Dec. 13, 1909. Serial No. 532,721.



1. In combination, a barrel having an inwardly extending curved slot in one side wall, a stem passing through the barrel, a collar on one end of the stem and provided with a shoulder, a spiral spring having one end secured to the stem and the other to the barrel, and an arm pivoted to the side wall of the barrel having the slot and provided adjacent to its free end with a projection adapted to engage the shoulder of the collar and at its free end with a pin projecting through the slot of the barrel and having a sliding engagement with the said spring.

2. In combination, a frame plate, a stem passing through said frame plate, means mounted on said frame plate for preventing a backward rotation of said stem, a spring barrel through which said stem passes, having an inwardly extending curved slot in one side wall, a spiral spring disposed within said spring barrel, having its inner end attached to said stem and its outer end to the barrel, an arm pivotally mounted on the wall of said spring barrel and having at its free end a pin projecting through the slot of the barrel and having a sliding connection with said spring, said arm being adapted to swing toward said stem as the spring is wound, said arm having a projection, and a collar carried by said stem outside of the barrel and having a projection into the path of which the projection of the arm may move to limit the winding movement of said stem.

970,222. COMBINED DOOR KNOB AND BELL. ROSS HAZELRIGG, Oakland, Cal., assignor of one-half to Pardon M. Bowen, Jr., Alameda, Cal. Filed Apr. 28, 1909. Serial No. 492,761.



1. A device of the character described comprising a spindle, a socket fast to one end thereof, a knob in the form of a bell detachably connected to said socket, a base plate loosely mounted on said socket, bell striking mechanism carried by said plate, a gear segment slidable on said plate and operated by said socket to actuate said bell striking mechanism, a spring normally holding said segment in engagement with the striking mechanism, and means for causing the said gear to slide to a disengaged position.

2. A device of the character described comprising a spindle, a socket thereon provided with a slotted extension, a sleeve surrounding said extension, a knob in the form of a bell detachably secured to said sleeve, a base plate loosely mounted on said socket, bell striking mechanism carried by said plate, a gear segment surrounding said extension and provided with lugs engaging with the slots therein, and a spring for normally holding said segment in engagement with said striking mechanism.

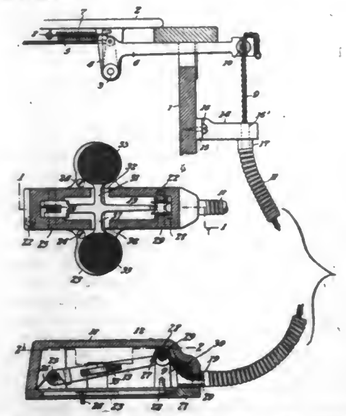
3. A device of the character described comprising a spindle, a socket fast thereon and provided with an extension, a sleeve surrounding said extension, a pin for holding said extension in engagement with said sleeve, a bell metal shell carried by said sleeve, a base plate loosely mounted on said socket, bell striking mechanism carried by said base plate, a gear segment surrounding said extension and adapted to slide transversely thereto, a spring for holding said segment in engagement with said striking mechanism, and a cam for removing the pressure of said spring from said segment.

4. A device of the character described comprising a bell metal shell, a spindle a socket supported by said spindle, a base plate carried by said socket, a stud carried by said plate, gear wheels mounted on said stud, a gear segment slidably carried by said socket for actuating said gears, means carried by said spindle socket for sliding said segment away from said gears, a hammer actuated by said gears to strike said shell, a spring for holding said segment in engagement with said gears, and means for removing the pressure of said spring from said segment.

5. A device of the character described comprising a spindle a socket, a base plate loosely mounted thereon, bell striking mechanism carried by said base plate, gears for operating said mechanism, a gear segment carried by said socket, a spring for holding said segment in engagement with said gears, a shaft extending through said plate, a cam carried by one end of said shaft, and a knob for actuating said shaft to cause the cam to remove the pressure of the spring from said segment.

[Claim 6 not printed in the Gazette.]

970,223. CONTROLLING DEVICE FOR PHONOGRAPHS. CHARLES L. HIBBARD, Chicago, Ill., assignor to New Jersey Patent Company, West Orange, N. J., a Corporation of New Jersey. Filed Apr. 5, 1906. Serial No. 310,138.



1. As a new article of manufacture, the combination with a tension member, of the flexible guide 11 and body 12 having a soft metal bushing 30 through which the tension member passes, substantially as set forth.

2. As a new article of manufacture, the combination of the flexible guide 11, hollow body 12, and lever 13 pivoted within said body and having a pair of arms 31 extending laterally through opposite walls of said body, substantially as set forth.

3. As a new article of manufacture, the combination of a flexible guide, a hollow body to which said guide is connected, a lever pivoted within said body to oscillate in a vertical plane, and a tension member passing through said guide and connected to said lever, said lever having an annular extension passing laterally through an opening in the wall of said body and adapted to be operated by foot pressure, substantially as set forth.

4. In a device of the character described, the combination of a flexible tension member, a spring for normally exerting tension upon one end thereof, a flexible guide, a body connected to one end of said guide, a vertically movable lever pivoted to said body and connected to one end of said tension member and a spring applied to said lever, said body being of sufficient weight and so shaped as to permit the lever to operate the tension member when the body rests upon the floor without being secured thereto, substantially as set forth.

5. In a device of the character described, the combination with a member to be operated, of means for operating the same from a distance, comprising a body, a movable operating member pivoted thereto, a long, flexible, mechanically operating, power transmitting connection between the two members capable of assuming and operating

in practically any position of curvature without intermediate support, said body being of sufficient weight and so shaped as to permit the operating member to be moved so as to operate the power transmitting connection when the body rests upon the floor without being secured thereto whereby the operating member may be located at any desired point within the range of the said power transmitting connection, substantially as set forth.

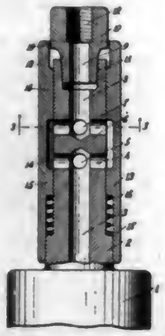
[Claim 6 not printed in the Gazette.]

970,224. TOOTH-POWDER DISTRIBUTER. HERMANN HOELZER, Osterholz-Scharmbeck, near Bremen, Germany. Filed Aug. 10, 1907. Serial No. 388,061.



A tooth-powder distributer comprising in combination an upper receptacle for the tooth powder having a longitudinal slot in the bottom which is slightly shorter than an ordinary tooth brush, a conical bottom part for said receptacle, a horizontal roller with teeth upon its surface revolubly mounted in the side walls of said receptacle above said slot so that its teeth touch the inner surface of the bottom part of the receptacle, a handle upon the outer end of said roller for revolving the same from outside the apparatus, a lower receptacle in which said upper receptacle is inserted and which is open at the front side so that the tooth brush can be easily inserted to be placed with its bristles under the slot of the upper receptacle, substantially as described and shown and for the purpose set forth.

970,225. THROTTLE-HANDLE FOR PNEUMATIC TOOLS. WILLIAM M. HOLDEN, Barre, Vt. Filed Nov. 11, 1909. Serial No. 527,449.



1. In a device of the class described, the combination with a tool, of a member connected to said tool, having a plurality of ports therein, one of said ports being connected to the source of motive fluid for operating said tool, the other of said ports being connected to said tool, and a sleeve slidingly mounted on said member, having a chamber therein adapted to connect said ports.

2. In a device of the class described, the combination with a tool, of a member connected to said tool, having a plurality of ports therein, one of said ports being connected to the source of motive fluid, another of said ports being connected to said tool, a sleeve slidingly mounted on said member and having a chamber therein adapted to connect said ports, and a spring adapted to co-act with said sleeve and said member to force said sleeve relative to said member.

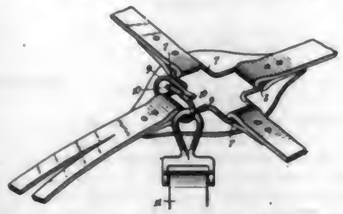
3. In a device of the class described, the combination with a tool, of a member connected to said tool, a sleeve slidingly mounted on said member and adapted to connect the source of supply of motive fluid to said tool, means for limiting the motion of said sleeve, and means for actuating said sleeve.

4. In a device of the class described, the combination with a tool, of a member connected to said tool, a sleeve slidingly mounted on said member and adapted to connect the source of supply of motive fluid to said tool, and adjustable means for limiting the motion of said sleeve.

5. In a device of the class described, the combination with a tool, of a member connected to said tool, having passages therein connected with said tool and the source of a motive fluid supply and also having a plurality of ports therein connected to said passages, a sleeve slidingly mounted on said member, inwardly-extending annular flanges on said sleeve forming a chamber between them, which is adapted to connect said ports, a spring engaging one of said flanges and adapted to force said sleeve so as to bring said chamber out of its connecting position with relation to said ports, and a supply nipple adjustably secured to said member and adapted to limit the motion of said sleeve.

[Claims 6 and 7 not printed in the Gazette.]

970,226. TRACE-SUPPORTER. GUY D. HOLM, Brady, Nebr. Filed Apr. 9, 1910. Serial No. 554,361.



1. A wire loop having crupper, hip and back strap pivot bars, the bars outwardly offset from the body of the loop, with the ends of the wire forming the loop lapping along the length of and forming one of the bars and turned upwardly and inwardly at the opposite sides thereof to form trace hooks.

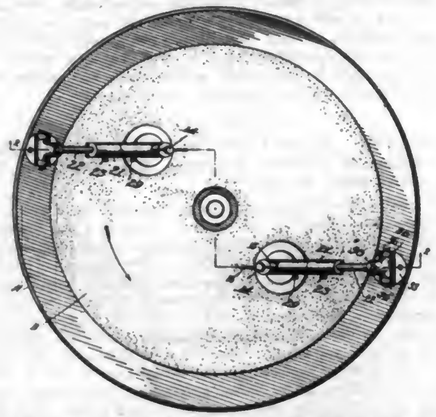
2. A wire loop having crupper, hip and back strap connecting portions, with the ends of the wire forming the loop, lapped and bent to form oppositely-turned trace hooks, with the end portions of the hooks brought together.

3. A wire loop having crupper, hip and back strap connecting portions, with the ends of the wire forming the loop lapping along the length of and forming one of the said portions, and turned upwardly and inwardly at the opposite sides thereof to form trace hooks, with the end portions of the hooks lapping each other.

970,227. GLASS-BEVELING MACHINE. EUGENE HOMAN, Jersey City, N. J. Filed Feb. 9, 1910. Serial No. 542,856.

1. A glass beveling machine comprising a rotary grinding table; a stationary holding frame having an arm extended over said grinding table; means for varying the line of extension of said arm to change the angle thereof with the radii of said table; and a disk holder rotatably mounted in said arm and in a position to incline the body of said holder from the plane of said table.

2. A glass beveling machine comprising a rotary grinding table; a stationary holding frame having an arm extended over said grinding table; means for varying the line of extension of said arm to change the angle thereof with the radii of said table; a disk holder rotatably mounted in said arm and in a position to incline the body of said holder from the plane of said table; and a supporting member extended under the raised edge of said holder and under the disk carried thereby to support the said disk in said holder.



3. A glass beveling machine comprising a rotary grinding table; a stationary holding frame having an arm extended over said grinding table; means for varying the line of extension of said arm to change the angle thereof with the radii of said table; a disk holder rotatably mounted in said arm and in a position to incline the body of said holder from the plane of said table; and a yielding support extended under the raised edge of said holder and the disk carried thereby to support said disk.

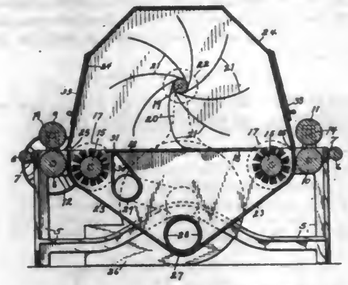
4. A glass beveling machine comprising a rotary grinding table; a stationary holding frame having an arm extended over said grinding table; means for varying the line of extension of said arm to change the angle thereof with the radii of said table; a disk holder rotatably mounted in said arm and in a position to incline the body of said holder from the plane of said table; a resilient member carried by said arm; and a rotary member rotatively mounted on said resilient member to extend under the edge of said holder and disk carried thereby.

5. A glass beveling machine comprising a rotary grinding table; a stationary holding frame having an arm extended over said grinding table; means for varying the line of extension of said arm to change the angle thereof with the radii of said table; a disk holder rotatably mounted in said arm and in a position to incline the body of said holder from the plane of said table; a sleeve adjustably mounted on said arm; a rotary member extended from said sleeve and pivotally connected therewith, said member extending below the raised edge of said holder and disk carried thereby; and a spiral spring to support said rotary member in bearing contact with said holder and disk.

[Claims 6 to 9 not printed in the Gazette.]

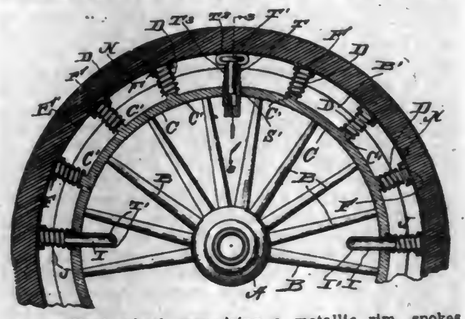
970,228. CARPET-CLEANING MACHINE. ADAM S. HORLACHER and HENRY C. BAASE, Indianapolis, Ind., assignors to Chief Manufacturing Company, Indianapolis, Ind., a Corporation of Indiana. Filed July 5, 1910. Serial No. 570,323.

1. A carpet cleaning machine comprising a frame, a plurality of feed rollers mounted in said frame and adapted to feed the work into either side of the machine, a plurality of rotary brushes mounted in said frame in parallel relation with said feed rollers, a longitudinally extending perforated sheet secured in the central portion of said frame, a rotary beater mounted in said frame over said perforated sheet to beat the work as it is passed over said perforated sheet, a vacuum cleaning nozzle secured in said frame to act upon the work as it is passed over said perforated sheet, a casing inclosing said cleaning elements, a means for exhausting the air together with the dust and dirt freed from the work from said casing, a means for operating said vacuum nozzle, and a means for imparting motion to said feed rollers, rotary brushes and rotary beater, substantially as set forth.



2. A carpet cleaning machine comprising a frame, a pair of feed rollers mounted in each side of said frame and adapted to feed the work into either side of the machine, a rotary brush mounted in said frame in parallel relation with and near each pair of feed rollers, a longitudinally extending perforated sheet secured in said frame between said rotary brushes, a shaft mounted in said frame above said perforated sheet having its axis in parallel relation with that of the rotary brushes, a plurality of radiating flexible beaters having one end of each secured to said shaft and their other ends adapted to beat the work as it is passed over said perforated sheet, a vacuum cleaning nozzle secured in said frame under said perforated sheet in a manner to act upon the work as it is being passed over said perforated sheet, a casing inclosing said cleaning elements, a conductor pipe having longitudinally extending openings and situated in the lower portion of said casing and adapted to be connected with a means for exhausting the air together with the dust and dirt freed from the work from said casing, a pipe connecting said vacuum nozzle with said conductor pipe, a throttling means situated in said conductor pipe in a manner to vary the relative amount of vacuum produced in said vacuum nozzle and said conductor pipe, and a means for imparting motion to said feed rollers, rotary brushes and said beaters substantially as described.

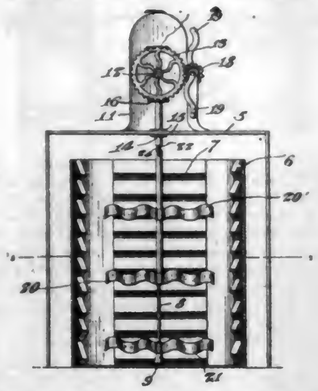
970,229. RESILIENT WHEEL. WINFIELD S. HOUSER, Dubois, Pa., assignor of one-half to William G. Brown, Dubois, Pa. Filed June 17, 1910. Serial No. 567,606.



A resilient wheel comprising a metallic rim, spokes fixed thereto, series of bosses projecting from the circumference of said rim, flanged rings movable against the

opposite edges of the latter, springs interposed between said flanges and rim, the inner ends of said springs engaging said bosses, lugs projecting from the inner face of one of said flanges and engaging the outer ends of the springs, a threaded plug fitted in a threaded aperture in the rim, a socket member upon the inner surface of the flange of one of said rings, a headed pin engaging said socket member and having a shank portion movable within a recess in said plug, a spring interposed between the latter and said socket member, hollow apertured tubes having threaded portions engaging the threaded apertures in the rim, coiled springs engaging the outer ends of said tubes and bearing against the inner circumference of said flanges, a tire about said flanges, and means for holding the rings in place.

970,230. CHURN. WILSON CHARLES IRVINE, Gettysburg, S. D. Filed Dec. 9, 1909. Serial No. 532,283.



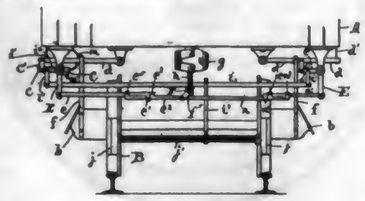
1. In combination, a churn vat, corrugated agitating plates secured to the interior of said vat, a central vertical shaft disposed in said vat extending above the same, a support therefor, a tubular shaft movable on said first named shaft, corrugated agitating blades carried by each of said shafts, a blade loosely arranged upon the second named shaft and adapted to float on the surface of the liquid, and means for rotating said shafts in opposite directions.

2. In combination, a churn vat, corrugated agitating plates secured to the inner surface of said vat at diametrically opposite points, a vertical shaft centrally positioned in said vat mounted on a cone bearing, a supporting frame, said shaft extending through said frame, a tubular shaft mounted in said frame, said first named shaft extending therethrough, said tubular shaft being formed in two adjustable sections, agitating blades rigidly secured to each of said shafts, a vertically movable blade loosely mounted on the tubular shaft, a pinion secured to the upper end of each of said shafts, a power wheel having meshing engagement with each of said pinions, and means for manually operating said power wheel.

3. In combination, a churn vat, corrugated agitating plates secured to the interior of said vat at diametrically opposite points, a vertical shaft centrally disposed in said vat, a supporting frame for said shaft, a sectional tubular shaft extending through said frame and disposed about the first named shaft, the upper section of said tubular shaft having a reduced lower end movable in the upper end of the lower section, spring plates carried by the lower section adapted to engage in recesses in the reduced end of said shaft to secure the sections in their adjusted positions, corrugated agitating blades rigidly secured on each of said shafts, an agitating blade loosely mounted on the tubular shaft for vertical movement, pinions secured on the upper ends of each of said shafts, a power gear mounted on said frame having an annular rack on one face engaging with said pinions, a pinion engaging with said power gear, and cranks secured to the pinion shaft to impart rotary movement to the power gear to rotate said blade carrying shafts in opposite directions.

4. In combination, a churn vat, corrugated agitating plates secured to the interior of said vat, a central vertical shaft disposed in said vat and extending above the same, said shaft being formed in two detachable sections, one of said sections having a reduced extension adapted to be disposed in a socket in the end of the other of said sections, a removable pin extending through the ends of said sections to connect the same, a tubular shaft movable on said first named shaft, corrugated agitating blades carried by each of said shafts, a vertically movable blade on the second named shaft and means for rotating said blades in opposite directions.

970,231. SAFETY DEVICE FOR RAILWAY-CARS. WALTER S. JACKSON, Waterville, Me. Filed June 16, 1910. Serial No. 567,172.



1. In a safety device for railway cars the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member extending transversely to the length of the car and adapted to engage said upright and connecting mechanism for rotating the shaft by the depression of said horizontal transverse member.

2. In a safety device for railway cars, the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member pivoted to the car and extending transversely to the length of the car and adapted to engage said upright and connecting mechanism for rotating the shaft by the depression of said horizontal tranaverse member.

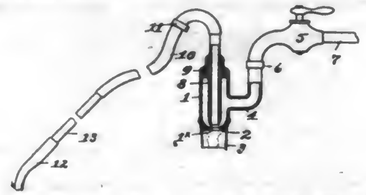
3. In a safety device for railway cars the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member pivoted to the car and extending transversely to the length of the car and adapted to engage said upright, an arm on said shaft and a link connecting said arm with said horizontal transverse member.

4. In a safety device for railway cars, the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member pivoted to the car and extending transversely to the length of the car and adapted to engage said upright, mechanism for rotating the shaft operated by the depression of said horizontal transverse member and an easily broken tie rod for resisting the rotation of said shaft.

5. In a safety device for railway cars, the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member pivoted to the car and extending transversely to the length of the car and adapted to engage said upright, mechanism for rotating the shaft operated by the depression of said horizontal transverse member and an easily broken tie rod connecting said horizontal transverse member with the car body.

[Claims 6 to 8 not printed in the Gazette.]

970,232. VACUUM CLEANING APPARATUS. WILLIAM H. JAKWAY, Syracuse, N. Y. Filed Oct. 1, 1909. Serial No. 520,528.

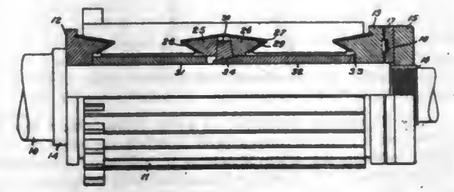


1. An apparatus for the purpose specified comprising an upright rigid chamber formed at its lower end with a contracted throat constituting the outlet thereof, and provided in its upper end with an opening, an air-conducting tube secured in said opening and arranged centrally and vertically within the chamber and concentric with the outlet-opening, the lower end of said tube terminating slightly above the outlet-opening and having its external diameter exceeding the diameter of the opening, to provide a ring-shaped orifice around the lower end of the air-tube, means for conducting water under pressure to the chamber, and a flexible discharge-tube attached to the outlet of the chamber and disposed in line with the air-tube, whereby the orifice is caused to direct the water from the chamber into the discharge-tube in the form of an inverted cone surrounding the adjacent end of the air-tube, said discharge-tube being entirely free below its attachment and independent of the air-tube whereby it is adapted to collapse to a greater or less degree to compensate for the difference in the atmospheric pressure and the pressure within the said air-tube as and for the purpose set forth.

2. In an apparatus for the purpose specified, the combination of means for conducting water under pressure and including an upright rigid chamber having a contracted outlet-opening in its lower end, an air-tube arranged centrally and vertically within the chamber and concentric with the outlet-opening, the lower end of said tube terminating slightly above the outlet-opening and having its external diameter exceeding the diameter of said opening so as to produce a ring-shaped orifice around the air-tube for the passage of the water through the outlet, a flexible discharge-tube connected to the outlet of the chamber and suspended therefrom, whereby the water is directed through the said orifice into the said discharge-tube in the form of an inverted cone surrounding the adjacent end of the air-tube, thus maintaining a partial vacuum at the lower end of the central tube so as to cause rapid and continuous exhaustion of air, said discharge-tube being entirely free below its attachment whereby it is adapted to collapse to a greater or less degree to compensate for the difference between the atmospheric pressure and the pressure within the air-tube so as to guard against disruption of the water-cone and the resultant destruction of the vacuum, as set forth.

3. In an apparatus for the purpose specified, the combination of an air-conducting tube, hydraulic-means including a chamber surrounding the tube and provided in its lower end with an outlet-opening disposed slightly below the tube and concentric therewith and having a smaller diameter than the external diameter of the tube, and a flexible discharge-tube attached to the chamber at the opening and arranged axially in line with the air-conducting tube, whereby the water is directed into the discharge-tube in the form of an inverted cone surrounding the adjacent end of the air-conducting tube so as to create a partial vacuum at the lower end of said air-tube and thus produce a rapid and constant exhaustion of air therefrom, said air-conducting tube being adjustable in relation to the outlet-opening, and the said discharge-tube being entirely free below the air-conducting tube and water directing means whereby it is adapted to collapse under variations in the pressure of air so as to guard against an in-rush of the external air through the discharge-tube and thus prevent disruption of the cone of water as set forth.

970,233. COMMUTATOR CONSTRUCTION. FRASER JEFFREY, Milwaukee, Wis., assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Oct. 25, 1909. Serial No. 524,345.



1. In a dynamo-electric machine, a commutator composed of segments and having between its ends on the interior thereof an undercut slot, means for clamping the segments at their ends, and means for supporting and clamping the segments between their ends comprising a pair of clamping rings in said slot and wedges located between the rings and each engaging the adjacent faces thereof, said wedges serving when shifted outwardly to spread the rings so that the latter will tightly clamp the segments.

2. In a dynamo-electric machine, a commutator support, a commutator comprising a plurality of segments arranged about the support, clamping rings engaging the segments at their ends, said segments having between their ends and on the interior thereof a dove-tail slot having oppositely disposed V-shaped portions, a pair of clamping rings in said slot and having their adjacent faces tapered, a plurality of wedges between the rings and each engaging the tapered faces of both rings, said wedges serving when shifted outwardly to spread the rings so as to force the latter into the V-shaped portions of the slot.

3. In a commutator of a dynamo-electric machine, a plurality of segments, clamping rings at the ends of the segments, said segments being provided between their ends and on the interior of the commutator, with a dove-tail slot having V-shaped portions, a pair of clamping rings located in the slot, wedges between the clamping rings and each engaging the adjacent faces thereof, and means for shifting said wedges outwardly so as to spread the rings and to force the latter into the V-shaped portions of the slot.

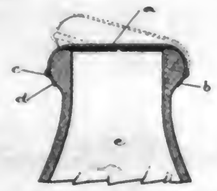
4. In a dynamo-electric mechine, a commutator support, a commutator consisting of segments arranged about the support and provided between their ends and on the interior of the commutator with a dove-tail slot having oppositely disposed V-shaped portions, means for clamping the segments at their ends, a pair of clamping rings located in the dove-tail slot, wedges between the rings and each engaging the adjacent faces thereof, and means operated from one end of the commutator for moving the wedges outwardly so as to spread the rings and to force the latter into the V-shaped portions of the slot.

5. In a dynamo-electric machine, a commutator support, a commutator comprising a plurality of segments arranged about the support, clamping rings engaging the segments at their ends, said segments having between their ends and on the interior of the commutator a dove-tail slot having oppositely disposed V-shaped portions, a pair of clamping rings located in said slot, wedges between the rings each engaging the adjacent faces thereof, means for moving said wedges outwardly so as to spread the rings and to force the same into the V-shaped portions of

the slot comprising a sleeve between the commutator segments and the support and engaging the wedges, and means for shifting said sleeve axially inward.

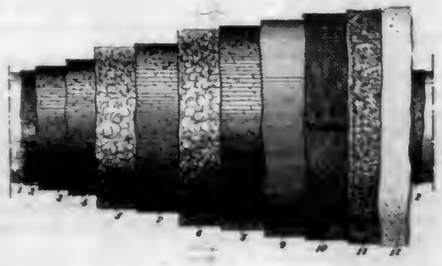
[Claims 6 and 7 not printed in the Gazette.]

970,234. BOTTLE-CLOSURE. FRANK E. JOSELIN, Toronto, Ontario, Canada. Filed Mar. 31, 1909. Serial No. 487,079.



A bottle closure consisting of a cap comprising a top, a skirt and a concavo-convex bead between the edge of the skirt and the top with incisions in the skirt extending from the bead to the edge, forming resilient tongues which can spring outward to pass over the bottle mouth, and then inward to engage with the bottle neck when the closure is applied.

970,235. METHOD OF COVERING PIPES. ELI A. KELLAM, New York, N. Y. Filed May 19, 1909. Serial No. 496,873.



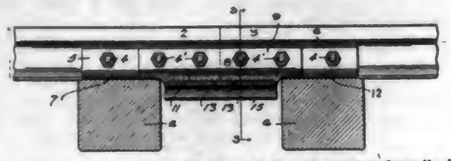
1. The method of covering a pipe, which consists in cleaning the pipe, applying a coating of varnish, coating tar paper with hot pitch, and applying the tar paper to the pipe while the pitch is still hot, next applying successive alternate layers of felt and tar paper coated with hot pitch, then inclosing the superposed layers in rosin paper, next inclosing the built-up covering in a canvas jacket, and finally applying one or more coats of white lead and oil.

2. The method of covering a pipe, which consists in applying a coating of varnish to the pipe, coating tar paper with hot pitch and applying the tar paper to the pipe while the pitch is still hot, then applying successive alternate layers of felt and tar paper.

3. The method of covering a pipe, which consists in applying a coating of varnish to the pipe, coating tar paper with hot pitch and applying the tar paper to the pipe while the pitch is still hot, then applying successive alternate layers of felt and tar paper, said alternate layers of tar paper being coated with hot pitch before applying, and being applied while the pitch is still hot, so as to form dead or vacuum spaces between the layers, on cooling.

4. The method of covering a pipe, which consists in applying a coating of varnish to the pipe, coating tar paper with hot pitch and applying the tar paper to the pipe while the pitch is still hot, then applying successive alternate layers of felt and tar paper, said alternate layers of tar paper being coated with hot pitch before applying, and being applied while the pitch is still hot, so as to form dead or vacuum spaces between the layers, on cooling, and finally inclosing the built-up layers in a protecting covering.

970,236. RAIL-JOINT. JOHN R. KELLER, Pittsburg, Pa. Filed June 14, 1910. Serial No. 566,719.



1. A supplemental splice bar of the character described, comprising a body portion having a shoulder adapted to underlie a bottom face of a main splice bar.

2. A supplemental splice bar of the character described, comprising a body portion having a face overlying and a face underlying the base flange of an angle splice bar.

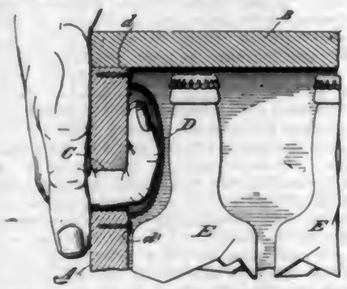
3. A supplemental splice bar of the character described, comprising an upwardly extending portion adapted to lie against the vertical outer face, and an angularly disposed flange portion having a shoulder adapted to abut against the bottom face of an angle splice bar.

4. A supplemental splice bar of the character described, comprising an upwardly extending flange portion, a depending truss flange portion, and an angular portion intermediate the two flanges.

5. A supplemental splice bar of the character described, comprising an upwardly extending flange portion, a depending truss flange portion, and an angular portion intermediate the two flanges, and provided with a cross-sectional enlargement adapted to lie adjacent the base flange of an angle splice bar.

[Claims 6 to 11 not printed in the Gazette.]

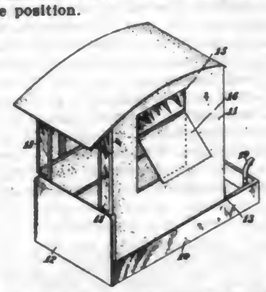
970,237. ATTACHMENT FOR BEER-CASES. GUSTAV C. KERKOW, Fremont, Nebr., assignor of one-half to John Gumb, Fremont, Nebr.; Emma Kerkow administratrix of said Gustav C. Kerkow, deceased. Filed July 26, 1907. Serial No. 385,746.



A shipping case for bottled goods having in its end wall a slot-like hand-hole formed wholly therethrough, and a substantially rectangular concavo-convex dish-like cover composed of sheet material and attached to the inner face of the case, said cover being disposed with its concavity facing and wholly inclosing the hand-hole, and the upper edge of the cover being disposed sufficiently above the upper margin of the hand-hole to accommodate and protect the fingers of the hand when grasping the case, while at the same time shielding the contents of the box from the exterior.

970,238. VEHICLE-BODY. DAVIS J. KERSTETTER, Green Ridge, Mo. Filed May 26, 1909. Serial No. 498,408.

1. The combination in a vehicle body, of a bed, and a cab having a rigid frame hinged at its rear bottom edge to swing as a unit from over the bed said cab being constructed and arranged to form in connection with the bed a substantially closed vehicle body when the cab is in operative position.



2. The combination in a vehicle body, of a bed having a dash-board, a cab arranged on the bed close to the dash board, and hinges connecting the bed and cab together at the lower and rear edge of the cab.

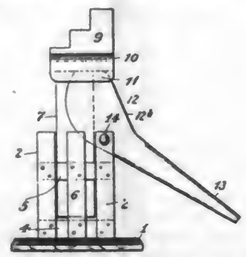
3. The combination in a vehicle body, of a bed having a dash-board, a cab having a rigid frame seated on the bed and arranged close to the dash-board, hinges connecting the cab at its bottom rear edge to the bed, and stops secured to the rear end of the bed to support the cab when swung from over the bed on the hinges.

4. The combination in a vehicle, of a bed, and a non-collapsible cab arranged to seat on and cover the bed, having a top side and rear walls, with the cab hinged to swing as a unit to a removed position from over the bed.

5. The combination in a vehicle, of a bed, and a non-collapsible cab adapted to seat on the bed and in connection therewith inclose the forward portion of the vehicle, said cab being hinged to the bed to swing to a removed position to admit of passage to and from the vehicle.

[Claims 6 and 7 not printed in the Gazette.]

970,239. LIFTING-JACK. ISAAC KEY, Fowlerton, Ind. Filed Apr. 9, 1910. Serial No. 554,436.



1. A lifting-jack comprising a lifting bar having a head at its upper end, said head having a lateral offset at its base, being at the point of intersection between the upper end of said lifting bar and said head, said offset having a depending flange at its longitudinal free edge, a cam lever having its pivot arranged in vertical alinement with the line of engagement therebetween and said offset of the lifting bar, said cam lever being adapted to engage said offset and exert an upward and rearward thrust upon the under side of said offset, and supporting means for said lifting bar, said flange serving as a guard at the point of engagement between said offset and said lever.

2. A lifting-jack comprising a lifting-bar having a head at its upper end, said head having a lateral offset at its base, at the intersection of said head with said lifting bar, said offset having a depending flange at its longitudinal free edge, means for limiting the upward movement of said lifting bar, a cam lever having its extreme forward edge formed upon a right line, the thus formed right lined forward edge being adapted to abut squarely upon the under side of said offset, and supporting means for said lifting bar, said lever having pivotal connection with said supporting means in vertical alinement with said offset and at one side of said lifting bar.

3. A lifting-jack comprising a support including a base having a bar secured to the upper surface of its longitudinal center, uprights, two arranged at each end of said base and secured laterally to said bar, at their lower ends, a second bar vertically alining the first-referred to bar and arranged between and having said uprights secured thereto, transverse bars secured to said uprights, at their upper and lower ends, and intermediate of said ends respectively, a lifting-bar arranged between the end uprights upon one side of said vertically alined bars and guarded laterally by said transverse bars, said lifting bar having a head at its upper end, said head being provided with a lateral offset at its base, and a cam lever arranged upon the opposite side of said vertically alined bars, and fulcrumed upon one of the opposite end uprights and arranged to abut squarely against the under side of said offset.

970,240. PUG-MILL AND STONE-SEPARATOR. CHAUNCEY W. KILBORN, Rosenhayn, N. J. Filed May 23, 1910. Serial No. 562,873.



1. In a device of the character described, the combination of a frusto-conical shell having openings in the sides thereof, means for feeding plastic material into the large end of the said shell, a tapered worm mounted within the shell and engaging the interior of the shell so as to act upon the plastic material and force it through the openings, a pocket communicating with the small end of the frusto-conical shell for receiving the solid particles which will not pass through the openings of the shell, the said pocket also having openings therein, and means for maintaining a sufficient pressure within the pocket to force any plastic material therein through the openings.

2. In a device of the character described, the combination of a frusto-conical shell having openings in the sides thereof, means for feeding plastic material into the large end of the said shell, a tapered worm mounted within the shell and engaging the interior thereof for acting upon the plastic material to force it through the openings, a pocket communicating with the small end of the shell and designed to receive the solid particles which will not pass through the openings of the shell, the said pocket being also provided with openings and being formed with an open end, an outwardly swinging gate for the open end of the pocket, and means for normally holding the said gate yieldingly in a closed position.

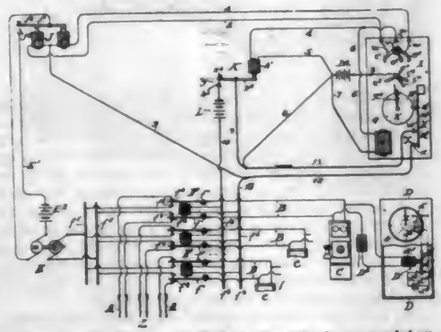
3. In a device of the character described, the combination of a cylindrical casing, means for feeding clay into one end of the cylindrical casing, a frusto-conical shell having the large end thereof applied to the opposite end of the cylindrical casing, the said shell having openings therein, a worm extending through the cylindrical casing and frusto-conical shell and constructed to engage the inner walls so as to act upon the plastic material to force it through the cylindrical casing into the frusto-conical shell and through the openings of the shell, and means at the small end of the frusto-conical shell for collecting the solid particles.

4. In a device of the character described, the combination of a cylindrical casing, means for feeding plastic material into one end of the cylindrical casing, a frusto-conical shell having openings in the sides thereof and having the large end thereof applied to the opposite end of the cylindrical casing, a worm passing through the cylindrical casing and frusto-conical shell, the portion of the worm within the frusto-conical shell being tapered to correspond with the same, an adjustable connection between the frusto-conical shell and the casing for holding the shell in engagement with the edges of the worm, the said worm acting upon the plastic material to force it into the frusto-conical shell and through the openings thereof, and means at the small end of the frusto-conical shell for collecting the solid particles.

5. In a device of the character described, the combination of a cylindrical casing, means for feeding clay into one end of the casing, a frusto-conical shell formed with openings in the sides thereof and having the large end thereof applied to the opposite end of the cylindrical casing, a shaft extending through the cylindrical casing and shell, a series of arms carried by the shaft at that end of the cylindrical casing where the plastic material enters the same, a worm carried by the shaft and arranged within the opposite end of the cylindrical casing and the frusto-conical shell, the said worm receiving the plastic material after it has been acted upon by the before mentioned arms and serving to force the plastic material into the frusto-conical shell and through the openings therein, and means at the small end of the frusto-conical shell for collecting the solid particles.

[Claims 6 and 7 not printed in the Gazette.]

970,241. CLOCK-SYNCHRONIZING SYSTEM. HERMAN C. KORTHAUS, New Albany, Ind. Filed Nov. 22, 1906. Serial No. 344,620.



1. The improvements herein described, comprising a telephone exchange and a plurality of subscribers' circuits and instruments, normally adapted for interconnection through said exchange, in combination with subscribers' electrically synchronizable clocks, connected with respective subscribers' circuits a normally quiet rotary generator for energizing said circuits to synchronize the subscribers' clocks, and electromagnetic means for periodically disconnecting each subscribers' circuits from said exchange and master clock mechanism for starting said generator and at a given instant energizing said electromagnetic means, substantially as described.

2. The improvements herein described, comprising a telephone exchange, in combination with a plurality of subscribers' circuits adapted for inter-connection through said exchange, a source of alternating current energy normally connected with said circuits, subscribers' telephone instruments, subscribers' clocks connected with said circuit, a condenser interposed in the line of each said clock, a rotary generator for energizing said circuits and operating said clocks and means at said exchange for periodically connecting said rotary generator with the circuits which are provided with clocks, for synchronizing the latter, substantially as described.

3. The improvements herein described, comprising a telephone exchange, in combination with a plurality of subscribers' circuits, each provided with a synchronizable clock and containing a subscribers' telephone set, condensing means D^2 in each said circuit preventing the operation of the clock therein by the energy commonly employed upon said circuits, an alternating current generator, a master clock and means interposed in each said circuit and controlled by said master clock adapted to connect said generator with said circuits at a given instant to synchronize the clocks therein, substantially as described.

4. The improvements herein described, comprising a telephone exchange, in combination with a plurality of subscribers' circuits adapted for inter-connection thereto, subscribers' instruments in said circuits, synchronizable clocks connected with said circuits, a normally quiet rotary generator, electromagnetic switches interposed in said circuits, each normally connecting one of the same with said exchange, but adapted to connect it with said generator, a master clock causing the operation of said switches and means controlled or actuated by said master clock for starting and stopping said generator before and after the operation of said switches, substantially as described.

5. The improvements herein described, comprising a telephone exchange, subscribers' circuits, telephone instruments and synchronizable clocks, in combination with an electrical generator, instruments interposed in said circuits normally connecting the same with said exchange, but adapted to connect them with said generator, a master clock, a preliminary circuit closer operable thereby and adapted to prepare said instruments for operation and a precision circuit closer also actuated by said clock for finally closing the circuits of said instruments and operating to start and stop said generator, substantially as described.

[Claims 6 to 18 not printed in the Gazette.]

970,242. OPEN-LINK CHAIN. GEORGE L. LAMB, Nappanee, Ind. Filed Oct. 5, 1909. Serial No. 521,159.

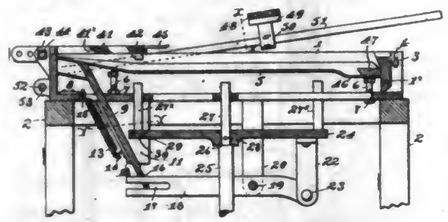


1. The combination, in an open link chain, of a link having in a closed end thereof a passage-forming hole provided with diametrically opposite notches in line with the opening through the body of the link, and an adjoining link having an open end provided with a passage-forming hole crossed by the slit of the link and with lugs at the sides of this hole formed and arranged to enter and interact with said notches as means for rendering said open end fastened when the chain is under tension.

2. An open link for chains having a closed end, a hole in said closed end provided with diametrically opposite notches in line with the opening through the body of the link, a passage-forming hole in its open end crossed by the slit of the link and a pair of lugs at the sides of this hole formed and arranged to enter and interact with such notches in the closed end of an adjoining link.

3. An open link chain having, in combination, a top link constructed with one member of a hook and clevis suspension device at its upper end, a passage-forming hole within the shank of said suspension device and a closed lower end having therein a passage-forming hole provided with diametrically opposite notches in line with the opening through the body of the link and subjacent open links attachable to said top link and to each other in succession and each constructed with a passage-forming hole in its upper end crossed by the slit of the link and a pair of down-turned lugs at the sides of this hole constructed and arranged to enter and interact with said notches of the passage-forming hole in the bottom of said top member and with the notches of like passage-forming holes in the lower ends of the open links adjoining the same respectively, substantially as hereinbefore specified.

970,243. MACHINE FOR MOLDING CONCRETE SHINGLES. FRED LATULIP, Syracuse, N. Y., assignor of one-half to Antoine F. Vadeboncoeur, Syracuse, N. Y. Filed Apr. 28, 1910. Serial No. 558,106.



1. In a machine for molding composite shingles of the type specified, the combination of a suitably supported horizontally disposed box, a bed-plate disposed removably in said box, means supported below the box for lifting said bed-plate, an inclined sliding core-plate supported on the box and drawn downward by the said lifting-means, means automatically drawing said core-plate upward, and a manually operated lever for actuating said lifting-means as set forth.

2. In a machine for molding composite shingle of the type specified, the combination of a suitably supported rectangular box disposed horizontally, a bed-plate supported removably in said box, inclined guides depending from the box, a core-plate sliding in said guides, transverse core-plates disposed removably above the bed-plate, a spring drawing said sliding core-plate upwardly, and manually operated means for simultaneously drawing the latter core-plate downward and lifting the said bed-plate as set forth.

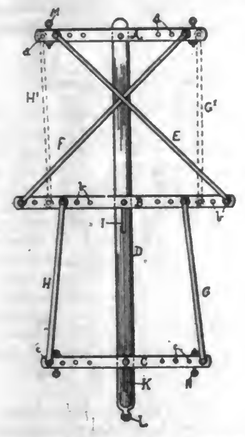
3. In a machine for molding composite shingles, the combination of a suitably supported horizontally disposed box, a bed-plate disposed removably in said box, a smoothing-bar supported longitudinally movable upon the box, and adapted to be removed therefrom, a pair of parallel rods pivotally connected at one end to the box and engaging the smoothing bar for guiding the latter, and means for lifting said bed-plate as set forth.

4. In a machine for molding composite shingles of the interlocking type, the combination of a suitably supported horizontally disposed rectangular box, a bed-plate supported removably in said box, and provided with an opening in one portion, a sliding core-plate movable through the said opening, transverse core-plates disposed removably above the bed-plate a smoothing-bar supported longitudinally movable upon the box, and means for lifting said bed-plate and actuating said sliding core-plate as set forth.

5. In a machine for molding composite shingles, the combination of a suitably supported rectangular box disposed horizontally, a bed-plate supported removably and vertically adjustable in said box, a smoothing bar movable along the top of the box and having a hinged connection therewith, mechanism for lifting said bed-plate, and a manually operated lever for actuating said mechanism as set forth.

[Claims 6 to 9 not printed in the Gazette.]

970,244. AUTOMATIC TONGUE. FRANK X. LAUTERBUR, Sidney, Ohio. Filed July 13, 1909. Serial No. 507,344.



1. A wagon tongue comprising a tongue member proper having a plurality of longitudinal slots, a plurality of bars pivotally mounted upon said tongue member, the foremost of said bars capable of a longitudinal movement in said slots, and means connecting the bars whereby they are caused to pivotally co-act.

2. A wagon tongue comprising a tongue member, a plurality of bars pivotally mounted upon the tongue member, said tongue being provided with guide ways longitudinally of the tongue member and in fixed relation thereto, said guide ways engaging the pivotal connections of said bars, and means connecting the bars.

3. A wagon tongue comprising a tongue member, a plurality of bars pivotally mounted upon the tongue member, said tongue being provided with guide ways longitudinally of the tongue member and in fixed relation thereto, said guide ways engaging the pivotal connections of said bars, means connecting the said bars, said means having alternately interchangeable connections with the front and rear bars.

4. A wagon tongue comprising a tongue member, a plurality of bars pivotally mounted upon the tongue member, said tongue being provided with guide ways longitudinally of the tongue member and in fixed relation thereto, said guide ways engaging the pivoted connections of said bars, rods connecting the ends of said bars, a pair of said rods crossing said tongue member diagonally, a pair of said rods being approximately parallel with said tongue member and having interchangeable connections with the front and rear bars.

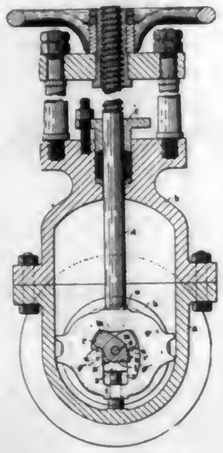
5. A wagon tongue comprising a tongue member proper having a plurality of longitudinal slots, a plurality of bars pivotally mounted upon said tongue member, one of said bars fixed, the other slidable in said slots, and means connecting the bars whereby they are caused to pivotally coact, said fixed bar adapted to be connected to the front of a vehicle and one of said slidable bars adapted to be connected to suitable hauling means.

970,245. STOP AND THROUGH-WAY VALVE. FREDERIC WILLIAM LEEVERS, Walthamstow, England. Filed Jan. 6, 1909. Serial No. 470,956.

1. A stop or through way valve of the type referred to, comprising in combination, a spindle, valve disks carried thereon, means for moving the valve disks so that their axes are made to coincide with the axis of the through

way, means for then thrusting the valve disks upon their seats, and means for then moving the valve spindle relatively to the disks without loosening them.

2. A stop or through way valve of the type referred to, comprising in combination, a spindle, valve disks carried thereon, means for moving the valve disks so that their axes are made to coincide with the axis of the through way, automatic means for then thrusting the valve disks upon their seats and means for then moving the valve spindle relatively to the disks without loosening them.



3. A stop or through way valve of the type referred to, comprising in combination, a spindle, valve disks carried thereby, coöperating cam surfaces on the backs of the valve disks, means for moving the valve disks till their axes coincide with the axis of the through way, automatic means for then imparting a rotational movement to the valve disks so that their cam surfaces co-act to thrust them upon their seats and means for relieving the valve spindle of strain after the valve disks are fast upon their seats.

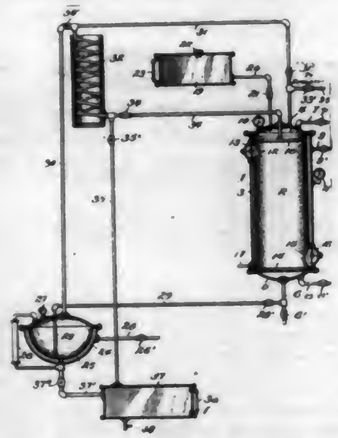
4. A stop or through way valve of the type referred to, comprising in combination, a spindle, a block thereon, an elongated bearing in the block, valve disks carried by said bearing, co-acting cam surfaces on the backs of the disks, means for moving the spindle, block and disks together till the axes of the latter and through way are in line, and means whereby the block and spindle are then moved relatively to the valve disks so that the cam surfaces of the latter relatively co-act to thrust the disks on to their seats.

5. A stop or through way valve of the type referred to, comprising in combination, a spindle, a block thereon, an elongated bearing in the block, valve disks carried in the bearing, co-acting cam surfaces on the backs of the disks, means for moving the spindle, block and disks together till just before the axes of the latter and through way are in line, means for moving the valve disks apart till they are nearly in contact with their seats, and means whereby when the axes are in line the block and spindle are then moved relatively to the valve disks so that the cam surfaces of the latter relatively co-act to finally thrust the disks onto their seats.

[Claims 6 to 12 not printed in the Gazette.]

970,246. EXTRACTING APPARATUS. CARL H. F. LEMBKE, Toledo, Ohio. Filed Apr. 9, 1909. Serial No. 488,835.

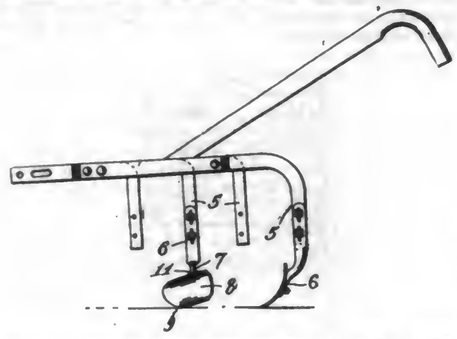
1. In an extracting apparatus, the combination of an extracting tank having an external steam jacket, valved steam supply pipes connected with the tank and jacket, a valved filtrate discharge pipe leading from the bottom of the tank, a solvent reservoir arranged above the level of the tank and having a valved supply pipe communicating therewith, a vaporizer provided with a heating jacket, a valved steam supply pipe communicating therewith, a conducting pipe leading from said filtrate discharge pipe to the vaporizer and provided with a controlling valve therein, a collecting vessel disposed below the level of the tank and vaporizer, a valved pipe connecting said receptacle with the vaporizer, a condenser arranged above the level of the tank, vaporizer and collecting vessel, a conducting pipe leading from the vaporizer to the upper end of the condenser coil and having a controlling valve therein, pipes leading respectively from the lower end of the condenser coil to the tank and collecting vessel and provided with valves therein, a conducting pipe connected with the upper end of the condenser coil and leading therefrom to the tank and having a controlling valve, and a sprayer within the tank and communicating with the pipe leading thereto from the lower end of the coil.



2. In an extracting apparatus, the combination of an extracting tank having an external steam jacket, valved steam supply pipes connected with the tank and jacket, a valved filtrate discharge pipe leading from the bottom of the tank, a solvent reservoir arranged above the level of the tank and having a valved supply pipe communicating therewith, a vaporizer provided with a heating jacket, a valved steam supply pipe communicating therewith, a conducting pipe leading from said filtrate discharge pipe to the vaporizer and provided with a controlling valve therein, a collecting vessel disposed below the level of the tank and vaporizer, a valved pipe connecting said receptacle with the vaporizer, a condenser arranged above the level of the tank, vaporizer and collecting vessel, a conducting pipe leading from the vaporizer to the upper end of the condenser coil and having a controlling valve therein, a conducting pipe connected with the upper end of the condenser coil and leading therefrom to the tank and having a controlling valve, an exhaust pipe connected with said conducting pipe at a point between said valve and the tank and also provided with a controlling valve, and a sprayer within the tank and communicating with the pipe leading thereto from the lower end of the coil.

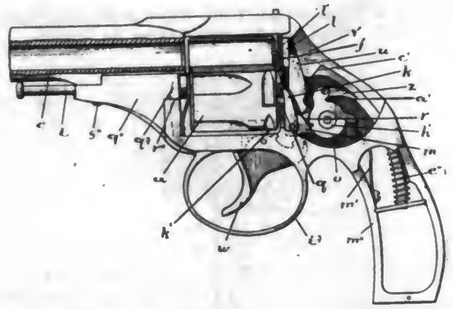
970,247. CULTIVATOR-SHOVEL. SYLVANUS PETER LENTZ, Dayton, Ind. Filed Nov. 1, 1909. Serial No. 525,738.

A cultivator shovel comprising a blade of concavo-convex form throughout its length, the curvature of said blade gradually increasing from one end to the other thereof to form the ground engaging forward end of the blade, the edge of said end being rounded, the gradual curvature of the forward end of said blade preventing the disposal of



material over the upper edge thereof and means carried by the blade for attaching the same to a support.

970,248. FIREARM. MYRON CLARK LISLE, Toronto, Ontario, Canada, assignor of one-fourth to Vincent Robinson, Toronto, Canada. Filed Jan. 30, 1909. Serial No. 475,274.

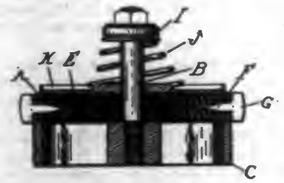


1. A fire arm comprising a barrel, a chambered cylinder revoluble behind the barrel end and having a reciprocating motion axially of the fire arm, a trigger, an oscillator actuated by the trigger, a movable breech block, a resisting piece opposed to the movable breech block, a wedge positioned by the oscillator between the movable breech block and resisting piece to lock the chambered cylinder against the barrel end and a projection on the wedge having a pin receiving slot and a pin on the oscillator engaging in the slotted projection.

2. A fire arm comprising a barrel, a chambered cylinder, a trigger, an oscillator, an oscillator cam, a lifter pivotally connected to the oscillator cam to rotate the chambered cylinder, a sear pivotally connected to the oscillator, a spring for the sear, a hammer, having a bent to be engaged by the sear, a main spring for the hammer, a trigger spring lug on the oscillator, and a trigger spring engaging at one end with the trigger spring lug.

3. A fire arm comprising a breech mechanism consisting of an oscillator, an oscillator cam integrally formed with the oscillator, a trigger engaging with the oscillator cam, a lifter pivoted to the oscillator cam, a hammer, a bent for the hammer, a main spring for the hammer, a sear, a lug integral with the oscillator to which the sear is pivotally connected, a sear spring connected to the oscillator to hold the sear in its normal position, a trigger spring lug integral with the oscillator, and a trigger spring normally engaging with the free end of the trigger spring lug and movable between the free end of the trigger spring lug and the oscillator.

970,249. PUMP-VALVE. GEORGE E. MACK, Detroit, Mich. Filed June 11, 1909. Serial No. 501,631.



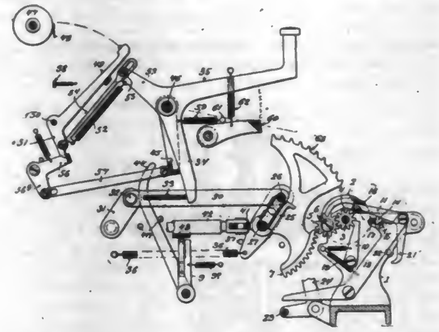
1. A pump valve comprising a body of rubber, or similar material, inclined wings projecting from the margin of the body and an anchor or holding means for said wings, embedded in the body of the valve.

2. In a rubber pump valve, the combination of a reinforcement spanning the valve seat ports, and marginal inclined wings integral with the reinforcement.

3. In a rubber pump valve, a metallic circular interior reinforcement spanning the valve seat ports and inclined marginal wings integral with said reinforcement.

4. In a rubber pump valve, a metallic, annular, interior reinforcement, radial arms thereon, and wings on the arms, the plane of the wings bisecting the plane of the reinforcement and inclined thereto.

970,250. RECORDING-CALCULATOR. JAMES MALLMAN, Sheboygan, Wis. Filed Oct. 18, 1909. Serial No. 523,115.



1. In a recording calculator having a series of type-bars adapted to be brought to a common printing point and a series of alined gear-actuated adding sections, an oscillatory carriage-frame, a spring actuated longitudinally movable carriage mounted upon the carriage-frame, toothed sector carried by the carriage for engagement with any one of the gear-actuated adding sections, an escapement mechanism connected to the carriage for controlling the longitudinal movement thereof relative to said adding sections, a gage-plate in connection with said carriage frame, actuating key-levers connected to the type-bars and arranged to oppose the gage-plate, a universal stop-bar for the key-levers and a segmental toothed stop-plate carried by the aforesaid carriage for engagement with the universal stop-bar.

2. In a recording calculator having a series of type adapted to be brought to a common printing point, and a series of actuating key-levers for the type, an adding mechanism comprising a series of alined adding sections, a laterally movable and oscillatory toothed sector for actuating the adding sections, actuating mechanism connecting the key-levers and toothed sector whereby oscillatory motion is imparted to the latter, a universal stop-bar adapted to be opposed by said key-levers, and a segmental toothed stop-plate carried by the toothed sector engageable with the universal stop-bar.

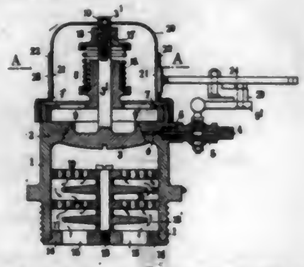
3. In a machine of the character described a series of adding sections, a longitudinally movable and oscillatory toothed sector for actuating the adding sections, a supplemental toothed stop-plate carried by the toothed sector, and a universal stop-bar adapted to be moved into engagement with the toothed stop-plate.

4. In a machine of the character described a series of adding sections, a laterally movable and oscillatory carriage, a circumferential toothed section carried thereby for engagement with the adding sections, a circumferentially toothed stop-plate in connection with the toothed section, the stop-plate being struck from an axis common to said toothed sector but upon a greater circumferential plane, and a universal stop-bar adapted to be moved into engagement with the teeth of said stop-plate.

5. In a recording-calculator having a series of type-bars adapted to be brought to a common printing-point, a series of alined gear-actuated adding-wheels, a spring-controlled oscillating carriage-frame, a laterally movable toothed sector mounted upon the carriage for engagement with any one of the gear-actuated adding-wheels, a gage-plate in connection with the carriage-frame, a series of spring-controlled key-levers arranged to oppose the gage-plate, whereby different degrees of oscillatory movement are imparted to the carriage-frame, arms extending from the type-bars, actuating-springs connecting the arms and key-levers, a locking-gate disposed to engage the type-bar arms, gate-releasing means controlled by the aforesaid key-levers, a universal stop-bar arranged to be opposed by the aforesaid key-levers and a segmental toothed stop-plate carried by the carriage for engagement with the universal stop-bar whereby momentum of said carriage is checked at different degrees of its oscillatory movement.

[Claims 6 to 11 not printed in the Gazette.]

970,251. INTERNAL-COMBUSTION ENGINE. LÉON AUGUSTE MARTHA, Paris, France. Filed Nov. 23, 1907. Serial No. 403,546.

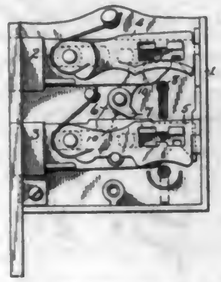


1. An apparatus of the character specified, comprising an externally threaded tubular plug for engaging the cylinder of a motor, a mixing device within the plug and composed of perforated metallic disks separated by solid washers, a rod on which the disks and the washers are mounted, said washers being of less diameter than the diameter of the bore of the plug, a valve for controlling the supply of liquid fuel to the plug, said plug in the upper end thereof having a plurality of air orifices, and an apertured sleeve mounted on the valve adjacent to the orifices and adapted to control the extent of opening of the same.

2. An apparatus of the character specified, comprising a tubular plug having means for controlling the supply of liquid fuel and the supply of air, and a mixer in the bore of the plug, said mixer comprising alternate solid and perforated disks arranged in spaced relation, the solid disks being of lesser diameter than the bore of the plug.

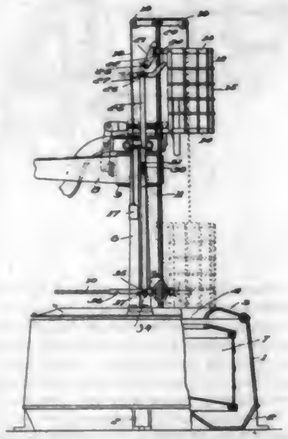
970,252. LOCK. GEORGE N. MASON, Reading, Pa., assignor to Reading Hardware Company, Reading, Pa., a Corporation of Pennsylvania. Filed May 27, 1910. Serial No. 563,785.

1. In a lock the combination with a casing of a plurality of locking bolts, tumblers adapted to engage said bolts, and a yoke 6 pivotally secured to the casing and in movable engagement with said locking bolts, said yoke having an integral stop in the form of a projection 7 adapted to lie in the path of the key bit when the lock is operated from one side.



2. In a door lock, the combination with a casing of an inside locking bolt; an outside locking bolt; tumblers adapted to engage said bolts; and a bolt operating yoke 6, pivotally secured to the casing and in engagement with both locking bolts, said yoke having an integral stop 7 at one side, adapted to lie in the path of the key bit whenever the inside locking bolt is protracted.

970,253. HYDROEXTRACTOR. CHARLES MILLER, Brooklyn, N. Y. Filed Apr. 12, 1910. Serial No. 554,923.



1. A safety device comprising guide members, a gate slidably mounted on said guide members, means for locking said gate in the position it assumes when not in use, power operating devices, and means to control the same and lock and release said gate.

2. A safety device comprising guide members, a gate slidably mounted on said guide members adapted to normally rest in the position it assumes when in use, and means for locking said gate in the position it assumes when not in use, power controlling devices, and means operated by said devices for supporting and releasing said gate.

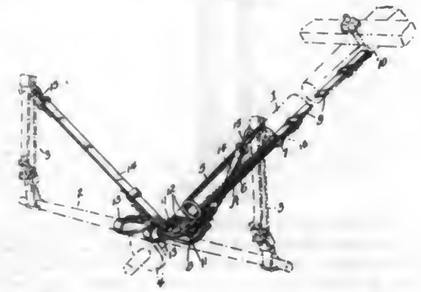
3. A safety device comprising guide members, a gate slidably mounted on said guide members adapted to normally rest in the position it assumes when in use, weights connected to said gate to relieve its weight so that it may be easily raised to the position it assumes when not in use, and means for locking said gate in the position it assumes when not in use, power controlling devices, and means operated by said devices for operating said gate locking means.

4. A safety device comprising guide members, a gate slidably mounted on said guide members, a catch adapted to engage said gate when moved to the position it assumes when not in use, whereby the gate is locked in such position, a trip dog adapted to disengage said catch from said gate so that the gate may move to the position it assumes when in use, a lever connected to and operating said dog, and an arm for actuating said lever.

5. In a hydro-extractor the combination with a rotatably mounted chamber, and a casing surrounding said chamber and provided with an opening to permit access to said chamber, of guide members, a gate slidably mounted on said guide members adapted to protect said opening, means for locking said gate in the position it assumes when removed from said opening and out of use, and means for releasing said gate, so that it will move to the position it assumes when in use, and protect said opening when said chamber is set in motion.

[Claims 6 to 8 not printed in the Gazette.]

970,254. WAGON-TONGUE-YOKE-ATTACHING DEVICE. FREDERICK G. MITCHELL, Glencoe, Md. Filed Mar. 1, 1910. Serial No. 546,698.



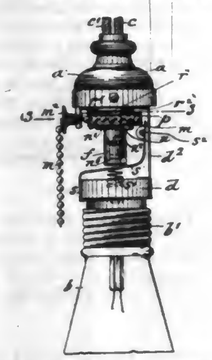
1. The combination of a tongue, a yoke, yoke straps connected with the yoke, means for connecting the yoke on the tongue, said means comprising a support surrounding the tongue, an element connected with the support and secured to the rear portion of the tongue to prevent longitudinal movement of the support forwardly, and separate elements extending laterally from and secured directly to the support to connect with the yoke straps adjacent the ends that connect with the harness collars.

2. The combination of a tongue, a yoke having means for fitting the end of the tongue, elements for connecting the yoke with the harness collars, and a device carried by the tongue and serving to retain the yoke thereon, said device including separate elements embracing a yoke and also separate elements for connecting with the first mentioned elements of the yoke.

3. The combination of a tongue, a doubletree, a fastening for securing the latter to the tongue, a yoke supported on the end of the tongue, elements for connecting the yoke with the harness collars, a sleeve surrounding the tongue at a point behind the yoke, means for connecting the sleeve with the fastening between the tongue and doubletree, separate elements connected to the forward end of the sleeve and embracing the yoke at opposite sides of the tongue, and separate elements connecting the sleeve with the elements of the yoke.

4. An attachment of the class described comprising a sleeve, a member secured to the sleeve and having projecting ends, a strap connected with the rear end of the member for connection with a bolt that secures the doubletree to the tongue, straps secured to the forward end of the said member and arranged to embrace the yoke, and elements extending laterally from the forward end of the member for connection with the yoke straps.

970,255. PULL-SOCKET FOR ELECTRIC INCANDESCENT LAMPS. JOHN L. MOORE, New York, N. Y. Filed Nov. 17, 1909. Serial No. 528,500.



1. In a pull-socket for electric incandescent lamps, the combination of an insulating block, a post secured to said block, a rotatable sleeve on the post and having teeth projecting therefrom, means for rotating said sleeve with a step-by-step movement, a sliding socket on said post and having notches adapted to be engaged by said teeth as said sleeve is rotated, whereby said socket is moved toward and away from said sleeve, and a switch operated by the movement of said socket.

2. In a pull-socket for electric incandescent lamps, the combination of an insulating block, a center-post secured thereto, a sleeve rotatable upon said post and having downwardly-projecting teeth, means for rotating said sleeve with a step-by-step motion, a socket vertically slidable on said post and having deep notches each having an inclined face and an upright shoulder and adapted to be engaged by said teeth when said sleeve is in one position, said socket having also shallow notches adapted to be engaged by said teeth when said sleeve is in another position, and a switch operated by the movement of said socket.

3. In a pull-socket for electric incandescent lamps, the combination of upper and lower blocks, standards connecting said blocks, a contact carried by one of said standards, a contact-spring carried on the lower block, and normally held out of contact with the contact carried by the standard but adapted to be pressed into engagement therewith, a movable piece having an inclined face and an abrupt shoulder and contacting said spring, a sliding piece adapted to engage said inclined face and cause said movable piece to press said spring against said contact and to permit said spring to snap away from said contact as said sliding piece passes said shoulder, means for moving said sliding piece, conductors leading to said contact-piece and to one end of the filament of the lamp, and a conductor connecting said spring and the other end of the filament.

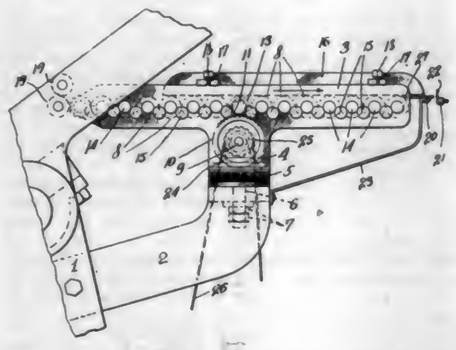
4. In a pull-socket for electric incandescent lamps, the combination of upper and lower insulating blocks, standards connecting said blocks, a contact carried by one of the standards, a contact-spring carried by the lower block and normally held out of contact with said contact, a vertically movable socket contacting said spring and having a notch forming an inclined face and a shoulder, a rotatable sliding piece adapted to engage said inclined face to press said socket against said spring to cause said spring to contact said contact, said sliding piece being adapted to pass said shoulder to permit said socket to permit said spring to leave said contact, means for moving the sliding piece with a step-by-step motion, a conductor connecting the spring with one end of the filament of the lamp, and conductors connected to said contact and to the other end of the filament.

5. A pull-socket for electric incandescent lamps, consisting of a casing having insulating blocks, standards connecting said blocks, a fixed center-post on the upper

insulating block, a spring-actuated pulley turning loosely on said post, a chain connected with said pulley for actuating the same, a spring-actuated pawl pivoted to the under side of said pulley, a ratchet-wheel engaged by said pawl and turning loosely on the center-post, a rotatable sleeve on the ratchet-wheel, a sliding socket at the lower end of the center-post below the rotatable sleeve, and a contact-spring attached to the lower insulating block and adapted to be placed in or out of contact with one of the standards connecting the insulating blocks for placing the lamp in and out of contact.

[Claims 6 and 7 not printed in the Gazette.]

970,256. SHEET-REGISTERING DEVICE. LEWIS E. MORRISON, Newark, N. J., assignor to Automatic Platen Press Company, New York, N. Y., a Corporation of New Jersey. Original application filed Jan. 2, 1907, Serial No. 350,516. Divided and this application filed Jan. 17, 1908. Serial No. 411,246.



1. In a sheet registering device the combination of a registering table comprising a layer of rollers, a centrally pivoted support for said rollers, and means for driving the latter from the center of said support.

2. In a sheet registering device the combination of a plurality of rollers, a centrally pivoted support for said rollers, adjustable side register means and means for rotating said rollers constantly in one direction.

3. A sheet registering device comprising a frame, a plurality of rollers pivoted in said frame, means for positioning the said rollers with their axis at any predetermined angle to the center line of the device, side register means, means for positioning the latter parallel to the center line of the device and centrally driven means for rotating the said rollers constantly in one direction.

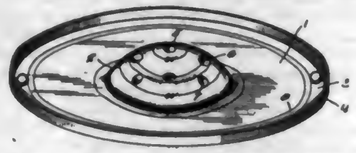
4. A sheet registering device comprising a centrally pivoted frame, a plurality of rollers journaled in said frame, adjustable side register means, a fixed register plate adjacent said rollers and means for driving the latter.

5. A sheet registering device comprising a centrally pivoted frame, a layer of rollers journaled in said frame, means for rotating said rollers constantly in one direction, side registering means carried by said frame, and a plate adjacent said rollers having a plurality of beveled edges at an angle to one another on the side nearest the rollers.

[Claim 6 not printed in the Gazette.]

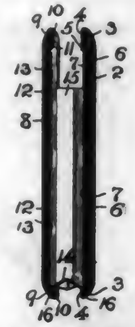
970,257. GAME. JOHN A. MCDONALD, Glace Bay, and WILLIAM L. RENNIE, Dominion, Nova Scotia, Canada. Filed Jan. 28, 1010. Serial No. 540,618.

As a new article of manufacture, a game board having a flat horizontally disposed main body portion formed at its center to provide a substantially semi-spherical upstanding portion having a series of pockets therein, a series of movable objects, a gutter surrounding the said



flat body portion and a wall formed on the board and entirely surrounding the said gutter.

970,258. CASE FOR CIGARS, CIGARETTES, &c. RUPERT A. NOCK, Newark, N. J., assignor to The William B. Kerr Company, a Corporation of New Jersey. Filed Nov. 30, 1906. Serial No. 345,826.



1. As an article of manufacture, a case for cigars and the like, comprising a pair of metallic plates, one of said plates having an outer convex face, and the other plate having an outer concave face, said plates being formed with inwardly extending bezels adapted to rest upon each other when the case is closed, and said plates being formed in a portion of their edges with receding parts forming an opening when the said plates are closed, and means for separably connecting said plates, substantially as and for the purposes set forth.

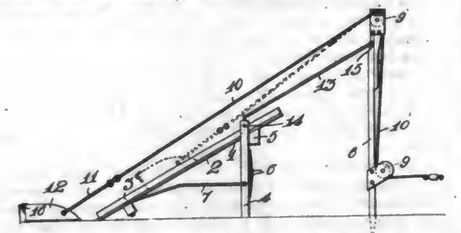
2. As an article of manufacture, a case for cigars and the like, comprising a pair of metallic plates, one of said plates having an outer convex face, and the other plate having an outer concave face, said plates being formed with inwardly extending bezels adapted to rest upon each other when the case is closed, and said plates being formed in a portion of their edges with receding parts forming an opening when the said plates are closed, and a flexible gusset arranged between and connected with the marginal edge-portions on three sides of each plate, substantially as and for the purposes set forth.

970,259. MANURE-LOADER AND LIKE DEVICE. JULIUS J. NOVAK, Loma, Nebr. Filed May 12, 1910. Serial No. 560,925.

1. An excavating device comprising a frame having an upwardly inclined platform, a pulley supporting post, a scoop, a cable passing over the pulleys and connected with the scoop as a means for drawing the scraper up the platform, a substantially U-shaped frame pivotally mounted between the post and upper end of the platform of the frame to support the scraper in dumping position, and a cross bar detachably mounted to extend transversely across the rear portion of the scraper and project on each side therefrom, the projecting ends of said cross bar being adapted to contact with said U-shaped frame to dump the scraper.

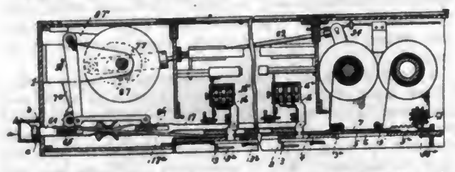
2. An excavating device of the class described comprising a supporting frame having an inclined platform, a

pulley supporting stake, a U-shaped frame between the supporting frame and the stake, a scraper, a cable passing over the pulleys and connected with the scraper as a means for pulling it up the platform and a cross bar attached to the scraper adjacent the rear extremity of the scraper, and having its opposite ends projecting on the opposite sides of said scraper and adapted to rotate on the side pieces of the U-shaped frame whereby the scraper is permitted to swing down into dumping position after reaching the U shaped frame.



3. A device of the character described comprising a supporting frame having an inclined platform, a pulley supporting stake, a plurality of pulleys suitably arranged thereon, a U-shaped frame pivotally mounted between the supporting frame and the stake, a scraper having a bail pivotally mounted adjacent its forward extremity, a cable passing over the pulleys upon the stake and connected with the scraper, a plurality of apertured ears extending upwardly from the rear extremity of the scraper, and a cross bar mounted in said apertured ears, and adapted to extend transversely beyond each side of the scraper, said projecting ends of the cross bar being adapted to contact with the sides of the U-shaped frame when the scraper is in dumping position.

970,260. INTERLOCKING MECHANISM FOR VOTING-MACHINES. CHARLES H. OCUMPAUGH, Rochester, N. Y. Original application filed Dec. 7, 1903, Serial No. 184,187. Divided and this application filed Aug. 28, 1906. Serial No. 332,390.



1. In a voting machine, vote indicators, abutments, interlocking straps corresponding to said indicators and situated between the abutments to limit voting to one or more votes, and a distinct strap adapted to coöperate with said abutments and straps to lock the vote-indicating straps, and means for preventing a voter from operating said distinct strap before completing his vote.

2. In a voting machine, the combination of a slotted face plate, abutments, interlocking straps arranged in a group, vote indicators fixed directly to said strap and movable in a straight line in said slots, one or more of said straps being perforated, and a strap-moving device entered in the perforation.

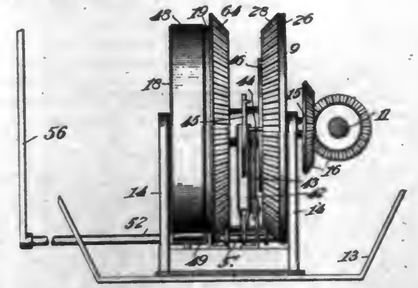
3. In a voting machine, the combination of abutments, straps having interlocking parts arranged in pairs, and movable endwise and in one and the same direction, said interlocking parts in each pair being arranged transversely to each other.

4. In a voting machine, abutments, interlocking straps of two classes arranged in groups, those of one class being connected with voting indicators and those of the other not connected with voting indicators and used as idlers, a group including both classes of straps being situated between the same abutments.

5. In a voting machine, abutments, interlocking straps movable in straight lines and arranged in a group, either one of the straps being adapted to lock the others by a movement in one and the same direction, and an interlocking strap to lock out the others by a movement in the opposite direction.

[Claims 6 to 26 not printed in the Gazette.]

970,261. ENGINE-CRANKER MECHANISM. WALTER W. OWEN, Youngstown, Ohio. Filed Oct. 8, 1909. Serial No. 521,720.



1. In engine cranking mechanism, the combination with a motor member, of winding means therefor including a winding member movable in opposite directions, means for moving the winding member in one direction to wind the motor member, means normally controlled by the winding member and released thereby when said winding member reaches a predetermined position for stopping such winding movement, and means operated by the motor member for moving the winding member in an opposite direction to again place said winding member in control of the said stopping means.

2. In engine cranking mechanism, the combination with a shaft, of a main driving wheel fixed thereto, a brake for holding and releasing the main driving wheel, a spring connected to the main driving wheel, a sleeve journaled on the shaft and connected to the spring, a ratchet wheel fixed to the sleeve, a winding wheel loosely journaled on the sleeve and having a dog that engages the ratchet wheel, means for rotating the winding wheel, and means controlled directly by the rotation of said winding wheel for stopping the same.

3. In engine cranking mechanism, the combination with a motor member, of winding means therefor including a winding member movable in opposite directions, means for moving the winding member in one direction to wind the motor member, means normally controlled by the winding member and released thereby when said winding member reaches a predetermined position for stopping such winding movement, and gearing for transmitting motion from the motor member to the winding member to move said winding member in an opposite direction and again place the same in control of the said stopping means, said gearing including elements that are movable into and out of mesh with each other.

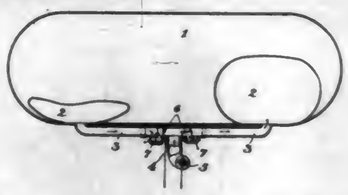
4. In engine cranking mechanism, the combination with a motor member, of a winding wheel therefor, rotatable in opposite directions, automatic means for rotating the winding wheel in one direction to wind the motor member, means automatically controlled by the winding wheel to stop its movement, means for holding and releasing the motor member, and means controlled by the holding and releasing means to reset said automatic controlling means and effect the rotation of the winding wheel in an opposite direction.

5. In engine cranking mechanism, the combination with a motor member, of a winding wheel therefor rotatable in opposite directions, means geared to the wheel for rotating it in one direction to wind the motor member, means automatically controlled by the winding wheel to throw said rotating means out of gear and stop the move-

ment of the winding wheel, means for holding and releasing the motor member, and means controlled by the holding and releasing means to gear together the motor and winding wheel and throw the rotating means for said winding wheel into condition to again operate.

[Claims 6 to 12 not printed in the Gazette.]

970,262. CONTROLLING DEVICE FOR AIRSHIPS. AUGUST VON PARSEVAL, Charlottenburg, Germany. Filed Apr. 6, 1908. Serial No. 425,428.



1. In an aerostat or airship of the type described, two air bags connected together in such manner that when air is supplied to one, the air contained in the other is permitted to escape, means for connecting together the two air bags, means for admitting air to one of the bags and permitting the air to escape from the other and means for supplying air to the air bags substantially as described.

2. In an aerostat or air ship of the type described, two air bags connected together in such manner that when air is supplied to one, the air contained in the other is permitted to escape, an air chamber connected to the air bags, means for connecting the said bags to the air chamber, means for admitting air to one of the bags and permitting the air to escape from the other and means for supplying air to the air chamber substantially as described.

3. In an aerostat or air ship of the type described two air bags connected together in such manner that when air is supplied to one, the air contained in the other is permitted to escape, an air chamber connected to the air bags, means for connecting the air bags alternately to the air chamber and to the atmosphere, and means for supplying air to air chamber substantially as described.

4. In aerostats or air ships of the type described, two air bags, apparatus for supplying air, an air chamber in connection with the apparatus for supplying air, means for connecting the air bags alternately to the air chamber and to the atmosphere so that air may be supplied to one of the air bags and the air contained in the other may escape substantially as described.

5. In aerostats or air ships of the type described, two air bags, apparatus for supplying air, an air chamber in connection with the apparatus for supplying air, tubes for connecting the air bags to the air chamber, inlet valves disposed within the tubes, outlet valves disposed within the tubes and means for connecting the inlet valve of one air bag to the outlet valve of the other air-bag in such a manner that when air is being supplied to one bag, the air is permitted to escape from the other bag substantially as described.

[Claim 6 not printed in the Gazette.]

970,263. ROLLING-MILL FOR PRODUCING TUBES. MATHIAS PETERS, Benrath, near Dusseldorf, Germany. Filed Apr. 29, 1909. Serial No. 492,859.



1. In a rolling mill for forming seamless tubes from a hollow ingot or blank: a series of rolls having their passes in alinement; means to support said ingot previous to its entry between said rolls; a mandrel adapted to enter the ingot so supported, and to pass with the same into said series of rolls; movable means to support the outer end of said mandrel and to travel toward the said series of rolls; and driving means for said movable means to control the speed of the mandrel in the passes as the tube is being rolled.

2. In a rolling mill for forming seamless tubes from a hollow ingot or blank: a series of rolls having their passes in alinement; means to support said ingot previous to its entry between said rolls; a mandrel adapted to enter the ingot so supported, and to pass with the same into said series of rolls; a truck, and rails upon which said truck is movable, said truck being adapted to support the outer end of said mandrel and to travel upon the said rails toward said series of rolls; driving means for said truck to control the speed of the mandrel in the passes as the tube is being rolled; means to couple said mandrel to said truck; and means to couple said truck to said driving means.

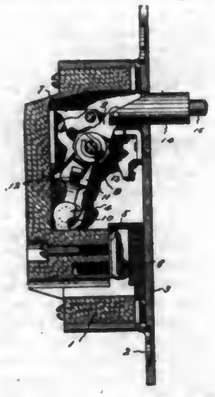
3. In a rolling mill for forming seamless tubes from a hollow ingot or blank: a series of rolls having their passes in alinement; means to support said ingot previous to its entry between said rolls; a mandrel adapted to enter the ingot so supported, and to pass with the same into said series of rolls; a truck, and rails upon which said truck is movable, said truck being adapted to support the outer end of said mandrel and to travel upon the said rails toward said series of rolls; driving means for said truck to control the speed of the mandrel in the passes as the tube is being rolled; means to couple said mandrel to said truck; means to couple said truck to said driving means; and means to uncouple said mandrel from said truck when the latter arrives at a predetermined point of said rails.

4. In a rolling mill for forming seamless tubes from a hollow ingot or blank: a series of rolls having their passes in alinement; means to support said ingot previous to its entry between said rolls; a mandrel adapted to enter the ingot so supported, and to pass with the same into said series of rolls; a truck, and rails upon which said truck is movable, said truck being adapted to support the outer end of said mandrel and to travel upon the said rails toward said series of rolls; driving means for said truck to control the speed of the mandrel in the passes as the tube is being rolled; means to couple said mandrel to said truck; means to uncouple said truck from said driving means; means to uncouple said mandrel from said truck when the latter arrives at a predetermined point of said rails; and means to return said truck when the same is uncoupled.

5. In a rolling mill for forming seamless tubes from a hollow ingot or blank; a plurality of pairs of rolls, with axes crossing one another and having their passes in alinement; means to support said ingot previous to its entry between the said rolls; a mandrel adapted to enter the ingot so supported, and to pass with the same into said series of rolls; a truck, and rails upon which said truck is movable, said truck being adapted to support the outer end of said mandrel and to travel upon said rails toward said series of rolls; an endless chain between said rails, and means to drive the same at a speed not exceeding the average peripheral speed of the rolls, said chain being adapted to control the speed of the mandrel in the passes as the tube is being rolled; means to couple said mandrel to said truck; means to couple said truck to said chain; means to uncouple said mandrel from said truck when the latter arrives at a predetermined point of said rails; means to uncouple said truck from said chain; and means to return said truck when the same is uncoupled.

970,264. DOOR-SWITCH. JOHANN G. PETERSON, Hartford, Conn., assignor to The Arrow Electric Company, Hartford, Conn., a Corporation of Connecticut. Filed Nov. 3, 1909. Serial No. 525,981.

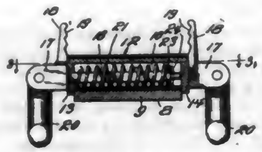
1. In a door switch, the combination of an actuating lever, a spring for throwing said lever, a part for operating said lever against said spring, and a spring intermediate said operating part and said lever, said last named spring being stronger than said first named spring, whereby said lever may be actuated by said operating part, and said operating part may yield to allow the final closing of the door in connection with which said switch is used.



2. The combination with the actuating mechanism of an electric switch, of a spring arranged to normally retain the actuating mechanism in one position, a push button having an inner section connected with the actuating mechanism, an outer section movable with relation to the inner, and a spring thrusting between the two sections of said button.

3. The combination with the actuating mechanism of an electric switch having a spring arranged to normally retain the actuating mechanism in one position, of a telescopic push button, said button comprising a member that is connected with said mechanism, a member telescopically connected with said first mentioned member, and a spring stiffer than the first mentioned spring arranged to normally hold said members extended.

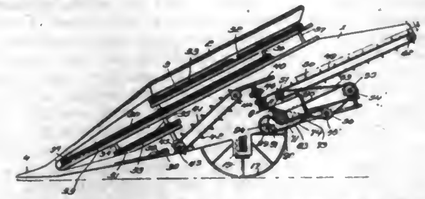
970,265. BOOT-BLACK STAND. EDWARD W. PURVES, Chicago, Ill. Filed Apr. 29, 1910. Serial No. 558,365.



In a shoe-polishing stand the combination with a foot-plate provided adjacent to the toe end thereof with spaced transverse grooves; of a channeled plate to straddle the toe end portion of the foot-plate, gripping members carried by the said channeled plate having portions arranged in the said grooves, said gripping members being yieldingly held against outward movement from the channeled plate and provided on their outer ends with pivoted handles.

970,266. CORN-HARVESTER. DICKSON B. RAWORTH, Brownsville, Tenn. Filed Aug. 17, 1909. Serial No. 513,212.

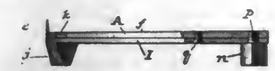
1. A corn harvester embodying a frame, main gathering chains, upper gathering chains extending from points intermediate the lengths of the main gathering chains to points rearwardly beyond the same, lower gathering chains arranged to overlap the front portions of the main and upper gathering chains, a cutter arranged to operate upon the stalk at the time it is engaged by all of said gathering chains, snapping rolls, a conveyer operating in conjunction with the main and upper gathering chains for feeding the stalks rearwardly beyond the rolls, a second conveyer adapted to receive the freed stalks and feed the same forwardly to the rolls, and means for operating the several parts.



2. A corn harvester embodying a frame, gathering devices mounted thereon, a cutter for severing the stalks, a rearwardly movable primary feeder, snapping rolls arranged adjacent the rear end of said feeder, a forwardly movable secondary feeder for receiving the stalks from the primary feeder and carrying the same to the snapping rolls, a shelf overhanging the snapping rolls and forming a passage for the stalks between the primary and secondary feeders, means for discharging the product, and means for operating the working parts.

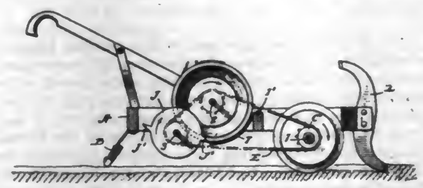
3. A corn harvester embodying a frame, a plurality of superposed overlapping gathering devices mounted upon the frame, a cutter arranged to operate upon the stalk at the time it is engaged by all of said gathering devices, snapping rolls, a conveyer operating in conjunction with certain of the gathering devices for feeding the stalks rearwardly beyond the rolls, a second conveyer adapted to receive the freed stalks and feed the same forwardly to the rolls, and means for operating the several parts.

970,267. HORSESHOE. ADOLF SCHWARTZ and JACOB SCHWARTZ, Baltimore, Md. Filed Mar. 21, 1910. Serial No. 550,587.



A two-part horse-shoe having in combination a permanent part, A, to be nailed to the animal's foot and the toe of which is provided with a screw-threaded hole, g, and each heel of which has a screw-threaded hole; and a removable part, I, of the same size and configuration as the said permanent part and whose toe has on its lower side a calk, j, and on its upper side immediately above said calk is provided with an upward-projecting screw-bolt, k, which fits into said screw-threaded hole in the permanent part and at its heel ends has smooth-bore holes which are coincident with the screw-threaded holes in the permanent part, and heel-calks each having a screw-threaded bolt which engages the holes in the heels of both the said removable and permanent parts.

970,268. COTTON-PLANTER. THOMAS N. SEAY, Columbia, S. C. Filed June 30, 1910. Serial No. 569,679.



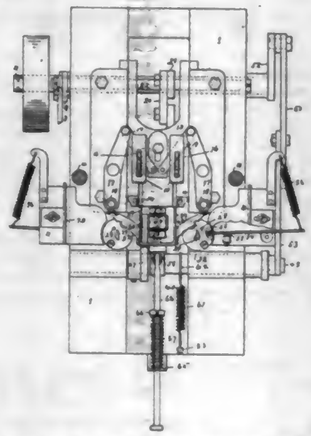
1. A planter substantially as herein described, comprising the combination with the framing, of a main wheel, a shaft therefor provided with a sprocket wheel, a seed carrier, a shaft therefor provided with a sprocket wheel, the said seed carrier comprising two cup like sections open

at their adjacent ends and spaced apart at such ends and having at their other ends plates screwing upon the shaft of said carrier, one of said cup sections abutting the sprocket wheel of the carrier, a jam nut on the shaft and screwing against the other section of the carrier, a force feed wheel operating betwen the spaced apart open ends of the seed carrier sections, a shaft for said feed wheel, a sprocket wheel on said shaft and a sprocket chain driven from the shaft of the main wheel and meshing with the sprocket wheels of the seed carrier shaft and the feed wheel shaft and operating to drive said shafts in the same direction, substantially as and for the purposes set forth.

2. A machine substantially as described, comprising a main wheel, a seed carrier in rear of the main wheel and comprising cup like sections open at their inner adjacent ends with the space between said ends in alinement with and in rear of the main wheel, a force feed wheel in rear of the seed carrier and operating between the adjacent open ends of the sections thereof and means for revolving said carrier and feed wheel from the main wheel, substantially as set forth.

3. The combination of a main wheel, a shaft therefor provided with a sprocket wheel, a seed carrier in rear of the main wheel and having cup like sections spaced apart at their inner adjacent ends, a shaft carrying said seed carrier and having a sprocket wheel, a force feed wheel operating between the spaced apart open ends of the seed carrier sections, a shaft carrying said feed wheel and provided with a sprocket wheel and a sprocket chain extending over the said sprocket wheels and driven by the main wheel and operating to turn the feed wheel and seed carrier in the same direction, said seed carrier and feed carrier moving in opposite directions at their overlapping points, all substantially as and for the purposes set forth.

970,269. BUNDLE-CARRIER-MAKING MACHINE. EUGENE H. SHEPARD, deceased, Phillips, Me.; Emma F. Shepard, administratrix. Filed Feb. 11, 1910. Serial No. 543,381.



1. In a device of the class described, a suitable frame, a longitudinally reciprocating plunger mounted thereon and provided with bundle carrier holding posts spaced apart longitudinally of the machine, wire bending rolls movable laterally by the movement of said plunger adapted to bend the wire part of the carrier at right angles to the wooden part, vertically reciprocating posts adapted to engage the ends of the wire part when bent as aforesaid, means for imparting a reciprocating motion to said posts, and means for imparting a rotary motion to said posts, whereby the free ends of the wire post are bent into the form of open loops.

2. In a device of the class described, a reciprocating plunger provided with bundle carrier holding posts spaced apart longitudinally of the machine, one set of posts being adjustable and having horisontally extending portions, means for reciprocating said plunger, wire bending rolls operable by said plunger to bend the ends of the wire part of the carrier at right angles to the wooden part, rotary posts adapted to engage the wire ends of the carrier and bend them into the form of open loops, a pivoted hopper, means for swinging its discharge end over the horizontal part of said bundle carrier holding posts, and means for periodically moving the discharge end beyond said posts, whereby a carrier is free to pass out of the hopper between said holding posts.

3. In a device of the class described, a reciprocating plunger, means on said plunger for holding the carrier, means operable by the reciprocation of said plunger adapted to bend the ends of the wire part of the carrier at right angles to the wooden part, vertically reciprocating posts having on their upper ends drums secured thereto and rotatable therewith, said posts being adapted to reciprocate vertically relative to said drums and being provided on their upper ends with jaws, one higher than the other, said posts being movable downwardly to bring the lower jaw to the face of the drum to allow the wire to pass over it and then movable upwardly, whereby the wire is engaged between said posts, and means for rotating said posts, whereby the ends of the wire are bent into the form of open loops.

970,270. DOOR CHECK AND BUFFER. JOHN C. SIBISKI, Baltimore, Md. Filed Apr. 19, 1910. Serial No. 556,314.

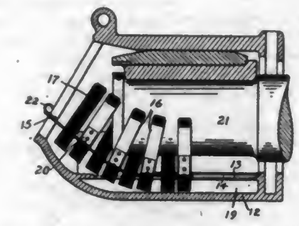


1. A device of the class described comprising a socket member formed from a single length of springy sheet material bent on itself to provide bracket arms, a shank and a pair of spring jaws, one of the terminals of such metal being formed to provide a brace having its outer end secured to the said shank, and a head member designed for engagement with the said socket member.

2. In a door check, the combination wth a socket member formed from a single length of springy sheet material bent upon itself to form companion spring jaw members, each jaw member being formed at its outer end to provide a head portion, the said member being formed to provide a shank and a pair of bracket arms and one of said bracket arms being formed to provide a brace arm which is connected with and secured to the said shank, a buffer of elastic material secured between the said jaws, of a head member designed to fit the socket member and formed to provide shoulders which are designed to be engaged by the heads of the said spring jaws.

970,271. LUBRICATING JOURNAL-BOX. GEORGE PHILIP SIMMONS, Utica, N. Y. Filed Aug. 17, 1909. Serial No. 513,331.

1. A lubricating journal box provided at its bottom with an oil well, combined with means for closing said well and for conducting oil to a journal to be lubricated, said means comprising a resilient apertured plate slidingly mounted in ways provided in said box, so that the said plate may be readily removed or inserted by being slid out or in endwise, a series of wick-holders elastically mounted on said plate, and wicks in said holders, said wicks passing through and closing the apertures in said plate.

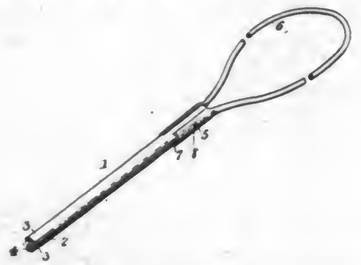


2. A lubricating journal box having an open end and provided at its bottom with an oil well, combined with means for closing said well and for conducting oil to a journal to be lubricated, said means comprising a resilient apertured plate adapted to be inserted endwise into or removed from said journal box through said open end, a series of independent wick-holders elastically mounted on said plate, and wicks in said holders, said wicks passing through and closing the apertures in said plate.

3. A lubricating journal box provided at its bottom with an oil well, combined with means for closing said well and for conducting oil to a journal to be lubricated, said means comprising a removable apertured resilient plate, a series of elastically mounted wick-holders, and wicks in said holders, said wicks passing through and closing the apertures in said plate, and the latter being provided with a handle or projection to facilitate its removal or insertion.

4. A lubricating journal box provided near its bottom with webs to form an oil well, said webs having grooved inner edges, combined with an apertured plate fitted to slide in said grooves, a series of elastically mounted oil-conductors on said plate and comprising wicks extending through and closing the apertures in said plate.

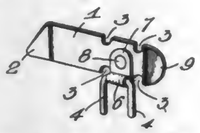
970,272. CURLING-IRON. HELEN M. SLAKER, Aurora, Ill. Filed June 29, 1907, Serial No. 381,528. Renewed July 8, 1910. Serial No. 571,089.



As an article of manufacture, curling irons comprising a rod having a notch or recess at the outer end, thereby forming rigid and integral prongs, and a spring loop forming a handle and provided with longitudinal grooves or channels at its ends, and a pin secured in one end of the rod and extending loosely into orifices in the channeled or grooved ends of the handle whereby the ends of the handle have sliding pivotal connection with the pin and embrace the rod with sufficient pressure to hold it in the various positions in which it may be placed with respect to the handle.

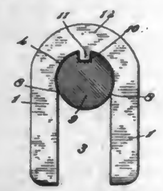
970,273. DOOR-FASTENER. JOSEPH SORROW, Boise, Idaho. Filed Apr. 18, 1910. Serial No. 556,229.

1. A door fastener of the class described comprising an attaching plate provided in one edge with a pair of longitudinally spaced recesses, a bearing plate pivoted to the attaching plate and a door engaging member of U-shape form pivoted to the bearing plate and capable of having its legs swung into engagement with the recesses of the attaching plate.



2. A door fastener of the class described comprising an attaching plate having a securing spur at one end thereof, said attaching plate being provided adjacent the opposite end with pairs of spaced recesses extending inwardly from the opposite side edges of the attaching plate, a bearing plate having a loop portion adjacent one end and pivotally connected with the attaching plate between said recesses, and a substantially U-shaped door engaging member hingedly mounted in said loop and adapted to be swung into engagement with the door, the legs of said U-shaped door engaging member being adapted to extend within the recesses upon either side of the attaching plate.

970,274. NUT-LOCK. OLIVER H. P. G. SPENCER, Columbus, Ohio, assignor of one-third to William Daniel Bresnahan and one-third to Henry Walter Boyer, Columbus, Ohio. Filed July 6, 1910. Serial No. 570,635.



1. In a nut lock, the combination with a bolt having a longitudinal slot therein, a washer-plate having a portion fitting the slot so as to hold the plate against rotation on the bolt, and a pair of spaced legs formed on said plate and bent at their extremities to engage the nut of the bolt to hold the same against rotation.

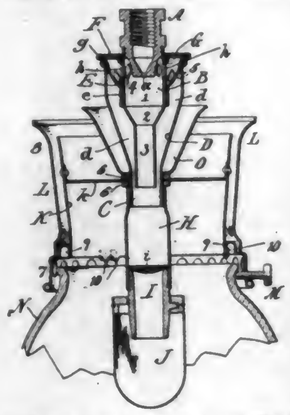
2. In a nut lock, the combination with a bolt having an adjustable nut, of a washer-plate having a pair of spaced arms straddling the said bolt, the said arms being spaced from each other to form a longitudinally extending slot, the said plate having a bolt-receiving concavity therein whose walls partly surround the said bolt to hold the plate in its adjusted position on the bolt, and coöperating means on the washer-plate and bolt respectively for holding the plate against rotation, the said arms of the plate having their extremities bent into locking engagement with the nut.

970,275. INVERTED INCANDESCENT GAS-BURNER. KARL A. A. STAAHLGREN, New York, N. Y. Filed Feb. 17, 1910. Serial No. 544,380.

1. An inverted incandescent gas lamp comprising a mixing-tube having gas and air-inlets and a downwardly extended outlet part, and a burner-tube having a contracted part surrounding but not contacting with said outlet part, thus providing an annular space around the said outlet part, said burner-tube having its upper end open to the atmosphere, and means connecting the mixing tube to the burner-tube comprising a perforated partition, the lower end of the burner-tube adapted for engagement with a burner tip, substantially as shown and described.

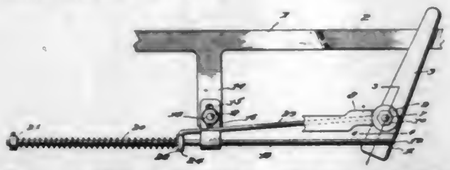
2. In an inverted gas burner, the combination with a mixing tube having gas and air-inlets and a downwardly extended outlet part, of a burner-tube comprising a contracted part surrounding but not contacting with said outlet part of the mixing-tube and providing a contracted annular space around the same, said burner-tube having

an expanded upper end part open to the atmosphere and an expanded lower end part, and means comprising a perforated cup-shaped partition securing the burner-tube



to the mixing-tube, the lower end of the burner-tube adapted for engagement with a burner tip, substantially as shown and described.

970,276. HEEL-SPRING. TIMOTHY E. TAYLOR, Putnam, and JOHN A. THOMAS, Thompson, Conn. Filed Jan. 3, 1910. Serial No. 535,922.



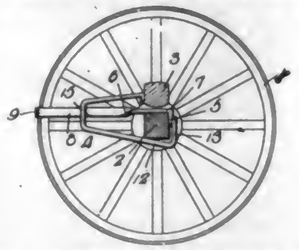
1. In a device of the character described, the combination with a picker stick provided with a stud, of a heel rod embracing the lower end portion of said stick, an adjustable spring coiled about said rod, and a regulating rod having one end slidably engaging said heel rod and its other end held in contact with said stud by the pressure of said spring.

2. In a device of the character described, the combination with the lay beam of a loom and picker stick, a stud on said picker stick having a socket, a heel rod connected with said picker stick, an adjustable hanger depending from said lay beam in which said heel rod is slidably supported, a spring coiled about said heel rod, and a regulating rod having one end resting in the socket of the stud and the other end slidably engaging the heel rod and bearing against said coil spring to press the same, said regulating rod being slidably supported in said adjustable hanger.

3. In a device of the character described, a lay beam of a loom, a picker stick, a stud thereon, a heel rod connected at one end to the lower end of said picker stick, a hanger depending from the lay beam in which said heel rod is slidably supported, a coil spring mounted on said heel rod and having one end bearing against a collar, and a regulating rod having one end provided with an eye slidably mounted on said heel rod and bearing against one end of said spring, the other end of said regulating rod bearing against said stud on the picker stick and held in place by the pressure of said spring.

970,277. WHEEL-SCRAPER. WILLIAM H. THOMAS and CHARLES H. RODGERS, Algoma, Miss. Filed Oct. 15, 1909. Serial No. 522,782.

A wheel scraper comprising an arm one end portion of which is twisted and downturned and adapted to be secured to the upper face and rear side of an axle, the free end of said arm terminating in a U-shaped portion to embrace the rim of a wheel, the lower edges of the U-shaped portion being beveled to form a knife edge, a substantially U-shaped support having the terminal of one of its limbs bent upwardly to bear on and be secured to the downturned end of the arm, and having the terminal of



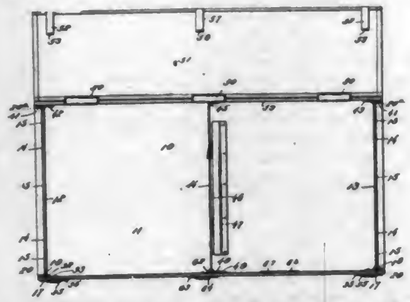
its opposite limb downturned to be secured to the front face of a bolster, and the portion connecting the said limbs having an oblong recess to receive the medial portion of said arm, whereby the free end portion of said arm is yieldingly held in juxtaposition to the rim of the wheel for the purposes described.

970,278. ANTHRACENE VAT DYE. PAUL THOMASCHEWSKI and HEINRICH RAEDER, Vohwinkel, and WALTER MIEG and PAUL FISCHER, Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Feb. 12, 1910. Serial No. 543,493.

1. The herein described new vat dyestuffs of the anthracene series which are chemically benzoylamino-di- and tri-anthraquinonylamins, which dyestuffs are, after being dried and pulverized, colored powders soluble in pyridin and quinolin with from a red to brown to green color, soluble in concentrated sulfuric acid with from an olive to blue to green color; giving vats with hydrosulfite and caustic soda lye, which vats dye unmordanted cotton fast red to violet to brown to green to gray shades, substantially as described.

2. The herein described new vat dyestuff of the anthracene series which can be obtained by condensing 1-benzoylamino-4-aminoanthraquinone with 2-chloroanthraquinone, which dyestuff is, after being dried and pulverized, a violet powder, which is soluble in pyridin with a brownish-violet color; soluble in concentrated sulfuric acid with a brownish-olive color; giving an orange-brown vat with hydrosulfite and caustic soda lye, which vat dyes cotton brownish-violet shades, substantially as described.

970,279. FOLDING CRATE. WILLIAM E. THRASHER, Sheldon, Mo. Filed June 29, 1908. Serial No. 440,924.

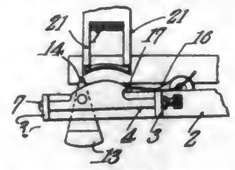


1. A crate of the class described comprising a plurality of hingedly connected walls adapted to fold inwardly, a partition hinged to the rear wall, a hinged web carried by the lower edge of the partition, a rail fixed to the bottom with which the web engages, a hinged cover, and means for securing the several parts in an open position.

2. A shipping crate comprising a plurality of hingedly connected walls, hingedly mounted members carried by the end walls for locking engagement with the front and rear walls, a hingedly mounted partition carried by the rear wall of the crate, a web hinged to the lower edge of the partition and a rail fixed to the bottom with which the web engages.

3. A shipping crate comprising a plurality of hingedly connected walls arranged to form a rectangular body, the front and rear walls having portions at their ends bent to lie in spaced relation to the front and rear walls, hingedly connected members carried by the end walls for engagement with the bent portions of the front and rear walls, a hinged member carried by the top wall, the front wall having a passage formed therein and arranged to receive a portion of the hinged member, and means for securing the several parts in an open position.

970,280. COIN-CONTROLLED MECHANISM FOR VENDING-MACHINES. LESLIE A. VANDIVER, Chicago, Ill. Filed Nov. 10, 1909. Serial No. 527,247.



1. In a coin controlled vending machine, a member having a coin passage therethrough, a member in said passage movable therein in a direction to intercept a coin of proper size, and a gravity member controlling the movable member and positioned with reference thereto to normally maintain the movable member in coin-intercepting position in the coin passage, said gravity member being movable against the action of gravity to cause the said movable member to release an engaged coin.

2. In a vending machine, a coin receiving member having a coin receiving slot, a rock shaft traversing said slot and provided with side extensions in the path of the coin and a counter-weight on said rock shaft in the path of the locking mechanism of the vending machine.

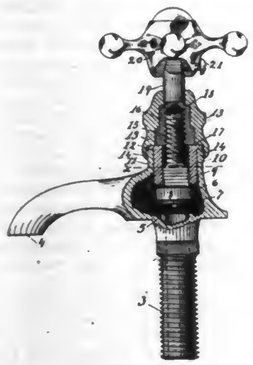
3. In a vending machine, a coin receiving member having a coin slot therein flanked by wings provided at one end with matching notches, a rock shaft traversing the slot at the other end of the wings and provided with a radial extension within the slot and a counter weight on said shaft exterior to the slot and positioned with relation to the radial extension to normally maintain the latter toward the other end of the slot.

4. In a vending machine, a coin controlled mechanism comprising a member with a slot extending there-through and wings on one side flanking said slot, said wings having matching notches at one end, means for adjusting the normal effective length of the slot, a shaft traversing the wings at the other end of the slot and provided with a radial side extension within the slot, and a counter-weight on said shaft exterior to the slot and having a projecting portion extending in the direction of the wings.

5. In a vending machine, a member provided with a slot adapted to receive a coin and with wings on opposite sides of said slot terminating at one end in a notch, an adjustable screw entering one end of the slot and adapted to determine the effective length of said slot, a rock shaft traversing the slot at the other end thereof, and provided with a radial extension normally directed toward the other end of the slot, and a counter-weight on said shaft having an extension beyond the shaft in a direction opposed to the body of the weight.

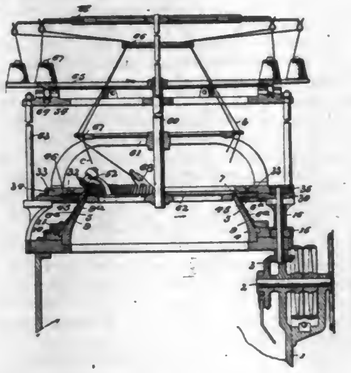
[Claims 6 to 9 not printed in the Gazette.]

970,281. STOP-COCK. JOSEPH E. VAN NOSTRAN, Upper Sandusky, Ohio. Filed May 17, 1910. Serial No. 561,859.



In a stopcock, a body portion having an inlet and an outlet passage and a valve seat between said passages; a valve fitted to reciprocate in central line of the seat and provided with a screw-threaded stem and a many sided body portion the sides of which are concentric and parallel with the axis of the valve; a thimble having a many sided hole through it to fit upon the said body portion of the valve, and having a cylindrical circumference which bears within the main body, and a flanged head resting on the body; a cap screw threaded upon the body and binding upon the said flanged head; a socket internally screw threaded to engage the aforesaid stem and having its inner end bearing on the said thimble, its outer end having a cylindrical bearing in the cap and beyond the cap a handle removably attached to it whereby the socket is revolved to reciprocate the valve.

970,282. KNITTING-MACHINE. EUGENE VERMILYEA and RALPH HAMMERSLEY, Waterford, N. Y. Filed Mar. 31, 1909. Serial No. 487,056.



1. In a knitting machine, for knitting fabric containing a knitting yarn and a fleecing yarn, a circular series of latch knitting needles, a sinker wheel for the fleecing yarn rotating in a plane inclined to the axis of the series of needles working against the backs of the needles, means to project certain of the needles into engagement with the sinker wheel at a higher level than certain other needles, whereby the first-named needles will not take the fleecing yarn into their hooks, and whereby the second set

of needles will enter the wheel behind the yarn and take it in their hooks, and means to operate the needles to knit with the knitting yarn.

2. In a knitting machine for knitting fabric containing a knitting yarn and a fleecing yarn, a circular series of latch knitting needles, means to support said needles, a sinker wheel for the fleecing yarn working in a plane inclined to and against the backs of the needles, means to project certain of the needles to a higher level than those which are not projected, whereby the first-named needles will not take the yarn into their hooks and whereby the remaining set of needles will take the yarn, means to operate the needles to knit with the knitting yarn, means acting on the fleecing yarn to force them below the free ends of the latches of the needles, a series of needles arranged at an angle to the circular series of latch needles to knit the knitting yarn, means for supporting said latter needles independent of the support for the circular series of latch needles.

3. In a knitting machine for knitting fabric containing a knitting yarn and a fleecing yarn, a circular set of latch needles having hooks extending outwardly or upwardly so as to draw stitches to the outside of the fabric, a carrier and operating cams for said needles, a second circular set of latch needles having hooks also extending outwardly or upwardly, a carrier for said needles holding them at an angle to the first-mentioned needles, means to operate said second set of needles to draw stitches in the same direction, means to supply each set of needles with separate yarns, means for operating the first set of needles, to knit, means for operating the second set of needles to knit at a point distant from the knitting point of the first set of needles, and means coöperating with one set of said needles between said knitting points for laying in a fleecing yarn.

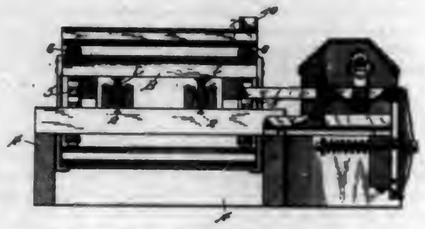
4. In a knitting machine for knitting fabric containing a knitting yarn and a fleecing yarn, a circular set of latch knitting needles, a sinker wheel operating on the backs of the needles, means for operating on all the needles to project them from a normal position in advance of the sinker wheel, means for projecting certain of said needles farther than the adjacent needles, whereby the said adjacent needles take the fleecing yarn into their hooks, and whereby the hooks of the other needles will not take the yarn, a second series of latch needles, means to supply each set of needles with a separate knitting yarn, and means to independently operate on each set of needles to knit their respective yarns; the operation of the first mentioned set of needles laying in the fleecing yarn.

5. In a knitting machine for knitting fabric containing a knitting yarn and a fleecing yarn, a series of cylinder needles, means for operating the series of cylinder needles to form knit loops, a series of dial needles, means for operating the series of dial needles to knit, the cylinder needles and the dial needles operating to knit at distant points, a sinker wheel rotating in a plane inclined to the axis of the cylinder needles and working against the backs of the same to coöperate in positioning the fleecing yarn, said sinker wheel being located intermediate the knitting points of the cylinder and dial needles, means to project certain of the cylinder needles to a higher level than certain other of said cylinder needles, whereby the cylinder needles, elevated the highest, will not take the fleecing yarn into their hooks, and whereby the remainder of the cylinder needles will enter the wheel behind the fleecing yarn and take it in their hooks.

[Claims 6 to 13 not printed in the Gazette.]

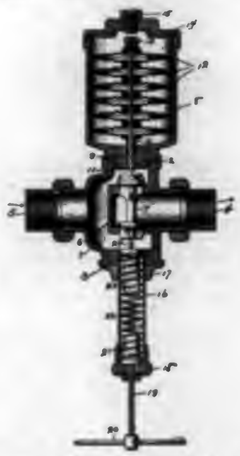
970,283. CONCENTRATING-TABLE. ARTHUR R. WILFLEY, Denver, Colo., assignor to The Mine and Smelter Supply Company, Denver, Colo., a Corporation. Filed May 15, 1903. Serial No. 157,287.

In combination, a slimes concentrating belt composed of transversely disposed trough sections open at one end, means for moving the belt in the direction of its length, means for imparting reciprocation to the belt initially slow and increasing to fast in the direction toward the open ends of the troughs, and initially fast and decreasing to slow in the reverse direction, means for feeding



slimes to the heads of the troughs, and means for feeding dressing water to said troughs.

970,284. FLUID-PRESSURE VALVE-REGULATOR. THOMAS M. WILKINS, East Randolph, N. Y., assignor of five-sixteenths to W. E. Zierden, Johnsonburg, Pa., one-fourth to John G. Whitmore, Ridgway, Pa., and seven-sixteenths to Ziermore Regulator Company, Johnsonburg, Pa., a Corporation of Pennsylvania. Filed Aug. 16, 1909. Serial No. 513,181.

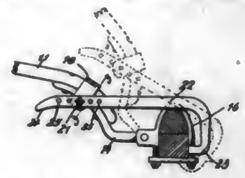


The combination with a valve casing and a longitudinally slidable valve disposed within the casing, of valve stems extending upon opposite sides of the valve and through the casing, a receptacle secured to one side of the casing and in communication therewith and into which one of the valve stems extends, flexible diaphragms disposed within the receptacle and having their interiors in communication with the valve casing, means at the remote ends of the diaphragms for connecting such diaphragms rigidly with the valves stems, means to admit a fluid into the receptacle about the exterior of the flexible diaphragm, a tube disposed at the opposite side of the valve casing and into which the other valve stem extends, a spring disposed within the tube and adapted to normally hold the valve from its seat, and means to adjustably vary the tension of the spring upon the valve.

970,285. THILL-SUPPORT. FORREST B. WILLIAMS, Columbus, N. C. Filed Nov. 26, 1909. Serial No. 530,009.

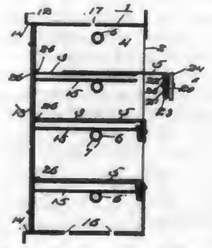
The herein described thill support comprising an inverted U-shaped clip to be placed astride a thill and having openings in its arms at a point immediately below the thill, a bolt extending through said openings and having a pair of nuts to bear on the outer side of the arms

of said clip and clamping said clip on said thill, one end of the said bolt extending beyond one of said nuts, an arm having a plurality of adjusting openings near its front end adapting said arm to be adjustably and pivotally mounted on said extended end of said bolt, the said arm serving to bear on the axle and being provided at



its rear end with a downturned portion terminating in a forwardly extending hook to bear against the rear side of the axle, the weight of said arm keeping the same normally in engagement with the axle, and a nut on the extended end of the bolt and bearing against the outer side of said arm.

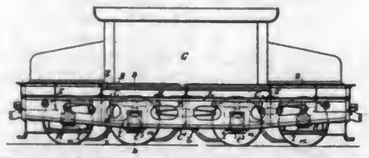
970,286. COOKING APPLIANCE. SAMUEL T. WILLSON, Denver, Colo. Filed Jan. 3, 1907, Serial No. 350,568. Renewed Jan. 11, 1908. Serial No. 410,446.



1. In a device of the character described, the combination of a casing, one side of which is open, a series of shelves removably mounted within the casing, a burner located under each of the shelves, and a shield carried by each of the shelves and positioned to close the opening and prevent the escape of the heat.

2. In a device of the character described, the combination of a casing having one side thereof open, a shelf slidably mounted within the casing, a burner mounted so as to operate upon the shelf and a shield carried by and in front of the shelf positioned as a closure and to prevent the escape of the heat.

970,287. LOCOMOTIVE-FRAME. GEORGE C. ABBE, Lansdowne, Pa., assignor to Baldwin Locomotive Works, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 18, 1910. Serial No. 556,060.



1. The combination in a locomotive or other vehicle, of a frame consisting of two longitudinal girders, one on each side of the locomotive, with axle box pedestals secured to the inner side of each girder, the lower chord of the girder being intact and extending past the point where the axle box pedestals are secured.

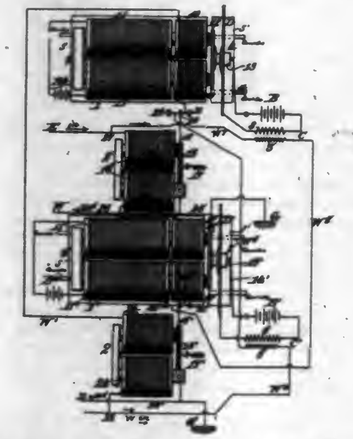
2. The combination in a locomotive, of a frame made of two longitudinal girders, a series of pedestals secured to the inner side of each girder, boxes mounted in the pedestals, and axles mounted in the boxes and terminating inside of the girders.

3. The combination in a frame for locomotives, of two longitudinally arranged girders, a series of cross members extending from one girder to the other, pedestal frames secured to the inner sides of the girders, boxes in the said pedestal frames, and axles mounted in the boxes and terminating inside of the girders.

4. The combination in an electric locomotive, of a frame made of two longitudinally arranged girders, a series of transverse members coupling the girders, a platform mounted on the said frame, a series of pedestal frames secured to the inner side of each longitudinal girder, boxes mounted in the said pedestal frames, and axles in the boxes, said axles terminating inside of the girders, the said girders extending from one end of the locomotive to the other and having their upper and lower chords intact.

5. The combination in a frame of a locomotive, of two longitudinal girders having their upper and lower chords intact, pedestals secured to the inner side of each girder, boxes mounted in the pedestals, axles, and equalizing gears, the plates of said girders being perforated at intervals whereby access may be had to the mechanism back of the girders.

970,288. TELEPHONE-REPEATER. CHARLES ADAMS RANDALL, New York, N. Y. Filed Apr. 15, 1905. Serial No. 255,754.



1. A telephone repeating apparatus of the class specified, embodying two independent normally closed main line circuits, each circuit being characterized by an electro-magnetic line controlling device for rendering the circuits operative, one by the other, and an electric transmitter.

2. A telephone repeating apparatus embodying two independent normally closed main line circuits individually having an electro-magnetic line controlling device for rendering the circuits operative, one by the other, an electric transmitter, and circuit connectors.

3. A telephone repeating apparatus embodying normally closed independent main line circuits each having means for opening and closing the other, and electric transmitting means.

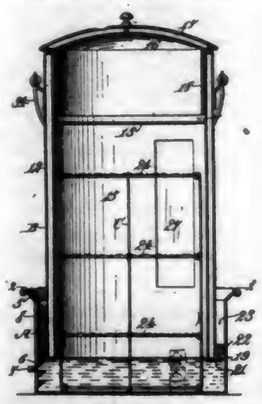
4. In a telephone system of the class specified, the combination with a telephone circuit, of means for generating and transmitting voice-caused currents thereover, a second telephone circuit independent of the first circuit, the said circuits being normally closed, and independent means in each circuit actuated by said voice-caused currents for controlling the circuits.

5. A telephone apparatus of the class described having two independent main line circuits, intermediate means for reproducing telephonic speech, sounds or the like, alternately from one main line circuit into the other main line circuit, consisting of electro-magnetic telephonic transmitting means, induction coils, batteries and circuit connections, and an electro-magnetic device in each main line

circuit actuated and controlled by the act of speaking into the transmitter at either sending station whereby from the distant terminal of either of the two independent main line circuits the other circuit can be automatically selected and connected in or electrically completed at the said intermediate means.

[Claims 6 to 14 not printed in the Gazette.]

970,289. STEAM-COOKER. ORVILLE E. ALLEN, Hornell, N. Y. Filed Mar. 3, 1910. Serial No. 547,046.



1. A steam cooker comprising an open-topped water receptacle, a hollow element adjustable vertically therein for containing the steam generated from the water, said element having its lower end submerged in the water to produce a seal and having its side wall spaced from that of said receptacle to produce an interposed annular chamber wherein the seal lies, and coöperating means arranged within said chamber for supporting said element at different heights to vary the depth of said seal.

2. A steam cooker comprising a water receptacle provided with a plurality of vertical series of supports, and a hollow element adapted to contain the steam generated from the water adjustable in said receptacle and provided with a single out-turned flange arranged for interchangeable engagement with said series of supports, to maintain said element in adjusted position.

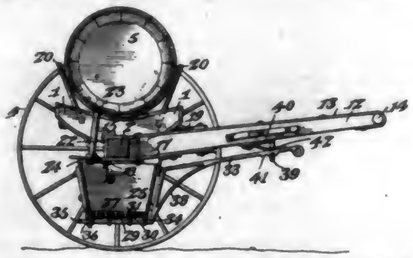
3. A steam cooker comprising a water receptacle provided with a plurality of vertical series of supports, and a hollow element adapted to contain the steam generated from the water adjustable in said receptacle and having its lower end submerged in the water therein to produce a water seal, said end being provided with an out-turned flange arranged for engagement with said series of supports and formed with notches adapted for registration with the same, to permit said element to be vertically adjusted and maintained in adjusted position.

970,290. HAND STREET-OILER. JOHN ARCHDEACON, Carlisle, Ky. Filed Nov. 10, 1909. Serial No. 527,330.

1. A hand sprinkling apparatus including a truck provided with opposite barrel supporting bars, a tongue connected with the track and arranged between the barrel supporting bars in position to form a skid to permit a barrel to be rolled up onto the said bars, and a receptacle hung from the axle and arranged to receive the contents of a barrel and provided with sprinkling means.

2. A hand sprinkling apparatus including a truck having an axle, longitudinal barrel supporting bars secured to the axle and having concave upper faces to form a seat for the barrels, a tongue centrally connected with the axle and arranged between the barrel supporting bars and forming a skid to permit a barrel to be rolled up onto the barrel supporting bars, and a receptacle hung from the axle and arranged to receive the contents of a barrel and provided with sprinkling means.

3. A hand sprinkling apparatus including a truck having an axle, barrel supporting bars mounted on the axle, and a receptacle hung from the axle and arranged to receive the contents of a barrel and provided with sprinkling means.

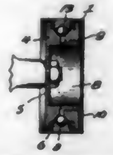


4. A hand sprinkling apparatus including a truck having an axle, longitudinal barrel supporting bars mounted upon the axle and provided with sockets, standards fitted in the sockets for retaining a barrel on the said bars, approximately U-shaped braces extending beneath the axle and connected with the ends of the bars, and a receptacle hung from the axle and arranged to receive the contents of a barrel.

5. A hand sprinkling apparatus including a truck having an axle, a receptacle hung from the axle and extending longitudinally thereof and provided with a perforated bottom, means for controlling the flow of a liquid through the said perforations, and barrel supporting means mounted upon the axle for holding a barrel above the receptacle for supplying the same with a liquid.

[Claims 6 to 11 not printed in the Gazette.]

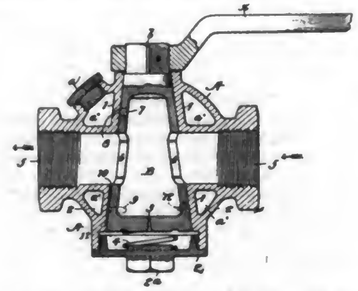
970,291. RIM-BEARING WHEEL. EDWARD JAMES BAISDEN, Topeka, Kans. Filed Jan. 22, 1909. Serial No. 473,743.



The herein described rim bearing wheel or roller comprising a revoluble cylindrical rim having an annulus on its inner side midway between its side edges, said annulus being provided with a channel in its inner peripheral face, an inner fixed or hub member cylindrical in form, closed at one side and open at the other side and forming a socket for the reception of a support, said inner member being provided at the closed side thereof with a truncated conical portion and a flange at the base or outer side of said truncated conical portion, said inner member being further provided with an adjusting member secured thereon and having a conical portion and a flange at the base of said conical portion, the flanges of said hub member and said adjusting member being disposed on opposite sides of and in close proximity to the annulus of the cylindrical rim, the width of the said cylindrical rim being such that its sides lie without the hub member and the adjusting member and bearing balls in the ball race formed by the channel of the said annulus of the rim and the opposing surfaces of said conical portions of the hub member and adjusting member.

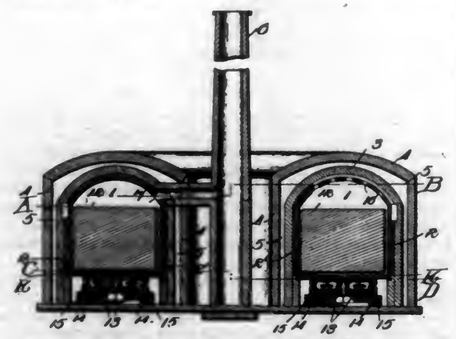
970,292. LUBRICATING-VALVE. THOMAS JULIAN BARBER, Denver, Colo. Filed June 10, 1909. Serial No. 501,296.

1. In a lubricating valve of the type indicated, the combination with a chambered casing having a tapered working barrel and a direct air passage through the same transversely, said barrel having also two lubricating passages in the lower portion which are spaced apart horizontally and three longitudinal grooves 10, 11, 11 arranged in the side of barrel opposite such passages and spaced apart horizontally, one of said grooves being located in a plane above the other two and communicating with the aforesaid transverse air passage, of a tapered plug or valve having a direct air passage corresponding to the one in the casing and air ports at top and bottom, also a horizontal oil groove 9 below the direct air passage, such groove being located with reference to the three grooves as described, and operating as specified, a removable cap closing the lower end of the barrel and spaced from the valve, and a spring arranged in the air chamber thus formed, substantially as described.



2. The combination, with a hollow casing a tapered working barrel and a direct air passage through the same, of a tapered plug or valve fitted to said barrel and having a horizontal oil groove 9 in its lower portion, a removable cap closing the lower opening of the casing, a spring supporting the valve, the latter having an air-port in its base, and the barrel having longitudinal grooves 11 spaced apart and communicating with the air chamber in which the spring is located, and the barrel provided in its lower portion with oil ports 12, spaced apart horizontally and arranged for communication with the groove 9 in the barrel when the valve is rotated to the closed position, as shown and described.

970,293. ANNULAR ROTATING FURNACE. WILLIAM B. BARY, St. Petersburg, Russia. Filed Aug. 16, 1909. Serial No. 513,176.



1. In a rotating furnace, the combination of a supporting ring K; independent structures for holding the material to be heated carried by said ring; horizontally disposed upper disks and horizontally disposed lower disks for supporting said ring; and ball bearings between said upper and lower disks, substantially as described.

2. In a rotating furnace the combination of a supporting ring K; independent removable structures carried by said ring; upper disks and lower disks provided with tapered projections for supporting said ring; ball bearings between said upper and lower disks; concentric rails on which said tapered projections roll; means for feeding air and gas into said furnace; and means for heating both of said gases before igniting the same, substantially as described.

3. In a rotating furnace, the combination of a supporting ring K; independent removable structures carried by said ring; radially disposed rails on said ring on which said structures may be moved; upper disks and lower disks provided with tapered projections for supporting said ring; ball bearings between said upper and lower disks; concentric rails on which said tapered projections roll; concentric supports for said last mentioned rails; means for feeding air and gas into said furnace; and means for heating both of said gases before igniting the same, substantially as described.

4. In a rotating furnace, the combination of a supporting ring K; independent structures for holding the material to be heated, carried by said ring; horizontally disposed upper disks and horizontally disposed lower disks for supporting said ring; ball bearings between said upper and lower disks; a stack around which said ring revolves; a passage 7 connecting the furnace chamber with said stack; and means for admitting gaseous fuel to said furnace, substantially as described.

5. In a rotating furnace, the combination of a supporting ring K; independent structures for holding the material to be heated carried by said ring; upper disks and lower disks for supporting said ring; ball bearings between said upper and lower disks; a stack around which said ring revolves; a passage 7 connecting the furnace chamber with said stack; means for admitting gaseous fuel to said furnace; a second passage partially encircling said furnace in which said fuel is preheated; and a platform 18 for said furnace; substantially as described.

970,294. AUTOMATIC LIGHTER. SUMTER B. BATTEY, New York, N. Y. Filed Apr. 7, 1909. Serial No. 488,538.



1. In a pocket-lighter, a wickless burner comprising a casing providing liquid retaining walls; a catalytic agent fixed within said casing; a reservoir for vaporizable combustible liquid; a duct leading from said reservoir to said burner; and manually operable means for causing the delivery of a portion of said combustible liquid still in liquid form into said burner casing.

2. In a self-igniter, means providing a chamber for storing vaporizable combustible liquid; a burner comprising a casing with a catalytic agent fixed therein and both mounted exteriorly to said chamber; means for freeing some of said liquid from said chamber; and provisions comprising a movable wall for positively delivering the freed liquid to said burner.

3. A pocket-lighter comprising, a burner; means providing a storage chamber for vaporizable combustible liquid and a measuring chamber for said liquid; means for opening and closing communication between said chambers; and a duct leading from said measuring chamber to said burner and providing for the conduction of a measured charge of said liquid to said burner.

4. In a lighter, a wickless burner comprising a casing having a burner opening and a liquid retention pocket; a catalytic agent fixed within said casing; and manually operable means for causing the delivery of vaporizable combustible liquid still in liquid form to said pocket.

5. In a lighter, a burner; a retention chamber at the base of said burner; a duct leading to said retention chamber; and means for forcing a vaporizable combustible liquid into said retention chamber and for forcibly delivering air to spray the said liquid into the burner.

[Claims 6 to 11 not printed in the Gazette.]

970,295. INKING ATTACHMENT FOR TYPE-WRITERS. EDWARD ABBOT BEARD, Rockville, Md. Filed Mar. 5, 1908. Serial No. 419,351.



1. In a typewriting machine provided with a type bar, the combination of an ink receptacle formed with a type on one end for distributing ink therefrom, said ink receptacle being threaded to said type bar.

2. In a typewriting machine provided with a type bar, the combination of an ink-containing sleeve removably secured thereto, a type member threaded to said sleeve, said sleeve being adapted to supply said type with ink.

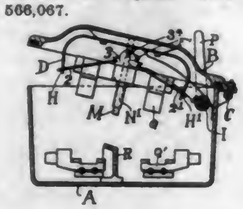
3. In a typewriting machine provided with type bars, the combination of a receptacle for receiving ink threaded to the type bars, and surrounding one end thereof, a type threaded to said receptacle, and means for causing the ink to flow through said type.

4. In a typewriting machine provided with type bars, the combination of a receptacle for receiving ink removably secured to said type bars, a type threaded on said receptacle, and means for feeding ink into proximity to said type.

5. In a typewriting machine provided with a type bar, the combination of an ink-containing receptacle threaded to said type bars, type secured to said receptacle, and a depending portion extending from said type bar for feeding ink into proximity to said type.

[Claims 6 to 12 not printed in the Gazette.]

970,296. PROTECTED OR ARMOR-CLAD ELECTRIC-SWITCH FUSE. HERBERT HENRY BERRY and WILLIAM J. MARKHAM, London, England. Filed June 9, 1910. Serial No. 566,067.



1. In an electric switch, a case, a cover on the case, a spring secured to said cover, slots in the ends of said spring, plates engaging the slots, a plunger head, said plunger head having grooves, said plates engaging said grooves, said plunger head having a pin, a bifurcated lever engaging said pin for actuating said plunger head against the action of said spring, means for actuating the lever, electric contacts secured to said case, and electric contacts carried by said plunger head adapted to engage the first said electric contacts.

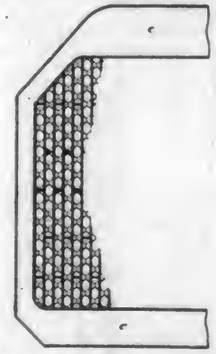
2. In an electric switch, a case, a cover on the case, a spring secured to said cover, slots in the ends of said spring, plates engaging the slots, a plunger head, said plunger head having grooves, plates engaging said grooves, a bifurcated lever engaging said plunger head to actuate the same, a rod carried by said cover, a tube carried by said plunger head, said tube being slidable upon said rod for guiding said plunger head, stationary electric contacts in said case, and electric contacts carried by said plunger head adapted to engage said stationary electric contacts.

3. In an electric switch, a case, a cover on the case, a rod centrally secured to the cover, a plunger mechanism slidable upon the rod, electric contacts stationary within the case, electric contacts carried by the plunger mechanism adapted to engage the first said electric contacts, spring pressed members connecting with the plunger mechanism for accelerating the motion of said plunger mechanism, and means for moving said plunger mechanism against the spring pressure.

4. In an electric switch, a case, a cover on the case, a rod centrally secured to the cover, a plunger mechanism slidable upon the rod, electric contacts stationary within the case, electric contacts carried by the plunger mechanism adapted to engage the first said electric contacts, spring pressed members connected with the plunger mechanism for accelerating the motion of said plunger mechanism, a lever in said case, a spindle carrying said lever, a second lever external to the case and mounted on said spindle for actuating the plunger mechanism.

5. In an electric switch, a case, a cover on the case, a rod centrally secured to the cover, a plunger mechanism slidable upon the rod, electric contacts stationary within the case, electric contacts carried by the plunger mechanism adapted to engage the first said electric contacts, spring pressed members connected with the plunger mechanism for accelerating the motion of said plunger mechanism, a bifurcated lever engaging a pin in said plunger mechanism for actuating said plunger mechanism, and means for actuating the lever.

970,297. AUTOMOBILE-RADIATOR. CHARLES G. BOECK, Jackson, Mich., assignor to Novelty Manufacturing Company, Jackson, Mich., a Corporation of Michigan. Filed Jan. 7, 1910. Serial No. 536,923.



1. A radiator comprising an assemblage of prismatic tubular air-flue sections having open rectangular ends, the same being placed immediately adjacent one another and joined at their ends, the lateral faces of said elements being formed intermediately of their flat-sided end portions with longitudinal recesses, and the opposed faces of adjacent elements having their said recesses staggered for intercommunication, thereby providing intervening sealed water-passages extending transversely of the air-flues.

2. A radiator comprising an assemblage of prismatic tubular air-flue sections having open rectangular ends, the same being placed immediately adjacent one another and joined at their ends, the lateral faces of said elements being formed intermediately of their flat-sided end portions with longitudinal recesses and alternating longitudinal projections, and adjacent elements being disposed so that the recesses in the faces of one overlap with the recesses in the faces of the others, while said projections on one element extend into the recesses in adjacent elements, thereby providing intervening serpentine water-passages restricted by said projections in the bends of said passages.

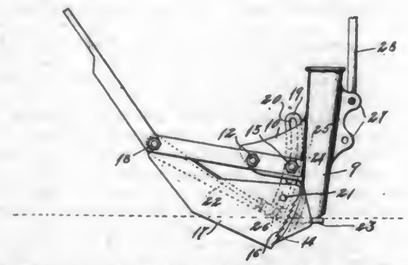
3. A radiator comprising an assemblage of prismatic air flue sections of sheet metal having open rectangular ends, the lateral faces thereof being flat at their end-portions and formed intermediately with longitudinal indentations which provide exterior recesses and interior projections increasing the radiating surface within the air-flues, such elements being arranged and secured together with the flat end portions of the faces of adjacent elements in contact and with the exterior recesses of such adjacent elements staggered for intercommunication, thereby providing intervening sealed water-passages.

4. A radiator comprising a plurality of flattish tubular elements or flue-sections having the form of thin quadrangular prisms, arranged immediately adjacent one another and joined at their ends, the opposite walls of said flue-sections being formed intermediately of their flat-sided end portions with longitudinal indentations making exterior recesses and interior projections which latter divide the flue-sections into a number of open-ended air-flues, and laterally adjacent flue-sections having their said recesses arranged in staggered relation to overlap, thereby providing sealed water-passages between the flue-sections and transversely of the air-flues.

5. A radiator comprising an assemblage of sheet-metal flue-sections arranged immediately adjacent one another and joined at their ends, said flue-sections having the form of thin quadrangular prisms the opposite sides of which are stamped intermediately of their flat-sided end portions with longitudinal depressions or recesses and alternating projections, said depressions making confronting inside projections which divide the flue-sections interiorly into a number of open-ended air-flues, and laterally adjacent flue-sections having their depressions overlapping, while the exterior projections on one flue-section extend into the depressions in the adjacent ones, thereby providing between the flue-sections serpentine water-passages which are restricted in the bends thereof by said projections.

[Claims 6 and 7 not printed in the Gazette.]

970,298. HOE ATTACHMENT FOR DRILLS. THOMAS J. BOOZER, Rosalia, Wash. Filed Apr. 18, 1910. Serial No. 556,061.



1. The combination with a drill spout supporting beam, of a drill spout fixed at one end thereto, a reversible point carried at the lower end of the spout, a vertical hoe blade pivoted to said beam and having adjustable connection with said point, and an adjustable shoe connected with said beam to regulate the depth of cutting action of the hoe.

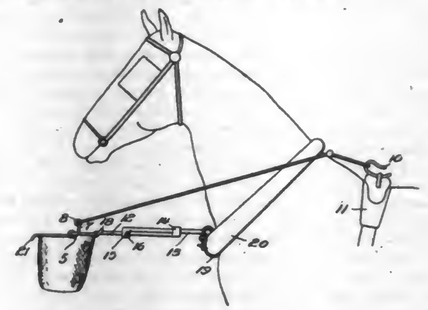
2. The combination with a supporting beam, of a drill tube connected thereto, a hoe blade vertically disposed forwardly of the tube, means for adjusting the blade relative to the lower end of the tube and gage means connected with said beam for regulating the depth of cutting action of the hoe.

3. The combination with a supporting beam, of a drill tube connected to one end thereof, a reversible point detachably connected to the lower end of the tube, a hoe blade vertically disposed beneath the beam and having rack teeth formed at its rear end engaged by one end of the point and means for limiting the depth of cutting action of the blade.

4. The combination with a supporting beam, of a drill tube connected to one end thereof, a reversible point detachably connected to the lower end of the tube, a hoe blade vertically disposed beneath the beam and having rack teeth formed at its rear end engaged by one end of the point, means for limiting the depth of cutting action of the blade, and means for adjusting said last named means.

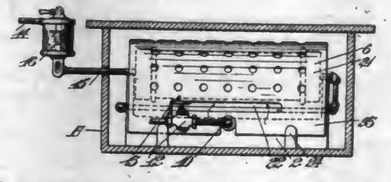
5. The combination with a supporting beam, of a drill tube connected to one end thereof, a reversible point detachably connected to the lower end of the tube, a hoe blade vertically disposed beneath the beam and having rack teeth formed at its rear end engaged by one end of the point, means for limiting the depth of cutting action of the blade, means for adjusting said last named means, and means for adjusting the said blade.

970,299. FEED-BAG. CHARLIE A. BOYD, Spencer, N. C. Filed Apr. 24, 1909. Serial No. 491,968.



A feed bag for animals in combination with supporting means for the bag comprising a bag suspending hoop embodying a pair of semi-circular sections one of which has terminal eyes while the other section has its end portions inserted through said eyes and bent to form angular upstanding suspending arms, shoulders adjacent to said eyes for sustaining the sections in substantially the same plane, a suspending connection attached to said upstanding arms, and a longitudinally extensible support connected at one end to said hoop and provided at its opposite end with a connection applicable to a part of the harness.

970,300. OIL-BURNER. WILLIAM H. BRADLEY, Half Moon Bay, Cal. Filed Dec. 14, 1909. Serial No. 532,989.



1. The combination in an oil burner having a fuel nozzle, of a pan, a superposed horizontal cylinder, means to deliver fuel to the nozzle so that it may discharge transversely of the pan and beneath the cylinder, a perforated inclosure for the cylinder and products of combustion, said inclosure being outside of and spaced from the cylinder and adapted to retard the escape of the products of combustion, means to admit water to the cylinder, and a steam pipe leading from the cylinder and having jets discharging into the pan contiguous to said nozzle.

2. The combination in an oil burner having a nozzle, of a pan, a superposed horizontal cylinder, means to deliver liquid fuel to the nozzle so that it may be delivered transversely of the pan and beneath the cylinder, a per-

forated inclosure for the cylinder, said inclosure being spaced from the cylinder and adapted to retard the escape of the products of combustion from thereabout, means to admit water to the cylinder, and a steam pipe extending from one end of the cylinder along both sides and across the other end of said cylinder, the terminal, side pipe lying above the fuel nozzle and discharging steam jets into the pan contiguous to said nozzle.

3. The combination in an oil burner, having a nozzle, of a pan, a superposed horizontal cylinder, means to deliver liquid fuel transversely of the pan and beneath the cylinder, means to admit water to the cylinder, a steam pipe extending from one end of the cylinder parallel with both sides thereof and across the opposite end thereof, the terminal side pipe lying above the fuel nozzle, and having steam jets into the pan contiguous to the fuel nozzle, and an arched, perforated hood supported from the pan sides and inclosing the cylinder.

4. The combination in an oil burner, having a nozzle, of a pan, a superposed horizontal cylinder, means to deliver liquid fuel transversely of the pan and beneath the cylinder, means to admit water to the cylinder, a steam pipe extending from one end of the cylinder parallel with both sides thereof and across the opposite end thereof, the terminal side pipe lying above the fuel nozzle, and having steam jets into the pan contiguous to the fuel nozzle, and an arched perforated hood supported from the pan sides and inclosing the cylinder, said hood having an open air admission slot above the fuel nozzle.

5. The combination in an oil burner, having a nozzle, of a pan, a superposed horizontal cylinder, means to deliver liquid fuel transversely of the pan and beneath the cylinder, means to admit water to the cylinder, a steam pipe extending from one end of the cylinder parallel with both sides thereof and across the opposite end thereof, the terminal side pipe lying above the fuel nozzle, an arched perforated hood supported from the pan sides and inclosing the cylinder, said hood having a curved top and parallel sides and an open air admission slot above the fuel nozzle, and a controlling lock for the fuel supply.

970,301. ADVERTISING DEVICE. THOMAS J. BURKE, New Orleans, La. Filed July 16, 1909. Serial No. 507,916.



1. In an advertising device, the combination with a plurality of structurally independent visible movable objects of means for producing the continuous traveling movement thereof and a plurality of sounding devices adapted to be operated successively by the several movable objects in their travel.

2. In an advertising device, a plurality of bodies adapted to roll and a plurality of sounding devices adapted to be operated by the rolling bodies a guide for the rolling bodies and means adapted to coöperate with the guide for producing a continuous traveling movement of the rolling bodies.

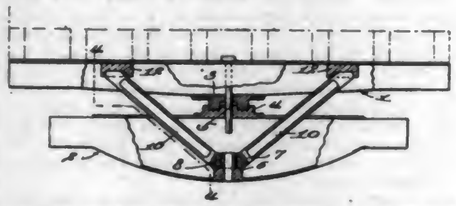
3. In an advertising device, a plurality of bodies adapted to travel and a plurality of sounding devices operable continuously by said traveling bodies during their travel and means for producing the continuous travel of said bodies.

4. In an advertising device, a plurality of bodies adapted to travel and a plurality of movable bodies supported at fixed points and operable continuously by said traveling bodies during their travel a guide for the traveling bodies and means adapted to coöperate with the guide for producing the continuous travel of said bodies.

5. In an advertising device, means for producing kaleidoscopic color effects, means for giving off harmonic effects and means for causing the operation of the latter consequent to the operation of the former.

[Claims 6 to 12 not printed in the Gazette.]

970,302. BOLSTER CONSTRUCTION FOR RAILWAY-CARS. JAMES R. CARMEN, Wilmington, Del. Filed Apr. 4, 1910. Serial No. 553,229.



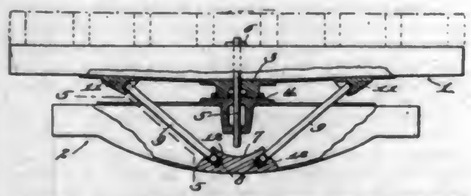
1. The combination, with the operatively-associated superposed car and truck bolsters; of a truss connecting said bolsters and comprising a pair of diagonally-arranged members and an eye integrally connecting the convergent ends thereof; a pivot secured to the truck bolster and extending through said eye; and retaining devices secured to the car bolster toward the ends thereof and engaged with the divergent ends of said members, whereby the said car bolster ends are supported against sagging.

2. The combination, with the operatively-associated superposed car and truck bolsters; of an angle truss of integral construction connecting said bolsters, said truss being pivoted at the meeting ends of its arms to the floor of the truck bolster and having the divergent ends of said arms connected with the roof of the car bolster toward the ends thereof, whereby said car bolster ends are supported against sagging.

3. The combination, with the operatively-associated superposed car and truck bolsters, the latter bolster being provided with a centrally-located up-standing pivot; of an angle truss of integral construction connecting said bolsters, said truss having an aperture at its apex through which said pivot loosely extends, and having the divergent ends of its arms removably engaged with the car bolster toward the ends of the latter, whereby said car bolster is supported at its ends against sagging and may be jacked up to disengage said truss arm ends therefrom.

4. The combination, with the operatively associated superposed car and truck bolsters, the latter of which has a slotted roof; of an angle truss connecting said bolsters, said truss being pivoted at its apex to the floor of the truck bolster and having its arms extending through the slots in the roof thereof toward the ends of the car bolster; and open pockets secured to said car bolster for the reception of the divergent ends of said arms, whereby said car bolster may be jacked up to withdraw said pockets from engagement with said arm ends.

970,303. BOLSTER CONSTRUCTION FOR RAILWAY-CARS. JAMES R. CARMEN, Wilmington, Del. Filed Apr. 4, 1910. Serial No. 553,230.



1. The combination, with the operatively-associated superposed car and truck bolsters; of a truss connecting said bolsters and comprising a pair of separate diagonally-arranged members; means rigidly connected to the central portion of the truck bolster and having the convergent ends of the truss members pivotally supported thereupon at points remote from each other; and retaining devices rigidly connected to the car bolster adjacent the ends of the latter and engaged with the divergent ends of said truss members whereby the ends of said car bolster are supported against sagging.

2. The combination, with the operatively-associated superposed car and truck bolsters; of a truss connecting said bolsters and comprising a pair of separate diagonally-arranged members; a boss rigidly connected to the central portion of the truck bolster and formed with diametrically-opposite seats wherein the convergent ends of the truss members are supported for rocking movement; and retaining devices rigidly connected to the car bolster adjacent the ends of the latter and engaged with the divergent ends of said truss members, whereby the ends of said car bolster are supported against sagging.

3. The combination, with the operatively-associated superposed car and truck bolsters; of a truss connecting said bolsters and comprising a pair of separate bars arranged at an angle to each other; pockets rigidly connected to the car bolster adjacent the ends of the latter and having the divergent upper ends of said bars fitted therein whereby the ends of said car bolster are supported against sagging; and a boss rigidly connected to the central portion of the truck bolster and having the convergent lower ends of said bars pivotally supported thereon at points remote from each other, both ends of said bars being rounded to reduce friction at their points of contact with said pockets and boss.

4. The combination, with the operatively-associated superposed car and truck bolsters; of a truss connecting said bolsters and comprising a pair of separate diagonally-arranged members; retaining devices rigidly connected to the car bolster adjacent the ends of the latter and engaged with the divergent ends of the truss members whereby the ends of said car bolster are supported against sagging; a boss provided upon the central portion of the truck bolster and formed with diametrically-opposite seats wherein the lower ends of said members are pivotally received; and means interposed in said seats between the bottom walls thereof and said ends for cushioning said members.

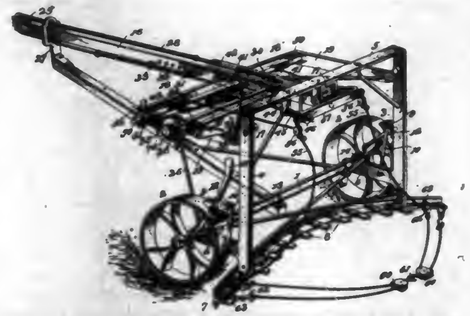
5. The combination with the operatively-associated superposed car and truck bolsters; of an angle-truss connecting said bolsters and comprising a pair of separate members; a boss provided upon the truck-bolster and formed with a pair of diametrically-opposite seats wherein the divergent lower ends of the truss members are removably inserted; and a pair of pockets provided upon the car bolster adjacent the end of the latter and having the convergent upper ends of said members removably fitted therein, whereby the ends of said car bolster are supported against sagging.

970,304. SHOCK-CONVEYING MACHINE. GEORGE M. CLAGETT, Marlboro, Md. Filed Mar. 31, 1910. Serial No. 552,635.

1. A shock-conveying machine comprising an axle, carrying wheels thereon, a frame normally upright in rear of the axle and connected thereto, means for securing shocks to such frame, and means for moving the frame concentrically to said axle, as the machine travels forward, to place the center of gravity of the load above or forward of the axle.

2. A shock-conveying machine comprising an axle, carrying wheels thereon, a frame normally upright in rear of the axle and movable concentrically thereto, means for securing shocks to such frame, means for causing the frame with the load to rise and travel forward as the machine is moved forward, and means for limiting the forward travel of the frame relatively to the axle.

3. A shock-conveying machine comprising an axle, carrying wheels thereon, a frame pivotally hung in relation to said axle and normally upright in rear thereof, means carried by the frame for engaging the carrying wheels to cause the frame to travel with the carrying wheels and to place the center of gravity of the frame above or forward of the axle, and means for limiting the forward movement of the frame.

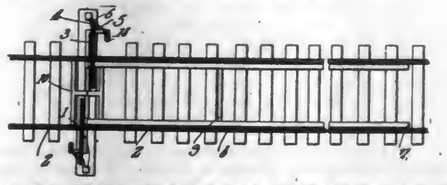


4. A shock-conveying machine comprising an axle, carrying wheels thereon, a frame normally upright in rear of the axle and connected thereto, means for securing shocks to such frame, means for causing the frame with the load to rise and travel forward as the machine is moved forward, and means for automatically limiting the forward travel of the frame relatively to the axle.

5. A shock conveying machine comprising an axle, carrying wheels thereon, a frame normally upright in rear of the axle and connected thereto, means for securing shocks to such frame, means for causing the frame with the load to rise and travel forward as the machine is moved forward, and means for variably limiting the forward travel of the frame relatively to the axle.

[Claims 6 to 16 not printed in the Gazette.]

970,305. RAILWAY-GATE. FRANK CLARK, Colony, Okla. Filed Apr. 30, 1910. Serial No. 558,560.



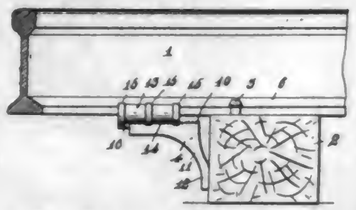
1. In combination with a track, a gate structure comprising panels hingedly mounted and arranged to swing over the track, a shaft journaled for rotation between the track rails and having a spiral portion, a frame having an opening which snugly receives the spiral portion of the shaft, means operatively connecting the shaft with the gate panels, rails attached to said frame, brackets connected with the track rails and carrying pins, the first mentioned rails slidably engaging said pins, and means for resiliently holding the first mentioned rails in elevated positions along the track.

2. In combination with a track a gate structure comprising panels hingedly mounted and arranged to swing over the track, a shaft journaled for rotation between the track rails and having a spiral portion, a frame having an opening which snugly receives the spiral portion of said shaft, means operatively connecting the shaft with the gate panels, rails attached at one end to the frame, brackets attached to the track rails and having curved pins, the first named rails having return portions which receive said pins, and means for holding the first named rails in elevated position with respect to the track.

970,306. RAIL-ANCHOR. CHARLES F. CLAWSON, Mount Pleasant, Iowa. Filed Mar. 10, 1910. Serial No. 548,381.

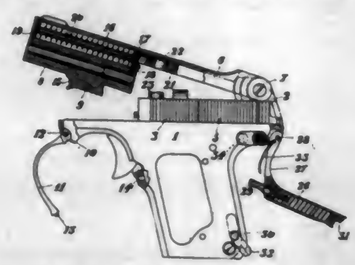
1. A rail anchor comprising a body having a rail engaging flange, a depending foot carried by the body

vertically offset therefrom and adapted, when forced into engagement with the tie, to cause the flange to twist upon the rail, said body having a longitudinally disposed groove therein, a central rib arranged in said groove and a clip slidably mounted upon the body for securing the same upon the rail, said clip having a projection adapted to enter said groove and a groove in said projection adapted to receive the rib of said body to hold the clip in position.



2. A rail anchor comprising a body having a rail base engaging flange, and a diagonal groove, a rib projecting upwardly from the bottom of the groove, a notched rail running parallel with the rib, a clip having a projection to enter the groove in the body and a groove to receive the rib, and a toothed way to coact with the notched rail for holding the clip in adjusted position on the body.

970,307. AUTOMATIC PISTOL. CHARLES PHILIBERT CLÉMENT, Liege, Belgium, assignor to Smith & Wesson Incorporated, Springfield, Mass., a Corporation of Massachusetts. Filed July 20, 1909. Serial No. 508,595.



1. In a pistol, the combination of a body having a rigid upwardly extending abutment, a sliding bolt engaging said abutment and limited in its reciprocations thereby, a casing pivotally connected with said abutment and adapted to cover the bolt, and a barrel carried by said casing.

2. In a pistol, the combination of a body having an upwardly extending projection, a sliding bolt mounted on the body and having a slot through which said projection extends, a pivotally mounted casing carrying a barrel and adapted to inclose the bolt, and means for securing the casing in closed position.

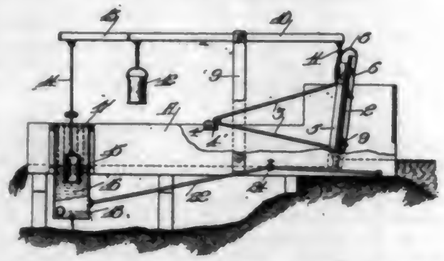
3. In a pistol, the combination of a body, a sliding bolt, means on the body for guiding and limiting the reciprocations of the bolt, a casing pivotally connected to the body at one end and carrying a barrel, said casing being adapted when in closed position to cover the bolt, and means for securing the casing in such closed position.

4. In a pistol, the combination of a body, a sliding bolt mounted on the body, a casing pivotally connected with the body adjacent its rear end and having a barrel formed integral therewith, said casing being adapted to cover the bolt when in closed position, and means for locking the casing in such position.

5. In a pistol, the combination of a body, a sliding bolt mounted on the body and limited in its movement by an abutment thereon, and a casing pivotally connected with said abutment and having a barrel formed integrally therewith, said casing covering the bolt when in closed position.

[Claims 6 to 14 not printed in the Gazette.]

970,308. DITCH-GATE. ADONIRAM J. COLLAR, Yreka, Cal. Filed June 11, 1909. Serial No. 501,637.



1. In combination with a sluice, a rising and falling gate, a fulcrumed lever having a fixed counterbalance weight, and a supplemental branch lever connected therewith, a float weight suspended from said supplemental lever, a tank within which said float is located, means for admitting water to said tank from the sluice, and an open escape passage from the tank.

2. In combination with a sluice, a fulcrumed counterbalanced lever, and a supplemental float suspended therefrom, of a gate having radius rods fixed to its back extending to a distance therefrom, and a bar and hinge joint to which the radius rods are connected.

3. In combination with a sluice, a gate fitting therein having radius rods converging from the back of the gate, and a hinge point about which the outer ends of said rods are turnable, of bars fixed upon the back of the gate, and coacting with the radius rods to stiffen the gate, and prevent its twisting, and a fulcrumed counterbalanced lever connected with the gate.

4. In combination with a sluice, a gate, a fulcrumed counterbalanced lever, with one end of which the gate is connected, radius rods connecting with the gate, a fixed hinge or fulcrum point to which said radius rods converge, angle iron strips loosely attached to the vertical edges of the gate, flexible joint-forming strips clamped between said angle iron strips, and adapted to form joints with the sides of the sluice.

5. In combination with a sluice, a rising and falling counterbalanced gate, radius rods having one end attached to the gate, and converging to a distant fixed hinge point about which said rods are turnable, angle iron clamping strips with flexible packing secured thereto, extending vertically contiguous to the edges of the gate, said strips having perforated lugs and elastic rods carried by the gate, and extending through the lugs, said rods acting to maintain joints between the packing and the sides of the sluice.

[Claim 6 not printed in the Gazette.]

970,309. AUTOMOBILE-FENDER. GLENN E. CONEY, Jackson, Mich., assignor to Metal Stamping Company, Jackson, Mich., a Corporation of Michigan. Filed Jan. 12, 1910. Serial No. 537,740.

1. A fender flange made from straight strip metal drawn or formed double into channel rail form and adapted to be bent to conform to the curvature of the fender, substantially as described.

2. A fender flange made from straight strip metal drawn or formed double into channel rail form and having a foot provided with a turned edge for wiring to a fender, substantially as described.

3. A fender provided with a flange consisting of a channel rail made from straight strip metal drawn or formed double, the rail being formed with a flat base which is rigidly attached on the face of the fender.

4. A sheet metal fender provided with a flange which consists of a channel rail made from straight strip metal drawn or formed double, the base of the channel rail having a lateral foot secured to the marginal portion of the fender by bending the edge of one around the other.

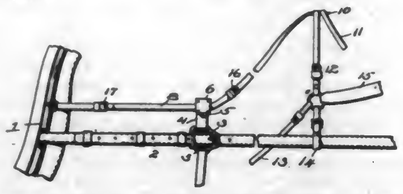
5. A sheet metal fender provided with a flange which consists of a channel rail made from straight strip metal drawn or formed double, the base of the channel rail



having a lateral foot or flange joined to the marginal portion of the fender by a wire placed in a turned edge of said foot and around which the edge of the fender is turned.

[Claims 6 and 7 not printed in the Gazetted]

970,310. ATTACHMENT FOR HARNESS. EDWARD COWAN, Bethune, Saskatchewan, Canada, assignor of one-half to Richard McVicar Napier, Bethune, Saskatchewan, Canada. Filed Aug. 10, 1908. Serial No. 447,807.

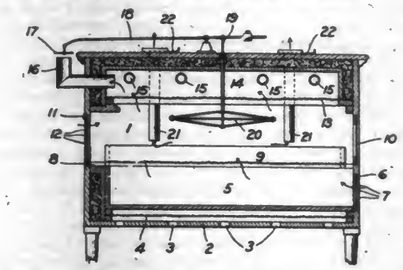


1. The combination with a draft harness, having a pair of hames and a hip strap, of supporting straps for the traces of the harness extending from the hip strap to the hames, a pair of anti-friction rollers engaging each of the straps along one edge, housings encircling each of said straps and said anti-friction means for holding the anti-friction means in position and for guiding said straps against said anti-friction means, a pivotally mounted strap for connecting each of the traces with each of the housings, and means for pivotally mounting each of said housings to said straps, said housings being pivotally mounted so as to move in one direction and said pivotally mounted straps being pivotally mounted so as to move in a plane at a right angle to the movement of said housings on their pivots.

2. The combination with a draft harness having a pair of hames and a hip strap, of a trace supporting strap connecting said hames and said hip strap, a pivotally mounted housing through which said strap is adapted to pass for guiding the same, a pair of anti-friction rollers pivotally mounted in said housing for acting against said trace supporting strap, and a strap pivotally connected with said housing and also pivotally connected with said trace for connecting said housing and said trace whereby said trace supporting strap is connected with said trace.

970,311. INCUBATOR. GRANT M. CURTIS, Buffalo, N. Y., assignor to Cyphers Incubator Company, Buffalo, N. Y., a Corporation of New York. Filed Mar. 2, 1908. Serial No. 418,872.

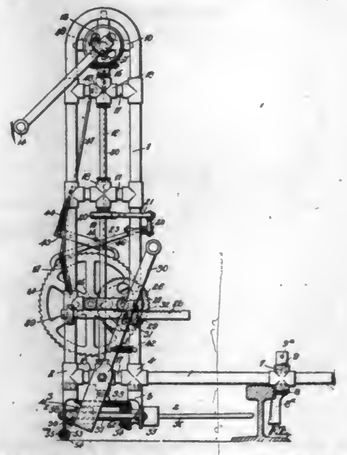
1. In an incubator having a hatching chamber, and a heating chamber above the hatching chamber for heating the latter by radiation; a porous door in one wall of the incubator communicating with the hatching chamber; and a porous door in the opposite wall of the incubator entirely below the level of the hatching chamber.



2. In an incubator having a hatching chamber, and a heating chamber above the hatching chamber for heating the latter by radiation; a porous door of variable thickness in one wall of the incubator communicating with the hatching chamber; and a porous door of variable thickness in the opposite wall of the incubator entirely below the level of the hatching chamber.

3. In an incubator having a hatching chamber and a space beneath the hatching chamber; means for heating the hatching chamber; a porous door in the rear wall of the hatching chamber, having one or more separately removable sheets of porous material; and a porous door in the front wall of said space entirely beneath the hatching chamber, having one or more separately removable sheets of porous material.

970,312. RAILROAD-TRACK DRILL. FRANK E. DAMRON, Roanoke, Va., assignor of one-third to H. F. Minter, Roanoke, Va. Filed Nov. 30, 1908. Serial No. 465,142.



1. A device of the kind described comprising a frame; a ratchet wheel mounted upon the frame, a slidable shaft, a drill chuck carried by such shaft, means for rotating the shaft, a feed pawl engaging said ratchet wheel, and adapted to rotate the same step by step, means for locking the ratchet wheel against reverse rotation, a rack bar, means operated by rotation of the ratchet wheel for moving the rack bar, a pivoted lever loosely connected to said rack bar, and means connecting the lever to the shaft, thereby sliding the shaft as the lever is moved.

2. A device of the kind described comprising an upright frame, a drilling mechanism carried by the lower portion of the frame, a feed mechanism carried by said frame, said feed mechanism including a pawl, a bell crank,

a thumb piece for operating said bell crank, a rod pivotally connected to said bell crank and to the said pawl, and adapted to lift said pawl into inoperative position, thereby stopping the feed mechanism, a locking pawl preventing reverse movement of the feed mechanism, a lever operatively connected to said locking pawl and adapted to lift the same, and means carried by said pawl whereby lifting of the locking pawl will also lift the feed pawl.

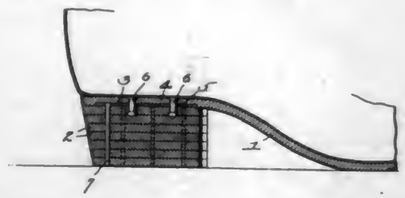
3. A device of the kind described comprising a frame, means for supporting said frame, means for holding one of said supporting means to a rail, a drill operating mechanism carried by said frame, a feed mechanism for feeding the drill operating means toward a rail, said feed mechanism including a rack bar, the rack bar being slidable, a pivoted lever, the said lever being loosely connected to the rack bar, means for locking said feed mechanism against reverse rotation, a spring connected to the frame and to the lever, and means for disengaging the locking means thereby permitting the spring to return the drill operating mechanism, lever and rack bar to normal position.

4. A track drill comprising a chuck and bit, a pivoted lever adapted to move said chuck and bit longitudinally, a ratchet, means for moving said ratchet step by step, means operable by the ratchet for moving the lever, means for releasing said ratchet, and means for drawing the lever back to its normal position upon release of the ratchet.

5. A track drill comprising a bit presentable to the side of a rail, means for rotating said bit, a lever for moving said bit to cutting position, feed mechanism operated in unison with the rotation of the drill, said feed mechanism operating through said lever, means for locking said feed mechanism against reverse movement, means for rendering said feed mechanism in-operative said means being independent of the rotation of the bit, and means for withdrawing the bit when said feed mechanism is in an inoperative position.

[Claim 6 not printed in the Gazette.]

970,313. HEEL PLATE AND FRAME. ANNA H. DEVIN, Ottumwa, Iowa. Filed Nov. 24, 1909. Serial No. 529,714.

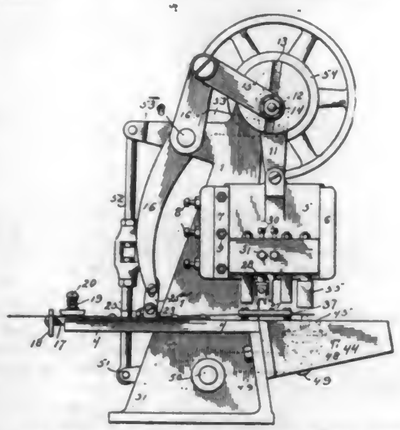


The combination with a shoe having a recess formed between the sole and the heel, a metal plate lying in said recess, rivets passing through said plate and securing the same to the sole and to the upper lift of the heel, and depending pins carried by said plate and extending downwardly through the heel.

970,314. MACHINE FOR FORMING AND ATTACHING FASTENERS TO PAPER RECEPTACLES. HARRY E. DILL, Dayton, Ohio, administrator of Charles D. Grimes, deceased, assignor to Mary B. Grimes, Dayton, Ohio. Filed July 18, 1907. Serial No. 384,408.

1. In a machine as described, feeding devices for intermittently advancing the metal strip, a reciprocating head, forming, driving, and severing devices carried by said head, and adapted at each downward movement of said head to form projecting tines on the advance end of the metal strip, to drive through the work the tines formed at the previous operation thereby attaching the metal strip, and to sever a predetermined length of the metal strip, and clenching mechanism operating prior to the severing operation, substantially as specified.

2. In a machine as described, feeding devices for the stock supply, a reciprocating head, yielding holding plungers carried by said head, a tine forming punch, a severing device and a driving punch also carried by said head, said parts being so arranged that the holding plungers will first engage the work, the driving punch will then engage the metal strip and force the tines formed by the previous operation through the work which will be followed by the tine forming punch, forming additional tines in the strip to be engaged by the next operation, the severing device subsequently severing the attachd portion of the strip from the stock supply, and clenching devices coöperating with the driving device, substantially as specified.



3. In a machine as described, feeding devices adapted to feed a straight flat ribbon of metal, a reciprocating head, punching devices carried on said head adapted to punch from said strip triangular flaps located in pairs, and oppositely disposed, and to bend said triangular flaps perpendicular to the plane of the metal ribbon to form projecting tines, severing and driving devices also carried by said reciprocating head, clenching mechanism coöperating with the driving mechanism, the driving and clenching mechanism being adapted to operate prior to the severing of the punched portions of the metal ribbon, substantially as specified.

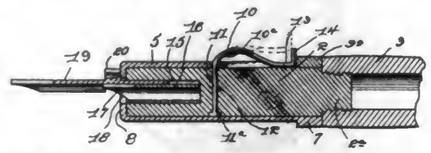
4. In a machine as described, a main frame, a reciprocating head carried thereon, punches carried on said head, a die block with which said punches coöperate, a depressible stripper plate intermediate said head and the material operated upon, spring pressed depressible plungers carried by said head and adapted upon the initial movement of said head to engage and depress said stripper plate, and upon further movement of said head to telescope therein, and means for passing a stock supply over said block, and means for attaching the fastener to the desired article substantially as specified.

5. In a machine as described, a main frame, driving mechanism, a reciprocating head, a forming punch and a severing device fixedly secured in said head, two spring pressed yielding plungers carried by said head and located on opposite sides of the punching and severing devices, and a spring pressed yielding driving plunger also carried by said head, means for feeding a strip of metal, and clenching mechanism coöperating with the driving mechanism, substantially as specified.

[Claims 6 to 11 not printed in the Gazette.]

970,315. PENHOLDER AND PEN THEREFOR. GRAHAM B. ELLIOTT, Barton, Vt. Filed June 2, 1909. Serial No. 499,717.

1. In a device of the character described, a penholder provided with pen securing means, a longitudinally movable cap mounted on said penholder, an overhanging flange carried by said cap and positioned above said pen securing means, said overhanging flange being adapted to abut the end of said penholder, and a pen provided with a lateral projection adapted to be positioned in front of said overhanging flange whereby when said cap is moved longitudinally forward of said penholder, said overhanging flange will contact with said projection to eject said pen.

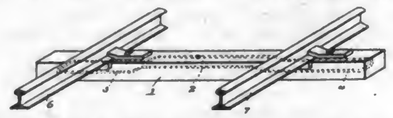


2. In a device of the character described, a penholder provided with a socket, a pen support positioned in said socket, a longitudinally movable cap mounted on said penholder, an overhanging flange carried by said cap and adapted to abut the end of said penholder, the bottom of said overhanging flange being substantially in alinement with the side wall of the socket in said penholder, and means for normally holding said cap in a fixed position.

3. In a device of the character described, a penholder provided with pen securing means, a longitudinally movable cap mounted on said penholder, said cap being provided with a slot, a suitably supported arm projected through the slot in said cap, and an overhanging extension carried by said arm and adapted to normally engage a portion of the wall of said slot to hold said cap in a fixed position whereby when said extension is moved to disengage it from the wall of said slot, said cap can be moved longitudinally of said penholder.

4. In a device of the character described, a penholder provided with a central socket, an elongated cap, with a shoulder on its rear end, movable lengthwise on said penholder, and having a slot in one side and a central opening substantially in alinement with said central socket, a pen support comprising a tube located in said socket and having a beveled outer end projecting through the central opening in said elongated cap, and a pivoted spring arm carried by the penholder and projecting through the slot in said elongated cap and engaging the shoulder thereof.

970,316. REINFORCED-CONCRETE RAILWAY-TIE. HARRY D. EMMONS, Woodstock, and WILLIE B. EMMONS, Thornton, N. H. Filed Mar. 1, 1909, Serial No. 480,632. Renewed July 22, 1910. Serial No. 573,285.



1. In a railway tie the combination of an elongated block of concrete, a metal tension resisting link inserted in the concrete, a block of wood between the rails and tie, metal pins fixed in the concrete extending into apertures in the blocks to keep them in place, metal clips resting on the tie and against the flanges of the rails, bolts passing through apertures in the clips and secured to the tie by being screwed into castings in the concrete and pins fixed in the concrete passing through apertures on the clips substantially as described.

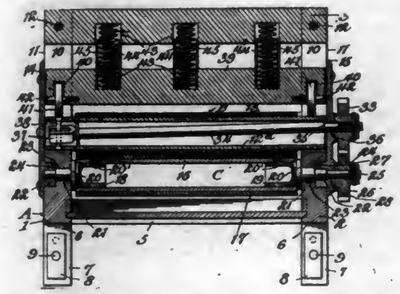
2. In a device of the character described, a tie formed of concrete, a cushioning block for receiving a rail, a pair of clips for holding the rail in position, a bolt for each of said clips for holding the same in position on said tie, a metallic socket embedded in said tie for holding said bolt in position, and pins embedded in said tie for forming auxiliary securing means for holding said clips in position.

3. In a device of the character described, the combination with a concrete tie, of a pair of clips for holding a rail to said tie, a cushioning block embedded in said tie below said rail, pins embedded in said tie and engaging said block for preventing lateral movement thereof, and movable means for securing said clips to said tie.

4. In a device of the character described, the combination with a concrete tie, of a cushioning block embedded therein for receiving a rail, a pin embedded in the tie and projecting into said block for holding the same against movement, clips for holding the tie in position, bolts for holding said clips in contact with the rail and tie, metallic means embedded in the concrete engaging said bolt for holding the same in position, and pins for engaging said clips and said tie for forming auxiliary securing means for the clips.

5. The combination with a concrete tie having a pair of recesses formed therein, of a cushioning block positioned in each of said recesses, pins embedded in said tie and engaging said blocks for preventing the movement thereof, clips for securing the rails in position on said cushioning blocks, a pin for each of said clips embedded in the concrete and projecting above the top thereof for engaging the clips and assisting in holding the same in position, metallic sockets embedded in the concrete on each side of each rail, and bolts passing through said clips and engaging said sockets for positively holding said clips in position.

970,317. CLOTHES-WRINGER. EDWIN FIRTH, Attleboro, Mass. Filed Apr. 7, 1909. Serial No. 488,436.



1. In a wringer, the combination of a frame consisting of rigidly connected side members having slots forming guideways, a roller mounted in the side members at a point below the slots, an upper tubular roller having its ends disposed in the slots, plates secured on the side members for covering the slots to prevent longitudinal movement of the upper roller, a transverse member secured in the upper roller at one end therof, a shaft extending through the said upper roller and having at one end a bifurcated head loosely spanning the transverse member and having its opposite end mounted in one of the side plates to rock thereon, gearing operatively connected with the rocking end of the said shaft and the lower roller, and tensioning means mounted on the frame to operate on the upper roller.

2. In a wringer, the combination of a frame having vertical guideways, a pair of contacting rollers mounted in the frame one above the other, the upper roller consisting of a member arranged with its ends disposed in the guideways and provided with a yielding cover terminating inwardly from said ends, a cross bar arranged with its ends in the guideways and having transverse recesses in its bottom adjacent its ends and sockets in its upper side intermediate its ends, wheels journaled within the transverse recesses to bear on the projecting end portions of the upper roller within the guideways, and tensioning means seated in the upper recesses and bearing against the frame for urging the cross bar downwardly to maintain the wheels thereof against the upper roller and the upper roller against the lower roller.

3. In a wringer, the combination of a frame consisting of rigidly connected side members having slots forming

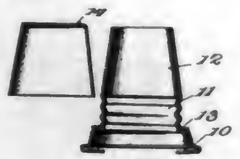
guideways, a roller mounted in the side members below the slots, an upper roller having its ends disposed in the slots, a cross bar disposed over the upper roller and having its ends disposed in the guideways, plates secured to the side members of the frame to close the guideways and extending across the ends of the upper roller and the cross bar, single wheels mounted in the ends of the cross bar to bear on the upper roller, tensioning means for urging the cross bar toward the upper roller, and means for rotating the rollers.

4. In a wringer, the combination of a frame consisting of connected side members having vertical slots, a lower roller, gudgeons secured to the ends of the roller and projecting outwardly therefrom, bearing plates secured to the side members to cover the slots thereof and provided with bearings in which the gudgeons are journaled, a gear connected with one of the gudgeons, an upper roller resting on the lower roller and having its ends disposed in the slots, said upper roller being tubular and prevented from longitudinal movement on the lower roller by the said plates, a cross member arranged in the upper roller, a shaft journaled at one end on one of the plates and having a head at the opposite end connected with the said member, a gear on the shaft meshing with the first-mentioned gear, driving means for the gears mounted on that plate in which the shaft is journaled, a cross bar having its ends disposed in the slots, a single wheel on each end of the cross bar and extending below the same to ride on the end of the upper roller, and resilient devices pressing on the bar to hold the said wheels against the upper roller and the upper roller against the lower roller.

5. In a wringer, the combination of a frame, upper and lower rollers mounted thereon, a cross bar disposed over the upper roller and having recesses, wheels journaled in the recesses and bearing on the ends of the upper roller, said frame having a fixed cross bar disposed over the first-mentioned cross bar, said cross bars having sockets in opposed surfaces, and springs arranged with their ends seated in the sockets.

[Claims 6 and 7 not printed in the Gazette.]

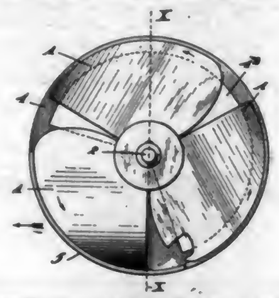
970,318. CARTRIDGE-FILLER. ROBERT FRENCH, Hillsboro, Ill. Filed Mar. 10, 1910. Serial No. 548,418.



1. An article of manufacture consisting of a cartridge filler constructed for application to various powder cans of commerce and comprising a plate formed and adapted for attachment to the ordinary closure-securing means on certain makes of powder cans and provided with a screw nipple, a flanged nozzle, screw-threaded for attachment to said nipple, said flange being of a form and size adapting it for attachment to the ordinary closure securing means on other makes of powder cans, and means for closing the nozzle after use, thereby closing the powder can in both instances.

2. An article of manufacture consisting of a cartridge filler constructed for application to various powder cans of commerce and comprising a plate provided with downwardly recurved, converging edges, whereby it is adapted to be slid into engagement with a corresponding plate secured to the outlet of one form of powder car said slidable plate having a nipple projecting therefrom to come into alinement with said outlet, a nozzle removably connected to said nipple and having a flange formed for attachment to the closure-securing means on another make of powder can, and a cap fitted to the nozzle whereby to close either make of powder can after use.

970,319. PROPELLER. LAMARTINE R. FULDA, San Francisco, Cal. Filed Nov. 29, 1909. Serial No. 530,328.



1. A propeller consisting of blades, a shaft on which said blades are mounted and through which they are revoluble, said blades having an arched outer periphery, disk fitting against the concaved inner sides of the blades, said disk having an unapertured portion so that the fluid through which the blades are revolved will be confined while the blades are passing said portion.

2. The combination in a propeller, of blades fixed to a shaft, said blades having the outer portions arched, a disk lying contiguous with the concavities formed by the blades, said disk having a portion forming a closure therefor whereby the fluid through which the blades are revolved will be confined while passing said closures, and allowed to escape after passing them, means for turning the disk so that the closure may be so placed as to drive the vessel ahead, or to reverse it without changing the direction of rotation of the propellers.

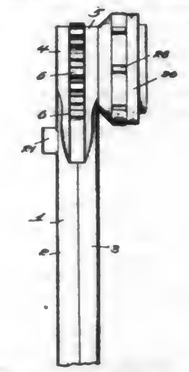
3. The combination in a propelling apparatus, of blades mounted upon a revoluble shaft, said blades being disposed in opposing pairs upon each shaft and having their outer portions arched, a disk having its face contiguous to the concaved portions of the propeller blades, said disk having an unapertured portion over which the blades pass during their revolution, and by which the fluid is temporarily confined between the blades and disk, and said disk having other apertured portions through which the fluid may escape toward the center.

4. The combination in a propeller, of blades, a shaft by which the blades are revolved, said blades having the outer portions arched, disks having their faces lying contiguous to the concaved portions of the propeller blades, said disks having unapertured portions with which the blades coact to propel the vessel, means by which the disks may be turned to change the position of the unapertured portions, and to reverse or change the direction of travel of the vessel without reference to the motor, and means connecting pairs of the disks whereby said pairs may be changed independently of each other.

970,320. RATCHET-WRENCH. AMBUS M. FULKERSON, Sac and Fox Agency, Okla. Filed July 16, 1909. Serial No. 508,016.

1. A wrench comprising a handle, a ratchet wheel carried thereby, spring actuated dogs to engage the ratchet wheel, means for throwing either dog into and out of operation, a head mounted to rotate upon the handle and connected with the ratchet wheel, said head being provided with a receiving socket, a projection and segmental slots, a chuck adapted to fit within said socket and having a groove to receive said projection, and a pair of angular locking recesses, a rotary locking member on the head provided with lugs movable in said slots and adapted to engage said locking recesses, and a locking device having an adjustable locking connection with the head to resist turning movement of said locking member.

2. A wrench comprising a handle, a ratchet wheel carried thereby, spring actuated dogs to engage the ratchet wheel, means for throwing either dog into and out of operation, a head mounted to rotate upon the handle and connected with the ratchet wheel, said head being provided with a receiving socket, a projection and segmental slots, a chuck adapted to fit within said socket and having a groove to receive said projection and a pair of angular locking recesses, a rotary locking member on the head



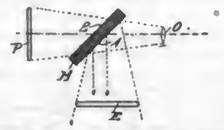
provided with lugs movable in said slots and adapted to engage said locking recesses, and a spring locking member on the head to resist turning movement of said locking member.

970,321. GAME. THOMAS F. GALLAGHER, Charlestown, Mass. Filed Apr. 11, 1910. Serial No. 554,896.



In a device of the class described, the combination with a board, of a rod slidably mounted in brackets on the under side of said board, a pair of springs surrounding said rod and adapted to normally project the same in one direction, a projecting arm carried by the rod, and extending up through the board adapted to project a ball, a lever pivoted to the board on its under side, and having connection at one end with the rod, said lever having its opposite end projecting through the board, and a bat carried by the said lever and adapted to operate over the board in the opposite direction to the projecting arm.

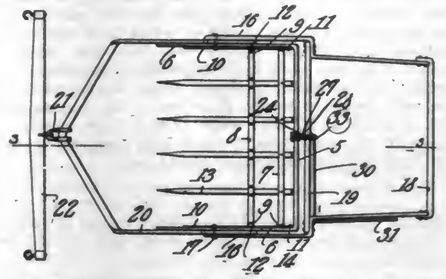
970,322. APPARATUS FOR TAKING PHOTOGRAPHS IN COLORS AND CAUSING THEM TO APPEAR STEREOSCOPICALLY. LOUIS GEISLER, Paris, France, assignor to Chromography Limited, London, England. Filed Mar. 16, 1908. Serial No. 421,505.



1. In an apparatus for taking and viewing stereoscopic photographs in colors in which the colors are obtained by decomposition of the light into four primary colors, the combination of an objective, a sensitive plate arranged in the axis of the objective, a mirror inclined at an angle of forty-five degrees to said objective, a side screen arranged in a plane at right angles to and at a point in front of said sensitive plate, a portion of the light being reflected by said mirror screen on the said side screen and another portion passing through to said sensitive plate, said mirror screen having a color complementary to that of the side screen.

2. In an apparatus for taking and viewing stereoscopic photographs in colors, in which the colors are obtained by decomposition of the light into four primary colors, the combination of two objectives, a mirror screen having different colored portions and arranged behind both objectives and inclined at an angle of forty-five degrees thereto, one colored portion of said mirror lying behind one objective and the other colored portion behind the other objective, four sensitive plates, two being arranged in the axes of the objectives and the other two in a plane at right angles thereto, a side screen arranged over two of said sensitive plates and in advance of the other two plates, said mirror screen being arranged to reflect one portion of the light onto said side screen and allow another portion thereof to pass and act on the sensitive plates arranged in the axes of the objectives, said mirror screen acting simultaneously as a screen for selecting rays on the sensitive plates placed in the axes of the objectives and having on each of its halves which correspond to each of the objectives a color complementary to that of the screen which receives the rays reflected by the mirror.

970,323. SCRAPER. ROY C. GLISH, Prosper, Minn. Filed Nov. 1, 1909. Serial No. 525,762.



1. A scraper comprising a frame carrying a series of tines, a handle pivoted to the sides of the frame, and having a cross bar extending behind the rear end thereof, a draft bail pivotally connected to the frame, a latch carried by the cross bar of the handle, and engageable with the rear end of the frame, and means for releasing the latch.

2. A scraper comprising a scraper body, a handle pivoted to the sides of the body, and having a cross bar extending behind the rear end thereof, a bracket carried by the cross bar, a latch pivoted to the bracket, and engageable with the rear end of the body, a stem pivotally connected to the free end of the latch, and passing loosely through the bracket, a spring coiled around the stem between the latch and the bracket, a rock shaft carried by the handle, and operatively connected to the stem, means for operating the rock shaft, and a draft bail pivotally connected to the body.

3. A scraper comprising a scraper body, a handle pivoted to the sides of the body, and having a cross bar extending behind the rear end thereof, a draft bail pivoted to the sides of the body, and curved rearwardly and forwardly from the pivot, a latch carried by the cross bar of the handle, and engageable with the rear end of the body, and means for releasing the latch.

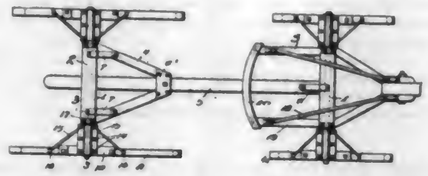
4. A scraper comprising a frame consisting of a rear cross bar bent forwardly to form a pair of tines, a runner connected at one end to the front ends of said tines, and having at its opposite end an upright portion connected to the rear ends of said tines, cross bars having upstanding portions at their ends connected to the tines, and tines mounted on said cross bars, and bent upwardly at their rear ends and secured to the rear cross bar, a handle and a draft bail pivoted to the first-mentioned tines, a cross bar carried by the handle, and extending behind the aforesaid rear cross bar, a latch carried by the cross bar of the handle, and engageable with the rear cross bar, and means for releasing the latch.

5. A scraper comprising a scraper body carrying stems projecting above the rear end of the body, a handle piv-

oted to the sides of the body and having a cross bar extending behind the rear end thereof, a draft bail pivotally connected to the body, a latch carried by the cross bar of the handle, and engageable with the rear end of the body, and means for releasing the latch.

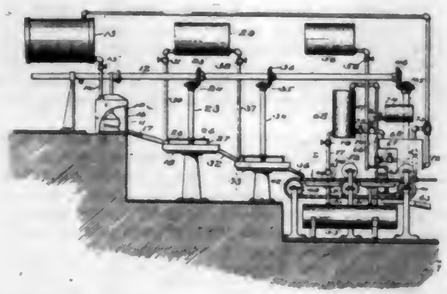
[Claims 6 and 7 not printed in the Gazette.]

970,324. SLED-KNEE. GEORGE J. GODDIN and HARLEY B. EVANS, Elkins, W. Va. Filed June 22, 1909. Serial No. 503,665.



An L-shaped metal knee for sleds comprising a flanged body adapted to rest directly upon and bear against the top and side of the sled runner to which it is fastened, a sectional and tubular bearing arm extending laterally inward from said body and comprising a detachable cap section, and outwardly diverging braces having their inner ends connected to the inner end of the bearing arm and terminating at their outer ends in eyes located in line with the major axis of the flanged body and beyond the front and rear extremities of the body.

970,325. PROCESS OF TREATING ORES. EDWIN B. GOODWIN, Ward, Colo. Filed Oct. 14, 1908. Serial No. 457,667.



1. The process of extracting metals from ores consisting in grinding the ores in successive grinders to increased degrees of fineness, and at once subjecting the exposed metal particles to the combined action of the atmosphere and a solvent.

2. The process of extracting metals from ores, consisting in grinding the ores in successive grinders to increased degrees of fineness, and at once subjecting the exposed metal particles to the combined action of the atmosphere and a heated solvent.

3. The process of extracting metals from ores consisting in grinding ores and at once subjecting the metallic particles exposed by such grinding to the combined action of the atmosphere and a solvent.

4. The process of extracting metals from ores consisting in grinding ores and at once subjecting the metallic particles exposed by such grinding to the combined action of the atmosphere and a heated solvent.

5. The process of extracting metals from ores consisting in grinding the ores upon a floor and exposing particles of the freshly ground ores to the atmosphere immediately after engagement by the grinding mechanism.

[Claims 6 to 9 not printed in the Gazette.]

970,326. PROCESS OF COLORING LEATHER AND PRODUCT THEREOF. MARGARET M. GREGG, Brooklyn, N. Y. Filed Apr. 13, 1910. Serial No. 555,189.

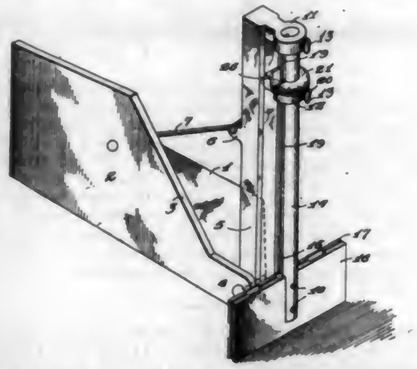
1. The herein described process of coloring skins which consists in wetting the skin, gathering it in irregular bunches, tying the bunches, immersing the skin so tied while still wet in a bath of dye, removing the skin from the bath and smoothing out while still wet, and drying.

2. The herein described process of coloring skins which consists in wetting the skin, placing an article on the flesh side of the skin, gathering the skin in a bunch about the article, tying the bunch so formed, immersing the skin so tied while still wet in a bath of dye, removing the skin from the bath, untying while still wet, smoothing out and drying.

3. The herein described process of coloring skins which consists in wetting the skin, gathering it in irregular bunches, tying the bunches, immersing the skin so tied, while still wet, in a bath of dye, removing the skin from the bath, immersing it while still tied and wet in a second bath of dye, untying and smoothing out while still wet and drying.

4. Leather having the variegated colored surface herein described produced by wetting the tanned leather gathering it in irregular bunches, tying the bunches, immersing the skin so tied, while still wet, in a bath of dye, removing the skin from the bath, immersing while still tied and wet in a second bath of dye, untying and smoothing while still wet, and drying.

970,327. MITER-BOX. JOHN JOSEPH GREGORY, Hazleton, Pa. Filed Mar. 21, 1910. Serial No. 550,679.



1. A miter box comprising a work holder, a post carried thereby, guiding and holding collars projecting from said post in spaced relation, a shaft rotatably and adjustably mounted in said collars, said shaft provided with a lower slot and an upper groove, saw-guiding means mounted in said slot, an indicator seated on one of said collars and engaging said groove, and a dial fastened to said collar and coöperating with said indicator to indicate the angular position of said saw-guiding means.

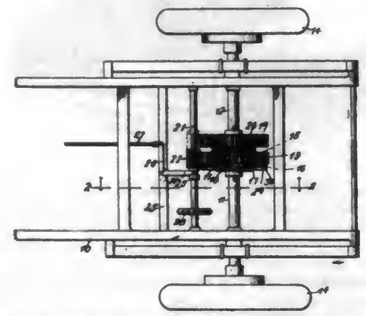
2. A miter box comprising a work-holder, a post carried thereby, a guide collar carried by said post, a shaft rotatably and longitudinally adjustable in said collar, a pointer mounted on said shaft and rotating therewith, a degree scale carried by said collar and preventing longitudinal movement of said pointer, and saw guiding means carried by said shaft.

3. A miter box comprising a work-holder, a post carried thereby, a guide collar carried by said post, a shaft rotatable and longitudinally adjustable in said collar, a washer loosely surrounding said shaft, a dial also surrounding said shaft and overhanging the center of said washer, means for detachably fastening said washer and dial to said collar, a pointer overlapping said dial and having a body portion inclosed by said washer and retained

therein by said dial, said body portion engaging said shaft, and saw guiding means carried by said shaft.

4. A miter box comprising a work-holder, a post hinged thereto, guide collars projecting from said post, a shaft rotatably and longitudinally mounted in said collars, said shaft provided with a longitudinal groove, a pointer having a washer-shaped body seated on one of said collars, said body having a lug engaging said groove, a washer seated on said collar and surrounding the body of the pointer, a dial seated in said washer and overlapping said pointer body, means for fastening said dial and washer to said collar, and saw guiding means carried by said shaft.

970,328. GEARING. WILLIAM O. HANCOCK, Orleans, Ind. Filed Nov. 30, 1909. Serial No. 530,699.



1. In a device of the kind described, a differential train including a driving gear and a driven gear, and means to drive either or both of said gears.

2. In a device of the kind described, a differential train including a driving gear, a pair of driven gears, and an idler meshing with the driven gears; in combination with means to hold the driving gear from rotating, and other means to drive the remainder of the train when the driving gear is so held.

3. In a device of the kind described, a differential train including a driving gear, a pair of driven gears, and an idler meshing with the driven gears; in combination with means to hold the driving gear from rotating, and other means to drive the remainder of the train when the driving gear is so held, said other means being adapted to drive the driving gear when not so held.

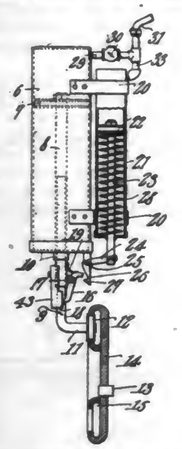
4. In a device of the kind described, a differential train including a driving gear, a pair of driven gears, and an idler meshing with the driven gears; in combination with means to hold the driving gear from rotating, and other means to drive the remainder of the train when the driving gear is so held, said other means being adapted to drive the driving gear when not so held and being further adapted to drive both the driving and driven gears in unison.

5. In a device of the kind described, a two-part axle, a driving gear freely rotatable thereon, pinions carried by said driving gear, a gear on one part of said axle meshing with said pinions, a second gear on the other part of the axle also meshing with the pinions, said pinions and other meshing gears being beveled, a second gear of equal dimensions to the driving gear and secured to one of the bevel gears, a driving shaft, a gear splined to said shaft and adapted to mesh with the driving gear and its mate, and means to move the last mentioned gear on the driving shaft to cause the same to mesh with the driving gear, with its mate, or with both the driving gear and its mate.

[Claim 6 not printed in the Gazette.]

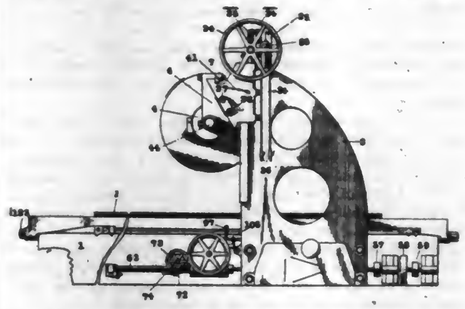
970,329. TIRE-INFLATER. WILLIAM R. HECK, Palmer, Nebr., assignor of one-half to Adam F. Heck, Palmer, Nebr. Filed Mar. 28, 1910. Serial No. 552,030.

1. An air pump comprising a cylinder, a plunger working therein, a plunger stem comprising telescoping and slidably connected sections, one of said sections having a notch, a pivoted dog carried by the other section, and adapted to engage the notch for locking the sections together, a releasing device for the dog, governor controlled means for operating the releasing device, and means connected to the plunger stem for operating the pump.



2. An air pump comprising a cylinder, a plunger working therein, a plunger stem comprising telescoping and slidably connected sections, one of said sections having a notch, a pivoted dog carried by the other section and adapted to engage the notch for locking the said sections together, an angle lever mounted on the pump cylinder, and located to extend into the path of the dog, for disengaging the same from the notch, governor controlled means connected to the lever for swinging the same into and out of the path of the dog, and means connected to the plunger stem for operating the pump.

970,330. METAL-WORKING MACHINE. HENRY HESS, Philadelphia, Pa. Filed July 18, 1903, Serial No. 166,201. Renewed Feb. 12, 1910. Serial No. 543,555.



1. In a machine tool having elements to receive a cutting movement and a feed movement, a power drive for the cutting movement, an independent power drive for the feed movement, and means controlled by one of the drives and arranged to act on its retardation to stop the other drive.

2. The combination of a reciprocable table, a tool holder, a revoluble tool carried by said holder, a power drive for said tool, a separate power drive for said table, and automatic means controlled by the tool drive and arranged to act to immediately stop said table drive when the tool drive is interrupted.

3. The combination of a reciprocable table, a tool holder, a revoluble tool carried by the holder, a power drive for

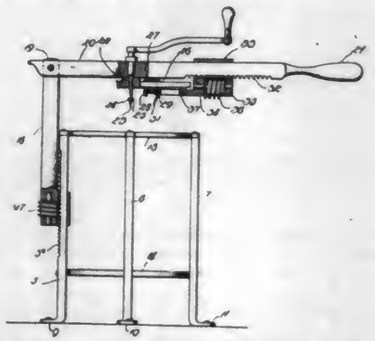
said tool, a separate power drive for said table, and means controlled by the tool drive and arranged to immediately stop the table drive upon reduction of the speed of the tool below a certain point.

4. The combination of a reciprocable table, a tool holder, a revoluble tool carried by the holder, a power drive for the tool, a separate power drive for the table, an automatic means controlled by the tool drive and arranged to act upon interruption of the tool drive to immediately stop the table drive.

5. The combination of a reciprocable table, a tool holder, a tool revoluble therein, driving mechanism for impelling said tool, independent driving mechanism including change speed gearing for impelling said table, and automatic mechanism intermediate the tool and table driving mechanism constructed and arranged to act upon interruption of the tool drive to immediately stop the table drive.

[Claims 6 to 25 not printed in the Gazette.]

970,331. CAN-OPENER. HORACE G. HILL, Youngs, Miss. Filed Oct. 12, 1909. Serial No. 522,270.



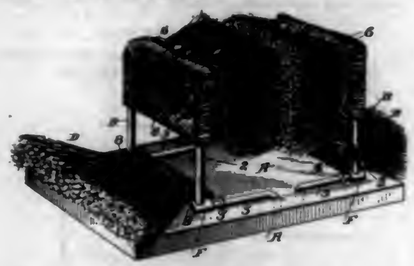
1. In a can opener, the combination with a base forming a can seat, of a bar fixed to said base and having threads formed thereon, a standard provided with an enlarged portion forming a sleeve in which said rack bar is adapted to travel and having a recess therein communicating with the bore of said sleeve, a screw journaled in said recess and in operative engagement with the threads of said bar whereby the rotation of said screw will adjust said standard with respect to the bar, an arm pivoted to said standard, a shaft journaled in said arm, means for rotating said shaft, and a cutting element carried by said shaft.

2. In a can opener, the combination with a base forming a can seat, an adjustable standard mounted on said base, an arm pivoted to said standard, a shaft journaled in said arm, means for rotating said shaft; a bar radially mounted in said shaft and having threads formed thereon, a sleeve carried by said bar and adapted for movement thereon, a pair of ears formed on said sleeve, a screw journaled between said ears and in operative engagement with the threads of said bar whereby the rotation of said screw will adjust said sleeve with respect to the bar; and a cutting element carried by said sleeve.

3. In a can opener, the combination with a base forming a can seat, of a standard mounted on said base, an arm pivoted to said standard, a cutting element carried by the arm and a plate adjustably mounted in said arm and adapted to bear against the can when said cutting element is disposed in operative position.

4. In a can opener, the combination with a base forming a can seat, of a standard mounted on said base, an arm pivoted to said standard and having a portion of its face provided with a series of rack teeth, a sleeve carried by said arm and adapted for movement thereon, a pair of ears formed on said sleeve, a screw journaled between said ears and in operative engagement with the rack of said arm whereby the rotation of said screw will adjust said sleeve with respect to said arm, a cutting mechanism mounted on the arm, and a plate carried by said sleeve and adapted to bear against the can when said cutting mechanism is disposed in operative position.

970,332. APPARATUS FOR USE IN EXERCISING, AND DEVELOPING AND APPLYING STATIC ELECTRICITY. MARCELLUS MUNROE HITT, Luray, Va., assignor to D. L. Kauffman, Luray, Va. Filed Dec. 21, 1909. Serial No. 534,361.

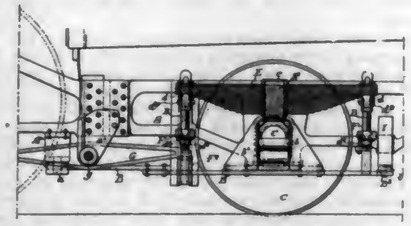


1. In an apparatus for the purpose specified, the combination, with a horizontal base and a vertical frame secured thereto, of a supplemental brush-support consisting of a flat band arranged in contact with, and extending along, the upper portions of the frame, the edge of the band projecting beyond the frame, as and for the purpose specified.

2. In an apparatus for the purpose specified, the combination, with a horizontal base and a frame composed of bowed metal rods secured to said base and standing vertically, of a supplemental brush-support consisting of a broad band arranged within the vertical and horizontal portions of the frame, and brush material looped around and secured to the frame and band, the latter being wider than the thickness of the frame and thus extending laterally therefrom, as shown and described.

3. In an apparatus for the purpose specified, the combination, with the horizontal base and the vertical brush-supporting metal frame secured thereto, of flat bands F arranged horizontally and extended between and secured to the lower vertical portions of the frame, and brush material looped around and secured to such bands and extending laterally therefrom, as shown and described.

970,333. LOCOMOTIVE TRAILER-TRUCK. WILLIAM S. HODGES, Philadelphia, Pa., assignor, by mesne assignments, to Baldwin Locomotive Works, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 3, 1909. Serial No. 487,643.



1. The combination of a main frame of a locomotive, a rear swing truck frame pivoted at its forward end to the main frame of the locomotive, an axle and wheels carried by the truck frame, and means for clamping the swing truck frame to the main frame.

2. The combination of a main frame of a locomotive, a rear swing truck frame pivoted thereto, boxes carried by the frame of the swing truck, an axle mounted in the boxes, springs supported by the boxes and means for connecting the springs together, an equalising gear connected to the springs, the boxes having uprights with curved inner walls, within which the springs are mounted.

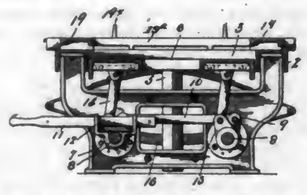
3. The combination of a main frame of a locomotive, a rear swing truck frame pivoted thereto, boxes on the swing truck frame, an axle mounted in the boxes, springs pivotally mounted upon the boxes, suspension rods coupled to the ends of the springs, cross bars attached to the suspension rods, and equalizing levers connected to one of said cross bars.

4. The combination of a main frame of a locomotive, a rear swing truck frame pivoted thereto, boxes in the frame, an axle mounted in the boxes, springs mounted on the boxes, suspension rods and links pivoted to the rods and coupled to the ends of the springs, cross bars having sockets at their ends, curved plates mounted on the suspension rods and adapted to the sockets in the bars, and equalizing mechanism connected to one of said bars.

5. The combination of a main frame of a locomotive, a rear swing truck frame pivoted at its forward end to the main frame, an axle and wheels carried by the truck frame, springs mounted on each side of the swing truck outside the main frames, two transverse bars one attached to each end of each spring, one of said bars being rigidly connected to the main frame, the other having a free vertical movement but held against longitudinal movement, and equalizing levers connected to the last mentioned bar.

[Claims 6 and 7 not printed in the Gazette.]

970,334. MOLDING-MACHINE. WALTER H. HOFMANN, Union Hill, N. J., assignor to Richey, Browne and Donald, Maspeth, N. Y. Filed Oct. 25, 1905. Serial No. 284,384.



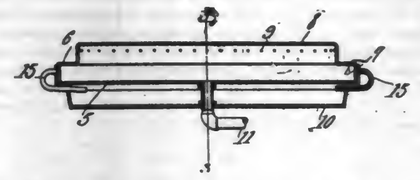
1. In a molding machine, the combination of a frame, a table thereon having a rectangular opening defined by vertical walls, a pattern carrier approximately fitting the opening in the table and guided thereby, means for raising and lowering the carrier and a stripping plate mounted on the table comprising members adjustable toward and from the center of the machine to correspond to different patterns.

2. In a molding machine, the combination of a frame, a table thereon having a rectangular opening defined by vertical walls, a pattern carrier approximately fitting the opening in the table and guided thereby, means for raising and lowering the carrier and a stripping plate mounted on the table comprising movable members which may be adjusted toward and from the center of the machine over the pattern carrier to accommodate different sized patterns, and means for securing the movable members in adjusted position.

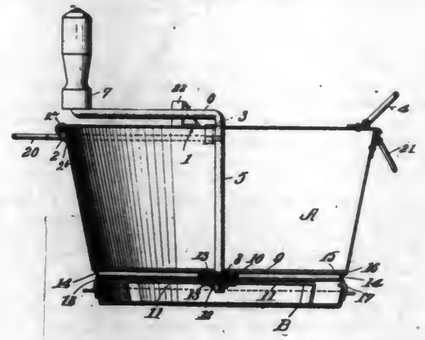
970,335. LIQUID-FUEL BURNER. JACOB P. HOLLENBECK, Frederick, Okla., assignor of one-half to John W. Fondren, Frederick, Okla. Filed May 23, 1910. Serial No. 562,919.

1. A liquid fuel burner comprising a vapor generating chamber consisting of a tray having a cover provided with vapor outlet openings, a fuel supply pipe entering the tray through the bottom thereof, and said tray having an overflow outlet, and an overflow pan located beneath the tray.

2. A liquid fuel burner comprising a vapor generating chamber having a fuel inlet, and vapor outlets, said chamber also having an overflow outlet, a pan located beneath the chamber to receive the overflow, and vapor outlet tubes leading from the chamber, and discharging beneath the same.

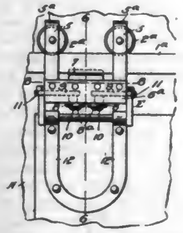


970,336. ASH-SIFTER. HENRY HOUCK, Baltimore, Md. Filed Aug. 3, 1908. Serial No. 446,560.



An ash sifter, comprising a receptacle, a removable vertical shaft within said receptacle and projecting above the same, means for operating said shaft, a perforated disk to which the lower end of said shaft is connected and which is removable therewith, a circumferential bead formed on the lower inner face of said receptacle and supporting said disk at its edges, and cross bars fixed to said receptacle and supporting said disk and shaft centrally.

970,337. FLUSH-CLOSING DOOR. FRANK B. HOUSER, Lancaster, Ohio. Filed Sept. 14, 1909. Serial No. 517,712.



1. The combination with a door carrier, of a pivoted link forming a door support which is bodily movable on and supported by the carrier between the pivotal points of the link.

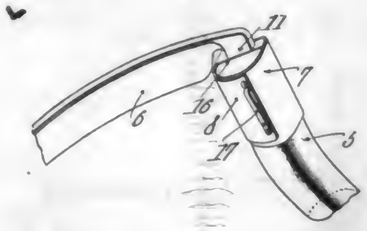
2. The combination with a door carrier having a horizontally disposed link support, of a plurality of links forming a door support bodily movable on and supported by the horizontal link support of the carrier.

3. The combination with a door carrier having a horizontally disposed link support, of a plurality of pivotally connected links some of said links being directly and

pivotally connected with the carrier and other of said links resting upon and being bodily movable on the horizontally disposed link support of the carrier.

4. The combination with a door, of a plurality of door carriers, one of said carriers having a swivel connection with the door, and the other of said carriers having a horizontally disposed pivoted link connection with the door, said link connection resting upon and bodily movable on the carrier, and a carrier track having a rail which curves inward and constitutes a guide rail.

970,338. SCYTHE-SNATH FASTENER. MARVIN W. HUNSAKER, Lakeside, Nebr. Filed Feb. 15, 1910. Serial No. 544,002.



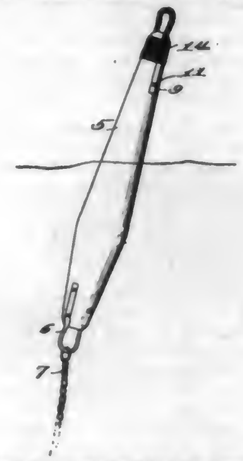
1. In a fastener between a handle and tool, a clamp comprising an inner member having a fold adapted to lie against one face of the handle, a body encircling the latter, and a marginal edge standing parallel with said fold, a second member of substantially U-shape having one marginal edge overlapping the body of the first member and its other edge passing within the marginal edge of said first member, a block fast within its marginal edge for engaging the tang of the tool, means for securing the first member to the handle, and means for detachably connecting the two members with each other.

2. In a fastener between a snath and a scythe having a tang with a lateral toe at its extremity, a clamp comprising an inner member adapted to completely surround the snath and to be secured thereto and having a marginal edge parallel with one face of the snath, an outer member of substantially U-shape overlapping the first member and passing within its marginal edge, a block fast within this member flush with one marginal edge thereof and having a rabbet to receive said tang and an opening to receive said toe, and a fastening device connecting said members when they are in place within each other.

3. In a fastener between a snath and a scythe and having a tang, a clamp comprising an inner member adapted to completely surround the snath and to be secured thereto and having a marginal edge parallel with one face of the snath, an outer member of substantially U-shape overlapping the first member and passing within its marginal edge, said outer member being longer than the inner, a pivot between its projecting end and the snath, a block fast within this member flush with one marginal edge thereof and having a rabbet to receive said tang, and a fastening device connecting said members when they are in place within each other.

4. In a fastener between a snath and a scythe having a tang with a lateral toe at its extremity, a clamp comprising an inner shell having a free marginal edge, a body adapted to pass around the snath and to be secured thereto, and an inner fold standing flat against the snath and parallel with said edge; and an outer shell of substantially U-shape whereof one marginal edge embraces the body of the inner shell and the other is thickened into a block slidably fitting between the marginal edge and the inner fold of the inner shell, said block having a rabbet in its inner face for said tang and openings for its toe, means for pivotally connecting the outer shell to the snath, and a spring catch detachably locking the outer shell to the inner when said rabbet stands over the inner fold.

970,339. MOORING-BUOY. WALLACE PELL JORDAN, Norfolk, Va., assignor of one-half to Carl M. Jordan, Norfolk, Va. Filed June 18, 1910. Serial No. 567,843.



In a buoy of the class specified, the combination with a buoy body, of a shackle having a looped head extending above the upper end of the buoy body and the elongated legs countersunk in opposite portions of the upper extremity of said body, fastening devices extending transversely through the legs of the shackle and bouy body, a reinforcing means also extending transversely through the buoy body in a plane at an angle to the planes of the fastenings for the shackle legs, and a winding of waterproof cordage closely applied over the looped head of the shackle and the upper portion of the body of the buoy.

970,340. ANTHRACENE COMPOUND AND PROCESS OF MAKING SAME. FILIP KAČER, Mannheim, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation of Baden. Filed June 9, 1910. Serial No. 565,038.

1. The process of producing a leuco compound of 2.2'-dimethyl-1.1'-dianthraquinonylamin by treating the said 2.2'-dimethyl-1.1'-dianthraquinonylamin with a suitable reducing agent, substantially as hereinbefore described.

2. The process of producing a leuco compound of 2.2'-dimethyl-1.1'-dianthraquinonylamin by treating the said 2.2'-dimethyl-1.1'-dianthraquinonylamin with alkaline hydrosulfite solution.

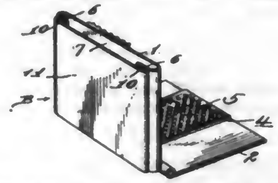
3. As a new article of manufacture a leuco compound of 2.2'-dimethyl-1.1'-dianthraquinonylamin, which new compound is soluble in caustic alkali solution and on being applied to vegetable fiber and then converted into the original compound gives rise to clear pink shades of excellent fastness, the said shades remaining practically unaltered on being touched with dilute caustic soda solution, or with sodium hypochlorite solution, or with dilute hydrochloric acid, or with dilute nitric acid, but on being touched with alkaline hydrosulfite solution give rise to a yellowish brown spot.

970,341. CHECK OR DRAFT PROTECTOR. FRANK O. KUCERA, Tobias, Nebr. Filed Nov. 30, 1909. Serial No. 530,672.

1. A check or draft embossing device comprising a pair of connected die-bearing members, one of said members being formed with a pocket through which the cover of a check or draft book is adapted to be inserted.

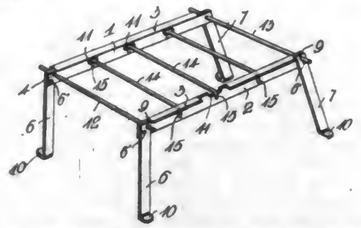
2. An embossing attachment for books having detachable leaves comprising a pair of connected die-bearing members, one of said members having its side edges bent inwardly toward each other and in spaced relation to the body portion thereof, to constitute a pocket through which the cover of the book is adapted to be inserted.

3. A device of the class specified, comprising a pair of hinged metal plates provided upon their inner faces with coöperating dies, one of said plates having its side edges bent inwardly toward each other, and in spaced relation



to the outer face thereof, to constitute a pocket, and a cover for said pocket having its side edges connected to the first mentioned edges.

970,342. COLLAPSIBLE CAMPING-STOVE. ALFRED KURT, Ploche, Nev. Filed Dec. 23, 1909. Serial No. 534,653.



1. A knock down camping stove comprising two side members having registering apertures in their opposite ends, legs pivotally connected at one end to the opposite ends of said side members at a point eccentric to the apertures therein, said legs having apertures in their upper ends arranged to register with the apertures in said side members, and end rods adapted for insertion within the registering apertures in said side members and legs.

2. A knock down camping stove comprising two side members having registering apertures in their opposite ends, legs pivotally connected at one end to the opposite ends of said side members at a point eccentric to the apertures therein, said legs having apertures in their upper ends arranged to register with the apertures in said side members, end rods adapted for insertion within the registering apertures in said side members and legs, and a plurality of longitudinally spaced article supporting members detachably mounted in said side members.

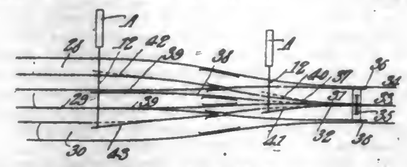
3. A knock down camping stove comprising two side members having registering apertures in their opposite ends, legs pivotally connected at one end to the opposite ends of said side members at a point eccentric to the apertures therein, said legs having apertures in their upper ends arranged to register with the apertures in said side members, end rods adapted for insertion within the registering apertures in said side members and legs, said side members being provided with a plurality of longitudinally spaced elongated apertures and article supporting rods mounted in said apertures and provided at their opposite ends with laterally extending lugs.

4. A knock down camping stove comprising two side bars having apertures formed in their opposite ends near their upper edges, legs pivotally connected with said ends at points below and in advance of the apertures in said side bars, said legs having apertures in their upper ends arranged to register with the apertures in said side bars, rods having their opposite ends inserted in the apertures in said side members and legs, whereby said legs are locked in operative position.

5. A knock down camping stove comprising two side bars having apertures formed in their opposite ends near their upper edges, legs pivotally connected with said ends at points below and in advance of the apertures therein, said legs having apertures in their upper ends arranged to register with the apertures in said side bars, rods having their opposite ends inserted in the apertures in said side members and legs, whereby said legs are locked in operative position, and stops formed on said side members for limiting the movement of said legs in one direction.

[Claim 6 not printed in the Gazette.]

970,343. RAILWAY-SWITCH. FRANK MALONE, Frontier, Wyo., assignor of one-fourth to Charles S. Beach and one-fourth to William Knox, Frontier, Wyo. Filed Nov. 12, 1909. Serial No. 527,666.

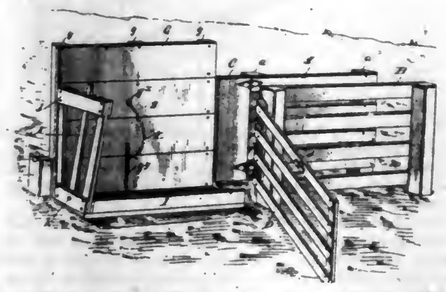


1. A railway switch including a plurality of tracks merging into a single track, a switch tongue for controlling the movement of cars along the tracks, a car actuated member connected to and adapted to shift the tongue, and a switch stand connected to the tongue and member and including means for holding each of them normally in either of two positions, said stand being actuated by the car actuated member.

2. A railway switch including a plurality of tracks merging into a single track, a switch tongue for controlling the movement of cars along the tracks, a rod connected to said tongue, a car actuated member connected to the rod for shifting the tongue, a switch stand, said stand including a supporting structure, a main lever fulcrumed therein, a secondary lever fulcrumed within the supporting structure, the adjoining ends of the levers being pivotally and slidably connected, said rod being attached to the other end of the secondary lever, and an adjustable spring connection between the two levers, the fulcrums of said levers being disposed between the points of connection between said spring and the levers, said spring being adapted to hold the levers normally out of alinement.

3. Apparatus of the class described including a plurality of tracks, a switch tongue for controlling the movement of a car along one of the tracks, a car actuated member upon another track, a connection between said tongue and member for insuring simultaneous movement thereof and a switch stand connected to the tongue and actuating member, said stand including means for holding the tongue and member normally in either of two positions.

970,344. STOCK-CHUTE. FRANK HOFFMAN MILLS, Edgewood, Cal. Filed Jan. 12, 1909. Serial No. 471,856.



1. In a stock handling device, a run-way comprising parallel fences, a side gate pivoted to one of said fences, an operating table provided with a foot board and disposed opposite to said side gate, in line with one of said

fences, a door pivoted to the last named fence, and arranged to swing into line with said table to constitute part of the run-way or to close the opening between the two fences, means on said table for securing an animal, and means for permitting the rotation of said table into an operative position.

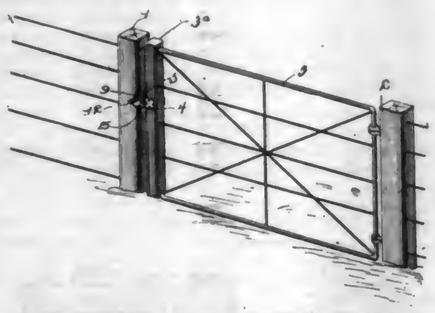
2. In a stock handling device, a run-way comprising a side gate, an operating table provided with a foot board secured to said table opposite said side gate, a stanchion secured to said table and to said foot board and a gate for closing the central portion of said run-way, means for securing an animal to said table, and means for permitting the rotation of said stanchion, table and foot board into an operative position.

3. In a stock handling device, a run-way comprising a side gate and a frame, consisting of an operating table opposite said side gate being normally inclined slightly from the vertical, a foot board secured at right angles thereto, and a stanchion secured to said table and to said foot board, means for securing an animal to said table, and means for permitting the rotation of said frame and for supporting it in a horizontal position.

4. In a stock handling device, the combination with a run-way, of a chute comprising a side gate and a frame consisting of an operating table opposite said side gate having a normal position slightly inclined from the vertical, a foot board secured to one edge of the table at right angles thereto, a stanchion secured at one end of said table and said foot board, means for securing an animal to said table, and pivots for permitting the rotation of said table into operating position.

5. In a stock handling device, a pivoted frame comprising an operating table having openings therethrough and having a normally inclined position from the vertical, a foot board secured to said table at right angles thereto, a clutch member secured to said table on the rear side thereof, a binding member arranged to be drawn through said clutch and openings for securing an animal to said table, means for holding the head of the animal, and a supporting member adapted to hold the table, means for permitting the rotation of said table into a horizontal position, and means for maintaining it in the horizontal position.

970,345. GATE-FASTENER. HIRAM S. MUNSINGER and JOSEPH K. MUNSINGER, Howard, Kans. Filed Oct. 1, 1909. Serial No. 520,443.



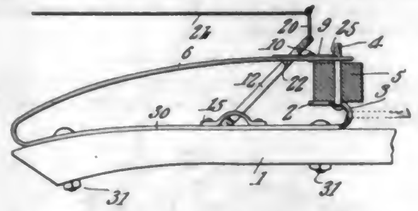
1. A device of the character described comprising post plates, guard-plates adjustably supported by said post-plates, an adjustable guide-plate, carried by said post-plates below said guard-plates and latching means supported by said guard-plates.

2. A device of the character described comprising post-plates having outwardly extending upper ears and inwardly extending lower ears, guard-plates carried by said outwardly extending ears, a guide plate carried by the inwardly extending ears, and latching means supported by said guard-plates.

3. A device of the character described comprising post-plates having outwardly extended upper ears, and inwardly extending lower ears, guard-plates adjustably attached to the upper ears, a guide-plate adjustably attached to the lower ears, and latching means supported by said guard-plates.

4. A device of the character described, comprising post-plates, an inner guard-plate adjustably attached to the said post-plates, an outer guard-plate carried by said inner plate and supported in parallel spaced relation therewith, pivot bolts between said guard-plates, latching means supported thereby, and a guide plate adjustably supported by the post-plates below said guard-plates.

970,346. HORSE-RELEASER. THOMAS NOBLE, Lakeside, Nebr. Filed Jan. 28, 1910. Serial No. 540,656.



1. A horse detacher comprising a whiffle tree, a pivotal bolt for said whiffle tree, a spring engaging said bolt and tending to spring out of engagement therewith means engaging said bolt for locking said spring thereto, and means operable from the driver's seat for releasing said spring.

2. A horse detacher comprising a whiffle tree, pivotal holding means for said whiffle tree, spring means for positively releasing said holding means, means engaging said holding means for locking said spring means in engagement with said holding means, and means operable from the driver's seat for releasing the locking means for said spring means.

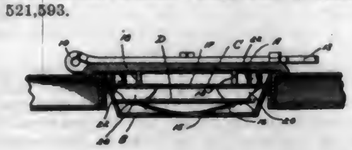
3. A horse detacher comprising a whiffle tree, a swinging bolt connected with said whiffle tree, spring means for holding said bolt against swinging movement, said spring means tending to move out of engagement with said bolt, means engaging said swinging bolt for locking said spring in engagement with said bolt, and means for releasing said locking means.

4. A horse detacher comprising a slotted bracket, a bolt extending through said slotted bracket and slidable therein, a whiffle tree connected with said bolt, and means detachably engaging the upper end of said bolt for holding it against movement.

5. A detaching device comprising a bolt mounted for swinging movement, a whiffle tree connected with said bolt, an arm fitting over the upper end of said bolt, a catch on said arm engaging said bolt, and means for releasing the said catch from said bolt and moving said arm out of engagement with said bolt.

[Claims 6 to 8 not printed in the Gazette.]

970,347. FURNACE-DOOR. GEORGE O'NEILL, Moncton, New Brunswick, Canada. Filed Oct. 7, 1909. Serial No. 521,593.



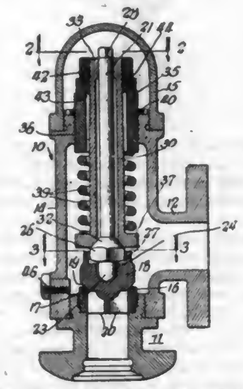
1. A furnace door having a hollow lining member provided with a central opening, said member being formed with radial corrugations around the opening adapted to direct the air toward the opening and at the same time to increase the air heating surface.

2. An air admitting furnace door comprising an outer member, an inner member having a central aperture, a baffle plate having a central opening and being spaced from the outer member, and a second baffle plate spaced from the first baffle plate and provided with a plurality of recesses around the periphery spaced at equal intervals and forming openings between the edge of the baffle plate and the wall of the inner member, said openings being opposite imperforated portions on the first mentioned baffle plate, whereby the air will be forced to travel alternately from the center to the outside.

3. An air admitting furnace door comprising an outer member, an inner lining member having lugs thereon, bolts extending through the outer member to the lugs, a plurality of baffle plates in the lining member, one at least of which has deflecting plates extending around the lugs, said inner and outer members being provided with suitable openings for the inlet and outlet of air.

4. An air admitting furnace door comprising an outer member, an inner hollow lining member, a plurality of baffle plates in the lining member having apertures alternately at the center and the outside, one of said baffle plates at least, being provided with deflecting plates projecting upwardly from the surface thereof and being adapted to guide the air directly from the center to the outside apertures.

970,348. RELIEF OR SAFETY VALVE. WILLIAM L. OSBORNE, Chicago, Ill. Filed Nov. 12, 1909. Serial No. 527,593.



1. In a relief or safety valve, the combination with a valve piece, its seat and a spring for pressing the valve piece against its seat, of locking means for maintaining the seating force of the spring while permitting free separation or relative movement of the valve piece and seat.

2. In a relief or safety valve, the combination with the valve casing provided with a valve seat, a valve piece and a spring for pressing the valve piece against its seat, of means within the casing for locking the spring under higher than its normal compression, arranged to permit separation of the valve piece and seat without losing the compressive force of the spring.

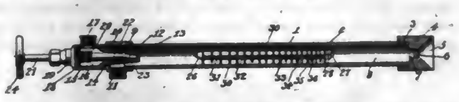
3. In a relief or safety valve, the combination with a valve piece, its seat and a compression spring for pressing the valve against its seat, of means for increasing the compression of the spring to release the valve piece from its seat and for locking the spring under compression.

4. In a relief or safety valve, the combination with a valve piece, its seat and a spring for pressing the valve piece against its seat, of screw threaded means for easing the spring away from the valve seat and for locking the spring under at least its maximum compression.

5. In a relief or safety valve, the combination with a valve piece, its seat, a spring for pressing the valve piece against its seat and adjusting means acting on the spring for varying the seating force of the spring, of means co-operating with said adjusting means for easing the spring away from the valve seat and for locking the spring under compression.

[Claims 6 to 12 not printed in the Gazette.]

970,349. CRUDE-OIL BURNER. ELIJAH J. OWIN, Galveston, Tex., assignor of one-fourth to Theodore B. Stubbs and one-fourth to John G. Owin, Galveston, Tex. Filed Feb. 25, 1910. Serial No. 545,981.



1. In a crude oil burner, a diffusion member comprising independent mangles each including a series of radially-disposed spokes, said mangles arranged side by side and with the spokes of one mangle disposed opposite the spaces between the spokes of an adjacent mangle whereby a tortuous passage is provided for the oil for diffusing it on its passage to the burner.

2. In a crude oil burner, a diffusion member comprising independent mangles each including a series of radially-disposed spokes, said mangles arranged side by side and with the spokes of one mangle disposed opposite the spaces between the spokes of an adjacent mangle whereby a tortuous passage is provided for the oil for diffusing it on its passage to the burner, a common support for said mangles, and means for retaining the mangles in position upon said support.

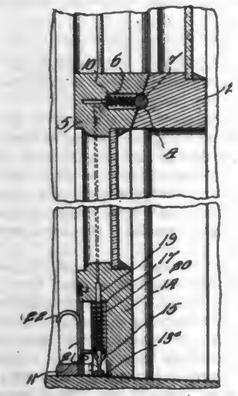
3. In a crude oil burner, a diffusion member comprising independent mangles each including a series of radially-disposed spokes, said mangles arranged side by side and with the spokes of one mangle disposed opposite the spaces between the spokes of an adjacent mangle whereby a tortuous passage is provided for the oil for diffusing it on its passage to the burner, a common support for said mangles, spacing collars interposed between the mangles and mounted upon the support, and means for retaining the mangles and spacing collars upon the support.

4. In a crude oil burner, a diffusion member comprising spoked-mangles and with the spokes of one mangle arranged opposite the spaces between the spokes of an adjacent mangle whereby a tortuous passage is provided for the oil as it travels through the burner, and means for spacing the mangles.

5. In a crude oil burner, a diffusion member comprising spoked-mangles and with the spokes of one mangle arranged opposite the spaces between the spokes of an adjacent mangle whereby a tortuous passage is provided for the oil as it travels through the burner, certain of said mangles arranged closer to each other than the other of the mangles.

[Claims 6 to 17 not printed in the Gazette.]

970,350. SASH-LOCK. LOUIS C. PETERSEN, Des Moines, Iowa. Filed Nov. 17, 1909. Serial No. 528,513.

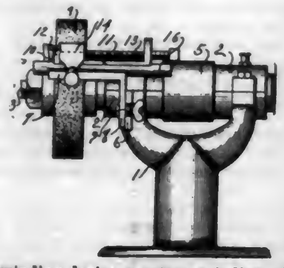


1. A sash lock comprising, a sash lift, a rod extending across and mounted in a recess in the midrail of the lower sash, pins on said rod, springs surrounding said pins for

forcing the rod outward into a recess in the midrail of the upper sash, cables connected to said rod and extending to the sash lift, and a spring for holding the sash lift down.

2. A sash lock comprising a spring-actuated rod, cables connected to said rod, a sash lift, a plate connected to said sash lift, said cables being connected to said plate, a pin extending through said plate, and a spring surrounding said pin for forcing the plate down.

970,351. GRINDING DEVICE. EDWIN BERTRAM PIKE, Pike, N. H., and LEVI HAYNE, Schenectady, N. Y., assignors to Pike Manufacturing Company, Pike, N. H., a Corporation of New Hampshire. Filed June 4, 1910. Serial No. 564,980.



1. In a grinding device, a rotary grinding wheel; a rest having a groove extending transverse to the grinding wheel; means for supporting said rest in a position adjacent said grinding wheel; a tool holder supported by said rest; means for securing a tool to said tool holder; and a bar carried by said tool holder and adapted to engage the groove aforesaid of said rest and to move in sliding engagement with said groove transverse to the grinding wheel whereby the tool may be moved across the grinding face of the wheel, and through which bar force due to the action of the wheel upon the tool is transmitted to said rest, said tool holder being otherwise unsecured to said rest.

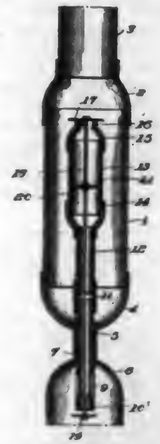
2. In a grinding device, a rotary grinding wheel; a rest having a groove circular in cross-section extending transverse to the grinding wheel; means for supporting said rest in a position adjacent said grinding wheel; a tool holder supported by said rest; means for securing a tool to said tool holder; and a bar circular in cross section carried by said tool holder and adapted to engage the groove aforesaid of said rest and to move in sliding engagement with said groove transverse to the grinding wheel whereby the tool may be moved across the grinding face of the wheel, and through which bar force due to the action of the wheel upon the tool is transmitted to said rest, said tool holder being otherwise unsecured to said rest.

970,352. PUMP-BARREL ATTACHMENT. WILLIAM NELSON RIDDLE, Crowley, Tex. Filed Dec. 28, 1909. Serial No. 535,369.

1. An attachment for the lower end of pump barrels, comprising a sediment chamber having a downwardly disposed bell or dome-shaped member, a fluid inlet conduit terminating at its lower end within said bell and at its other end projecting upwardly within said sediment chamber, a valve controlling said inlet conduit, means guiding said valve and means limiting its movement, substantially as described.

2. An attachment for the lower end of pump barrels, comprising a sediment chamber, a fluid inlet conduit extending through the lower end of said chamber and projecting upwardly therein, a valve casing surmounting said fluid inlet conduit, a valve mounted on said valve casing, a valve spindle extending through said casing and said fluid inlet conduit, said valve spindle normally projecting below said fluid inlet conduit and being provided at its lower end with a stop disk, and being also provided with a perforated guiding disk within the valve casing, substantially as described.

3. An attachment for the lower end of pump barrels, comprising a sediment chamber having a downwardly disposed bell or dome-shaped member, a fluid inlet conduit terminating at its lower end within said bell and having slots opening therein and an apertured bearing plug, the other end of said conduit projecting upwardly within said chamber, a valve controlling said conduit, a spindle connected to said valve and extending downwardly through said apertured plug and normally terminating a short distance below same, said spindle at its lower end being provided with a stop disk, substantially as described.

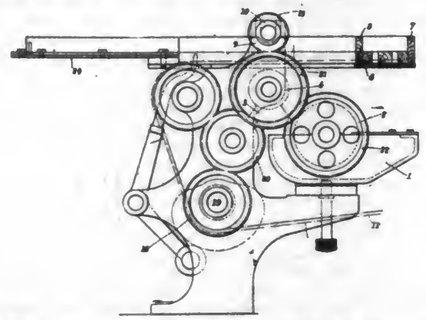


4. An attachment for the lower end of pump barrels, comprising an enlarged sediment chamber connected with the pump barrel, and at its lower end provided with a restricted hollow nipple internally screw threaded, a dome-shaped member provided with an internally screw threaded nipple alining with said first mentioned nipple, a pipe threading through said nipples and extending upwardly within said sediment chamber, said pipe being provided at its lower end with slots and with an apertured bearing plug, the lower end of said slotted pipe extending downwardly within said dome-shaped member, a valve casing within said sediment chamber, an intermediate pipe between said valve casing and said slotted pipe for supporting said valve casing in a position substantially at the top of said sediment cylinder, said valve casing being open at its upper end providing a valve seat, a valve spindle passing through said casing, said slotted pipe, intermediate pipe and apertured bearing plug, a perforated bearing disk carried by said spindle within said valve casing, a valve disk connected to the top of said spindle, and a stop disk connected to the bottom of said spindle, substantially as described.

970,353. APPARATUS FOR APPLYING LABELS OR WRAPPERS TO BLOCKS, PACKAGES, OR TINS, OR OTHER CONTAINERS OF MATERIAL. WILLIAM ROSE and HENRY ROSE, Gainsborough, England. Filed Aug. 4, 1910. Serial No. 575,565.

1. In apparatus of the character described, the combination with a slotted table, of a cementing mechanism, said mechanism comprising rollers respectively below and above the table along which table the labels or wrappers are adapted to be fed, each of said rollers having projections extending only partly around the rollers, the projections of the lower roller adapted to pass through the slots in the table and register with the projections on the upper roller, one of said rollers rotating twice for each rotation of the other roller, the lower roller applying cement to the upper roller, and the upper roller applying cement to the labels or wrappers, substantially as herein described.

2. In apparatus of the character described, the combination with a slotted table over which the labels or wrappers are adapted to pass, of a cementing mechanism, said mechanism comprising rollers disposed above and below the table, each of said rollers having peripheral projections extending partially around the same so as to leave gaps in the remaining portion of the roller, the lower roller having its projections operating through the slots in the table, and the upper roller being of less diameter than the lower roller, and rotating twice for each rotation of the lower roller, means for applying cement to the lower roller, and means for rotating said rollers.



3. In apparatus of the character described, the combination with a slotted table over which the labels or wrappers are adapted to pass, of a cementing mechanism, said mechanism comprising rollers disposed above and below the table, each of said rollers having a plurality of spaced peripheral projections arranged side by side and each extending part-way only around the roller, said projections adapted to register during the rotation of the rollers, the upper roller being of less diameter than the lower roller and adapted to make two revolutions to one revolution of the lower roller, means for applying cement to the lower roller, and means for rotating the rollers in opposite directions.

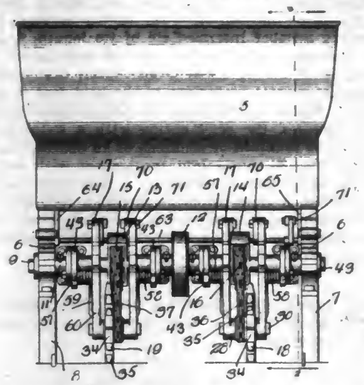
4. In apparatus of the character described, the combination with a slotted table, over which the labels or wrappers are adapted to pass, of a cementing mechanism, said mechanism comprising rollers disposed above and below the table, each of said rollers having peripheral projections arranged side by side and extending partially around the roller so as to leave gaps in the remaining portion of the roller, the lower roller having its projections operating through the slots in the table, circular ribs spaced apart on the lower roller registering with the ribs of the upper roller and adapted to assist in the feeding of the labels or wrappers, means for applying cement to the lower roller, and means for rotating said rollers.

970,354. AUTOMOBILE SLED ATTACHMENT. WILLIAM E. RYAN, Mason, Nev. Filed Feb. 25, 1910. Serial No. 545,935.

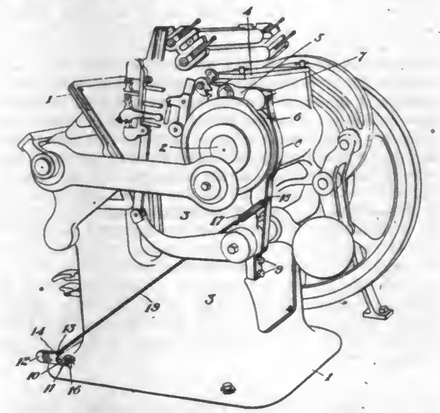
1. In a motor sled the combination with a drive shaft provided with a tubular casing, of a hanger loosely arranged on the casing, a propeller wheel carried by the hanger, a connection between the propeller wheel and drive shaft, and a tensioning device connected with the casing and hanger and serving to yieldingly hold the propeller in engagement with the ground.

2. In a motor sled the combination with a drive shaft provided with a tubular casing, of a hanger loosely arranged on said drive shaft, a propeller wheel carried by the hanger, a connection between the propeller wheel and drive shaft, and a presser spring connecting the casing with the hanger, and means for varying the tension of said spring.

3. In a motor sled the combination with a drive shaft provided with a tubular casing having semi-cylindrical hoods overlying portions of said shaft and drive wheels keyed to the drive shaft and arranged in said hoods; of a plurality of hangers loosely arranged on the casing, propeller wheels carried by the hangers, connections between the propeller wheels, and drive wheels, tension springs connecting the casing with the hangers, and means connected with the springs and adjustably secured to the casing and serving to vary the tension of said springs.



970,355. CONTROL ATTACHMENT FOR FOUNTAINS OF PLATEN PRINTING-PRESSES. HARRY E. SAUNDERS and ROBERT D. CROFT, Toronto, Ontario, Canada. Filed May 25, 1910. Serial No. 563,350.



1. In a control attachment for the fountain of platen printing presses, the combination with a pivotal lever operatively connected with the ink fountain, of a flexible spring arm rigidly secured at one end to the frame of the press and adapted to be swung into engagement with said lever, a lever pivotally secured at the front of the press, and a flexible connection extending from said pivotal lever to said flexible spring arm and connected thereto intermediate of the length thereof.

2. In a control attachment for the fountain of platen printing presses, the combination with a weighted pivotal lever adapted to operate the ink fountain and having a lug extending from the weighted end thereof, a thin strip of spring material rigidly secured to the frame of the press at one end and having its other end arranged to engage the lug on said weighted end, a lever pivotally supported at the front of the press, and flexible means connected to said spring strip intermediate of its length and to said pivotal lever.

3. In a control attachment for the fountain of platen printing presses, the combination with a weighted lever operating the fountain mechanism, of an obstructing member adapted to be swung into engagement with said

lever to retain said lever inoperative, a foot lever pivotally arranged at the front of the machine and having a lug extending therefrom arranged out of central alinement with the pivot thereof, a spiral spring secured to said obstructing member intermediate of its length, a cord or chain connected to the other end of said spiral spring and to the offset lug on said foot lever, and means for limiting the pivotal movement of the said foot lever.

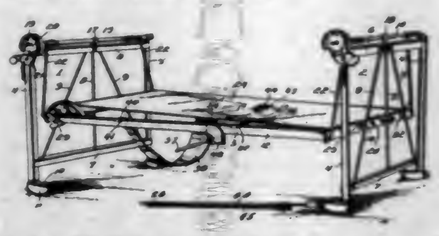
4. In a control attachment for the fountain of platen printing presses, the combination with a weighted lever operating the fountain mechanism, of an obstructing member adapted to be swung into engagement with said lever to retain said lever inoperative, a foot lever having a notch therein, a rigid member extending into said notch to limit the pivotal movement of said foot lever, and an elastic member connecting said obstructing member with said foot lever.

970,356. COMBINED FISHING ROD AND REEL. OLIVER M. SCOTT, Kokomo, Ind. Filed July 24, 1909. Serial No. 509,264.



As a new article of manufacture, a combined fishing rod and reel comprising identically formed companion frame members, socket members extending from the outer extremities of the frame members and arranged in line with each other, a rod having one of its ends fitted in one of the socket members, a handle fitted in the other socket member, spaced arms extending from the frame members and arranged in a plane with each other, companion pairs of box-forming elements connecting the extremities of the arms and holding them spaced from each other, a hub revolubly supported by the said box-forming elements and provided with a plurality of radial arms adapted for movement between the arms of the said frame members, an operating handle supported by the hub, an auxiliary bearing supported by one of the said box-forming elements and arranged immediately opposite the said hub, a stub shaft supported by the hub and mounted in the said auxiliary bearing, a leaf spring supported by the said auxiliary bearing and yieldingly engaged at its free end with one of the end faces of the hub to retard the rotary movement thereof, and retaining bolts passing through the extremities of the arms of the said frame members and through the extremities of the said box-forming elements.

970,357. HOSPITAL OR INVALID'S BED. JOHN G. SEGESMAN and GOTTLIEB BINGGELI, Salem, Ohio. Filed Oct. 5, 1909. Serial No. 521,084.



1. A device of the character described comprising end supporting frames, winding shafts upon the upper ends thereof, a stretcher frame, guiding connections between said stretcher frame and the end frames, flexible suspension straps connected at their lower ends with the ends of the stretcher frame and attached at their upper ends to the shafts a distance inwardly from the ends of the latter to adapt them to wind spirally on said shafts, a flexible apron carried by the stretcher frame, and means for tightening and relaxing the same.

2. A device of the character described comprising end supporting frames, transverse winding shafts upon the upper ends thereof, a stretcher frame, guiding connections between said stretcher frame and the end frames, flexible suspension straps wound upon said shafts and connected with the ends of the stretcher frame, a flexible apron carried by the stretcher frame, and means for tightening and relaxing the same.

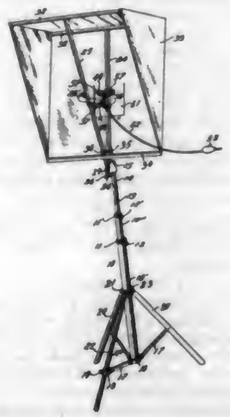
3. A device of the character described comprising end supporting frames, transverse winding shafts upon the upper ends of said frames, a stretcher frame, guiding connections between the ends of the stretcher frame and the end frames, flexible suspension devices wound at their upper ends upon the shafts and connected at their lower ends with the ends of the stretcher frame, a flexible apron upon the stretcher frame, means for tightening and relaxing said apron, and transverse supporting belts on the stretcher frame below said apron.

4. A device of the character described comprising end supporting frames having flanged feet, transverse winding shafts at the upper ends of said frames, a stretcher frame having guiding connections at its opposite ends with the end frames, flexible suspension devices connected with the ends of the stretcher frame and arranged to wind upon said shafts, a flexible apron upon the stretcher frame, and means for tightening and relaxing the same.

5. A device of the character described comprising end supporting frames, a stretcher frame, means adjustably suspending the ends of said stretcher frame from the end frames, a flexible apron carried by the stretcher frame, means for tightening and relaxing said apron, and adjustable belts on the stretcher frame below said apron, said belts having end hooks adjustably engaging the side rails of said stretcher frame.

[Claims 6 and 7 not printed in the Gazette.]

970,358. FLASH-LIGHT APPARATUS. DAVID C. SHOEMAKER, Avon, S. D. Filed Mar. 7, 1910. Serial No. 547,809.



1. A flash light apparatus comprising, in combination, a support, a bar detachably secured to said support, a secondary bar spaced from and pivoted to said bar, transverse bars detachably arranged at the upper extremity of said primary and secondary bars, a hood arranged over said bars having a transverse bar connected thereto at the lower extremity, means whereby the tension of said hood over said transverse bars may be regulated, and a flash light apparatus detachably contained in said hood.

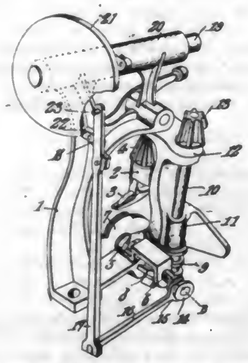
2. A flash light apparatus comprising, in combination, a support, a bar detachably secured to said support, a secondary bar spaced from and pivoted to said bar, transverse bars detachably arranged at the upper extremity of said primary and secondary bars, a hood arranged over said bars having a transverse bar connected thereto at the lower extremity, means whereby the tension of said hood over said transverse bars may be regulated, a transverse bar pivoted between said primary and secondary bars, one extremity rigid with said primary bar and the opposite extremity slidable on said secondary bar, said bar adapted to be interposed between said primary and secondary bars when the same are collapsed, and a flash light firing apparatus detachably carried by said last named bar.

3. A flash light apparatus comprising, in combination, a support, a bar detachably secured to said support, a secondary bar spaced from and pivoted to said bar, transverse bars detachably arranged at the upper extremity of said primary and secondary bars, a hood arranged over said bars having a transverse bar connected thereto at the lower extremity, means whereby the tension of said hood over said transverse bars may be regulated, and a bar interposed between said primary and secondary bars, and adapted to collapse therewith, and a flash light firing mechanism detachably carried by said bar.

4. A flash light apparatus comprising, in combination, a collapsible hood consisting of a primary standard, a secondary standard pivoted to said primary standard and spaced therefrom, transverse bars carried at the upper extremity of said standards and a hood arranged over said bars having a base bar secured thereon, a supporting bar interposed between the primary and secondary standards, having a collar thereon, the upper side thereof being spaced from said bar, and a flash light firing mechanism carried on said bar.

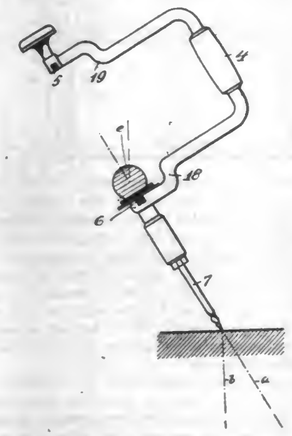
5. A flash light apparatus comprising, in combination with a vertically adjustable standard, a U-shaped catch member detachably carried at the upper extremity thereof, means whereby said catch member is adjustable radially, a bar carried by said U-shaped catch member, a frame pivotally connected to said bar, a hood adapted to be retained over said frame, a horizontal bar adapted to normally retain the frame in a normally operative position, and a flash light mechanism adapted to be detachably carried by said bar.

970,359. KNOTTER FOR GRAIN-BINDERS. WILL UTT, Jr., Bruceville, Ind. Filed May 5, 1909. Serial No. 494,021.



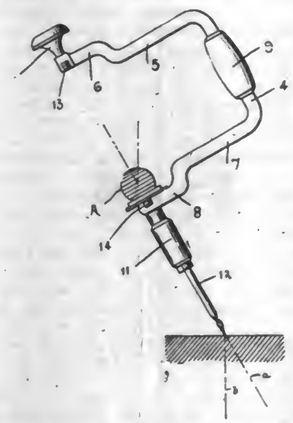
In a knotting mechanism, a suitable frame, a tying bill rotatably mounted in said frame, a cord holding disk, a shaft mounted in said frame and carrying said disk and capable of movement in the direction of its longitudinal axis to carry the disk to and from the tying bill, a pinion on said shaft and connected to the latter for imparting rotative movement thereto, said pinion being held in the frame against movement in the direction of its axis of rotation, another shaft mounted in the frame and carrying a cam disk, a lever mounted on the frame and engaged at one end by the cam disk, and connections between the other end of the lever and the shaft carrying the cord holding disk for imparting reciprocatory movement to the said shaft on the rotation of the cam disk.

970,360. ANGLE GUIDE ATTACHMENT FOR BORING-TOOLS. WILLIAM H. WHIGHAM, California, Pa. Filed Feb. 7, 1910. Serial No. 542,638.



An angle guide attachment for boring tools comprising a base plate, a threaded stem projecting from one face thereof, said base plate having a pocket in its other face, a transparent receptacle in the form of a spherical segment snugly extending in and snugly engaging the walls of said pocket and provided with a plurality of parallel degree lines and containing a body of liquid, said base plate further provided with a flange and a series of threads, and a cover abutting against said flange and engaging said threads and whereby said receptacle is inclosed.

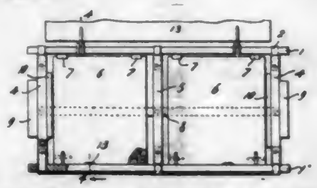
970,361. BIT-BRACE. WILLIAM H. WHIGHAM, California, Pa. Original application filed Feb. 7, 1910, Serial No. 542,638. Divided and this application filed Mar. 28, 1910. Serial No. 552,061.



A bit brace having the free ends of each of its arms offset outwardly, said offset portions being oppositely disposed with respect to each other and each having its inner

face at its outer end provided with a screw-threaded socket, an angle guide attachment, coupled to the brace by one of said threaded sockets, said sockets opposing each other and the axis of each of the sockets being in alinement with each other and with the axis of the bit coupled with the brace.

970,362. FOLDING SHIPPING-CRATE. FRANCE J. YOUNGREN, Renner, S. D. Filed May 14, 1910. Serial No. 561,343.



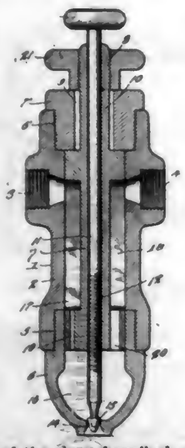
1. A collapsible crate comprising side and end members pivotally connected to each other, the bottom pivotally connected to one side and a wedge member secured to the other side adapted to engage said bottom as set forth.

2. A collapsible crate comprising a plurality of side members, a plurality of end members pivotally connected thereto, a plurality of wedge members secured to one side member, and a plurality of bottom sections pivotally secured to the other side member and adapted to engage the wedge members, said bottom sections being notched to receive said wedge members.

3. A collapsible crate comprising a plurality of side members, a plurality of end and partition members pivotally secured thereto, a plurality of wedge members secured to one of the side members, a plurality of bottom sections pivotally secured to the other side member and adapted to engage said wedge members, and a bar pivotally mounted on said end and partition members to limit the movement of said sections as set forth.

4. A collapsible crate comprising a plurality of side members, a plurality of end and partition members pivotally secured thereto, a plurality of bottom sections pivoted to one side member, and a plurality of plates secured to said side members each of said plates having integral supporting members formed intermediate its extremities said supporting members piercing the side members to form the pivoted sections as set forth.

970,363. OIL OR GAS BURNER. ANTONE W. ANDORFER, Shinglehouse, Pa. Filed Nov. 3, 1909. Serial No. 526,109.



1. In a burner of the class described, a casing provided with oppositely spaced inlet openings, a nozzle comprising a mixing chamber connected with the casing, said nozzle being provided with a reduced opening comprising a valve seat, a stem provided with a cone-shaped valve for the seat, a rotatable member within the casing, said member being provided with fluid receiving pockets adjacent the inlet openings, and said member being also provided with reduced ports communicating with the pockets and the mixing chamber.

2. In a burner of the class described, a casing provided with diametrically opposite inlet openings, a nozzle provided with a mixing chamber connected with the casing, said nozzle having a reduced opening, a stem having a cone-shaped extension to control the opening, a movable member within the casing, said member being provided with pockets alining with the openings in the casing, and said member being also provided with reduced ports communicating with the pockets and the mixing chamber.

3. In a burner of the class described, a casing provided with oppositely disposed inlet openings, a mixing chamber provided with a reduced outlet opening, a valve for the opening, a member within the casing provided with pockets communicating with the inlet openings of the casing, said member being further provided with ports between the pockets and the mixing chamber, and means for locking the member against rotation within the casing.

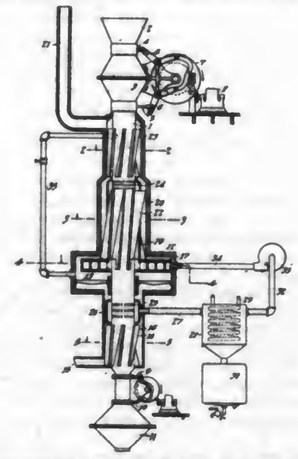
4. In a burner of the class described, a casing, said casing being provided with oppositely arranged inlet openings, a detachable nozzle comprising a mixing chamber for the casing, said nozzle being provided with a reduced outlet opening, a rotatable member within the casing, said member being provided with ports communicating between the mixing chamber and the inlet openings of the casing, said member being also provided with a reduced threaded extension, a nut member upon the casing, a wheel member provided with interior threads engaging the threads of the reduced extension and bearing upon the nut member, and a stem provided with a cone-shaped extension adapted to engage the wall provided by the reduced outlet of the mixing chamber.

5. In a burner of the class described, a casing provided with a pair of inlet openings, said casing being also provided with a mixing chamber having a reduced opening, a rotatable member within the casing, said member being provided with pockets alining with the openings of the casing, the member being also provided with reduced ports communicating with the pockets and the mixing chamber, the member having a reduced threaded extension, a nut member upon the casing contacting with the shoulder of the member provided by the reduced extension, a wheel member having a threaded opening engaging the threads of the extension, the member within the casing being provided with a central bore partly provided with threads, a stem also partly provided with threads within the said bore, and said stem having its lower portion provided with a cone-shaped valve member adapted to engage the wall surrounding the reduced opening of the mixing chamber.

970,364. PROCESS FOR DISTILLING COAL. JONAS W. AYLSWORTH, East Orange, and FRANK L. DYER, Montclair, N. J. Original application filed May 25, 1906, Serial No. 318,690. Divided and this application filed Jan. 20, 1908. Serial No. 411,840.

1. The process of eliminating smoke-producing ingredients from soft coal, which consists in progressing the coal slowly with respect to a distilling zone, and in maintaining within said zone a circulation of non-oxidizing uncondensable gases of previous distillation, traveling in the same direction but at a relatively high velocity and maintained at a temperature of between 550° and 800° F., substantially as set forth.

2. The process of eliminating smoke producing ingredients from coal which consists in progressing the coal through a heated distilling zone, in maintaining through said zone a circulation of non-oxidizing uncondensable gases of previous distillation, heating the gases within a portion of the circulating system before they enter the said distilling zone to between 550 degrees and 800 degrees F., and condensing the condensable gases in another portion of said circulating system, substantially as set forth.



3. The process of eliminating smoke producing ingredients from coal which consists in progressing the coal slowly through a distilling zone, in maintaining through said zone a circulation of non-oxidizing, uncondensable gases of previous distillation of the coal, in closed circuit, removing the condensable gases in one part of said circuit, and heating the remaining gases in another part of the circuit, the gases being maintained at such a temperature as to eliminate the smoke producing ingredients from the coal without coking or materially altering the physical structure of the coal, substantially as set forth.

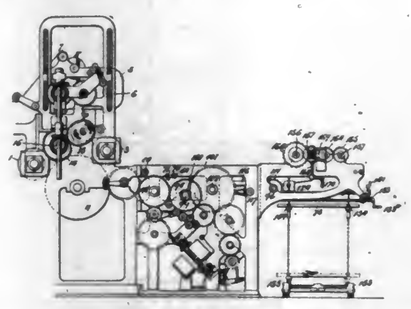
4. The process of treating soft coal to eliminate the smoke-producing elements therefrom which consists in passing the coal slowly through a distilling zone, in maintaining a circulation of gases through a closed system whereof the distilling zone is a part, in condensing the condensable portion of the gases in one part of the said system, in heating the remaining uncondensable gases in another portion of the said system and in passing the said heated uncondensable gases through the zone in the direction of passage of the said coal but with a velocity greater than that of the coal, substantially as set forth.

970,365. JAR-HOLDER. BENJAMIN F. BAIN, Pittsburg, Pa., assignor to Wolverine Supply & Manufacturing Company, a Corporation of Pennsylvania. Filed July 26, 1910. Serial No. 573,888.



A holder of the class described comprising the combination with pivotally connected clamping levers having long and short arms and off-set lugs on the plane inner faces of said short arms, said lugs provided at their rear ends with retaining lips and having their forward ends rounded, of a flat resilient clamping band having slots near the ends and engageable with and disengageable from said lugs.

970,366. VARIABLE-SIZE-FLAT-SHEET-DELIVERY MECHANISM. HOWARD M. BARBER, Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Original application filed Apr. 12, 1907, Serial No. 367,748. Divided and this application filed Dec. 7, 1907. Serial No. 405,525.



1. A sheet receiving board, means arranged to deposit variable size sheets flat thereon, stops for the advance edges of the sheets, side joggers for the sheets and means for adjustably supporting the side joggers comprising cross shafts having racks thereon, jogger carriages mounted on said cross shafts, manually operated shafts carried by said carriages and having gears meshing with said racks, pairs of parallel longitudinal bars forming supports for the side joggers and means for rocking said bars.

2. A sheet receiving board, means arranged to deposit variable size sheets flat thereon, stops for the advance edges of the sheets, side joggers for the sheets and means for adjustably supporting the side joggers comprising cross shafts having racks thereon, jogger carriages mounted on said cross shafts, manually operated shafts carried by said carriages and having gears meshing with said racks, pairs of parallel longitudinal bars forming supports for the side joggers, means for rocking said bars and adjustable means for connecting the two pairs of parallel longitudinal bars to rock together.

3. A sheet receiving board, means arranged to deposit variable size sheets flat thereon, stops for the advance edges of the sheets, side joggers for the sheets, laterally adjustable supports for the joggers, adjustable means connecting the side joggers whereby the joggers on one side of the board are operated from the joggers on the other side of the board, and means adjustably connected to one set of side joggers for operating both sets of side joggers.

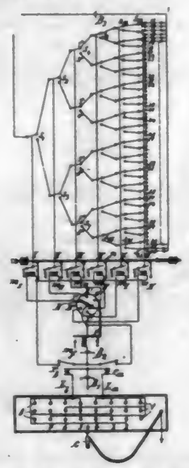
4. A sheet receiving board, means arranged to deposit variable size sheets flat thereon, stops for the advance edges of the sheets, a back jogger for the sheets, means for adjusting the back jogger bodily comprising a rack carried by the jogger, a cross shaft, a pinion thereon meshing with said rack and means for rocking said shaft to impart the reciprocating movement to the jogger through said rack and pinion.

5. A sheet receiving board, means arranged to deposit variable size sheets flat thereon, stops for the advance edges of the sheets, a back jogger for the sheets, means for adjusting the back jogger bodily comprising a rack carried by the jogger, a cross shaft, a pinion thereon meshing with said rack and means for rocking the said shaft to impart the reciprocating movement to the jogger through said rack and pinion, said last named means com-

prising a crank secured to said cross shaft, a rotary shaft, a cam thereon and a connecting rod engaged by said cam and secured to said crank.

[Claim 6 not printed in the Gazette.]

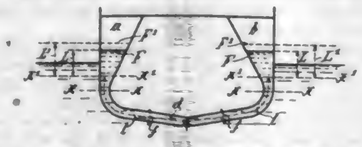
970,367. TRANSMITTER FOR TELESELECTORS. ERNST BLOS, Schöneberg, near Berlin, Germany. Filed Sept. 27, 1909. Serial No. 519,706.



1. In an apparatus for electrically transmitting signals by separate current impulses, the combination with the signals to be operated, and electrical controlling mechanism therefor, of a transmitter comprising a divided local starting circuit for said controlling mechanism, a relay magnet in each branch thereof, a plurality of groups of fixed contacts in the starting circuit, the contacts of the several groups being connected with one or the other or both branches of the starting circuit to produce a different succession of impulses for each group of contacts, and a movable contact element connected in said circuit and arranged to successively engage the fixed contacts of any group upon manual operation thereof.

2. In an apparatus for electrically transmitting signals by separate current impulses, the combination with the signals to be operated, and electrical controlling mechanism therefor, of a transmitter comprising a grounded divided starting circuit for said controlling mechanism, a plurality of groups of fixed contacts in the separate branches of the starting circuit, and a movable earthed contact element arranged to successively engage the fixed contacts of any group, the contacts of each group being arranged in a row and the number of such contacts corresponding to the number of current impulses required to transmit each digit of the signal's number, the several contacts of the respective groups being also connected with one or the other or both branches of the starting circuit to produce a different succession of impulses for each group of contacts.

970,368. MEANS FOR DAMPING THE ROLLING MOTION OF SHIPS. HERMANN FRAHM, Hamburg, Germany. Filed May 4, 1909. Serial No. 493,909.



1. In ships, means for damping the rolling movements caused by the impacts of the waves, comprising a water vessel at each side of the ship, a cross connection joining the bottoms of said vessels to form a substantially U-shaped passage in a vertical plane, and means for maintaining the air above the water levels in both vessels under the same pressure, said U-shaped passage being so dimensioned and filled with water which is free to oscillate, that the period of said oscillations of the water from side to side of the ship, on the occurrence of rolling movements are substantially equal to the natural period of oscillation of the ship.

2. In ships, means for damping the rolling movements comprising a water vessel at each side of the ship, a cross connection for the bottoms of said vessels to form a substantially U-shaped passage in a vertical line and means for throttling said cross connection, said U-shaped passage being so dimensioned and filled with water that the period of oscillation of the water from side to side of the ship, on the occurrence of rolling movements will be substantially equal to the natural period of oscillation of the ship.

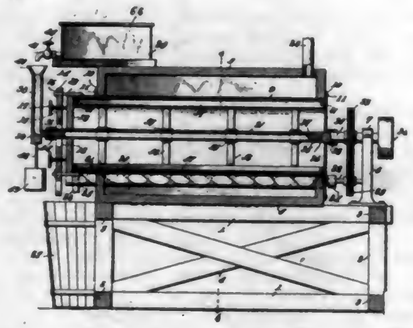
3. In ships, means for damping the rolling movements comprising a closed water vessel at each side of the ship, a pipe leading from the upper end of each of said vessels, means for throttling said pipe, a cross connection joining the bottoms of said vessels to form a substantially U shaped passage in a vertical plane, said U-shaped passage being so dimensioned and filled with water that the period of oscillation of the water from side to side of the ship, on the occurrence of rolling movements, will be substantially equal to the natural period of oscillation of the ship.

4. In ships, means for damping the rolling movements comprising a closed water vessel at each side of the ship, a pipe leading from the upper end of each of said vessels, means for throttling said pipe, a cross connection for the bottoms of said vessels to form a substantially U-shaped passage in a vertical plane, and means for throttling said cross connection, said U-shaped passage being so dimensioned and filled with water that the period of oscillation of the water from side to side of the ship, on the occurrence of rolling movements will be substantially equal to the natural period of oscillation of the ship.

5. In ships, means for damping the rolling movements comprising closed water vessels at each side of the ship and a cross connection for the bottom ends of said vessels, said vessels and cross connection forming a U-shaped passage in a vertical plane in which passage the inclosed water may oscillate from side to side of the ship while the lower part of said U-shaped passage remains filled with water, and means for throttling the passage of air from the upper end of said closed holders comprising, a cross pipe connecting the upper air spaces of said water vessels and a valve for throttling the passage of air through said air-pipe.

[Claims 6 to 22 not printed in the Gazette.]

970,369. ICE-CREAM FREEZER. CHARLES KNIGHT GREAVES, Waco, Tex. Filed Nov. 23, 1909. Serial No. 529,569.



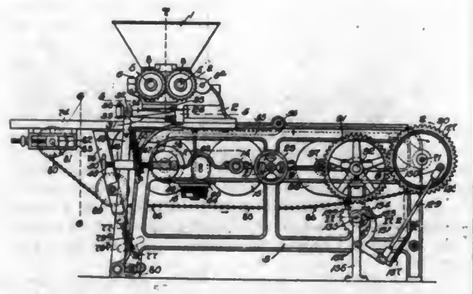
1. In combination, a supporting frame, a casing thereon, a cylindrical receptacle supported in the casing, and having its ends extending through the ends of the casing, one of the ends of the receptacle being open, a removable head for closing the open end, means for forcing the head into position to close said open end, said receptacle having an extension at one side near its bottom, said extension extending the full length of the receptacle and communicating therewith, and having an outlet near the removable head a screw conveyer in the extension, a shaft journaled coaxially of the receptacle, means for delivering the material to be cooled into the receptacle, a dasher connected with the shaft, means for rotating the shaft, a driving connection between the shaft and the conveyer, and means for supplying a cooling medium to the casing.

2. In combination, a supporting frame, a casing thereon, a cylindrical receptacle supported in the casing, and having its ends extending through the ends of the casing, one of the ends of the receptacle being open, a removable head for closing the open end, means for forcing the head into position to close said open end, said receptacle having an extension at one side near its bottom, said extension extending the full length of the receptacle and communicating therewith, and having an outlet near the removable head, a screw conveyer in the extension, a shaft journaled coaxially of the receptacle, means for supplying the material to be cooled to the receptacle, a dasher operated by the shaft, and means for supplying a cooling medium to the casing.

3. In combination, a substantially cylindrical receptacle arranged horizontally, a hollow shaft journaled coxially of the receptacle and provided with radial discharge openings, said shaft extending beyond the receptacle at one end, a vertical pipe having a nipple engaging the extended end of the shaft, the upper end of the pipe being funnel-shape, and a counter-balance for retaining said pipe in vertical position.

4. In a device of the class described, a stirring device comprising a shaft, arms extending in opposite directions from the shaft at spaced intervals, bars connecting the corresponding arms, said bars each having a longitudinal groove in its outer edge, a plate in each groove, the side walls of the groove being transversely slotted at each end, pins arranged transversely of the plates and engaging the slots to limit the movement of the plates, and springs normally pressing said plates outwardly.

970,370. WIRE-CUT SOFT-CAKE MACHINE. THOMAS L. GREEN, Indianapolis, Ind. Filed Feb. 25, 1909. Serial No. 480,057.



1. In a machine of the class described, the combination of a forming-die for shaping plastic material, a cutter movable across the die opening and means to impart an accelerated article depositing drop to said cutter at the limit of its cut through the material formed by said die.

2. In a machine of the class described, the combination of a die for shaping plastic material, a cutter movable across the die opening to cut a cake from the material issuing therethrough, accelerating means to impart a cake depositing drop to said cutter at the limit of its cut through the material formed by said die and means to vary the limit of said drop.

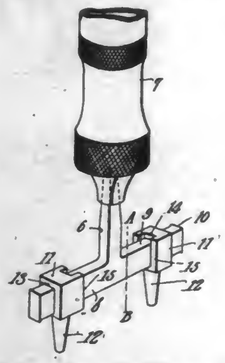
3. In a machine of the class described, the combination of a forming die, a cutter movable across the delivery thereof, means to change the level of the cutter, and cushioning means for the latter.

4. In a machine of the class described, the combination of a forming die, a cutter, means to actuate the latter and cushioning means for said cutter.

5. In a machine of the class described, the combination of a forming die, a cutter coöperating therewith, means to drop the latter and means to limit and cushion said drop.

[Claims 6 to 31 not printed in the Gazette.]

970,371. WRENCH. URIAH C. GREGGS, Terre Haute, Ind. Filed Apr. 12, 1910. Serial No. 554,976.



A billiard table wrench consisting of a T shaped bit the shank of which is adapted to engage a brace, and a pair of non-revoluble fingers slidingly fitted on the arms of the T shaped bit, each finger having an orifice on its inner face to receive said shank whereby the opposed faces of the fingers may be held in abutting contact to permit the fingers to engage nuts of less than standard size.

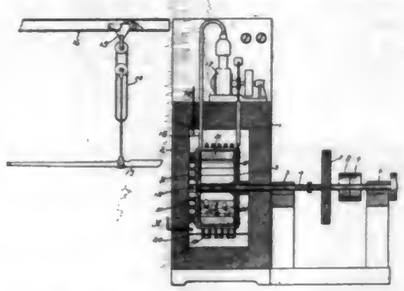
970,372. BLASTING-BARREL. EFFIE R. HARKINS, Gurnee, Ala. Filed Apr. 5, 1910. Serial No. 553,586.



1. A metallic blasting barrel with a bore and integral reinforced hollow end containing a cap chamber, a shoulder to prevent the cap from entering too deep into the barrel located within the barrel and at the inner end of cap chamber.

2. A metallic blasting barrel with a bore and integral reinforced and enlarged hollow end containing a cap chamber, a shoulder within the barrel and at the inner end of cap chamber, to prevent the cap from entering too deep into the barrel and also guide a squib toward the center of an inserted cap.

970,373. RATTLER. GEORGE P. HEMSTREET, Hastings-upon-Hudson, N. Y., assignor to The International Pavement Company, Hartford, Conn., a Corporation of Connecticut. Filed Mar. 28, 1907. Serial No. 365,104.



1. A rattler for testing paving blocks and the like having one or more block impacting members and also having provisions for controlling the temperature of such blocks while subjected to the testing operation.

2. A rattler for testing paving blocks and the like comprising a rotatable member having provisions for securing paving blocks thereto and having one or more block impacting members, an inclosed casing for said rattler and provisions for regulating the temperature of the blocks upon the rattler while subjected to the testing operation.

3. A rattler for testing paving blocks and the like comprising a rotatable member having provisions for securing paving blocks thereto, one or more block impacting bodies within said rotatable member, an inclosed casing for said rattler and provisions external to said rotatable member for regulating the temperature of the blocks upon the rattler while subjected to the testing operation.

4. A rattler for testing paving blocks and the like comprising a rotatable member having provisions for securing paving blocks therein, one or more block impacting members coacting with said rotatable member, a casing wherein said member may be rotated and means for subjecting said blocks while upon the rattler to either extreme of temperature.

5. A rattler for testing paving blocks and the like comprising a rotatable member having provisions for securing paving blocks therein, a casing wherein said member is mounted and rotated, and means for subjecting said blocks while upon the rotatable member to a heating action and separate means for subjecting said blocks while upon the rotatable member to a cooling action.

[Claims 6 to 23 not printed in the Gazette.]

970,374. BUCKLE. WALTER A. HOLDEN, Ansonia, Conn., assignor to The Robert N. Bassett Company, Shelton, Coun., a Corporation of Connecticut. Filed Dec. 28, 1909. Serial No. 535,240.

1. A buckle comprising a frame bent up out of a single piece of wire so that its middle portion forms a continuous bar extending entirely across the top of the back, the said wire being carried downwardly and inwardly from the ends of said bar to form an opening in under the bar for threading the end of a webbing, then doubled upon itself and carried back to the ends of the bar and bent forwardly and downwardly from the ends of said bar to form sides, then inwardly to form pintles, and a lever hinged to said pintles, the said lever being provided with superposed web engaging edges arranged to swing to a position respectively above and below said bar when the buckle is closed.

2. A buckle comprising a back having a web attaching member mounted on spring supports and a lever hinged to said back so that its pivotal points are substantially in the same horizontal plane with the top of said back, the said lever being provided with a pair of web engaging members arranged to coöperate with the web attaching member and to lie respectively above and below the top of



the back but laterally of each other when the buckle is closed.

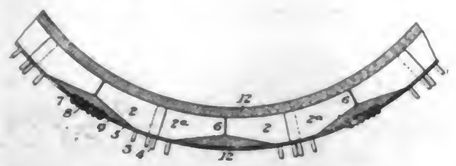
970,375. METHOD OF DESTROYING WEEDS. WILLIAM HOSKINS, Chicago, Ill. Filed Feb. 12, 1910. Serial No. 543,443.



1. The method of destroying weeds, which consists in forcibly inserting into the substance of the weed to be destroyed a pointed body adapted to enter the weed and sufficiently solid to withstand the pressure essential to such insertion, and containing a chemical substance having weed-killing properties soluble under the natural juices of the weed, whereby the weed is destroyed without previous treatment.

2. The method of destroying weeds, which consists in inserting into the substance of the weed to be destroyed a chemical substance consisting of a mixture comprising ferric sulfate and an agglutinant made up in the form of a solid body and soluble under the action of the natural juices in the weed.

970,376. BLAST-FURNACE-COOLING APPARATUS. JULIAN KENNEDY, Pittsburg, Pa. Filed July 21, 1910. Serial No. 573,136.



1. In a blast furnace, a shell opening, and a cooler plate movable through the opening and extending laterally beyond the end of the opening, substantially as described.

2. In a blast furnace, a shell having an opening, and a plurality of plates inserted through the opening and extending laterally beyond the ends of the opening, substantially as described.

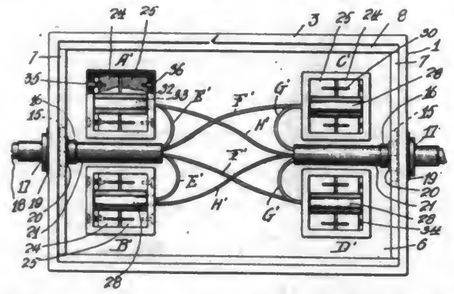
3. In a blast furnace, a shell having an opening, and a plurality of plates inserted through the opening and extending laterally beyond the ends of the opening, the combined length of the plates being greater than the length of the opening, substantially as described.

4. In a blast furnace, a shell having a series of openings in a horizontal row, and plates inserted through said openings and extending laterally of the openings to give a substantially complete cooling ring, substantially as described.

5. In a blast furnace, a shell having a horizontal series of openings, and plates removable through said openings and extending at least partially through the space between the openings inside of the shell, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

970,377. JUNCTION-BOX. MICHAEL LAUX, Pittsburg, Pa. Filed Dec. 20, 1909. Serial No. 534,093.



1. A junction box comprising a casing, an insulated shell arranged within said casing, cable entries carried by the ends of said casing and shell, two pairs of insulated cells located in said shell, pairs of contact blocks arranged in each of said cells and one of the blocks of each pair having the entry cables detachably-connected thereto, means for connecting the blocks of each pair together, and a plug electrically connecting the pairs of blocks of each cell together.

2. A junction box comprising a casing, an insulated shell arranged within said casing, cable entries carried by the ends of said casing and shell, two pairs of insulated cells located in said shell, pairs of contact blocks arranged in each of said cells and one of the blocks of each pair having the entry cables detachably-connected thereto, means for connecting the blocks of each pair together, a plug electrically connecting the pairs of blocks of each cell together, means engaging a block of each pair for maintaining the blocks of each pair in contact with said plug, and means for fixedly securing the other block of each pair to the wall of a cell.

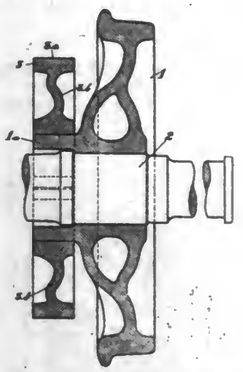
3. A junction box comprising a casing, pairs of insulated cells located within said casing, cable entries projecting through the ends of the casing, one of said entries arranged above the other, pairs of contact blocks arranged in each of the cells and one of the blocks of each pair having entry cables detachably-connected thereto, means for connecting the blocks of each pair together, and a plug electrically connecting the pairs of blocks in each cell together.

4. A junction box comprising a casing, pairs of insulated cells located within said casing, cable entries projecting through the ends of the casing, one of said entries arranged above the other, pairs of contact blocks arranged in each of the cells and one of the blocks of each pair having entry cables detachably-connected thereto, means for connecting the blocks of each pair together, a plug electrically-connecting the pairs of blocks in each cell together, resilient means arranged within the cells and engaging a block of each pair for maintaining the blocks of the pair against said plug, and means for fixedly securing the other block of each pair to a wall of its respective cell.

970,378. COMBINED CAR AND BRAKE WHEEL. CHARLES A. LINDSTRÖM, Pittsburg, Pa., assignor to Pressed Steel Car Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Oct. 12, 1908. Serial No. 457,219.

1. A car wheel having a hub with an elongation with its hollow portion slightly larger in diameter than a section of the axle in the same plane.

2. A car wheel having a hub with an elongation out of contact with the axle and a braking wheel mounted on said elongation.



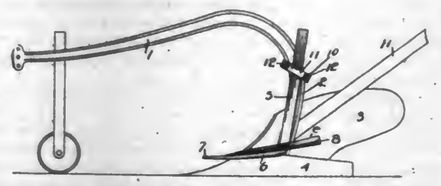
3. In combination with a car wheel, a brake wheel mounted on the inner side of said car wheel, and having a hub with a bore of greater diameter than the bore in the hub of said car wheel.

4. A car wheel having a hub with an elongation on its inner side, said elongation having a bore slightly larger in diameter than a section of the car axle in the same plane.

5. A car wheel having an extended cylindrical hub and a brake wheel pressed onto said hub.

[Claim 6 not printed in the Gazette.]

970,379. VINE-CUTTING ATTACHMENT FOR PLOWS. WILLIAM R. MELSON, Mamie, N. C., assignor of one-half to William D. Perry, Mamie, N. C. Filed Aug. 6, 1909. Serial No. 511,618.



1. A plow attachment comprising a cutting blade mounted on a shank at an angle, with its outside edge and rear end extending upwardly from its inner edge and front end, said front end being adapted to run under the vines, substantially as set forth.

2. An attachment for plows comprising a shank carrying a cutting blade extending in a substantially horizontal position with its outside edge sharpened and said outside edge and its rear end extending at an angle upwardly from its inside edge and front end, substantially as set forth.

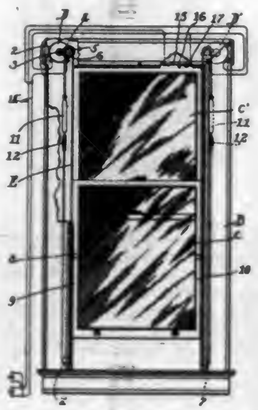
3. An attachment for plows for cutting vines comprising a shank adapted to be adjustably secured to the landside of said plow and having a lower section extending forward at a slight angle downwardly from said shank and formed with a nose on its outer end, and a blade secured on said section extending back from said nose with its outside edge and rear end extending upwardly at an angle from its inner edge and front end, said outside edge being sharpened and also extending at an angle transversely from front to rear, substantially as set forth.

4. A cutting attachment for plows comprising a horizontal blade mounted on a support attached to said plow and formed with a narrow front end and a wide rear end with its outside edge extending at an angle upwardly from its inner edge, substantially as set forth.

5. A potato vine cutter comprising a blade mounted on a shank adapted for attachment to a draft beam, said blade being formed with a sharp outside edge and arranged

with said edge extending at an angle transversely of the work and with the blade extending at an angle upwardly from its inner edge and front end toward its outside edge and rear end, substantially as set forth.

970,380. AUTOMATIC WINDOW-OPENER. AUGUST A. MONSON, North St. Paul, Minn., assignor to Emily Grace Kay, St. Paul, Minn. Filed Oct. 3, 1908. Serial No. 456,015.



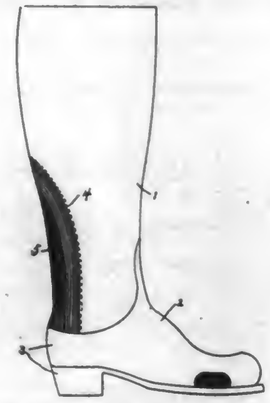
1. Apparatus of the class set forth, comprising, in combination, a window frame, a window sash movable in said frame, an electric motor having reduction gearing and a power shaft, a sprocket wheel upon said shaft, a chain passing over said sprocket wheel and connected to said sash to raise and lower it, a counter-weight upon said chain for said sash, a reversing switch electrically connected with said motor to cause the motion of the motor and sash in said frame to be reversed and means for relieving the strain on the motor when the sash closes and before the current is fully cut off.

2. Apparatus of the class set forth, comprising, in combination, a window frame, a window sash movable in said frame, a pair of electric motors in the upper portion of said frame, sprocket wheels driven by said motors, chains passing over said sprocket wheels one being connected with each side of said sash to raise and lower the same, a counter-weight carried by each chain for the sash, an electric switch connected with said motor to start and stop the same and means for taking the strain off of the motors before the current is fully cut off; whereby the window sash can be moved to open and close, and to modify the opening in said frame from a distant place.

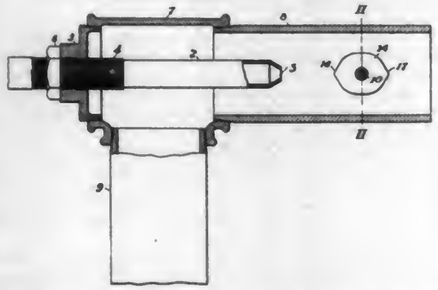
3. Apparatus of the class set forth, comprising, in combination, a window frame, a window sash sliding in said frame, a pair of electric motors associated with said frame having reduction gearing and drive sprocket wheels, chains running over said sprocket wheels having connection with opposite sides of said sash, a counter-weight carried by each chain for said sash, a relief spring carried by each chain, a reversing switch electrically connected with said motors to start and stop the same and an automatic switch connected to make and break the circuit in which said motors are included, located in the upper end of said frame in the path of said sash, whereby the motor circuit is opened when the sash reaches closed position.

970,381. FOOTWEAR. ADAM MÜLLER, Millvale borough, Pa. Filed June 28, 1910. Serial No. 569,350.

The combination with a boot or shoe having the rear part thereof cut away, of a substantially V-shaped resilient insert attached to the edges of said boot or shoe at the cut away portion thereof, said insert comprising two pieces of corrugated leather, and a piece of rubber interposed between said pieces of leather, substantially as described.



970,382. GAS-BURNER. FERDINAND MUMMELTHEY, Coraopolis, Pa., assignor to Graham Nut Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 27, 1908. Serial No. 464,708.



1. A gas burner having a mixing chamber, a gas tube extending into said mixing chamber, an air inlet to the mixing chamber back of the outlet from the gas tube, a deflector in the mixing chamber, means to adjust the gas tube toward and from the deflector, and means to adjust the deflector transversely with relation to the gas tube; substantially as described.

2. A gas burner having an air inlet, a gas inlet, a mixing chamber, a pointed deflector supported within the mixing chamber, and means to adjust the deflector transversely across the gas inlet; substantially as described.

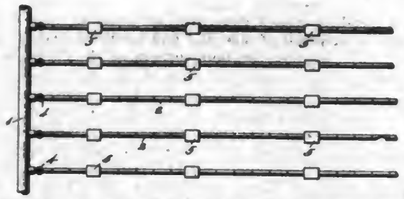
3. A gas burner having an air inlet, a gas inlet, a mixing chamber, a pointed deflector in the mixing chamber, and means to adjust the point of the deflector upwardly or downwardly to divert the mixture in said chamber; substantially as described.

4. A gas burner having an air inlet, a gas inlet, a mixing chamber, a pointed gas deflector within the mixing chamber, means to adjust the point of the deflector upwardly or downwardly, and transversely to divert the gas toward the desired point in the mixing chamber, and means to secure the deflector in its adjusted position; substantially as described.

5. A gas burner having an air and gas inlet, a mixing chamber, a rod extending transversely through the walls of the mixing chamber, a deflector within the mixing chamber and connected to said rod, and means to adjust the rod to move the deflector toward and away from the walls of the mixing chamber to deflect a greater amount of the mixture toward the one side of the chamber than toward the other side thereof; substantially as described.

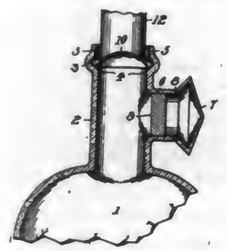
[Claim 6 not printed in the Gazette.]

970,383. IRRIGATION SYSTEM. MARSENA P. MCCULLOCH, Red Oak, Iowa. Filed Sept. 17, 1908. Serial No. 453,535.



In an irrigation and drainage system, a main supply pipe, a plurality of branch pipes inclined downwardly from the main pipe, a plurality of silt boxes arranged at intervals in each branch pipe, a cover for each silt box, valves arranged in each branch pipe adjacent the main pipe for admitting or shutting off the flow of water into any of the branch pipes, and an adjustable sectional wall arranged in each of the silt boxes to hold back the flow of water in the branch pipe, substantially as described.

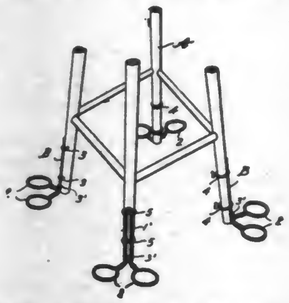
970,384. NON-REFILLABLE BOTTLE. JOHN F. MCGRANE, Pittsburg, Pa., assignor of one-half to John M. Morin, Pittsburg, Pa. Filed Oct. 7, 1909. Serial No. 521,534.



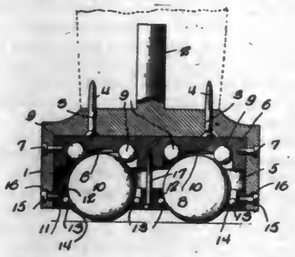
A bottle involving an extension passage-way communicating with the neck portion, the outer extremity of which terminates in an integrally formed and flared element adapted to be broken off prior to the bottle's contents being removed; a circumferential groove at the parting point between said element and extension; a stopper for said extension passage-way; a flexible cap member adapted to enter the neck and be forced into its seat in a groove formed interiorly of the neck above the extension, the mouth of said neck above the groove tapering inwardly; and a sealing substance positioned in the neck above the cap; substantially as described and shown.

970,385. CHAIR OR STOOL ATTACHMENT. FIRMIN TAPSY NASH, Salem, Oreg. Filed May 25, 1910. Serial No. 563,448.

The combination with a chair embodying a supporting leg, of an attachment secured thereto comprising a single piece of wire bent upon itself centrally forming a standard, having spaced members, the terminals of said wire being bent outwardly and looped forming flat feet each extremity being twisted about its respective outwardly bent straight portion provided intermediate the loop and standard for reinforcing the same, a staple carried by the leg to permit the sliding of the standard therein, and clamps to adjustably secure the attachment to the chair, each clamp consisting of a yoke having each of its terminals engaging one of said spaced members and a thumb screw passing through said yoke adapted to bear against the leg of the chair for the purpose herein set forth.



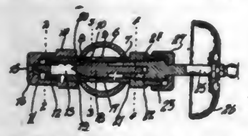
970,386. CASTER. GEORGE C. NICKERSON, Brewer, Me., assignor of one-half to Daniel S. Nickerson, Brewer, Me. Filed Apr. 23, 1910. Serial No. 557,248.



1. In a caster, a cylindrical socket member, an upper bearing plate seated in said socket member and having a plurality of ball races, means for securing the bearing plate removably in position, a lower bearing plate seated in the socket member and having a plurality of apertures surrounded by ball races corresponding with the ball races in the upper bearing plate, and means for securing the lower bearing plate adjustably with reference to the socket member and the upper bearing plate.

2. In a caster, a socket member having apertures for the passage of fastening screws, an upper bearing plate seated in the bottom of the socket member, means for securing the bearing plate detachably in position, a lower bearing plate having apertures, said bearing plate being seated in the lower end of the socket member, said upper and lower bearing plates being provided with correspondingly disposed annular ball races, supporting balls interposed between the bearing plates and projecting through the apertures in the lower bearing plate, anti-friction balls seated in the ball races in the upper and lower bearing plates in engagement with the supporting balls, and a connecting screw extending through the lower bearing plate into the upper bearing plate with which the said lower bearing plate is thereby adjustably connected.

970,387. VALVE. MATTHEW H. OWEN, Chicago, Ill. Filed Sept. 3, 1909. Serial No. 516,105.



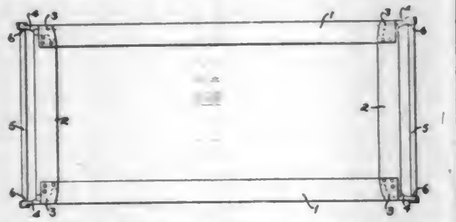
1. In a valve, the combination of a valve casing, screw-threaded on a portion of its interior, and having a plu-

rality of openings formed in its walls communicating with the interior of a main supply pipe, a screw-threaded valve member operating within the screw-threaded portion of the valve casing, a seat for said valve member formed on the interior of the casing, a tapered plug located within a chamber formed in the valve casing, a squared opening in said plug, a squared stem on the valve member engaging said opening, and means for rotating the plug to feed the valve member back and forth, substantially as described.

2. In a valve, the combination of a valve casing, screw-threaded on a portion of its interior, and having a plurality of openings formed in its walls communicating with the interior of a main supply pipe, a screw-threaded valve member operating within the screw-threaded portion of the valve casing, a seat for said valve member formed on the interior of the casing, a tapered plug located within a chamber formed in the valve casing, a squared opening in said plug, a squared stem on the valve member engaging said opening, a cap screw-threaded onto the valve casing and bearing against the plug, for keeping the plug in close engagement with the walls of the chamber, and means for rotating the plug to feed the valve member back and forth, substantially as described.

3. In a valve, the combination of a valve casing, screw-threaded on a portion of its interior, and having a plurality of openings formed in its walls communicating with the interior of a main supply pipe, a screw-threaded valve member operating within the screw-threaded portion of the valve casing, a seat for said valve member formed on the interior of the casing, a tapered plug located within a chamber formed in the valve casing, a squared opening in said plug, a squared stem on the valve member engaging said opening, a cap screw-threaded onto the valve casing and bearing against the plug, for keeping the plug in close engagement with the walls of the chamber, means for rotating the plug to feed the valve member back and forth, a valve plug on the forward end of the valve casing, a cap screw-threaded to the forward end of the valve casing, and a seat for the valve plug formed in the cap, the seat terminating in an outlet formed in the front wall of the cap, substantially as described.

970,388. KNOCKDOWN COUCH-HAMMOCK. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Original application filed Jan. 10, 1910, Serial No. 537,270. Divided and this application filed Apr. 4, 1910. Serial No. 553,371.



1. A knock down skeleton frame adapted for application to a couch hammock body and to support the weight of the occupant and resist the strain of suspension, said frame consisting of side and end members having their upper faces in substantially the same plane and having contacting ends at the four corners of the frame, and substantially U-shaped housing brackets, the opposite ends whereof are secured to the upper and lower faces respectively of two members only of said frame, said brackets being looped about and housing but wholly free from the adjacent ends of the other two members of the frame, the upper faces of said brackets being substantially flat and in substantially the plane of the upper face of the frame.

2. A knock down skeleton frame adapted for application to a couch hammock body and to support the weight of the occupant and resisting the strain of suspension, said frame consisting of side and end members having contacting ends forming the four corners of the frame, said contacting ends being of substantially equal thickness and having their respective faces in the same plane, and substantially U-shaped housing brackets having their opposite ends secured flatwise to the opposite ends of said end members and extending longitudinally thereof and looped laterally about the contacting ends of said end members but unsecured thereto.

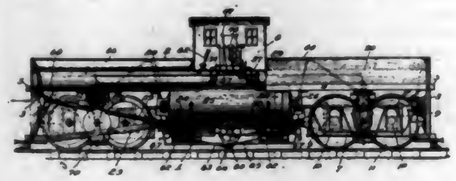
3. A couch hammock consisting of a knock down skeleton frame composed of side and end members having contacting ends forming the four corners of the frame, said contacting ends being of substantially equal thickness and having their respective faces in the same plane, and substantially U shaped housing brackets having their opposite ends secured flatwise to the opposite faces of said end members and extending longitudinally thereof and looped laterally about the contacting ends of said side members but unsecured thereto, each of said housing brackets having a socketed extension and a pair of cross bars supported in said socketed extensions transversely of but spaced from the end members of the frame, and a hammock body received upon the upper face of said side and end members and thence extending under said cross bars and then upwardly to the points of suspension.

4. A knock down skeleton frame adapted for application to a couch hammock body and to support the weight of the occupant and resist the strain of suspension, said frame consisting of rigid side and end members 1, 2, and corner housing brackets having their opposite ends secured to the ends of said end members, said brackets extending longitudinally thereof and looped to extend transversely about but unsecured to the adjacent ends of the side members, the upper faces of said brackets being substantially flat so that the hammock body may lie flat upon the frame throughout the length of the latter.

5. A knock down skeleton frame adapted for application to a couch hammock and to support the weight of the occupant and resist the strain of suspension, said frame consisting of side members 1—1 and end members 2—2, the adjacent ends of said side and end members having reëntrant angular portions and the ends of said side members extending to the outer edges of said end members, and housing brackets secured flatwise to both the upper and lower faces of said end members and looped transversely about but unsecured to the adjacent ends of said side members.

[Claims 6 to 10 not printed in the Gazette.]

970,389. LOCOMOTIVE. OSCAR G. PENDLETON, Girard, Ill. Filed Nov. 6, 1909. Serial No. 526,595.



1. A locomotive comprising a frame, a truck swiveled to the frame, the swivel connection having a passage, a fluid pressure turbine on the truck in gear with the wheels thereof, pressure supplying means, and a feed connection between said supplying means and the motor extending through said passage.

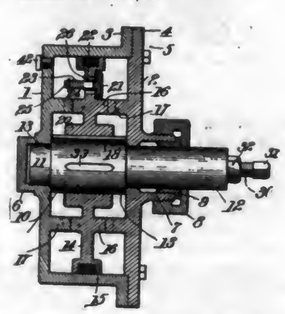
2. A locomotive comprising a frame, trucks swiveled to and supporting the frame, driving wheels upon each truck, said wheels being provided with gear teeth, a turbine supported upon the truck having its shaft provided with pinions meshing with the teeth of the driving wheels, and a feed connection extending downwardly through the pivotal connection of the truck for supplying a fluid pressure to said turbine.

3. A locomotive comprising a frame, a truck swiveled to the frame, the swiveled connection having a passage, driving wheels upon the truck provided with gear teeth, a fluid pressure turbine on the truck having its shaft provided with pinions meshing with said teeth, conductors extending downward through said passage in the swiveled connection and connected with the turbine for supplying the fluid pressure to drive the same in reverse direction, a supply pipe, a valve for connecting the supply pipe with either of said conductors, and means for controlling said valves.

4. A locomotive comprising a frame, fluid pressure generating and storing means upon the frame, trucks supporting the frame, driving wheels upon the trucks provided with gear teeth, fluid pressure turbines upon the trucks having their shafts provided with pinions meshing with the gear teeth of the driving wheels, conductors leading downward through the pivotal connections of the trucks for supplying fluid pressure to the turbines, valves for said conductors, and means for controlling said valves.

5. A locomotive comprising a frame, fluid pressure driven running gearing supporting the frame, said gearing including a reservoir, an air supply pipe, a pair of spaced pumps each consisting of a cylinder and a piston, the cylinder having a valved inlet communicating with the air supply pipe, and a valve outlet communicating with the reservoir, a crank gear arranged between and connected with the pistons of the pumps, hydrocarbon motors arranged alongside the pumps, and a crank driven gear actuated by said motors and meshing with the first named gear.

970,390. SHOCK-ABSORBER FOR AUTOMOBILES. CRISTIAN ALFRED PETERSEN, Laconia, N. H. Filed Nov. 22, 1909. Serial No. 529,457.



1. A shock absorber comprising a casing, a piston therein provided on opposite sides with cam-faced abutments arranged in break-joint order, two-throw cams carried by the casing and engaging the abutments, a shaft loosely keyed to the piston, means for rotating the shaft whereby to cause the coaction between the abutments and the cams to impart a reciprocatory movement to the piston longitudinally of the shaft, and means for permitting passage of the fluid under gradually increasing resistance from one side to the other of the piston.

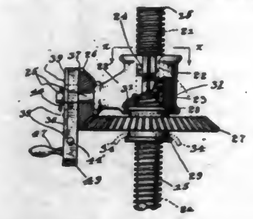
2. A shock absorber comprising a casing provided with a rigid arm for connection with the body of a vehicle, a shaft journaled within the casing, an arm rigid with the outer terminal of the shaft, means for pivotally connecting the latter arm with the axle of the vehicle, a piston loosely splined upon the shaft, means for imparting reciprocatory movements to the piston longitudinally of the shaft under the vibrations of the vehicle body, and means for permitting passage of fluid from one side to the other of the piston under vibrations of the vehicle body.

3. A shock absorber comprising a casing, a piston therein provided on opposite sides with cam-faced abutments arranged in break-joint order, two-throw cams carried by the casing and engaging the abutments, a shaft loosely keyed to the piston, means for rotating the shaft whereby to cause the coaction between the abutments and the cams to impart a reciprocatory movement to the piston longitudinally of the shaft, and means for permitting passage of the fluid from one side to the other of the piston during its reciprocatory movements.

4. A shock absorber comprising a casing provided with a rigid arm for connection with the body of a vehicle, a shaft journaled within the casing and provided with a polygonal terminal, an arm engaging the terminal, means for pivotally connecting the latter arm with the axle of a vehicle, a piston loosely splined upon the shaft, means for imparting reciprocatory movements to the piston longitudinally of the shaft under the vibrations of the vehicle body, and means for permitting passage of fluid from one side to the other of the piston under vibrations of the vehicle body.

5. A shock absorber comprising a casing composed of two members, one of which is provided with a hollow boss and the other with a stuffing-box, a shaft having reduced terminals engaging the boss and the stuffing-box and with an intermediate enlarged portion bearing against the opposed faces of the casing-members to prevent longitudinal movement of the shaft, a piston loosely splined upon the shaft, means for imparting reciprocatory movements to the piston longitudinally of the shaft, means for permitting passage of a fluid from one side to the other of the piston, and means for rotating the shaft.

970,391. WINE-PRESS. JOHN PIGNOCCO, La Salle, Ill. Filed Feb. 28, 1910. Serial No. 546,345.



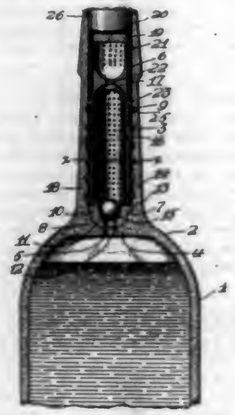
1. In a press, the combination with a base, of a threaded vertical stationary shaft extending upwardly therefrom and provided with a longitudinal groove; a barrel mounted on said base; a bracket member mounted to move longitudinally of said shaft and having a key sliding in said groove; a bevel gear rotatably mounted on said bracket member and having a threaded connection with said shaft; a second bevel gear rotatably mounted in said bracket member and meshing with said first mentioned bevel gear; means for rotating said second bevel gear; and a follow board mounted to move longitudinally of said shaft and connected with said last mentioned bevel gear, substantially as described.

2. In a press, the combination with a base, of a threaded vertical stationary shaft extending upwardly therefrom and provided with a longitudinal groove; a barrel mounted on said base; a bracket member mounted to move longitudinally of said shaft and having a key sliding in said groove; a bevel gear rotatably mounted on said bracket member and having a threaded connection with said shaft; a second bevel gear rotatably mounted in said bracket member and meshing with said first mentioned bevel gear; means for rotating said second bevel gear; and a follow board mounted to move longitudinally of said shaft and swiveled to said last mentioned bevel gear, substantially as described.

3. In a press, the combination with a base, of a threaded vertical stationary shaft extending upwardly therefrom and provided with a longitudinal groove; a barrel mounted on said base; a bevel gear having a hub threaded on said shaft and extending above and below said gear, the said hub being provided with annular flanges at its upper and lower end; a split bracket member embracing said shaft and provided at its lower end with a groove en-

gaging the flange on the upper end of said hub; a follow member provided with detachable lugs embracing the flange on the lower end of said hub; a second bevel gear rotatably mounted in said bracket member and meshing with said first mentioned bevel gear, and a pawl and ratchet connection for rotating said second bevel gear in either direction, substantially as described.

970,392. ANTIREFILLABLE BOTTLE. JAMES HAROLD QUINN, Stoyestown, Pa. Filed Feb. 18, 1910. Serial No. 544,663.



1. The combination of a bottle or receptacle having a neck provided with an inwardly projecting flange, a valvular member mounted upon said flange and having a valve seat formed therein, a spherical valve adapted to engage in said seat and normally close said valvular member, a foraminous shell detachably connected to said member, a cylindrical casing having an imperforate body portion surrounding said shell and connected to said member, an extension carried by said casing, and having a cavity formed therein with the walls thereof provided with openings adapted to establish communication between the interior of said casing and the exterior of said extension, and means mounted upon said casing and adapted to lock said casing within said bottle neck.

2. The combination of a bottle or receptacle having a neck provided with an inwardly projecting flange, a valvular member mounted upon said flange and having a valve seat formed therein, a spherical valve adapted to engage in said seat and normally close said valvular member, a foraminous shell detachably connected to said member, a cylindrical casing surrounding said shell and adapted to connect with said member, an extension carried by said casing, said extension having a cavity formed therein, with the walls of said cavity provided with openings adapted to establish communication between the interior of said casing and the exterior of said extension, means mounted upon said casing and adapted to lock said casing within said bottle neck, said means including a resilient sleeve encircling said casing, and ribs carried by said sleeve and adapted to engage in the walls of said bottle neck.

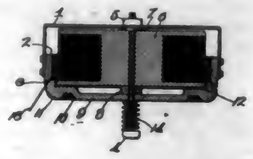
970,393. SHOE. EDGAR F. RAYMOND, Rockland, Mass., assignor of one-half to Charles O. Emerson, Brockton, Mass. Filed Mar. 30, 1910. Serial No. 552,336.

A shoe having an opening in front, the lower portion of the edges of which are eyeleted, a lacing threaded through the eyelets for securing together said opening, a tongue secured at its lower end to the interior of the shoe, and the lower portion of which underlies the eyeleted portion of the upper, said tongue having laterally-extending slits in its edges through which the edges of the upper are adapted to pass, and the upper portion of said tongue being wider than the lower portion and lying on the outside



of the shoe, and buttons for securing the edges of said upper portion of the tongue to the shoe.

970,394. REEL. ROBERT C. REDPATH, Oxford township, Johnson county, Kans. Filed Nov. 18, 1907, Serial No. 402,648. Renewed July 29, 1909. Serial No. 510,271.



1. A wire holding reel, comprising a spool or drum upon which wire may be wound, a ring surrounding and bearing a fixed relation to the spool or drum, a plate adjacent to and substantially parallel with one end of the spool or drum and provided at its margin with a rim projecting toward and of substantially the same diameter as the ring, and means for pressing said plate yieldingly toward the adjacent end of the spool or drum and its rim against the opposing or adjacent edge of said ring.

2. A wire holding reel, comprising a spool or drum upon which wire may be wound, a ring surrounding said spool, a plate having a rim engaging one edge of said ring; said ring and rim bearing a slight tiltable or rocking relation, and yielding means for resisting tiltable or rocking movement by the said member capable of such movement.

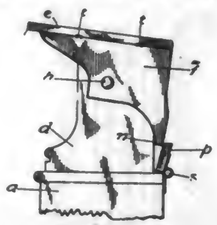
3. A wire holding reel, comprising a spool or drum upon which wire may be wound, a ring surrounding and bearing a fixed relation to the spool or drum, a plate adjacent to and substantially parallel with one end of the spool or drum and provided at its margin with a rim projecting toward and of substantially the same diameter as the ring, and a spring suitably supported and arranged at the opposite side of said plate from the spool or drum and tending to hold the plate and its rim pressed toward the spool or drum and said ring respectively.

4. A reel for holding wire, comprising a spool or drum, a ring surrounding the same, a tiltable or rocking rim, and a spring pressing said rim yieldingly upward and against the ring and the interposed end of the wire leading from the spool or drum.

5. A reel, comprising a bolt provided with a head, a drum secured on the bolt at one side of said head, a stationary ring surrounding the drum, and a rim capable of rocking movement on the bolt and held yieldingly toward the ring and drum.

[Claim 6 not printed in the Gazette.]

970,395. COMBINATION FURNITURE. FRANK ROGERS, Oakland, Cal. Filed June 5, 1908. Serial No. 436,969.

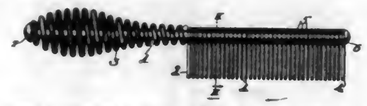


1. A piece of combination furniture comprising a seat with standing arms at the ends thereof, bracket pieces pivotally attached to the standing arms and provided with bearing faces, a back carried by the brackets, and a stop rail hinged to the seat in rear of the pivotal connections between the bracket pieces and the standing arms and arranged to engage with the bearing faces of the said brackets to hold the back either in a substantially horizontal or in an upright position.

2. A piece of combination furniture comprising a seat having standing arms at its ends, bracket pieces pivotally secured to the standing arms, a back carried by the bracket pieces, and a stop rail hinged to the back of the seat and arranged, when the back is turned into an upright position, to occupy a position between the back and the seat and, when the back is turned into a substantially horizontal position, to constitute a support or rest for the said bracket pieces.

3. A piece of combination furniture comprising a seat, standing arms at the ends of the seat, bracket pieces pivoted to the standing arms, a back carried by the bracket pieces, a stop rail pivoted to the seat at the rear and arranged to serve as a rest or support for the bracket pieces when they are adjusted to bring the back into a substantially horizontal position, a spring for holding the stop rail in position to engage with the bracket pieces to serve as a rest therefor, but arranged to yield to allow said bracket pieces to pass the stop as the back is adjusted.

970,396. HAIR-DRESSING COMB. CHARLES H. ROYALTY, Chattanooga, Tenn. Filed Aug. 25, 1908. Serial No. 450,227.

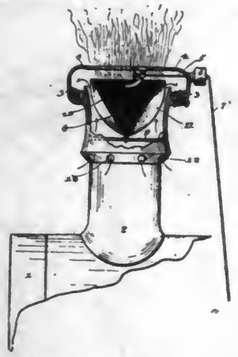


A comb consisting of a rod 1, having a head at one end and upset to form a head at its opposite end and of polygonal form in cross section, a coiled wire handle surrounding the rod and bearing at its rear end against the first-named head and of diminishing diameter from a point nearer its rear end than its front end toward said ends and snugly embracing the rod at its first-named end, teeth fitting non-rotatably upon the rod between the head at its front end and the front end of the coiled wire handle, and washers interposed between and arranged alternately with respect to said teeth and like the latter fitting non-rotatably on the rod and with the latter held pressed against the head at the front end of the rod, by said coiled wire handle.

970,397. SPARK-ARRESTER. CHARLES A. RUSH, La Grange, Ill. Filed Dec. 1, 1909. Serial No. 530,822.

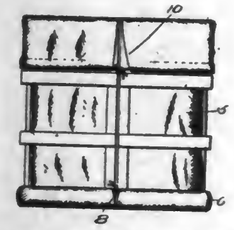
1. In a spark arrester, a stack, a receptacle surrounding said stack, forced draft mechanism in the upper end of said stack and adapted to deflect the cinders outwardly toward said receptacle, means for driving said mechanism and said stack being provided with cold air openings beneath said mechanism, substantially as described.

2. In a spark arrester, a stack and an annular pocket formed around the top thereof, a flange extending inwardly from the exterior wall of said pocket, an inverted cone-shaped wire gauze member adapted to rotate on an axis coincident with the axis of said stack, and a series of propeller blades arranged on the exterior surface of said rotatable member and adapted to induce an upward flow of gas through said stack, the top edge of the periphery of said member being adjacent and above the plane of the interior wall of said pocket so that soot and cinders will be deflected and deposited in the latter by centrifugal force and the deflecting action of said gas member, substantially as described.



3. In a spark arrester, a stack, a radially disposed power shaft mounted in the top thereof, an axially arranged driven shaft having beveled gear connection with said power shaft, an inverted cone-shaped wire gauze member the apex of which is secured to said driven shaft and adapted to rotate therewith, propeller blades secured to the exterior of said member, an annular pocket formed around the top of said stack, and cold air openings in the walls of said stack, substantially as described.

970,398. BAG-HOLDER. JAMES E. SAPP and CASIAH SAPP, Bainbridge, Ga. Filed June 16, 1910. Serial No. 567,306.



1. A bag frame formed of uprights, and a plurality of collapsible hoops secured thereto, each of said hoops being divided at one point for making the frame resilient.

2. A bag frame formed of uprights, a plurality of expansible hoops secured thereto, each of said hoops being divided at one point for making the frame resilient, and means for holding a bag upon said frame.

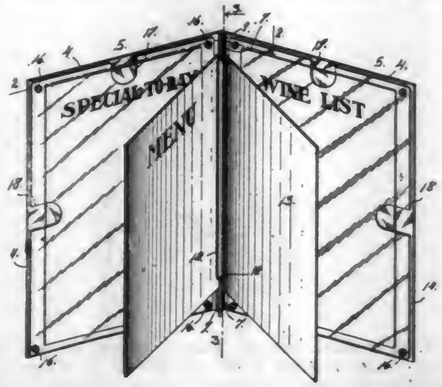
3. A bag supporting frame formed of uprights, a plurality of expansible hoops secured thereto, each of said hoops being divided at one point for making the frame resilient, and means for retaining said frame against expansion.

4. A bag frame consisting of a flexible skeleton body of substantially cylindrical form divided longitudinally through its wall to render said frame expansible and contractible, the openings through the walls of said skeleton body permitting said bag to project therethrough.

5. A new article of manufacture, comprising a portable bag supporting frame formed of a plurality of resilient hoops divided at one point, the point of division on each of said hoops being in longitudinal alinement, and a plurality of supporting uprights connecting said hoops and holding the same spaced a predetermined distance apart, all of said uprights being secured to said hoops at the point of division of the hoops.

[Claims 6 and 7 not printed in the Gazette.]

970,399. MENU-CARD HOLDER. WALTER H. SAWYER, Denver, Colo., assignor of one-half to Robert H. Battle, Denver, Colo. Filed July 24, 1909. Serial No. 509,451.



1. A menu card holder composed of two lids, each lid consisting of an outer member and an inner transparent member having a thumb recess formed in its outer edge for removing the card, the two outer members being hinged together, and the inner members being connected with the outer members to leave the edges of the two members open on one edge thereof, for the purpose set forth.

2. A menu card holder composed of two lids hinged together, the hinge pin of the lids being bent inwardly at its extremities and formed into hooks, and a band connected with the said hooks, for the purpose set forth.

3. A menu card holder composed of two hinged lids, the extremities of the hinge pin of the two lids being bent inwardly and formed into hooks, and a suitable connection between the hooks for retaining the menu card in place.

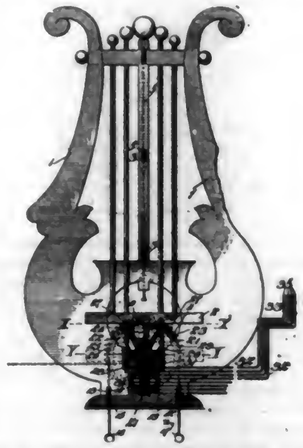
970,400. MUSIC-LEAF TURNER. EMIL SCHEIBNER, Philadelphia, Pa. Filed Jan. 13, 1908. Serial No. 410,488.

1. In a device of the character described, a frame having an opening therein, a supporting shelf secured thereto, a shaft adjacent said shelf, a worm on said shaft, a plurality of leaf turning members carried by said worm and adapted for longitudinal movement relative to said shaft, and means in said opening to oscillate said leaf turning members.

2. In a device of the character described, a frame having an opening therein, a supporting shelf secured thereto, means to clamp a music sheet thereon, a shaft adjacent said shelf, a worm on said shaft, a plurality of leaf turning members carried by said worm and adapted for longitudinal movement relative to said shaft, and means in said opening to oscillate said leaf turning members.

3. In a device of the character described, a frame, means to support a music sheet thereon, a driving gear, a worm driven thereby, a plurality of rods mounted on said worm, fingers on said rods and means to oscillate said rods.

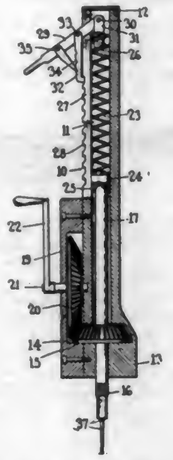
4. In a device of the character described, a frame, means to support a music sheet thereon, a driving gear, means to rotate said gear, a worm shaft, trip arms thereon, a plurality of rods on said worm shaft, and means intermediate said trip arms and rods whereby the latter are oscillated.



5. In a device of the character described, a frame, means to secure a music sheet thereon, a worm shaft, a plurality of members mounted to move longitudinally thereon and adapted to turn a sheet of music, a gear operatively connected to said shaft, a foot treadle for operating said gear in one direction, a second foot treadle for operating said gear in the opposite direction, and means to return said foot treadles to normal position.

[Claims 6 to 10 not printed in the Gazette.]

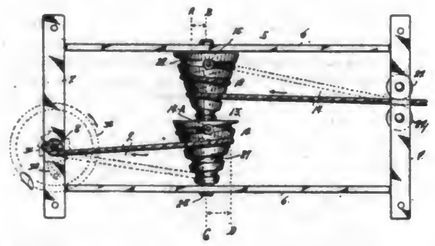
970,401. DRILL. CHARLES SEALS, Lovilia, Iowa, assignor of one-half to William Livix, Lovilia, Iowa. Filed Oct. 11, 1909. Serial No. 522,015.



1. In a drill, a stock, a longitudinally movable boring shaft supported by the stock, a compression spring within the stock and acting upon the shaft, a lever longitudinally displaceable in the stock and adapted to act upon the spring for tensioning the same, and means locking the lever in various longitudinally adjusted positions on the stock.

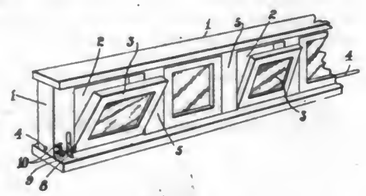
2. In a drill, a stock, a longitudinally movable boring shaft supported by the stock, a compression spring within the stock and acting upon the shaft, a lever longitudinally displaceable in the stock and adapted to act upon the spring for tensioning the same, means locking the lever in various longitudinally adjusted positions on the stock, and means rotating the shaft.

970,402. MANUALLY-OPERATED RAILWAY-BRAKE. ALEX A. SEARWAY, Buffalo Creek, Colo. Filed Aug. 9, 1909. Serial No. 512,094.



The combination with a brake mechanism and a hand operated device, of a drum equipped with two cone members respectively provided with right and left hand spiral grooves, one of said members tapering to the base of the other member and integrally formed therewith, a frame in which the cone members are horizontally journaled, guide rollers positioned at one extremity of the frame, cables connected with the cone members and extending in opposite directions, one cable leading to the hand operated device and the other passing between the guide rollers and leading to the brake mechanism, whereby one cable is unwound from one cone simultaneously with the winding of the other cable upon the other cone, for brake-setting purposes, substantially as described.

970,403. VENTILATING APPARATUS. MAURICE I. SHAPIRO, Haverstraw, N. Y. Filed June 23, 1910. Serial No. 568,598.



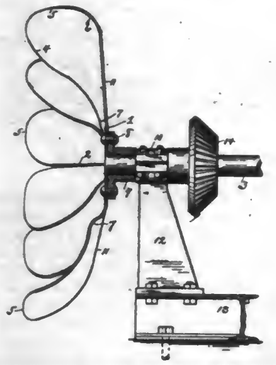
1. In combination, a series of ventilators, a rod supporting the same, said rod passing through said ventilators, and means for rotating said rod to open and close said ventilators.

2. In combination, a series of ventilators, a rod supporting the same, said rod passing through said ventilators, a handle for rotating said rod to open and close said ventilators and means for locking said handle in either of its alternate positions.

3. In combination, a series of ventilators, each ventilator having a bushing extending therethrough, a rod passing through said bushings and frictionally engaging the same and means for rotating said rod to open and close said ventilators.

4. In combination, a frame provided with openings therein, said openings being spaced from one another whereby portions of the frame extend between adjacent openings, a rod passing through said portions of the frame, ventilators registering with said openings and mounted upon said rod, and means for rotating said rod to open and close said ventilators.

970,404. FLUID-ACTUATED MOTOR. WILLIAM SNEE, West Elizabeth, Pa., assignor to American Power & Mfg. Co., Pittsburg, Pa., a Corporation of Delaware. Filed July 28, 1909. Serial No. 510,043.



1. A fluid-actuated power wheel comprising blades constructed with a compoundly-curved acting surface of which one curve is a radial curvature and the other curve is a curvature transverse to the radial, said curves being so compounded that a line connecting the lowest points of the transverse sections of successive portions will extend from a central point to a point in the rear edge between the center and the periphery and thence to a point in the periphery.

2. A fluid actuated power wheel comprising blades set upon a shaft at an angle transverse to its axis each of said blades constructed with a compoundly curved surface having an element which is a radial curve and an element which is a transverse curve, the lowest point of each blade lying in its rear edge near its periphery, and this point lying in a line connecting the lowest points of the transverse curves, which line rises from said lowest point to the peripheral edge of the blade.

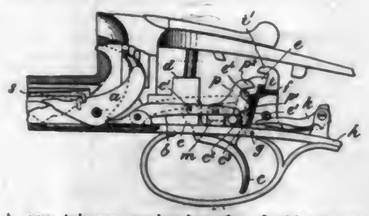
3. A fluid actuated power wheel comprising blades set upon a shaft at an angle transverse to its axis, and inclined against the direction of the actuating fluid and constructed with a compoundly curved surface having an element which is a radial curve and an element which is a transverse curve, the lowest point of each blade lying in its rear edge near its periphery, and this point lying in a line connecting the lowest points of the transverse curves, which line rises from said lowest point to the peripheral edge of the blade.

4. A fluid actuated power wheel comprising blades set upon a shaft and torsionally twisted, each of said blades being constructed with a compoundly curved surface having an element which is a radial curve and an element which is a transverse curve, the lowest point of each blade lying in its rear edge near its periphery, and this point lying in a line connecting the lowest points of the transverse curves, which line rises from said lowest point to the peripheral edge of the blade.

970,405. ONE-TRIGGER MECHANISM FOR DOUBLE-BARREL BREECH-LOADING SMALL-ARMS. LESLIE BOWN TAYLOR, Bournbrook, near Birmingham, England. Filed Jan. 28, 1910. Serial No. 540,611.

1. A one trigger mechanism for double barrel breech loading small arms, consisting essentially of a trigger, a rocking lever jointed to the rear end of the blade of the trigger, a clutch arm jointed to the trigger plate behind the rocking lever, said clutch arm having an overhanging part with which the rocking lever engages when the trigger is pulled for the discharge of the first barrel, and a pair of jointed arms or sear lifters which are raised by studs on the opposite sides of the rocking lever acting on heels on the rear ends of the sear lifters, one only of the sear-lifters being raised on the first pull on the trigger,

the sear lifters having projections with which the rear or tail ends of the sears contact or nearly so when the hammers are in their cocked positions.



2. A one trigger mechanism for double barrel breech loading small arms, consisting of the combination with one trigger of a rocking lever jointed to the rear end of the said trigger, a clutch arm jointed to the trigger plate behind the rocking lever, said clutch arm having an overhanging part with which the rocking lever engages when the trigger is pulled for the discharge of the first barrel, and a pair of jointed arms or sear lifters which are raised by studs on the opposite sides of the rocking lever acting on heels on the rear ends of the sear lifters, only one of the sear-lifters being raised on the first pull on the trigger, the sear lifters having projections with which the rear or tail ends of the sears contact or nearly so when the hammers are in their cocked positions and means for adjusting the sear lifters with respect to the studs on the rocking lever so as to permit the discharge of either barrel first at the will of the shooter.

3. A one-trigger mechanism for double-barrel breech-loading small arms, consisting essentially of a trigger; a rocking lever actuated by the trigger; a pair of jointed arms or sear-lifters; and studs or projections on the rocking lever disposed to act on the sear-lifters when the rocking lever is actuated by the trigger, said studs or projections being so arranged that one only of the sear-lifters is raised on the first pull on the trigger, the sear-lifters having projections with which the rear or tail ends of the sears contact or nearly so when the hammers are in their cocked positions.

4. A one-trigger mechanism for double-barrel breech-loading small arms consisting of a trigger; a rocking lever actuated by the trigger; a pair of jointed arms or sear-lifters; studs or projections on the rocking lever disposed to act on the sear-lifters when the rocking lever is actuated by the trigger, said studs or projections being so arranged that one only of the sear-lifters is raised on the first pull on the trigger, the sear-lifters having projections with which the rear or tail ends of the sears contact or nearly so when the hammers are in their cocked positions; and means for adjusting the sear-lifters with respect to the studs on the rocking lever so as to permit the discharge of either barrel first at the will of the shooter.

5. A one-trigger mechanism for double-barrel breech-loading small-arms consisting essentially of a trigger; a rocking lever actuated by the trigger; a pair of jointed arms or sear-lifters; studs or projections on the rocking lever disposed to act on the sear-lifters when the rocking lever is actuated by the trigger, said studs or projections being so arranged that one only of the sear-lifters is raised on the first pull on the trigger, the sear-lifters having projections with which the rear ends or tails of the sears contact or nearly so when the hammers are in their cocked positions; and blocking mechanism for engaging with the rocking lever on the first pull on the trigger and thereby preventing an inadvertent firing of the second barrel.

[Claims 6 to 8 not printed in the Gazette.]

970,406. CUSHION FOR HANDLES OF SHEARS OR SCISSORS. CHLOA W. TINDALL, Denver, Colo. Filed Oct. 22, 1909. Serial No. 524,075.

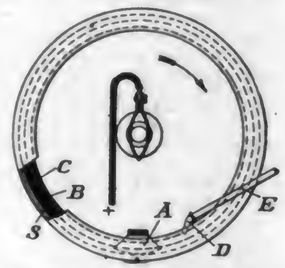
1. Hollow cushions for the handles of shears or scissors, comprising flexible, duplex tubes, one tube being closed, to perform the cushion function while the other member is split to receive the loop or eye for retaining purposes.



2. The combination with the handles of shears or scissors, of hollow pneumatic or air cushions applied to the loops or eyes of the same, the said cushions composed of duplex tubes integrally formed with each other, one tube being closed and adapted to rest against the inner face of the loop to perform the cushion function, while the other tube is split on its outer side to receive the loop or eye for retaining purposes, substantially as described.

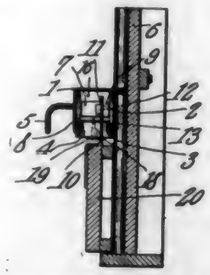
3. Hollow cushions for the eyes or loops of the handles of scissors, comprising a flexible circular tube, the said tube being split on its outer periphery and adapted to receive the loops or eyes for retaining purposes, and a closed tube integrally formed with the inner periphery of the circular tube as means of performing the cushion function, substantially as described.

970,407. COOLING DEVICE FOR ELECTRICAL SLIDING CONTACTS. BORIS VON UGRIMOFF, Moscow, Russia. Filed July 12, 1909. Serial No. 507,187.



An electrical sliding contact comprising an inwardly-opening, revolving annular container, a revolving liquid conductor therein, a stationary conductor immersed in said liquid, and a nozzle adapted to continuously spray a second liquid into said container and upon said liquid conductor.

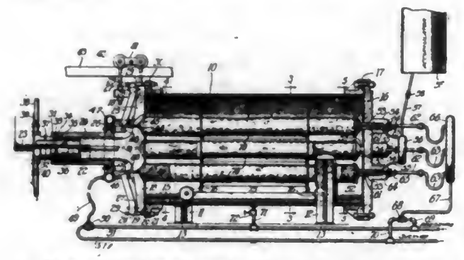
970,408. BARN-DOOR HANGER. JOSHUA M. WHIPPS, Lesueur Center, Minn. Filed Mar. 23, 1910. Serial No. 551,086.



1. In a door hanger, the combination with a track comprising in its structure spaced plates having upturned flanges forming wheel treads, of a carriage consisting of an axle, wheels journaled at the ends of the axle and arranged to travel upon the said treads, said axle having a notch in its upper edge, said notch being larger at its upper end than at its lower end, and a hanger plate adapted to be connected to a door and having an opening in its upper end adapted to engage the said notch.

2. In a door hanger, the combination with a track comprising in its structure spaced plates having upturned flanges forming wheel treads, of a carriage consisting of an axle, wheels journaled at the ends of the axle and arranged to travel upon said treads, said axle having at its upper end a notch, and a hanger plate adapted to be secured to a door and having an opening which fits snugly against the axle and having its upper end adapted to engage said notch, said plate having at the side edges of its opening flanges which are located adjacent to the opposite sides of the axle.

970,409. APPARATUS FOR IMPREGNATING LOGS. SIGMUND WILLNER, Chicago, Ill. Filed May 20, 1910. Serial No. 562,544.



1. In wood impregnating apparatus, the combination of a receptacle, a closure therefor, a log receiving carriage adapted to be moved into and out of said receptacle, a conical socket adapted for the reception of the end of a log, a movable member having a socket facing said first named socket, and means for moving said member toward said first named socket, said sockets being so located with respect to the carriage that their centers are slightly above the center of the log when the latter is in place in the carriage, whereby the log will be lifted from the carriage when the sockets approach each other.

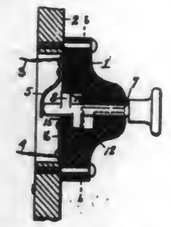
2. In apparatus for impregnating logs, the combination of a receptacle, a closure therefor, a plurality of cone-shaped sockets in said receptacle, a plurality of independently movable members having each a cone-shaped socket in alinement with one of said first named sockets, and a log receiving carriage movable into and out of said receptacle, said sockets being so located with respect to the carriage that their centers are above the centers of the logs when the latter are supported by the carriage.

3. In log impregnating apparatus, the combination of a receptacle, a track arranged therein, a carriage movable on said track and having a plurality of log supporting means, a closure made movable to permit said carriage to enter and leave said receptacle, a plurality of conical sockets arranged in said receptacle and corresponding in number and position with the log supporting means upon the carriage, a movable member corresponding to each of said sockets and having a conical socket facing the same, and means for moving said members independently of each other, said members and sockets being arranged to lift said legs from said carriage when brought together.

4. In a log impregnating apparatus, the combination of a receptacle, a plurality of log supports in said receptacle, a plurality of pairs of opposed conical sockets located above and at opposite ends of said supports, in position to engage the ends of the logs thereon, the sockets at one end being movable toward those at the opposite end and adapted to lift the logs from said supports and center them, and fluid pressure apparatus connected with said sockets.

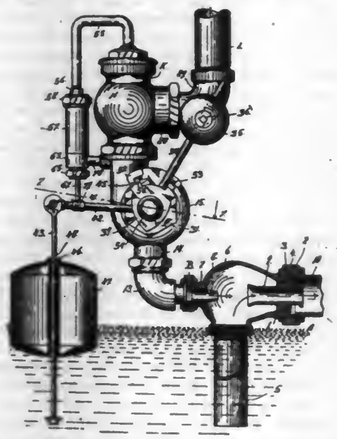
970,410. CIRCUIT-SWITCH. LOYD WILSON, Detroit, Mich. Filed Feb. 3, 1910. Serial No. 541,917.

1. A circuit switch, having, in combination with a longitudinally bored body portion, and laterally extending cuts therein extending radially therefrom, each of said cuts extending only a portion of the distance through the block and being placed at desired angles with respect to one another, a circuit terminal located adjacent the lower end of the longitudinal bore, a second circuit terminal located adjacent the outer end of one of said radial cuts, and a removable key member adapted to be inserted in said bored and cut portions, and, by turning of the same about its axis to be moved to a position where both of said circuit terminals are engaged by it, substantially as described.



2. In a switch, in combination with a body block having a central longitudinal bore and radial cut-away portions reaching therefrom in a variety of directions, circuit terminals located thereon adjacent to a plurality of diversely located points in the cut-away portion, and a removable key member provided with laterally projecting wing pieces complementarily located on the stem thereof with respect to the cut-away portions of the body block, adapted to pass therethrough and to register with those portions wherein the circuit terminals are located when the closure of the circuit is desired, substantially as described.

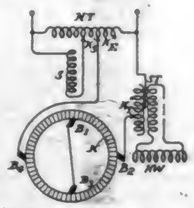
970,411. VALVE MECHANISM FOR CONTROLLING FLUID ADMISSION. GEORGE WOODALL, New York, N. Y. Filed Dec. 14, 1908. Serial No. 467,383.



1. In valve mechanism for controlling the admission of fluid to a device to be actuated, the combination with the device to be actuated, of a fluid supply pipe, a pressure valve for controlling the passage of the fluid from the supply pipe to the said device, the said valve having a balance member of such area as to diminish the pressure required to open the said valve, the balance member being mounted to allow the fluid to leak past it, a relief valve connected with said passage, a float and means actuated by the float for opening the relief valve and the pressure valve, the relief valve being opened in advance of the pressure valve to relieve the balance valve member and allow it to partially balance the pressure valve, for the purpose set forth.

2. In valve mechanism of the class described, the combination with a device to be actuated, of a fluid supply pipe, a pressure valve for controlling the passage of the fluid from the supply pipe, the valve having a balance member, a chamber in which said member is mounted somewhat loosely to permit freedom of movement, a relief valve, a fluid passage leading from the chamber of the balance valve member to the relief valve, the latter having a normally closed valve piece, and float-actuated mechanism for successively operating the two valves, the relief valve being opened in advance of the pressure valve, for the purpose set forth.

970,412. ELECTRIC MOTOR. ENGELBERT ARNOLD, Karlsruhe, Germany, and JENS LASSEN LA COUR, Vesteras, Sweden. Original application filed May 15, 1905, Serial No. 260,521. Divided and this application filed Oct. 5, 1908. Serial No. 456,318.



1. In an alternating current motor, in combination, a rotor winding provided with a commutator, brushes bearing on the commutator, a set of said brushes connected to a source of current and forming the exciting circuit, a second set of said brushes short circuiting the rotor winding on a line displaced from the first set and forming the compensating circuit, and stator windings including a main portion arranged to produce a magnetization along the line of the second set of brushes, and an auxiliary portion connected in series with the first set of brushes and arranged to produce a magnetization along the line of the first set of brushes, the circuit containing the auxiliary portion and first set of brushes being connected in shunt to the main portion across said source of current.

2. In an alternating current motor, in combination, a stator winding having connections for supplying current thereto, said winding comprising main and auxiliary coils whose magnetic fields are in quadrature, a rotor having a winding provided with a commutator, a set of connected brushes bearing on said commutator and short-circuiting the rotor winding on the axis of the main field to compensate the main field, another set of brushes bearing on the commutator and connected in series circuit with the auxiliary stator coil to a source of current to produce a magnetization along the axis of the auxiliary field, means whereby the ampere turns of the auxiliary winding may be varied, and means whereby the voltage impressed upon the main stator winding may be varied.

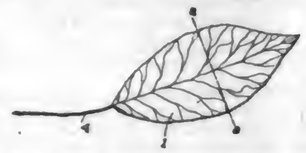
3. In an alternating current motor in combination, a stator winding having connections for supplying current thereto, said winding comprising main and auxiliary coils whose magnetic fields are in quadrature, a rotor having a winding provided with a commutator, a set of connected brushes bearing on said commutator and short-circuiting the rotor winding on the axis of the main field to compensate the main field, another set of brushes bearing on the commutator and connected in series circuit with the auxiliary stator coil to a source of current to produce a magnetization along the axis of the auxiliary field, and means whereby the voltage impressed upon the auxiliary stator winding may be varied.

4. In an alternating current motor, in combination, a rotor winding provided with a commutator, brushes bearing on the commutator, a set of said brushes connected to a source of current and forming the exciting circuit, a second set of said brushes short circuiting the rotor winding on a line displaced from the first set and forming the compensating circuit, a main stator winding arranged to produce a magnetization on the line of the second set of brushes, an auxiliary stator winding arranged to produce a magnetization along the line of the first set of brushes, and means whereby the magnetic saturation of the stator core may be controlled.

5. In an alternating current motor in combination, a rotor winding provided with a commutator, brushes bearing on the commutator, a set of said brushes connected to a source of current and forming the exciting circuit, a second set of said brushes short circuiting the rotor winding on a line displaced from the first set and forming the compensating circuit, a main stator winding arranged to produce a magnetization on the line of the second set of brushes, an auxiliary stator winding arranged to produce a magnetization along the line of the first set of brushes, and means whereby the voltage per turn of the main stator winding may be varied.

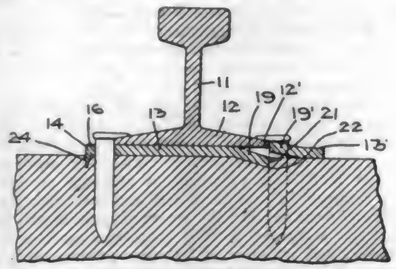
[Claims 6 to 15 not printed in the Gazette.]

970,413. ARTIFICIAL FLOWER. EUGENE ANTONUCCI, Buffalo, N. Y., assignor to Millinery and Decorating Supply Company, Buffalo, N. Y., a Corporation of New York. Filed Oct. 22, 1909. Serial No. 524,037.



An artificial leaf or petal comprising flexible facing material having pile capable of maintaining ornamental impression on its surface and a stiffener consisting of tissue paper with a layer of adhesive between the tissue paper and the facing material.

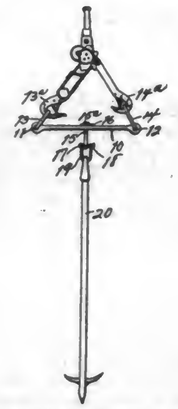
970,414. TIE-PLATE AND RAIL-BRACE. VIRGIL G. BANKS, Mount Kisco, N. Y. Filed May 6, 1910. Serial No. 559,606.



1. A rail fastening comprising a plate adapted to be interposed between a rail and a tie, said plate being of approximately trapezoidal form, the smaller end of said plate being formed with a cutting lip for engagement with the tie, said cutting lip being provided with parallel rectangular cutting edges, and the larger end of said plate being cut therethrough, said cuts being in the form of an H, and providing an upwardly bent tongue to engage the edge of the rail, and a downwardly bent tongue provided with a cutting edge adapted to bite into the upper face of the tie.

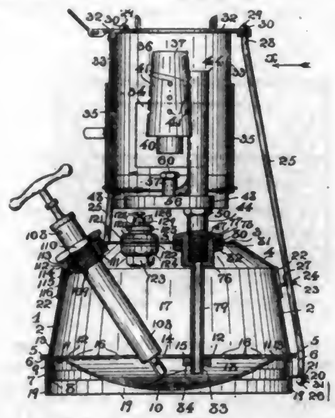
2. A rail fastening comprising a plate adapted to be interposed between a rail and tie, said plate being of approximately trapezoidal form, the smaller end of said plate being formed with a cutting lip for engagement with the tie, said cutting lip being provided with parallel rectangular cutting edges, and the larger end of said plate being cut therethrough, said cuts being in the form of an H, and providing an upwardly bent tongue to engage the edge of the rail, and a downwardly bent tongue provided with a cutting edge adapted to bite into the face of the tie, the cross line of cut of the H being made through the plate obliquely to the plane of the plate, so that when one of said tongues is bent upwardly and the other bent downwardly, the faces of their free ends will lie in the same vertical plane.

970,415. HAY-FORK ATTACHMENT. THOMAS S. BARBOUR, Ames, Iowa. Filed Apr. 20, 1909. Serial No. 491,639.



In combination with the hooks of a hay sling, an attachment whereby said hooks are spread and rigidly secured to support a fork of greater capacity than the sling, said spreading and securing means comprising a bar of a length to span said hooks when the latter are spaced and having swiveled links at its ends to engage said hooks and an intermediate depending axially swiveled clevis adapted to receive a depended hay fork.

970,416. BURNER FOR FIRE-POTS, BLOW-TORCHES, AND THE LIKE. EMIL BEYER, Newark, N. J., assignor of one-half to Frederick J. Schaefer, Newark, N. J. Filed June 14, 1909. Serial No. 501,908.



1. A burner of the character herein set forth comprising a main body forming an ignition chamber, said body being provided with an inlet for the admission of a gaseous mixture into said chamber, a tubular conveying duct connected with said body, means within said duct for producing a circuitous flow of the gas-producing medium through said duct, a hollow projection extending from said body and interiorly communicating with the said conveying duct, said body, said conveying duct, and said hollow projection, all being cast in one integral piece, a pipe-like member connected with said projection, a chambered member connected with said pipe-like member, said chambered member being closed at one end and being open at the other end, a tubular tip arranged in said open end, said tip having a contracted portion provided with a delivery orifice, and a wire-gauze roll within said reduced portion of said tip, substantially as and for the purposes set forth.

2. A burner of the character herein set forth comprising a main body forming an ignition chamber, said body being provided with an inlet for the admission of a gaseous mixture into said chamber, a tubular conveying duct connected with said body, a cylindrical stem within said duct, said stem being formed with longitudinally extending channels and laterally extending connecting channels for producing a circuitous flow of the gas-producing medium through said duct, means connected with a portion of said stem for the withdrawal of the same from said conveying duct, a hollow projection extending from said body and interiorly communicating with said conveying duct, said body, said conveying duct, and said hollow projection, all being cast in one integral piece, a pipe-like member connected with said projection, a chambered member connected with said pipe-like member, said chambered member being closed at one end and being open at its other end, and a tubular tip arranged in said open end, said tip having a contracted portion provided with a delivery orifice, substantially as and for the purposes set forth.

3. A burner of the character herein set forth comprising a main body forming an ignition chamber, said body being provided with an inlet for the admission of a gaseous mixture into said chamber, a tubular conveying duct connected with said body, said duct being provided with means for the attachement thereof to a fuel-containing receptacle, and said duct being formed with a screw-threaded portion and an annular flange, a drip-cup arranged upon said screw-threaded portion and against said flange, and a nut upon said screw-threaded portion for securing said parts in their assembled relation, combined with a hollow projection extending from said body and interiorly communicating with the said conveying duct, a pipe-like member connected with said projection, a chambered member connected with said pipe-like member, said chambered member being closed at one end and being open at the other end, and a tubular tip arranged in said open end, said tip having a contracted portion provided with a delivery opening, substantially as and for the purposes set forth.

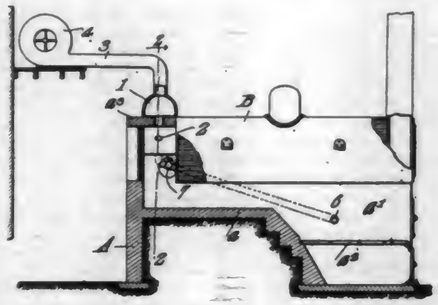
4. The combination with a fuel-receiving receptacle formed in its top with an opening, of a burner provided with a tubular and externally screw-threaded conveying duct, a heat-proof connecting means arranged within said opening in the top of said receptacle, said connecting means comprising a flanged and externally screw-threaded body, said body being also formed with an internally screw-threaded receiving socket for removably securing therein the externally screw-threaded end of the conveying duct of the burner, a pipe connected with the said flanged body, said pipe extending down into the fuel-receiving receptacle and establishing a communication with the conveying duct which is removably arranged in said receiving socket, and a nut upon the externally screw-threaded part of said socketed body, all arranged so that the tubular conveying duct and the burner can be detached from said socketed body without disturbing the fixed position of said socketed and screw-threaded body of the heat-proof connecting means, and the said pipe which is connected with said socketed body with relation to the fuel-receiving receptacle, substantially as and for the purposes set forth.

5. In a fire-pot of the character specified, a fuel-receiving receptacle comprising a body and top, and a dish-shaped bottom secured to said body, a perforated disk or plate secured within said receptacle, combined with

a burner formed with a conveying duct, a conveying pipe within said receptacle connected with said duct, said pipe having a lower screw-threaded portion extending through said disk or plate, and a nut screwed upon said screw-threaded portion of said pipe and against said disk or plate, substantially as and for the purposes set forth.

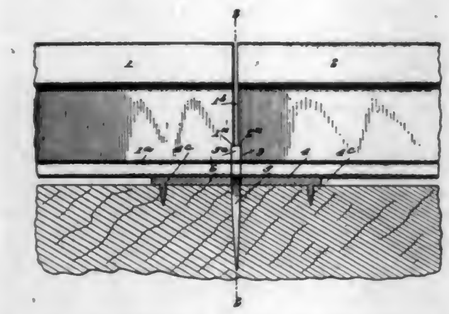
[Claim 6 not printed in the Gazette.]

970,417. FURNACE. MAURICE BLANCHARD, Wardner, Idaho. Filed Jan. 14, 1909. Serial No. 472,327.



A furnace having a combustion chamber, and a boiler having a flue sheet forming a wall of said combustion chamber, an air heater located upon the top of the combustion chamber beyond the end of the boiler, means for supplying air to the heater, pipes for leading air from the heater to the opposite sides of the forward portion of the combustion chamber and at relatively low levels, tubes for leading air from the heater to the highest level of the combustion chamber adjacent the flue sheet in streams directed in courses conflicting with the direction of the course of passage of the products of combustion through the combustion chamber.

970,418. DEVICE FOR PREVENTING THE CREEPING OF RAILS. JOHN T. BLUFF, Butte, Mont., assignor of one-half to Frank F. Hayes, Butte, Mont. Filed May 6, 1910. Serial No. 559,723.

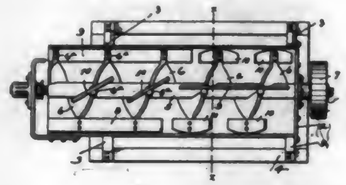


1. In a rail fastening device, a chair provided with a slot, a pair of rails having a recessed portion at each end, a tie for supporting the chair, and a wedge arranged to extend through the slot in said chair into said tie, said wedge being provided with laterally extending lugs for limiting the downward movement of the wedge, and an upwardly extending lug adapted to enter the recessed portions of the ends of the rails.

2. In a rail fastening device, a chair provided with a slot, a pair of rails each having a recessed portion at its end, said recessed portion extending through the base and part way into the web of the rail, a tie for supporting the rail, and a wedge adapted to be driven into the tie, said wedge having laterally extending lugs and an upwardly extending lug centrally disposed on the wedge and adapted to enter said recesses and to bear a portion of the weight of the rail.

3. As an article of manufacture, a wedge adapted to be driven into a tie to prevent a longitudinal movement of the rail, said wedge comprising a triangular shaped body portion having sharpened edges on its tapering sides, a pair of oppositely extending lateral lugs and an upwardly extending central lug constituting a striking head.

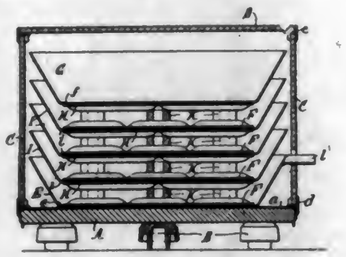
970,419. CONCRETE-MIXING MACHINE. LAWRENCE W. CARGILL, Columbus, Ohio. Filed Feb. 11, 1910. Serial No. 543,382.



1. In a concrete mixer, the combination with a casing and a spiral conveyer journaled longitudinally in said casing, of mixing bars carried by the spiral conveyer blade and extending in the direction of the length of the conveyer, and intermediate mixing blades carried by said conveyer blade, said intermediate blades being inclined with reference to the length of the spiral conveyer, and means for imparting a rotary motion to the conveyer shaft.

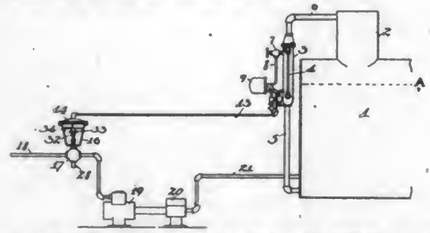
2. In a concrete mixing machine, the combination with a casing adapted to receive material to be mixed and having a discharge opening at one end, of a conveying and mixing device rotatably mounted in said casing and comprising a shaft, a spiral conveyer blade carried thereby, a plurality of mixing bars carried by said conveyer blade and extending in the direction of the length of the shaft, and a plurality of mixing and conveyer blades inclined with reference to the direction of the length of the shaft and connected with said spiral conveyer blade.

970,420. STORAGE BATTERY. RUFUS N. CHAMBERLAIN, Depew, N. Y., assignor to Gould Storage Battery Company, New York, N. Y. Filed Dec. 8, 1906. Serial No. 346,911.



In a battery, the combination of an inclosing case, superposed metallic trays arranged therein and each having a bottom and raised marginal sides, and battery plates arranged against the upper and under faces respectively of the bottoms of the trays, said trays being nested together, and insulating spacing blocks arranged in each tray and serving as rests for the bottom of the tray next above whereby the bottoms of the trays are maintained in proper spaced relation, and an overflow for the lowermost tray opening out through the wall of the casing.

970,421. WATER-LEVEL REGULATOR. NOIBERTO GUY COPLEY, Fostoria, Ohio, assignor to The "S. C." Regulator Company, Fostoria, Ohio, a Corporation of Ohio. Filed Feb. 6, 1909. Serial No. 476,379.



1. The combination, with a boiler and means for feeding water thereto, of mechanism for controlling said feeding means including a valve casing, a valve in said casing, means for normally holding said valve in its closed position, a diaphragm, operative connections between said diaphragm and the valve, and a generator connected with the boiler above and below the water level, connections between said generator and the diaphragm whereby, when the water level flows below a predetermined level, the said diaphragm will be caused to operate to unseat the valve, and means independent of said diaphragm for operating the valve and holding the same in any degree of open position.

2. The combination with a boiler, a generator, pipes joining said generator with the boiler above and below the water level in the boiler, said pipes being capable of turning so as to raise or lower the generator, means for feeding water to the boiler, and a regulator under control of said generator for regulating the supply of water to the boiler.

3. The combination with a boiler, of pipes respectively connected with said boiler above and below the water line therein, of a generator connected with said pipes, said pipes being capable of turning on their points of attachment to the boiler so as to raise or lower the generator, means for feeding water to the boiler, and a regulator under control of said generator for regulating the supply of water to the boiler.

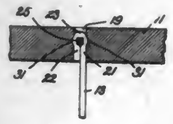
4. The combination with a boiler, of a pair of pipes respectively connected with the boiler above and below the water line therein, said pipes being adapted to be turned about their points of connection, of a bent tube connected with the free ends of said pipes, a closed casing surrounding the bent portion of said tube, the said bent portion lying slightly out of a horizontal plane, means for feeding water to the boiler, a regulator for controlling said means, and connections between said regulator and the said casing, as and for the purpose specified.

5. The combination with a boiler, of a generator connected with said boiler above and below the water level therein, means for feeding water to the boiler, mechanism for controlling said feeding means, said mechanism including a valve casing, a valve in said casing, means for pressing said valve toward its closed position, a threaded valve stem, a diaphragm adapted to act on said stem, connections between said diaphragm and the generator for pressing on the valve stem to open the valve when the water level in the boiler falls, a hand wheel or nut on the valve stem, and stationary means with which said wheel or nut may engage when the wheel or nut is screwed in one direction for depressing the valve stem and holding the valve in open position.

970,422. TOGGLE. HENRY H. CUMMINGS, Newton, Mass., assignor to Andrews-Burr Paper Company, Boston, Mass., a Corporation of Massachusetts. Filed Dec. 4, 1909. Serial No. 531,319.

1. As an article of manufacture, a toggle having intersecting holes therein, a cord having a bight entered in one of said holes, and a peg in the other of said holes between the legs of said bight for holding said cord in said toggle.

2. An article of the class described, comprising a toggle, a cord having a bight tucked into a hole in said toggle and a wedge peg for pinching the legs of said bight against the wall of said hole.



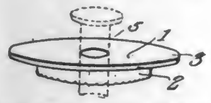
3. An article of the class described, comprising a toggle 11, a cord 13 having a bight 23 within a hole in said toggle and a wedge pointed peg 25 set in a hole in said toggle and between the legs of said bight.

4. An article of manufacture, comprising an elongated stick, a cord having an end portion entered in a transverse hole intermediate the ends of said stick and a peg permanently secured in said stick and pinching said cord end portion against the wall of said hole to secure said cord to said stick.

5. In an article of the class described, a toggle, a cord and means for securing one to the other comprising a squared peg permanently driven into said toggle across said cord for binding an end portion of said cord against the wall of a hole in said toggle.

[Claims 6 to 9 not printed in the Gazette.]

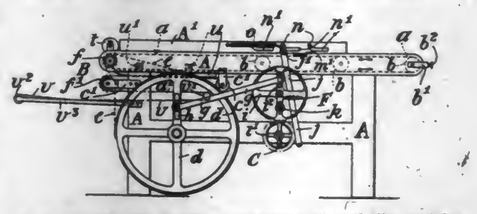
970,423. NAIL. JOHN A. CUNNINGHAM, South Bethlehem, Pa. Filed Mar. 31, 1909. Serial No. 486,972.



1. A device for use in connection with nails comprising a washer having one face thickened to constitute a boss, beyond which the washer extends to form a flange, said washer having an axial passage therethrough of substantially equal diameter throughout and extending from the outer face of the flanged end of the washer to the outer face of the boss.

2. The combination with a nail having a laterally extended head, of a flat washer having a boss on one face and provided with a central perforation for the passage of a nail, the boss being adapted to be engaged by the nail head and having a smaller superficial area than the corresponding face of the nail head.

970,424. MACHINE FOR FOLDING HANDKERCHIEFS AND LIKE ARTICLES. ROBERT CUNNINGHAM, Belfast, Ireland. Filed Dec. 11, 1908. Serial No. 466,996.



1. A machine for folding handkerchiefs and like articles comprising, in combination, a framework, endless traveling bands fitted in the framework, fixed blades arranged longitudinally and transversely of the bands and secured in the framework, movable frames provided with longitudinal and transverse blades and means for actuating the movable frames and blades so that they are caused to pass under the fixed blades at the proper times for the purpose of forming a "box-fold" in the article.

2. A machine for folding handkerchiefs and like articles comprising, in combination, a framework, an intermit-

tently actuated endless traveling band fitted in the framework, fixed blades arranged longitudinally and transversely of the band and secured in the framework, movable frames provided with adjustable longitudinal and transverse blades, a second traveling band arranged below the first traveling band and actuated in conjunction with the first traveling band, means for actuating the bands, means for actuating the movable blades and means for smoothing the article being operated on.

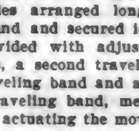
3. A machine for folding handkerchiefs and like articles comprising, in combination, a framework, an intermittently actuated endless traveling band fitted in the framework, fixed blades arranged longitudinally and transversely of the band and secured in the framework, movable frames provided with longitudinal and transverse blades, means for altering the distance between the fixed blades and the movable blades, a second traveling band arranged below the first traveling band and actuated in conjunction with the first traveling band, means for actuating the bands comprising gear wheels, connecting rod, partial rotating driving wheel, driving chain and toothed wheels actuated by driving chain, means for actuating the movable blades and means for smoothing the article being operated on.

4. A machine for folding handkerchiefs and like articles, comprising, in combination, a framework, intermittently actuated endless traveling bands fitted in the framework, and folding mechanism, means for actuating the bands, said folding mechanism comprising fixed blades or knives secured to the machine framework, two movable frames carrying blades adjustably secured to and working with the movable frames, oscillating lever mechanism for giving the required movement at the desired times to the frames and blades, and means for actuating said oscillating mechanism.

5. A machine for folding handkerchiefs and like articles comprising, in combination, endless traveling bands, fixed and movable blades, means for actuating the bands and the movable blades at the proper times, means for altering the distance between the fixed blades and the movable blades, means for smoothing the article and flexible means for receiving and supporting the articles after the folding and smoothing operations have been completed.

[Claims 6 to 9 not printed in the Gazette.]

970,425. LADDER ATTACHMENT. EDWARD J. CURRAN, Alton, Ill. Filed Feb. 10, 1909. Serial No. 477,100.

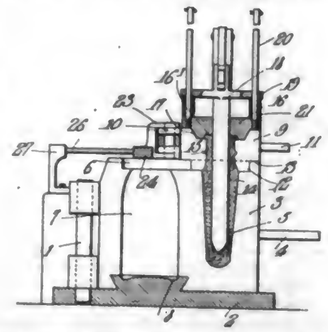


1. The combination with a ladder having sleeves secured over the lower ends of the legs provided with serrated side edges of casings slidably mounted over said sleeves provided with off-set portions, serrated blocks mounted in said off-set portions provided with handles extending out through the slots formed in the off-set portions, sockets formed on the lower ends of said casings, feet provided with balls adjustably mounted within said sockets and spring means for locking said balls in their adjusted position in said sockets.

2. A ladder having casings adjustably mounted on its lower ends provided with sockets, grooved balls mounted in said sockets provided with feet and spring actuated toothed bars mounted in said sockets adapted to engage said balls.

3. The combination with a ladder, of casings adjustably mounted on the lower ends of the side bars of the ladder provided with sockets, grooved balls mounted in said sockets provided with feet, spring actuated toothed bars mounted in said sockets adapted to engage said balls, said bars being provided with outwardly extending portions for operating the same.

970,426. MOLD. GEORGE C. DAGER, Washington, Pa., assignor of one-half to Henry C. Daubenspeck, Washington, Pa. Filed Nov. 9, 1909. Serial No. 527,061.



1. The combination with a mold comprising a base, a hinge pin rising therefrom, and two members pivoted on said pin and when brought together completing a blowing cavity near the pin, a blank cavity remote therefrom, and an elongated recess in their upper ends extending over both cavities; of a neck ring in two members having depending off-sets adapted when they are brought together to fit laterally within said recess so that the ring can be slid longitudinally therein, a pivot between said members, and means for guiding the pivot parallel with the length of the recess.

2. The combination with a mold comprising a base, a hinge pin rising therefrom, and two members pivoted on said pin and when brought together completing a blowing cavity near the pin, a blank cavity remote therefrom, and an elongated recess in their upper ends extending over both cavities; of a neck ring in two members having depending off-sets adapted when they are brought together to fit laterally within said recess so that the ring can be slid longitudinally therein, a pivot between said members, and means for guiding the pivot parallel with the length of the recess, said means comprising a cross head having lugs engaging said pivot and parallel sleeves at its extremities, guide rods on which said sleeves slide, and brackets supporting the rods and fixed at a point in rear of said hinge pin between the mold members.

970,427. BODY-GARMENT. CHARLES W. T. DAVIES, New York, N. Y. Filed July 17, 1907. Serial No. 384,136.



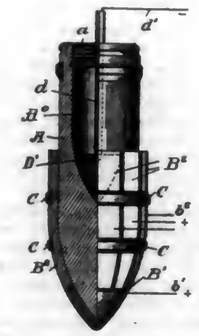
1. A body garment provided with means for securing it to an adjacent garment, said securing means comprising a member extending laterally from its point of attachment on the body garment directly to a point of attachment on the adjacent garment and formed with apertures to engage said adjacent garment to permit a limited free relative movement and then positively restrict further relative movement of the garments.

2. A body garment, a waistcoat provided on its inner surface with a securing device extending laterally in a direct line from its point of attachment on the waistcoat to a securing device on said garment, one of said coacting devices being formed with an aperture to permit a limited free relative movement and then positively restrict further relative movement of the waistcoat and garment.

3. A waistcoat provided on its inner surface with means for securing it to an adjacent garment, said securing means comprising a member extending laterally in a direct line from its point of attachment to the waistcoat and having a plurality of openings, one of such openings being adapted to engage a securing device in the placket of the adjacent garment in any normal relative position of the waistcoat and garment, the coacting devices being so joined as to permit a limited free relative movement and then positively restrict further relative movement of the connected garments.

4. A waistcoat having a front opening and provided on its under surface near the lower edge of said opening with a tab of flexible material secured along one of its edges to the waistcoat and having near its other edge a plurality of button-holes, one of said button-holes being adapted to receive a securing device of the closure of the trousers in any relative position of said waistcoat and trousers.

970,428. MANUFACTURE OF HARDENED-STEEL PROJECTILES. CLELAND DAVIS, U. S. Navy, assignor, by mesne assignments, to Carnegie Steel Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Apr. 23, 1902. Serial No. 104,381.



1. In the method of hardening hollow projectiles of steel, that step which consists in placing an electrode exterior of the nose of the projectile and another electrode in the cavity in said projectile and passing a heavy current between said electrodes, substantially as described.

2. In the method of hardening hollow projectiles, the steps of applying a carbon electrode to the nose of the projectile, another carbon electrode to the inner wall of the projectile, and passing a heavy current between the said electrodes, substantially as described.

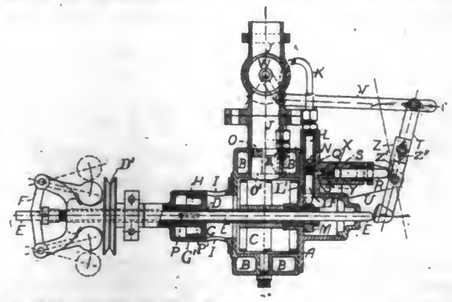
3. The method of hardening hollow steel projectiles of high carbon steel which consists in placing an electrode exterior to the nose of the projectile, placing another electrode in the forward part of the cavity of the projectile, passing a heavy electric current between said electrodes, and subsequently chilling the nose of the projectile, substantially as described.

4. In the method of hardening hollow projectiles, the steps of applying a carbon electrode to the exterior nose of the projectile, applying another electrode in the cavity against the other face of the nose, passing a heavy electric current between said electrodes, and driving carbon from the exterior electrode into the steel point of the projectile, substantially as described.

5. The method of hardening hollow projectiles consisting in applying a carbon electrode to the exterior nose of the projectile, applying a second carbon electrode in the cavity against the other surface of the nose, passing a heavy electric current between said electrodes and driving carbon from one of the electrodes into the steel point, then removing the electrodes and cooling the point of the projectile, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

970,429. CARBURETER FOR INTERNAL-COMBUSTION ENGINES. FITZWILLIAM RICHARD DAVIS, Kew Gardens, England. Filed July 15, 1909. Serial No. 507,818.



1. The combination of a heated mixing chamber provided with a fuel inlet, an eduction pipe and a hollow projecting valve casing communicating with said chamber and provided with air inlets intermediate of its ends, a rotatable sliding valve normally located in the outer end of said casing beyond said air inlets, a rotatably mounted sleeve passing through said casing and chamber, a reciprocating rod extending through said sleeve, a longitudinal slot in said sleeve, a pin operating in said slot and connected to said valve and rod, a governor for said rod, means for rotating said sleeve, throttling means controlling said fuel inlet and eduction pipe, and means cooperating between said throttling means and reciprocating rod, whereby the flow of fuel and air to the mixing chamber and the flow of gaseous mixture from the mixing chamber is controlled by the movement of said rod, substantially as described.

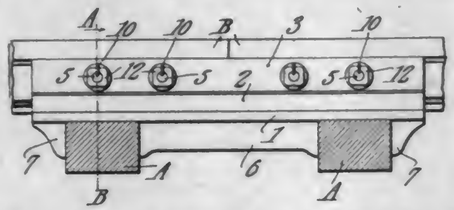
2. The combination of a heated mixing chamber provided with a fuel inlet, an eduction pipe, and an air inlet, a sleeve passing through said mixing chamber, a reciprocating rod extending through said sleeve, connections between said rod and sleeve providing conjoint rotation and independent reciprocation of said rod, a governor for said rod, driving means for said sleeve, a pump disposed in said fuel inlet line, a plunger barrel communicating with said pump, said barrel being provided with a fuel inlet port, a reciprocating spring-controlled plunger mounted in said barrel and coöperating with said port, a valve mounted on said sleeve coöperating with said air inlet, a valve mounted in said eduction pipe, an arm pivotally mounted intermediate of its ends and having one end constantly engaged by said reciprocating rod, said arm being also constantly engaged by the end of said plunger, and means connecting the other end of said arm with said eduction pipe valve, whereby the flow of fuel and air to the mixing chamber and the flow of gaseous mixture from the mixing chamber is controlled by said governor, substantially as described.

3. In a carbureter of the character described, a fuel pump chamber, a plunger barrel communicating therewith, said plunger barrel being provided with a fuel inlet port, in combination with a spring-controlled plunger rod, a reciprocating rod provided with a governor, an eduction pipe, a throttle valve therefor, a pivoted arm engaged at one end by said reciprocating rod and at its other end connected with said throttle valve, and an adjustable member on said arm provided with an inclining face engaging the end of said plunger rod, substantially as described.

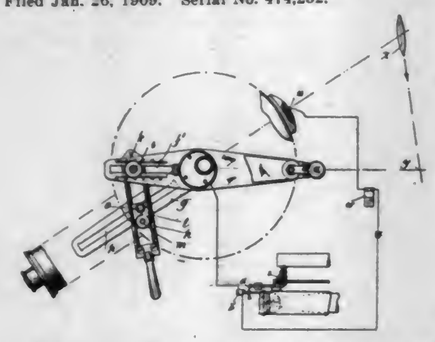
970,430. SPLICE-BAR. STEPHEN G. DAVIS, Georgetown, Ill. Filed Feb. 15, 1910. Serial No. 543,927.

The combination with rails having abutting ends, of splice bars each consisting of a base portion extending under the meeting portions of the rails, an integral overhanging portion contacting with the upper faces of the adjoining base flanges of the rails, a flange upon said overhanging portion and contacting with the web and

head of each rail, depending longitudinally extending ribs for preventing the ties on which the base portions are mounted from moving toward each other, depending projections upon the end portions of the bases for preventing said ties from moving apart, and means extending transversely through the flanges and web for holding them together, said means comprising longitudinally slotted bolts, nuts upon said bolts, and a bendable wire seated within the slot in each bolt and extending radially within the head of the bolt and across the outer face of the nut.



970,431. TORPEDO-DIRECTOR. GREGORY CALDWELL DAVISON, Quincy, Mass., assignor to Electric Boat Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 26, 1909. Serial No. 474,232.

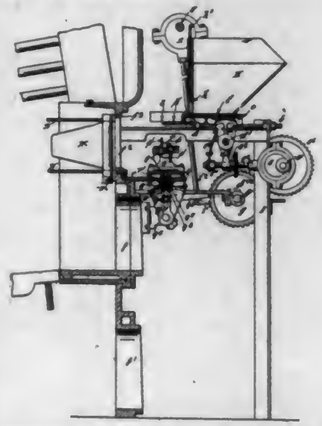


1. The combination with a rotatable periscope of a torpedo director comprising an adjustable triangular frame made up of a target-direction-indicator arm attached to the periscope to rotate therewith, a torpedo-direction-indicator arm swiveled about the center of rotation of the target-direction-indicator arm so that the common center of rotation forms an apex of the triangle, and a target-course-indicator arm adjustably connected to the aforesaid arms to complete the triangle.

2. The combination with a rotatable periscope of a torpedo director comprising an adjustable triangular frame made up of a target-direction-indicator arm attached to the periscope to rotate therewith, a torpedo-direction-indicator arm swiveled about the center of rotation of the target-direction-indicator arm so that the common center of rotation forms an apex of the triangle, and a target-course-indicator arm adjustably connected to the aforesaid arms to complete the triangle, and mechanism controlled by the relative movements of the vessel and the torpedo director to indicate when the torpedo-direction-indicator arm coincides in direction with the axis of the torpedo discharge tube.

970,432. AUTOMATIC FUEL-FEED MECHANISM FOR FURNACES. GEORGE DINKEL, Jersey City, N. J. Filed Nov. 9, 1908. Serial No. 461,616.

1. In combination with a furnace having a fuel feed opening, a fuel propeller arranged to precipitate fuel through said opening consisting of a rotatable shaft provided with beaters for impact with the fuel, means for rotating said shaft, means for imparting to said propeller an oscillatory motion in two plates at right angles to each other, and fuel feed mechanism arranged above said propeller, for the purpose described.



2. In combination with a furnace having a fuel opening a fuel propeller arranged to precipitate fuel through said opening consisting of a rotatable shaft provided with beaters for impact with the fuel, a vibratory platform on which said propeller shaft is mounted, a ball and socket bearing supporting said shaft centrally, means for imparting to said platform an oscillatory motion in two planes at right angles to each other, means for rotating said shaft on its longitudinal axis, and means for feeding fuel to said propeller, for the purpose described.

3. In combination with a furnace having a fuel feed opening, a fuel propeller arranged to precipitate fuel through said opening consisting of a rotatable shaft provided with beaters for impact with the fuel, a vibratory platform on which said shaft is mounted, a central supporting pivot for said platform, racks on said platform, segmental cam gears engaging said racks, means for actuating said segmental gears to impart to said platform an oscillatory motion in two planes at right angles to each other, means for rotating said propeller shaft, and fuel feed mechanism above said propeller, for the purpose described.

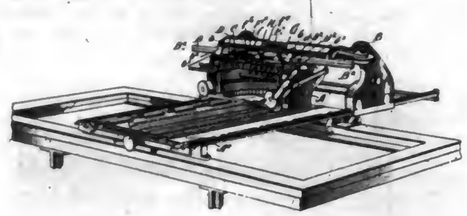
4. In combination with a furnace having a fuel feed opening, a fuel propeller arranged to precipitate fuel through said opening consisting of a rotatable shaft provided with beaters for impact with the fuel, means for rotating said shaft, means for imparting to said propeller an oscillatory motion in two planes at right angles to each other, fuel feed mechanism arranged above said propeller, and means for adjusting the fuel feed with relation to the longitudinal axis of said propeller, for the purpose described.

5. In combination with a furnace having a fuel feed opening, a fuel propeller arranged to precipitate fuel through said opening consisting of a rotatable shaft provided with beaters for impact with the fuel, means for rotating said shaft, means for imparting to said propeller an oscillatory motion in two planes at right angles to each other, fuel feed mechanism arranged above said propeller, and means for positively advancing the feed of fuel to said propeller, for the purpose described.

[Claims 6 to 13 not printed in the Gazette.]

970,433. TABULATING DEVICE FOR TYPE-WRITERS. GEORGE W. DONNING, Stamford, Conn., assignor to Harry T. Ambrose, Orange, N. J. Filed Aug. 5, 1904, Serial No. 219,637. Renewed Mar. 15, 1910. Serial No. 549,441.

1. In a tabulator mechanism, the combination with a traveling carriage and escapement mechanism, of a series of tabulator stops, means for effecting extended longitudinal adjustment of said series, and manually operated means for locking said series at the desired point of adjustment, and of a tabulator device having an upright portion affording manual operating means and a rearward extending portion releasingly associated with the escapement mechanism, said device being slidable transversely to select the desired point of carriage-stopping and subsequently tiltable to carry said rearward extending portion into arresting position with reference to one or another of the stops and to bring about release of the escapement mechanism.



2. In a tabulator mechanism, the combination with a traveling carriage and escapement mechanism, of a series of tabulator stops, means for effecting extended longitudinal adjustment of said series, and manually operated means for locking said series at the desired degree of adjustment, and of a tabulator device comprising a bell crank lever having an upright arm serving as an operating handle and a horizontal arm extending into releasing association with the escapement mechanism, and a latching abutment carried by the lever and constructed when brought into line with one of said tabulator stops to engage therewith to arrest free movement of the carriage in the direction of line spacing but to latch by said stop during free reverse movement of the carriage.

3. In a tabulating mechanism, the combination with a rack having teeth formed along one side thereof, of a stop having a body portion provided on its inner side with a tooth arranged to interlock with the teeth of the rack, an angled portion engaging with the surface of the rack adjacent said toothed side of the rack, and a cam device pivoted to the body portion and arranged to engage with the rack at the opposite side from said angled portion.

4. In a tabulating mechanism, the combination with a rack having teeth along one side thereof, and with a support for the rack, of a rack-retaining device, having a body portion provided with a tooth arranged to interlock with the teeth of the rack, an angled portion arranged to engage with a surface of the rack adjacent said toothed side of the rack, a cam device pivoted to the body portion and arranged to engage with the rack at the opposite side from said angled portion, and a pin passing into the support.

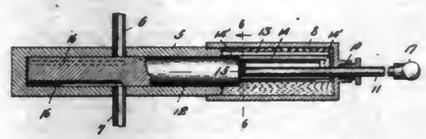
5. In a typewriter, a stationary flat platen for sustaining a work-sheet, a flat sheet thereon, a carriage traveling in one direction over said platen and work-sheet, a tabulator-column-selector device disposed on said traveling carriage, a supporting-carriage sustaining said traveling carriage and traveling in a different direction therefrom, and a slidable stop-member mounted on said supporting-carriage and co-acting with the selector-device thereon, said carriages being shiftable in different directions for positioning them at any predetermined point on said platen and work-sheet.

[Claims 6 to 25 not printed in the Gazette.]

970,434. INSECTICIDE AND DISINFECTANT. JOEL CHRISTOPHER DOOLEY, Des Moines, Iowa. Filed Nov. 26, 1909. Serial No. 530,066.

The herein described composition of matter for disinfecting, and for the repelling and extermination of insects, consisting of kerosene one hundred and sixty gallons, gasolene forty gallons, naphthalene forty pounds, carbolic acid five gallons, nitrobenzole two and a half gallons, spirits of turpentine two and a half gallons, a 5% to 7% aqueous solution of sulfur dioxid two and a half gallons, substantially as described.

970,435. PUMP. GEORGE J. DOURTE, Longmont, Colo. Filed Nov. 3, 1909. Serial No. 526,102.



1. A pump comprising a pump cylinder, a lubricant cylinder removably engaged on one end thereof, a piston adapted for reciprocatory movement in said cylinder, a piston stem extending through the rear end of the lubricant cylinder, inlet and outlet pipes extending into said pump cylinder, said piston having grooves adapted to communicate with said pipes, and a guide carried by the end of said pump cylinder extending into the lubricant cylinder adapted to retain the grooves in said piston in communication with the inlet and outlet pipes, substantially as and for the purpose set forth.

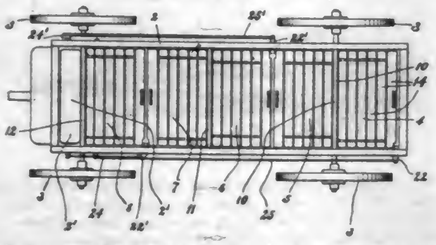
2. A pump comprising a pump cylinder, a lubricant cylinder having threaded engagement on one end thereof, an elongated piston adapted for reciprocatory movement in said pump cylinder, the stem of said piston extending through the rear end of the lubricant cylinder, an inlet and outlet pipe threaded into the pump cylinder at diametrically opposite points, said piston having longitudinal grooves extending inwardly from its outer end, said grooves being adapted for alternate registration with the inlet and outlet pipes upon the reciprocation of the piston, a guide extending longitudinally into the lubricant chamber, and means carried by the piston stem coöperating with said guide to retain one of the piston grooves in communication with the inlet or outlet pipe.

3. A pump comprising a pump cylinder and a lubricant cylinder, said pump cylinder having inlet and outlet pipes threaded therethrough at diametrically opposite points, a piston disposed within said cylinder and extending the entire length thereof, said piston being adapted for reciprocatory movement within the pump cylinder and lubricant cylinder and having longitudinally extending grooves extending inwardly from its outer end, said grooves being disposed out of alinement and adapted to be alternately brought into registration with the inlet or outlet pipe, an arcuate guide plate carried by the pump cylinder extending into the lubricant cylinder, the stem of said piston extending through a stuffing box on the rear end of said lubricant cylinder, and a laterally extending stud carried by said stem engaging with said guide plate to retain either of the grooves in communication with its respective pipe.

4. A pump comprising a pump cylinder, a lubricant cylinder removably engaged on one end thereof, an inlet and outlet pipe centrally disposed through the cylinder wall at diametrically opposite points, an elongated piston adapted for reciprocatory movement in said cylinder and entirely filling the same, a piston stem extending through the rear end of the lubricating cylinder, an arcuate guide plate carried by the pump cylinder and extending rearwardly therefrom into the lubricant chamber, said plate having a rectangular channel in the inner concave face thereof, said piston having longitudinal grooves extending inwardly from its outer end, one of said grooves being disposed in registration with the inlet or outlet pipe, said piston having limited rotation in the cylinder to alternately move said grooves into registration with their respective pipes, and a laterally extending stud carried by the piston stem having its outer end disposed in the channel in said guide plate, said pin being adapted to guide the piston and prevent rotative movement of the

same between the opposite ends of the stroke to maintain the proper disposition of the grooves with relation to the inlet and outlet pipes, substantially as and for the purpose set forth.

970,436. WAGON. ALBERT D. ELLSWORTH, Broad Brook, Conn. Filed Feb. 21, 1910. Serial No. 545,248.

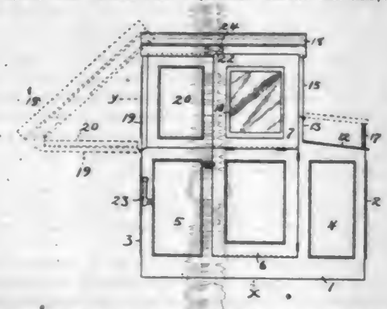


1. A wagon having a swinging, flexible drop down section, and means for normally holding the section closed, the latter when released being openable by the weight of the mass sustained thereon and being capable as it swings down of curling on itself thereby to make the same self-clearing.

2. A wagon the bottom of which is composed of a plurality of independent drop down swinging sections each composed of a plurality of flexibly connected slats, and means for normally holding the sections closed to present substantially a continuous bottom.

3. A wagon having a bottom comprising a plurality of flexible drop down sections, each having lateral projections, fixed and movable detents supported independently of the sections and engageable by the respective projections, the movable projections when shifted being adapted to release the sections whereby the latter may be opened by the weight of the mass supported thereon, and said sections being capable of curling on themselves as they open.

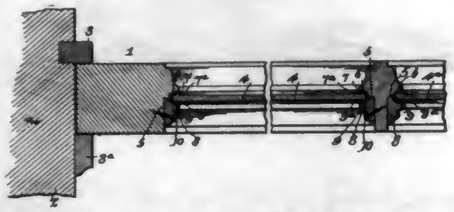
970,437. MAIL-WAGON. GEORGE A. FLINN, Fort Wayne, Ind., assignor of one-half to Charles Lochner, Fort Wayne, Ind. Filed Dec. 17, 1909. Serial No. 533,703.



1. In a wagon, a body proper having front and back panels and forward and rear side panels, a hinged door between said side panels and having a folding upper section, a cover extending over the front and forward side panels the rear vertical portion thereof forming a dashboard, a wind shield extending upwardly from the dashboard, and a folding top comprising a top proper, a back hinged at its upper end to the top proper and at its lower end to the back panel, folding sides hinged respectively to the corresponding sides of the folding back and being adapted to be held flat between the folding back and top proper when the top is in open position, and suitable securing means for holding the various folding parts in their adjusted positions.

2. In a wagon, a body proper, a folding top comprising a top proper, a back hinged at its upper end to the top proper and at its lower end to the near upper end of the body proper, folding sides hinged respectively to the corresponding sides of the back and being adapted to be held flat between the back and top proper when the top is in folded position, a wind shield extending upward from the forward part of the body proper and adapted to form a connection at its upper end with the forward part of the top proper when the top is in closed position, and suitable securing means for holding the folding parts in their adjusted positions.

970,438. PUTTYLESS WINDOW-SASH. ROBERT FRIEDEL, Cincinnati, Ohio, assignor of one-third to Albert H. F. Geyer, Newport, Ky. Filed May 22, 1909. Serial No. 497,633.



In a window sash, a frame having a rabbet formed around the inner side of the opening, said rabbet having a groove extending around its angular edge adjacent to the opening, glass retaining strips adapted to be secured in the rabbeted portion of the frame and each having a groove corresponding in shape to the first mentioned groove and located in the inner angle of the respective strips, each of said grooves being curved in cross section and of the same dimensions, said strips having their edges abutting against the shoulder formed by the rabbet of the frame when assembled and the grooves in the frame and strips being arranged to form a U-shaped groove extending around the opening when the sash is assembled, sections cut lengthwise from rubber tubing cemented in the grooves of the frame, and other sections similarly formed from rubber tubing cemented in the grooves of the strips, said sections conforming in dimensions to the grooves.

970,439. INK. WILLIAM G. FUERTH, Newark, N. J., assignor to Equilibrator Company, Newark, N. J., a Corporation of New Jersey. Filed June 26, 1906. Serial No. 323,533.

1. An ink for stencil duplicating purposes comprising water, coloring matter, glycerin, soap, and carbonate of magnesia.

2. A hygroscopic ink for stencil duplicating purposes, containing soap, a body of carbonate of magnesia, water, hygroscopic substance, and a coloring matter.

3. Water, coloring matter, soap, and an unctuous mineral filler, compounded with glycerin to form an ink, the proportion of the glycerin to the mineral filler being such as to render the ink hygroscopic.

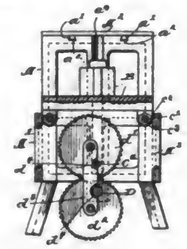
4. Water, coloring matter, free glycerin, soap, and glucose, compounded with an unctuous mineral filler to form a hygroscopic stenciling ink.

5. Water, soap, coloring matter, an unctuous mineral filler, and saccharine matter, compounded with sufficient free glycerin to form a hygroscopic ink.

[Claims 6 and 7 not printed in the Gazette.]

970,440. POWER-TRANSMISSION MECHANISM. BENJAMIN D. FULLER and JAMES R. REILLY, Lakewood, and THOMAS A. REILLY, Cleveland, Ohio. Filed Nov. 15, 1909. Serial No. 528,101.

1. In a machine, the combination of a frame; a moving element reciprocably held in said frame; and means for reciprocating said element, said means including two members respectively rotatably attached to said element and frame, a third member connecting said two members eccentrically of their axes of rotation, and means for rotating said two members about their points of attachment to said third member.



2. In a machine, the combination of a frame; a moving element reciprocably held in said frame; and means for reciprocating said element, said means including two members respectively rotatably attached to said element and frame, a third member connecting said two members eccentrically of their axes of rotation, and gear means for rotating said two members about their points of attachment to said third member.

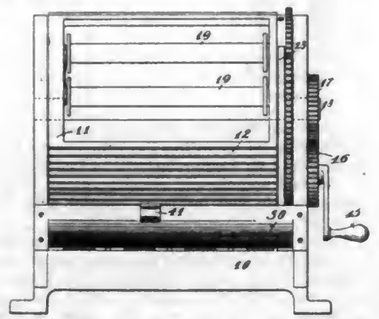
3. In a machine, the combination of a frame; a moving element reciprocably held in said frame; and means for reciprocating said element, said means including two members respectively rotatably attached to said element and frame, a third member connecting said two members eccentrically of their axes of rotation, and other means connecting said two members whereby, upon rotation about their axes, they are simultaneously rotated about their points of attachment to said third member.

4. In a machine, the combination of a frame; a moving element reciprocably held in said frame; and means for reciprocating said element, said means including intermeshing gears respectively rotatably attached to said element and frame at points removed from said gears' centers, and means for positively rotating one of said gears.

5. In a machine, the combination of a frame; a moving element reciprocably held in said frame; and means for reciprocating said element, said means including intermeshing gears respectively rotatably attached to said element and frame at points removed from said gears' centers, means for retaining said gears in mesh, and means for positively rotating one of said gears.

[Claims 6 to 16 not printed in the Gazette.]

970,441. PAPER-STRIPPING DEVICE FOR PRINTING-PRESSES. HARRY C. GAMMETER, Bratenahl, Ohio, assignor to The American Multigraph Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 14, 1908. Serial No. 432,776.



1. The combination with a rotary printing couple, of a stripper projecting from its support in the general direction of travel of the couple and so held as to be readily removable by a pull in the direction of its length, and having a free end portion extending between the couple.

2. The combination, with a printing couple, of a stripper comprising a holder and a strip frictionally retained thereby but removable in the direction of its length, said strip projecting from the holder between the members of the couple toward the direction of their common travel.

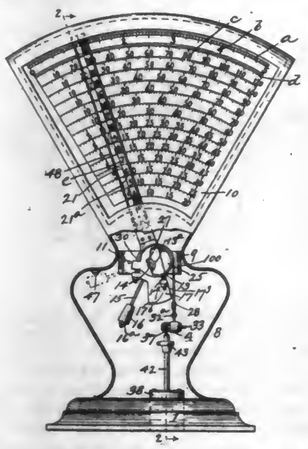
3. The combination with a printing couple, of a stripper having a spring clip and a strip normally held thereby but adapted to be fed through the machine in case of displacement.

4. The combination, with a printing couple, one member of which is adapted to turn on an axis, and a stripper having a strip adapted to extend between the members of the couple and being so held that if impressed by the members it may be withdrawn from its holding device and fed through the couple.

5. The combination, with a printing couple, one member of which is adapted to turn on an axis, and a stripper having a removable spring clip which holds a soft strip adapted to extend between the members of the couple, said strip being so held that if impressed by the members it may be withdrawn from the clip and fed through the couple.

[Claims 6 to 18 not printed in the Gazette.]

970,442. SCALE. HENRY S. HALLWOOD, Columbus, Ohio. Filed June 27, 1906. Serial No. 323,553.



1. In a computing scale, the combination of a chart member having thereon numerals indicating the values of commodities at different prices per unit weight, of a rate member having transparent material provided with a distinct reading line near one edge thereof and having numerals adjacent the other edge indicating the price per unit weight of such commodities, and a scale pan or receptacle operatively connected with one of said members, substantially as specified.

2. In a computing scale, the combination of a scale beam, of a rotary drum operatively connected with said beam, a chart having on its rear face a series of graduations and numerals indicating weight and on its front face a series of graduations and numerals indicating the values of commodities at different prices per pound, of an arm carried by said drum and extending across the rear face of said chart, and an index hand carried by said arm and having a transparent portion adjacent to a longitudinal edge thereof and extending in front of said chart, said hand being provided with numerals indicating prices per pound of such commodities, substantially as specified.

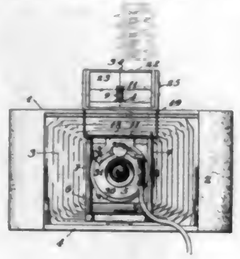
3. In a scale, the combination of a chart having numerals and graduations thereon, an indicating member movable across said chart and having a transparent portion and an opaque portion provided with numerals, the transparent portion being provided with a reading line near an edge thereof, substantially as specified.

4. In a computing scale, the combination of a chart member having thereon numerals indicating the values of commodities at different prices per unit weight, an indicating member having one side thereof transparent and the other side opaque and provided with numerals indicating the prices per unit weight of such commodities and having the first-mentioned side provided adjacent its edge with a reading line, and a support for commodities operatively connected with one of said members, substantially as specified.

5. In a computing scale, the combination of a chart member having thereon numerals indicating the values of commodities at different prices per unit weight, an indicating member having one side thereof transparent and the other side opaque and provided with numerals indicating the prices per unit weight of such commodities, the transparent side being provided near the edge thereof with a reading line, and a support for such commodities operatively connected with one of said members, the numerals on said members being arranged so that those on one member will register with those on the other member when brought into juxtaposition, substantially as specified.

[Claims 6 to 30 not printed in the Gazette.]

970,443. CAMERA-FINDER. GEORGE F. HAMMOND, Cleveland, Ohio. Filed Aug. 4, 1909. Serial No. 511,190.



1. In a camera, the combination of a box, a bellows, a lens, a frame movable with said lens, said frame having a pair of arms, a finder mounted between said arms and slidable longitudinally thereof, a stop arranged to limit the movement of the finder with respect to said arms, springs interposed between said frame and said arms, and a sight member carried by the box and coöperating with said finder.

2. In a camera, the combination of a box, a bellows, a lens, a finder movable with said lens, a sight member on said box coöperating with said finder, said sight member comprising a pair of arms, and a sight block adjustably supported by said arms, one of said arms having a scale for determining the adjustment of said block.

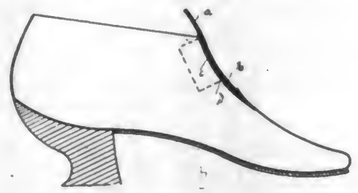
3. The combination, with a camera box, bellows and lens, of a frame rotatable with respect to said lens, said frame having a pair of arms, a finder lens having a frame adapted to be applied to said arms and to slide thereon, the latter frame being provided with projections on the arm-receiving portions thereof, and stops for limiting the movement of the finder frame with respect to said arms.

4. The combination, with a camera box, bellows and lens, of a frame movable with said lens, said frame having a pair of arms, and a finder lens having a frame adapted to be applied to said arms and to slide thereon, the latter frame being provided with springs adapted to engage said arms.

5. The combination, with a camera box, bellows and lens, of a frame movable with said lens, said frame having a pair of side arms each having spaced apertures, and a finder adapted to be applied to said arms and to slide thereupon, the finder being provided with a spring on each side thereof adapted to engage the arms and to enter the apertures thereof.

[Claims 6 to 13 not printed in the Gazette.]

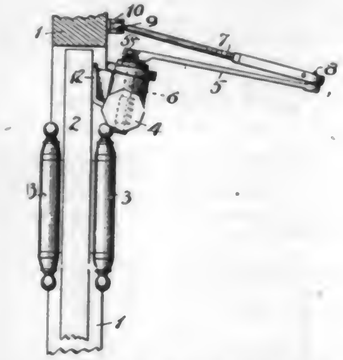
970,444. SHOE. ROBERT HELBIG, Dresden, Germany, assignor to Nierth & Helbig, Dresden, Germany, a Firm. Filed June 28, 1909. Serial No. 504,913.



1. A low quarter shoe having a flap consisting of an outer layer and an inner layer, the layers being stitched together at their edges and also stitched at their lower ends to the upper part of the shoe, the flap having a longitudinal slit at each side thereof, combined with a transverse section of elastic fabric disposed in the space between the layers, unattached to the flap and having its end portions passed loosely through the slits and secured to the sides of the upper.

2. A low quarter shoe having a flap consisting of an outer layer and an inner layer, the flap having at each side thereof a longitudinal slit located inwardly of the adjacent side edge of the outer layer, the layers being stitched together at their upper and lower edges and also stitched at their lower ends to the upper part of the shoe, combined with a transverse section of elastic fabric disposed in the space between the layers, unattached to the flap and having its end portion passed loosely through the slits and secured to the sides of the upper.

970,445. DOOR-CHECK. WILLIAM K. HENRY, New Britain, Conn., assignor to P. & F. Corbin, New Britain, Conn., a Corporation of Connecticut. Filed May 10, 1910. Serial No. 560,526.



1. In a door check for double swing doors, a checking element, a spindle for operating the same, means for holding said spindle at an angle relatively to the door, a lever connected to said spindle and standing at approximately right angles thereto and means to connect said lever to the door casing.

2. In a door check for double swing doors, a checking element, a spindle for operating the same, means for holding said spindle at an angle relatively to the door, a lever secured to said spindle at approximately right angles thereto, and a link for securing said lever to the door casing.

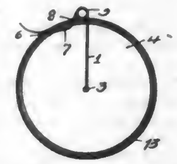
3. In a door checking mechanism for double swing doors, a reciprocable piston, a container therefor, a rotatable spindle for moving said piston in the same direction away from a normal or idle position by rotation of said spindle in either direction, means to hold said spindle obliquely relatively to the door to which said mechanism is applied.

4. In a door checking mechanism for double swing doors, a piston, a container therefor, a spindle for moving said piston in the same direction away from a normal or idle position by rotation of said spindle in either direction, means to hold said spindle obliquely relatively to the door to which said mechanism is applied, and a lever arm carried by said spindle at substantially right angles thereto, whereby said lever arm will swing in a plane obliquely to the plane of said door when said door is opened and closed.

5. In a door checking mechanism for double swing doors, a piston, a container therefor, a spindle for moving said piston in the same direction away from a normal or idle position by rotation of said spindle in either direction, means to hold said spindle obliquely relatively to the door to which said mechanism is applied, and a lever arm carried by said spindle at substantially right angles thereto, said lever arm being inclined obliquely to said door and standing at an angle to the face of the door when the spindle and piston stand in the aforesaid idle position, the angular position of said lever arm relatively to the face of the door being approximately thirty degrees when the door stands in its closed position.

[Claims 6 to 13 not printed in the Gazette.]

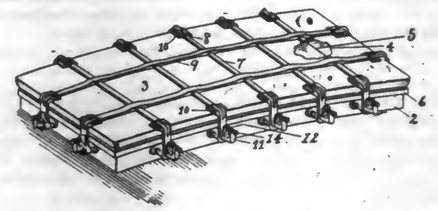
970,446. RIBBON-HOLDING DEVICE. HENRY MALICK, Belmont, W. Va. Filed Mar. 31, 1910. Serial No. 552,637.



A ribbon holding device formed from a single piece of wire and comprising a pair of vertically-disposed arms each having its lower end provided with an inwardly-extending right-angularly disposed bend adapted to engage in the central opening of a bolt or roll of ribbon, each of said arms of a length as to project above the ribbon on the bolt and having its upper end coiled with the convolutions projecting over the ribbon, and a gripping member connecting the coils together and including a transversely-extending bar of a length greater than the width of the bolt or roll and adapted to engage the ribbon to prevent the unwinding thereof, said gripping member further including two pairs of angularly-disposed arms projecting from the ends of the bar and terminating in the inner convolutions of the coils, said pair of arms diverging with respect to each other from the coils toward the bar each of said arms of each pair of arms of said gripping member angularly-disposed with respect to each other and with respect to the coil and the bar.

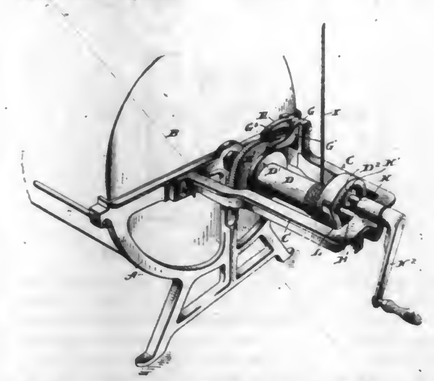
970,447. HATCH-FASTENER FOR VESSELS. MATHEW MULHOLLAND, Cleveland, Ohio. Filed Oct. 26, 1908. Serial No. 459,526.

In a hatch fastener of the character described, the combination with the coaming of a hatch way, a cover and canvas over cover therefor, together with a system of batten strips over said canvas; of a plurality of brackets 11, attached around about said coaming and equi-distant one from the other on said coaming, and members 10, slidably mounted upon said brackets; the lower extremity of said members 10, being so formed as to offer inclined surfaces 16, to the under side of the brackets 11, respectively; dogs 12, and set screws 14, operatively related to said brackets and coöperating in such a manner that, when the set screws are tightened up, the dogs 12, cause the members 10, to be forced inwardly and by means of the incline 17 downwardly, thereby exerting pressure



upon the batten strips of said hatch cover, all as fully shown and described.

970,448. ACTUATING MEANS FOR BLOWERS. HERMAN WALTHER, Davenport, Iowa. Filed Feb. 1, 1909. Serial No. 475,488.



1. The combination with a driven shaft, a reel loosely mounted thereon, a weighted cable wound on said reel, a ratchet wheel mounted upon said driven shaft, a pawl adapted to coöperate with said ratchet wheel, means for directly driving said driven shaft from said reel when the same is rotated in one direction, and means for operating said pawl when the reel in rotated in a reverse direction to effect the rewinding of the cable.

2. The combination with a driven shaft, a reel loosely mounted thereon and having a pawl and ratchet connection therewith, means for rotating the reel in one direction, a ratchet wheel fixedly secured to said driven shaft, a pivotally supported bell crank lever having one arm operatively associated with the reel so as to be reciprocated by the rotation thereof, and a pawl carried by the other arm of the bell crank lever and engaging the ratchet wheel of the driven shaft.

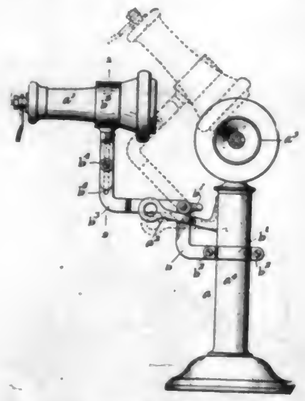
3. The combination with a driven shaft, a reel loosely mounted on the driven shaft and having a pawl and ratchet connection therewith, an eccentric on said reel, means for rotating said reel in one direction, a ratchet wheel carried by the driven shaft, a bell crank lever having one of its arms weighted and resting upon the eccentric carried by the reel, and a pawl carried by the other arm of the bell crank lever and engaging the ratchet wheel on the driving shaft.

4. In a device of the character described, a driven shaft, a rotatable driving member, a pawl and ratchet connection between the driving and driven members acting to cause the driven member to rotate with the driving member when the driving member is rotated in one direction, and a separate pawl and ratchet connection between said driving and driven members acting to impart a positive intermittent drive to the driven shaft when the driving member is rotated in the opposite direction.

5. In a device of the character described, a driven shaft, a driving member loosely mounted relatively thereto, a ratchet wheel carried by the driven shaft, a pawl for actuating said ratchet wheel, an eccentric carried by said driving member and means operated by the rotation of said eccentric for actuating said pawl.

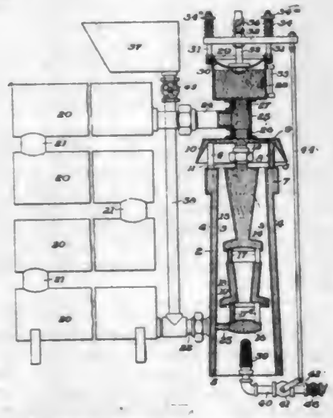
[Claim 6 not printed in the Gazette.]

970,440. TELEPHONE ATTACHMENT. ANDREW C. HEWITT and WILLIAM C. THOMAS, Philadelphia, Pa., assignors, by direct and mesne assignments, of two-thirds to said Hewitt and one-third to George W. Krout, Philadelphia, Pa. Filed Apr. 14, 1910. Serial No. 555,447.



The combination with a telephone instrument, of an attachment, consisting of a detachable standard in connection with the telephone instrument and extending within and in proximity to the base of the receiver supporting hook thereof, a curved bar pivoted to said standard and having a foot to directly engage the receiver hook, so as to depress the same, a snap-hook to detachably engage the receiver therewith, said hook having an adjustment with said bar and means to clamp the parts of said attachment in operative relation with each other.

970,450. HEATER. CHARLES H. HYSONG, Pittsburg, Pa.; John Taylor administrator of said Charles H. Hysong, deceased. Filed Dec. 2, 1908. Serial No. 465,592.



1. A water heater comprising a cylindrical water containing shell, an inner water containing drum provided with a deflector inclosed in said shell, a water containing hood having a downwardly projecting water containing annular flange above the shell, a circulating tube connecting the hood with the upper portion of the shell, a circulating tube connecting the upper portion of the drum with the hood, an inlet tube leading to the lower portion of the shell and drum, and an outlet tube extending from the hood; substantially as described.

2. A water heater comprising a cylindrical water containing shell, an inner water containing shell provided with a hollow deflector inclosed in said shell, a water containing hood above the first shell and having a downwardly projecting water containing annular flange, tubular connections between the upper portion of the cylindrical shell and the hood, circulating connections between the hood and upper portion of the inner shell, a water inlet pipe leading into the lower portions of the shells, and an outlet pipe from the hood; substantially as described.

3. A water heater comprising a cylindrical water containing shell, a frusto-conical shell within the first shell, a hollow water containing deflector disposed below and in communication with the frusto-conical shell, said last named shell forming heat circulating space between its wall and the inner wall of the outer shell, tubular connections between the upper portions of said shells and between the lower portion of the cylindrical shell and the deflector, a burner within the cylindrical shell and below the deflector; substantially as described.

4. A water heater comprising a cylindrical water containing shell, a frusto-conical shell within the cylindrical shell, a hollow annular deflector in communication with the conical shell, a hollow water containing hood above and projecting beyond the outer wall of the cylindrical shell, tubular connections between the lower portions of both shells, and tubular connections between the hood and the upper portions of the shells; substantially as described.

5. A water heater comprising a water containing shell, an inner water containing drum within the shell and provided with a hollow deflector in communication with the lower end thereof and forming heat circulating spaces between the drum and shell, a second water containing shell within the first shell and forming heat circulating spaces between the outer wall of the inner shell and the inner wall of the outer shell, tubular connections between the lower ends of the shells, tubular connections between the upper end of the inner shell and the drum, and tubular connections between the upper portion of the cylindrical shell and the upper portion of the drum; substantially as described.

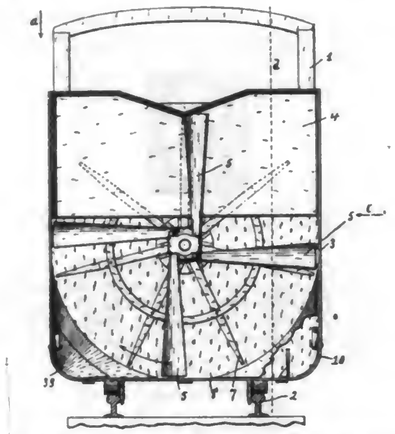
[Claim 6 not printed in the Gazette.]

970,451. SNOW-PLOW. GEORGE W. RUGGLES, Charlotte, N. Y.; Ellen S. Ruggles administratrix of said George W. Ruggles, deceased. Filed May 23, 1910. Serial No. 562,899.

1. In a snow plow, the combination with a vehicle, a forwardly opening housing carried by the vehicle for collecting the snow, having provision permitting the snow to be discharged from one side of the vehicle, a lifting wheel operating in the housing to discharge the snow and deflectors in the housing directing the snow to the lifting wheel, of a scoop supported at the forward lower portion of the housing and movable upwardly and downwardly relatively to the housing and deflectors carried by the scoop and overlapping the deflectors of the housing.

2. In a snow plow, the combination with a vehicle, a forwardly opening housing for collecting the snow, and a scoop arranged to direct the snow into the housing and movable upwardly and downwardly relatively to the housing, of means for raising and lowering the member, and locking means for opposite ends of the scoop operable independently of the raising and lowering means.

3. In a snow plow the combination with a vehicle, a forwardly opening housing for collecting the snow and a scoop arranged to direct snow into the housing and movable upwardly and downwardly relatively to said housing, of clamps arranged to secure opposite ends of the scoop in its adjusted position.

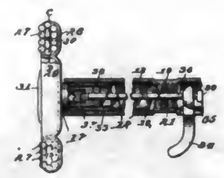


4. In a snow plow, the combination with the vehicle a forwardly opening housing for collecting the snow, and discharging means for the snow collected by the housing, of a scoop arranged to direct snow into the housing and movable up and down relatively to said housing, means for moving the scoop member, and means independent of the moving means for locking the scoop member in its adjusted position, controllable from the vehicle.

5. In a snow plow, the combination with a vehicle a forwardly opening snow collecting housing carried by the vehicle, and having its lower portion cut away at its forward end, a lifting wheel arranged in the housing, and deflectors arranged in the housing on opposite sides of the wheel to direct snow to the latter, of a scoop movably mounted in the cut-away portion, and deflectors carried by the scoop and overlapping the deflectors of the housing.

[Claims 6 to 13 not printed in the Gazette.]

970,452. SHADE-GUIDE. PLATO G. EMERY, Chicago, Ill. Original application filed Aug. 20, 1900, Serial No. 27,490. Divided and this application filed Aug. 10, 1901. Serial No. 72,602.



1. A shade guide comprising a shade stick, an anti-friction guiding device, an independent friction device carried at the end of the stick and adapted to impinge against a casing, and means carried by the shade stick and connected to the friction device for withdrawing the friction device longitudinally of the stick and out of operative contact with the casing.

2. A shade guide comprising a shade stick, an anti-friction guiding shoe, a yieldably mounted friction device carried at the end of the stick and adapted to impinge against a casing, and means carried by the shade stick for withdrawing the friction device longitudinally of the stick and out of operative contact with the casing.

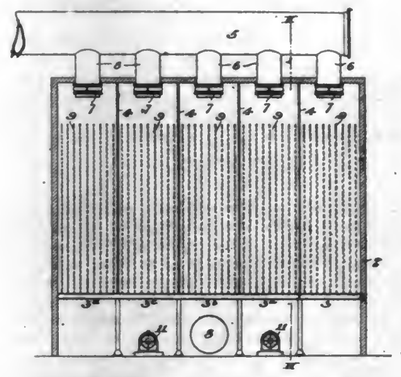
3. A shade guide comprising a shade stick, an anti-friction guiding device, an independent and yieldably mounted friction device carried at the end of the stick and adapted to impinge against a casing, and means carried by the shade stick for withdrawing the friction device longitudinally of the stick and out of operative contact with the casing.

4. A shade guide comprising a shade stick, a friction device, a guide shoe independent of the friction device and carried at the end of the stick and adapted to travel in a casing, and a spring constantly acting on the guide shoe.

5. A shade guide comprising a shade stick, an anti-friction guiding device, an independent and yieldably mounted friction device at the end of the stick and adapted to impinge against a casing, and means carried by the shade stick for withdrawing the friction device longitudinally of the stick and out of operative contact with the casing.

[Claims 6 to 22 not printed in the Gazette.]

970,453. METHOD OF EXTRACTING MOISTURE FROM AIR. JAMES GAYLEY, New York, N. Y. Filed Dec. 6, 1904. Serial No. 235,764.



1. The method of supplying air or other gases, in which the moisture is reduced to a small and practically uniform percentage, consisting in providing a series of more than two refrigerating compartments, passing air or gases through the majority of said compartments, refrigerating it therein and feeding it directly therefrom to the dried air outlet, thawing the previously deposited frost or congealed moisture from the refrigerating conduits in a smaller number of chambers, while preventing the flow of air from these chambers to the dried air outlet, drawing the air from the refrigerating compartments to the blowing engine and thence forcing it to the point of use under pressure, substantially as described.

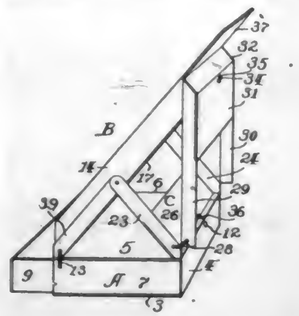
2. The method of supplying air or other gases, in which the moisture is reduced to a small and practically uniform percentage, consisting in passing the air or gases over the major amount of refrigerating surface arranged in separated compartments, causing said air or gases to pass transversely to the pipes in said compartments, refrigerating it therein and feeding it directly therefrom to the dried air outlet, depositing the moisture as frost on the refrigerating conduits, and thawing the previously deposited frost from the minor amount of refrigerating surface in other chambers while preventing the flow of air directly from these chambers to the dried air outlet, drawing the air from the refrigerating chambers to a blowing engine, and forcing said air from the blowing engine under pressure to the point of use, substantially as described.

3. The method of drying air by refrigeration, consisting in feeding the air upwardly through a series of refrigerating compartments, drawing the air from said compartments to a blowing engine, and forcing it to the

point of use, and thawing the minor number of refrigerating compartments as desired while the major number are refrigerating the air, substantially as described.

4. The method of drying air by refrigeration, consisting in introducing the air into a bottom chamber common to several upper compartments containing refrigerating conduits, thence feeding the air upwardly through said compartments and depositing the moisture as frost, drawing the air from said compartments to a blowing engine and forcing it from the blowing engine under pressure to the point of use, substantially as described.

970,454. SEED-CASE. ALBERT EDWARD MCKENZIE, Brandon, Manitoba, Canada. Filed Nov. 15, 1909. Serial No. 528,226.



1. A device of the class set forth, comprising, a body, a drawer in said body, a crate hinged at its forward end to the forward portion of the top of said body and adapted to be raised in inclined position or to swing down on said top in closed position, a brace hinged between the ends of a side of said crate having its free end adapted to impinge against the top of said body to assist in supporting said crate in inclined position and to swing up upon said side when the crate is turned down upon the body and a supporting arm hinged to the free end of said brace having cover sections thereon adapted to rest against the upper end of said crate when the latter is raised, said arm being adapted to turn over the side of the crate when the latter rests upon the top of the body with said cover sections over the front and top of said crate to assist in closing the latter, for the purposes specified.

2. A device of the class set forth, comprising, in combination, a body, a drawer in said body, a crate hinged at its forward end to the forward portion of the top of said body to permit its being turned down upon said top or inclining upwardly upon said body, a pair of braces hinged to the side walls of said crate between its front and back the free ends of said braces being adapted to impinge against the top of said body to assist in supporting the crate in inclined position or to fold over the side walls of said crate in closed position, a pair of supporting arms hinged near their ends to the free ends of said braces, transverse cover sections secured across said supporting arms, said arms being adapted to fold over the sides of said crate when the latter is in closed position with said sections assisting in closing the front and top of said crate, means detachably securing one of said cover sections to the back of said crate to assist in supporting the free end of said crate inclined above said body and a cover section adapted to complete the closure of said crate when in folded condition upon said body.

3. In a device of the class set forth, a drawer, a casing into which said drawer is adapted to close, and a hinge having a leaf adapted to drop in the path of said drawer in said casing and block the path of the drawer in its return passageway; said casing having an opening in its inner end through which said leaf of said hinge may be raised out of the return path of said drawer.

DESIGNS.

40,875. STAMP. ALBERT NEUWOHNER, San Francisco, Cal. Filed July 12, 1910. Serial No. 571,664. Term of patent 7 years.



The ornamental design for a stamp, as shown.

40,876. GLASS GOBLET OR SIMILAR ARTICLE. CHARLES O. NORTHWOOD, White Mills, Pa., assignor to C. Dorflinger & Sons, Incorporated, White Mills, Pa., a Corporation of Pennsylvania. Filed July 14, 1910. Serial No. 572,039. Term of patent 3½ years.



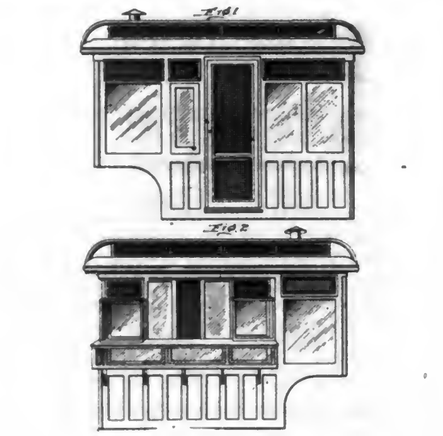
The ornamental design for a glass goblet or similar article, as shown.

40,877. PICTURE-FRAME. GUSTAF I. SILBERT and CARL E. CARLSON, Chicago, Ill. Filed July 8, 1910. Serial No. 571,101. Term of patent 7 years.



The ornamental design for a picture frame, as shown.

40,878. WAGON-BODY. DAD BOYLE, Amarillo, Tex. Filed Nov. 1, 1909. Serial No. 525,828. Term of patent 14 years.



The ornamental design for a wagon body as shown and described.

40,879. DOILY. ROBERT GAIR, New York, N. Y. Filed July 16, 1910. Serial No. 572,390. Term of patent 3½ years.



The ornamental design for a doily, as shown.

40,880. TEXTILE FABRIC. PAUL MOUTON, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed June 1, 1910. Serial No. 564,528. Term of patent 3½ years.



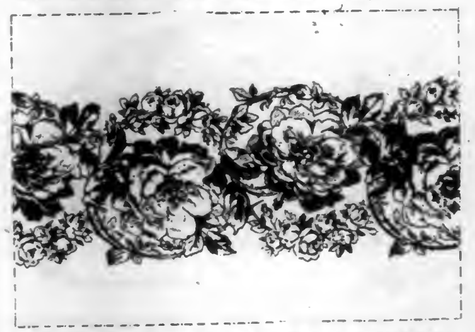
The ornamental design for a textile fabric, as shown.

40,881. TEXTILE FABRIC. PAUL MOUTON, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed June 2, 1910. Serial No. 564,713. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

40,882. TEXTILE FABRIC. EMILE SINS, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 17, 1910. Serial No. 561,926. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

40,883. RUG. WILLIAM A. SPRING, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed June 6, 1910. Serial No. 565,416. Term of patent 7 years.



The ornamental design for a rug, as shown.

40,884. CARPET. WILLIAM A. ELLIOT, Yonkers, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed June 6, 1910. Serial No. 565,418. Term of patent 3½ years.



The ornamental design for a carpet, as shown.

TRADE-MARKS

PUBLISHED SEPTEMBER 13, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 8,128. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) E. W. CONKLIN & SON, Binghamton, N. Y. Filed June 14, 1905. Used ten years.

A 1

Particular description of goods.—Grass-Seed.

Ser. No. 14,326. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HEINRICH HAEBERLEIN, Nuremberg, Germany. Filed Nov. 4, 1905.



Particular description of goods.—Gingerbread, Chocolate, Honey-Cake, Cakes, Cookies, and Cocoa.

Ser. No. 33,830. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ACKER, MERRALL & CONDIT COMPANY, New York, N. Y. Filed Apr. 3, 1908.

Amcehat

Particular description of goods.—Olives, Pickles, Chilli Sauce, Catsup, Potted Tongue, Potted Chicken, Boned Turkey, Potted Turkey, Canned Fruits, Canned Vegetables, Canned Salmon, and Canned Baked Beans.

Ser. No. 34,051. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) MEZCAL TEQUILA DISTILLERY COMPANY, INC., San Francisco, Cal. Filed Apr. 13, 1908.



Particular description of goods.—A Medicinal Tonic.

Ser. No. 35,026. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RAFAEL CORTÉS, Lampazos, Nuevo Leon, Mexico. Filed May 29, 1908.



Particular description of goods.—Liniment.

Ser. No. 40,833. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) HAYES & MACFARLAND, Mount Vernon, N. Y. Filed Feb. 27, 1909.

AURORA

Particular description of goods.—Metallic Alloys of Precious Metals and Castings and Forgings Thereof.

Ser. No. 42,802. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) ORAL D. LOGAN, Pittsburg, Pa. Filed June 2, 1909.

REX



The picture shown being fanciful.
Particular description of goods.—Shoe-Polish.

Ser. No. 43,059. (CLASS 39. CLOTHING.) THOMAS G. PLANT CO., Boston, Mass. Filed June 17, 1909.

Queen

Particular description of goods.—Gloves, Hats, Caps, and Women's Head-Coverings, With Their Trimmings.

Ser. No. 46,955. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) DOMINICK A. MARINO, Jersey City, N. J. Filed Jan. 7, 1910.



Particular description of goods.—A Remedy for Coughs, Colds, Hoarseness, Bronchitis, and Various Affections of the Throat.

Ser. No. 47,406. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) MARSHALL FIELD & COMPANY, Chicago, Ill. Filed Jan. 26, 1910.

SUNSPUN

Particular description of goods.—Hand Embroidery.

Ser. No. 47,525. (CLASS 38. PRINTS AND PUBLICATIONS.) NATIONAL MANUFACTURERS COMPANY, New York, N. Y. Filed Feb. 2, 1910.

AMERICAN INDUSTRIES

Particular description of goods.—A Monthly Magazine.

Ser. No. 47,788. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) THE MIDDLE CREEK COAL COMPANY, Prestonsburg, Ky. Filed Feb. 12, 1910.



Particular description of goods.—Coal.

Ser. No. 47,850. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) THE AUTOPIANO COMPANY, New York, N. Y. Filed Feb. 16, 1910.

Solostyle

Particular description of goods.—Music-Rolls for Self-Playing and Automatic Musical Instruments.

Ser. No. 48,021. (CLASS 7. CORDAGE.) SAMSON CORDAGE WORKS, Boston, Mass. Filed Feb. 25, 1910.



Particular description of goods.—Cords Made of Cotton.

Ser. No. 48,063. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) IDEAL COFFEE AND TEA COMPANY, St. Louis, Mo. Filed Feb. 28, 1910.

Pride



The picture shown being fanciful.
Particular description of goods.—Blended Coffee, Tea, Cocoa, Flavoring Extracts, and Spices.

Ser. No. 48,487. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) JAS. H. FORBES TEA & COFFEE COMPANY, St. Louis, Mo. Filed Mar. 16, 1910.

NEW STATE

Particular description of goods.—Coffee.

Ser. No. 48,545. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) E. C. B. JUDD, INC., Muskegon, Mich. Filed Mar. 19, 1910.



Particular description of goods.—Water-Closet Seats.

Ser. No. 48,837. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KELLEY-CLARKE CO., Seattle, Wash. Filed Apr. 4, 1910.

SEA PORT

Particular description of goods.—Canned Salmon.

Ser. No. 48,859. (CLASS 38. PRINTS AND PUBLICATIONS.) THE BUILDING BRICK ASSOCIATION OF AMERICA, New York, N. Y. Filed Apr. 5, 1910.



Particular description of goods.—Printed Books, Pamphlets, and Printed and Pictorial Cards and Leaflets.

Ser. No. 48,994. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ALLEN GEORGE LETSON, Bloomington, Ill. Filed Apr. 9, 1910.

PIONEER



Particular description of goods.—A Disinfectant, Antiseptic, Germ and Microbe Destroyer; Also for Stock-Powders and Stock-Dip.

Ser. No. 49,150. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) W. F. SCHRAFFT & SONS CORPORATION, Boston, Mass. Filed Apr. 16, 1910.



The "S." being blue on a red background.
Particular description of goods.—Chocolate Candies.

Ser. No. 49,152. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) W. F. SCHRAFFT & SONS CORPORATION, Boston, Mass. Filed Apr. 16, 1910.

Luxuro

Particular description of goods.—Chocolate Candies.

Ser. No. 49,515. (CLASS 50. MERCHANDISE NOT OTHERWISE CLASSIFIED.) THE BUCKEYE INCUBATOR COMPANY, Springfield, Ohio. Filed May 5, 1910.



Particular description of goods.—Incubators, Brooders, and Portable Poultry-Houses.

Ser. No. 49,679. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) MORRIS, MANN & REILLY, Chicago, Ill. Filed May 13, 1910.



The seal being red.
Particular description of goods.—Goods Made of Human Hair.

Ser. No. 49,805. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) PRATT & LAMBERT, INC., Buffalo, N. Y. Filed May 18, 1910. Used ten years.



Particular description of goods.—Varnish.

Ser. No. 49,894. (CLASS 39. CLOTHING.) KERFOOT-MILLER AND COMPANY, Oklahoma, Okla. Filed May 24, 1910.



The portrait shown is that of John S. Kerfoot.
Particular description of goods.—Overalls and Men's Work-Shirts.

Ser. No. 49,944. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RICHARD HUDNUT, New York, N. Y. Filed May 26, 1910.

VANITY

Particular description of goods.—Perfumes.

Ser. No. 50,079. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE KROGER GROCERY & BAKING COMPANY, Cincinnati, Ohio. Filed June 3, 1910. Used ten years.



The picture shown being that of William Shakespeare, deceased.
Particular description of goods.—Canned Corn.

Ser. No. 50,008. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) BLEECKER & SIMONS, New York, N. Y. Filed June 3, 1910.



Particular description of goods.—Teas, Blended Coffee, and Spices.

Ser. No. 50,263. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) COLUMBIA RIVER PACKERS ASSOCIATION, Astoria, Oreg. Filed June 11, 1910.



Particular description of goods.—Canned Salmon.

Ser. No. 50,325. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) J. H. WILLIAMS & CO., Brooklyn, N. Y. Filed June 15, 1910.



Particular description of goods.—Metal Forgings.

Ser. No. 50,366. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ORME RICE PACKING COMPANY, New Orleans, La. Filed June 17, 1910.





Particular description of goods.—Rice.

Ser. No. 50,998. (CLASS 17. TOBACCO PRODUCTS.) BERNARDO MOREDA Y DEBÉN, Habana, Cuba. Filed July 22, 1910.



Particular description of goods.—Cigars.

Ser. No. 51,010. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) VICTOR TALKING MACHINE COMPANY, Camden, N. J. Filed July 23, 1910.

LA CIGALE

Particular description of goods.—Talking-Machines, Talking-Machine Parts, and Records for Talking-Machines.

Ser. No. 51,028. (CLASS 39. CLOTHING.) ROBERTS, JOHNSON & RAND SHOE COMPANY, St. Louis, Mo. Filed July 23, 1910.



The pictures being fanciful.
Particular description of goods.—Leather and Rubber Shoes, Hats, Outer and Under Waists for Women and Children, and Hosiery.

Ser. No. 51,031. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) A. G. HYDE & SONS, New York, N. Y. Filed July 23, 1910.

PONGETTE

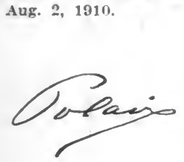
Particular description of goods.—Cotton Piece Goods.

Ser. No. 51,146. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CALIFORNIA FRUIT CANNERS ASSOCIATION, San Francisco, Cal. Filed July 29, 1910.



Particular description of goods.—Canned Fruits.

Ser. No. 51,233. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) SIMON GUTMAN, New York, N. Y. Filed Aug. 2, 1910.



Which consists of the facsimile-signature of Mlle. Polair.
Particular description of goods.—Belts for Personal Wear.

Ser. No. 51,310. (CLASS 39. CLOTHING.) GEHRKE KNITTING MILLS, Reading, Pa. Filed Aug. 8, 1910.



Particular description of goods.—Hosiery.

Ser. No. 51,399. (CLASS 39. CLOTHING.) BURNHAM HANNA MUNGER D G CO., Kansas City, Mo. Filed Aug. 15, 1910.

HALLETTA

Particular description of goods.—Ladies' Waists and Skirts.

TRADE-MARKS

REGISTERED SEPTEMBER 13, 1910.

79,459. LEATHER BELTING. The Akron Belting Company, Akron, Ohio.
Filed April 11, 1910. Serial No. 49,010. PUBLISHED MAY 10, 1910.

79,460. WRITING AND PRINTING PAPER. American Writing Paper Company, Holyoke, Mass.
Filed July 1, 1907. Serial No. 28,536. PUBLISHED JULY 12, 1910.

79,461. GAMEBOARD. Ernest A. Bailey, Washington, D. C.
Filed March 31, 1910. Serial No. 48,773. PUBLISHED JULY 12, 1910.

79,462. ALE, BEER, AND OTHER MALT LIQUORS. P. Ballantine & Sons, Newark, N. J.
Filed April 7, 1910. Serial No. 48,882. PUBLISHED JULY 12, 1910.

79,463. GUN-SIGHTS. Bausch & Lomb Optical Co., Rochester, N. Y.
Filed June 18, 1910. Serial No. 50,427. PUBLISHED JULY 12, 1910.

79,464. COMPOSITION OF COD-LIVER OIL AND TAR-OIL. Socta. Prodti. Chimco. Farmacci. A. Bertelli & C., Milan, Italy.
Filed February 14, 1908. Serial No. 32,773. PUBLISHED JUNE 16, 1908.

79,465. SALTED HERRING. Betz & van Heijst, Vaardingen, Netherlands.
Filed April 5, 1910. Serial No. 48,860. PUBLISHED JULY 12, 1910.

79,466. WHEAT-FLOUR. William F. Brey, Philadelphia, Pa.
Filed September 4, 1909. Serial No. 44,547. PUBLISHED DECEMBER 28, 1909.

79,467. PERCALES. Carson, Pirie, Scott & Co., Chicago, Ill.
Filed June 13, 1910. Serial No. 50,279. PUBLISHED JULY 12, 1910.

79,468. HOES AND SHOVELS OF METAL. The Chillington Tool Company, Limited, Wolverhampton, England.
Filed June 15, 1910. Serial No. 50,322. PUBLISHED JULY 12, 1910.

79,469. BRICK. The Claycraft Brick Company, Columbus, Ohio.
Filed June 13, 1910. Serial No. 50,286. PUBLISHED JULY 12, 1910.

79,470. WOOD AND LEATHER FILLET. The Cleveland Fillet Company, Cleveland, Ohio.
Filed April 30, 1910. Serial No. 49,414. PUBLISHED JULY 12, 1910.

79,471. CANNED SAUER-KRAUT. The Clyde Produce Company, Clyde, Ohio.
Filed May 27, 1910. Serial No. 49,945. PUBLISHED JULY 12, 1910.

79,472. RUBBER AND RUBBER GUMS. Continental Rubber Company of New York, New York, N. Y.
Filed May 19, 1910. Serial No. 49,820. PUBLISHED JULY 12, 1910.

79,473. WHEAT-FLOUR. Crookston Milling Company, Crookston, Minn.
Filed April 16, 1910. Serial No. 49,164. PUBLISHED JULY 12, 1910.

79,474. ARTIFICIAL STONE. The Dayton Art Marble and Construction Co., Dayton, Ohio.
Filed May 16, 1910. Serial No. 49,746. PUBLISHED JULY 12, 1910.

79,475. FOUNTAIN-PENS AND PEN-POINTS. Diamond Point Pen Company, New York, N. Y.
Filed May 7, 1910. Serial No. 49,566. PUBLISHED JULY 12, 1910.

79,476. CANNED VEGETABLES. Driscol, Church & Hall, New Bedford, Mass.
Filed April 9, 1910. Serial No. 48,980. PUBLISHED JULY 12, 1910.

79,477. DENIMS. Ely & Walker Dry Goods Co., St. Louis, Mo.
Filed May 31, 1910. Serial No. 50,021. PUBLISHED JULY 12, 1910.

79,478. WHEAT-FLOUR. The Farmers Milling & Mercantile Company, Berthoud, Colo.
Filed February 12, 1910. Serial No. 47,774. PUBLISHED JULY 12, 1910.

79,479. BED-HAMMOCKS AND COUCH-HAMMOCKS. Fellows & Co., Boston, Mass.
Filed May 28, 1910. Serial No. 49,994. PUBLISHED JULY 12, 1910.

79,480. REMEDIES FOR MALARIA. Giuseppe S. Ficini, Chicago, Ill.
Filed June 15, 1908. Serial No. 35,359. PUBLISHED JULY 12, 1910.

79,481. HOSIERY. Marshall Field & Company, Chicago, Ill.
Filed June 13, 1910. Serial No. 50,270. PUBLISHED JULY 12, 1910.

79,482. CANNED SALMON. Fidalgo Island Packing Co., Anacortes, Wash.
Filed May 27, 1910. Serial No. 49,965. PUBLISHED JULY 12, 1910.

79,483. CANNED SALMON. Fidalgo Island Packing Co., Anacortes, Wash.
Filed May 27, 1910. Serial No. 49,966. PUBLISHED JULY 12, 1910.

79,484. CANNED SALMON. Fidalgo Island Packing Co., Anacortes, Wash.
Filed May 27, 1910. Serial No. 49,967. PUBLISHED JULY 12, 1910.

79,485. STRAIGHT RYE WHISKY. Fort Wayne Drug Company, Fort Wayne, Ind.
Filed December 15, 1909. Serial No. 46,522. PUBLISHED JULY 12, 1910.

79,486. REMEDY FOR DISEASES OF THE EYE. Fred I. Friend, Providence, R. I.
Filed May 19, 1910. Serial No. 49,817. PUBLISHED JULY 12, 1910.

79,487. BRAKE-BLOCKS. The Herbert Frood Company Limited, Chapel-en-le-Frith, England.
Filed November 6, 1909. Serial No. 45,742. PUBLISHED JULY 12, 1910.

79,488. PREPARATION FOR MAKING A NON-ALCOHOLIC TONIC BEVERAGE. Robert J. Gillham, Orlando, Fla.
Filed February 2, 1910. Serial No. 47,547. PUBLISHED JULY 12, 1910.

79,489. SILK, COTTON, MERCERIZED, AND MACHINE SEWING-THREADS. GUDEBROD BROS. CO., New York, N. Y.
Filed May 7, 1910. Serial No. 49,585. PUBLISHED JULY 12, 1910.

79,490. SILK, COTTON, MERCERIZED, AND MACHINE SEWING-THREADS. GUDEBROD BROS. CO., New York, N. Y.
Filed May 7, 1910. Serial No. 49,590. PUBLISHED JULY 12, 1910.

79,491. REFRIGERATORS. GURNEY REFRIGERATOR COMPANY, LIMITED, Fond du Lac, Wis.
Filed March 16, 1910. Serial No. 48,438. PUBLISHED JULY 12, 1910.

79,492. CHEMICAL COMPOUND FOR COATING STONE AND OTHER MATERIALS. JOHN H. HAMLIN, Salt Lake City, Utah.
Filed March 9, 1910. Serial No. 48,305. PUBLISHED JULY 12, 1910.

79,493. SUPPOSITORIES FOR THE TREATMENT OF FEMALE DISEASES. THE HOME TREATMENT REMEDY CO., Sault Ste. Marie, Mich.
Filed April 5, 1910. Serial No. 48,861. PUBLISHED JULY 12, 1910.

79,494. WATCHCASES AND WATCH-MOVEMENTS. ILLINOIS WATCH CASE CO., Elgin, Ill.
Filed June 17, 1910. Serial No. 50,363. PUBLISHED JULY 12, 1910.

79,495. TEA. A. P. IRWIN & COMPANY, Philadelphia, Pa., and New York, N. Y.
Filed May 4, 1910. Serial No. 49,495. PUBLISHED JULY 12, 1910.

79,496. REMEDY FOR SEASICKNESS. EVARISTO RODRIGUEZ ISEAN, Granja de Escarpe and Castellvell y Vilar, Spain.
Filed April 5, 1910. Serial No. 48,858. PUBLISHED JULY 12, 1910.

79,497. MEN'S AND BOYS' OUTER SUITS AND OVERCOATS. KAHN TAILORING COMPANY, Indianapolis, Ind.
Filed June 16, 1909. Serial No. 43,053. PUBLISHED JULY 12, 1910.

79,498. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed May 24, 1910. Serial No. 49,886. PUBLISHED JULY 12, 1910.

79,499. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed May 24, 1910. Serial No. 49,888. PUBLISHED JULY 12, 1910.

79,500. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed May 24, 1910. Serial No. 49,889. PUBLISHED JULY 12, 1910.

79,501. CIGARS, CIGARETTES, SMOKING AND CHEWING TOBACCO. LILLY, DUNGAN & CO., Baltimore, Md.
Filed June 8, 1910. Serial No. 50,191. PUBLISHED JULY 12, 1910.

79,502. HAIR-NETS. FREDERICK LUDEWIG & CO., New York, N. Y.
Filed June 13, 1910. Serial No. 50,290. PUBLISHED JULY 12, 1910.

79,503. BLENDED TEA. S. ELWOOD MAY, Philadelphia, Pa.
Filed April 30, 1910. Serial No. 49,411. PUBLISHED JUNE 28, 1910.

79,504. BLENDED TEA. S. ELWOOD MAY, Philadelphia, Pa.
Filed April 30, 1910. Serial No. 49,412. PUBLISHED JUNE 28, 1910.

79,505. MOUNTINGS FOR EYEGLASSES AND SPECTACLES. THE MEYROWITZ MANUFACTURING CO., New York, N. Y.
Filed May 16, 1910. Serial No. 49,742. PUBLISHED JULY 12, 1910.

79,506. MOUNTINGS FOR EYEGLASSES AND SPECTACLES. THE MEYROWITZ MANUFACTURING CO., New York, N. Y.
Filed May 16, 1910. Serial No. 49,743. PUBLISHED JULY 12, 1910.

79,507. DRESS GOODS FORMED OF A MIXTURE OF SILK AND WOOL. TH. MICHAU & CO., Paris, France, and New York, N. Y.
Filed October 30, 1909. Serial No. 45,631. PUBLISHED JULY 12, 1910.

79,508. WIRE ROPE. MILL & MINE SUPPLY CO., Seattle, Wash.
Filed September 7, 1909. Serial No. 44,567. PUBLISHED JULY 12, 1910.

79,509. FRESH OR GREEN APPLES. THE NELSON BROTHERS FRUIT COMPANY, Paonia, Colo.
Filed February 14, 1910. Serial No. 47,817. PUBLISHED JULY 12, 1910.

79,510. VALVES. NELSON VALVE COMPANY, Windmoor, Pa.
Filed May 24, 1910. Serial No. 49,892. PUBLISHED JULY 12, 1910.

79,511. LIQUID PAINTS AND VARNISHES. JOHN CHARLES NICHOLSON, Stratford, England.
Filed April 9, 1910. Serial No. 48,969. PUBLISHED JULY 12, 1910.

79,512. PAPER BAGS. THE NORTHERN BAG & PLATE CO., Carthage, N. Y.
Filed May 14, 1910. Serial No. 49,722. PUBLISHED JULY 12, 1910.

79,513. ANIMAL-TRAPS. ONEIDA COMMUNITY LIMITED, Oneida, N. Y.
Filed May 31, 1910. Serial No. 50,017. PUBLISHED JULY 12, 1910.

79,514. [WITHDRAWN.]

79,515. CIGARS. Y. PENDAS & ALVAREZ, New York, N. Y.
Filed June 13, 1910. Serial No. 50,275. PUBLISHED JULY 12, 1910.

79,516. FURNITURE-POLISHES. PENN MANUFACTURING CO., Philadelphia, Pa.
Filed May 6, 1910. Serial No. 49,555. PUBLISHED JULY 12, 1910.

79,517. CREAM-CHEESE. PHENIX CHEESE COMPANY, South Edmeston and New York, N. Y.
Filed May 31, 1910. Serial No. 50,004. PUBLISHED JULY 12, 1910.

79,518. SILICATE OF SODA. PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa.
Filed June 17, 1910. Serial No. 50,385. PUBLISHED JULY 12, 1910.

79,519. SILICATE OF SODA. PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa.
Filed June 17, 1910. Serial No. 50,386. PUBLISHED JULY 12, 1910.

79,520. VARNISH. PRATT & LAMBERT, INC., Buffalo, N. Y.
Filed May 18, 1910. Serial No. 49,800. PUBLISHED JULY 12, 1910.

79,521. VARNISH. PRATT & LAMBERT, INC., Buffalo, N. Y.
Filed May 18, 1910. Serial No. 49,803. PUBLISHED JULY 12, 1910.

79,522. LIQUID DRIER. PRATT & LAMBERT, INC., Buffalo, N. Y.
Filed May 18, 1910. Serial No. 49,804. PUBLISHED JULY 12, 1910.

79,523. BRICK. RICKETSON & SCHWARZ, Milwaukee, Wis.
Filed December 17, 1909. Serial No. 46,575. PUBLISHED JULY 12, 1910.

79,524. OIL, COAL, AND GAS FURNACES AND PARTS THEREOF. ROCKWELL FURNACE COMPANY, New York, N. Y.
Filed September 18, 1909. Serial No. 44,776. PUBLISHED JULY 12, 1910.

79,525. CERTAIN CUTLERY. ROLKA & KLEIN, New York, N. Y.
Filed May 28, 1910. Serial No. 49,983. PUBLISHED JULY 12, 1910.

79,526. ASH-SIFTERS. JOHN S. SCHAEFFER, Irvington, N. J.
Filed May 17, 1910. Serial No. 49,777. PUBLISHED JULY 12, 1910.

79,527. CERTAIN REMEDIES. C. F. SIMMONS MEDICINE COMPANY, INCORPORATED, St. Louis, Mo.
Filed May 4, 1910. Serial No. 49,496. PUBLISHED JULY 12, 1910.

79,528. REMEDY FOR PERSPIRING FEET, CORNS, AND BUNIONS. WILLIAM V. SLAKER, Chicago, Ill.
Filed April 4, 1910. Serial No. 48,835. PUBLISHED JULY 12, 1910.

79,529. GINGHAMS, SHIRTINGS, AND CHAMBRAYS. G. A. STAFFORD & CO., Greenwich, Conn., and New York, N. Y.
Filed May 18, 1910. Serial No. 49,798. PUBLISHED JULY 12, 1910.

79,530. SEWING-MACHINES AND ATTACHMENTS. THE STANDARD SEWING MACHINE COMPANY, Cleveland, Ohio.
Filed June 10, 1910. Serial No. 50,257. PUBLISHED JULY 12, 1910.

79,531. WHEAT-FLOUR. JOHN W. STEPHENSON, Little Falls, Minn.
Filed May 27, 1910. Serial No. 49,957. PUBLISHED JULY 12, 1910.

79,532. PEANUTS. THE SUFFOLK PEANUT COMPANY, Suffolk, Va.
Filed May 12, 1910. Serial No. 49,659. PUBLISHED JULY 12, 1910.

79,533. REMEDIES FOR COUGHS, COLDS, GRIPPE, AND CERTAIN OTHER AFFECTIONS. THE SYNVITA MEDICINE CO., Lima, Ohio.
Filed April 6, 1910. Serial No. 48,878. PUBLISHED JULY 12, 1910.

79,534. AUTOMOBILES. E. R. THOMAS MOTOR COMPANY, Buffalo, N. Y.
Filed April 20, 1910. Serial No. 49,203. PUBLISHED JULY 12, 1910.

79,535. LIQUID PREPARATION FOR CLEANING GLASS AND METAL. CLEVELAND THORNTON, Cleveland, Ohio.
Filed April 14, 1910. Serial No. 49,097. PUBLISHED JULY 12, 1910.

79,536. REMEDY FOR FITS AND NERVOUS TROUBLES. THE TRIO MEDICINE COMPANY, Point, Tex.
Filed December 1, 1909. Serial No. 46,218. PUBLISHED JULY 12, 1910.

79,537. CANNED FRUITS AND VEGETABLES. TWOHY-EIMON MERCANTILE COMPANY, Superior, Wis.
Filed March 16, 1910. Serial No. 48,464. PUBLISHED JULY 12, 1910.

79,538. WORSTED YARN WOUND WITH MERCERIZED COTTON. BERNHARD ULMANN & CO., New York, N. Y.
Filed April 30, 1910. Serial No. 49,402. PUBLISHED JULY 12, 1910.

79,539. CERTAIN AUTOMOBILE ACCESSORIES. VICTOR AUTO SUPPLY M'F'G CO., New York, N. Y.
Filed December 29, 1909. Serial No. 46,791. PUBLISHED JULY 12, 1910.

79,540. ANIMAL-TRAPS. AI MERRITT YOUNG, Providence, R. I.
Filed May 20, 1910. Serial No. 49,823. PUBLISHED JULY 12, 1910.

79,541. BAKING-POWDER. THE CABELL COMPANY, Baltimore, Md.
Filed June 20, 1910. Serial No. 50,455. PUBLISHED JULY 12, 1910.

LABELS

REGISTERED SEPTEMBER 13, 1910.

15,319.—*Title:* "MAGIC RAWHIDE." (For Whips.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed May 23, 1910.

15,320.—*Title:* "GLADSTONE RAWHIDE." (For Whips.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed May 23, 1910.

15,321.—*Title:* "REMINGTON RAWHIDE." (For Whips.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed May 23, 1910.

15,322.—*Title:* "HINDOO THROUGH RAWHIDE." (For Whips.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed May 23, 1910.

PRINTS

REGISTERED SEPTEMBER 13, 1910.

2,638.—*Title:* "THE FOUNDATION OF SUCCESSFUL BAKING." (For Flour.) WASHBURN CROSBY COMPANY, Minneapolis, Minn. Filed September 1, 1910.

2,639.—*Title:* "ANTI GERM DISINFECTANT POWDER." (For Carbolic-Disinfectant Powder.) SMITH & AGNEW DISINFECTANT CO., New York, N. Y. Filed June 22, 1910.

2,640.—*Title:* "THE MARK G. HARRIS EASY SLEEVE." (For Coats.) MARK G. HARRIS, Chicago, Ill. Filed July 11, 1910.

2,641.—*Title:* "BUILT LIKE A VIOLIN." (For Pianos.) SCHUMANN PIANO COMPANY, Rockford, Ill. Filed July 16, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

OPALLA *v.* HUGHES.

Decided July 16, 1910.

INTERFERENCE — PRELIMINARY STATEMENT — AMENDMENT OF.

Where the Examiner of Interferences required one of the parties to an interference to amend his preliminary statement in certain particulars or be penalized by being restricted to his record date, *Held* that no appeal lay from the decision and that the action of the Examiner of Interferences would not be reviewed in the absence of a showing of a clear abuse of discretion.

APPEAL from Examiner of Interferences.

LOOSE-LEAF BINDER.

Mr. J. G. Parkinson for Opalla.

Mr. Charles W. Hills and *Mr. Percy B. Hills* for Hughes.

BILLINGS, *Acting Commissioner:*

This is an appeal by Opalla from the ruling of the Examiner of Interferences requiring Opalla to amend his preliminary statement in certain particulars or be penalized by being restricted to his record date as to said particulars.

In the recent case of *Allyn and Turner* v. *Ames*, (95 Com. Ms. Dec., 162,) where an appeal was taken from a similar ruling of the Examiner of Interferences, it was held:

The preliminary statements required in interference proceedings are in the nature of pleadings which require certainty of expression, an applicant being estopped by the allegations in his preliminary statement to establish dates prior to those alleged under oath in his statement. It is obviously necessary that these statements be carefully drawn and it is within the jurisdiction of the Examiner of Interferences to require an amended statement whenever, in his opinion, the circumstances are such as to throw doubt upon the accuracy of the statement already submitted. Furthermore, the question whether an amended statement should or should not be required is a matter which is clearly within the jurisdiction of the Examiner of Interferences before whom the case is first to be heard and his decision on this question will not be reviewed except in cases where a clear abuse of discretion is shown. In the present case there is no reason for exercising supervisory authority to review his decision.

The present case presents no abuse of discretion on the part of the Examiner of Interferences such as would warrant reviewing his decision under the supervisory authority of the Commissioner, nor any circumstances which justify making the case an exception to the practice set forth above.

In view of the fact that Opalla obtained an extension of time in which to file his amended preliminary statement, in case the ruling of the Examiner of Interferences was upheld, until July 18, 1910, and that the delay in rendering this decision will probably not allow him sufficient time in which to file said statement, Opalla's time for filing the preliminary statement required by the Examiner of Interferences is extended to July 25, 1910.

The appeal is dismissed.

EX PARTE ENTERPRISE BED COMPANY.

Decided August 20, 1910.

TRADE-MARKS—"HYGIENIC"—"HYGEIA."

The word "Hygeia" *Held* registrable as a trade-mark for spring-mattresses, notwithstanding the fact that a mark previously registered for air-mattresses included the word "Hygienic," the latter word being descriptive of the goods on which the mark was used.

ON APPEAL.

TRADE-MARK FOR SPRING BEDS AND MATTRESSES.

Mr. Otto R. Barnett for the applicant.

TENNANT, *Acting Commissioner:*

This is an appeal from the refusal of the Examiner of Trade-Marks to register the word "Hygeia" as a trade-mark for spring-mattresses.

Registration was refused in view of the registration of the Metropolitan Air Goods Company, certificate No. 24,033, dated January 9, 1894. The mark shown in that registration consists of the representation of an air-mattress with the word "Air" thereon and above the same the words "Hygienic Air Mattress" and the words:

"I will have all my beds blown up, not stuffed; down is too hard." Ben Johnson.

In this registration it is stated that the essential feature is the word "Hygienic" in connection with the representation of an air-mattress and the quotation.

The Examiner bases his rejection on the ground that the words "Hygienic" and "Hygeia" so nearly resemble each other that the public would be likely to be confused by the simultaneous use of these two marks upon goods of the same descriptive properties. He refused to consider whether the word "Hygienic" was descriptive as applied to the goods claimed on the ground that the registrant had a *prima facie* right to the exclusive use of this word.

In the original application of the Metropolitan Air Goods Company it was stated that the essential feature of the mark was the word "Hygienic." Registration was refused on the ground that the word "Hygienic" was descriptive. The application was then amended so as to state that the essential fea-

ture was as above stated, and the registration was granted.

The word "Hygienic" is evidently descriptive as applied to goods of this class, and the registrant can have no claim of exclusive use to that word.

In the case of *Consolidated Ice Co.* v. *Hygeia Distilled Water Co.* (151 Fed. Rep., 10) the Court of Appeals of the Third Circuit, in discussing the appellant's contention that the word "Hygeia" was descriptive, said:

> In short, "Hygeia" is not "hygienic." The two words have not the same meaning, and, while a monopoly of the latter could not be accorded to any one without depriving others of its apposite use for ascribing healthfulness to their goods, there is no more reason that the former should be exempted from appropriation than any other nominative or merely designating term which mythology or fiction has fabricated or made familiar.

As above noted, registration was refused when the word "Hygienic" was the essential feature of the mark and was only allowed when the representation of the mattress and the quotation were also included as a part of the essential feature. Whatever rights applicant may have with respect to the mark as claimed, it is not believed that it is entitled to the exclusive use of the word "Hygienic" or that the inclusion of this word in its registered mark can be held to be a bar to the present applicant registering the arbitrary word "Hygeia."

The Examiner refers in his statement to the case of *Lang* v. *Green River Distilling Company*, (148 O. G., 280; 33 App. D. C., 506.) This was a case of an opposition by the Green River Distilling Company, which had registered under the ten-year clause the words "Green River," to the registration by Lang of the words "Green Ribbon." The court refused to consider whether the words "Green River" were geographical, and hence not capable of registration as a trade-mark, and that the sole question before them was the similarity of the marks "Green River" and "Green Ribbon;" but this decision is not believed to be applicable to the present case, for the reason that the present trade-mark law gives certain rights to a person who has used a mark descriptive or geographical in character for ten years next preceding the passage of that act and had obtained registration of such mark.

The decision of the Examiner of Trade-Marks is reversed.

STORK COMPANY *v.* KABO CORSET COMPANY.

Decided August 31, 1910.

TRADE-MARKS—OPPOSITION—PRACTICE.

Where an opposition to the registration of a trade-mark was filed by the owner of a registered mark, the fact that on demurrer it was held by the Examiner of Interferences that the goods of the two parties were not so dissimilar as to justify dismissing the opposition affords no excuse for the opposer's failure to file a replication to the answer of the applicant.

ON PETITION.

TRADE-MARK FOR MATERNITY-CORSETS.

Mr. Eugene W. Johnson for the Stork Company.

Messrs. Banning & Banning for Kabo Corset Company.

TENNANT, *Acting Commissioner:*

This is a petition by the Stork Company, the opposer in this case, that the decision of the Examiner of Interferences judging that the Kabo Corset Company is entitled to the registration for which it has made application be vacated and the opposition transmitted to the Examiner of Trade-Marks for the purpose of determining if an interference in fact exists between the application of the Kabo Corset Company and the registration of the Stork Company, No. 56,532.

Within thirty days after the publication of the mark of the Kabo Corset Company opposition to the registration thereof was filed by the Stork Company, one of the grounds of opposition being that the latter was the owner of a registered trade-mark for dress-shields, No. 56,532, and that the marks of the applicant and the opposer being substantially the same the opposer would be damaged by the use of this mark by the applicant, since dress-shields and corsets are goods of the same descriptive properties.

A demurrer was filed by the applicant, which was overruled by the Examiner of Interferences, who stated in his decision that the goods of the opposer and those of the applicant are not so dissimilar as to justify sustaining a demurrer. Time was set for the applicant to file an answer and for the opposer to file a replication or take other proper action.

An answer was filed on behalf of the applicant; but the opposer did not file any replication thereto within the time set, merely filing a paper stating generally that in view of certain decisions cited registration should be refused. Applicant was notified that this paper was not a replication and that the case awaited the filing of a replication. On July 8, 1910, no replication having been filed, the opposition was dismissed under Rule 66 of the rules of practice in equity and judgment was rendered that the Kabo Corset Company was entitled to registration.

In the present petition no excuse whatever is given for failure to file a replication or to take other appropriate action in accordance with the rules of equity procedure, the only allegation being that the Examiner of Interferences having held on demurrer that the goods of the applicant and the opposer were not so dissimilar as to justify sustaining a demurrer the case should be returned to the Examiner of Trade-Marks.

In view of the fact that applicant had every opportunity to take action in accordance with the rules of equity practice, but failed to do so, no reason whatever is seen for taking action in the exercise of the supervisory authority of the Commissioner.

The petition is dismissed.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Third Circuit.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY *v.* ALLIS-CHALMERS COMPANY.

Decided January 20, 1910.

1. PATENTABILITY—CONSTRUCTION—ELECTRICAL MECHANISMS.

> "When we are dealing with electricity, an invisible, intangible agency, and in itself of different kinds, and when we know that in its different phases it may affect, or be affected by, metals and appliances in different ways and with wholly different results, we must guard against being misled by the mere superficial resemblances of the appliances and machines used in connection with it; for from an electrical standpoint the real significance of such appliance lies, not in their material, external appearance, but in their working effect under the influence of diverse electrical factors."

2. SAME—INVENTION—SYSTEM OF ELECTRICAL DISTRIBUTION.

> The Lamme patent, No. 606,015, for a system of electrical distribution and regulation, designed to obviate the variation in speed of a rotary converter with changes in the amount of the inductive load when converting a direct into an alternating current, *Held* not a mere aggregation of previously-known devices, but to disclose invention of decided merit.

Messrs. Kerr, Page, Cooper & Hayward (*Mr. Edwin B. Smith* of counsel) for the appellant.

Mr. Thomas F. Sheridan and *Mr. Clifton V. Edwards* for the respondent.

Before GRAY and BUFFINGTON, Circuit Judges, and MCPHERSON, District Judge.

BUFFINGTON, *Cir. J.:*

In a bill filed in the court below, the Westinghouse Company charged the Allis-Chalmers Company with infringement of Patent No. 606,015, issued June 21, 1898, to one Lamme, for a system of electrical distribution and regulation, and now owned by it. That court, in an opinion reported at 168 Fed., 91, held that no infringing act on the part of the Allis-Chalmers Company was shown, and dismissed the bill, without discussing the patent questions involved. From such decree the Westinghouse Company appealed. As we have reached the conclusion that under the pleadings and proofs the alleged infringing acts are chargeable to the Allis-Chalmers Company, we turn to a discussion of the patent in question.

When, in the early 90's, the advantages, for transmission and other purposes, of an alternating over a direct current became apparent, there arose a demand for appliances whereby existing electric plants, built to generate direct currents, could convert such direct into alternating currents. This demand, as well as the desirability of at times converting alternating into direct currents, led to the development of rotary converters. Without discussing details, it suffices to say that such converters so coupled a motor and a generator that, when the direct current was the electromotive force at one end, the other produced an alternating current, and vice versa. This rotary converter was improved from time to time, and when used to convert alternating to direct currents proved satisfactory. On the other hand, when used to transform a direct to an alternating current, the converter proved unsatisfactory, and its dangers were such as to almost prohibit its use. These dangers arose from its erratic actions, in that it would, without warning to or knowledge by the operator, so suddenly and at such high speed begin racing that before the operator could control the apparatus it was liable to destroy itself.

Now the rotary converter, as constructed at the date of the patent, consisted of a motor and a generator, placed side by side on a common shaft, and having a common magnetic field. They had also a common winding connected at different points to the bars of the commutator and to the collecting-rings, respectively, so that, when a direct current was led into the coils through the commutator, thus driving the machine as a direct-current motor, an alternating current could be taken from the collector-rings. But this conversion of direct to alternating current brought into play inductive forces which are not present where a direct current is used for non-converting purposes. If an inductive load—such, for example, as inductive motors—were thrown upon the alternating-current circuit, a demagnetization of the field of the converter resulted, with an attendant increase in the speed of the armature, such as noted above. Now, as this speed-causing factor was without the knowledge and beyond the control of the operator, it can readily be seen that this uncontrolled inductive factor dominated the converter and precluded its use, except in cases, theoretical rather than real, where no variation in the inductive load on the alternating-current circuit could possibly occur. Moreover, the result of this inductive force in abruptly changing the speed of the armature and the regularity of the alternating current was objectionable, in that such currents work properly only under a fixed rate of alternation. To counteract this destructive force was Lamme's purpose, and the proofs show that, although such evil was recognized, it was not remedied until he did so near the close of the 90's, and it is significant that no other mode has since been devised.

Turning to the patent, we find Lamme stated his object clearly in these words:

> My invention relates to the transformation of direct currents to alternating currents, and has for its object to provide a method and a means whereby the speed of the rotary transformer employed may be maintained substantially constant, irrespective of changes in the amount of inductive load on the alternating-current circuit.

He then states the effects on a rotary converter of inductive and non-inductive loads on the alternating-current circuit, to which we have referred, and says:

> Therefore, if the alternating-current circuit carries an inductive load—such, for example, as inductive motors—which changes from time to time, the variations in the amount of inductive load will cause variations in the speed of the transformer, which will in turn vary the speed of the motors driven by it.

The patentee then describes his remedial mechanism as follows:

> In order to obviate this variation in speed with changes in the amount of inductive load, I propose to employ a small direct-current generator for exciting the field-magnet of the rotary transformer, which may have either a shunt, a series, or a compound winding, but which must be normally operated to produce an electromotive force, which corresponds to a degree of field-magnet excitation very much below saturation. This exciting-generator is driven either by an alternating-current motor, which is in turn driven by current supplied by the rotary transformer, or it is belted directly to the rotary transformer.

And of the electrical action of such device he says:

> If the amount of the alternating-current inductive load on a rotary transformer changes, so that the rate of alternating decreases, for example, then the exciting-generator and the motor driving the same will also decrease in speed. This action will also decrease the exciting

electromotive force of the rotary transformer, and as the exciter is unsaturated a small drop in speed will produce a relatively large drop in the electromotive force. This lowering of the exciting electromotive force will thus weaken the field of the rotary transformer and effect an increase of its armature-speed up to near the normal. On the other hand, an increase in speed of the rotary transformer will be accompanied by an increase in the exciting electromotive force, which will act immediately to lower the speed of the transformer.

But, while Lamme's device was the first to solve the difficulty, it is still contended, inasmuch as the elements of his device, for example, a rotary converter and an auxiliary exciter, were old, that Lamme's device was a mere assembling of these appliances, which did not involve invention. But the fact that the electrical world, with the knowledge of the use of both rotary converter and auxiliary exciter, during the several years the difficulty existed, made no such combination as Lamme's, is highly suggestive that it required more than mere engineering advance of the electrical art to devise the possibility of a use of these old elements in the new and changed relations resulting from the presence of induction-motors in an alternating-current circuit. This deepening of the complexity of the problem made more unlikely the possible use of old elements under situations widely different from the theretofore practice. Moreover, when we are dealing with electricity, an invisible, intangible agency, and in itself of different kinds, and when we know that in its different phases it may affect, or be affected by, metals and appliances in different ways and with wholly different results, we must guard against being misled by the mere superficial resemblances of the appliances and machines used in connection with it; for from an electrical standpoint the real significance of such appliances lies, not in their material, external appearance, but in their working effect under the influence of diverse electrical factors.

Take, for example, the use by Kielholtz of an auxiliary exciter, which is the nearest approach to Lamme. In the first place, Kielholtz's device was addressed to an entirely different problem. He used a wholly different electrical mechanism and secured a wholly different electrical result. Indeed, no one contends his mechanism could be so modified, readjusted, or reconstructed as to do the work of Lamme's. In fact, the two devices were in wholly different electrical fields, and the only thing in common between them was the self-use of rotation to control speed through the well-understood principle of a common steam-governor, which increased or decreased the supply of steam as the engine speeded or slowed. This familiar governor principle Kielholtz utilized in an auxiliary motor or exciter, and the value of his device lay, not in the mere use of an exciter, but in the use he made of it to control the electrical conditions with which he dealt. Now his problem was, with the factor of a fixed electromotive power of a direct current applied to a motor and a generator, of maintaining unvarying speed whereby the distant lamps of an electric-light system would remain constantly and equally bright with those near at hand. He dealt wholly with a direct current. The destructive, disturbing force of induction-motors on an alternating current was not involved. There was no danger in any shape from any destructive electromotive force or speed-racing. His motor was driven by a fixed direct current, controlled by a rheostat, and worked on a generator with an individual magnetic field. His object was simply to maintain uniform, not to prevent destructive speed; for, under his conditions, such speed could not exist. In his device the magnetic field of his generator was self-excited; it was not connected with or affected by the auxiliary exciter, which latter increased or decreased the magnetism of the magnetic field of the motor alone. Consequently, as the speed of the motor-armature tended to decrease, Kielholtz's exciter responsively tended to decrease the opposing magnetism of the main motor's magnetic field, and under this dual decrease tendency of opposing forces of field and armature his motor maintained its former speed.

Now this device, ingenious and effective as it seems, in no way solved or tended to solve the problem to which Lamme addressed himself. For it will be noted that the use of an auxiliary exciter by Kielholtz was in itself no more suggestive to Lamme than the steam-governor, for both alike simply addressed themselves to the problem of maintaining a constant level of speed by making increased or decreased applications of the motive power the governing factor. But this plain and simple application of the governor principle would not avail in Lamme's problem, because there induction on the alternating-current circuit introduced an additional disturbing element, which tended to radically disturb the equipoise controlled by a governor. Indeed, as stated by one of the witnesses—

it was five years subsequent to the discovery that a self-exciting rotary transformer was a dangerous and self-destructive machine before any one made the discovery that its defects could be cured by providing it with an exciting-dynamo by itself.

During this period the electric profession tried to solve the problem of a possible safe use of a rotary converter, when converting a direct to an alternating current, but without success. During such experiments at the General Electric Company's works in April, 1893, such a machine speeded up and burst the armature; the experimenting engineer testifying:

Precautions were taken to guard against accidents; but the inverted rotary speeded up so rapidly that before the man could open the switch connecting it to the course of direct-current supply the armature burst. * * * I discussed the matter with other engineers, with the hopes of understanding the phenomenon.

Indeed, the proofs show that a number of accidents occurred during these years, and although, as we have seen, such machines were in great demand in the new practice that had grown up of utilizing old, direct-current systems to convert their currents to alternating ones, manufacturers were averse to furnishing such machines, much as they were called for, and when they did so it was only with full instructions as to the dangers incident to their use. But not only was this new disturbing factor of inductive force thus introduced, but it was made to acutely operate on a single magnet-field and simultaneously unbalance the magnetic counterforces of both motor and generator. For the situation was one where not only the magnetic inequality passively caused by decrease in speed must be reckoned with, but also the magnetic inequality actively caused by demagnetization resulting from inductive force in the alternating line, and both these influences, as we have seen, were exerted in a magnetic field common to both the motor and generator of a rotary converter, which latter Kielholtz did not have. With these new factors entering into the situation and the many electrical problems resultant therefrom, it will be seen that the application of the auxiliary motor was a step which involved much more of the inventive faculty than the use of such an exciter did in the device of Kielholtz. If the Patent Office was justified—which presumably it was—in conceding inventive character to Kielholtz, it would seem warranted in regarding as inventive the application of the governor principle by Lamme to a different and more intricate field.

In view, therefore, of the electrical problems which confronted him, we are of opinion that Lamme's work involved invention. The proofs bearing on the difficulties and obscurities the electrical art in rotary converter practice had before it satisfies us that Lamme's problem, far from being a mere adaptation of recognized agencies to accomplish a simple expedient was a complex, obscure electrical difficulty which involved invention of decided merit. We think this well summed up in the frank statement of one of the electrical engineers called by complainant, who says:

From time to time thereafter other similar accidents were reported, and it was not until 1898, when the patent in suit issued, that any satisfactory solution of the problem was reached, and that inverted rotary transformers could be produced which would produce the constant frequency and safe operation required. The means set forth by Mr. Lamme furnishes a complete solution of the problem, since it not only prevents the machines from being self-destructive, but also renders them capable of giving the substantially constant frequency so essential for alternating-current systems. This means, while simplicity itself as a matter of structure, was by no means an easy one to conceive of, as is shown by the fact that through five years of knowledge of the problem, at a time when the apparatus was particularly in demand, no one else thought of it. Indeed, for my own part, I do not find it easy to understand, even now that I have been familiar with it for many years, and if I did not know to the contrary, I should still be inclined to say, with much positiveness, that the means shown would not work to accomplish the result. I remember very well that after the accident in the power-house of the Westinghouse Company, when this invention was applied to prevent its repetition, the fact that it worked to secure that result created much surprise.

We accordingly hold the patent valid.

That the installation in the Merchants' Heat & Light Company at Indianapolis is an infringement is clear, and the only question is whether the Allis-Chalmers Company is chargeable as the infringer. The issues settled by the pleadings establish that the Allis-Chalmers Company owns the controlling majority of the stock of the Bullock Electric Manufacturing Company, which furnished the infringing apparatus but the bill does more than charge such corporate control as might result merely from such majority ownership, and that some of the directors of one company are also directors of the other. These two facts, without more, might be insufficient to establish the proposition that the Allis-Chalmers Company was liable for the acts of the other corporation. But there is more. There is the positive averment that the Allis-Chalmers Company either owns absolutely or controls the entire property of every kind, including the business and good-will, of the Bullock Company, and is operating and conducting the plant and business as the electrical department of its own business. In corroboration of these averments it is charged that the Allis-Chalmers Company advertised its entry upon the electrical field, giving as its reason the facts that it has acquired the plant of the Bullock Company, that its own electrical department consisted of or comprised the plant of the Bullock Company, and that its intention was to go on with the manufacture of the Bullock Company's product. Since these significant averments are either admitted in terms, or are only met by the formal denial of control—

save as the Allis-Chalmers Company is lawfully entitled thereto as the holder of such majority of stock—

we think the situation justifies a court in acting upon it. The two corporations evidently preserve their separate organizations; but the control of the Bullock Company's business is exercised by the Allis-Chalmers Company, which has taken over all that is valuable in this business and made it a department of its own.

The substance of the matter is that the Allis-Chalmers Company is the unquestioned master, whose orders are obeyed, and we think that under such circumstances a court of equity may well look behind the corporate screen and determine where the real and responsible power lies. It is not a question where the formal legal title to the property rests. The bill avers—and the answer passes the averment over in silence—that even the ownership of the property may have passed, for it charges that either the ownership of the property has been transferred, or, if not the ownership, at least the control, and the answer confines such denial as is made solely to the transfer of control, and says nothing whatever about the transfer of ownership. But we lay no stress upon the ownership of the legal title to the property. It is enough for the present purpose to note that on the face of the pleadings the power to control, operate, and manufacture is in the Allis-Chalmers Company and is being exercised by that company. In our opinion, therefore, it is liable for the infringing act complained of as being its own act done through a controlled agency.

The decree dismissing the bill, therefore, must be reversed, the bill reinstated, and a decree entered holding the patent valid and infringed.

ADJUDICATED PATENTS.

The Bossert patent, No. 571,297, for an electric wall-box, claim 5 *Held* valid and infringed. *Bossert Electric Const. Co.* v. *Pratt Chuck Co.*, (C. C. A.,) 179 Fed. Rep., 385.

The Bossert patent, No. 682,233, for improvement in outlet-boxes for interior conduits, *Held* not infringed. *Bossert Electric Const. Co.* v. *Pratt Chuck Co.*, (C. C. A.,) 179 Fed. Rep., 385.

The Juengst patent, No. 761,496, for a signature-gathering machine, claim 1 *Held* valid and infringed. *Juengst* v. *Gullberg*, (C. C. A.,) 179 Fed. Rep., 374.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 8, 1910.

Luin F. Mangis, his assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Hitchcock-Hill Company, of 100 Lake street, Chicago, Ill., for registration of a trade-mark and a trade-mark registered to Luin F. Mangis, of 435 Main street, Portland, Oreg., and a communication having been received from the post-office to the effect that it has been unable to deliver the letter to said Mangis, notice is hereby given to the said Mangis, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

Maud Meyberg, her assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of G. R. Springer, of 1332 Grand avenue, Kansas City, Mo., for registration of a trade-mark and a trade-mark registered to Maud Meyberg, of Chicago, Ill., and the notice of said declaration sent by registered mail to the said Maud Meyberg having been returned undelivered, notice is hereby given to the said Maud Meyberg, her assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

William Johnson Nelson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Lanman & Kemp, of 135–137 Water street, New York, N. Y., for registration of a trade-mark and trade-mark registration to the following named parties: (1) Minard's Liniment Manufacturing Company, Framingham, Mass.; (2) George H. Rundle, Pique, Ohio; (3) Adelia B. De Grath, 302 West Thirty-fourth street, New York, N. Y.; (4) William Johnson Nelson, Bridgewater, county of Lunenberg, Province of Nova Scotia, Canada, and the notice of such declaration sent by registered mail to the said William Johnson Nelson at the address given above has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said William Johnson Nelson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 6, 1910.

George J. Washburn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of William S. Scull, of Front and Federal streets, Camden, N. J., for registration of a trade-mark and the trade-mark registrations to Wolfe, McMillan and Company, of 11 South Front street, Philadelphia, Pa.; George J. Washburn, of 115 East Second street, Davenport, Iowa; The Brewster Manufacturing Company, of Newark, N. J.; Chase and Sanborn, of Boston, Mass.; Bensdorp and Company, of Amsterdam, Netherlands, and Walter McEwan, of Albany, N. Y., and the notice of such declaration sent by registered mail to the said George J. Washburn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George J. Washburn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., August 10, 1910.

The H. L. Berry Company, its assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of Hoffman Brothers Company, of Fort Wayne, Ind., for registration of a trade-mark and a trade-mark registration to The H. L. Berry Company, Whitfield, Fla., and the notice of such declaration sent by registered mail to the said The H. L. Berry Company at the address above given has been returned by the Post-Office Department as undeliverable.

Notice is therefore hereby given to the said The H. L. Berry Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

FREDERICK A. TENNANT, *Acting Commissioner.*

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CONTENTS.

	Page.
ISSUE OF SEPTEMBER 20, 1910	487
PHOTOGRAPHIC COPIES OF DRAWINGS	487
NOTICE	487
APPLICATIONS UNDER EXAMINATION	488
ACCESS TO PENDING APPLICATIONS	488
PATENTS GRANTED	489
REISSUES	680
DESIGNS	683
TRADE-MARKS—REGISTRATION APPLIED FOR	691
TRADE-MARKS—REGISTERED	697
LABELS AND PRINTS	700
COMMISSIONER'S DECISIONS—	
Ex parte Garrett	701
Keith, Erickson, and Erickson v. Lundquist v. Lorimer and Lorimer	701
Barney v. Hess	702
Ex parte Wade	704
DECISIONS OF THE U. S. COURTS—	
Time Saver Company v. Stamford Trust Company	704
ADJUDICATED PATENTS	706
INTERFERENCE NOTICES	706

ISSUE OF SEPTEMBER 20, 1910.

Patents	560	No. 970,455 to No. 971,014, inclusive.
Designs	29	No. 40,885 to No. 40,913, inclusive.
Trade-Marks	95	No. 79,542 to No. 79,636, inclusive.
Labels	4	No. 15,323 to No. 15,326, inclusive.
Prints	1	No. 2,642.
Reissues	3	No. 13,151 to No. 13,153, inclusive.
Total	692	

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In ordering copies of drawings of foreign patents cited as references, applicants must state the date and number thereof, the name of the patentee, the country in which each patent was granted, and the class and subclass in which the patent is classified. If the class and subclass were not given in the Office letter citing the patent, the applicant must state the serial number of the application in which it was cited, the number of the action therein, the name of the inventor, and the title of the invention.

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Failure to give the fullest data whereby the mounted drawing may be found will cause unnecessary delay and correspondence.

Applicants and attorneys are strongly urged to file a set of prints, small size, or order them to be made by the Office at the time of filing an application. Such procedure will save delay later, if correction of the drawing is desired or required.

Notice.

Decision leaflets of the OFFICIAL GAZETTE are sold as a separate publication—

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APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business September 19, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New.	Amended	
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Aug. 5	Aug. 5	334
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Aug. 1	Aug. 8	226
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Aug. 13	Aug. 25	150
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Aug. 2	July 23	405
167	5. Bookbinding; Harvesters; Jewelry; Music.	June 13	June 17	575
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	July 15	July 29	300
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	July 12	July 21	425
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Aug. 3	Aug. 9	373
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	June 21	July 19	477
235	10. Carriages and Wagons	July 20	July 14	667
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	July 15	July 21	338
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	July 14	July 15	706
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	July 16	July 23	575
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	July 26	Aug. 1	372
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	July 8	July 21	645
109	16. Telegraphy; Telephony	July 5	July 5	228
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Aug. 11	Aug. 15	218
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	July 13	July 18	320
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	July 22	Aug. 1	455
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Aug. 2	Aug. 3	198
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	July 13	July 26	308
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	June 1	July 2	634
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	July 23	July 14	416
144	24. Apparel; Apparel Apparatus; Electricity, Medical and Surgical; Sewing-Machines; Surgery.	July 7	July 5	673
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Aug. 17	Aug. 24	111
106	26. Electricity, Generation; Motive Power.	July 11	July 8	234
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Aug. 15	Aug. 15	306
65	28. Internal-Combustion Engines	July 1	July 13	432
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking; Woodworking-Tools.	July 15	July 24	360
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	July 8	July 18	396
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Aug. 3	July 16	228
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	July 20	Aug. 1	282
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	July 16	July 30	312
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	July 20	July 23	401
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Aug. 10	Aug. 12	535
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	July 11	July 14	601
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	July 1	July 8	475
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	June 27	July 1	512
321	39. Water Distribution	July 21	July 21	342
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Aug. 9	Aug. 8	444
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	May 23	June 25	561
279	42. Electric Railways; Electric Signaling; Railway Signaling; Signals.	May 28	June 22	697
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	July 13	July 15	280

Oldest new case, May 23; oldest amended, June 17.
Total number of applications awaiting action..... 17,649

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Aug. 1	Sept. 3	791
	Designs	Aug. 18	Sept. 3	106
	Labels and Prints	Sept. 8		11

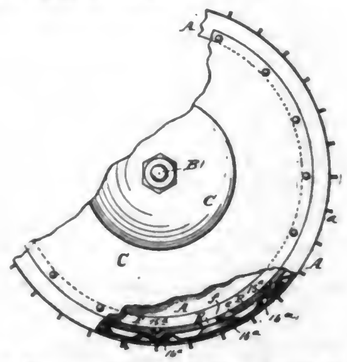
Access to Pending Applications.

Hereafter no person except the applicant, the assignee whose assignment is of record, or the attorney of record will be permitted to have access to the file of any application, except as provided for under the interference rules, unless written authority from the applicant, assignee, or attorney, identifying the application to be inspected, is filed in the case to become a part of the record thereof, or upon the written order of the Commissioner, which will also become a part of the record of the case.

PATENTS

GRANTED SEPTEMBER 20, 1910.

970,455. MOWER-WHEEL. JAMES H. AUBLE and HARRY A. BARRETT, Cincinnati, Ohio. Filed Aug. 13, 1909. Serial No. 512,637.



1. As an article of manufacture, a hollow wheel-body for a wheel to actuate the cutting mechanism of a mower and which is provided with a zig-zag shaped cam-groove, the sides of which are formed by the complementarily shaped, opposite longitudinal edges of two spaced strips, projections formed on these strips and complementary sockets provided inside of the wheel to which these projections are fitted and whereby these strips are held in position.

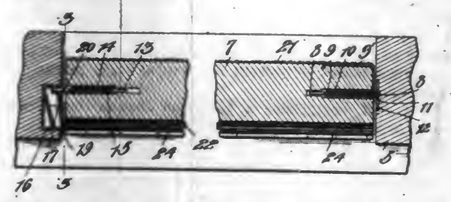
2. In an article of manufacture, the combination with the rim of a wheel to actuate the cutting mechanism of a mower, of two strips placed inside of this rim with a space between their opposite longitudinal edges, which edges are shaped to form the opposite sides of a zig-zag shaped cam-groove, complementary projections and sockets for them being provided on these strips and on the rim, whereby the strips are held in position.

3. In an article of manufacture, the combination with the rim of a wheel to actuate the cutting mechanism of a mower, of two strips placed with a space between their opposite longitudinal edges, which edges are shaped to form the opposite sides of a zig-zag shaped cam-groove, and an intermediate annular member held between these strips and the wheel-rim, there being complementary projections and sockets to receive them, on these strips and on the intermediate member, whereby the strips are held in position within the wheel.

4. As an article of manufacture, a hollow wheel-body for a wheel to actuate the cutting mechanism of a mower and which is provided with a zig-zag shaped cam-groove, the sides of which are formed by the complementary shaped, opposite longitudinal edges of two spaced strips, projections formed on these strips and complementary sockets provided inside of the wheel to which these projections are fitted and whereby these strips are held in position, the height of the projections being in excess of the depth of the sockets so as to space the strips from the wheel.

5. In an article of manufacture, the combination with the sheet-metal rim of a wheel to actuate the cutting mechanism of a mower which is provided with spaced depressions on its inside which form projections on its outerside constituting climbers, of two annular strips which have projections fitted to these depressions and whereby these strips are held in position with a space between their opposite longitudinal edges which latter are shaped to form the opposite sides of a zig-zag shaped cam-groove.

970,456. SCREEN-ROLLER. JACOB D. AUGSBURGER, Linngrove, Ind. Filed June 29, 1910. Serial No. 569,533.



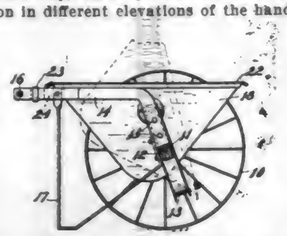
1. The combination with a window frame and sliding sashes therein, of a spring roller in said frame, a longitudinally movable spring controlled pin in one end of the roller, a rectangular sheet metal casing secured in one side of the frame and having an opening therein, a spring metal plate secured to said casing, the free end of said plate being extended into the opening and spaced from the end thereof, the pin carried by said roller being adapted for insertion into said space, the end of the plate bearing upon said pin to retain the roller in the frame, and a screen fabric on the roller secured at one end to one of the sashes.

2. The combination with a window frame and sashes arranged to slide therein, of a spring roller in said frame, a longitudinally movable pin arranged in one end of the roller, a spring on said pin yieldingly holding the same against movement, a rectangular sheet metal casing secured in one side of the window frame and extending transversely thereof, said casing having an intermediate inclined wall extending between its ends and forming the base of a longitudinal opening in the casing, a spring plate secured at one end to one end of the casing, the free end of said plate being disposed at right angles into the opening thereof and spaced from the end of said opening and from said inclined wall, the pin carried by said roller being adapted for insertion into said space for engagement by the end of said plate to retain the roller in position, a triangular-shaped rib arranged between the opposite sides of the casing and disposed adjacent to said roller, a sheet metal hood secured to the sill of the window frame extending over the roller, and a screen fabric adapted to be wound on said roller and secured at its end to one of the window sashes.

970,457. CONCRETE-CART. CHARLES A. BAKER, Milwaukee, Wis., assignor to Sterling Wheelbarrow Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Oct. 22, 1908. Serial No. 458,931.

1. A cart, comprising a U-shaped frame, metal bars secured to the ends of the U-shaped frame with outwardly extending axles at their lower ends and inwardly extending headed studs at their upper ends, wheels mounted on the axles, a handle connected with the U-shaped frame, and a tray having sockets pivotally mounted on the headed studs at points in a vertical plane through the

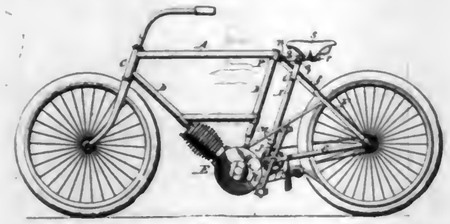
center of gravity of the tray and above the center of gravity of the tray, whereby the tray may maintain its level position in different elevations of the handle.



2. A cart, comprising a U-shaped channel iron frame, metal bars secured to the ends of the U-shaped frame between the flanges thereof with outwardly extending axles at their lower ends and inwardly extending headed studs at their upper ends, wheels mounted on the axles, a handle connected with the U-shaped frame, socket plates having U-shaped flanged sockets pivotally mounted on the headed studs, a tray secured to the socket plates at points in a vertical plane through its center of gravity and above its center of gravity, and pins extending across the sockets of the socket plates to prevent the headed studs passing out therefrom.

3. A cart, comprising a U-shaped channel iron frame, metal bars secured to the ends of the U-shaped frame between the flanges thereof with outwardly extending axles at their lower ends and inwardly extending headed studs at their upper ends, wheels mounted on the axles, angular side frames also secured to the ends of the U-shaped frame and fitting between the flanges thereof, a handle connecting the ends of the side frame, socket plates having U-shaped flanged sockets fitting on the headed studs, cotter pins passing through the U-shaped sockets for preventing the studs passing out therefrom, a tray secured to the socket plates at points in a vertical plane through its center of gravity and above its center of gravity whereby the tray is capable of preserving its level position in different elevations of the handle, leg members secured to the side frames and the U-shaped frame, an angular catch on the tray, and a ring on one of the side frames to engage the catch and lock the tray to the side frame.

970,458. SADDLE-SUPPORT FOR MOTOR-CYCLES, &c. CLARENCE E. BECKER, Buffalo, N. Y., assignor to The Auto Bi Company, Buffalo, N. Y., a Corporation of New York. Filed Nov. 16, 1908. Serial No. 462,795.



1. The combination of a cycle frame, a vertically swinging link pivoted on the upper part of the frame, a seat post composed of an upper tubular section which is pivoted at its upper end to said link and a lower plunger section arranged within the tubular section and pivoted on the lower part of the frame, and a spring arranged in the tubular section of the seat post and operating to hold said seat post sections yieldingly in an extended position.

2. The combination of a cycle frame, a vertically swinging link pivoted on the upper part of the frame, a seat post composed of an upper tubular section which is pivoted at its upper end to said link and a lower plunger section arranged within the tubular section and pivoted on the lower part of the frame, a spring arranged in the tubular section of the seat post and operating to hold said seat post sections yieldingly in an extended position, and a stop for limiting the upward movement of the tubular section on the plunger section.

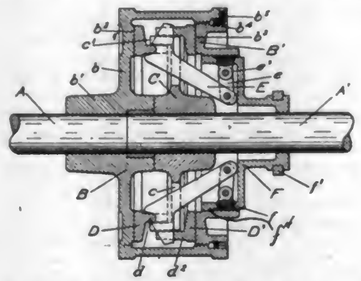
3. The combination of a cycle frame, a vertically swinging link pivoted on the upper part of the frame, a seat post composed of an upper tubular section which is pivoted at its upper end to said link and a lower plunger section arranged within the tubular section and pivoted on the lower part of the frame, a spring arranged in the tubular section of the seat post and operating to hold said seat post sections yieldingly in an extended position and a stop for limiting the upward movement of the tubular section on the plunger section consisting of a screw sleeve arranged on the lower end of said tubular section and provided with an internal upwardly facing shoulder which is adapted to engage with an external downwardly facing shoulder on said plunger section.

4. The combination of a cycle frame, a seat post having an upper yoke or loop shaped section which embraces an adjacent member of the frame and a lower section which is pivoted on the lower part of the frame and has a telescopic connection with said loop shaped section, a vertically swinging link pivotally connected with the upper part of the frame and the upper part of said loop shaped section, and a spring for holding said seat post sections yieldingly in an extended position.

5. The combination of a cycle frame, a seat post having an upper yoke or loop shaped section which embraces an adjacent member of the frame and a lower section which is pivoted on the lower part of the frame and has a telescopic connection with said loop shaped section, a pair of vertically swinging links arranged on opposite sides of the upper part of the frame and pivoted at their front ends to said frame while their rear ends are pivoted to the upper end of said loop shaped section, and a spring operating to hold said seat post sections yieldingly in an extended position.

[Claim 6 not printed in the Gazette.]

970,459. FRICTION-CLUTCH. CARL F. BLEDSOE, Chicago, Ill. Filed Jan. 2, 1909. Serial No. 470,381.



1. A friction clutch embracing a hollow drum adapted to be engaged to one shaft section, a driving member engaged to another shaft, an adjusting ring adjustably engaged in the drum, oppositely movable friction rings within the drum, externally operated, independently adjustable levers for forcing said friction rings into engagement with the bearing faces within the drum and adjusting ring, and a spring engaging each of the friction rings to retract the same from engagement.

2. A friction clutch embracing a hollow drum adapted to be engaged to one shaft section, a driving member engaged to another shaft, substantially in alinement therewith, an adjusting ring adjustably engaged in the drum, oppositely movable bearing rings within the drum, externally operated levers fulcrumed on one of the bearing rings adapted to force said bearing rings into engagement with the bearing faces within the drum and the adjusting ring, and a spring engaging each of the bearing rings to retract the same from engagement.

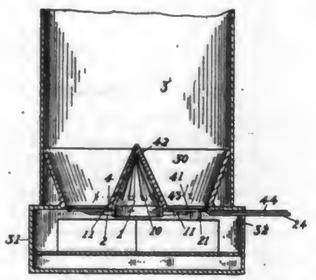
3. A friction clutch embracing a hollow drum having a bearing face adapted to be engaged to one shaft section, a slotted driving member engaged to another shaft substantially in alinement with the first shaft, an adjusting ring adjustably engaged in the drum and provided with a bearing face, means rigidly engaging the same in adjusted position, oppositely movable bearing rings within the drum, externally operated levers carried in the slots of the driving member and acting to force said bearing rings into engagement with the bearing faces within the drum and adjusting ring, and a spring engaging each of the bearing rings to retract the same from engagement, and means simultaneously actuating the levers.

4. In a device of the class described independently adjustable engaging levers, means for simultaneously actuating the same, oppositely disposed friction rings, having laterally directed flanges notched in alinement, the flange of one ring receiving the levers in the notches affording a fulcrum for the levers, and the notches in the flange in the other ring receiving the ends of the levers therein.

5. In a friction clutch, friction elements, friction rings loosely supported between the friction elements, laterally directed concentric flanges integral with the friction rings and notched and levers engaging in the notches in one flange and recessed to engage the flange and said levers having extensions engaging in the notches in the flange of the other ring.

[Claims 6 to 22 not printed in the Gazette.]

970,460. STOVE AND FURNACE GRATE. LEWIS O. BREKKE, Seattle, Wash. Filed Apr. 28, 1910. Serial No. 558,308.



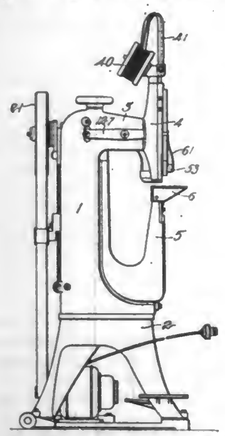
1. A grate comprising a fixed hollow cone having longitudinal draft slots therein, an oscillatable annular grate about said cone, a second oscillatable annular grate superposed on the first and having a hollow slotted cone fitting the other cone, said movable grates having separate operating arms extending to the outside of the stove or furnace.

2. A grate comprising a fixed central cone having tapering longitudinal slots, two grate members mounted to turn independently and concentric with said cone, one of said grates having a cone similarly slotted and fitting on the fixed cone.

3. A grate comprising a fixed, hollow central cone having draft slots, two concentric annular members having clinker-discharge openings alternating with segments having draft openings and movable about said central cone and relatively to each other; one of the said annular members having a central cone superposed upon the fixed cone and provided with draft slots adapted to register or alternate with the draft slots in the fixed cone, said annular members having operating arms extending to the outside of the stove.

970,461. WIRE-STITCHER. THOMAS A. BRIGGS, East Greenwich, R. I., assignor to Boston Wire Stitcher Company, Portland, Me., a Corporation of Maine. Filed May 25, 1908. Serial No. 435,174.

1. A wire stitcher, comprising a driver, a wire feeder reciprocable in the same directions as said driver, wire severing means, mechanism for changing the limits of travel of said wire feeder and correspondingly adjusting the position of said severing means to vary the length of staple blanks cut from the wire, means for turning the blanks at right-angles to the feeding and driving direction, and a staple former operable to form said blanks into staples having their legs extending in the driving direction.



2. A wire stitcher comprising mechanism for feeding wire in the direction of drive, wire-severing means, a rotary anvil, and means for turning said anvil and a severed length of the wire to bring the latter perpendicular to the line of feeding and driving to enable a staple to be formed with its legs pointing in the proper direction.

3. A wire stitcher comprising mechanism for feeding wire in the direction of drive, an anvil having forming shoulders and a recess to receive the wire as it is fed, and means for turning said anvil so as to lay the wire across the forming shoulders and then turning the anvil and the portion of the wire which is engaged therewith into transverse position so that a staple having its legs extending in the driving direction may be formed from such length of wire.

4. A staple forming and driving machine comprising a staple former, a driver, means for feeding wire to form staples in the direction of travel of said staple former and driver, a wire cutter, and means for carrying a severed length of the wire into and holding it in a position across the path of the said former and driver.

5. A staple forming and driving machine, comprising a staple former, a driver, a wire cutter, an oscillative anvil having staple forming and supporting shoulders and means for turning said anvil so as to engage said shoulders with the wire and then returning the anvil with a severed piece of the wire to place the shoulders and wire across the path of the staple former.

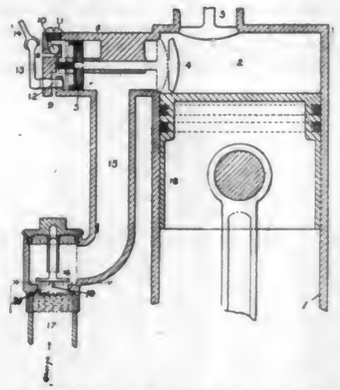
[Claims 6 to 71 not printed in the Gazette.]

970,462. COMPRESSION-REGULATOR FOR GAS-ENGINES. JESSE B. BROWN, Lansing, Mich. Filed Nov. 10, 1906. Serial No. 344,027.

1. In combination with an engine cylinder and the piston working therein, a regulating cylinder communicating with said engine cylinder and provided with a vent port, means for regulating the size of said vent port, an inlet valve closing the space between said cylinders, a piston working in said regulating cylinder and connected with said inlet valve, and an auxiliary compression chamber opening into the space between said cylinders.

2. In combination with an engine cylinder and the piston working therein, a regulating cylinder communicating with said engine cylinder and provided with a vent port, means for automatically regulating the size of said vent port, an inlet valve between said cylinders, a piston working in said regulating cylinder and connected with

said inlet valve, and an auxiliary compression chamber opening into the space between said cylinders.



3. In combination with an engine cylinder and the piston working therein, a regulating cylinder communicating with said engine cylinder and provided with vent and inlet ports, means for regulating the size of said vent port and a valve closing said inlet port, an inlet valve between said cylinders, a piston working in said regulating cylinder and connected with said last mentioned inlet valve, and an auxiliary compression chamber adjoining the space between said cylinders.

4. In combination with an engine cylinder and the piston working therein, a regulating cylinder communicating with said engine cylinder and provided with vent and inlet ports, a valve closing said inlet port, means for automatically regulating the size of said vent port, an inlet valve between said cylinders, a piston working in said regulating cylinder and connected with said last mentioned inlet valve, and an auxiliary compression chamber opening into the space between said cylinders.

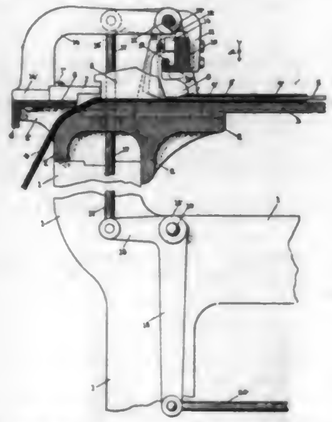
5. In combination with an engine cylinder and the piston working therein, a regulating cylinder communicating with said engine cylinder and provided with a vent port, means for regulating the size of said vent port, an inlet valve between said cylinders, a piston working in said regulating cylinder and connected with said inlet valve, an auxiliary compression chamber opening into the space between the said cylinders, and a check valve adapted to close the opening by which gas enters said auxiliary compression chamber.

[Claims 6 to 18 not printed in the Gazette.]

970,463. PILE-FABRIC LOOM. JAMES BUCKLER, Philadelphia, Pa., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed June 9, 1908. Serial No. 437,513.

1. In a loop cutting mechanism for pile fabric or carpet looms, having needles or wires extending in the direction of the length of the fabric, over which the loops are formed, a plate or plates extending transversely across the loom, the inner edge of which forms a stop for a series of knife guides or holders, and said knife guides or holders for a series of cutters or knives, and said cutters or knives, having a cutting surface on their lower edge, and their upper ends of hook shape and extending into a recess in a bar extending transversely across the loom, and said bar, suitably supported, and one or more detachable caps or holders to hold the cutters or knives in their proper position, and means for communicating to said knife supporting bar and said cutters or knives a rocking movement to cut the pile loops.

2. In a pile fabric loom having needles or wires extending in the direction of the length of the fabric, and a loop cutting mechanism to cut the loops on the fabric, a bar or plate extending in the direction of the length of the loom, and secured upon the breast beam, one or more bars or plates secured upon said first mentioned bar, the inner edge of which forms a stop for a series of knife guides or holders, and said knife guides or holders, for a series of cutters or knives, and having a reduced portion to extend within the loops on the fabric, and free at their outer ends to move in the direction of the width of the fabric, and said cutters or knives, having a cutting surface on their lower edge, and their upper ends of hook shape and extending into a recess in a bar extending transversely across the loom, and said bar, suitably supported, and one or more detachable caps or holders to hold the cutters or knives in their proper position, and means for communicating to said knife supporting bar and said cutters or knives, a rocking movement to cut the pile loops.



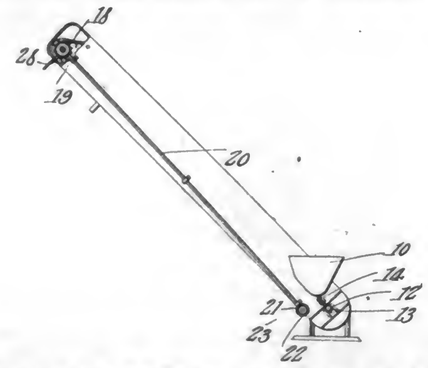
3. In loop cutting mechanism for pile fabric looms, a series of knife guides or holders for a series of cutters or knives, and said cutters or knives, having a cutting surface on their lower edge, and their upper ends of hook shape and extending into a recess in a bar extending transversely across the loom, and said bar, suitably supported, and means for communicating to said knife supporting bar and said cutters or knives, a rocking movement to cut the pile loops.

4. In loop cutting mechanism for pile fabric looms, a plate or plates extending transversely across the loom, the inner edge of which forms a stop or rest for knife guides or holders, and said knife guides or holders, for a series of cutters or knives, and having a reduced portion to extend within the loops on the fabric, and said cutters or knives having a cutting surface on their lower edge, and their upper ends of hook shape and extending into a recess in a bar extending transversely across the loom, and said bar, and means for communicating to said knife supporting bar and said cutters or knives, a rocking movement to cut the pile loops.

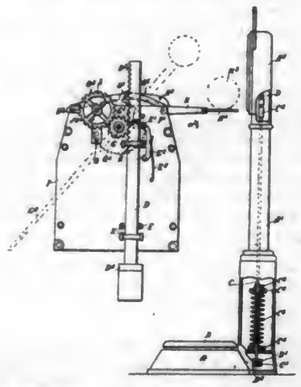
5. In a loop cutting mechanism for pile fabric looms, a series of knife guides or holders for a series of cutters or knives, and said cutters or knives having a cutting surface on their lower edge, and their upper ends detachably attached to a bar extending transversely across the loom, in such a manner that any one of said knives may be removed without removing the other knives, and said bar suitably supported, and one or more detachable caps or holders, to hold the cutters or knives in their proper position, and means for communicating to said bar, and said cutters or knives, a rocking movement to cut the pile loops.

970,464. PORTABLE GRAIN-ELEVATOR. WELSEY AZARIAH CALDWELL, Bradford, Ill. Filed Feb. 4, 1910. Serial No. 541,975.

In an elevator of the class described, a casing comprising side walls, a bottom wall, and a top wall, the said casing being open at the lower corner of its upper end, a shaft journaled in the casing directly above the opening, sprocket gears fixed upon the shaft one immediately inwardly of each side wall of the casing, idle sprocket gears mounted upon the inner sides of the said side walls, one above each of the first mentioned gears, a shaft journaled in the casing at the lower end thereof, sprocket gears fixed upon the last mentioned shaft one immediately inwardly of each side wall of the casing, sprocket chains trained over the gears at each side of the casing, the said chains being completely housed by said casing, conveyer flights connecting the said chains, and a hopper opening through one side wall of the conveyer casing and arranged to discharge material into the casing between the upper and lower stretches of the chains, and means for imparting rotative movement to the first mentioned shaft.



970,465. WEIGHING-MACHINE. JAMES M. CHAPPEL, New York, N. Y., assignor to Charles S. Marsh, Winchester, Mass. Filed July 29, 1909. Serial No. 510,172.



1. In a coin controlled apparatus, a coin-controlled device, a motor for limiting the time within which the coin-controlled mechanism is inactive after the introduction of the coin, and automatic means for restoring lost energy of the motor.

2. In a coin controlled apparatus, a coin-controlled device, a spring-actuated mechanism for limiting the time within which the coin-controlled mechanism is inactive after the introduction of the coin, and automatic means for rewinding the spring of the said spring-actuated mechanism.

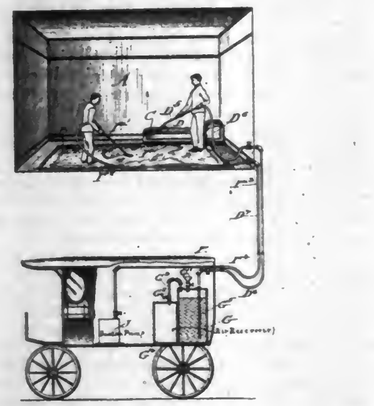
3. In a coin controlled apparatus, a coin-controlled device, a spring-actuated mechanism for limiting the time within which the coin-controlled mechanism is inactive after the introduction of the coin, and automatic means for rewinding the spring of the said spring-actuated mechanism, the said automatic means having devices to prevent overwinding and underwinding of the said spring.

4. In a coin controlled apparatus, a shaft, a vertically movable operating member geared with the said shaft, means for normally locking the shaft and its operating member, coin-actuated means for releasing the said shaft and permitting its forward rotation by the said member, a motor for limiting the time within which the said coin-actuated means are inactive after the introduction of the coin, and automatic means for restoring lost energy of the said motor.

5. In a coin controlled apparatus, a shaft, a vertically movable operating member geared with the said shaft, means for normally locking the shaft and its operating member, coin-actuated means for releasing the said shaft and permitting its forward rotation by the said member, a spring actuated mechanism for limiting the time within which the said coin-actuated means are inactive after the introduction of the coin, and automatic means for rewinding the spring of the said spring-actuated mechanism.

[Claims 6 to 13 not printed in the Gazette.]

970,466. CLEANING DEVICE. GEORGE CLEMENTS and JAMES M. HOSTLER, Chicago, Ill., assignors to Hygienic Renovating Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 12, 1907. Serial No. 352,018.



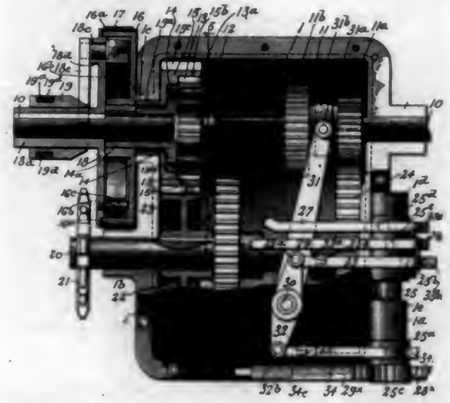
A cleaning device comprising a portable frame or body with a cleaner fluid storage tank thereon, a pressure supplying device thereon, and a suction device thereon, a cleaning brush, a flexible pipe leading from the fluid cleaner tank to the cleaning brush, a suction cleaner device and a pipe leading therefrom to the suction device on the wagon, and suitable controlling valves whereby the suction and brush devices may be operated simultaneously or successively.

970,467. TRANSMISSION-GEAR MECHANISM. ROBERT W. COFFEE, Richmond, Va., assignor to Lewis M. Keizer, Baltimore, Md. Filed Jan. 12, 1909. Serial No. 471,877.

1. Transmission gearing comprising a drive shaft, a driven shaft and means actuated from the drive shaft for imparting a direct fast movement to the driven shaft, and an indirect slow movement to the driven shaft, mechanism for effecting the adjustments of said means, said mechanism including a single controlling lever.

2. Transmission gearing comprising a drive shaft, and a driven shaft, means for imparting slow, intermediate and fast movement to the driven shaft in a direction opposite to that of rotation of the drive shaft, means forming a coöperative part of one of said last named means for imparting movement to the driven shaft at a slow speed

in the same direction as the drive shaft, and mechanism for effecting the adjustments of all of said means, said mechanism including a single controlling lever.



3. Transmission gearing comprising a drive shaft and a driven shaft, direct gear connections between the drive and driven shafts for effecting slow and intermediate movements to the driven shaft in a direction opposite to the movement of the drive shaft, planetary gear connections between the drive and driven shafts for effecting a slow movement of the driven shaft in the same direction as the drive shaft, means for shifting said direct gear connections to bring one or the other into operative relation, and other means for effecting the operative relation of the planetary gear mechanism to impart slow movement to the driven shaft in the same direction as that of the drive shaft, other means coöperating with the planetary gear means for causing a direct connection to be made between the drive and driven shafts through said planetary gear mechanism to effect a fast movement of the driven shaft in a direction opposite to the drive shaft, and a single means for controlling said mechanism.

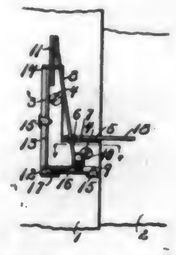
4. Transmission gearing comprising the drive shaft and the driven shaft, direct gear connections between the drive and driven shafts for effecting slow and intermediate movements to the driven shaft in a direction opposite to the movement of the drive shaft, planetary gear connections between the drive and driven shafts for effecting a slow movement of the driven shaft in the same direction as the drive shaft, means for shifting said direct gear connections to bring one or the other into operative relation and other means for effecting the operative relation of the planetary gear mechanism to impart the slow movement to the driven shaft in the same direction as that of the drive shaft and other means coöperating with the planetary gear means for causing a direct connection to be made between the drive and driven shafts through said planetary gear mechanism to effect a fast movement of the driven shaft in a direction opposite the drive shaft, and a single means for controlling said mechanisms, said single means including a single actuating lever.

5. Transmission gearing, comprising a drive shaft, a driven shaft, gearing between said shafts for effecting several drives of the driven shaft, mechanism for shifting said gearing for any of such drives, and a single handle or lever having a connection with the shifting mechanism, such that one movement of the handle sets the shifting mechanism for the drive desired, and a movement of the handle in the reverse direction operates said mechanism to shift the gears.

[Claims 6 to 26 not printed in the Gazette.]

970,468. BURGLAR-ALARM. WILLIAM H. COOK, Sturgis, Mich. Filed Sept. 9, 1909. Serial No. 516,902.

1. In a burglar alarm, the combination with a base plate; an anvil on said base plate; a cartridge holder; a swinging arm by which said cartridge holder is carried; a coiled supporting spring for said arm; a supporting arm for said spring having a laterally turned end, one end of said spring being extended to form said cartridge holder arm and coiled to form said cartridge holder and the other end being extended to form said spring supporting arm; a support on said base through which said spring supporting arm is arranged; clamping fingers on said base for said spring supporting arm; a trigger post adapted to receive and retain said cartridge holder arm in its set position; and a trigger pivoted on said post to engage said cartridge holder arm.



2. In a burglar alarm, the combination with a base plate; an anvil on said base plate; a cartridge holder; a swinging arm by which said cartridge holder is carried; a coiled supporting spring for said cartridge holder arm; a supporting arm for said spring, one end of said spring being extended to form said cartridge holder arm and the other end being extended to form said spring supporting arm; clamping fingers on said base for said spring supporting arm; a trigger post adapted to receive said cartridge holder arm and retain it in its set position; and a trigger pivoted on said post to engage said cartridge holder arm.

3. In a burglar alarm, the combination with a base plate; an anvil on said base plate; a cartridge holder; a swinging arm by which said cartridge holder is carried; a coiled supporting spring for said arm; a supporting arm for said spring, one end of said spring being extended to form said cartridge holder arm and the other end being extended to form said spring supporting arm; a support adapted to receive and retain said cartridge holder arm in its set position; and a trigger pivoted on said post to engage said cartridge holder arm when set and to release it from said post when actuated.

4. In a burglar alarm, the combination with a base plate; a trigger post having a pair of notches therein; an anvil; a cartridge holder; a cartridge holder arm adapted to be engaged in said notches in said post; a spring for said cartridge holder arm; and a trigger pivoted on said post, said trigger being notched to engage said cartridge holder arm, said cartridge holder arm being adapted when engaged in one notch to hold said trigger in its inoperative position and when engaged in the other notch to support said trigger in its operative position, said trigger being adapted to be manipulated to shift said arm from one notch to the other.

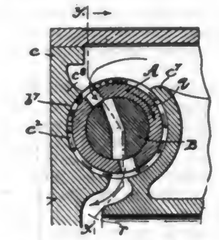
5. In a burglar alarm, the combination with a base plate; a trigger post having a pair of notches thereon; an anvil; a cartridge holder; a cartridge holder arm adapted to be engaged in said notches in said post; a spring for said cartridge holder arm; and a trigger pivoted on said post, said trigger being notched to engage said cartridge holder arm, said cartridge holder arm being adapted when engaged in one notch to hold said trigger in its inoperative position and when engaged in the other notch to support said trigger in its operative position.

[Claims 6 and 7 not printed in the Gazette.]

970,469. VALVE. WILLIAM CORLISS, Providence, R. I. Filed Apr. 3, 1909. Serial No. 487,816.

1. An arbor valve adapted to perform its service without contact with surrounding metal.

2. An arbor engine valve rotatable about its true axis of symmetry and free from metal contact between its points of suspension.



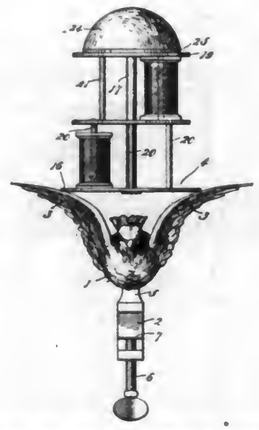
3. A revolving arbor passing through a suitable chamber in a steam cylinder or steam chest, said arbor mounted upon bearings at either side and separate from said cylinder or said chest, and said arbor provided with ports or openings to control the flow of the power medium.

4. A rotary arbor valve supported and running in bearings that are outside and independent of an engine-cylinder or its pressure-chamber, and therefore practically removed from the influence of the temperature of the propelling power, and convenient of access.

5. An arbor valve adapted to perform its service without contact with the bore of the valve chamber and without any packing other than that afforded by the power medium.

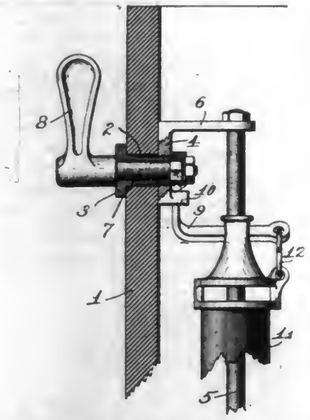
[Claims 6 to 26 not printed in the Gazette.]

970,470. SPOOL AND WORK HOLDER. KATHERINE CULVER, Austin, Tex. Filed Jan. 25, 1909. Serial No. 474,115.



A device of the character described comprising a body, an attaching clamp carried thereby, a circular plate carried by the body, a centrally arranged standard rising from said plate and having a reduced screw threaded upper end to provide a shoulder, an annular series of upright pins arranged upon and fixed to said plate, a second circular plate removably arranged upon the standard and having a central opening to receive the latter and an annular series of depressions stamped in its bottom and adapted to receive the upper ends of said pins, an annular series of upright pins secured to and rising from said removable plate, a removable top plate having a central opening to receive the standard and having in its bottom an annular series of stamped depressions to receive the upper ends of the last mentioned pins, a pin cushion, a centrally apertured bottom plate for the latter and a nut fixed to the said bottom plate within the pin cushion and adapted to receive the reduced threaded end of the standard, whereby the bottom plate of the pin cushion will be retained upon the shoulder upon the standard and will retain the removable plates upon the latter.

970,471. FLUSH-VALVE MECHANISM. JOHN H. DAVIS, Hamilton, Ohio. Filed July 19, 1909. Serial No. 508,426.



1. Flush valve mechanism comprising, a tank wall provided with an aperture, a bushing disposed in said aperture, means for securing the bushing rigidly in the aperture, a spindle journaled in the bushing, a handle on the outer end of the spindle, an arm on the inner end of the spindle adapted for connection with a flush valve part to be lifted, a plate screwed upon the inner end of the bushing, a stop carried by said plate and serving to limit the angular motion of said arm, and an arm projecting inwardly from said plate and adapted to serve as an anchorage for the top of a guide-rod, combined substantially as set forth.

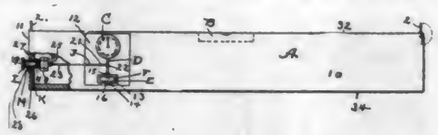
2. Flush valve mechanism comprising, in combination with a tank wall provided with an opening, a bushing disposed in the opening, means for rigidly securing said bushing in place, a spindle journaled in the bushing, a handle on the outer end of the spindle, an arm on the inner end of the spindle adapted for connection with the movable part of the flush valve, a plate secured on the inner end of the bushing on the inside of the tank, and provided with an arm projecting inwardly and adapted to serve as an anchorage for the upper end of the guide-rod of the flush valve.

3. Flush valve mechanism comprising, in combination with a tank wall provided with an opening, a bushing disposed in the opening, means for rigidly securing said bushing in place, a spindle journaled in the bushing, a handle on the outer end of the spindle, an arm on the inner end of the spindle adapted for connection with the movable part of the flush valve, a plate secured on the inner end of the bushing on the inside of the tank, and provided with an arm projecting inwardly and adapted to serve as an anchorage for the upper end of the guide-rod of the flush valve, said arm adapted to limit the upward movement of the arm on the inner end of the spindle, and a stop also carried by the plate and adapted to limit the downward movement of the valve operating arm.

970,472. GRADE-LEVEL. JOSEPH E. DE BISSCHOP, New Britain, Conn. Filed Apr. 12, 1910. Serial No. 554,924.

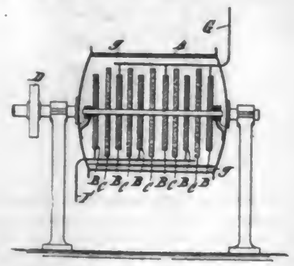
A grade level having a pair of sighting points, a dial fixed relatively to the said points, an index finger pivotally mounted on a shaft so as to indicate on said dial deviations from the level position of the said points, a pinion on said shaft, a gear wheel pivotally mounted so as to

mesh with the said pinion, a rod secured to and projecting downwardly from the said gear wheel, a spirit indicator mounted on the lower end of the said rod, a connecting rod pivotally connected to said rod by one of its



ends, and adjusting mechanism on the other end of said connecting rod and connected to said body, the said adjusting mechanism being adapted to permit the adjustment of the effective length of the said connecting rod.

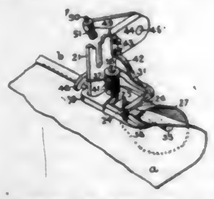
970,473. MANUFACTURE OF LUBRICATING-OILS. ALEXANDRE DE HEMPTINNE, Ghent, Belgium. Filed May 11, 1909. Serial No. 495,262.



1. A process for transforming oils into a viscous product, which process consists in subjecting the oil to the action of the silent electric discharge, in any rarefied gaseous atmosphere.

2. A process for transforming oils into a viscous product, which process consists in subjecting a mixture of animal, vegetable and mineral oils to the action of the silent electric discharge, in any rarefied gaseous atmosphere.

970,474. SEWING-MACHINE FOLDER. ALBERT H. DE VOE, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Apr. 27, 1908. Serial No. 429,432.



1. A sewing machine folder comprising a scroll composed of a plurality of independently sustained separable sections having abutting edges and constructed and arranged to afford a continuous involute edge-turning surface, and means for shifting one of said sections out of operative relation with the other and in a direction transverse to the axis of the scroll and to its own operative surface where it abuts the other section.

2. A sewing machine folder comprising a scroll and a work-bending member or arbor bodily movable in relation to said scroll, a spring-actuated carrier for said arbor, a stop for determining the normal operative position of the arbor, and means for laterally shifting said arbor from operative relation with said scroll for introduction of the work.

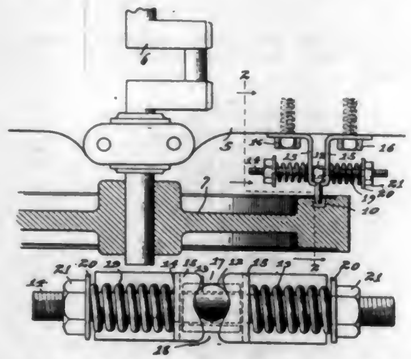
3. A sewing machine folder comprising a scroll composed of a plurality of separable sections, a work-bending member or arbor normally in alinement with said scroll but supported independently of said sections, and means for separating said scroll sections and shifting them out of operative relation with each other and with the work-bending member or arbor for introduction and removal of the work.

4. A sewing machine folder comprising a scroll composed of a plurality of independently sustained and relatively movable sections having edge-turning portions respectively upon opposite sides of the center line and a work-bending member or arbor normally in alinement with said scroll intermediate said edge-turning portions but independently supported and differentially movable in relation to the scroll sections.

5. A sewing machine folder comprising a scroll composed of a plurality of separable sections one of which is laterally movable in relation to the other, a longitudinal tongue normally embraced by said scroll but mounted for lateral movement transversely to the direction of relative lateral movement of the scroll sections, and means for shifting said tongue out of operative relation with said sections.

[Claims 6 to 17 not printed in the Gazette.]

970,475. TRIP-LOCK FOR USE IN STARTING EXPLOSIVE-ENGINES. NORMAN DE WIND, Harvey, Ill., assignor to Austin Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 10, 1908. Serial No. 415,221.



1. A trip lock for explosive engines, comprising in combination a rigid finger pivoted at one end on a stationary support and at its other end adapted to engage a stop shoulder on the balance wheel of the engine, and spring means engaging said finger laterally thereof to prevent displacement of said finger under the compression of a starting charge, but permitting displacement thereof under the energy of the charge when fired, substantially as described.

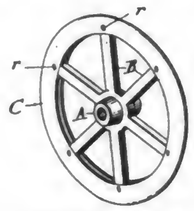
2. A trip lock for explosive engines, comprising in combination a finger pivoted at one end on a stationary support and at its other end adapted to engage a stop shoulder on a balance wheel of the engine, and spring jaws adapted to grip said finger laterally thereof, said jaws being so formed as to provide an entrance for said finger between them wider than the exit passage of said finger therefrom, substantially as described.

3. A trip lock for explosive engines, comprising in combination a finger pivoted at one end on a stationary support and at its other end adapted to engage a stop shoulder on the balance wheel of the engine, and spring jaws having concave ends gripping said finger laterally thereof, substantially as described.

4. A trip lock for explosive engines, comprising in combination a pair of spring jaws secured to a stationary support, a rod mounted in said jaws, a finger pivoted at one

end on said rod between said jaws, and at its other end adapted to engage a stop shoulder on the balance wheel of the engine, said finger being engaged laterally by and between the adjacent ends of said jaws, compression springs mounted on said rod and operating to force said jaws together upon said finger, and means for adjusting the strength of said springs, substantially as described.

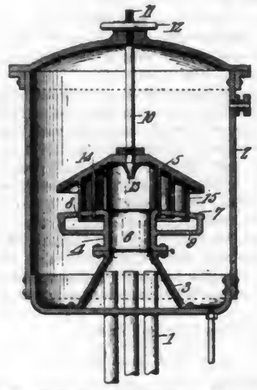
970,476. WHEEL. WALTER L. DODD, Westville, Ind. Filed Jan. 28, 1910. Serial No. 540,509.



1. A wheel, comprising a hub, radial spokes and a rim consisting of two annular pieces of sheet metal welded together at their outer edges and having their inner edges spread apart and containing the outer ends of the spokes between them, said spokes being in contact with said rim and being directly connected thereto.

2. A wheel, comprising a rim V-shaped in cross section composed of two annular pieces of sheet metal welded together at their outer edges and spread apart at their inner edges thus forming a space V-shaped in cross section, a hub and radial spokes having their outer ends tapered and shouldered entering the V-shaped space in the rim and riveted thereto, the inner edges of the rim bearing against the shoulders of the spokes.

970,477. STEAM-SEPARATOR. JOSEPH E. DUNN, Philadelphia, Pa. Filed May 23, 1910. Serial No. 562,993.



1. A steam separator comprising spaced members one of which is provided with spirally disposed openings, the other member having spirally disposed vanes which enter said spiral openings, means for admitting steam between the members, and means for effecting adjustment between the members to vary the transverse sectional area of the passages between the vanes.

2. A steam separator comprising spaced members, spirally disposed vanes located between the members and dividing the intervening space into steam passages, and means for varying the transverse sectional areas of the steam passages between the vanes.

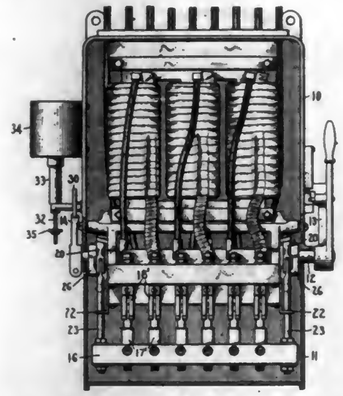
3. A steam separator comprising relatively movable members one of which is provided with spirally disposed openings, the other member having spirally disposed vanes which enter said spirally disposed openings, and a trough located upon that member having the spirally disposed openings, said trough forming an inclosure about the openings.

4. A steam separator comprising a receptacle, a separator proper located therein, and including members spaced from each other, means for adjusting the members with relation to each other, one member having a series of openings, and the other member having a series of vanes which fit snugly in said openings.

5. A steam separator comprising relatively movable members, one member having an annular peripheral portion provided with openings, and a trough extending from the outer portion of the annular portion to the intermediate portion of the member, and the other member having a series of spirally disposed vanes which fit snugly in said openings.

[Claim 6 not printed in the Gazette.]

970,478. CIRCUIT-CONTROLLING DEVICE. PARKER DUNNING, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 10, 1910. Serial No. 566,182.



1. A starting device for electric motors comprising a starting switch and a running switch both biased to open position, an operating handle movable independently thereof and arranged to close the starting switch and open the running switch when moved in one direction and to close the running switch and open the starting switch when moved in the opposite direction, and electrically controlled means for locking the running switch in closed position.

2. A starting device for electric motors comprising a starting switch and a running switch pivoted concentrically and both biased to open position, an operating handle pivoted concentrically with said switches and movable independently thereof, said handle being arranged to close the starting switch and open the running switch when moved in one direction and to close the running switch and open the starting switch when moved in the opposite direction, and electrically controlled means for locking the operating handle in running position.

3. A starting device for electric motors comprising a starting switch and a running switch pivoted independently of each other and both biased to open position, an operating handle therefor arranged to close the starting switch and open the running switch when moved in one direction and to close the running switch and open the starting switch when moved in the opposite direction, and electrically controlled means for locking the running switch in closed position.

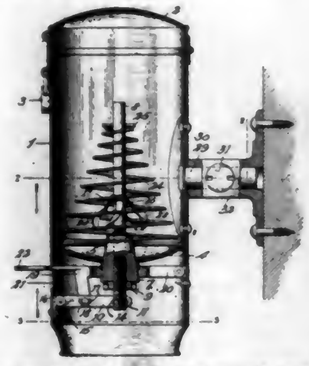
4. A starting device for electric motors comprising a transformer, a normally open switch for connecting the motor to the supply circuit through the transformer, a

second normally open switch for connecting the motor directly to the supply circuit, an operating handle movable independently of said switches and arranged to close one of the switches when moved in one direction and the other of the switches when moved in the opposite direction, means for preventing both of said switches from being closed at the same time, and electrically controlled means for locking said second switch in closed position.

5. A starting switch for electric motors comprising a pair of concentrically pivoted switch arms having contacts connected therewith, an operating handle pivoted concentrically with said arms and movable independently thereof, a member movable with said handle provided with means for moving one of said arms when moved in one direction and the other of said arms when moved in the opposite direction, electrically controlled means for locking one of said arms in operative position, and means for preventing the movement of both of said arms to operative position at the same time.

[Claims 6 and 7 not printed in the Gazette.]

970,479. PULVERIZED-SOAP CONTAINER AND DISPENSER. FOSTER J. DUNWOODY, Denver, Colo. Filed Jan. 11, 1910. Serial No. 537,463.



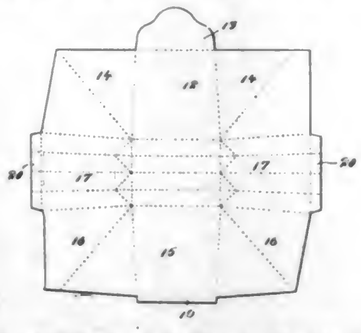
1. In a device as specified, a receptacle provided with a dished bottom near its lower end, having a discharge aperture; a conical valve in said aperture; a stem extending through said valve and into the receptacle; an abutment on said stem; a conical coil spring interposed between said abutment and the dished bottom; a lever connected with the lower end of said valve stem and extending through the receptacle and an agitator rotatably mounted on the valve stem, within the conical spring.

2. In a device as specified, the combination of a cylindrical casing, provided with a cap and with a concave bottom adjacent to its lower end having a discharge outlet therein; a valve in said outlet; an adjustable stem extending through said valve; an arm pivotally attached at one end to the lower ends of the stem and at its opposite end to the casing; an operating lever pivotally attached to said arm and to the casing, the free end of which projects out through a slot in the casing; a spring for normally seating the valve; and a rotatable agitator on the valve stem.

3. In a device as specified, a receptacle; a concave bottom in said receptacle, adjacent to its lower end, having a central opening; a plug valve in said opening; a stem extending beyond each end of said valve, having a pin extending through its upper end; a spring under tension between said bottom and said pin; an arm pivotally attached to the lower end of said stem and to the receptacle; and a lever pivotally attached at one end to the receptacle, and extended through a slot in the opposite side of the same, and having a depending member which is pivotally connected to said arm.

4. In a device as specified, a receptacle provided intermediate of its ends with a concave bottom having an outlet aperture; a plug valve in said aperture; a threaded stem in said valve and a check nut on said stem; an arm pivotally attached at one end to the lower end of the stem and at its opposite end to the casing; a lever pivoted at one end to the casing and having a depending member which is pivotally attached to said arm, and a semi-circular bend concentric with and adapted to extend around said plug valve, the opposite end of said lever projecting through a slot in the receptacle; a spring for normally seating the valve; and an agitator on the valve stem.

970,480. SPUTUM-CUP. GEORGE DAYTON EDDY, Burlington, Vt. Filed July 31, 1909. Serial No. 510,585.



1. In a sputum cup of the character described, the combination with a body portion, of a cover, and means carried by said body portion and lying adjacent said cover when closed for protecting said cover from contact with the contents of said cup.

2. In a sputum cup, the combination with a fear wall having an attached cover, of a front wall having a pocket to receive said cover, and means separate from said cover for guiding the same into said pocket.

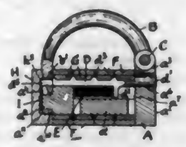
3. In a sputum cup, the combination with a rear wall having an attached cover, of a front wall having a pocket to receive said cover, and a flap carried by said front wall adjacent said pocket for guiding said cover into said pocket and for protecting said cover from contact with the contents of said cup.

4. A sputum cup comprising rear, front, side, and bottom walls, said side and bottom walls being provided with a plurality of bellows folds, said rear wall having an attached cover, and said front wall having a pocket to receive said cover and a flap adjacent said pocket.

5. A sputum cup comprising a box like structure folded from a single blank, said blank having a portion forming the rear wall of the structure and provided with a permanently attached cover, a portion forming the inner surface of the front wall of said structure and having a flap projecting above said wall, and portions folded into flaps at the exterior of said front wall to form a pocket for said cover.

[Claim 6 not printed in the Gazette.]

970,481. KEYLESS PADLOCK. GEORGE W. EDDY, Milwaukee, Wis., assignor of one-half to George Anton Strohhaecker, Milwaukee, Wis. Filed Dec. 16, 1909. Serial No. 533,454.



1. A padlock comprising, in combination, a body or core, a shackle, a plurality of tumblers mounted and adapted

to rotate on said body or core, the latter having a fixed head at one end holding said tumblers in place, a bolt sliding within said core and adapted to engage said shackle, said bolt having devices which are engaged by the respective tumblers, and a cap detachably mounted upon the end of said body or core opposite the head thereof and maintaining said tumblers in position, said cap having one or more inwardly projecting lugs and said body or core having an annular groove engaging said lugs and also one or more notches between said groove and the end face of the core with which said lugs on the cap are adapted to register in removing or replacing said cap; said cap having further a notch receiving the end of the shackle in its closed position and preventing the cap from being rotated.

2. A padlock of the type described comprising a body having a cylindrical shank, a plurality of tumblers mounted and adapted to rotate on said shank, each of said tumblers having a recess on its inner face, said body having a head at one end adapted to retain said tumblers, a longitudinal groove and a spring-chamber in said shank, and a perforation in said head forming a continuation of said groove, a bolt sliding in said groove and perforation and having a head adapted to lie flush with the outer side of said head when the lock is closed, said bolt having further a lug on its lower surface projecting into said spring-chamber and a plurality of lugs on its upper surface adapted to be detained by their respective tumblers, and a spring contained in said spring-chamber abutting against said lug on the lower side of said bolt and adapted to move the latter into releasing position.

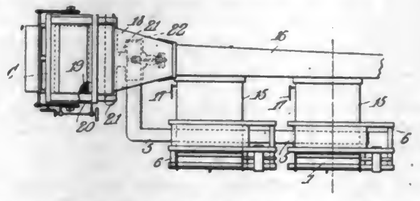
3. A padlock of the type described comprising a body having a cylindrical shank, a plurality of tumblers mounted and adapted to rotate on said shank, each of said tumblers having a recess in its inner face, said body having a head at one end adapted to retain said tumblers, a longitudinal groove and a spring-chamber in said shank, and a perforation in said head forming a continuation of said groove, a bolt sliding in said groove and perforation and having a head adapted to lie flush with the outer side of said head when the lock is closed, said bolt having further a lug on its lower surface projecting into said spring-chamber and a plurality of lugs on its upper surface adapted to be detained by their respective tumblers, a spring contained in said spring-chamber abutting against said lug on the lower side of the said bolt and adapted to move the latter into releasing position and a cap mounted on the end of said body opposite the head thereof.

4. A padlock of the type described comprising a body having a cylindrical shank, a plurality of tumblers mounted and adapted to rotate on said shank, each of said tumblers having a recess in its inner face, said body having a head at one end adapted to retain said tumblers, a longitudinal groove and a spring-chamber in said shank, and a perforation in said head forming a continuation of said groove, a bolt sliding in said groove and perforation and having a head adapted to lie flush with the outer side of said head when the lock is closed, said bolt having further a lug on its lower surface projecting into said spring-chamber and a plurality of lugs on its upper surface adapted to be detained by their respective tumblers, a spring contained in said spring-chamber abutting against said lug on the lower side of said bolt and adapted to move the latter into releasing position, said bolt having further a cylindrical end extending beyond the tumblers and provided with an annular groove, a recess on its upper side adapted to receive the end of the shackle, and a notch on its lower side connecting said groove with the outer face, and a cap having a concentric recess adapted to fit over said end of the body and having further a pair of inwardly projecting snugs adapted to register respectively with said recess and notch and to engage said annular groove when said cap has been rotated; said cap having further a notch on one side thereof engaged by the end of the shackle when closed preventing the cap from being rotated while the shackle is in this position.

5. A padlock comprising a body or core having a cylindrical shank and an enlarged head at one end thereof, a shackle engaging said body, a plurality of tumblers mounted and rotating on said shank, each tumbler comprising two annular elements one within the other and having means for engaging them in various relations to one another, the inner member having an opening at one side and the outer member being provided with reference characters around its circumference, said body or core having a longitudinal groove in the upper side of the shank thereof and a perforation in the head thereof, a bolt sliding in said groove and perforation and having a head adapted when in locked position to lie flush with the outer face of the head of said body or core, said bolt having further a plurality of projections upon its upper face adapted to be detained by the margins of the respective tumblers and to be released when they register with the openings in the inner members of the respective tumblers, said shackle having a slot which is engaged by the end of said bolt, said body or core having an end opposite said head which projects beyond said tumblers and is annularly grooved and provided with a recess on its upper side adapted to receive said shackle, and a cap having a concentric recess adapted to receive the end of said body, a recess on its upper side adapted to receive said shackle which in closed position engages it and prevents it from rotating, and an inwardly extending projection on the margin of said concentric recess which engages said annular groove on the end of the body.

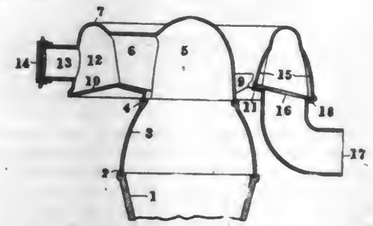
[Claim 6 not printed in the Gazette.]

970,482. COTTON-GIN. THOMAS D. FALLON, Prattville, Ala. Filed July 15, 1909. Serial No. 507,778.



In apparatus of the class described, a lint flue having slots in one end portion and gradually increasing in area from the slotted end thereof toward a point between its ends, gin saws projecting through the slots, nozzles for directing jets of air against the saws and into the flue toward the enlarged portion thereof, a condenser having an inlet and an outlet, a suction flue connecting the lint flue with the inlet of the condenser, said lint and suction flues forming a continuous flue from the nozzles to the condenser, a blast flue connecting the outlet of the condenser with the nozzles, and a fan housed within the blast flue for creating a suction through the lint flue, suction flue and condenser, and for forcing the air through the nozzles and into the lint flue, the blast discharged through the nozzles and into said flue being dissipated in the intermediate enlarged portion of the flue.

970,483. STOVE OR FURNACE RADIATOR. FRANK FIEBEGER, Akron, Ohio. Filed Dec. 6, 1909. Serial No. 531,725.



1. A radiator comprising a dome adapted to be mounted on the heater portion of a stove or furnace, a hollow annular drum conoidal in cross-section embodying top, bot-

tom and inner and outer walls, said drum surrounding said dome and spaced therefrom to provide an air space between the two, said drum having its inner wall provided with an inlet, a hollow neck for establishing communication between said dome and inlet, said drum having the bottom theerof provided with an outlet at a point remote from said inlet, and said drum at a point adjacent to said outlet laterally enlarged to increase the area thereof adjacent to the outlet thereof whereby reverberatory action of the heated products of combustion is established to cause the retarding of the escape of the same through said outlet.

2. A radiator comprising a dome adapted to be mounted on the heater portion of a stove or furnace, a hollow annular drum embodying top, bottom and inner and outer walls, said drum surrounding said dome and spaced therefrom to provide an air space between the two, said drum having its inner wall provided with an inlet, a hollow neck for establishing communication between said dome and inlet, said drum having the bottom thereof provided with an outlet at a point remote from said inlet, and said drum at a point adjacent to said outlet laterally enlarged to increase the area thereof adjacent to the outlet thereof whereby reverberatory action of the heated products of combustion is established to cause the retarding of the escape of the same through said outlet.

3. A radiator comprising a dome adapted to be mounted on the heater portion of a stove or furnace, a hollow annular drum conoidal in cross-section embodying top, bottom and inner and outer walls, said drum surrounding said dome and spaced therefrom to provide an air space between the two, said drum having its inner wall provided with an inlet, a hollow neck for establishing communication between said dome and inlet, said drum having the bottom thereof provided with an outlet at a point remote from said inlet, and said drum at a point adjacent to the outlet thereof laterally enlarged to increase the area thereof whereby reverberatory action of the heated products of combustion is established to cause the retarding of the escape of same through said outlet by which the interior of the drum is constantly and completely filled with said heated products of combustion.

970,484. ANIMAL POKE OR YOKE. HARRISON D. FLOYD, North Fork, Wis. Filed July 31, 1909. Serial No. 510,586.



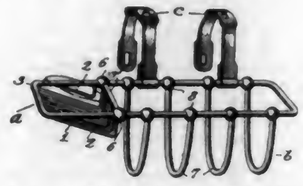
1. In a device of the character described, the combination with a yoke adapted to fit the neck of an animal, of an upwardly and forwardly extending horn rigid with said yoke, and means for connecting said horn with the nose of the animal.

2. In a device of the character described, the combination of a yoke adapted to fit the neck of an animal and having each of its lower ends provided with a plurality of slots, a flat bar adapted to enter said slots and having formed in its edges a plurality of notches each adapted to engage one of the ends of said yoke, an upwardly and forwardly curved horn rigid with said yoke, and means for connecting said horn with the nose of the animal.

3. A yoke adapted to fit the neck of an animal and having an upwardly and forwardly curved extension which is rigid therewith, said yoke being provided at its forked lower portions with a plurality of apertures, combined with a transverse bar adapted to be placed in any of said apertures, and which is provided with means whereby its working length may be varied, a nose-ring, and a chain for connecting the forward end of said extension with the said nose-ring.

4. In a device of the character described, the combination with a yoke adapted to fit the neck of an animal, of a horn projecting from said yoke and provided with a plurality of attaching devices, and means for connecting said horn with the nose of said animal and adapted to be engaged with any of said attaching devices.

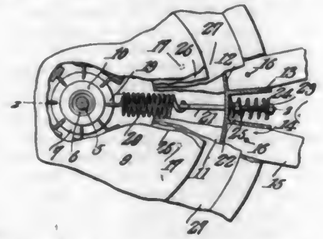
970,485. SOAP-DISH. JOHN S. FREY, New York, N. Y. Filed Nov. 1, 1909. Serial No. 525,684.



1. A wire soap dish having its bottom formed by substantially L-shaped wire members, the bottom-forming portions of which are inclined from back to front and substantially flush with the front bar of the rim of the dish.

2. A combined soap and sponge holder, having a soap receptacle arranged at one or both of the sides of the sponge holder and composed of L-shaped wire members forming the bottom and back of said receptacle, smaller L-shaped wire members at the sides of said receptacle, and a rim member of wire substantially flush with the front ends of the L-shaped members first named, substantially as hereinbefore specified.

970,486. SPRING-WHEEL. GEORGE E. FRIESEN, North Yakima, Wash. Filed Apr. 14, 1909. Serial No. 489,831.

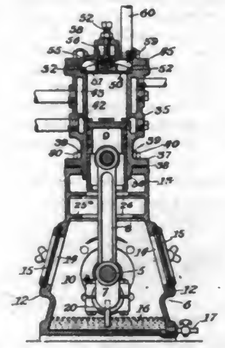


1. In a wheel, normally concentric wheel sections, expansible springs connecting the sections, and slack absorbing compressible springs associated with the expansible springs.

2. In a wheel, normally concentric wheel sections, expansible springs each connected to one section, compressible springs carried by the other section, and a connecting means connected with the expansible springs and with the compressible springs, said means being adjustable to adjust the tension of said springs.

3. In a wheel, normally concentric wheel sections, expansible springs each connected to one section, compressible springs carried by the other section, a rod connected to each of the expansible springs and extending through the related compressible springs, a disk fitted upon the rod, and a nut threaded upon the rod and bearing against the disk to hold the same against one end of the compressible spring, the nut being adjustable upon the rod to adjust the tension of the springs.

970,487. AIR-COMPRESSOR. JOHN WILLIS GARDNER, Quincy, Ill. Filed July 19, 1909. Serial No. 508,427.

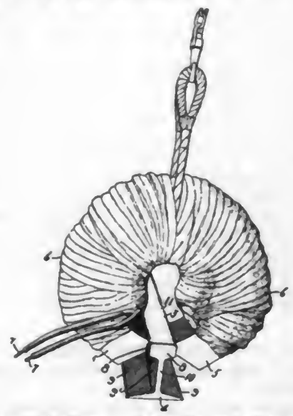


1. In an air compressor, in combination with the crank casing containing a quantity of oil, the crank shaft, the air cylinder and the connecting rod, one or more baffle plates located in said crank casing, each of said baffle plates being provided with an opening through which the connecting rod freely passes, and with other openings at its outer margin through which oil collected upon the upper face of said plate may drain.

2. In a vertical air compressor, in combination with the crank casing which is adapted to contain a quantity of oil, the air cylinder, the crank shaft, the connecting rod, one or more baffle plates located in said crank casing between the crank shaft and the air cylinder, each of said plates being sloped from its central to its outer portion and provided through its center with an opening for the connecting rod and at its outer margin with drain holes.

3. In an air compressor, in combination with the crank casing containing a quantity of oil the crank shaft, the air cylinder and the connecting rod, one or more baffle plates located in said crank casing above the crank shaft, each of said baffle plates being provided through its central portion with an opening through which the connecting rod freely passes and at its margin with drain holes, and said crank casing being provided above said baffle plates with one or more openings.

970,488. MEANS FOR HEATING METALS. EDWARD F. GEHRKENS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 6, 1908. Serial No. 442,150.



1. In combination, a magnetic core having a winding thereon, and a piece of metal, a portion of which is in the magnetic circuit of said core, and a portion or portions to be heated in inductive relation to said winding.

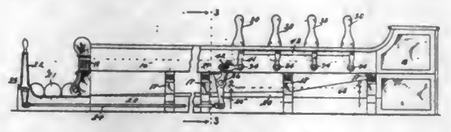
2. In combination, a magnetic core having a gap therein, and a winding thereon, a piece of magnetic material, a portion of which is in said gap and completes the magnetic circuit of said core, and a portion or portions in inductive relation to said winding.

3. In combination, a magnetic core having a winding thereon, and a piece of metal, a portion of which is in the magnetic circuit of said core, and another portion or portions which form a link about the magnetic circuit of said core.

4. In combination, a magnetic core having a gap therein, a winding on said core, and a piece of metal, a portion of which fits in said gap, and another portion or portions which forms a link about the magnetic circuit of said core.

5. In combination, a magnetic core having a gap therein, a winding on said core, and a disk-shaped piece of magnetic metal, a portion of which fits in said gap and completes the magnetic circuit of said core, and another portion or portions which forms a link about the magnetic circuit of said core.

970,489. GAME APPARATUS. WILLIAM M. GENTLE, Greenwood, Ind. Filed June 10, 1909. Serial No. 501,408.



1. A game apparatus including a ball course, alley pins, and means below the upper surface of the ball course and connected with the lower end of each alley pin for pivotally mounting it, so that when struck the alley pin may move to a position below the level of the ball course.

2. A game apparatus including a ball course provided with slots through which the alley pins may disappear when struck, alley pins, and means below the surface of the ball course for pivotally mounting each alley pin.

3. A game apparatus including a ball course provided with slots through which the alley pins may disappear when struck, alley pins, and means connected with the lower end of each alley pin and extending through one of said slots and pivotally mounted below the upper surface of said ball course.

4. A game apparatus including a ball course provided with slots through which the alley pins may disappear when struck, alley pins arranged in transverse rows, a rod extending transversely of the device beneath the ball course, and means connected with the lower end of each alley pin and extending through a slot in the ball course and pivoted on said rod.

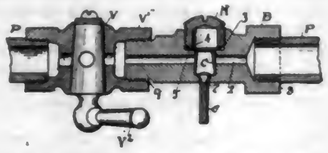
5. A game apparatus including a ball course, alley pins, means below the upper surface of the ball course and connected with the lower end of each alley pin for pivotally mounting it, so that when struck the alley pin will move to a position below the level of the ball course, and means for returning the alley pins to their normal upright positions.

[Claims 6 to 14 not printed in the Gazette.]

970,490. SAFETY DEVICE FOR GAS-SUPPLY CONNECTIONS. WILLIAM GETLEY, South Lorain, Ohio, assignor of two-fifths to Clayton A. Smith, Lorain, Ohio. Filed Mar. 3, 1910. Serial No. 547,082.

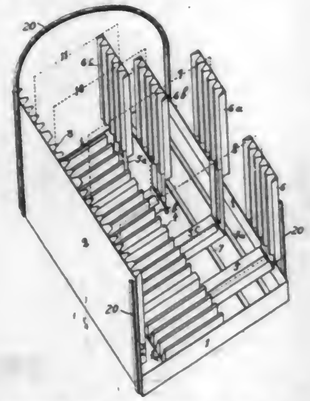
A safety device for gas connections comprising a coupling having an interiorly threaded end and an exteriorly threaded end and a central gas passage with a chamber across the same, said chamber being of greater diameter in its outer than in its inner portion and said outer portion interiorly threaded and said inner portion plain, and said coupling having a tapered opening through the wall thereof into said chamber, in combination with a cup valve of relatively light material in the smaller portion of said chamber and adapted to be raised, a hollow nut

removably screwed within the larger portion of said chamber over said valve and having a sharp bottom seating



edge, and a lift stem for said valve having a tapered head adapted to said tapered opening.

970,491. EXTENSION-RACK FOR PHOTOGRAPHERS. PAUL M. GRANDPERRIN, Sag Harbor, N. Y. Filed July 29, 1909. Serial No. 510,338.



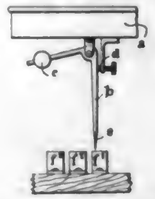
1. The combination in an extension rack composed of a frame which is formed to provide furrows at one side thereof, of a base member 4^a preferably affixed to said frame, of a plurality of extension members movably fitted to one side of said base member which are formed to provide a furrowed portion and are operable to regulate the distance between the grooved side of the frame and the grooved portion of said extension members, for the purposes set forth.

2. The combination in an extension rack, a main frame, a member forming one side of said frame which has furrows for the reception of the edges of photographic plates, a base member 4^a which may have grooves for the reception of the edges of photographic plates, a plurality of extension members movably fitted to said base member embodying suitable guideways and suitable clamping set screws disposed upon the base member 4^a oppositely to its grooves, substantially as described.

3. The combination in an extension rack, a main frame having furrows at one side thereof, a base member to said frame, embodying suitable extension members movably fitted to said base member, said extension members being formed to provide a grooved portion for the reception of the edges of photographic plates, guideways disposed upon said base member and adapted to guide and retain their respective extension members into their operative positions, a plurality of set screws disposed upon said base member, and adapted to clamp their respective extension members in their adjusted positions upon the base member 4^a, substantially as described.

4. The combination in an extension rack, a main frame having furrows at one side thereof, handles to the main frame, and adapted to facilitate the handling of the said extension rack, a base member 4^a affixed to said frame, and adapted so as to form a resting base for the lower extremities of photographic plates embodying suitable extension members movably mounted on said base member 4^a, set screws upon said base member, each of said set screws being operable to clamp its respective extension member in its adjusted position, said extension members being formed to provide suitable furrows for the reception of the edges of photographic plates, and which extension members are operable to regulate the distance between the grooved portion of said extension members and the grooved side of the main frame so as to accommodate plates of different sizes which are to be placed between the said grooved portions and so as to clamp the said plates therebetween so that the plates are held in a safe manner during the handling of said extension rack, substantially as specified.

970,492. APPARATUS FOR PRODUCING MUSIC-SHEETS FOR MECHANICAL PIANO-PLAYERS, &c. WILLIAM HENRY GRIMSDALE, Twickenham, England. Filed Jan. 30, 1909. Serial No. 475,201.



1. Apparatus for producing music sheets for a mechanical piano player or like instrument having perforations such that the area of the air passages through the music sheet into the apertures in the tracker board corresponds with notes of varying intensities.

2. Apparatus for producing music sheets for a mechanical piano player or like instrument comprising in combination means for forming perforations in the music sheet, the air passages through the music sheet into the apertures in the tracker board being of different cross-section, and means for varying said cross-section according to the strength with which the key is struck to form such perforations.

3. Apparatus for producing music sheets for a mechanical piano player or like instrument comprising in combination selectors adapted to the keys of a piano or like instrument, a plurality of pairs of contacts, a plurality of means for forming perforations in the music sheet, said perforating means being operated by said contacts, and means whereby the particular pair of contacts operated, depends on the strength with which the key is struck.

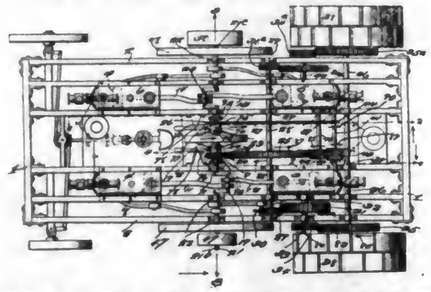
4. Apparatus for producing music sheets for a mechanical piano player or like instrument comprising in combination selectors whose action depends on the inertia of a weight, adapted to the keys of a piano or like instrument, a plurality of pairs of contacts, a plurality of means for forming perforations in the music sheet, said perforating means being operated by said contacts, and means whereby the particular pair of contacts operated, depends on the strength with which the key is struck.

5. Apparatus for producing music sheets for a mechanical piano player or like instrument, comprising in combination a keyboard having a plurality of keys, bell cranked levers pivoted to each of said keys, a weight on one arm of each of said levers, a contact piece on the other arm of each of said levers, a plurality of fixed contacts in connection with each contact piece and means whereby the making of any of said contacts operates a perforating device as and for the purpose described.

[Claims 6 and 7 not printed in the Gazette.]

970,493. TRACTION-GAS-ENGINE GEARING. EMORY C. GAIZZELL, Claflin, Kans. Filed Feb. 12, 1910. Serial No. 543,624.

1. In a traction engine; the combination of a framework, comprising two parallel beams equally spaced apart upon each side thereof, and two intermediate parallel beams, and a rear shaft extending transversely of each beam having traction wheels thereon and provided with gears; of a driven crank shaft having a pinion and sprocket wheel; a forward shaft mounted in bearings of each beam, positioned adjacent the crank shaft and provided with an intermediate gear, meshing with the pinion of the crank shaft and a pinion at either end; said first named parallel beams having short shafts mounted in bearings thereof; said short shafts having gears meshing with the gears and the pinions of the rear and forward shafts; short shafts mounted in bearings of the intermediate beams having inter-meshing pinions, one being in gear with the intermediate gear, one of said last named short shafts having a sprocket provided with an endless connection with the sprocket of the crank shaft.

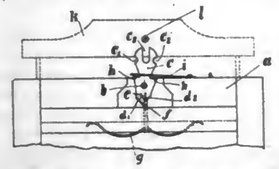


2. In a traction engine; the combination of a framework comprising two parallel beams equally spaced apart upon each side thereof, and two intermediate parallel beams, and a rear shaft extending transversely of each beam having traction wheels thereon and provided with gears; of a crank shaft having a pinion and sprocket wheel; a forward shaft mounted in bearings of each beam, positioned adjacent the crank shaft and provided with an intermediate gear, meshing with the pinion of the crank shaft and a pinion at either end; said first named parallel beams having short shafts mounted in bearings thereof; said short shaft having gears meshing with the gears and the pinions of the rear and forward shafts; short shafts mounted in bearings of the intermediate beams having inter-meshing pinions, one being in gear with the intermediate gear, one of said last named short shafts having a sprocket provided with an endless connection with the sprocket of the crank shaft; and a pair of engines located upon either side of the crank shaft having connections therewith for driving the crank shaft.

3. In a traction engine; the combination of a framework, comprising two parallel beams equally spaced apart upon each side thereof, and two intermediate parallel beams, and a rear shaft extending transversely of each beam having traction wheels thereon and provided with gears; of a crank shaft having a clutch wheel and provided with a pinion and sprocket wheel; a forward shaft mounted in bearings of each beam, positioned adjacent the crank shaft and provided with an intermediate gear, meshing with the pinion of the crank shaft and a pinion at either end; said first named parallel beams having short shafts mounted in bearings thereof; said short shafts having gears meshing with the gears and the pinions of the rear and forward shafts; short shafts mounted in bearings of the intermediate beams having inter-meshing pinions, one being in gear with the intermediate gear, one of said last named short shafts having a sprocket provided with an endless connection with the sprocket of the crank shaft; means for driving the crank shaft; and means carried by the crank shaft to coöperate with the clutch wheel whereby the traction wheels may be reversed in motion.

970,494. EXPOSURE-INDICATOR FOR PHOTOGRAPHIC-PLATE HOLDERS. OTTO HALLE, Oranienburg, Germany. Filed Mar. 11, 1909. Serial No. 482,766.

1. In an exposure indicator for plate-holders the combination of a spring controlled locking means for locking the shutter, and a locking member arranged on the shutter and coöperating with said locking means, with means arranged in the chamber of the plate-holder and adapted to be operated by the pressure of the plate inserted to operate said locking means so as to move it into and out of the path of said locking member.

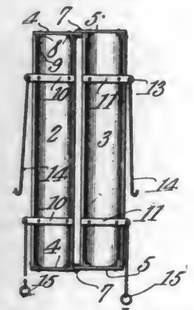


2. In an exposure indicator for plate-holders the combination of a spring controlled locking means provided with two notches for locking the shutter, and a locking pin arranged on the shutter, with means arranged in the chamber of the plate holder and adapted to be operated by the pressure of the plate inserted to operate said locking means so as to move the notches into and out of the path of the locking pin.

3. In an exposure indicator for plate-holders the combination of a spring-controlled locking member provided with two notches for locking the shutter, and a locking pin arranged on the shutter and coöperating with said locking member, with a spring-operated rod projecting into the chamber of the plate-holder and adapted to be operated upon insertion of the plate and to move said locking member into the path of said locking pin in order to allow the engagement of said pin with said notches when the plate is inserted and upon removal of the plate from the plate-holder to move said notches out of the path of said pin.

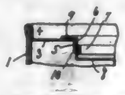
4. In an exposure indicator for plate-holders the combination of a spring controlled locking means provided with two notches for locking the shutter, and a locking pin arranged on the shutter, with spring-operated rod pivotally mounted in the frame and projecting into the chamber of the plate-holder and adapted to be operated upon insertion of the plate to move said locking means into the path of said locking pin in order to allow the engagement of said pin with the locking notches when the plate is inserted, upon removal of the plate from the plate-holder to move said locking means out of the engagement position.

970,495. FENCE-STRETCHER. GEORGE W. HAMMOND, Autreyville, Ga. Filed Jan. 10, 1910. Serial No. 537,245.



A fence stretcher comprising two semi-tubular members, straps secured diametrically across their ends and having their inner extremities lapping each other and pivoted, braces secured across their open sides at intervals and having their outer extremities extending beyond the outer edges of said members and provided with eyes, rods engaging said eyes and leading to rings, and a hook connecting said rings and attached to a stretching cable.

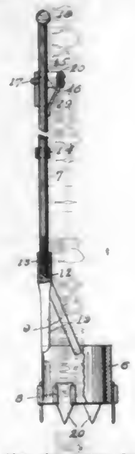
970,496. CONTAINER-CLOSURE. JERVIS R. HARBECK, Detroit, Mich., assignor, by mesne assignments, to Detroit Can Company, Detroit, Mich., a Corporation of New Jersey. Filed Oct. 12, 1908. Serial No. 457,229.



1. In a container, the combination of a head having an inwardly extending flange, a closure comprising a flanged body having a circumferential groove so positioned that when the closure is in place the lower edge of the flange on the head will be opposite said groove, and a gasket in said groove partially projecting over the lower edge of said flange.

2. In a container, the combination of a head having a downwardly extending cylindrical flange, a closure comprising a cylindrical portion having one end closed and having a circumferential groove so positioned that when the closure is in place, the lower edge of the flange on the head will be opposite said groove, and a flexible gasket seated in said groove and partially projecting over the lower edge of said flange to seal the joint between the closure and head.

970,497. ATTACHMENT FOR CRUTCHES. KATHRYN DOROTHY HARDING, Evanston, Ill. Filed Apr. 24, 1908. Serial No. 429,068.



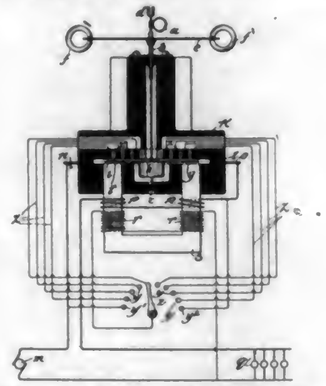
1. In a device of the character described, the combination with a crutch of a tubular member surrounding the tip of the crutch, detachable teeth mounted upon said member, a plurality of arms extending upwardly from said member, said arms forming a socket having internal threads therein, a rod mounted in said socket, a series of bearings for said rod said bearings being detachably secured to said crutch, means to project or retract said member and teeth, means to hold said member in position.

2. In a device of the character described, the combination with a crutch of a tubular member surrounding the tip of the crutch, a plurality of teeth formed on the lower edge of said member, a plurality of arms extending upwardly from said member, said arms forming a socket having internal threads therein, a rod mounted in said socket, a series of bearings for said rod, said bearings being detachably secured to said crutch, means to project or retract said member and teeth, means to hold said member in position.

3. In a device of the character described, the combination with a crutch of a tubular member surrounding the tip of the crutch, detachable teeth mounted on said member, a rod detachably secured to said member, a series of bearings for said rod, said bearings being detachably secured to said crutch, means to project or retract said member and teeth, means to hold said member in position.

4. In a device of the character described, the combination with a crutch of a tubular member surrounding the tip of the crutch, detachable teeth mounted upon said member, a rod detachably secured to said member, a series of bearings for said rod, said bearings being detachably secured to said crutch, means to project or retract said member and teeth, spring actuated means to hold said member in position.

970,498. ELECTRIC METER. JESSE HARRIS, La Fayette, Ind., assignor to Duncan Electric Manufacturing Company, La Fayette, Ind., a Corporation of Illinois. Filed May 3, 1909, Serial No. 493,543. Renewed July 5, 1910. Serial No. 570,398.



1. An electric meter including an armature, a liquid-containing chamber inclosing said armature, a storage chamber serving to hold the liquid to be used in the aforesaid chamber, a passage intervening between said chambers, and a valve in said passage for preventing or permitting flow between said chambers.

2. An electric meter including an armature, a liquid-containing chamber inclosing said armature, a storage chamber serving to hold the liquid to be used in the aforesaid chamber, a passage intervening between said chambers, and means for preventing or permitting flow between said chambers.

3. An electric meter having current and pressure-circuits and including a chamber inclosing the meter armature and holding liquid which forms a part of the current-circuit, and regulable means whereby varying portions of the liquid may also be included in the pressure-circuit.

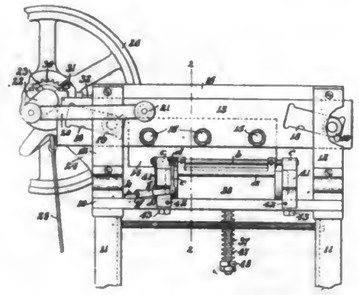
4. An electric meter including an armature, a liquid-containing chamber inclosing said armature, circuit connections whereby the liquid may be included serially in a distribution circuit, and regulable means whereby varying portions of the liquid may be included across the mains of the distribution circuit.

970,499. MACHINE FOR MAKING SKIVED BLANKS. LESLIE L. HARTWELL, Chelsea, Mass., assignor to Arthur G. Walton, Wakefield, Mass. Filed Nov. 4, 1909. Serial No. 526,299.

1. A machine of the character described, comprising a work-supporting member, a cutter for severing the work at an acute angle relatively to said supporting member, and means for clamping the work on both sides of the line of cut.

2. A machine of the character described, comprising a work-supporting member, a cutter for severing the work at an acute angle relatively to said supporting member, means for clamping the work on both sides of the line of cut, and means for automatically releasing the entire clamping action after the cutter has performed its work.

3. A machine of the character described comprising a work-supporting member, a cutter for severing the work at an acute angle relatively to said supporting member, a support for one face of the work, below the edge of the cutter at its extreme of movement, and means for clamping the work on both sides of the line of cut.

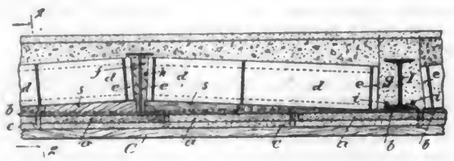


4. A machine of the character described comprising a work-supporting member, a cutter for severing the work at an acute angle relatively to said supporting member, a presser-foot or bar automatically movable toward and from the work at a point approximately in the plane of the lower limit of movement of the cutter, and means for actuating said presser.

5. In a blank making machine, a cutter member and a work-supporting member, one of said members being automatically variable in its angle relatively to the other member according to the thickness of the work, and a presser-foot or bar movable toward and from the work to clamp it at approximately the point where the cutter leaves the work.

[Claims 6 to 8 not printed in the Gazette.]

970,500. FIREPROOF FLOOR CONSTRUCTION. HENRY L. HINTON, New York, N. Y. Filed Aug. 10, 1908. Serial No. 447,697.



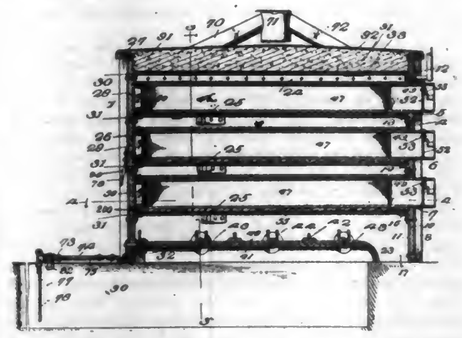
1. A fire proof floor construction comprising I beams a lower course formed of ribbed tile plates and cement flowed into the spaces between the ribs under said plates, and forming a layer above the plates, tie rods connecting the I beams embedded in said layer, a pitched arch of hollow tile blocks between the I beams, cement beams surrounding the I beams, and bonding with said lower course and forming skew-backs for the arch, and a cement key block for the arch bonding with said lower course, substantially as set forth.

2. In a fire proof floor construction the combination of a lower cement course, arch supporting blocks whereby the pitch of the arch is determined resting thereon, hollow tile arch blocks resting on said supporting blocks, I beams and cement beams surrounding the I beams and forming skewbacks for the arch, substantially as set forth.

3. A fire proof floor construction comprising I beams, a pitched arch of hollow tile blocks between the I beams, a course below said arch formed of ribbed tile plates and cement flowed into the spaces between the ribs under said plates and forming a layer above the plates, cement beams surrounding the I beams and bonding with said lower course and forming skewbacks for the arch, and a cement key-block for the arch bonding with said lower course, substantially as set forth.

4. A fire proof floor structure comprising a pitched hollow tile arch, cement courses above and below said arch, key-blocks and skewbacks for said arch formed of cement and bonding with both said courses and tile plates embedded in the lower cement course, substantially as set forth.

970,501. OVEN. LUCIUS R. HOLBROOK, Fort Riley, Kans., assignor of one-half to Patrick Dunne, Fort Riley, Kans. Filed Dec. 24, 1909. Serial No. 534,810.



1. A portable oven comprising a casing composed of a series of sections, one of said sections having a plurality of openings, detachable clips for securing the sections together at the abutting corners, an exit flue at the upper end of the casing, a series of baking chambers in the casing and spaced from the side walls thereof to form passages for the exit of the products of combustion, the baking chambers having reduced extensions extending through the openings in the casing, a door in each reduced extension, supporting bars on the front and rear sections of the casing to support the baking chambers, a cover plate for a fire pit formed in the earth under the casing, the casing and cover plate being adapted to be independently supported by the earth at the sides of the fire pit, and flues in the cover plate for the exit of the products of combustion to the passages.

2. A portable oven comprising a casing composed of a series of sections, one of which is formed with openings, an exit flue at the upper end of the casing, a series of baking chambers in the casing and spaced from the sides of the latter to form an exit passage for the escaping products of combustion, the baking chambers having extensions which protrude through the openings in the casing, a door for each extension, bars on the front and rear sections of the casing to support the baking chambers, a baffle plate located between each baking chamber and the casing, the baffle plates being disposed on the opposite side of each successive baking chamber to provide a circuitous path in the exit passage for the products of combustion, each baking chamber having a layer of heat resisting material, the layer of heat resisting material decreasing in proportion on each baking chamber from the bottom toward the top, a cover plate for a fire pit formed in the earth below the casing, the casing and cover plate being adapted to be independently supported by the earth at the sides of the fire pit, and flues in the cover plate for the exit of the products of combustion into the exit passage.

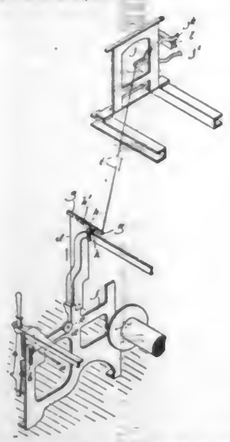
3. A portable oven comprising a casing composed of sections, a plurality of removable baking chambers in the casing, and spaced from the latter to form a passage for the products of combustion, bars on the inside of the casing to support the baking chambers, a cover plate to fit over a fire pit dug under the casing, said cover plate and casing adapted to be independently supported by the earth adjacent said pit, and flues in the cover plate for the exit of the products of combustion to the passage.

4. A portable oven comprising a casing composed of sections having outwardly extending flanges at the abutting corners, detachable clips engaging the outwardly extending flanges to secure the sections together, a series of baking chambers supported in the casing and spaced from the same, a baffle plate extending from each baking chamber toward the casing to provide a circuitous passage for the products of combustion, a cover plate to fit over a fire pit dug in the earth under the casing, the casing and cover plate being adapted to be independently supported by the earth at the sides of the fire pit, flues extending from the cover plate for the exit of the products of combustion to the circuitous passageway, and an exit flue at the upper end of the casing.

5. A portable oven comprising a casing adapted to be supported on the earth around a fire pit, and made in sections, each section comprising a frame of angle iron and two sheets of metal with an interposed layer of heat resisting material, one of said sections having openings, substantially U shape clips and bolts for engaging the angle irons at the abutting corners of the sections to secure the latter together, supporting bars on the inside of the sections below the top edges of the latter, a top section supported on said bars, heat resisting material on the top, a water proof covering over the latter heat resisting material, removable baking chambers having reduced extensions, the extensions protruding through the openings in the section, said baking chambers being spaced from the casing to form an exit passage, bars on the front and rear sections for supporting the baking chambers, a cover plate to fit over a fire pit dug in the earth under the casing, the edges of the cover plate resting on the earth each side the pit and supported independently of the casing, flues extending from the cover plate and communicating with the exit passage, and an exit flue at the upper end of the casing.

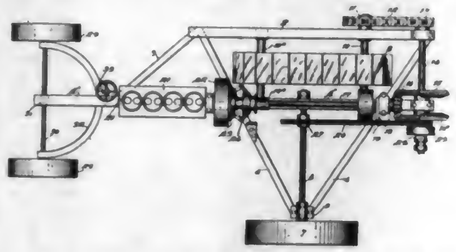
[Claims 6 to 10 not printed in the Gazette.]

970,502. CHANGE-CONTROLLING MECHANISM FOR JACQUARDS EMPLOYED IN AUTOMATIC WEFT-REPLENISHING LOOMS. DENIS MACHELL HOLLINS, Blackburn, England, assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 12, 1910. Serial No. 560,777.



In an automatic weft-replenishing loom, a change rod or shaft adapted to be rocked by or through failure of the working weft to effect thereby weft-replenishment, combined with a jacquard pattern-cylinder, a double cylinder-hook to effect rotative movement of said cylinder in one or the other direction, coöperation of the lower hook with the cylinder effecting reverse rotation thereof, and means actuated by rocking of said change rod or shaft to change the position of said cylinder-hook into coöperation with the pattern-cylinder to cause reversed rotation thereof.

970,503. TRACTION-ENGINE. BENJAMIN HOLT, Stockton, Cal. Filed Aug. 24, 1909. Serial No. 514,304.



1. The combination in a traction engine of a single longitudinally disposed frame beam, a supplemental parallel beam connected and carried thereby, an endless platform belt traction member located contiguous to and parallel with the main beam, a motor carried upon said main beam, and means transmitting power from the motor to the traction member, and a pivot-wheel on the frame, opposite the traction member.

2. The combination in a traction engine, of a single main beam frame, a steering mechanism pivoted to the front end of said beam, a motor mounted upon the beam at the rear of the steering mechanism, a motor shaft journaled longitudinally upon said beam, an endless traveling platform belt mounted contiguous to the beam, and mechanism through which power is transmitted from the motor to the platform belt, and a bearing wheel mounted on a triangular extension of the frame.

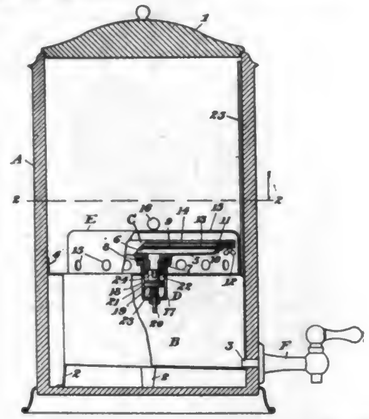
3. The combination in a traction engine, of a single main beam, a steering mechanism connected with the front of said beam, a motor carried upon the beam at the rear of the steering mechanism, a transmission shaft journaled upon said beam, and a disengageable clutch connecting it with the engine shaft, an endless platform belt mounted contiguous to the main beam, sprocket-wheels, connecting chain and gearing through which power is transmitted from the drive shaft to the endless traction member, and means for reversing the motion thereof, and a bearing wheel mounted on a triangular extension of the frame.

4. The combination in a traction engine, of a single main beam, a steering mechanism connected with the front end thereof, a motor mounted upon said beam, a transmission shaft journaled longitudinally thereon at the rear of the motor, and a clutch mechanism connecting said shaft with the engine shaft, a shaft journaled across the rear of the main beam having beveled gear-wheels fixed thereto facing each other, a pinion carried by the transmission shaft, means by which said pinion may be engaged with either of the gears, an endless traveling traction member mounted parallel with and contiguous to the main beam, and sprocket wheels and chains whereby motion may be transmitted from the gear shaft to drive said traction member, and a bearing wheel mounted on a triangular extension of the frame.

5. The combination in a traction engine, of a single main beam having a steering apparatus connected with the front, a motor mounted upon said beam, a transmission shaft journaled longitudinally thereon, a clutch mechanism whereby the transmission shaft is disengageably connected with the engine shaft, an endless traction member mounted contiguous to the main beam, sprocket-wheel and chains through which motion is transmitted to drive said member, a countershaft having beveled gears facing each other, and upon which shaft one of said sprocket-wheels is mounted, a pinion fixed to the transmission shaft, a shift lever in which the rear end of the shaft is journaled, and a universal joint coupling at the front end of said shaft whereby the pinion may be moved to engage with either of the gears, and a bearing wheel mounted on a triangular extension of the frame.

[Claims 6 and 7 not printed in the Gazette.]

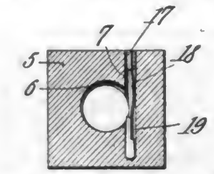
970,504. COMBINED WATER COOLER AND FILTER. WOLCOTT A. HULL, New York, N. Y., assignor to George J. T. Hennings, New York, N. Y. Filed June 13, 1907. Serial No. 378,690.



1. In combination, a tank comprising a single chamber to receive ice and water to be filtered; a filtered water reservoir near the bottom of said tank surrounded above, below and on the side with the contents of the tank, and having a central opening through its top; a broad, shallow cup having a central bottom opening, said cup being located on top of the filtered water reservoir in removable connection therewith, with its bottom separated by a space therefrom and with its opening in communication with the opening in the top of the reservoir; a disk of filtering medium secured horizontally across the interior of said cup; a valve controlling the opening into the filtered water reservoir, said valve having normal tendency to close said opening and being pressed by the filter cup and opened when the cup is connected with the filtered water reservoir; and a faucet on the outside of the tank and connecting through the tank with the filtered water reservoir.

2. In combination, a tank comprising a single chamber to receive ice and water to be filtered; a filtered water reservoir near the bottom of said tank surrounded above, below and on the side with the contents of the tank, and having a central opening through its top; a cup provided with filtering material and having a bottom opening, said cup being located on top of the filtered water reservoir in removable connection therewith, with its bottom separated by a space therefrom and with its opening in communication with the opening in the top of the reservoir; and a faucet on the outside of the tank, connecting through the tank with the filtered water reservoir.

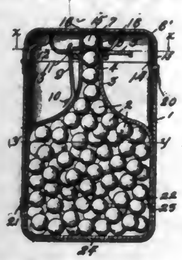
970,505. NUT-LOCK. DANIEL JOHNSON, Columbus Grove, Ohio. Filed Mar. 22, 1910. Serial No. 550,941.



1. A lock nut formed with a bore opening between its ends into the bolt opening of the nut, a pawl seated in the closed end of the bore and having a biting edge projecting into the bolt opening, a spring fitted into the bore and secured at one end therein and bearing between its ends against one side of the wall of the bore and at its free end projecting away from the said side of the wall of the bore and bearing against the pawl.

2. A lock nut formed with a bolt opening and with a bore opening between its ends into the bolt opening, a pawl fitted in the bore at the closed end thereof and having a convex butt end whereby to adapt it to rock in the bore, the tip end of the pawl projecting into the bolt opening of the nut, and a spring disposed in the bore and having an end bearing against the pawl.

970,506. POCKET-IGNITER. HERBERT F. JONES, Oconto, Wis. Filed Mar. 11, 1910. Serial No. 548,653.



1. In a device of the described class, the combination of a receptacle for combustible pellets, a funnel located in said receptacle having converging walls forming a passage for a series of said pellets, a cage located at the discharge end of said passage adapted to admit but one pellet at a time, a slidable partition supported from the upper end of said funnel provided with an aperture for the passage of said pellets, said partition being interposed between the discharge end of said passage and said cage, a cover hinged at one side to said receptacle, means connected with said cover for moving said slidable partition in one direction, a spring connected with said funnel and adapted to move said partition in the opposite direction, and means for igniting a pellet in said cage as said partition is moved by said spring.

2. In a device of the described class, the combination of a receptacle for combustible pellets, a funnel located in said receptacle having converging walls forming a passage for a series of said pellets, a cage located at the discharge end of said passage adapted to admit but one pellet at a time, a slidable partition supported from said funnel provided with an aperture for the passage of said pellets, said partition being interposed between the discharge end of said passage and said cage, a cover hinged at one side to said receptacle, an arm rigidly connected with said cover and adapted as said cover is closed to move said partition in one direction, a catch for retaining said cover in its closed position, a push button for releasing said catch and cover, a spring supported from said funnel for throwing said cover into its open position and simultaneously moving said partition and means for igniting said pellets and simultaneously closing communication between the ignited pellets in said cage and those in said receptacle.

970,507. SASH-LOCK. THEODORE N. JONES, Boulder, Colo., assignor to The Powers Burglar Proof Sash Lock Company, Hastings, Nebr. Filed Dec. 6, 1909. Serial No. 531,640.

1. A sash lock comprising a spindle and two members mounted thereon, one member being fast and the other loose on the spindle, one of the members being slotted to receive a projection with which the other member is provided, the two members being of different radius, substantially as described.

2. A sash lock comprising a casing, a spring-held spindle and two sash locking segmental members of different radius, one member being fast on the spindle while the

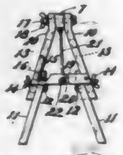
other member is loose thereon, a spring for normally holding the spindle in a predetermined position and means for connecting the two segmental members, whereby one member is allowed to move a considerable distance independently of the other member, for the purpose set forth.



3. A sash lock composed of a spindle, two sash locking members of different radius mounted on the spindle one being fast and the other loose thereon and an interlocking connection between the two members whereby they are adapted to overlap during the performance of their function, for the purpose set forth.

4. A sash lock composed of a spring tensioned spindle, and two sash locking members of different radius mounted on the spindle one being fast and the other loose thereon, and an interlocking connection between the two members whereby they are adapted to overlap, the fast member picking up and actuating the loose member during the operation of the device substantially as described.

970,508. ADJUSTABLE HORSE. CHARLES KAMRATH, North Milwaukee, Wis. Filed Apr. 9, 1908. Serial No. 426,006.

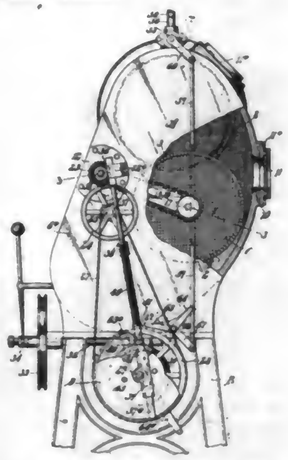


In a horse, the combination of a main top portion, divergent legs at opposite ends of said top portion, a spreader bar connecting each pair of divergent legs, each spreader bar formed between its ends with a bayonet slot, brace rods pivoted to the under side of the top, and adapted to have their outer ends engage the bayonet slots of the brace bars, and nuts on the outer ends of said brace rods and adapted to be turned against the brace bars.

970,509. APPARATUS FOR IMPREGNATING POROUS ARTICLES. JOHN H. KETCHESON and RUDOLPH W. GOBB, St. Louis, Mo., assignors to United States Fibre Stopper Company, St. Louis, Mo., a Corporation of South Dakota. Filed June 19, 1908. Serial No. 439,434.

1. In an apparatus of the class described, a fixed air tight container adapted to hold a filling solution, means whereby a partial vacuum is established within the container, a rotating cage arranged for independent operation within the container, and means whereby said cage is raised and lowered in order to dip said cage and its contents into the filler.

2. In an apparatus of the class described, a fixed air tight container adapted to hold a filling solution, means whereby a partial vacuum is established within the container, means whereby fluid under pressure is delivered to the container, a rotating cage arranged for independent operation within the container and means whereby said cage is lowered and raised whereby said cage is dipped into the filling solution.



3. In an apparatus of the class described, a fixed air tight container adapted to hold a filling solution, means for alternately establishing a partial vacuum within the container and delivering fluid under pressure within the container, an independently operating cage arranged for rotation within the container, and means whereby said cage is lowered and raised for dipping said cage into the filling solution.

4. In an apparatus of the class described, a closed container adapted to hold a filling solution, a rotating cage arranged for operation within the container, a shaft journaled in one of the walls of said container, a swinging arm fixed on the inner end of said shaft for supporting said cage and means on the exterior of the container for imparting rotary motion to the cage and actuating said swinging arm.

5. In an apparatus of the class described, a closed container adapted to hold a filling solution, a shaft journaled in one of the walls of the container, a cage fixed on said shaft and arranged for operation within the container and adapted to receive and hold the articles to be impregnated, and means on the exterior of the container whereby said cage is simultaneously rotated and moved vertically.

[Claims 6 to 28 not printed in the Gazette.]

970,510. ATTACHMENT MEANS FOR BINDER-POSTS. REINHOLD KAUMMING, Milwaukee, Wis. Filed Aug. 22, 1908. Serial No. 449,828.



1. The process of attaching tubular posts to binder-backs consisting in forming a reduced end or nipple on the end of the post having a shoulder at its base, forming a circular hole in the binder-plate adapted to fit said nipple and having one or more notches or recesses in the margin thereof, inserting said nipple in said hole, riveting the protruding end of said nipple over the face of the back-plate, and finally depressing the metal of said nipple into said recesses.

2. The process of attaching tubular posts to binder-backs consisting in forming a nipple of reduced section on the end of the post by making a longitudinal annular cut and turning up the metal to form an annular projecting fin at the base of said nipple, forming a hole in the back-plate adapted to fit said nipple, inserting said nipple in said hole, and riveting the protruding end of said nipple over the face of said back-plate.

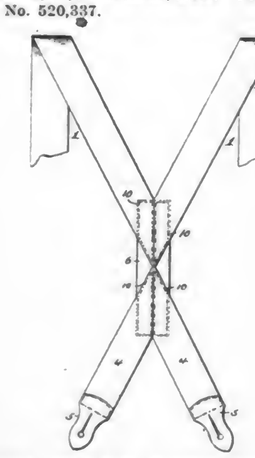
3. The process of attaching tubular posts to binder-backs consisting in forming a nipple of reduced section on the end of the post by making a longitudinal annular cut and turning up the metal to form an annular projecting fin at the base of said nipple, forming in the back-plate a circular hole adapted to fit said nipple and having one or more marginal notches therein, inserting said nipple in said hole, riveting the protruding end of said nipple over the face of said back-plate, and depressing the metal of said nipple into said notch or notches.

4. The combination of a tubular binder-post having a reduced end, and a back-plate having a circular hole fitting said reduced end and provided with one or more marginal recesses, said reduced end being riveted over the face of said back-plate and the metal thereof depressed into said recess or recesses.

5. The combination of a binder-post having a reduced end and an annular flange at its base formed integrally with said reduced end, and a back-plate having a circular hole fitting over said reduced end, the metal of said reduced end being riveted over the face of said back-plate.

[Claims 6 to 9 not printed in the Gazette.]

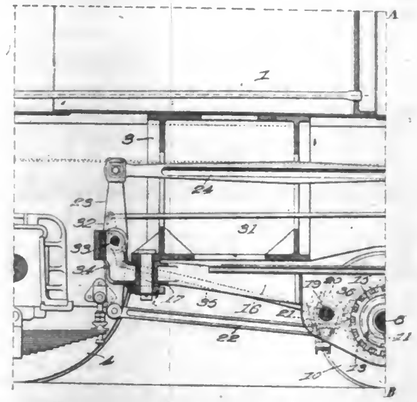
970,511. SUSPENDERS. CHARLES A. LATIONS, Worcester, Mass., assignor of one-half to American Narrow Fabric Company, Worcester, Mass. Filed Sept. 30, 1909. Serial No. 520,337.



Suspenders comprising shoulder members, rear end members and a back connecting member, the shoulder members and the rear end members each made of single pieces of webbings having portions intermediate of their ends removed on diagonal lines and stitched together on diagonal lines, the surplus portions of the webbings lying flat against the latter, the apexes of the shoulder members and the rear end members lying against the outer face of the back connecting member and secured to the latter.

970,512. LOCOMOTIVE. HERMANN LIECHTY, Berne, Switzerland. Filed Nov. 15, 1905. Serial No. 287,520.

1. A locomotive engine provided with a frame structure, a supporting truck pivotally connected to said frame and provided with a plurality of axles and wheels, means for connecting said axles to cause the same to rotate in unison, a gear mounted on one of said axles, a clutch for coupling and uncoupling said gear to and from said axle, the teeth of said gear being arched on a center coincident with the pivotal mounting of said truck, an auxiliary frame pivotally mounted on said locomotive frame at one end and movably mounted on said truck at the other end, the mounting of said frame having its axis coincident with the axis of said truck mounting, a crank shaft mounted in said auxiliary frame and provided with a crank, a gear mounted on said shaft and adapted to mesh with said first mentioned gear, an auxiliary cylinder provided with a piston, means connecting said piston with said crank whereby power may be transmitted to said truck, a valve for said cylinder, and means connecting said valve with said shaft whereby the admission of pressure fluid may be controlled.



2. In combination, a locomotive engine provided with a frame structure, a supporting truck pivotally connected to said frame and provided with a plurality of axles and wheels, means for connecting said axles to cause the same to rotate in unison, a gear mounted on one of said axles, a clutch for coupling and uncoupling said gear to and from said axle, an auxiliary frame pivotally mounted on said locomotive frame on one end and movably mounted on said truck at the other end, a crank shaft mounted in said auxiliary frame and provided with a crank, a gear mounted on said crank shaft and adapted to mesh with said first mentioned gear, a cylinder provided with a piston, means connecting said piston with said crank whereby power may be transmitted to said truck, a valve for said cylinder, and means connecting said valve with said crank shaft whereby admission of pressure fluid may be controlled.

3. In combination, a locomotive engine provided with a frame structure, a supporting truck pivotally connected to said frame and provided with a plurality of axles and wheels, means for connecting said wheels to cause the same to rotate in unison, a gear mounted on one of said axles, a clutch for coupling and uncoupling said gear to and from said axle, an auxiliary frame, a crank shaft mounted in said frame and provided with a crank, a gear mounted on said crank shaft and adapted to mesh with said first mentioned gear, an auxiliary cylinder provided with a piston, means connecting said piston with said crank whereby power may be transmitted to said truck wheels, a valve for said cylinder, and means connecting said valve with said crank shaft whereby admission of pressure fluid may be controlled.

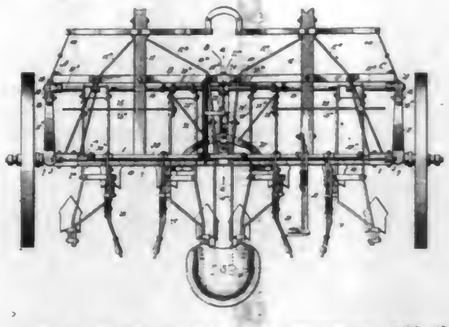
4. In combination, a locomotive engine provided with a frame structure, a supporting truck movably connected with said frame and provided with a plurality of axles and wheels, means for connecting said wheels to cause the same to rotate in unison, a gear mounted on one of said axles, means for coupling said gear to and from said axle, an auxiliary frame, a crank shaft mounted in said frame, a gear mounted on said crank shaft and adapted to mesh with said first mentioned gear, and an auxiliary source of power connected with said crank shaft.

5. In combination, a locomotive engine, a movably mounted supporting truck therefor provided with a plurality of axles and wheels, means whereby said wheels are caused to rotate in unison, a gear mounted on one of

said axles, means for coupling and uncoupling said gear to and from said axle, a crank shaft provided with a gear meshing with said first mentioned gear, and an auxiliary source of power connected with said crank shaft.

[Claims 6 to 8 not printed in the Gazette.]

970,513. TWO-ROW CULTIVATOR. ALEXUS C. LINDGREN, Moline, Ill., assignor to Moline Plow Company, a Corporation of Illinois. Filed Sept. 30, 1908. Serial No. 455,465.



1. In a wheeled cultivator, the combination with the frame, of a transversely movable beam support, a lever mechanism sustained by the frame and operatively connected with said beam support for shifting the same laterally, beams carried by the support and movable thereon laterally with relation to the support, a connecting member between the frame and beam support movable laterally with the beam support, and a lever mechanism carried by said connecting member and operatively connected with the beams for adjusting the same laterally on the beam support.

2. In a two-row wheeled cultivator, the combination with a frame, of a single beam support sustained by said frame and movable bodily as a unit transversely thereof, a lever mechanism for controlling said movements of the beam support, two pairs of cultivator beams carried by said beam support and movable transversely thereon with reference to the support, a lever mechanism operatively connected with the inner beam of each pair for adjusting said pairs to and from each other simultaneously, and adjustable connections between the individual beams of each pair; whereby while the distance between the pairs of beams, and the distance between the individual beams of each pair may be varied independently, the entire set of beams may be shifted transversely in their adjusted position.

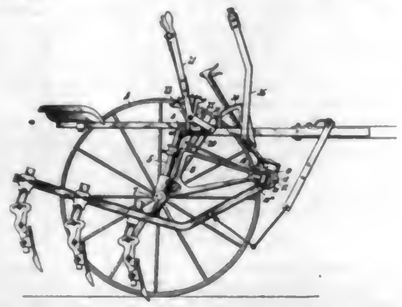
3. In a wheeled cultivator, the combination with the frame, of a transversely movable unitary beam support, beams carried by the support, a horizontally disposed foot lever mounted to rock on an axis between its ends, and connecting devices between said foot lever respectively on opposite sides of its axis and the beam support; whereby by the actuation of the foot lever, the beam support is subjected to both a pulling and pushing force acting in the same direction.

4. In a wheeled cultivator, the combination with the frame, of the transversely movable unitary beam support, beams connected with the support, a horizontally arranged foot lever pivoted between its ends to rock on a vertical axis, and rods connected at their rear ends to the foot lever on opposite sides of its axis respectively, and at their forward ends to the beam support; whereby by the actuation of the foot lever, the beam support is subjected to both a pulling and pushing force acting in the same direction.

5. In a wheeled cultivator, the combination with the frame, of a transversely movable unitary beam support, beams connected therewith, a horizontally disposed foot lever pivoted between its ends to rock on a vertical axis, and connecting rods between the foot lever and the beam support, said rods having their rear ends connected with the foot lever on opposite sides of the axis, whence they extend outwardly from each other, and have their forward ends connected with the beam support.

[Claims 6 to 17 not printed in the Gazette.]

970,514. WHEELED CULTIVATOR. ALEXUS C. LINDGREN, Moline, Ill., assignor to Moline Plow Company, a Corporation of Illinois. Filed July 9, 1909. Serial No. 506,697.



1. In a cultivator, the combination of a main frame, brackets pivotally mounted on the main frame on a horizontal axis and extending forwardly, a drag bar support carried by the brackets in advance of their pivotal axes and movable bodily with said brackets in their pivotal motions, drag bars mounted on said support and extending rearwardly, ground wheel spindles carried by the brackets in rear of the drag bar support and below the pivotal axes of the brackets, and means for rocking the brackets on their axes; whereby the said spindles and the said drag bar support will be caused to move about a common axis.

2. In a cultivator, the combination of a main frame, ground wheel spindles movable rearwardly with reference to the frame to balance the machine, a drag bar support movable downwardly, drag bars carried at their forward ends by the support, means for suspending the drag bars from the frame in rear of their connection with the support, connections between the drag bar support and wheel spindles to cause the latter to move rearwardly as the support is depressed, and means for depressing the support.

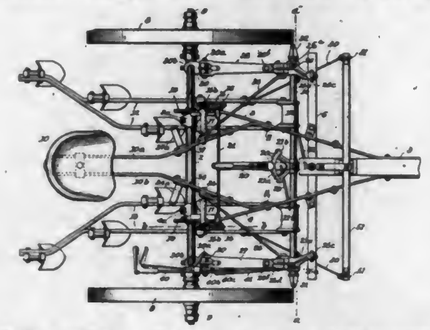
3. In a cultivator, the combination of the main frame, a drag bar support mounted on the main frame and movable about a horizontal transverse axis, drag bars connected at their forward ends to said support, suspending devices sustained at their upper ends by the main frame and connected at their lower ends to said drag bars respectively and between the ends of the drag bars, means for adjusting said suspending devices independently to correspondingly adjust the drag bars and vary the depth of penetration of the cultivating appliances, and means for shifting the drag bar support about its axis; whereby the drag bars may be raised in unison at their rear ends to elevate the cultivating appliances, or said drag bars may be adjusted vertically independently of each other.

4. In a cultivator, the combination of the main frame, an arched axle member mounted therein and movable around a horizontal transverse axis, brackets connected with the extremities of the axle member, a transverse drag bar support connected with said brackets, drag bars carried by the support, and means for depressing the support.

5. In a cultivator, the combination of the main frame, an arched axle member mounted therein, and rotatable on a horizontal transverse axis, brackets mounted on the extremities of the axle member and movable on vertical axes, ground wheels carried by the brackets, a transverse drag bar support pivotally connected with the brackets on vertical axes, drag bars carried by the support, means for depressing the support; whereby the axle member will be rocked rearwardly, and means for shifting the support transversely; whereby the ground wheels will be turned laterally.

[Claims 6 and 7 not printed in the Gazette.]

970,515. WHEELED CULTIVATOR. ALEXUS C. LINDGREN, Moline, Ill., assignor to Moline Plow Company, a Corporation of Illinois. Filed Apr. 22, 1908, Serial No. 428,529. Renewed June 23, 1910. Serial No. 568,491.



1. In a cultivator, the combination of a wheeled frame, a drag-bar support movable transversely with reference to the same, drag-bars carried at their front by the support, means for maintaining the parallelism of said drag-bars, foot levers sustained by the frame and movable forwardly and outwardly, and connections between the foot levers and the drag-bar support.

2. In a cultivator, the combination of a wheeled frame provided with a transversely extending guiding member, a drag-bar support sustained by and movable transversely on said guiding member at the front, fore and aft links connecting the drag-bar support pivotally with the wheeled frame, drag-bars carried at their front by the support and movable transversely with said support in unison, means for maintaining the parallelism of said drag-bars, and a lever mechanism sustained by the frame and operatively connected with the drag-bar support.

3. In a cultivator, the combination of a wheeled frame, a transversely extending guiding bar fixed thereto, a transversely extending endwise movable drag-bar support 14, drag bars on said support, fore and aft yoke-frames mounted on the drag-bar support and slidingly sustained by the guiding bar, fore and aft links jointed respectively to said yoke-frames and to the wheeled frame on vertical axes, and a lever mechanism mounted on the frame and operatively connected with the drag-bar support.

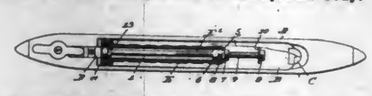
4. In a cultivator, the combination of a wheeled frame, a transversely extending guiding bar fixed thereto, a transversely movable drag-bar support, arms on said support extending forwardly, rollers on said arms traveling on the guiding bar, rearwardly extending connections between the support and the wheeled frame, drag-bars on the support, and a lever mechanism sustained by the frame and operatively connected with the drag-bar support.

5. In a cultivator, the combination of a wheeled frame, a transversely movable drag-bar support sustained thereby, drag-bars carried by the support, foot levers mounted on the wheeled frame, and forwardly and outwardly extending rods connected respectively with said foot levers and with the drag-bar support.

[Claims 6 to 25 not printed in the Gazette.]

970,516. SPINDLE FOR LOOM-SHUTTLES. HERBERT L. LITCHFIELD, Southbridge, Mass. Filed Jan. 6, 1910. Serial No. 536,682.

1. A spindle for loom shuttles, comprising a body externally threaded from its onter end for a portion of its length and adapted to extend through the bore of a bobbin and project beyond its tip, a stop internally threaded to screw onto the threaded part of the spindle body and having a portion to enter the bore of and laterally position the tip end of the bobbin and having a laterally extended portion to abut against the tip of the bobbin, and a device to lock the stop in fixed position at any point of the threaded portion of the spindle body.



2. A spindle for loom shuttles, comprising a body adapted to extend through and sustain a yarn-carrier, a positioning member longitudinally adjustable thereon, comprising a laterally extended cap to engage and serve as a stop for the tip end of the yarn-carrier and an extension fixedly and permanently attached to the cap and adapted to enter the bore of the yarn-carrier at its tip and position the same laterally, and means on the spindle body between its outer end and said positioning member to lock the latter fixedly in adjusted position at different points on the spindle body.

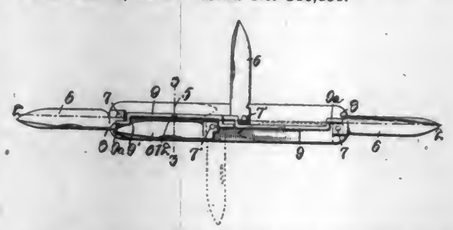
3. A detachable spindle for loom-shuttles, having a longitudinally adjustable stop thereon to engage and position the tip of a yarn-carrier, means to lock the stop in adjusted position on the spindle, and a removable guide on the spindle to coöperate with the bore at the butt of the yarn-carrier and position it laterally.

4. A detachable spindle for loom shuttles, comprising an elongated body, a longitudinally adjustable stop thereon to engage and position the tip of a yarn-carrier on the body, means to fixedly connect the stop with the spindle body at a point thereon determined by the length of the yarn-carrier, and a disk-like guard independent of the stop and mounted directly on the spindle body beyond the stop.

5. A detachable spindle for loom shuttles, comprising an elongated body, a longitudinally adjustable stop thereon to engage and position the tip of a yarn-carrier on the body, and a longitudinally adjustable, removable guide on said body to enter and laterally position the butt of the yarn-carrier.

[Claim 6 not printed in the Gazette.]

970,517. KNIFE. WILLIE C. LOCKHART, Perry, Fla. Filed Mar. 2, 1910. Serial No. 546,851.



1. A knife of the character described comprising spaced parallel plates, end blades pivoted between said plates, intermediate blades pivoted between the plates, one of the end blades and one of the intermediate blades having their pivot points in longitudinal alinement, and a pair of spring bars between said plates and bearing upon the pivoted ends of one of the end blades and one of the intermediate blades to yieldingly hold the same in their closed or open position.

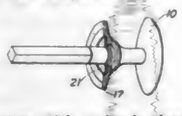
2. A knife of the character described comprising spaced parallel plates, end blades pivoted between the ends of said plates, intermediate blades pivoted between said plates and upon opposite sides of the longitudinal center of the plates, and a pair of spring bars each secured at its center between said plates, the ends of each bar being shouldered and in engagement with the pivoted end of one of the end blades and one of the intermediate blades to

yieldingly hold said blades in their open or closed positions, the adjacent shouldered ends of said bars being disposed upon each other.

3. A knife of the character described comprising parallel longitudinal plates, end blades centrally pivoted between the said plates, intermediate blades pivoted between said plates, each of said blades having a shoulder formed on its pivoted end, a slotted spring metal bar secured intermediate of its ends between said plates, said bar being provided for one of the end blades and one of the intermediate blades, the ends of said bar bearing upon the shouldered end of the blades to yieldingly hold the same in their closed or open positions, said blades being movable to such positions upon opposite sides of the plates, the end blades being disposed in the slot of said bar when closed.

4. A knife of the character described comprising parallel longitudinal plates, end blades pivoted between said plates, intermediate blades pivoted between said plates on opposite sides of the longitudinal center of said plates, the pivoted end of each of said blades being recessed to form a shoulder, slotted spring metal bars arranged between said plates, said bars having transverse studs centrally formed thereon disposed through the plates, the ends of each of said bars being substantially L-shaped in form and engaging with the shoulder of one of the end blades and one of the intermediate blades to yieldingly hold the same in their open or closed positions, said blades being movable to such positions upon opposite sides of the plates.

970,518. SECURING THUMB-KNOBS TO ROSES. HENRY S. LOCKWOOD, South Norwalk, Conn. Filed May 20, 1910. Serial No. 562,513.

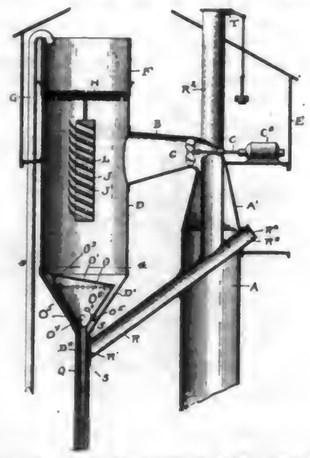


The combination with a knob shank provided with a cylindrical portion having a circumferential groove and an enlarged bearing portion adjacent said groove, of a rose having an opening to receive said bearing portion, said opening being enlarged adjacent one face of the rose to form a recess, and a washer located in said recess and having an opening for the passage of said shank, the edge of said opening projecting into said groove.

970,519. SMOKE SEPARATOR AND PURIFIER. VICTOR E. LOMBARD, Fort Smith, Ark. Filed Apr. 19, 1910. Serial No. 556,414.

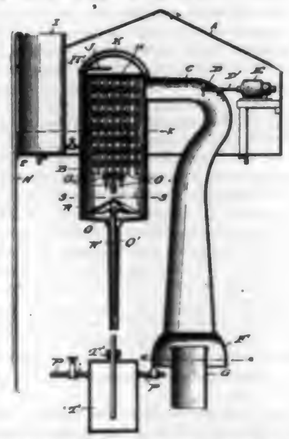
1. A smoke consuming and purifying apparatus comprising a receiving receptacle having a conical-shaped bottom with an exit tube leading therefrom and provided with a smoke introduction pipe communicating therewith, a tank with a perforated bottom through which water is introduced into said receptacle, an apertured plate suspended from said perforated bottom and having inclined deflecting projections upon one face thereof, a receptacle within said conical shaped bottom and provided with an ejector tube extending through said exit tube and spaced apart therefrom, a pipe communicating with the exit tube and extending through the smoke introduction pipe, the circumference of said receptacle with the ejector tube having circumferential apertures adjacent to its exit end.

2. A smoke consuming and purifying apparatus comprising a receiving receptacle having a conical-shaped bottom with an exit tube leading therefrom and provided with a smoke introduction pipe communicating therewith, a tank with a perforated bottom through which water is introduced into said receptacle, a plate suspended from the perforated bottom and provided with series of apertures disposed at inclinations, one face of said plate being provided with a series of outwardly curved deflecting plates, projecting from the plate adjacent to the lower marginal edges of the apertures therein, a conical-shaped receptacle positioned within said conical bottom and having a closed top and series of perforations in its circumference adjacent to its upper and lower ends, an ejector pipe or nozzle leading from the conical-shaped receptacle and within the exit tube and spaced apart therefrom, said



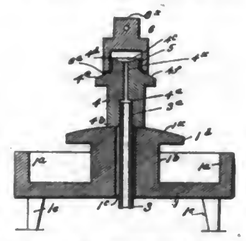
conical-shaped receptacle provided with struck up portions partially covering the lower series of apertures in the conical-shaped receptacle, a pipe disposed at an inclination and communicating through a series of perforations with the interior of said exit pipe and extending through the smoke introduction pipe.

970,520. SMOKE AND FUME CONSUMING APPARATUS. VICTOR E. LOMBARD, Fort Smith, Ark. Filed May 13, 1910. Serial No. 561,068.



A smoke consuming apparatus comprising a receptacle with depending chains supported therein, a smoke and air induction pipe communicating with the upper portion of the receptacle, the lower end of the latter having a tapering exit pipe and a trap with which the same communicates, a water supply tank, a pipe communicating between the same and the upper portion of the receptacle, a series of radially disposed inclined pipes in said receptacle with their lower ends open, and an ejector pipe communicating at its upper end with the upper ends of said inclined pipes and extending partially through said exit pipe, the lower ends of said inclined pipes being positioned in a plane a slight distance above the bottom of the receptacle.

970,521. CRUDE-OIL BURNER. WILLIAM L. LUBBOCK, Houston, Tex., and SAMUEL HAMBLEN, Portales, N. Mex. Filed Dec. 13, 1909. Serial No. 532,794.



1. A crude oil burner comprising a base having a vertical annular flange and a centrally apertured hub portion, said hub portion having a circular horizontal enlargement, said enlargement being convex on its upper face, a member having an aperture therethrough, and an internally threaded socket in its lower end, said member being adapted to seat upon the convex face of the enlargement of the hub portion, and a cap adapted to seat upon the upper portion of the said member, substantially as shown and described.

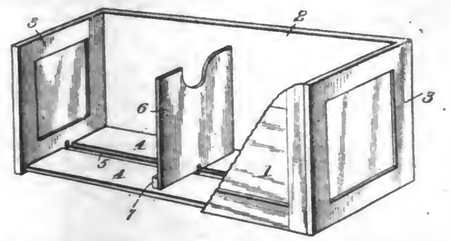
2. A hydrocarbon burner comprising a base having an integral central hub whose upper end is formed with an annular enlargement having an outwardly and downwardly inclined face, a feed pipe extending through the said hub, a member having a longitudinal aperture therethrough, and a socket in its lower end, said feed pipe being connected to said member, and a cap having a chamber disposed over the discharge end of said member, said cap having outlets communicating with the chamber for the escape of the fluid in a radial direction, the outwardly and downwardly inclined face of the hub enlargement being of a greater diameter than the aforesaid chamber whereby the unconsumed drippings from the said chamber will be received thereon, for the purposes described.

3. In a crude oil burner, a base having an annular vertical flange, and a centrally apertured hub portion, a member having a central aperture adapted to reat upon the upper face of the hub portion, said member having an internally threaded socket in its lower end, a feed pipe having an externally threaded portion adapted to fit within the internally threaded socket of the said member, said member also having its upper end formed with a concaved depression, and a cap member adapted to seat upon said member over the concaved portion thereof, said cap member having discharge outlets, substantially as shown.

4. In a crude oil burner, a base having an annular vertical flange, and a central hub portion, said hub portion being centrally apertured and having an enlarged circular portion at its upper end, said enlarged circular portion being convexed on its upper face, a member concaved on its upper and lower ends and adapted to seat upon the horizontal enlargement of the hub portion and over the aperture therein, said member being centrally apertured and having an internally threaded socket at its lower end, a feed pipe extending through the aperture in the hub portion, said feed pipe having its end externally threaded and adapted to engage the internally threaded socket of the said member, said member having a circular flange, and a cap member having a chamber disposed over the upper end of the said member and adapted to rest upon the flange of the said member, said cap having discharge outlets communicating with the chamber, all being arranged substantially as shown and described.

970,522. LOCKING DEVICE FOR FOLLOWER-BLOCKS. CARL J. LUNDSTROM, Little Falls, N. Y. Filed Dec. 31, 1908. Serial No. 470,269.

1. In a filing cabinet, a compartment, a guide rod in the compartment, a follower provided at its lower front portion with an annular guide-bearing for the rod, said guide bearing being adapted to form a binding engagement with the rod when the follower block is tilted rearwardly, a vertical guide bearing for the rod located at the rear portion of the follower, a hook or lock, adapted to hold the follower in a binding position, substantially as described.



2. In a filing cabinet, a compartment, a guide rod in the compartment, a follower provided at its lower front portion with a recess, a plate fitted in said recess and having its lower end projecting beneath the follower with its projecting portion at an angle to its remaining portion and provided in its projecting portion with a perforation to embrace the guide rod, a second plate secured in the rear of the follower and having a projecting portion provided with a slot to embrace the guide rod, and a locking element constructed and arranged for binding engagement with the guide rod to lock the follower against movement upon the rod.

3. In a filing cabinet, a compartment, a guide rod in the compartment, a follower provided at its lower front portion with a recess, a plate fitted in said recess and having its lower end projecting beneath the follower with its projecting portion at an angle to its remaining portion and provided in its projecting portion with a perforation to embrace the guide rod, a second plate secured in the rear of the follower and having a projecting portion provided with a slot to embrace the guide rod, and a lever pivotally carried by the follower and adapted to be thrown into operative engagement with the guide rod to lock the follower against movement upon the latter.

4. In a filing cabinet, a compartment, a guide rod in the compartment, a follower adjustably and slidably mounted upon the guide rod and being disposed normally in a rearwardly inclined plane, a plate secured to the lower end of the follower and provided with a perforation embracing the guide rod and effecting a binding action upon the guide rod when the follower is in its normal inclined plane, a second plate carried by the follower and provided with a slot to embrace the guide rod and to permit of a forward tilting movement of the follower to release the binding action of the aforesaid plate with the guide rod and permit of a free sliding movement of the follower upon the rod, and means constructed and arranged to lock the follower against tilting or slidable movement.

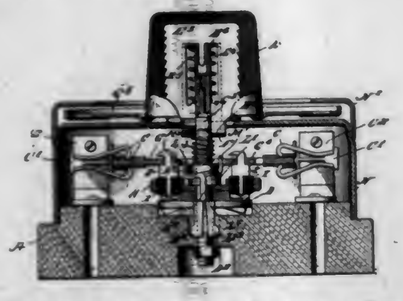
5. In a filing cabinet, a compartment, a guide rod in the compartment, a follower adjustably and slidably mounted upon the guide rod and being disposed normally in a rearwardly inclined plane, a plate secured to the lower end of the follower and provided with a perforation embracing the guide rod and effecting a binding action upon the guide rod when the follower is in its normal inclined plane, a second plate carried by the follower and provided with a slot to embrace the guide rod and to permit of a forward tilting movement of the follower to release the binding action of the aforesaid plate with the guide rod and permit of a free sliding movement of the follower upon the rod, and a lever carried by the follower for engagement with the guiding rod to lock the follower against tilting or slidable movement upon said rod.

[Claims 6 and 7 not printed in the Gazette.]

970,523. CIRCUIT-CONTROLLING DEVICE. JULIUS K. LUX, Washington, D. C. Filed Feb. 12, 1907. Serial No. 357,043.

1. In a circuit controlling device, a support, coöperating contact elements carried thereby, at least one

of said elements comprising conducting arms, a rubbing contact portion, and a flexing connection between the said arms and rubbing portion, the flexing axis of which connection lies in a plane which is transverse with reference to the arms, the said rubbing contact portion extending to both sides of the said plane.



2. In a circuit controlling device, a support, coöperating contact elements carried thereby, at least one of said elements having a portion returned upon itself, and a rubbing portion extending in an opposite direction from the said return portion.

3. In a circuit controlling device, a support and an electrical contact carried thereby, a movable contact member coöperating with the first named contact, actuating means for the movable contact member including a movable part having a plurality of pockets and integral fins projecting into the pockets, insulators seated in said pocket and held in place by said fins, and connections between the insulators and movable contact member for transmitting motion to the latter.

4. In a circuit controlling device, a support and an electrical contact carried thereby, a movable contact member coöperating with the first named contact, actuating means for the movable contact member including a movable part provided with a plurality of pockets and integral fins projecting into the pockets, laminated insulators seated in the pockets and held in place by said fins, and connections between the insulators and movable contact member and binding the laminæ of said insulators together.

5. In a circuit-controlling device, a support, a plurality of electrical contacts carried thereby, a movable contact adapted to connect said electrical contacts, means for operating the movable contact, a detent for controlling said operating means, and a detent stop carrier for the detent, provided with yielding anchoring means.

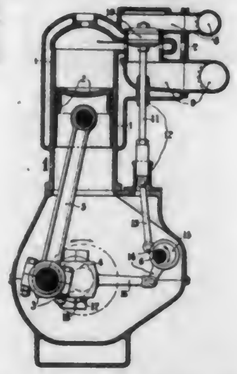
[Claims 6 to 27 not printed in the Gazette.]

970,524. VISIBLE WARNING ATTACHMENT FOR BARBED-WIRE FENCES. WILLIAM MACINTOSH, Hahns Peak, Colo. Filed Aug. 13, 1909. Serial No. 512,672.

1. A visible warning attachment for barbed wire fences, comprising a top member of conspicuous vertical width, the said member being composed of relatively thin material and stiffening wires, around which its opposite edges are bent, the said edges being equipped with barbs for the purpose set forth.

2. A visible warning attachment for barbed wire fences, comprising a top member of conspicuous vertical width, the said member being composed of relatively thin material, and longitudinally disposed stiffening wires over which its opposite edges are folded, the said edges being equipped with barbs passing through the folds and around the wires, as means of holding the wires in the folds, substantially as described.

970,525. VALVE AND VALVE-GEAR FOR INTERNAL-COMBUSTION ENGINES. GEORGE HUTCHINSON MANN, Leeds, England. Filed June 25, 1910. Serial No. 568,803.



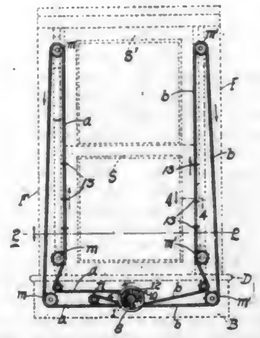
1. A valve gear for internal-combustion engines of the four-stroke cycle type comprising in combination a main engine shaft, a counter shaft, driving mechanism for rotating said counter shaft at half the speed of the engine shaft, an eccentric fixed to said counter shaft, an eccentric strap around said eccentric, two arms projecting from said strap of said eccentric at different points on its periphery to form a bell-crank lever, a valve casing located at the side of the main cylinder, and having exhaust and inlet passages communicating with a valve chamber in said casing, a valve capable of reciprocating in said valve chamber to control the admission of motive fluid to and the exit of products of combustion from the engine cylinder, a connection directly between one of said arms on the eccentric strap and said valve, and mechanism connected to the other arm of said eccentric strap to regulate the movements of the latter and communicate the desired movements to said valve substantially as set forth.

2. A valve gear for internal-combustion engines of the four-stroke cycle type comprising in combination a main engine shaft, a counter shaft, driving mechanism for rotating said counter shaft at half the speed of the engine shaft, an eccentric fixed to said counter shaft, an eccentric strap around said eccentric, two arms projecting from said strap of said eccentric at different points on its periphery to form a bell-crank lever, a valve casing located at the side of the main cylinder and having exhaust and inlet passages communicating with a valve chamber in said casing, a piston valve capable of reciprocating in said valve chamber to control the admission of motive fluid to and the exit of products of combustion from the engine cylinder, a rod connected to said piston, a link to connect said rod to one of the arms on said eccentric strap, and mechanism connected to the other arm of said eccentric strap in order to regulate the movements of the latter and communicate the desired movements to the said valve substantially as set forth.

3. A valve gear for internal-combustion engines of the four-stroke cycle type comprising in combination a main engine shaft, a counter shaft, driving mechanism for rotating said counter shaft at half the speed of the engine shaft, an eccentric fixed to said counter shaft, an eccentric strap around said eccentric, two arms projecting from said strap of said eccentric at different points on its periphery to form a bell-crank lever, a valve casing located at the side of the main cylinder and having exhaust and inlet passages communicating with a valve chamber

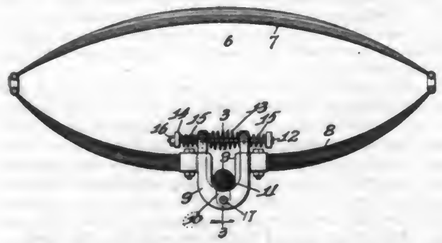
in said casing, a piston valve capable of reciprocating in the said valve chamber to control the admission of motive fluid to and the exit of products of combustion from the engine cylinder, a rod connected to said piston, a link to connect said rod to one of the arms on said eccentric strap, and an eccentric mounted on the main engine shaft, a connection between said eccentric and the other arm on said eccentric strap carried by the counter shaft, whereby by the combined movements of the eccentrics, the eccentric strap is so adjusted as to communicate the desired movements to the said valve substantially as set forth.

970,526. SASH LIFT AND LOCK. ELIZA MAWDSLEY, Alton, Ill. Filed Mar. 7, 1910. Serial No. 547,907.



In combination with a vertically movable upper and lower sash, endless sprocket chains secured to the sides of the respective sashes, idler pulleys for the chains, a centrally disposed rotatable longitudinally movable spindle mounted at the base of the window frame, a pair of loosely mounted peripherally grooved sprocket wheels with teeth on each side of the groove carried on the spindle, means on the spindle and sprocket wheels for effecting alternate engagement between the respective wheels and spindle according to the direction of longitudinal movement imparted to the spindle, a ratchet on the spindle, a locking pawl therefor, one chain on the one side of each sash having a pair of laps meshing with the teeth on one side of the peripheral groove of its corresponding sprocket wheel, the other chains having each one lap meshing with the teeth on the opposite side of the groove, and another lap passing loosely along the groove, the parts operating substantially as and for the purpose set forth.

970,527. VEHICLE-SPRING. CHARLES A. MEREDITH, St. Louis, Mo. Filed Jan. 6, 1908. Serial No. 409,508.

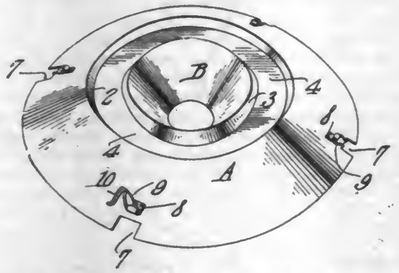


1. In a vehicle spring the combination of an upper member; a divided lower spring member; a pair of U-shaped supports upon each of which one of the parts of the divided lower spring member is mounted; an axle; an ear carried by the axle; a single pivotal support passing through said ear and through each of said U-shaped members, said pivotal support being parallel with the axle; and an auxiliary spring mechanism interposed between and on the outer faces of said U-shaped supports, substantially as described.

2. In a vehicle spring, the combination of an upper member; a divided lower spring member; a pair of U-shaped supports upon each of which one of the parts of the divided lower spring member is mounted; an axle; an ear carried by the axle; a single pivotal support passing through said ear and through each of said U-shaped members, said pivotal support being parallel with the axle; an auxiliary spring mechanism interposed between and on the outer faces of said U-shaped supports; and a bolt passing through the free ends of said U-shaped supports, whereby said auxiliary springs are carried, substantially as described.

3. In a vehicle spring, the combination of an upper member; a divided lower spring member; a pair of U-shaped supports upon each of which one of the parts of the divided lower spring member is mounted; an axle; an ear carried by the axle; a single pivotal support passing through said ear and through each of said U-shaped members, said pivotal support being parallel with the axle; an auxiliary spring mechanism interposed between and on the outer faces of said U-shaped supports; and means for adjusting the tension of said auxiliary spring mechanism, substantially as described.

970,528. ANT-TRAP. CHARLES R. MILLER, Whitesboro, Tex. Filed July 7, 1909. Serial No. 506,354.



1. An ant trap having a frusto-conical outer member, an inverted frusto-conical inner member, a base having its peripheral edges in contact with the inner walls of the outer member and having an orifice to receive the lower portion of the inner member and means for detachably securing the base to the outer member.

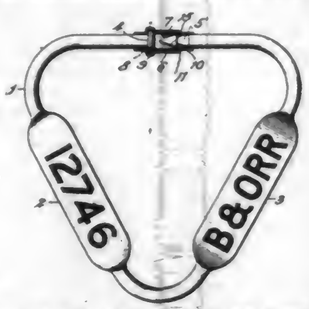
2. In an ant-trap, a frusto conical outer member having a plurality of openings formed in its bottom edge, an inverted frusto conical inner member having a base plate adapted to form a closure for the bottom opening of said outer member, and hooks hinged to the outer walls of said outer member and engageable through said openings with the bottom surface of said base plate.

3. In an ant-trap, a frusto conical outer member having a plurality of marginal slots formed on its lower edge, an inverted frusto conical inner member having a base plate adapted to form a closure for the bottom opening of said outer member, a downwardly projecting ring secured to the inner walls of said outer member, an upturned flange positioned on the peripheral edge of said base plate for engagement with said ring, and hooks hinged to the outer surface of said outer member and engageable through said slots with the under surface of said base plate.

970,529. SEAL FOR CAR-DOORS, SHIPPING-RECEPTACLES, &c. JOHN J A. MILLER, Denver, Colo. Filed Jan. 3, 1910. Serial No. 536,038.

In a seal as specified, a wire bent to a suitable form, having a flange on one end and an annular shoulder on its opposite end; a tubular housing secured upon the flanged end of said wire, having an annular abutment adjacent to its open end; a U-shaped resilient lock in said housing

having introverted locking flanges at its ends, adapted to engage the annular shoulder on the opposite end of the



wire when the said end is inserted in the housing, the lock being held within the housing by the annular abutment.

970,530. TUBULAR GUARD FOR DUST-COLLECTORS. PHILIP C. MILLER, Chicago, Ill. Filed May 20, 1907. Serial No. 374,592.



1. The combination in a dust collector with a central air escape of a downwardly depending tubular guard, the walls of the upper portion of said guard flaring downwardly and outwardly, the lower portion of said guard being cylindrical, said lower portion corresponding in diameter to the enlarged end of the flaring portion, deflectors rigidly secured to the inner walls of the said tubular guard.

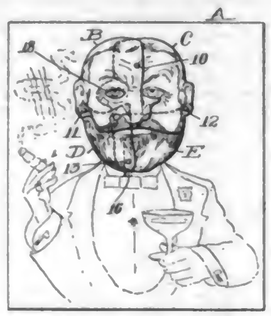
2. The combination in a dust collector with a central air escape, of a downwardly depending tubular guard, the walls of the upper portion of said guard being flared downwardly and outwardly, the lower portion of said guard being cylindrical, deflectors attached to the cylindrical portion of said guard to break up the whirl of the purified air as it escapes through said guard.

3. In a dust collector, the combination of a tapering separating chamber having a dust discharge at its lower portion with a central air exit a tubular guard depending downwardly from said exit said guard consisting of a lower cylindrical portion having deflectors rigidly attached to the side walls, an upper portion extending to a contracted air exit, said portion flaring downwardly and outwardly.

970,531. AMUSEMENT DEVICE. FREDERICK MORGAN, Philadelphia, Pa., assignor to Otis F. Wood, New York, N. Y. Filed July 16, 1908. Serial No. 443,816.

1. An amusement device consisting of a base piece, a figure mounted thereon, and consisting of sections having their edges overlapping, a pivot attached to the base and pivotally connecting two of the overlapping egdes of two adjoining sections, bodily movable free pivots pivotally connecting other overlapping edges, another pivot connecting still other overlapping edges and a movable operating member supporting this last named pivot and adapted to shift the same.

2. In combination, a base piece provided with a slot, a face figure mounted wholly in front of said base piece and consisting of sections having their edges overlapping, a pivot supported on the base and pivotally connecting two of said overlapping edges together, free pivots pivotally connecting other overlapping edges, another pivot connecting other overlapping edges and extending through said slot, and a movable operating member supporting this last named pivot and mounted behind the base piece.



3. An amusement device comprising a figure having four relatively movable overlapping sections, a pivot connecting the two upper sections, means for connecting the two right-hand sections, means for connecting the two left-hand sections, a pivot connecting the two lower sections, and means for operating one of said pivots.

4. In combination, a base piece, a face figure mounted wholly in front thereof and consisting of relatively movable sections having their edges overlapping, means for pivotally attaching two of said sections to the base, free bodily movable pivots attaching said sections to the remaining sections of the figure, another bodily movable pivot connecting other sections together, and a device behind the base for shifting this last named pivot.

5. An amusement device comprising a base piece, a figure having a face made in four sections, a pivot fixed to said base piece and connecting the two upper sections, a pivot connecting the two right-hand sections, the pivot connecting the two left-hand sections, a lower pivot connecting the two lower sections, and means for operating the lower pivot.

[Claims 6 and 7 not printed in the Gazette.]

970,532. AIRSHIP. WILLIAM E. MORRISON, La Fayette, Ind. Filed Jan. 29, 1910. Serial No. 540,868.

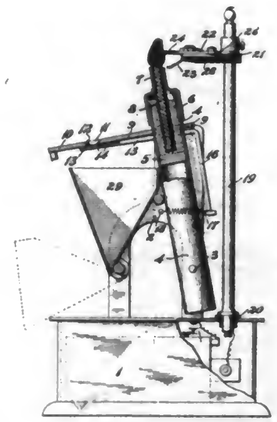


1. A propeller wheel for air ships comprising a hub, a series of blades of equal width from end to end projecting tangentially from said hub, said blades at their inner ends extending entirely across the hub at an angle to the axis of said hub and said blades being spaced apart to form intermediate air spaces, and each blade extending beyond the next adjacent blade to present an unbroken surface when viewed in plan.

2. An ascension wheel for air ships comprising a hub, a series of blades of equal width from end to end projecting tangentially from said hub, said blades at their inner ends extending entirely across the hub at an angle to the axis of said hub and said blades being spaced apart to form intermediate air spaces, and each blade extending beyond the next adjacent blade to present an unbroken surface when viewed in plan, means for mounting said wheel in an air ship, and means for rotating said wheel.

970,533. CIGAR CUTTER AND LIGHTER. WILLIAM A. MCANENY, Denver, Colo., assignor of one-third to Ivy A. McLaughlin and one-third to Michael J. McAneny, St. Louis, Mo. Filed May 4, 1910. Serial No. 559,255.

1. The combination of a to and from moving lighter, a plate projecting therefrom in the direction in which the lighter is movable, said plate being adapted to be engaged by the hand to move it and the lighter, means for igniting the lighter, a pivoted arm or lever situated at one side of the said plate, and means to yieldingly press said arm or lever against said plate, whereby said lighter will be automatically moved to and yieldingly held in the position from which it is adapted to be moved by the action of the hand on said plate, the portions of plate and arm in contact having a differential movement.



2. The combination of a support, a lighter pivoted thereto, an igniting device, a plate projecting from said lighter adapted to be engaged by the hand to move the lighter, a lever or arm pivoted to said frame eccentric to the pivot of the lighter, and situated contiguous to one side of said plate, and a spring acting on said arm or lever to press the same yieldingly against said plate to move the lighter to and yieldingly hold it in the position from which it is movable by the hand applied to the plate.

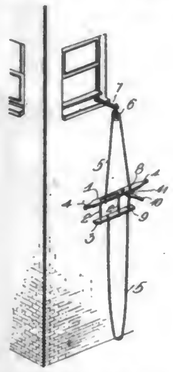
3. The combination of a to and fro moving lighter, a plate projecting therefrom in the direction in which the lighter is movable, said plate being adapted to be engaged by the hand to move it and the lighter, means for igniting the lighter comprising an electrode in the path of movement of the lighter and a circuit which includes a portion of the lighter having contact with said electrode, a pivoted arm or lever situated at one side of the said plate, and means to yieldingly press said arm or lever against said plate whereby said lighter will be automatically moved to and yieldingly held in the position from which it is adapted to be moved by the action of the hand on said plate, the portions of plate and arm in contact having a differential movement.

4. The combination of a to and fro movable lighter, an electrode supported in the path of movement of a part of the lighter, a circuit including said part of the lighter and said electrode, a movably mounted plate carrying said electrode, and a finger carried with the lighter and actuating said electrode-carrying plate to move the electrode relative to the path of the part of the lighter adapted to engage said electrode.

5. The combination of a supporting frame, a lighter oscillatorily mounted on said frame in a vertical position, a horizontal plate on said lighter, a rocking carrier mounted on said frame beneath said plate, a spring connected to said rocking carrier so as normally to hold the same in contact with the plate and thereby hold said plate and lighter in normal position, an electrical contact device located normally in the path of said oscillatory lighter but movable out of contact therewith, and a source of electrical energy having one pole connected with the lighter and the other pole connected with said contact device.

[Claim 6 not printed in the Gazette.]

970,534. FIRE-ESCAPE. CHARLES B. MCKINNEY, Bourbon, Ind. Filed Nov. 22, 1909. Serial No. 529,232.



1. In a fire escape of the character described, a holding bar, handles formed on the outer end of said bar, a seat supporting cable connected with said bar, a seat secured to the lower end of said cable, a supporting bar hingedly connected to a suitable support whereby said bar is swung into and out of inoperative position, a guide pulley secured to said bar, a descending cable connected at one end to said holding bar and adapted to be passed through said pulley and through said holding bar and seat, said cable extending downwardly to the ground and back up to said seat to which the end of the cable is secured, a controlling lever pivotally connected to said holding bar, said lever having formed therein a notch adapted to be engaged with the cable whereby a braking action is imparted thereto, thus controlling the descent of the escape on said cable.

2. In a fire escape of the character described, a holding bar, a seat bar supported from and beneath the holding bar, a supporting pulley, a descending cable passing over said pulley and attached at opposite ends to the holding bar and seat bar, respectively, and a controlling lever pivoted to the holding bar and adapted to be brought into frictional engagement with the rope, whereby the speed of descension may be controlled by the operator.

3. In a fire escape of the class described, a holding bar, a seat bar supported from and beneath the holding bar, a supporting pulley mounted near the escape exit of the building, a descending cable passing over said pulley and attached at opposite ends to the holding bar and seat bar, respectively, and a controlling lever pivoted to the holding bar and having a cutaway portion adapted to engage the descending cable, whereby the speed of descension may be controlled by the operator.

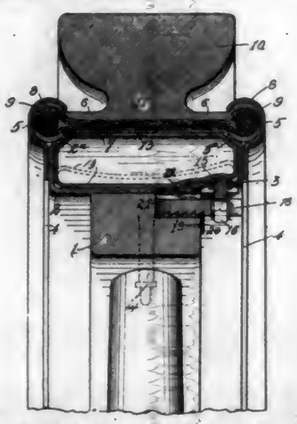
970,535. VEHICLE-TIRE. WILLIAM D. MCNAULL, Toledo, Ohio. Filed Apr. 5, 1909. Serial No. 487,857.

1. In a device of the described character, a circumferentially channeled wheel-rim, a flexible band circumferentially mounted upon the wheel-rim and transversely tensioned across the channel of the rim, there being formed integral with said band, a series of outwardly projecting radial elastic cushions.

2. In a device of the described character, a circumferentially channeled wheel-rim, a flexible band circumferentially mounted upon the wheel-rim and bridged transversely across said circumferential channel, means for adjusting the transverse tension of said band, and a series of radially outwardly projecting elastic cushions formed integral with said band.

3. In a device of the described character, a band of flexible material having formed integral therewith, a series of radially projecting cushions, said cushions being of less transverse area at their base than at their summit, combined with a circumferentially channeled wheel-rim,

and means for tensioning the band transversely across such channel.



4. In a device of the described character, a felly, a rim part secured to the felly, another rim part transversely slidable upon the rim part first mentioned, said two-rim parts having radially turned flanges, forming therebetween a circumferential channel, means for securing said two rim parts in adjusted relation, a flexible belt transversely bridged and tensioned across said channel, there being a continuous series of elastic cushions formed integral with said belt and projecting radially outwardly therefrom, and means for securing the margins of said belt upon the flanges of the rim parts.

970,536. AMALGAMATOR. JOSEPH H. MCNEIL, East Saugus, Mass. Filed Oct. 20, 1909. Serial No. 523,658.



1. An amalgamator for "flour gold", having, in combination a stationary trough formed with a plain surfaced bottom through which the auriferous matter is washed by a flow of water, a drum having an amalgamated surface arranged within and across the trough, the periphery of the drum being maintained slightly separated from the bottom of the trough to present its surface tangentially to the surface of the water.

2. An amalgamator for "flour gold", having, in combination, a stationary trough formed with a plain surfaced bottom through which the auriferous matter is washed by a flow of water, a drum having an amalgamated surface arranged within and across the trough, the periphery of the drum being maintained slightly separated from the bottom of the trough to present its surface tangentially to the surface of the water, and means for rotating the drum so that the portion of the periphery thereof in contact with the water will move at the same speed and in the same direction as the flow of water.

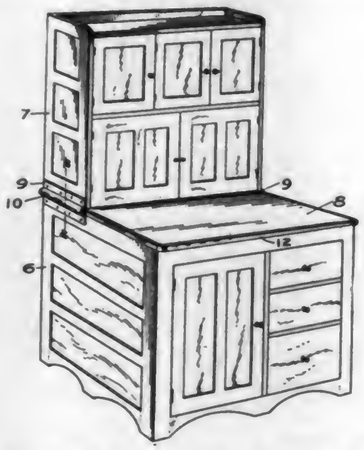
3. An amalgamator for "flour gold", having, in combination, a stationary trough formed with a plain surfaced bottom through which the auriferous matter is washed by a flow of water, a drum having an amalgamated surface arranged within and across the trough, the periphery of the drum being maintained slightly separated from the bottom of the trough to present its surface tangentially to the surface of the water, and means for adjusting the drum toward and away from the bottom of the trough whereby the surface of the drum may be always presented tangentially to the surface of the water.

4. An amalgamator for "flour gold", having, in combination, a stationary trough formed with a plain surfaced bottom through which the auriferous matter is washed by a flow of water, a drum having an amalgamated surface arranged within and across the trough, the periphery of the drum being maintained slightly separated from the bottom of the trough to present its surface tangentially to the surface of the water, and means located at the ends of the drum to deflect the matter carried by the water from the space between the drum ends and walls of the trough.

5. An amalgamator for "flour gold", having, in combination, an elongated stationary trough or sluice formed with a plain surfaced bottom through which the auriferous matter is washed by a flow of water, a plurality of drums having amalgamated surfaces arranged across the trough, the peripheries of the drums being maintained slightly separated from the bottom of the trough to present their surfaces tangentially to the surface of the water.

[Claims 6 to 12 not printed in the Gazette.]

970,537. KITCHEN-CABINET. JAMES S. MCQUINN, Newcastle, Ind. Filed Nov. 24, 1908. Serial No. 464,319.



1. In a kitchen cabinet, a base, an extension top covering the upper area of the base and slidingly mounted thereon, guides to hold it in place upon the base, a cabinet-top above said base and means for supporting said cabinet-top from said base sufficiently above the latter to permit said extension top to slide thereunder.

2. In a kitchen cabinet, a base, an extension top covering the upper area of the base and slidingly mounted thereon and having edge moldings which project below the top and embrace the walls of the base, a cabinet-top above said base and means for supporting said cabinet-top from said base sufficiently above the latter to permit said extension top to slide thereunder.

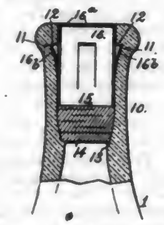
3. In a kitchen cabinet, a base, an extension top projecting in area beyond the ends of the base and slidingly mounted thereon, a cabinet-top above said base, and metal plates supporting said cabinet-top from said base sufficiently above the latter to permit said extension top to slide freely thereunder, said plates being bent outwardly around the projecting ends of the extension top to avoid interference therewith.

4. A kitchen cabinet of the character described comprising a base, a cabinet superstructure and connecting side members, the latter provided with transversely and outwardly projecting corrugations, and an extension top adapted to move transversely of said base in said corrugations.

5. A kitchen cabinet of the character described comprising a base, a cabinet superstructure and connecting side members, the latter provided with transversely and outwardly projecting corrugations, an extension top adapted to move transversely of said base in said corrugations, and means for limiting the travel of said extension top.

[Claims 6 and 7 not printed in the Gazette.]

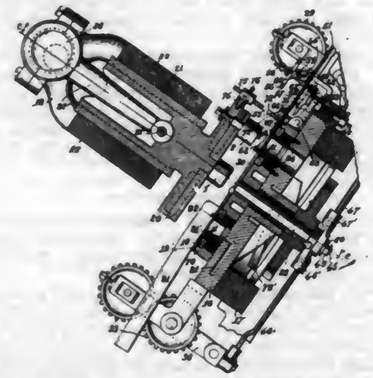
970,538. BOTTLE AND JAR CLOSURE. PATRICK J. O'BRIEN, Torris Cove, Newfoundland. Filed Feb. 23, 1910. Serial No. 545,482.



1. As a new article, a closure for bottle necks comprising a cylindrical body open at one end and having an apertured diaphragm at its other end, said cylindrical body having its external diameter uniform throughout its length and having resilient tangs stamped out of said body to engage recesses in a bottle neck and lock said body in said bottle neck.

2. The combination with a bottle neck having a passage therethrough, of a closure plug held in said bottle neck, a destructively removable capsule held wholly in said bottle neck above said closure plug, said capsule being composed of a cylindrical body of uniform diameter throughout its length and having one end open and the other end provided with a diaphragm, said body having tangs stamped out of the same to engage recesses in said bottle neck to lock the capsule in said bottle neck with its diaphragm wholly within the bottle neck substantially as shown and for the purposes described.

970,539. CAN-CAP HEMMER. VICTOR ODQUIST and HALVOR HEYERDAHL LYCHE, Chicago, Ill., assignors to Torris Wold & Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 4, 1906. Serial No. 333,155.



1. In a cap hemming machine, a plurality of active dies having different functions, in combination with a rotative carrier, a plurality of receptive dies held by said carrier, each comprising a plurality of members and having different functions in different positions, and means to intermittently turn said carrier to stop each said receptive die below each of said active dies in sequence; substantially as described.

2. In a cap hemming machine, a plurality of active dies having different functions, in combination with a rotative carrier, a plurality of receptive dies held by said carrier and having different functions in different positions, means to intermittently turn said carrier to stop each said receptive die below each of said active dies in sequence, and means for intermittently feeding sheet solder across and beneath one of said active dies; substantially as described.

3. In a can-cap hemmer, a shiftable receptive die, means for intermittently feeding sheet solder across said die in one position thereof and means for placing a cap upon said die in another position thereof, substantially as described.

4. In a can-cap hemmer, a shiftable receptive die, adapted to form a ring of solder from a strip, means for intermittently feeding strip solder across said die, in one position thereof, the ring of solder remaining upon the die, and means for placing a cap upon said ring in another position of the die, substantially as described.

5. In a can-cap hemmer, a shiftable receptive die, adapted to form a ring of solder from a strip, and to carry the ring of solder to a second position; means for depositing a cap on said ring in said position of the die; and means for hemming the cap in a third position of the die, substantially as described.

[Claims 6 to 41 not printed in the Gazette.]

970,540. SCALE-FASTENING FOR POCKET-KNIVES. ARTHUR L. ORCHARD, Little Valley, N. Y., assignor to Case Brothers Cutlery Co., Little Valley, N. Y. Filed Oct. 23, 1909. Serial No. 524,228.



1. A device of the class described comprising a bolster-scale; caps located at the ends of the bolster-scale and undercut at their adjacent ends; and a handle inserted between the undercut portions of the caps; the bolster-scale being transversely flexed throughout a portion of its length, to cause its longitudinal edges to bear yieldingly against the handle.

2. A device of the class described comprising a bolster-scale; caps located at the ends of the bolster-scale and having their adjacent end faces inclined to undercut the ends of the caps; a handle-piece having its ends beveled to fit the undercut ends of the caps, there being a notch in the end of the handle-piece; a retaining member transversely mounted in one of the caps and in engagement with the notch, the retaining member being prolonged beyond the bolster scale; and a blade pivotally mounted upon the retaining member.

3. A device of the class described comprising a bolster-scale; caps located at the ends of the bolster-scale, and having their adjacent end faces inclined to undercut the ends of the caps; a handle-piece having its ends beveled to fit the undercut ends of the caps, there being a notch in the end of the handle-piece; there being a transverse opening in one of the caps, having a portion of its side wall, and a portion of its periphery adjacent the bolster-scale, intersected by the inclined face of the cap; a retaining member arranged to fit closely in the opening and in engagement with the notch, the retaining member being prolonged beyond the bolster-scale; and a blade pivotally mounted on the retaining member.

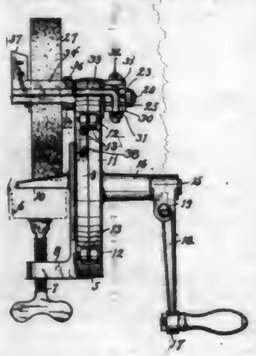
4. A device of the class described comprising a bolster-scale; caps located at the ends of the bolster-scale, and having their adjacent end faces inclined to undercut the ends of the caps; a handle-piece having its ends beveled to fit the undercut ends of the caps, there being a notch in the end of the handle-piece; there being a transverse opening in one of the caps, having a portion of its side wall, and a portion of its periphery adjacent the bolster-scale, intersected by the inclined face of the cap; a retaining member arranged to fit closely in the opening and in engagement with the notch; the bolster-scale being transversely flexed throughout a portion of its length to cause its longitudinal edges to bear yieldingly against the handle-piece.

970,541. DRAWING-PEN. JOHN PAMER, Akron, Ohio. Filed Jan. 3, 1910. Serial No. 536,182.



A drawing pen having a fixed and a pivoted blade, the latter acted upon by a resilient element tending to cause the separation of said blades but permitting their approach, said fixed blade and resilient element each provided with alined apertures, an adjusting screw mounted in said apertures and provided with a T-shaped head, said pivoted blade provided with a slot to receive said T-shaped head, the latter constituting means when partially rotated for holding said pivoted blade in an adjusted position with respect to said fixed blade.

970,542. GRINDER. THOMAS A. PANYARD, Milwaukee, Wis., assignor to Edward J. Purtell, Milwaukee, Wis. Filed Dec. 6, 1909. Serial No. 531,533.



1. A grinder, comprising a casing provided with means for clamping it to a support, a driving shaft journaled in the casing and provided with a gear, a spindle journaled in the casing and provided with a pinion in mesh with the gear, a grinding wheel mounted on the spindle, a tool rest positioned adjacent to the grinding wheel, a tool rest holder adjustably connected to the casing, and an L-shaped arm connected to the tool rest and adjustably connected to the tool rest holder.

2. A grinder, comprising a casing provided with means for clamping it to a support, a driving shaft journaled in the casing and provided with a gear, a spindle journaled in the casing and provided with a pinion in mesh with the gear, a grinding wheel mounted on the spindle, a tool rest positioned adjacent to the grinding wheel, a tool rest holder adjustably connected to the casing, and an L-shaped arm adjustably connected to both the tool rest and the tool rest holder.

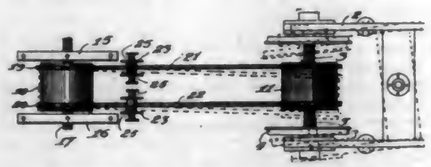
3. A grinder, comprising a casing provided with means for clamping it to a support and with a projecting bearing, a driving shaft journaled in the casing and provided with a gear, a spindle journaled in the projecting bearing of the casing and provided with a pinion in mesh with the gear, a grinding wheel mounted on the spindle and extending over the projecting bearing, a tool rest positioned adjacent to the grinding wheel, a tool rest holder adjustably mounted on the casing and positioned concentrically with relation to the spindle, and an arm adjustably connected to both the tool rest and the tool rest holder.

4. A grinder, comprising a casing provided with means for clamping it to a support, a driving shaft journaled in the casing and provided with a gear, an operating handle connected to and adapted to turn said shaft under normal strain and to turn independent of said shaft when said shaft is abnormally retarded, a spindle journaled in said casing and provided with a pinion formed integral therewith and in mesh with the gear, a grinding wheel mounted on the spindle, a tool rest positioned adjacent to the grinding wheel, a tool rest holder adjustably mounted on the casing and positioned concentrically with relation to the axis of the grinding wheel, and an arm adjustably connected to both the tool rest and the tool rest holder.

5. A grinder, comprising a frame provided with means for clamping it to a support and with projecting bearings, a driving shaft journaled in the frame and provided with a gear, a spindle journaled in the projecting bearings and provided with a pinion in mesh with the gear, a member rigidly connected to the spindle, a grinding wheel connected to the member and positioned to extend circumferentially over one of the projecting bearings, a tool rest positioned adjacent to the grinding wheel, a tool rest holder adjustably mounted on one of the projecting bearings concentrically with relation to the axis of the grinding wheel, and an arm connected to the tool rest and adjustably connected to the tool rest holder.

[Claims 6 to 8 not printed in the Gazette.]

970,543. RAILWAY POWER TRANSMISSION. ALBERT S. PARSONS, Berkeley, Cal. Filed Nov. 30, 1909. Serial No. 530,595.



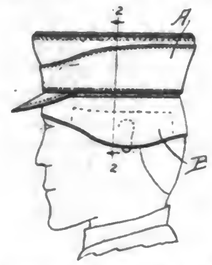
1. In a device of the character described, a vehicle, a power shaft therefor, a drum-shaped pulley having sprocket teeth on its periphery adjacent to each end thereof, said pulley being universally mounted on and driven by said shaft, an axle mounted in a pivot support and spaced apart from said power shaft, a drum shaped pulley having sprocket teeth on its periphery adjacent to the ends, said pulley being universally mounted on and driving said axle, and sprocket chains connecting said pulleys.

2. A device of the character described comprising a vehicle, a power shaft therefor, a pulley with sprocket teeth universally mounted on and driven by said shaft, a swinging axle carried by said vehicle, a pulley universally mounted on and driving said axle, sprocket chains connecting said pulleys, and means carried by said vehicle for maintaining a tension on said chains.

970,544. EAR-PROTECTOR. ABRAHAM PASSMAN, Chicago, Ill., assignor to Jacob H. Liederman, Isadore Liederman, and Samuel Soboroff, Chicago, Ill. Filed Dec. 2, 1908. Serial No. 465,717.

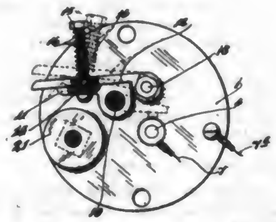
1. A cap embracing an inwardly folding and protective band shaped to closely cover the ears, temples, forehead and back of the head, said band embracing two lateral sections meeting at corresponding ends, longitudinal pockets in the ends of said sections, a band of flat rubber webbing extended in said pockets and fastened to said bands or folds only at the inner ends of the pockets, thereby affording dilating or expanding sections for the band and a pad secured centrally on each of said folds in position to cover the ears when in place.

2. A protective band of the class described embracing lateral sections meeting at corresponding ends, each provided with a longitudinal pocket in each end thereof, a band of flat rubber webbing engaged at its ends only, in the inner ends of each of said pockets and affording a dilating or expanding section connecting said parts, said folds or flaps at their lower edge curving downwardly from a point approximating the angles of the forehead, to



protect the temples, ears, and back of the head of the wearer and approximately straight along their upper edge.

970,545. IGNITER FOR EXPLOSIVE-ENGINES. PETER PAULSON, Marshfield, Wis. Filed May 10, 1909. Serial No. 495,146.



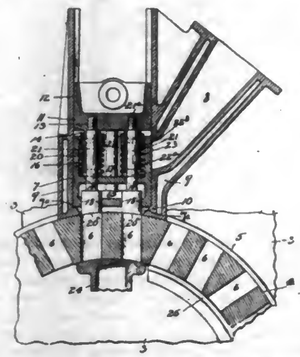
1. An igniting mechanism for explosive engines, comprising a pair of sparking electrodes, one of which is movable in respect to the other, a pair of pivoted arms, one of which is connected to the movable electrode and the other of which has its pivot eccentric to that of said electrode connected lever, a common spring device reacting against said two pivoted arms and yieldingly holding the same pressed together flatwise, and a tappet operative on one of the said arms, substantially as described.

2. In an igniting mechanism for explosive engines, the combination with a fixed and a movable electrode, of a secondary arm secured to said movable electrode, a primary arm having an independent pivot eccentric to the pivot of said movable electrode, a bolt passed through said two arms, a spring on said bolt normally holding said two arms engaged flatwise and said electrodes separated, and a tappet operative on the free end of said primary arm to effect the engagement of said movable electrode with the coöperating electrode, the said spring when released serving to force the two levers together and to effect a quick separation of the electrodes, substantially as described.

3. In an igniting mechanism for explosive engines, the combination with a head detachably secured to an engine cylinder, of a fixed electrode and a movable electrode, the former having a stem extended through and insulated from said head and the latter having a rock shaft extended through and journaled in said head, a secondary arm secured to the outer end of said electrode rock shaft, a primary lever pivoted to said head adjacent but eccentric to the hub of said secondary arm, a bolt passed through co-incident passages in said two arms, a spring on said bolt normally holding said two arms engaged flatwise and said electrodes separated, and a tappet operative on the free end of said primary arm to separate said arms and move said electrodes into engagement, said spring, when said primary arm is released from said tappet, serving to throw said primary arm against said secondary arm and effect a quick separation of said electrodes, substantially as described.

4. An igniting mechanism for explosive engines, comprising a pair of sparking electrodes, one of which is movable in respect to the other, a pair of pivoted arms, one of which has its pivot eccentric to that of said electrode connected lever, a common spring device reacting against said two pivoted arms and yieldingly holding the same pressed together flatwise, and a tappet operative on one of the said arms, substantially as described.

970,546. BRIQUET-MACHINE. JOSEPH W. PETERS and DAVID IVES BROWN, Pittsburg, Pa. Filed Sept. 28, 1908. Serial No. 455,000.



1. In a briquet machine, in combination with a filler-box having a hopper delivering into the side of the filler-box, a plunger block slidably mounted in said filler-box, and a plate slidably mounted relative to said plunger block and having an upwardly extending flange to close the entrance to the hopper at times.

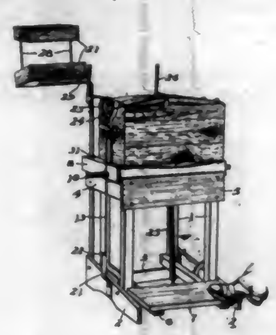
2. In a briquet machine, in combination with a filler-box having a hopper delivering into the side of the filler-box, a plunger-block slidably mounted in said filler-box, plungers secured to said plunger block, and a plate slidably mounted on said plungers and having an upwardly extending flange to close the entrance to the hopper at times.

3. In a briquet machine, a mold filling device comprising a filler-box, a plunger block slidably mounted in said filler-box, plungers having stems secured to said block, a pressure plate having holes to receive the heads of the plungers and flanges extending upwardly from its edge, a web extending from said flanges having holes to receive the stems of said plungers, and springs bearing against said block and web.

4. In a briquet machine, a mold filling device comprising a filler-box, a plunger block slidably mounted in said filler-box, plungers having stems secured to said block, sleeves secured to the plunger block and inclosing the plunger stems, a pressure plate having holes to receive the heads of the plungers and flanges extending upwardly from its edge, a web extending from said flanges having holes to receive the stems of said plungers, and springs bearing against said plunger block and web, said pressure plate being slidable on said plunger stems, its movement thereon being limited by the engagement of the web aforesaid with the heads of the plungers and the sleeves.

5. In a briquet machine, a mold filling device comprising a filler box, a plunger block slidably mounted in said filler-box, plungers having stems secured to said block, sleeves secured to the plunger block and inclosing the plunger stems, a pressure plate having holes to receive the heads of the plungers, and flanges extending upwardly from its edge, a web extending from said flanges having holes to receive the stems of the plungers, springs mounted on said sleeves and bearing against said plunger block and web, said pressure plate being slidable on said plunger stems, its movement outwardly thereon being limited by the engagement of the web aforesaid with the heads of the plungers, and shoulders in the filler box to engage the pressure plate and hold it from movement relative to the plunger block and plungers.

970,547. FRUIT-BOX-LID PRESS. ARTHUR V. PLATT and WILSON B. HARLAN, Como, Mont. Filed Nov. 15, 1909. Serial No. 528,264.



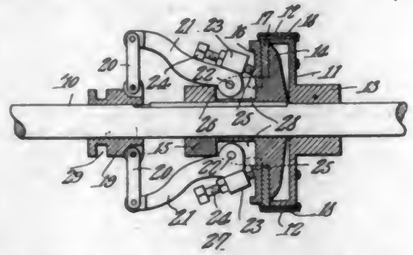
1. An apparatus of the character described, comprising a support, operating levers connected to said support and provided with a tread plate, movable clamping levers provided with bent ends connected to said operating levers, stationary members arranged upon said support and adapted to engage the bent ends of said clamping levers for swinging the same inwardly when the same are being forced downwardly, means for guiding said clamping levers during their course of travel, and means for returning said tread plate to its raised positions, substantially as described.

2. An apparatus of the character described, comprising a support comprising parallel uprights, operating levers pivotally mounted upon the rear of said parallel uprights, clamping levers connected to said operating levers in such a manner as to have two relative movements with said levers, stationary spring members connected to said support, said clamping levers having portions thereof bent inwardly and arranged to engage said stationary spring members, guides arranged upon said support and within which said clamping levers are arranged to operate, clamping yokes secured to said levers, a tread plate arranged upon said operating levers, and a spring member connected to said tread plate and the upper portion of said support, substantially, as described.

3. The combination with a supporting frame, of clamping levers, movably arranged upon the same, operating levers swingingly mounted upon said supporting frame and to which said clamping levers are movably connected, means adapted to swing said clamping levers inwardly toward each other comprising stationary members, brackets arranged upon said supporting frame for supporting the lids to be used, a receptacle arranged upon said supporting frame for containing the securing means used to fasten lids to a box, a tread plate arranged upon said operating levers, and means for normally retaining said clamping levers in their raised inoperative positions, substantially as described.

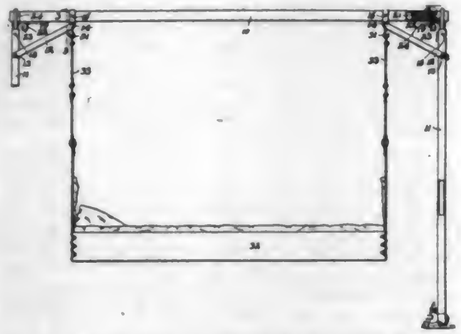
4. An apparatus of the character described, comprising a support, operating levers pivotally connected to said support near the lower end thereof, clamping levers provided with inwardly bent lower ends movably connected to said operating levers, guides within which said clamping levers are adapted to operate, transversely arranged strips secured to said support at the lower end thereof and extending laterally therebeyond, angular members secured to said transversely arranged strips and arranged to engage the inwardly bent lower ends of said clamping levers, a tread plate arranged upon said operating levers and adapted to serve as a platform upon which the operator may stand, and upon which he may shift his weight to obtain greater pressure on one end of a box or the other as may be necessary, and means for returning said tread plate to its normal raised position, substantially as described.

970,548. CLUTCH. MICAJAH L. POULTER, Stockport, Iowa. Filed Oct. 15, 1909. Serial No. 522,795.



The combination of a shaft, a member loose thereon and carrying a friction plate, a disk slidable on and rotatable with the shaft, said disk being located on one side of the plate, and having a hub extension, a disk on said hub extension, and held against rotation thereon, said disk being located on the other side of the plate, angle levers carried by the hub extension, a collar slidably mounted on the shaft, a link connecting one of the arms of each of said levers to the collar, set screws threaded through the other arms of the levers, and lugs on the second-mentioned disk having beveled surfaces which are engageable by the set screws for advancing said disk into frictional engagement with the plate, simultaneously with the corresponding movement of the first-mentioned disk, said beveled surfaces extending at a right angle to the axes of the set screws.

970,549. FOLDING SUPPORT FOR HAMMOCKS. HARRY PRICE, Boston, Mass. Filed Mar. 8, 1910. Serial No. 548,064.



1. A hammock support comprising a horizontal bar having circumferential grooves formed in its opposite ends, two pairs of supporting legs pivotally connected with said bar, extensions from the upper ends of said legs surrounding said bar within said grooves, and means for holding said legs in supporting position.

2. A hammock support comprising a horizontal bar having circumferential grooves formed at its opposite ends, two pairs of supporting legs pivotally connected to said bar, means for holding said legs in supported position, and hooked shaped extensions from the upper ends of said legs surrounding said bar in said grooves whereby said legs are retained against longitudinal movement.

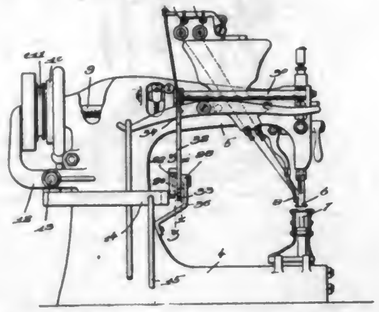
3. A hammock support comprising a horizontal bar having circumferential grooves formed at its opposite ends, two pairs of pivotally connected supporting legs pivotally connected to said bar and having their upper ends surrounding said bar in said groove.

4. A hammock support comprising a horizontal bar having circumferential grooves formed at its opposite ends, two pairs of supporting legs, the legs of each pair being pivoted together adjacent the under side of said bar, hook-shaped extensions from the upper end of said legs surrounding said bar within said groove, and means for holding said legs in supported position.

5. A hammock support comprising a horizontal bar having circumferential grooves formed at its opposite ends, two pairs of supporting legs, a link pivotally connecting the legs of each pair and disposed adjacent the under side of said bar, extensions from the upper ends of said legs surrounding said bar within said groove, and means for holding said legs in supported position.

[Claim 6 not printed in the Gazette.]

970,550. SEWING-MACHINE. FRED A. PUTNAM, Melrose, and LLOYD L. LIVINGSTON, Abington, Mass., assignors to Puritan Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed Aug. 17, 1908. Serial No. 448,838.



1. In a sewing machine, the combination with stitching mechanism including a presser foot and a rock shaft for operating it, a clutch for operating said stitching mechanism, a clutch-operating lever for throwing the clutch into engagement, and manual means to operate said lever, of a controller adapted in one position to engage the lever and thereby hold the clutch in engagement and in another position to release the lever, and means actuated by the rock shaft to move positively the controller from each position to the other position.

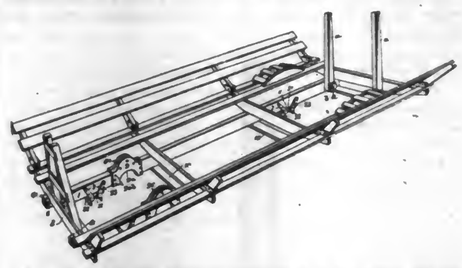
2. In a sewing machine, the combination with stitching mechanism including a presser foot and a rock-shaft for operating it, and manual means to set said stitching mechanism in operation, of a controller independent from said manual means operated by said rock-shaft for maintaining the stitching mechanism in operation while it makes a predetermined number of stitches.

3. In a sewing machine, the combination with stitching mechanism including a presser foot and a rock-shaft for operating it, a clutch for operating the stitching mechanism, and a clutch-operating lever, of a rotary controller adapted in one position to act on the lever to maintain the clutch in engagement and in another position to release the lever to permit the clutch to be disengaged, and means connected with said rock-shaft for actuating said controller.

4. In a sewing machine, the combination with stitching mechanism including a presser foot and a rock-shaft for operating it, a clutch for operating the stitching mechanism, and a lever for throwing the clutch into operation, of a rotary controller provided with one or more notches, and a pawl carried by said rock-shaft for turning said controller, said controller when in one position acting to hold the clutch-operating lever depressed but permitting said lever to be elevated when the end thereof comes opposite a notch.

970,551. HAY-RACK SILL. ROSCOE H. QUICK, Piatt, Ill. Filed Aug. 8, 1908. Serial No. 447,634.

1. In a wagon rack bed frame, a longitudinal side sill, a pendent bracket adjustably mounted on the sill, and a filler block for engaging the bottom edge of the sill, said bracket comprising two opposing sections, each consisting of a portion having apertures and an inwardly extended flange, the flanges of the two sections forming the seat for the filler block, and having an integral pendent flange at each end for straddling and seating on a wagon bolster.



2. A side sill for wagons comprising a sill beam formed of a plurality of abutting sections and cut out on the under side at the abutting ends of said sections, flanged plates fitted over the abutting ends of said sections, said flanged plates including upwardly extended flanged portions to form a chamber, and a filler block held in said chamber against the top of said beam ends, and bolts passing through said flanged plates and said beam ends.

3. A side sill for wagons, comprising a sill beam formed of a plurality of abutting sections, and cut out on the under side at the abutting ends of said sections, flanged plates that inclose the abutting ends of said sections, said flanged plates including upwardly extended flanged portions to form a chamber, a filler block held in said chamber against the top of said beam ends, bolts passing through said flanged plates and said beam ends, and other bolts passed through said flanged plates and said filler block.

4. A side sill having a cut out portion on its under side at one end, a pair of wear plates having flanges for inclosing said cut out end, said flanges of said wear plates conforming to the contour of said sill end, bolts passing through said wear plates and said sill end, each of said wear plates having upwardly projected spaced members to form a transverse groove, substantially as shown and described.

5. A side sill comprising a main portion and an abutting front portion, the meeting ends of the two portions being cut out on the under side and formed with recesses on the opposite sides, wear plates that fit over the opposite sides of said meeting ends at the cut out portions, said plates having flanges for seating in said recesses, a filler that fits over the top of the meeting ends of the sill portions, said filler having a rib on its upper edge, said wear plates having upwardly extended portions and having flanges on said upwardly extended portions for embracing said filler, said filler rib being held between said flanges, and means for securing the plates, the filler and the sill portions together.

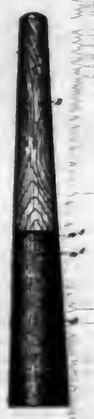
[Claim 6 not printed in the Gazette.]

970,552. POST. JOHN P. QUINN, Chelmsford, Mass., assignor to Martin J. Quinn, Chelmsford, Mass. Filed June 16, 1909. Serial No. 502,438.

1. A base having a vertical chamber to receive the lower end of a post and having one or more grooves in the wall of said chamber and having an inclined passage leading downwardly from each groove to the outside of said chamber.

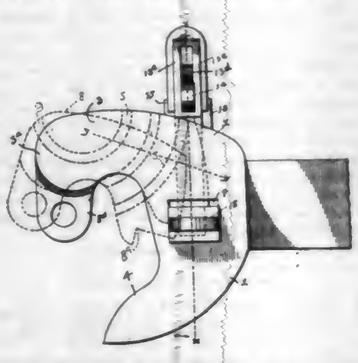
2. The combination of a base having a central chamber and a post having a stem to enter and fit said chamber, said chamber having one or more vertical grooves in its concave walls extending above and below the lower end of said stem and an air passage connecting the upper part of each groove with the outer air and leading downward from said chamber.

3. The combination of the base having a central vertical perforation and a post having a stem shorter than said base and reduced to enter and fit said perforation, said base having one or more vertical grooves in the wall of said perforation and extending from the top of said base below said stem and an air passage connecting the upper part of each groove near the top of said stem with the outer air and inclined downward from said groove.



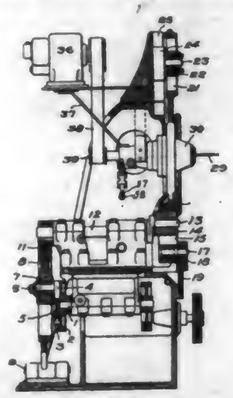
4. A base having a vertical chamber to receive the lower end of a post and having one or more grooves in the wall of said chamber and having an inclined passage leading downwardly from a groove to the outside of said chamber in combination with the post having a reduced lower end portion which enters and fits said chamber and a screw driven into said end portion and extending into said passage to prevent said post from being lifted out of said base.

970,553. CAR-COUPLING. FRANK C. REYNOLDS, Columbus, Ohio, assignor of one-half to Herbert R. Kuhn, Columbus, Ohio. Filed Feb. 1, 1909. Serial No. 475,463.



In a car coupler, the combination with a coupler head having a bifurcated jaw, of a coupling knuckle within said bifurcated jaw, and a plurality of curved concentric tongue and groove connections between said jaw and said knuckle, and means for locking said knuckle in its closed position, said means comprising a member which lies in front of a portion of said knuckle to prevent swinging movement thereof, but which does not pierce said knuckle, the grooves of the tongue and groove connections being continued entirely through said bifurcated jaw to permit the knuckle to swing entirely out of said jaw.

970,554. MILLING ATTACHMENT FOR BUCKET-CUTTING MACHINES. JOHN RIDDELL, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Aug. 6, 1906. Serial No. 329,310.



1. In a bucket-cutting machine, the combination of a standard, a member mounted thereon, means for reciprocating the member twice during each cycle of operation, means for positively swinging the member forward and back for each cycle of operation, the said reciprocating and swinging movements taking place simultaneously and defining the path of the tool, guides restricting said movements of the member to one plane, a continuously rotating cutting tool mounted on and moving with the member, and a device actuated by said member for feeding the tool toward the work adjacent the end of the path of said tool.

2. In a bucket-cutting machine, the combination of a standard, a member mounted thereon, means for reciprocating the member twice during each cycle of operation, means for positively swinging the member forward and back for each cycle of operation, the said reciprocating and swinging movements taking place simultaneously and defining the path of the tool, guides restricting the said movements of the member to one plane, a cutting spindle carried by the member whose axis is perpendicular to the plane of movement of the member, means for continuously rotating the spindle, and a device actuated by said member for feeding the spindle forward adjacent each end of the path of said cutting spindle or tool.

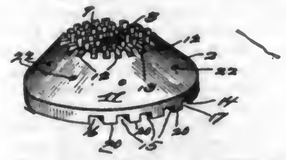
3. In a bucket-cutting machine, the combination of a standard, a member mounted thereon, means for reciprocating the member twice during each cycle of operation, means for positively swinging the member, the said reciprocating and swinging movements taking place simultaneously and defining the path of the tool, guides confining the said movements to one plane, a cutting tool carried by the member and extending perpendicular to the plane of movement thereof, a motor supported by and moving with the member that is connected to the tool for continuously rotating it, and a device actuated by said member for feeding the tool forward adjacent each end of the path of said tool.

4. In a bucket-cutting machine, the combination of a standard, a member mounted thereon, means for reciprocating the member twice during each cycle of operation, means for positively swinging the member, the said reciprocating and swinging movements taking place simultaneously and defining the path of the tool, guides restricting the said movements of the member to one plane, a cutting tool carried by the member and extending perpendicular to the plane thereof, a motor supported by and moving with said member, a driving connection between the moving element of the motor and the tool, and a device actuated by the reciprocating movements of said member for feeding the tool toward the work adjacent each end of the path of said tool.

5. In a bucket-cutting machine, the combination of a standard, a member mounted thereon, means for positively reciprocating the member twice during each cycle of operation, means for positively swinging the member forward and back for each cycle of operation, the said reciprocating and swinging movements taking place simultaneously and defining the path of the tool, guides restricting the said movements of the member to one plane, a head carried by the member, a tool spindle mounted in the head and movable longitudinally therein, a belt pulley splined to the spindle for rotating the same without retarding its longitudinal movements, a motor supported on said head and belted to the pulley, and a device actuated by the reciprocating movement of said member for feeding the tool spindle forward adjacent each end of the path of the tool.

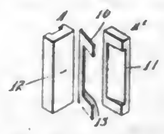
[Claims 6 to 11 not printed in the Gazette.]

970,555. BASE FOR COLUMNS. SAMUEL L. RILEY, Palestine, Tex., assignor of one-half to E. M. Griggs, Palestine, Tex. Filed Nov. 27, 1909. Serial No. 530,228.



A base for posts, consisting of a body having a resting surface to receive a post, said resting surface being cut into drainage and ventilation openings extending from the sides of the base through the center of the resting surface and intersecting each other, the upper part of the base being beveled on its sides, the lower part of the base being formed with a surface to engage a floor, said surface being formed with transversely extending grooves for drainage and ventilation, said grooves terminating at one side of the base, said last surface being further formed with a groove extending around the same over the major portion thereof, and with a centrally disposed enlargement.

970,556. LIGHTNING-PROTECTOR. ANDREW F. ROSENBERGER, Chicago, Ill. Filed Jan. 2, 1908. Serial No. 408,895.



1. In a protector, the combination with suitable electrical connections, of a pair of electrodes provided with opposed spark gap surfaces which converge, and a solid dielectric interposed between the most contiguous portions of said electrodes and arranged to divert passing discharges across the gap between said convergent surfaces.

2. In a protector, the combination with suitable supports and terminal connections, of a pair of electrodes having opposed uncovered convergent surfaces and a dielectric of greater insulating resistance than air separating said electrodes at their place of nearest approach.

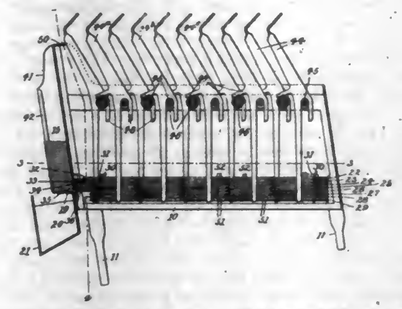
3. In a protector, a pair of electrodes having parallel contacting portions and divergent gap surfaces and a sheet of insulating material interposed between and covering said contacting portions of the electrodes and arranged with its edge coincident with the intersecting angle of the gap.

4. In a protector, an electrode block one side of which has the form of a plane surface except for a recess extending from one edge inwardly, said recess having an inclined bottom and being of decreasing depth from said edge inwardly and terminating short of the opposite edge, a sheet of insulating material entirely covering the unrecessed portion of said plane surface of the electrode and cut out to register with the said recess, and a second electrode block provided with a plane surface arranged in bearing with said insulating sheet, whereby a divergent air gap is formed between said electrodes.

5. In a protector, an electrode block, one side of which has the form of a plane surface except for a recess extending from one edge inwardly, said recess having an inclined bottom and being of decreasing depth from said edge inwardly and terminating short of the opposite edge, a sheet of insulating material adherent to and entirely covering the unrecessed portion of said plane surface of the electrode and cut out to register with the said recess, and a second electrode block provided with a plane surface arranged in bearing with said insulating sheet, whereby a divergent air gap is formed between said electrodes.

[Claims 6 and 7 not printed in the Gazette.]

970,557. CHANGE-MAKING MACHINE. IRVIN ROSENFELD, New York, N. Y., assignor of one-half to Charles Gustav Wirths, Woodhaven, N. Y. Filed Apr. 30, 1909. Serial No. 493,072.



1. In a change making machine, a series of coin magazines combined with a corresponding series of superposed slotted slidable plates extending back of the entire series of said magazines, a series of coin ejectors on the plates which are arranged side by side and are adapted to separately enter different magazines, a series of key levers passing through said plate series and adapted to operatively engage a selected number of said plates, while clearing the other plates.

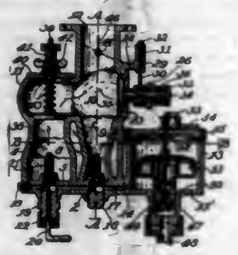
2. In a change making machine, a frame, a series of parallel shafts supported thereby, a series of spaced keys fulcrumed to the shafts in staggering relation with each other, collars mounted upon the shafts intermediate the keys, a series of superposed apertured plates engaged by the keys and having coin ejectors, and coin magazines adapted to receive said ejectors.

3. In a change making machine, a frame, a series of parallel shafts supported thereby, a series of spaced keys fulcrumed to the shafts in staggering relation with each other and having forwardly extending fingers, collars mounted upon the shafts intermediate the keys and adapted to be engaged by said fingers, a series of superposed apertured plates engaged by the keys and having coin ejectors, and coin magazines adapted to receive said ejectors.

4. In a change making machine, a frame, a series of parallel shafts supported thereby, a series of keys having forks adapted to straddle said shafts, a series of superposed apertured plates engaged by the keys and having coin ejectors, and coin magazines adapted to receive said ejectors.

5. A change making machine, comprising a series of coin magazines having stepped coin rests, a series of superposed, slidable and apertured plates having correspondingly stepped ejectors adapted to enter the magazines above said coin rests, and keys operatively engaging the plates.

970,558. CARBURETER. JAMES P. RYAN, Indianapolis, Ind. Filed Jan. 25, 1909. Serial No. 474,180.



1. In a carbureter, the combination of a mixer body, a feed nozzle in the mixer body, a valve-case on the mixer body, a valve-seat ring secured in one side of the valve-case, a valve-guide on the ring, an adjusting-nut screwed onto the valve-guide and having longitudinal grooves in the outer side thereof, an arm on the valve-case, a guide on the arm, a latch bolt movable in the guide into or out of either one of the grooves, a spring normally forcing the latch-bolt into contact with the adjusting-nut, an air-inlet valve seated on the inner side of the ring and having a valve-stem thereon that extends through the valve-guide and the adjusting-nut, the outer end of the valve-stem having a head thereon, and a spring seated against the head and also against the adjusting-nut.

2. In a carbureter, the combination of a primary mixer body that is open at its lower and upper ends, an auxiliary mixer body that is open at its lower end, a reservoir connected with the primary mixer body, a bridge in the lower end of the primary mixer body and having a duct therein that extends straight through the side of the reservoir, a nozzle on the bridge, a bridge in the lower end of the auxiliary mixer body in alinement with the first-described bridge and having a duct therein communicating with the first-described duct, a nozzle on the bridge in the auxiliary mixer body, an air-inlet valve-case on the primary mixer body and having an outlet, a valve-case on the auxiliary mixer body and joined to the air-inlet valve-case, a loaded valve seated on the upper end of the auxiliary mixer body, a valve-seat ring secured in the side of the air-inlet valve-case, a valve-guide on the ring, an air-inlet valve seated on the inner side of the ring and having a stem thereon extending through the valve-guide, the stem having a head thereon, and a spring engaging the head and holding the air-inlet valve removably against the ring.

3. In a carbureter, the combination of a primary mixer body and an auxiliary mixer body having each a bridge in its lower end, there being air-passages at opposite sides of the bridges and communicating ducts in the bridges, a casing extending from the auxiliary mixer body about the primary mixer body at a distance therefrom and having apertures in the upper and lower portions thereof, the casing being connected at its top to the upper portion and at its bottom to the lower portion of the primary mixer body at the top of the bridge therein, a reservoir body connected at the lower portion thereof to the wall of the primary mixer body and also to the casing, there being a duct extending through the walls of the reservoir body and the primary mixer body to the duct in the bridge that is in the primary mixer body, all of said ducts being in alinement, a nozzle upon the bridge in the primary mixer body, a nozzle upon the bridge in the auxiliary mixer body, a packing-box on the under side of the bridge of the auxiliary mixer body, a valve-stem movable in the packing box and extending therethrough and through one of the communicating ducts to close or open the nozzle on said last-mentioned bridge, two communicating valve-cases on the primary and auxiliary mixer bodies respectively and having an outlet, a loaded valve seated removably on the auxiliary mixer body in one of the valve-cases, a valve-seat ring secured in the side of the other one of the valve-cases, and an air-inlet valve seated removably against the ring and spring-pressed thereto.

970,559. ROLLING-MILL PLANT. HUGO SACK, Dusseldorf, Germany; Adelheid Sack sole heir of said Hugo Sack, deceased. Filed Nov. 30, 1908. Serial No. 465,412.



1. A universal mill for rolling double-flanged beams, consisting of a pair of identical symmetrical horizontal rolls and a pair of identical symmetrical vertical rolls, the pass between said rolls consisting of a web portion and outwardly-diverging flange portions, one of said pairs of rolls having pressure-surfaces arranged to substantially close the outer ends of said flange portions.

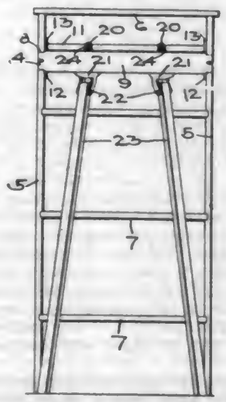
2. A universal mill for rolling double-flanged beams, consisting of a pair of identical symmetrical horizontal rolls and a pair of identical symmetrical vertical rolls, the pass between said rolls consisting of a web portion and outwardly-diverging flange portions, one of said pairs of rolls having pressure-surfaces arranged to substantially close the outer ends of said flange portions and cylindrical surfaces extending outward from said pressure-surfaces.

3. A plant for rolling I-bars comprising complementary sets of universal rolls, arranged side by side, the upper and lower rolls of adjacent mills being driven from a common shaft, the first two sets of rolls having passes of substantially identical shape, said passes consisting of a web portion and outwardly-diverging flange portions, the first set of rolls having spaces between the horizontal and vertical rolls to permit the extrusion of surplus blank metal as fins, the second set of rolls having pressure surfaces in position to roll down said fins, and the third set of rolls having passes arranged to finish and square up the bar.

4. A plant for rolling I-bars comprising sets of universal rolls, arranged side by side, the first two sets of rolls having passes of substantially identical shape, said passes consisting of a web portion and outwardly-diverging flange portions, the first set of rolls having spaces between the horizontal and vertical rolls to permit extrusion of surplus blank metal as fins, the second set of rolls having pressure surfaces in position to roll down said fins, and a third set of rolls having passes arranged to finish and square up the bar.

5. A plant for rolling I-bars comprising complementary sets of rolls adapted to operate on the bar to form a web portion and outwardly diverging flange portions, and a set of universal finishing rolls having passes arranged to support the web and to apply pressure to the flanges to bring them to a right angle with the web.

970,560. STEP-LADDER. JACOB SAMUELSON, Healdsburg, Cal. Filed Sept. 21, 1909. Serial No. 518,806.

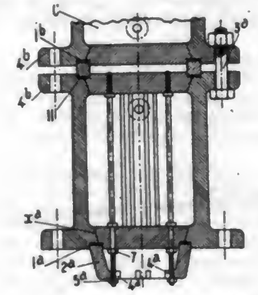


1. The combination with the two side stiles of a ladder, of a sheet metal brace comprising a main portion and two parallel flanges provided with registering apertures near each end, said main portion having an outstanding perforated securing ear, said flanges each having a securing ear at each end extending at right angles, bolts passing through all of said ears to secure the same to said stiles, a stem revolubly held within each of said apertures and having a securing head, a pin carried by each head, and a standard pivotally secured to each pin.

2. The combination with a ladder, of a sheet metal brace comprising a main portion and two parallel flanges, each having registering openings near each end, pins revolubly carried within said apertures, said pins having supporting heads, and supporting standards pivotally secured to each of said heads.

3. The combination with a ladder, of a sheet metal brace comprising a metal bar having an aperture near each end, a stem revolubly held within each aperture, means to hold said stems within said apertures, each stem having a head, a pin carried by each head, and a supporting standard held to each of said pins.

970,561. APPARATUS FOR THE INTERCHANGE OF HEAT. GINO SCARAMUZZA, Turin, Italy, assignor to Società Anonima per Frigorigeni e Motori "Motofrigor," Turin, Italy. Filed Mar. 20, 1908. Serial No. 422,330.

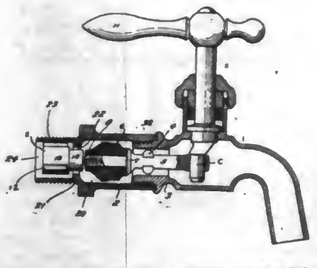


1. An apparatus of the class described, comprising a casing having similarly directed beveled seats at each end thereof, beveled plates engaging said beveled seats and provided with perforations, tubes extending through said casing and having their ends engaging perforations in said end plates, registering recesses formed in the outer surfaces of the casing and the outer surfaces of said plates, packing positioned within said registering recesses, ring-shaped members extending within said recesses and engaging the packing, and means operatively engaging said rings and said casing for forcing said rings into said recesses.

2. An apparatus of the class described, comprising a casing having similarly directed beveled seats at each end thereof, beveled end plates engaging said beveled seats and provided with perforations, tubes extending through said casing and having their ends engaging perforations in said end plates, registering recesses formed in the outer surfaces of the casing and the outer surfaces of said end plates, packing positioned within said registering recesses, ring-shaped members extending within said recesses and engaging the packing, means operatively engaging said rings and said casing for forcing said rings into said recesses, and means for maintaining said plates at a predetermined distance from one another, irrespective of the pressure exerted by said rings.

970,562. COCK OR FAUCET. ANTON C. SCHUERMANN, Decatur, Ill., assignor to The H. Mueller Manufacturing Company, Decatur, Ill., a Corporation of Illinois. Filed Oct. 6, 1908. Serial No. 456,430.

1. In a liquid shut off, the combination with the cock body having a valve seat, and a partition across the body forming a valve chamber between the seat and partition, the latter having an opening; of a valve, means for moving it longitudinally within its chamber, a plug adapted to normally seat against said partition and partially close its opening when seated, and a stud projecting from the plug loosely through said opening and adapted to be engaged by the valve after the latter has moved from its seat.



2. In a liquid shut off, the combination with the cock body having a valve seat, and a partition across the body forming a valve chamber between the seat and partition, the latter having an axial opening; of a valve, means for moving it longitudinally within its chamber, a plug adapted to normally seat against said partition and partially close its opening when seated and a stud projecting from the plug loosely through said opening and adapted to be engaged by the valve after the latter has moved from its seat and to unseat the plug as the valve is fully opened.

3. In a liquid shut off, the combination with the cock body having a valve seat, and a partition across the body forming a valve chamber between the seat and partition, the latter having an opening; of a valve, means for moving it longitudinally within its chamber and closing it with the pressure, a plug adapted by pressure to normally seat against said partition and partially close its opening when seated, and a stud projecting from the plug loosely through said opening and adapted to be engaged by the valve after the latter has moved from its seat.

4. In a liquid shut off, the combination with the cock body having a valve seat, and a partition across the body forming a plug chamber at its inner end and a valve chamber between the seat and partition, the latter having an opening; of a valve, means for moving it longitudinally within its chamber, a plug in the plug chamber adapted to normally seat against said partition and partially close its opening when seated, and a stud projecting from the plug loosely through said opening and adapted to be engaged by the valve after the latter has moved from its seat and to unseat the plug as the valve is fully opened.

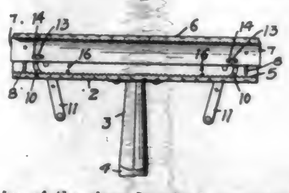
5. In a liquid shut off, the combination with the cock body having a valve seat, and a partition across the body forming a plug chamber at its inner end and a valve chamber between the seat and partition, the latter having an opening; of a valve; means for moving it longitudinally within its chamber and closing it with the pressure, a plug in the plug chamber adapted by pressure to normally seat against said partition and partially close its opening when seated, said plug having its seating movement provided solely by the liquid pressure, and a stud projecting from the plug loosely through said opening and adapted to be engaged by the valve after the latter has moved from is seat.

[Claims 6 to 14 not printed in the Gazette.]

970,563. WINDOW-CLEANER. PETER C. SCHWALEN. Minneapolis, Minn. Filed Oct. 18, 1909. Serial No. 523,357.

1. A device of the class described, comprising a holder including a fixed jaw having a shank adapted to receive a handle, a movable jaw carried by said fixed jaw and capable of adjustment thereon, levers pivoted on said fixed jaw on opposite sides of said shank and operatively connected with said movable jaw.

2. A device of the class described comprising a fixed jaw having a shank adapted to receive a handle, a movable jaw, levers pivotally mounted on said fixed jaw and having sliding pivotal connections through curved slots in said fixed jaw with said movable jaw, substantially as described.



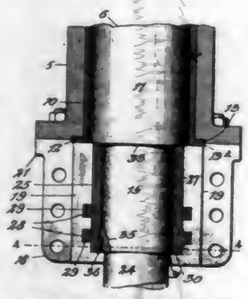
3. A device of the class described comprising a holder including a fixed jaw having a shank to receive a handle, a movable jaw slidably mounted on said fixed jaw, said jaws having inwardly turned serrated edges between which the material is clamped and means including pivoted levers mounted on said fixed jaw on opposite sides of said shank for adjusting said movable jaw toward or from said fixed jaw and clamping it, substantially as described.

4. A device of the class described comprising a holder including a fixed jaw having a shank adapted to receive a handle, a movable jaw having pins fitting within transverse slots in said fixed jaw, said fixed jaw being provided with curved slots extending transversely thereof, levers pivoted on said fixed jaw, pins carried by said levers and projecting through said curved slots and slidable within longitudinal slots in said movable jaw, whereby when said levers are oscillated said movable jaw will be moved toward or from said fixed jaw, and means for locking said levers.

5. A device of the class described, comprising a holder having a fixed jaw provided with a shank, said fixed jaw having transverse guides therein, a movable jaw having pins to enter said guides, and levers mounted on said fixed jaw and operatively connected with said movable jaw, the movement of said levers adjusting said movable jaw with respect to said fixed jaw and said jaws having opposing edges between which the cleaning material is clamped.

[Claims 6 to 8 not printed in the Gazette.]

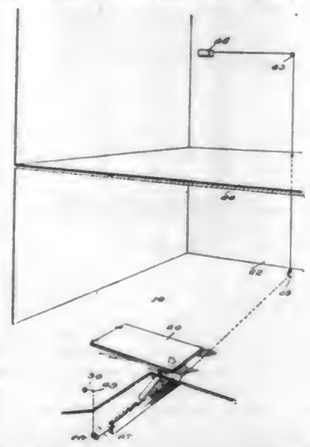
970,564. STUFFING-BOX FOR ROLLER-SHAFTS. HENRY SCHWARZ, Denver, Colo. Filed Feb. 4, 1910. Serial No. 542,057.



1. In a stuffing box, the combination of the housing sleeve and a shaft, and a journal bushing secured in said housing sleeve and arranged to fit said shaft rotatably, said shaft having a reduced portion below said housing sleeve, with a stuffing box comprising a journal sleeve keyed on the reduced portion of said shaft and provided with projecting collar portions, said shaft having a reduced portion on said shaft below said journal sleeve and the portion of said shaft on which said sleeve is secured, and a two-part casing arranged to be clamped around said shaft's sleeve in such a manner as to form a journal box bearing for said sleeve, said casing having a collar portion formed on the lower edge of each part thereof extending underneath the lower end of said sleeve to the reduced portion of said shaft.

2. In a stuffing box, the combination of the housing sleeve and its bushing with the shaft, a journal bearing sleeve on said shaft below said housing sleeve and its bushing, said journal bearing sleeve being provided with projecting collars, means for securing said journal bearing sleeve to said shaft, and a two-part casing provided with edge flanges adapted to be bolted together, axial journal bearing apertures of two diameters in said united parts of said casing adapted to receive revolubly said shaft's journal bearing sleeve, said casing being provided with counterbored grooves arranged and adapted to receive said bearing sleeve's projecting collar portions, said casing being adapted to project under and over the lower end of said shaft's sleeve to said shaft, said casing having shouldered, intermeshing, registering surfaces on the meeting surfaces of the half parts adapted to hold said half parts in alinement when secured together against movement upon each other, and means for securing said united two-part casing to said housing sleeve.

970,565. BURGLAR-ALARM. CALVIN H. SMITH, Bessemer, Ala. Filed Oct. 5, 1909. Serial No. 521,039.

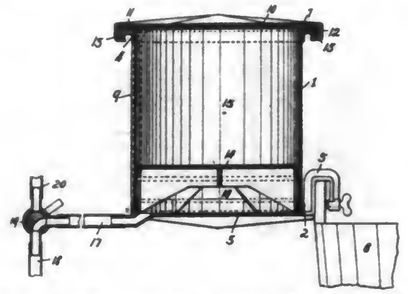


An alarm including a base, spaced guides disposed on said base, a rack slidably disposed between said guides and having the teeth thereof in the upper edge, a tripping lever carried by one of said guides, a tripping pin carried by said lever and extended upwardly through the floor, a platform disposed upon the floor over said tripping pin, a cord extended from the forward end of said rack and through said floor, a ring carried by said cord for engagement with the hand of the operator to move said rack forwardly, a cable carried upon the rear end of said rack, a spring connected to said cable to hold said rack normally in a backward position and a sounding device connected to the rear end of said cable.

970,566. CLOTHES-WRINGER. ROBERT B. SPENCER, Toledo, Ohio. Filed Sept. 9, 1909. Serial No. 516,886.

1. A clothes wringer, comprising a casing forming a clothes chamber and having a fluid outlet at the upper portion thereof, a plunger movable in said casing to compress clothes in said chamber and forming the bottom thereof, means for operating the plunger, and means for carrying off the fluid emitted from said fluid outlet.

2. In a clothes wringer, a casing having means at its upper end portion for the escape of fluid, means for carrying the escaped fluid away from the casing, a plunger movable in the casing and forming the bottom of an upper clothes chamber, and means for operating such plunger.



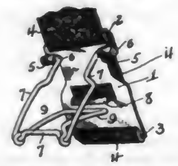
3. In a clothes wringer, a casing having a removable top and provided adjacent its upper end with fluid escape means, means for carrying the escaped fluid from the casing to a predetermined point, a plunger working in the casing and dividing it into an upper clothes chamber and a lower fluid pressure chamber, and means in communication with a source of fluid under pressure and operative to admit fluid to the fluid chamber to operate the plunger.

4. In a clothes wringer, a casing having its upper end open, a removable cover for the upper end of the casing, said casing having a drainage channel around its upper end, a plunger movable in said casing and forming the bottom of a compression chamber, and means for operating the plunger.

5. In a clothes-wringer, a casing having an open top and a drainage channel around the opening, said channel being provided with an outlet, a plunger operative in said casing and forming the bottom of a clothes chamber, a closure for the casing opening, and means for operating the plunger to compress clothes within said chamber.

[Claims 6 and 7 not printed in the Gazette.]

970,567. CLASP. CHARLES H. STAHL, Worcester, Mass., assignor to American Narrow Fabric Company, Worcester, Mass. Filed Aug. 30, 1909. Serial No. 515,284.

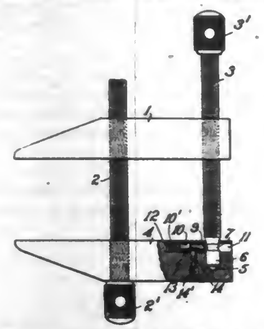


1. A clasp comprising a base having a shoulder between its ends, a bail pivotally connected with the upper portion of said base and of a length sufficient to project below the lower end of said base and a second bail pivotally connected with the lower end of the first mentioned bail and adapted to coöperate with the lower side of the shoulder on the base.

2. A clasp comprising a sheet metal base slightly convexed and having a shoulder between its ends and slots adjacent to its ends, a bail having convexed members pivotally connected with the upper portion of said base and a second bail pivotally attached to the cross-bar of the first mentioned bail and adapted to coöperate with the shoulder on the base, said bails adapted to project beyond the lower end of the base when the clasp is closed.

970,568. SCREW-CLAMP. LAROY S. STARRETT, Athol, Mass., assignor to L. S. Starrett Company, Athol, Mass., a Corporation of Massachusetts. Filed Sept. 30, 1909. Serial No. 520,414.

1. In a device of the class described, a jaw, an operating member for said jaw and having a loose engagement therewith and transversely yielding means effective at right angles to said jaw in engagement therewith to normally support said jaw at right angles to the operating member



2. In a device of the class described, a jaw, an operating member for said jaw and having a loose engagement therewith and a resilient contact transversely disposed to said member and effective at right angles thereto for normally supporting said jaw at right angles to said operating member.

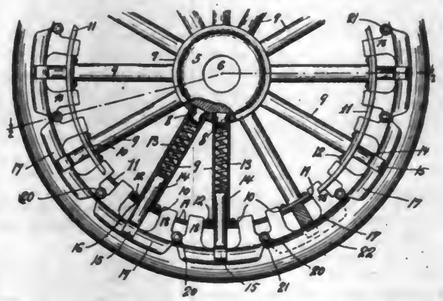
3. In a device of the class described a pair of clamping jaws, a screw for relatively adjusting said jaws and having a threaded engagement with one jaw and a loose engagement with the other jaw and a resilient contact transversely disposed to the said screw at the point of its loose engagement and effective at right angles to said screw to normally hold said clamping jaws parallel.

4. A device of the class described, comprising a pair of clamping jaws, clamping means for bringing the jaws together, an adjusting screw having a threaded engagement with said one jaw and having its end loosely socketed in the other jaw, the end of said rear screw having a groove about it and a spring pressed plunger having a rounded head mounted in said first named jaw and adapted to engage said groove and yieldingly support said first named jaw at right angles to said screw.

5. A device of the class described, comprising a pair of clamping jaws, a forward clamping screw loosely engaging one jaw and having a threaded engagement with the other jaw, a rear adjusting screw also having a threaded engagement with said second named jaw and having its end loosely socketed in said first named jaw, the end of said rear screw having a groove about it, and a spring pressed plunger having a rounded head mounted in a recess, said first named jaw engaging said groove and adapted to yieldingly support said first named jaw at right angles to said rear screw.

[Claims 6 and 7 not printed in the Gazette.]

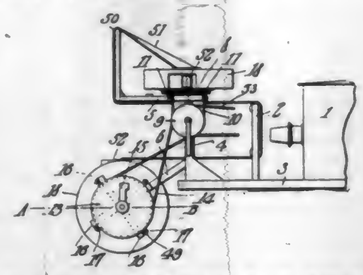
970,569. WHEEL. KRISTIAN KARL STRUBE, Trenton, N. J. Filed July 24, 1909. Serial No. 509,262.



The combination of a hub, a rigid rim, hollow spokes connecting said hub and rim, an outer flexible felly comprising a plurality of segments hinged together and hav-

ing their abutting edges inclined toward the hinge, each segment being of concave cross section for the reception of a tire, guiding lugs on each segment adjacent the hinges and adapted to guide the radial movement of the segment by passing through slots provided in the said rim, separate pistons in the said spokes, one for each segment, each piston comprising a smooth stem and a concave foot, springs within the spokes for forcing the pistons outward through openings in the said rim and to cause the foot of the piston to abut the segment between the guiding lugs aforesaid and in the center of the segment.

970,570. MOTION-PICTURE FILM-REEL MECHANISM. WALTER B. SWINDELL, Raleigh, N. C. Filed June 19, 1909. Serial No. 503,195.



1. In a motion picture machine, a film receptacle comprising a casing, and a drum interior to and concentric with the casing, both the drum and the casing being provided with film passages and automatic traps therefor in the walls concentric with the axis of rotation, and the drum and casing being capable of rotation independent one of the other.

2. In a motion picture machine, a film receptacle comprising a casing, a drum interior to and concentric with the casing, both the drum and casing being provided with film passages, a rotatable carrier for the casing on the unwinding side of the machine, a fixed member also on the unwinding side of the machine for holding the drum against rotation, a fixed support for the casing on the winding side of the machine, and a rotatable member also on the winding side of the machine for engaging and actuating the drum.

3. In a motion picture machine, a film receptacle comprising a casing, a film receiving drum interior to and concentric therewith, and film expanding members movable to increase the film-receiving circumference of the drum.

4. In a motion picture machine, a film receptacle comprising a casing, a film receiving drum interior to and concentric with said casing, the drum and casing being relatively rotatable, and a film expander movable to increase the film receiving circumference of the drum.

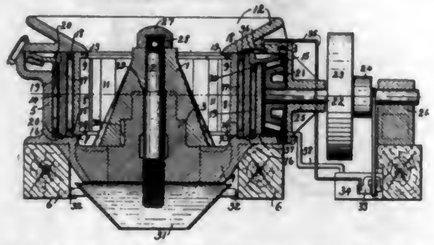
5. In a motion picture machine, a film receptacle comprising a casing, a film receiving drum interior to and concentric with said casing, a film expander movable to increase the film receiving circumference of the drum, a hollow post at the axis of the drum having a non-cylindrical axial passage, connections from the film expander movable into and out of said hollow post, and a member adapted to enter the post and engage the connections from the film expander.

[Claims 6 to 9 not printed in the Gazette.]

970,571. CRUSHING-MACHINE. JOSIAH E. SYMONS, Sheridan, Ind. Filed Aug. 15, 1907. Serial No. 388,723.

1. In a crushing-machine, in combination, a circular main frame having a spider-armed bottom provided with a central hub projected upwardly from said bottom; and a crusher-head fitted for support around said hub and slidably mounted thereon.

2. In a crushing-machine, the combination of a main circular frame having a spider-armed bottom provided with a hollow upwardly-projected hub sized to different diameters to accommodate the interior of a crusher-head, with a crusher-head fitted for lateral support around said hub and slidably mounted thereon.



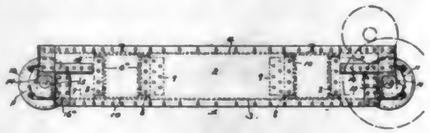
3. In a crushing machine, in combination, a main frame having a spider-armed bottom comprising a hollow hub projected upwardly within said frame; and a substantially vertical shaft fitted into said hub,—said shaft and said hub being together adapted to slidably support a centrally located crusher-head.

4. In a crushing-machine, in combination, a main frame having a spider-armed bottom comprising a hollow hub; a centrally located vertically adjustable crusher-head mounted around said hub; and means for raising and lowering said crusher-head.

5. In a crushing-machine, in combination, a main frame having a spider-armed bottom comprising a hollow hub; a centrally located, vertically adjustable shaft fitted into, and held by said hub in a fixed lateral relation to said frame,—said shaft having a shoulder for supporting a crusher-head; and a crusher-head mounted around said shaft and carried on said shoulder when said shaft is raised to give vertical adjustment to said head.

[Claims 6 to 22 not printed in the Gazette.]

970,572. BRIDGE FOR OVERHEAD TRAVELING CRANES. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed Aug. 19, 1909. Serial No. 513,658.



1. A crane bridge comprising structural end carriages, and girders, the latter passing through the inner members of the carriages and secured to said inner members and also to the outer members.

2. A crane bridge comprising structural end carriages and girders, the latter passing through the inner members of the carriages and secured to said inner members and also to the outer members, the top of the girders being approximately in the plane of the top of the end carriages.

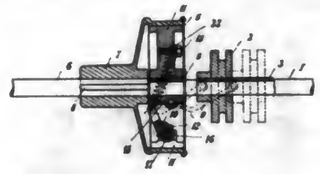
3. A crane bridge comprising structural end carriages and girders the latter passing through the inner members of the end carriages resting on the bottom members, and secured to said inner members and to the outer members.

4. A crane bridge comprising structural end carriages, girders passing through the inner members of the carriage and secured to the outer members and also to the inner members, and bracing members within the girders in line with the inner members, of the end carriages.

5. A crane bridge comprising structural end carriages, the inner members of which are made in sections, girders passing between the section of the inner members and secured thereto and to the outer members and channel plate located within the girders approximately in line with the inner members of the end carriages.

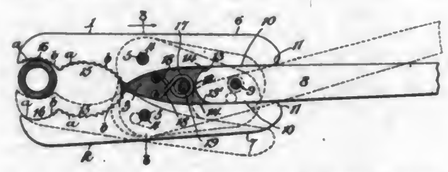
[Claims 6 to 9 not printed in the Gazette.]

970,573. FRICTION-COUPLING WITH EXPANDING LOCKING MEMBER. JULES THIRY, St. Servais-Namur, Belgium. Filed Dec. 28, 1909. Serial No. 535,283.



A friction coupling comprising an annular-shaped outer locking member, inside of said outer locking-member an expanding inner locking member whose shape is that of an annular segment, a shaft inversely threaded at its extremities and engaging nuts lodged in grooves provided at the ends of the inner locking member, a fork shaped lever secured in the middle of said shaft, lateral and appropriately guided springs interposed between said fork-shaped lever and the expanding locking member and secured at one end to the extremities of the fork-shaped lever and at the other end to a cross-bar screwed onto the inner locking-member, and connecting-rods hinged at one end to the extremities of said fork-shaped lever and at the other end to a shifting-sleeve slidably arranged on the driving shaft, all substantially as described.

970,574. PIPE-WRENCH. JOHN FRANCIS TINER, Uvalde, Tex., assignor of one-third to Thomas M. Milam and one-third to William D. Kincaid, Uvalde, Tex. Filed July 12, 1909. Serial No. 507,109.



1. A pipe wrench comprising a pair of spaced plates, a pair of jaws independently pivoted to and between said plates and having opposed normally parallel bearing faces beyond their pivotal points, and an operating lever fulcrumed between said plates symmetrically between said bearing faces and having a symmetrical working arm acting on the opposed bearing faces at opposite sides of its fulcrum.

2. A pipe wrench comprising a pair of spaced plates, a pair of working jaws pivoted to and between said plates and having normally parallel symetrical bearing faces in rear of their pivots, means for holding the gripping faces of the jaws normally separated, and an operating lever fulcrumed to and between said plates symmetrically between the opposed parallel bearing faces of the jaws and engaging said faces at opposite sides of its fulcrum whereby when the lever is moved in either direction the gripping faces of the jaws will be caused to approach in opposition to the means for holding the said jaws normally apart.

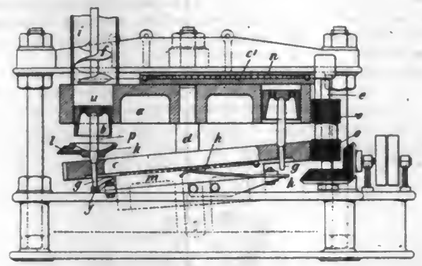
3. A wrench comprising a pair of independently-pivoted jaws, a support therefor, spaced members connected with the jaws and having flat opposed faces, a handle pivoted on the support symmetrically between the said members and provided with symmetrically-disposed flat outer faces having a wiping engagement with the opposed faces of the spaced members at opposite sides of its fulcrum, and oppositely-disposed gripping faces on the jaws, each gripping face having oppositely-disposed sets of serrations.

4. A wrench comprising a pair of plates, jaws independently pivoted between the plates, a plurality of opposed concave gripping faces on the jaws struck on centers of different radii, the gripping faces of larger radii being arranged nearer to the pivots of the jaws, each gripping face having reversely-arranged serrations, an operating handle having one end pivoted to and between the plates and provided with parallel straight sides, members connected with the jaws and extending therefrom between the plates at opposite sides of the lever and having symmetrical inner faces in wiping engagement with the straight sides of the lever at opposite sides of the fulcrum of the same.

5. A wrench comprising a support, independently pivoted jaws thereon, opposed concave gripping faces on the jaws and each having reversely arranged serrations, a handle pivoted on the support, members on the jaws extending along opposite sides and overlying the pivoted end of the handle, an anti-friction device on the end of each member arranged to ride on the lever at one side of the pivot thereof, anti-friction devices arranged on the lever at the opposite side of the pivot to bear on the inner opposed faces of the said member, and a spring operatively connected with the support and jaws for holding the members of the latter normally in engagement with the lever, both sets of anti-friction devices being so related to the jaw members and handle that the latter can be swung laterally to both sides of its normal central position for closing the jaws on an object to turn the same in either direction.

[Claim 6 not printed in the Gazette.]

970,575. ROTARY PRESS. JOHANN WOLDEMAR RAUSCH VON TRAUBENBERG, Reval, Russia. Filed Dec. 31, 1909. Serial No. 535,828.



1. In a rotary press, the combination with a stationary bent shaft, of two disks rotatably mounted thereon, the surface of the lower disk being inclined to that of the upper disk, means for rotating the said disks, the upper disk provided with a plurality of molds, a piston in each of the molds, means for closing the top of the molds for a part of the travel of said upper disk, and means for automatically exerting pressure on said pistons.

2. In a rotary press, the combination with a stationary bent shaft, of two disks rotatably mounted thereon, the surface of the lower disk being inclined to that of the upper disk, means for rotating the said disks, the upper disk provided with a plurality of molds near the circumference thereof, a plate covering a part of the top side of said upper disk adapted to close the molds while they are passing thereunder, and means for automatically exerting pressure on said pistons.

3. In a rotary press, the combination with a stationary bent shaft, of two disks rotatably mounted thereon, the surface of the lower disk being inclined to that of the upper disk, means for rotating the said disks, the upper disk provided with a plurality of molds near its circumference, a piston in each of the molds, perforations in each of said molds and in each of said pistons to permit the escape of the liquid pressed out of the material, cups for collecting the liquid, a plate covering a part of the top side of said upper disk adapted to close the molds while they are passing thereunder, and a member connecting each of the pistons with the lower disk whereby pressure is exerted on said pistons.

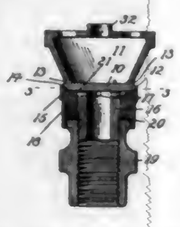
4. In a rotary press, the combination with a stationary bent shaft, of two disks rotatably mounted thereon, the

surface of the lower disk being inclined to that of the upper disk, means for rotating the said disks, the upper disk provided with a plurality of molds near its circumference, a piston in each of the molds, perforations in each of said molds and in each of said pistons to permit the escape of the liquid pressed out of the material, cups for collecting the liquid, a plate covering a part of the top side of said upper disk adapted to close the molds while they are passing thereunder, a member connecting each of the pistons with the lower disk whereby pressure is exerted on said pistons, an incline located below the lower disk, the lower disk provided with apertures in alinement with each of said members, and posts in the apertures adapted to engage said incline to push the compressed material out of said molds.

5. In a rotary press, the combination with a stationary bent shaft, of two disks rotatably mounted thereon, the surface of the lower disk being inclined to that of the upper disk, means for rotating the said disks, the upper disk provided with a plurality of molds near its circumference, a piston in each of the molds, perforations in each of said molds and in each of said pistons to permit the escape of the liquid pressed out of the material, cups for collecting the liquid, a plate covering a part of the top side of said upper disk adapted to close the molds while they are passing thereunder, a member connecting each of the pistons with the lower disk whereby pressure is exerted on said pistons, an incline located below the lower disk, the lower disk provided with apertures in alinement with each of said members, posts in the apertures adapted to engage said incline to push the compressed material out of the said molds, and a second incline below the lower disk adapted to be engaged by said posts to control the amount of material introduced into said molds.

[Claim 6 not printed in the Gazette.]

970,576. ATOMIZER. MARTHA VON TRAUTMANN, New York, N. Y. Filed June 24, 1910. Serial No. 568,636.



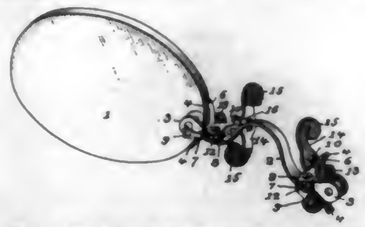
1. An atomizer comprising an apertured cup, a disk forming the bottom thereof, a hollow stem depending from the disk, a collar mounted upon said stem, and having a dished top to form an annular chamber between collar and disk, ports connecting the interior of the stem with said chamber, and ports leading out of said chamber.

2. An atomizer comprising a cup, a disk forming the bottom thereof and extending beyond the wall of the cup to form an upper groove, liquid ducts passing through said cup into said groove, and gas ports coöperating with the liquid ducts.

3. An atomizer comprising an apertured cup, a laterally extending beveled disk forming the bottom thereof, ports formed in the beveled disk, a hollow apertured stem depending from the disk, and a dished collar mounted on the stem.

4. An atomizer comprising an apertured cup, a liquid tank communicating therewith, a laterally extending disk forming the bottom of the cup, a hollow stem depending from the disk, a dished collar mounted on the stem, and forming an annular chamber intermediate collar and disk, ducts connecting the interior of the stem with said chamber, ports leading out of said chamber, and a steam or gas pipe connected to the stem.

970,577. EYEGLASS-MOUNTING. WILLIAM R. UHLEMANN, Chicago, Ill. Filed Mar. 29, 1909. Serial No. 486,485.



1. In a finger piece eyeglass mounting, the combination of a rigid arched bridge, pivot eyes at the base of said bridge, attaching clips adjacent to said pivot eyes, nose grip carrying levers pivoted to said pivot eyes, and operating springs of a flat ribbon form encircling the pivot axis of the carrying levers and connected thereto at their inner ends, the outer ends of said springs having rearward extensions which bear against the rear faces of the clips aforesaid in a plane parallel with the rear faces of the lenses, substantially as set forth.

2. In a finger piece eyeglass mounting, the combination of a rigid arched bridge, pivot eyes at the base of said bridge, attaching clips adjacent to said pivot eyes, nose grip carrying levers pivoted to said pivot eyes, and operating springs of a flat ribbon form encircling the pivot axis of the carrying levers and connected thereto at their inner ends, the outer ends of said springs having rearward extensions in the form of curved loops which bear against the rear faces of the clips aforesaid in a plane parallel with the rear faces of the lenses, substantially as set forth.

3. In a finger piece eyeglass mounting, the combination of a rigid arched bridge, pivot eyes at the base of said bridge attaching clips adjacent to said pivot eyes, nose grip carrying levers pivoted to said pivot eyes, and operating springs of a flat ribbon form attached to said levers and bent into a volute form beneath the levers and around the pivot axis of the same, the outer ends of said springs having rearward extensions which bear against the rear faces of the clips aforesaid in a plane parallel with the rear faces of the lenses, substantially as set forth.

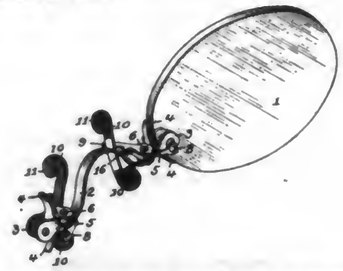
4. In a finger piece eyeglass mounting, the combination of a rigid arched bridge, pivot eyes at the base of said bridge attaching clips adjacent to said pivot eyes, nose grip carrying levers pivoted to said pivot eyes, and operating springs of a flat ribbon form attached to said levers and bent into a volute form beneath the levers and around the pivot axis of the same, the outer ends of said springs having rearward extensions in the form of curved loops which bear against the rear faces of the clips aforesaid in a plane parallel with the rear faces of the lenses, substantially as set forth.

5. In a lens mounting of the type herein described, the combination of a rigid arched bridge, a pair of levers pivoted thereon at opposite sides of the arch of the bridge, and nose grips pivotally connected to the inner ends of said levers by a pivot tongue formed by a U shaped slit in the central part of the grip to form the tongue and which is bent to the proper angular relation to body of the grip, substantially as set forth.

970,578. EYEGLASS-MOUNTING. WILLIAM R. UHLEMANN, Chicago, Ill. Filed Mar. 29, 1909. Serial No. 486,486.

1. In an eyeglass of the type herein described, the combination of a rigid arched bridge, a pair of levers pivoted thereon at opposite sides of the arch of said bridge, nose grips carried by said levers, and operating springs of a volute form interposed between the levers and the bridge and protected thereby, the inner ends of said springs being connected to the bridge and the outer ends to the levers, substantially as set forth.

2. In an eyeglass of the type herein described, the combination of a rigid arched bridge, a pair of levers pivoted thereon at opposite sides of the arch of said bridge and provided with stirrups at the rear of their points of pivotal attachment, nose grips carried by said levers, and operating springs of a volute form interposed between the levers and the bridge and protected thereby, the inner ends of said springs being connected to the bridge and the outer ends to the aforesaid stirrups of the levers, substantially as set forth.

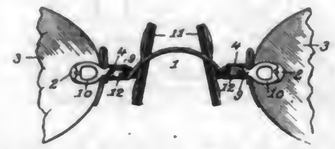


3. In an eyeglass of the type herein described, the combination of a rigid arched bridge, a pair of levers pivoted thereon at opposite sides of the arch of said bridge, nose grips carried by said levers, each lever having an intermediate resilient loop and spring attaching stirrup, and springs attached to the bridge between said bridge and the levers, said springs surrounding the pivot axis of the levers and having extensions or tongues engaging the aforesaid attaching stirrups of the levers, substantially as set forth.

4. In an eyeglass of the type herein described, the combination of a rigid arched bridge, a pair of levers pivoted thereon at opposite sides of the arch of said bridge, nose grips carried by said levers, and springs interposed between said levers and bridge, each spring comprising a flat orificed end portion and an elongated tongue portion bent into a volute form, the two portions of the spring being separated to form a receiving cavity for the eyeglass bridge, substantially as set forth.

5. In an eyeglass of the type herein described, the combination of a rigid arched bridge, a pair of levers pivoted thereon at opposite sides of the arch of said bridge, nose grips carried by said levers, and springs interposed between said levers and bridge, each spring comprising a flat orificed end portion and an elongated tongue portion bent into a volute form and having a projecting end engaging a lever, the two portions of the spring being separated to form a receiving cavity for the eyeglass bridge, substantially as set forth.

970,579. EYEGLASS-MOUNTING. WILLIAM R. UHLEMANN, Chicago, Ill. Filed Apr. 4, 1910. Serial No. 553,327.



1. The combination in an eyeglass mounting, of a rigid bridge, pivot pins at the respective ends of the bridge, lens attaching clips at the ends of the bridge, guard levers journaled on said pivot pins, and operating springs of a flat ribbon form encircling said pivot pins and connected at their inner ends to said levers by lateral lugs engaging in side recesses of the pivot orifices of the levers, the outer ends of said springs having rearwardly extending portions adapted for bearing against the rear faces of the attaching clips, substantially as set forth.

2. The combination in an eyeglass mounting, of a rigid bridge, pivot pins at the respective ends of the bridge, lens attaching clips at the ends of the bridge, guard levers journaled on said pivot pins, and operating springs of a flat ribbon form encircling said pivot pins and connected at their inner ends to said levers by lateral lugs engaging in side recesses of the pivot orifices of the levers, the outer ends of said springs having rearwardly extending portions ending in curved loops adapted for bearing against the rear faces of the attaching clips, substantially as set forth.

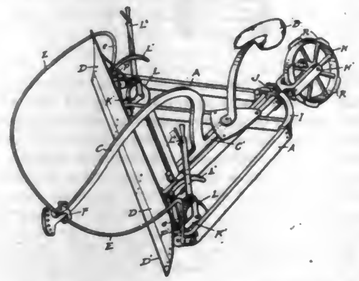
3. The combination in an eyeglass mounting of a rigid bridge formed with wide and flat ends that are bent upon themselves to form rectangular loops the free ends of which abut against the bridge, pivot pins arranged centrally in said loops, guard levers arranged in said loops and upon the pivot pins, and operating springs also arranged in said loops and engaging said levers and a fixed portion of the mounting, substantially as set forth.

4. The combination in an eyeglass mounting, of a rigid bridge formed with wide and flat ends that are bent upon themselves to form rectangular loops the free end members of which abut against the bridge, pivot pins carried by horizontal members of the loops, the companion horizontal members of the loops being formed with recesses to receive the free ends of the pivot pins, guard levers arranged in said loops and upon the pivot pins, and operating springs also arranged in said loops and engaging said levers and a fixed portion of the mounting, substantially as set forth.

5. The combination in an eyeglass mounting, of a rigid bridge formed with wide and flat ends that are bent upon themselves to form rectangular loops the free ends of which abut against the bridge, pivot pins arranged centrally in said loops, guard levers arranged in said loops and upon the pivot pins, and operating springs of a flat ribbon form encircling said pivot pins and connected at their inner ends to said levers by lateral lugs engaging in side recesses of the pivot orifices of the levers, the outer ends of said springs having rearwardly extending portions adapted for bearing against the rear faces of the attaching clips, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

970,580. ROAD DRAG, GRADER, AND SCRAPER. WALTER S. WALKER, Helena, Mo. Filed Feb. 15, 1910. Serial No. 543,996.



1. In a device of the character described the combination with the frame and seat, the land bars, a mold board and shear, an adjustable goose neck and goose neck beam, of a semi-circular metal guide projecting over and forward of said mold board, the shanks thereof connecting with the forward bent ends of said land bars, a clamp by which said goose neck may be held stationary at any given position on said guide, a forked bar pivotally connected at the handle end with the frame of the device, a rudder wheel axled in the forks of said bar, a segment of a plate attached over the space at the rear of said land bars, a clamp to engage the handle of said forked bars and said segment, duplicate elevating rods carried pivotally on the back of said mold board, a

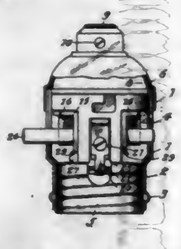
loosely fitting collar on the lower end of each rod, the wheel frames pivotally attached to said collars, runner wheels axled therein, gages carried on the elevating rods, levers carried on said frames engaging with said gages to elevate and hold the front of the machine at any desired elevation, angle iron rigid on the inside of the mold board, rods pivotally fastened to the land bars their upper ends bent to engage holes in said angle irons to hold the mold board at any slope, ditching blades detachably connected with said mold board and foldable wings detachably connected with the ends of the mold board for holding and carrying dirt without loss at the ends of the mold board for filling holes in highways, all substantially as shown and described.

2. In a device of the character described the combination with the land bars and mold board of a semi-circular metal guide the shanks thereof rigidly fastened to said land bars and projected vertically upward and the guide projected horizontally forward over said mold board, substantially as shown and set forth.

3. In a combined road drag, grader and short distance scraper, the combination with the frame, a goose neck operated pivotally thereon, a mold board and shear, of a semicircular guide projected over and forward of said mold board and a clamp to engage said goose neck and guide and hold said goose neck rigid on said guide at any desired point.

4. In a device of the kind described, a forked bar the handle of which is pivotally connected with the frame work of the machine, a rudder wheel axled in said forks, a segment of a metal plate riveted at each end to a land bar and a clamp to hold said forked bar in engagement with said segment to hold the rudder wheel at the desired angle.

970,581. ELECTRIC-LIGHT SOCKET. WILLIE H. WALTERS, Salt Lake City, Utah. Filed Nov. 13, 1909. Serial No. 527,798.



1. A device of the character specified comprising a shell, a plug of insulating material to which the shell is connected, oppositely arranged bars of conducting material supported by the plug, said plug having a transverse opening, and the said bars covering the ends of the opening and each having a bearing registering therewith, a key comprising a stem of insulating material slidable through the bearings and a contact maker of conducting material, a third bar at right angles to the key and having a head extending into the shell and insulated therefrom, said shell being threaded, and a spring to hold said contact-maker.

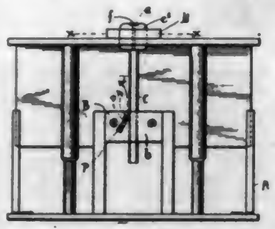
2. A device of the character specified comprising a plug of insulating material, a key comprising a stem of insulating material slidable through the plug, and a contact maker of conducting material, a contact bar for engagement by the contact-maker at each end of the movement, said bars having bearings in which the stem is slidable, a threaded shell, and a spring to hold said contact-maker.

3. In a device of the character specified, a plug of insulating material having a transverse opening, a threaded shell connected with the plug, a contact bar at each end of the opening, each bar having a bearing, an insulated stem slidable in the bearings, a spring for holding the stem in adjusted position, and a contact maker of conducting material on the stem for connecting either of the bars with the shell.

4. In a device of the character specified, a threaded shell, oppositely arranged contact bars on the shell and insulated therefrom, each of said bars having a bearing, a stem of insulating material slidable in the bearings, and a contact maker on the stem for connecting either of the bars and the shell.

5. In a device of the character specified, a plug of insulating material, a threaded shell for engaging a plug, a pair of resilient contact bars secured to the plug, one of said bars having an angular portion extending to the center of the shell, means for connecting either of the bars with the shell and a plate of insulating material between the shell and the angular portion.

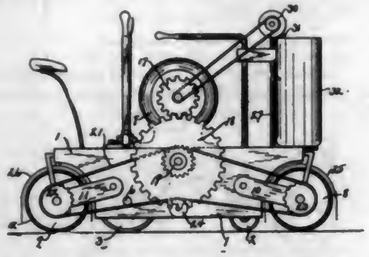
970,582. FITTING FOR LOOSE-LEAF BOOKS. ALBERT THOMAS WARNE, Leytonstone, England, assignor to Spicer Brothers Limited, London, England, a Company Incorporated. Filed Dec. 9, 1907. Serial No. 405,786.



1. A locking device for loose leaf books having two covers and extensible binding pins consisting of a rotatable rod flattened at one side, a roller in contact with the rod for locking the same, a spring for pressing the roller against the rod, guides for the roller arranged obliquely to the rod, and means for rotating the rod.

2. A locking device for loose leaf books having two covers and extensible binding pins consisting of a rotatable rod flattened at one side, a roller in contact with the rod for locking the same, guides for the roller arranged obliquely to the rod and a spring for pressing the roller against the rod, combined with a key-operated lock for the rod.

970,583. FLOOR SURFACER, CLEANER, AND POLISHER. WILLIAM E. WARNER, Houston, Tex. Filed Dec. 27, 1909. Serial No. 535,190.



1. A device of the character described embodying a supporting frame and traction wheels for carrying the same; a motor carried by the frame and operatively connected with the traction wheels; a plurality of abrading rollers carried by the frame and driven by said motor; a means for forcing said rollers into contact with the surface to be smoothed simultaneously and means whereby the rollers may be forced to contact with said surface separately.

2. In a floor surfacing machine, the combination of a vehicle mounted on wheels; abrading rollers rotatable in the same direction, pivotally mounted on said vehicle and movable toward and from the surface to be operated on; a motor on the vehicle for operating the rollers for imparting traction motion to the vehicle; a system of levers for moving the abrading rollers toward and from the surface to be operated on either independently or simultaneously; and a transmission mechanism for controlling the forward and backward movement of the vehicle.

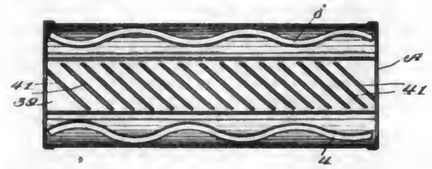
3. In a floor surfacing machine the combination with a machine frame and means for supporting said frame on the floor surface, of driven abrading rollers pivotally mounted on the frame and movable either independently or simultaneously toward and from the surface to be smoothed; a mechanism for rotating said rollers in the same direction; a lever mechanism whereby the bodily movement of said rollers may be controlled, and yielding members tending to hold said abrading rollers out of contact with the surface to be smoothed.

4. In a floor surfacer, cleaner and polisher the combination of rollers covered with material for acting upon the floors; arms pivoted upon the sides of said device and adapted to hold said rollers and to raise and lower them from the floor; a lever attached to each roller and so fulcrumed as to raise and lower the same; a system of levers for operating upon the first mentioned levers in such a manner as to elevate or lower the rollers either independently or simultaneously; a motor mounted on said device and having operative connection with a driving chain which in turn is operatively connected with all of the rollers so as to rotate them in the same direction; and a transmission mechanism where forward or rearward movement may be imparted from the motor to the device.

5. In a floor surfacer, cleaner and polisher, a supporting frame and carriers therefor, a plurality of abrading rollers pivotally mounted thereon and bodily movable toward and from the surface to be smoothed, a lever attached to each roller and fulcrumed to the frame, a system of manually operated levers having connection with said roller levers for operating the same, whereby said abrading rollers may be moved toward and from the surface to be smoothed either independently or simultaneously.

[Claims 6 to 10 not printed in the Gazette.]

970,584. MACHINE FOR CLEANING SAND AND GRAVEL. CHARLES J. WELTY, North Lima, Ohio. Filed Apr. 22, 1910. Serial No. 557,055.



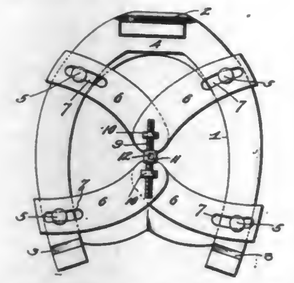
1. In a machine of the class described, the combination of a shaft and means for rotating the same; a hollow cylinder mounted upon said shaft for rotation therewith; said cylinder having an open discharge end; means arranged within said cylinder for carrying part-way around with the latter material introduced thereinto and for advancing such material toward said discharge end; and a longitudinally arranged trough located within said cylinder and suspended from and rotating with said shaft for periodically receiving material falling thereinto from said carrying means, said trough being provided with means for imparting a side-wise movement to said material at such time.

2. In a machine of the class described, the combination of a shaft and means for rotating the same; a hollow cylinder mounted upon said shaft for rotation therewith; said cylinder having an open discharge end; means arranged within said cylinder for carrying part-way around with the latter material introduced thereinto and for advancing such material toward said discharge end; and a longitudinally arranged trough located within said cylinder and suspended from and rotating with said shaft for periodically receiving material falling thereinto from said carrying means, said trough being provided with a series of interiorly located inclined blades for imparting a side-wise movement to said material at such time.

3. In a machine of the class described, the combination of a shaft and means for rotating the same; a hollow cylinder mounted upon said shaft for rotation therewith; a pair of troughs arranged longitudinally within said cylinder and secured to the wall thereof at points remote from each other; a trough secured to said shaft and located midway between the first-mentioned troughs; and a plurality of sinuous strips secured to said cylinder wall between said first-mentioned troughs.

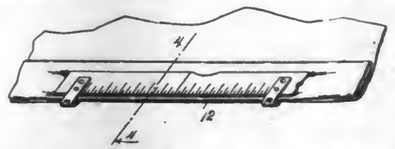
4. In a machine of the class described, the combination of a shaft and means for rotating the same; a hollow cylinder mounted upon said shaft for rotation therewith; a pair of troughs arranged longitudinally within said cylinder and secured to the wall thereof at points remote from each other, said troughs being provided with interiorly located blades; and a plurality of sinuous strips secured to said wall between said troughs.

970,585. DETACHABLE HORSESHOE. HENRY P. WENDEL, Niagara Falls, N. Y. Filed Nov. 24, 1909. Serial No. 529,763.



A detachable horse shoe having formed thereon anti-slipping calks, a front cross bar connecting the opposite sides of said shoe, said cross bar forming with the toe of the shoe, an opening adapted to be engaged with the toe calk of the regular shoe, whereby the detachable shoe is held against slipping movement, a series of headed studs arranged on said detachable shoe, a series of curved clamping plates having formed therein slots adapted to slidably engage said studs, thereby securing said clamping plates to the shoe, hoof engaging lugs formed on the outer ends of said clamping plates, studs to pivotally connect the inner ends of the front and rear pair of clamping plates, said studs having formed therein threaded apertures, a right and left hand threaded bolt adapted to engage the threaded apertures in said studs, and means to turn said bolt in one direction or the other.

970,586. WORK-HOLDER. DAVID SPIER WHITAKER, Denver, Colo., assignor of one-half to Theodore H. Northrup, Denver, Colo. Filed Oct. 22, 1909. Serial No. 524,077.

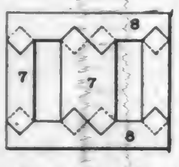


1. A device of the class described comprising two flat members hinged together near their extremities, two members being secured to the hinge at predetermined separated points on the opposite sides of the hinge joint, when they lie in the same plane, sufficiently to cause the hinge joint to protrude beyond the edges of the members when

the latter are applied in opposing relation to the article to be stitched.

2. A work holder comprising two flat members hinged together near their extremities, the two members being secured to the hinges at a distance from the hinge joints on opposite sides of said joints sufficiently to cause the two members when in opposing relation to be held at a distance from the hinge joints to allow the edges of the article to be stitched to protrude beyond the edges of the opposing members without interference with the hinged joints, the two members having beveled recesses in staggered relation on their adjacent outer edges, and one of the said members being provided with a graduated surface.

970,587. LAMINATED TRANSFORMER-CORE. OTTO WIEMER, St. Louis, Mo., assignor to Wagner Electric Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed May 17, 1909. Serial No. 496,651.

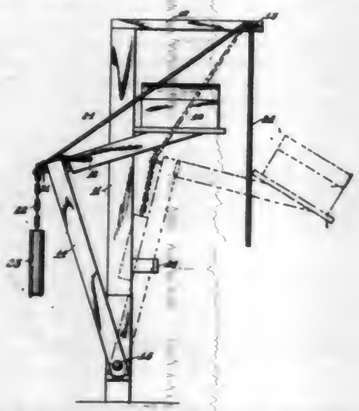


1. An element for a laminated transformer core composed of separately formed cross-pieces the end edges of which are broken lines, and yoke segments adapted to register with the ends of the cross-pieces.

2. An element for a laminated transformer core composed of separately formed cross-pieces the end edges of which are broken lines whose contiguous parts lie at angles of substantially 90° to each other, and yoke segments adapted to register with the ends of the cross-pieces.

3. A laminated transformer core composed of elements each of which is made up of separately formed cross-pieces the end edges of which are broken lines, and yoke segments adapted to register with the ends of the cross-pieces, said elements being alternately reversed in assembling in order to break the joints.

970,588. EXTENSIBLE MAIL-BOX SUPPORT. ANDREW J. WILFONG, Knoxville, Iowa. Filed Nov. 15, 1909. Serial No. 528,124.



1. A device of the class described, comprising an upright stationary standard or support, an arm pivoted at its lower end to the said standard or support and extended upwardly, a second arm at the upper end of the first arm extended in position substantially at right angles to the first, a mail box fixed in position at the outer end of the second arm, and means for tilting the first arm from position with the mail box adjacent to the support or standard to position with the mail box extended outwardly from the support or standard.

2. A device of the class described, comprising a support or standard, an arm pivoted to the lower end of the support or standard and extended upwardly, a flexible chain connected to the upper end of said arm, a weight attached to said chain, a second arm pivoted to the first arm and extended substantially at right angles from it to swing in a horizontal plane, opposed springs for normally holding said second arm at the center of its pivotal movement, a mail box fixed in position on the end of the second arm and a rod slidably mounted at the upper end of the support or standard and connected with the upper end of the support or standard, and connected with the upper end of the first arm, and means for limiting the swinging movement of the first arm, substantially as and for the purposes stated.

970,589. MANUFACTURE OF THREADS, FILAMENTS, STRIPS, AND FILMS OF CELLULOSE. LEONARD PHILIP WILSON, Coventry, England, assignor to Samuel Courtauld & Company Limited, London, England. Filed Apr. 11, 1908. Serial No. 426,519.

1. In the manufacture of cellulose objects from viscose, the introduction of the latter in suitable form into a precipitating bath containing glucose.

2. In the manufacture of cellulose objects from viscose, the introduction of the latter in suitable form into a bath containing an organic setting agent for the viscose, together with a decomposing precipitant adapted to effect the decomposition of viscose into cellulose, substantially as described.

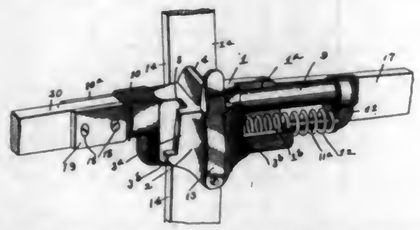
3. In the manufacture of cellulose objects from viscose, the introduction of the latter in suitable form into a bath containing as a viscose setting agent a sugar of the character described, together with a decomposing precipitant adapted to effect the decomposition of viscose into cellulose, substantially as described.

4. In the manufacture of cellulose objects from viscose, the introduction of the latter in suitable form into a bath containing, in aqueous solution, an organic setting agent for the viscose, together with a decomposing precipitant adapted to effect the decomposition of viscose into cellulose, substantially as described.

5. In the manufacture of cellulose objects from viscose the introduction of the latter in suitable form into a precipitating bath containing an acid, a salt and a sugar, such as glucose.

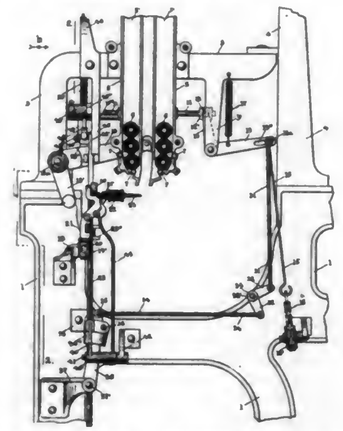
[Claim 6 not printed in the Gazette.]

970,590. DRAFT ATTACHMENT FOR HARNESS. WHITE W. WOODFILL, Columbus, Ohio. Filed Sept. 27, 1909. Serial No. 519,769.



In a device of the character described, the combination with a draft body secured to the back and girth straps of harness, said body having an outwardly projecting T-shaped portion, of a connecting member rigidly secured to a shaft of a vehicle and adapted to fit over said T-shaped extension, a horizontally disposed spring actuated latch normally tending to be projected outwardly to overlie said member, a pin slidably disposed within said draft body, a breast strap fixedly secured to one end of said pin and projecting forwardly from the draft body, a strap secured to the draft body and projecting rearwardly from said draft body, a lateral extension upon one end of the pin, and a spring disposed between said extension and the draft body, said spring lying within a housing formed by said draft body.

970,591. WEFT-REPLENISHING MECHANISM FOR WEFT-REPLENISHING LOOMS. HORACE WYMAN, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Mar. 24, 1910. Serial No. 551,291.



1. In a loom having a magazine with a plurality of compartments for filling carriers, a filling detector, a movable arm or carrier, a plurality of push pins carried by said arm, one push pin for each compartment, and means between the detector and said arm, to move one of the push pins into operative position upon the substantial exhaustion of filling in the active shuttle.

2. In a loom having a magazine with a plurality of compartments for bobbins, an engaging arm, horizontally movable past the cradle releasing rods of said compartments, means to move said arm downward, said means normally retained in an inoperative position by a hooked lever, a longitudinally movable rod, a push pin supported in a movable carrier, to move said rod and release said hook lever and said engaging arm.

3. In a loom having a magazine with a plurality of compartments for filling carriers, a push pin arm or carrier under the control of shifting shuttle box mechanism, and having a plurality of push pins, anyone of which is adapted to be pushed into operative position and cause the release of a filling carrier in its compartment.

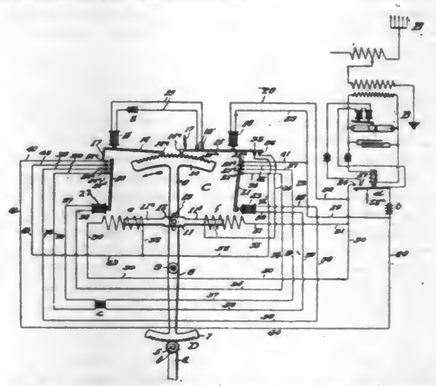
4. In a loom having a magazine with a plurality of compartments for filling carriers, a push arm or carrier having a plurality of pins, each adapted to be moved into an operative position, and yielding means to hold a pin in either an operative, or inoperative position.

5. In a loom having a magazine with a plurality of compartments for filling carriers, a push pin arm or carrier having a plurality of pins, each having two circumferential grooves, and a spring actuated plunger to enter one of said grooves, when a pin is in its inoperative position, and to enter the other groove when a pin is in its operative position.

[Claims 6 to 9 not printed in the Gazette.]

970,592. WIRELESS TRANSMISSION APPARATUS FOR CONTROLLING THE MOVEMENTS OF VESSELS. VINCENT C. DE YBARRONDO, Los Angeles, Cal. Filed Jan. 31, 1910. Serial No. 541,174.

1. The combination, with vessel steering mechanism; of electro-magnetic means controlling and actuating said steering mechanism, a latch acting to lock said steering mechanism in successive phases of movement, electro-magnetic means controlling said latch, and electrical impulse-receiving apparatus electrically connected with both of said electro-magnetic means.

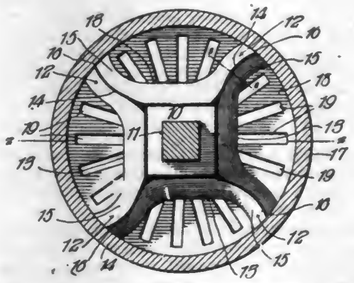


2. The combination, with vessel steering mechanism; of electro-magnetic means controlling said steering mechanism and comprising two solenoids, two latches acting alternately to lock said steering mechanism in successive phases of movement, separate electro-magnetic means controlling each of said latches, and electrical impulse-receiving apparatus electrically connected with one of said electro-magnetic means controlling one of said latches and adapted for electrical connection with either of said solenoids.

3. The combination, with vessel steering mechanism; of two solenoids for controlling said steering mechanism, two switches controlling energization of said solenoids, two electro-magnets controlling said switches, said switches also controlling said electro-magnets each the electro-magnet of the other, and electrical impulse-receiving apparatus adapted for electrical connection with either of said solenoids.

4. The combination, with vessel steering mechanism; of electro-magnetic means controlling said steering mechanism; said electro-magnetic means comprising members non-simultaneously acting upon said stering mechanism, locking means for maintaining said steering mechanism in successive positions of movement, said locking means controlling energization of both of said members controlling said steering mechanism, and electrical impulse-receiving apparatus adapted for electrical connection with either of said latter members.

970,593. MEAT-CHOPPER. WILLIAM B. YEAKEL, Coopersburg, Pa. Filed July 16, 1908. Serial No. 443,908.

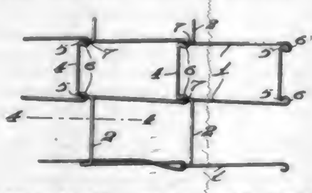


1. A cutter for meat choppers comprising a central hub formed with a plurality of angular sides each having a continuous cutting edge, and curved arms extending from said hub at the juncture of the angular sides and forming

continuations of the same, said arms having cutting edges on both sides and merging into the cutting edges of the hub, so that the cutting edges of the arms and of the hub are continuous from end to end, whereby when the cutter is rotated in one direction the food will be cut and moved outwardly away from the hub and will be cut and moved inwardly toward the hub when the cutter is rotating in the opposite direction.

2. The combination with a disk having a plurality of radially arranged slots, of a cutter arranged to rotate over said disk and comprising a central hub formed with a plurality of angular sides each having a continuous cutting edge and curved arms extending from said hub at the juncture of the angular sides and forming curved continuations of the same, said arms having cutting edges on both sides and merging into the cutting edges of the hub, so that the cutting edges of the arms and of the hub are continuous from end to end, whereby when the cutter is rotated in one direction over the slotted disk the food will be cut across the slots and carried outwardly and will be cut across the slots and carried inwardly when the cutter is rotated in the other direction.

970,594. WOVEN-WIRE FENCE. IRA J. YOUNG, St. Louis, Mo., assignor to Great Western Wire Fence & Mfg. Co., St. Louis, Mo., a Corporation of Missouri. Filed Nov. 28, 1908. Serial No. 464,982.



1. A woven wire fabric, constructed of a single strand of wire formed into rows of alternately arranged loops, the ends of one row of loops engaging the ends of the adjacent rows of loops, one end of each loop being bent laterally and the opposite end portion of the loop being provided with small loops at its ends, which encircle the laterally bent end portions of the next adjacent row of loops, and interlock the alternately arranged loops against movement relative to each other.

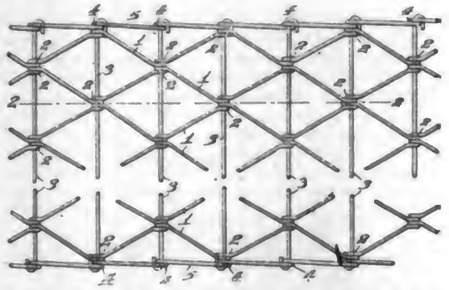
2. A woven wire fabric formed from a single strand of wire bent into vertical rows of alternately arranged rectangular loops, one end section of each loop being bent laterally relative to the plane occupied by the top and bottom sections of said loop, and the opposite end section of each loop having its ends crimped to encircle and interlock against movement with the ends of the laterally bent end section of the next adjacent loop.

3. A woven wire fabric constructed of a single strand of wire formed into vertical rows of alternately arranged rectangular loops, the loops of one row engaging the loops of the adjacent rows, the end sections of the alternate loops of each row being bent laterally relative to the top and bottom sections of said loops, and the end sections joining the opposite ends of the alternate loops being crimped at their ends to interlock against movement with the ends of the laterally bent end sections of the adjacent row of loops.

970,595. WIRE MAT. IRA J. YOUNG, St. Louis, Mo., assignor to Great Western Wire Fence & Mfg. Co., St. Louis, Mo., a Corporation of Missouri. Filed Nov. 27, 1908. Serial No. 464,983.

1. A mat constructed of a series of longitudinally extending wires, each wire being bent so that its ends occupy a substantially horizontal plane and the body portion between the ends occupies a position at an angle relative the ends, a vertically disposed loop at each end of each wire and transversely disposed wires extending through the loops.

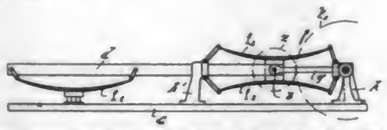
2. A mat constructed of a series of longitudinally extending wires, each wire being bent so that when assembled the wires are of zigzag form, a vertically disposed loop at each end of each wire, transversely disposed wires extending through the loops and binding wires located at the sides of the mat to which binding wires the ends of the transverse wires are united.



3. A mat constructed of a series of longitudinally extending wires, each wire being bent so that when assembled the wires are of zigzag form, a vertically disposed loop at each end of each wire, projecting below the plane occupied by the bodies of the wires and transversely disposed wires extending through the loops.

4. A mat constructed of a series of longitudinally extending wires, each end of each wire being bent into a vertically disposed loop, projecting below the plane occupied by the bodies of the wires, transverse wires extending through the loops and binding wires located at the sides of the mat to which binding wires the ends of the transverse wires are united.

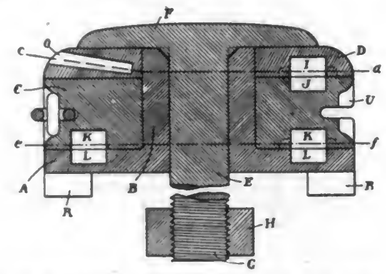
970,596. MOTOR-CAR TRUCK. MARTIN ALBRECHT, Friedberg, Germany, assignor to The Firm of Felten & Guilleaume-Lahmeyer Werke Actien-Gesellschaft, Frankfort-on-the-Main, Germany. Filed June 10, 1907. Serial No. 378,274.



The combination with a motor car truck, of a two part frame having its members pivotally connected and one of them pivotally connected to the truck, yielding supporting means between the truck and the other member of the frame, oppositely curved springs arranged above and below the pivotally mounted section of the frame and connected at intermediate points in their length with said frame section, the ends of the springs being attached to the truck, and gearing connecting the motor with a driving axle of the truck in all positions of the motor frame.

970,597. WINDLASS. CIPRIANO ANDRADE, Jr., New York, N. Y. Filed Feb. 21, 1910. Serial No. 545,058.

1. In windlasses, in combination; a bed plate, said bed plate having a recess in its upper face; a hollow pin integral with said bed plate; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having a recess in its upper face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave; a central bolt inside of said hollow pin, said bolt being stationary with reference to said hollow pin; a flat mushroom head at the top of said bolt and integral therewith, the lower face of said mushroom head being over the upper face of said top plate; a pawl let into the lower face of said top plate, said pawl engaging in said recess in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate but not in the opposite direction; a pawl let into the lower face of said sheave, said pawl engaging in said recess in the upper face of said bed plate, and coöperating with said pawl in the bottom of said top plate, whereby said sheave is free to rotate in one direction with reference to said top plate and bed plate, but not in the opposite direction; means for imparting a reciprocating motion of rotation to said top plate; means for securing said device to the deck or floor.



2. In windlasses, in combination; a bed plate, said bed plate having recesses in its upper face; a hollow pin integral with said bed plate; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having recesses in its upper face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave; a central bolt inside of said hollow pin, said bolt being stationary with reference to said hollow pin; a flat mushroom head at the top of said bolt and integral therewith, the lower face of said mushroom head being over the upper face of said top plate; pawls let into the lower face of said top plate, said pawls engaging in said recesses in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate but not in the opposite direction; pawls let into the lower face of said sheave, said pawls engaging in said recesses in the upper face of said bed plate, and coöperating with said pawls in the bottom of said top plate, whereby said sheave is free to rotate in one direction with reference to said top plate and bed plate, but not in the opposite direction; means for imparting a reciprocating motion of rotation to said top plate; means for securing said device to the deck or floor.

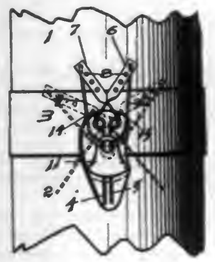
3. In windlasses, in combination, a bed plate, said bed plate having a recess in its upper face; a central pin integral with said bed plate; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having a recess in its upper face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave; a pawl let into the lower face of said top plate, said pawl engaging in said recess in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate but not in the opposite direction; a pawl let into the lower face of said sheave, said pawl engaging in said recess in the upper face of said bed plate, and coöperating with said pawl in the bottom of said top plate, whereby said sheave is free to rotate in one direction with reference to said top plate and bed plate, but not in the opposite direction; means for imparting a reciprocating motion of rotation to said top plate; means for securing said device to the deck or floor.

4. In windlasses, in combination, a bed plate, said bed plate having a recess in its upper face; a central pin integral with said bed plate; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having recesses in its upper face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave; pawls let into the lower face of said top plate, said pawls engaging in said recesses in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate but not in the opposite direction; pawls let into the lower face of said sheave, said pawls engaging in said recesses in the upper face of said bed plate, and coöperating with said pawls in the bottom of said top plate, whereby said sheave is free to rotate in one direction with reference to said top plate and bed plate, but not in the opposite direction; means for imparting a reciprocating motion of rotation to said top plate; means for securing said device to the deck or floor.

5. In windlasses, in combination, a bed plate, said bed plate having a recess in its upper face; a central pin integral with said bed plate; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having a recess in its upper face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave; a pawl let into the lower face of said top plate, said pawl engaging in said recess in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate but not in the opposite direction; a pawl let into the lower face of said sheave, said pawl engaging in said recess in the upper face of said bed plate, and coöperating with said pawl in the bottom of said top plate, whereby said sheave is free to rotate in one direction with reference to said top plate and bed plate, but not in the opposite direction; means for imparting a reciprocating motion of rotation to said top plate; means for preventing said top plate from rising away from said sheave; means for securing said device to the deck or floor.

[Claims 6 to 10 not printed in the Gazette.]

970,598. AUTOMATIC DAMPER. ARTHUR W. ARNOLD, Portland, Oreg., assignor to Safety and Economy Damper Company, Portland, Oreg., a Corporation of Oregon. Filed Sept. 8, 1908. Serial No. 452,063.



1. In an automatic damper, a pair of damper blades, operating levers connected to said blades and extending above the axes thereof in directions opposite from the directions in which the blades extend, and a counterweight connected to both of said levers to govern the rotation of the blades on their axes.

2. In an automatic damper, a plurality of damper blades, operating levers connected to said blades and extending from the axes thereof in directions opposite from the directions in which the blades extend, and adjustable stop arms to variably limit the extent of angular movement of the blades.

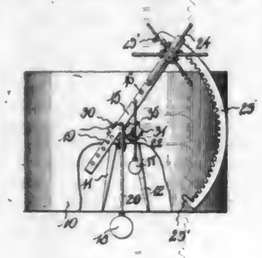
3. In an automatic damper, the combination of a sleeve, a pair of damper blades journaled for rotation therein on parallel axes, a lever connected to each blade and projecting above its axis, a stop arm likewise connected to each blade, each blade and its lever and stop arm being formed from a single blank, and a weight adjustably connected to

both of said levers to counterbalance the effective weight of the blades throughout their movements.

4. In an automatic damper, the combination of a sleeve, damper blades journaled therein, operating levers connected to said blades and extending above the axes thereof in directions opposite from the directions in which the blades extend, thrust means connected to the blades to prevent movement thereof endwise of their axes, links connected pivotally to said levers, and a weight suspended from both of the links.

5. In an automatic damper, a pair of damper blades, operating levers connected to said blades and extending therefrom in opposite directions, and counterbalancing means connected to said levers, such counterbalancing means being capable of adjustment to permit free movement of said blades upon a slight variation in the force of the draft passing through the sleeve.

970,599. AUTOMATIC FIRE-GOVERNOR. ARTHUR W. ARNOLD, Portland, Oreg., assignor to Safety and Economy Damper Company, Portland, Oreg., a Corporation of Oregon. Filed Sept. 29, 1908. Serial No. 455,341.



1. In an automatic fire governor, the combination of an upright flue casing, a wing pivoted therein on a horizontal axis and normally pendent from said axis, a lever connected to said wing and normally extending upward beyond the horizontal plane of said axis, and means connected to said lever whereby the same counterbalances the weight of the wing uniformly as the latter swings on its axis under the influence of upward currents of air within the casing.

2. In an automatic fire governor, the combination of an upright casing, a wing pivoted therein on a horizontal axis and normally pendent therefrom by gravity, a lever connected to said wing and normally extending upwardly above said axis, counterbalancing means adjustably connected to said lever above said axis, and means to control the speed of movement of said lever, substantially as set forth.

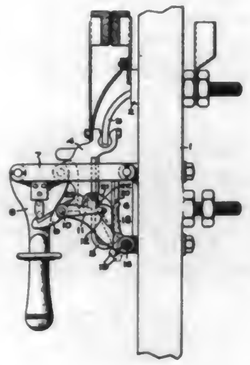
3. In an automatic fire governor, the combination of an upright casing, a wing pivoted therein and normally pendent from its pivotal axis, a lever connected to said wing and extending normally above said axis, counterbalance means connected to said lever, and means associated with said wing for controlling its pivotal movement on its axis.

4. In an automatic fire governor, the combination of a casing, a wing pivoted therein and normally pendent from its pivotal axis, means connected to said wing and extending normally above said axis to counterbalance the wing throughout its pivotal movements, and an adjustable chuck for limiting the pivotal movements of said wing on its axis.

5. In an automatic fire governor, the combination of a casing, a wing pivoted therein on a horizontal axis, a pair of intermeshing pinions, one of which is connected to said axis and the other is pivoted in said casing, a counterbalancing lever connected to one of said pinions, a positive stop connected to the other of said pinions to limit the rotation of the pinions, and means connected to said lever to retard the movement thereof.

[Claims 6 to 10 not printed in the Gazette.]

970,600. CIRCUIT-CONTROLLING MECHANISM. WINFIELD A. ATWOOD, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 8, 1909. Serial No. 531,937.



1. The combination with a switch biased to open and comprising operating mechanism for closing said switch and restraining means for holding said switch closed, of an actuating member movable from normal position into tripping position to actuate said restraining means to trip said switch and on into extreme position to release said restraining means and thereby leave said restraining means free to operate when the switch is closed, and means whereby said restraining means is undisturbed as said actuating member returns through tripping position to normal position.

2. The combination with a switch biased to open and comprising operating mechanism for closing said switch and a latch for holding said switch closed, of a latch actuating member movable in opposite directions through tripping position, and connections between said latch and said member whereby said latch is actuated to release said switch and is then left free to return to latching position as said member moves through tripping position in one direction and is unaffected as said member moves through tripping position in the other direction.

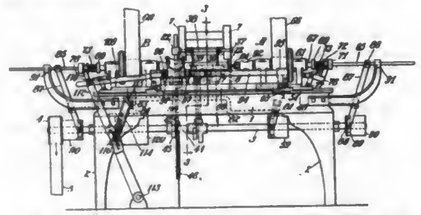
3. The combination with a switch biased to open and comprising operating mechanism for closing said switch and a latch for holding said switch closed, of a latch actuating member movable in opposite directions through tripping position, and a ratchet connection between said member and said latch rigid during movement of said member in one direction through tripping position and yielding during the return movement of said member.

4. The combination with a switch biased to open and comprising operating mechanism for closing said switch and a latch for holding said switch closed, of a latch actuating member mounted to move in opposite directions through tripping position, and a pawl mounted on said latch to form a rigid projection in engagement with said member during its movement through tripping position in one direction and a yielding projection during the return of said member through tripping position.

5. The combination with a switch biased to open and comprising operating mechanism for closing said switch and a latch for holding said switch closed, of a latch actuating member provided with a cam surface and movable in opposite directions through tripping position, and a pawl pivoted to said latch to lock in position to engage said cam surface during the movement of said member through tripping position in one direction and to yield during the return movement of said member through tripping position.

[Claims 6 to 14 not printed in the Gazette.]

970,601. BOBBIN-BORING MACHINE. LUTHER C. BALDWIN, Providence, R. I. Filed Oct. 11, 1909. Serial No. 522,102.



1. In a bobbin boring machine, the combination of a hopper for containing a series of blanks to be turned and bored, two boring heads carrying a turning tube and a centering tube, means for carrying a blank from the hopper to position between the boring heads, means for simultaneously moving the turning tube and centering tube longitudinally at different speeds to cause the latter to center and hold the blank and the former thereafter to engage and positively turn the blank, and non-rotatable boring means to act upon the blank as it is being turned.

2. In a bobbin boring machine, the combination of two boring heads, each carrying a turning tube and a centering tube, a non-rotatable boring bit axially movable within said tubes, means for moving said tubes at the same time and at different speeds to cause the centering tubes to first engage the ends of and center the blank and the turning tubes to thereafter positively engage the ends of the centered blank, and means for moving the axially movable boring bits as the turning tubes turn the blank.

3. In a bobbin boring machine, the combination of two boring heads each carrying a turning tube, having teeth to positively engage the ends of a blank, and a centering tube, a non-rotatable boring bit axially movable within said tubes, means for simultaneously moving said tubes longitudinally at different speeds in first one and then in the opposite direction to cause the centering tubes to first engage the ends of and center the blank and the turning tubes to thereafter positively engage the ends of the centered blank, and then to cause the turning tube to be first withdrawn from the blank and thereafter the centering tube to be withdrawn and means for moving the axially movable boring bits as the turning tubes turn the blank.

4. In a bobbin boring machine, the combination of a boring head having a turning tube, a centering tube to engage the ends of and center the blank prior to its engagement with the turning tube, a boring bit movable axially in said tubes, means for yieldingly moving the centering tube into engagement with the end of the blank to center and hold the same and to thereafter cause the turning tube to positively engage the end of the centered blank, and means for axially moving the boring bit.

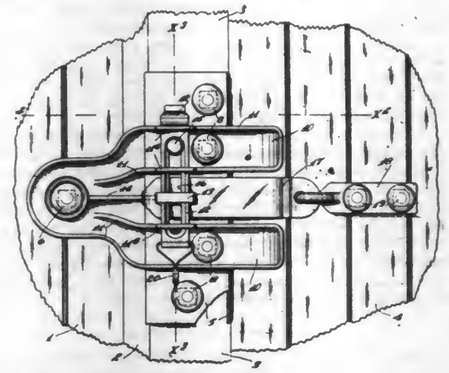
5. In a bobbin boring machine, the combination of a boring head having a turning tube, said tube having end prongs to positively engage the end of the blank, means for rotating said turning tube, a centering tube to engage the ends of and center the blank prior to its engagement with the turning tube, a non-rotatable boring bit movable axially in said tubes, means for yieldingly moving the centering tube into engagement with the end of the blank to center and hold the same and to thereafter cause the turning tube to positively engage the end of the centered blank, and means for axially moving the boring bit.

[Claims 6 to 15 not printed in the Gazette.]

970,602. COMBINED DOOR-STOP BRACE AND FASTENER. WILLIAM J. BOHAN, St. Paul, Minn. Filed Mar. 9, 1910. Serial No. 548,209.

1. A combined door stop brace and fastener, comprising a body member having a channel adapted to embrace a stop cleat and provided with a foot portion engageable with the side of the car and provided with bolt passages adapting bolts to be extended therethrough into the car.

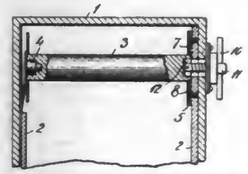
2. In a combined door stop brace and fastener, the combination with a body casting having a channel, a bearing foot and projecting horns, and provided with bolt holes adapting bolts to be passed therethrough into the car.



3. The combination with a car having a door and a cooperating stop cleat, of a casting having a channel-shaped portion embracing said cleat and provided with a foot engaging the side of the car, bolts passed through said casting and the side of the car, having their heads at the exterior of the car and provided with nuts at the interior of the car, a lock bolt mounted to move through flanges on said casting, and a hasp applied to the said door and arranged to be secured by said lock bolt, substantially as described.

4. The combination with a car body having a door and a coöperating stop cleat, of a casting having a channel-shaped portion embracing said cleat and having at one side upper and lower horns and on its other side a foot portion engaging the side of the car, said casting having also a multiplicity of approximately horizontal flanges and a perforated staple, a hasp on the car door having a perforated free end adapted to be passed over said staple, a lock bolt mounted for vertical movements in the flanges of said casting and through the perforation of said hasp lug, a seal applied to and normally holding said lock bolt in an operative position, and nutted bolts passed through said casting and the side of the car, having their heads protected by the flanges on said casting and having their nuts applied thereto at the inner side of the car, substantially as described.

970,603. WINDING-KEY FOR CAMERAS. CARL BORNMANN, New Haven, Conn., assignor to Ansco Company, Binghamton, N. Y., a Corporation of New York. Filed Oct. 5, 1909. Serial No. 521,139.

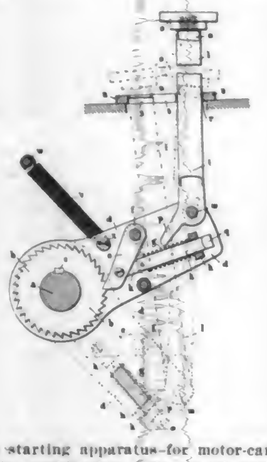


1. A winding key for cameras comprising a casing, a disconnected and movable block which partly fills the interior of the casing, a bar in the casing in the part not occupied by the block, a key spindle the inner end of which is provided with a surface adapted to engage with and rotate a cartridge spool and which is also provided with surfaces whereby, during its rotation in one direction, the block and the bar will be pushed around within the casing, but when turned in the reverse direction, will lock the spindle by contact with said bar.

2. A winding key for cameras comprising a casing, a disconnected and movable block which partly fills the interior of the casing, a bar in the casing in the part not occupied by the block, the ends of which bar are adjacent to the walls of the casing and also adjacent to the ends of the block, a key spindle the inner end of which is provided with a surface adapted to engage with and rotate a cartridge spool and which is also provided with surfaces whereby, during its rotation in one direction, the block and the bar will be pushed around within the casing by it, but when turned in the reverse direction, will lock the spindle by contact with said bar.

3. A winding key for cameras comprising a casing, a key spindle which passes through the casing the inner end of which is provided with a surface adapted to engage with and rotate a cartridge spool, disconnected and movable locking devices within the casing and surfaces upon the spindle which cause said locking devices to move around the interior of the casing when the spindle is turned in one direction, but which means engage with said locking devices and lock the spindle when the latter is turned in the reverse direction.

970,604. APPARATUS FOR STARTING MOTOR-CAR OR THE LIKE ENGINES. SAMUEL HOWARD BOSWELL, Norwich, England. Filed Mar. 30, 1908. Serial No. 424,248.



1. In a starting apparatus for motor-car and the like engines, the combination with a ratchet-wheel connected with the engine shaft, a lever adjacent thereto and loosely mounted on said shaft, and a pawl carried by said lever adapted to engage said ratchet, of a foot-lever directly pivoted to the aforesaid lever and means operated by said lever to disengage said pawl on completion of the operation.

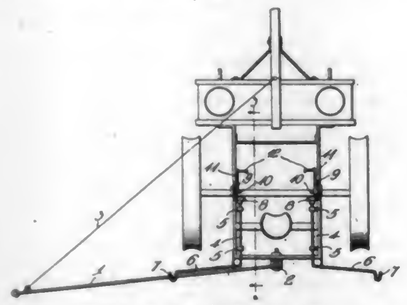
2. In a starting apparatus for motor-car and the like engines, the combination with a ratchet-wheel connected with the engine shaft, a lever adjacent thereto, and a pawl carried by said lever adapted to engage said ratchet, of a foot lever directly pivoted to the aforesaid lever, means operated by said lever to disengage said pawl on completion of the operation, and means for locking said lever to hold the apparatus in the inoperative position.

3. In a starting apparatus for motor-car and the like engines, the combination of a ratchet-wheel connected with the engine shaft, a lever mounted adjacent thereto, a pawl carried by said lever adapted to engage said ratchet, a rod connected to said pawl, a spring engaging said rod, a foot lever directly pivoted to the aforesaid lever, and an extension on said foot lever adapted to engage said rod to disengage the said pawl on completion of the operation.

4. In a starting apparatus for motor-car and the like engines, the combination of a ratchet-wheel connected with the engine shaft, a lever mounted adjacent thereto, a pawl carried by said lever adapted to engage said ratchet, a rod connected to said pawl, a spring engaging said rod, a foot lever directly pivoted to the aforesaid lever, an extension on said foot lever adapted to engage said rod to disengage said pawl, and means for locking said lever to hold the apparatus in the inoperative position.

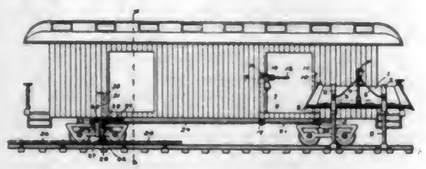
5. In a starting apparatus for motor-car and the like engines, the combination of a ratchet wheel connected with the engine shaft, a lever mounted adjacent thereto, a pawl carried by said lever adapted to engage said ratchet, a rod connected to said pawl, a spring engaging said rod, a foot lever directly pivoted to the aforesaid lever, an extension on said foot lever adapted to engage said rod to disengage the said pawl, a plate for guiding said foot lever, a slot in said plate to allow movement of said foot lever, and a recess in said plate adapted to engage said lever to hold the apparatus in the inoperative position.

970,605. GAGE-LIFTING ATTACHMENT FOR CORN-PLANTERS. VIRGIL C. BOWSER, Monroe, Ind. Filed July 14, 1910. Serial No. 571,996.



In a gage lifting attachment for corn planters, a marking bar having at its inner end a universal joint connection with the rear end of the planter frame, a bracing bar to connect the outer end of said bar with the forward portion of the planter, a pair of revolubly mounted rock shafts, crank arms formed on the outer ends thereof and adapted to be engaged with said bar, segmental gears fixedly mounted on the inner ends of said rock shafts, a pair of foot levers, segmental gears fixedly secured to said foot levers and having an operative engagement with the segmental gears on said rock shafts whereby the latter are actuated to cause the arms thereon to lift said marking bar.

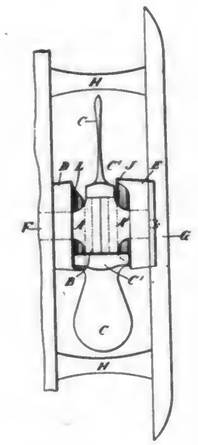
970,606. MAIL-BAG CATCHING AND DELIVERING APPARATUS. JAMES E. BOYLE, Lancaster, Pa. Filed Jan. 26, 1910. Serial No. 540,158.



1. In a mail bag catching and delivering apparatus, in combination with a combined receiving receptacle and bag crane mounted adjacent to the track, of upright shafts mounted within the car and adjacent to the doorway thereof, a combined bag-holding and catching fork, reversible and adapted to be attached upon either of said shafts, cranks secured upon the lower ends of said shafts below the floor of the car, a rod connecting said cranks, a bell-crank mounted upon said car, a rod connecting said bell-crank with one of the cranks attached to said shafts, a bracket secured upon said car opposite the pivot point of one of the car trucks, a lever pivoted within said bracket, a link connecting the upper end of said lever with said bell-crank, a trip arm secured to said lever, a trip rail mounted upon the road bed and placed in proper relation with the path of said trip arm for engaging and reciprocating the same, means for normally retaining the fork within the car, and means for preventing the action of said trip-arm.

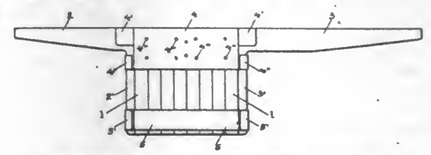
2. In combination, with a bag receiving means mounted upon the road bed in proper relation to the car, of an automatic delivering and catching means mounted upon the car, comprising an upright shaft mounted within the car and adjacent to the doorway thereof, a combined delivering and catching fork detachably secured upon the upper end thereof, a crank-arm secured upon the lower end of said shaft below the floor of the car, a reciprocating trip lever mounted upon the underside of said car, means for operating said shaft by the movement of said trip lever, and means for operating said trip lever in an automatic manner at a predetermined point in relation to the receptacles.

970,607. PROPELLING AND DRIVING MECHANISM. JOSÉ CERVELLI, Buenos Ayres, Argentina, assignor of one-third to José Molinari and one-third to Jean Bernasconi, Buenos Ayres, Argentina. Filed Oct. 21, 1908. Serial No. 458,837.



Mechanism designed to be employed for the propulsion of ships, submarines and aerostats, as well as for the production of motive power by means of a current of air or water, which mechanism comprises a rotary driving or propelling shaft, a bearing in two parts formed by the said shaft itself, a trunnion located in said bearing perpendicularly to the axis of the said shaft, blades rigidly connected to said trunnion, placed at an angle of 90° to each other and provided at their bases with lateral bosses, and two stationary cam-plates arranged with relation to one another so as to form an annular guiding groove for the blades of such a form as to guide the bosses thereof in a constrained fashion on either side throughout their revolving motion, with the object of correctly and surely causing at each half revolution of the propeller shaft a movement of rotation of 90° of the blade-trunnion and consequently a reversal of the position of the blades between positions which are parallel and transverse respectively to the propeller shaft, substantially as hereinbefore described.

970,608. CARRIAGE FOR TUFT-YARN NEEDLES. JOHN A. CLARK, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Feb. 18, 1910. Serial No. 544,607.



1. A carriage for tuft yarn needles, comprising a series of individual pockets made separate from each other, in the desired shape, and secured together in line with each other, a metal bar secured to each end of the series of pockets, and extending out from the upper part thereof, a transverse metal plate secured upon each side of the series of pockets, at their upper part, and also secured to said bars.

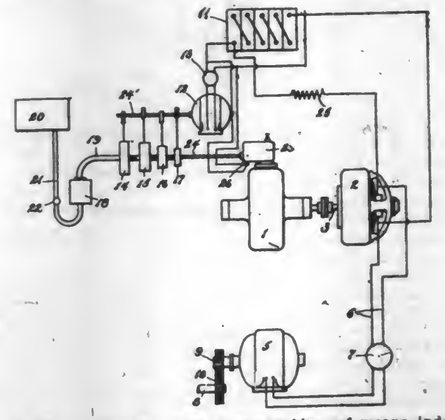
2. A carriage for tuft yarn needles, comprising a series of individual pockets made separate from each other, and bent in the desired shape, and secured together in line with each other, a metal bar secured to each end of the series of pockets and extending out from the upper part thereof, a transverse metal plate secured upon each side of the series of pockets, at their upper part, and also secured to said bars, a second transverse plate secured to the lower part of said series of pockets, and also secured to the vertical extensions on said bars.

3. A carriage for tuft yarn needles, comprising a series of individual pockets made separate from each other and bent in the desired shape, and secured together in line with each other, an angle metal bar secured to each end of the series of pockets and extending out from the upper part thereof, a transverse metal plate secured upon each side of the series of pockets at their upper part, and also secured to said bars.

4. A carriage for tuft yarn needles, comprising a series of individual pockets made separate from each other, and bent into the desired shape and secured together in line with each other, and an angle metal bar secured to one end of the series of pockets, and extending out from the upper part thereof, and a second angle metal bar secured to the other end of the series of pockets and extending out from the upper part thereof.

970,609. POWER MECHANISM. THOMAS R. COOK, Fort Wayne, Ind. Filed Sept. 23, 1909. Serial No. 518,226.

1. The combination with a gas turbine, of means independent of the turbine for compressing the gaseous fuel employed and supplying it to the turbine.



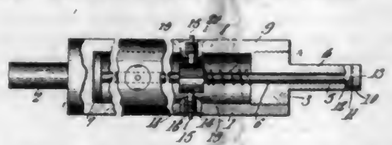
2. The combination with a gas turbine, of means independent of the turbine for compressing the gaseous fuel

employed and supplying it to the turbine, and means for controlling the speed of operation of said means.

3. The combination with a gas turbine, of means independent of the turbine for compressing the gaseous fuel employed and supplying it to the turbine, a motor for operating said means, and means for controlling the speed of the motor.

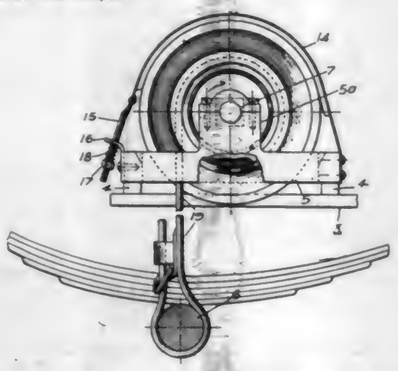
4. The combination with a gas turbine, of a pump independent of the turbine for compressing the gaseous fuel employed and supplying it to the turbine, a motor for operating the pump, and manually operated means for regulating the speed of the motor.

970,610. HUSKING-ROLL. CRAYTON C. CRUM, Bucyrus, Ohio. Filed July 5, 1910. Serial No. 570,445.



A husking roll comprising a hollow cylindrical body, nipples detachably mounted upon the body, pins slidably mounted in the nipples and having at points between their ends shoulders, means located within the body for moving the pins in an outward direction and holding the same, washers mounted upon the pins and fitting snugly within the nipples, cross pins located in the nipples and adapted to be engaged by the cross pins located in the first said pins and adapted to engage the washers and springs interposed between the said cross pins and the nipples.

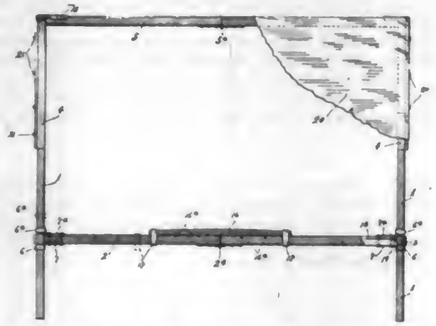
970,611. SHOCK-ABSORBER FOR VEHICLES. HARRY W. CUMMINGS, Los Angeles, Cal. Filed Mar. 28, 1910. Serial No. 551,961.



1. The combination of a spring supported vehicle body and its running gear, of two revoluble drums carried by one of said members, said drums being mounted side by side upon the same shaft; a clutch mechanism connecting said drums; a flexible connection between one of said drums and the other member of the vehicle; a takeup mechanism carried by said last drum; and a friction mechanism engaging the other drum.

2. The combination with a spring supported body and its running gear, of a frame secured to one of said members; a shaft mounted in said frame; a takeup drum revolubly mounted on said shaft; a takeup band having one end secured to said takeup drum, and the other end secured to the other member; a clutch member secured to said takeup drum; a sleeve revolubly mounted on said shaft; a friction drum mounted on said sleeve; a clutch member slidable on said sleeve and revoluble therewith, said clutch member being adapted to lock with the clutch member on the takeup drum when the drum is revolved in one direction and to snap past when the drum is revolved in the opposite direction; a brake strap having its ends secured to said frame and passing over and in contact with said friction drum, one of said connections being an adjustable yielding connection; means to keep the clutch members normally in engagement; and means to operate the takeup drum to wind the slack of the takeup band thereon upon the compression of the springs.

970,612. KNOCKDOWN TENT. MICHAEL H. CUMMINGS, Minneapolis, Minn., assignor of one-third to Thomas H. Moriarty and one-third to Michael Duffy, Minneapolis, Minn. Filed Nov. 19, 1909. Serial No. 528,899.



1. A device of the kind described comprising corner posts, end bars, side bars, rafters having gable sheets permanently secured thereto, a ridge pole and a flexible covering, said parts being detachably connected, the said rafters at their upper ends being connected in pairs by hinges permitting them to fold together and beveled to afford stops to limit spreading movement, and said ridge pole being provided at its ends with couplings adapted to fit over the beveled upper ends of said rafters, substantially as described.

2. A device of the kind described comprising corner posts, end bars, side bars, rafters, a ridge pole and covering sheets, detachably connected, the said side bars and ridge pole each being made up of hinged sections, the said side bars being reinforced by joint bars overlapping the joints thereof, and sliding links and dowel pins detachably conecting said joint bars to said side bars, substantially as described.

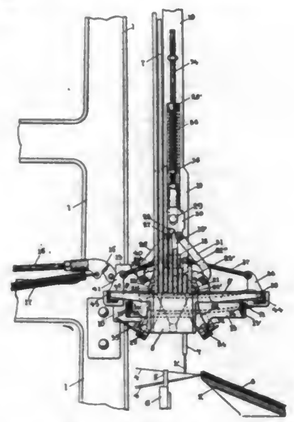
970,613. EVENER-MOTION FOR TUFTED-FABRIC LOOMS. JOSEPH T. CYR, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Mar. 2, 1910. Serial No. 546,820.

1. In a loom for weaving tufted fabrics, tuft yarn needles, carriages for said needles, eveners, means operative from actuator rods to positively move said eveners toward each other to aline the needles dropped from the carriages, and to positively move them away from each other.

2. In a loom for weaving tufted fabrics, movable carriages, yarn needles therein, eveners for the needles dropped from the carriages, and positively moved actuating means to positively close the eveners upon the needles to aline the same, and to positively move them away from each other.

3. In a loom for weaving tufted fabrics, yarn needles, carriages for said needles, an actuating rod, a pair of levers at each side of the needles dropped from the carriages, and having for each pair of levers intermediate means to cause said eveners to positively move toward each other and aline the needles, and to positively move away from each other.

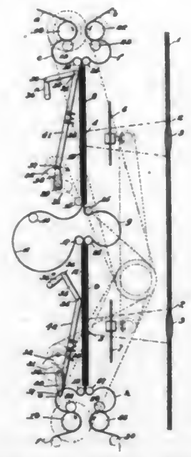
4. In a loom for weaving tufted fabrics, movable carriages for yarn needles, an angle iron to contact with each end of the carriages, and intermediate means to cause said angle irons to move toward each other to aline the carriages.



5. In a loom for weaving tufted fabrics, having yarn needles and movable carriages, a pair of levers carrying an evener or bar on each side of the drop needles to aline them, an angle iron at each end of the needle carriages to aline the carriages, an actuator rod, and intermediate connections, whereby a series of dropped needles may be alined while said carriages are released, and said carriages be alined while said needles are released.

[Claims 6 and 7 not printed in the Gazette.]

970,614. APPARATUS FOR PRINTING MOVING-PICTURE FILMS. FRANK L. DYER, Montclair, and DELOS HOLDEN, Upper Montclair, N. J., assignors to Edison Manufacturing Company, West Orange, N. J., a Corporation of New Jersey. Filed Dec. 21, 1905. Serial No. 292,833.



1. In a photographic printing apparatus, the combination with a frame having a pair of exposure openings of means for feeding a negative and a sensitive film together across said openings, and means for causing the said negative and sensitive films to follow paths of unequal length between said pair of exposure openings, whereby one film is shifted longitudinally with respect to the other film between the two openings, substantially as set forth.

2. In a photographic printing apparatus, the combination with a frame having a pair of exposure openings of means for feeding a negative and a sensitive film together across said openings and intermittently bringing the same to rest at each opening, and means for causing the said negative and sensitive films to follow paths of unequal length between said pair of exposure openings, whereby one film is shifted longitudinally with respect to the other film between the two openings, substantially as set forth.

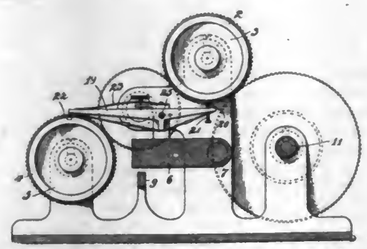
3. In a photographic printing aparatus, the combination with a frame having a pair of exposure openings of means for feeding a negative and a sensitive film together across said openings and intermittently bringing the same to rest at each opening, said intermittent feed operating to move the two films at each step a distance equal to the length of a plurality of adjacent pictures greater than one, and means for causing the said negative and sensitive films to follow paths of unequal length between said pair of exposure openings, whereby one film is shifted longitudinally with respect to the other film between the two openings, substantially as set forth.

4. In a photographic printing apparatus, the combination with a frame having a pair of exposure openings of means for feeding a negative and a sensitive film together across said openings, and means for causing a longitudinal shift of one film relatively to the other a distance equal to the length of an integral even number of pictures between said pair of exposure openings, substantially as set forth.

5. In a photographic printing apparatus, the combination with a frame having a pair of exposure openings of means for feeding a negative and a sensitive film together across said openings, and intermittently bringing the same to rest at each opening, the feeding means being so arranged with relation to the films as to bring odd numbered sections of the films to rest in front of one opening, and moving the same past the other opening without stopping, and even numbered sections of the films to rest in front of the last named opening, and moving the same past the first named opening without stopping, substantially as set forth.

[Claims 6 and 7 not printed in the Gazette.]

970,615. METHOD AND APPARATUS FOR MAKING SOUND-RECORDS. THOMAS A. EDISON, Llewellyn Park, Orange, N. J. Filed Aug. 30, 1904. Serial No. 222,702.



1. The process of making sound records, which consists in mounting a blank upon a rotating support, trimming the blank and then, without any alteration of the position of the blank upon its support, engaging with the blank a recording stylus which is mechanically connected with a reproducer stylus tracking a master record, and rotating the master and blank at such slow speed as to practically eliminate defects due to momentum and inertia of the moving parts.

2. The process of making sound records, which consists in making a master record of low amplitude, in rotating the same adjacent to a rotating blank, engaging with the master and blank respectively a reproducer stylus and re-

cording stylus connected by an amplifying lever connection, and in rotating the master and blank at such slow speed as to practically eliminate defects due to momentum and inertia of the moving parts, substantially as set forth.

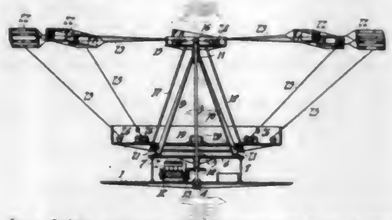
3. The process of making sound records, which consists in first securing a record of low amplitude, in rotating the same adjacent to a rotating blank, engaging a cutting knife with the blank, regulating the cutting knife by the rotating master whereby the blank will be trimmed to the exact shape of the master, and in mechanically recording on the blank an amplified copy of the record on the master by mechanical transference, substantially as set forth.

4. The process of making sound records, which consists in first securing a record of low amplitude, in rotating the same adjacent to a rotating blank, engaging a cutting knife with the blank, regulating the cutting knife by the rotating master, whereby the blank will be trimmed to the exact shape of the master, and in mechanically recording on the blank immediately after the action of the cutting knife an amplified copy of the record on the master by mechanical transference, substantially as set forth.

5. The process of making sound records, which consists in making a master record of low amplitude comprising the use of a recording horn of such short length as to be irresponsive to tones within the range of ordinary music, and obtaining an amplified duplicate from said master record by mechanical transference, substantially as set forth.

[Claims 6 to 15 not printed in the Gazette.]

970,616. FLYING-MACHINE. THOMAS A. EDISON, Llewellyn Park, Orange, N. J. Filed Nov. 16, 1908. Serial No. 462,895.



1. In a flying machine, the combination with a vertical shaft, a frame affixed thereto, and means for imparting continuous rotation to the same, of a series of box kites, flexible means for connecting the same to the frame, and means for regulating the angle at which said kites are rotated by the said shaft, substantially as described.

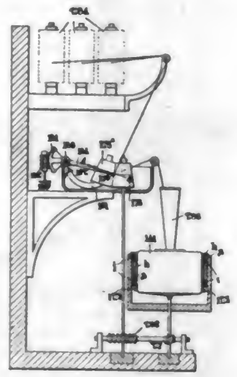
2. In a flying machine, the combination with a frame and means for rotating the same, of a series of kites, and flexible means for connecting the same to the frame, so arranged that the kites rotate with the frame under the influence of centrifugal force, and at a constant angle to the horizontal, the forward ends being maintained in a plane above that of the rear ends of said kites, substantially as described.

3. In a flying machine, the combination with a frame and means for rotating the same, of a series of kites, and flexible means for connecting the same to the frame, so arranged that the kites rotate with the frame under the influence of centrifugal force, and at a constant angle to the horizontal, the forward ends being maintained in a plane above that of the rear ends of said kites, and means for varying the said angle, substantially as described.

4. In a flying machine, the combination of a plane member, adapted to be flown as a kite, a central frame, flexible connections between said frame and one edge of said member, a flexible connection between the rear part of said member and a point on said frame below the point of attachment of the first-mentioned connections, and means for rotating said frame, substantially as described.

5. In a flying machine, the combination of a series of kite members, a central frame, means for rotating the frame, cords connecting the front and rear of the inner edge of each kite member with the central frame, a cord connecting the rear of each kite member with the frame at a point lower than the point of attachment of the first mentioned cords, and means for adjusting at will the lengths of said cords, substantially as described.

970,617. SPINNING, DOUBLING, AND TWISTING MACHINE. SEBASTIAN ZIANI DE FERRANTI, Grindleford, near Sheffield, England. Original application filed Aug. 3, 1905, Serial No. 272,560. Divided and this application filed Oct. 23, 1909. Serial No. 524,245.



1. In combination in a twisting machine, conical thread transfer means, guide means for the thread adjustable for varying its position longitudinally of the conical thread transfer means, and means controllable by hand for setting the guide means in different positions along the conical thread transfer means, substantially as described.

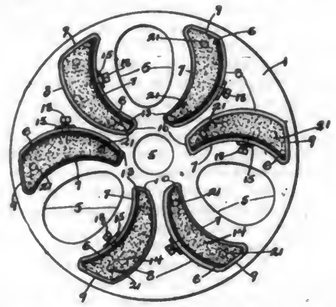
2. In combination in a twisting machine, a plurality of thread transfer units, each of said units including conical means, thread guides for said means adjustable to different points longitudinally of the said means, and adjusting means controllable by hand common to the plurality of thread guides for setting the same at different points longitudinally of the conical means to vary the rate of transfer, substantially as described.

3. In combination in a twisting machine, conical thread transfer means, guide means for the thread adjustable for varying its position longitudinally of the conical thread transfer means, and means controllable by hand for setting the guide means in different positions along the conical thread transfer means, said guide means being displaceable independently of the setting means, substantially as described.

4. In combination in a twisting machine, a plurality of thread transfer units, each of said units including conical means, thread guides for said means adjustable to different points of the said means and adjusting means controllable by hand common to the plurality of thread guides for setting the same at different points longitudinally of the conical means to vary the rate of transfer, said guides being individually displaceable independently of the said setting means, substantially as described.

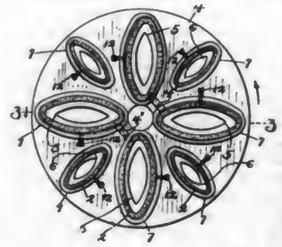
5. In combination in a twisting machine, a plurality of twisting units, each including motor means and conical thread transfer means serving said unit, the motor means and transfer means of any one of said units being mechanically independent as regards its operative action from the motor means and thread transferring means of any other of said units, guiding means for the thread adjustable longitudinally of the said conical means to vary the rate of transfer, a common member on which the said guides are displaceably mounted, and means controllable by hand for operating the common member to set the thread guides in different positions along the conical means, substantially as described.

970,618. ABRADING-WHEEL. ROLAND GARDNER, Cleveland, Ohio. Filed Jan. 31, 1908. Serial No. 413,527.



In an abrading wheel, the combination of a carrier plate provided with a plurality of openings, pockets formed on said plate between said openings, a plate arranged in the bottom of each pocket and having a flange extending down at one side of the pocket below the bottom of the pocket, adjusting screws arranged to abut against said plate, an abrading block arranged in each pocket, and means for clamping said abrading block in said pocket.

970,619. ABRADING-BLOCK AND CARRIER THEREFOR. ROLAND GARDNER, Cleveland, Ohio. Filed Feb. 14, 1908. Serial No. 415,880.

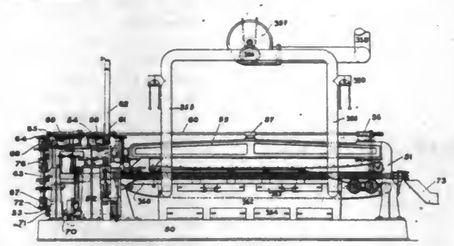


In an abrading wheel the combination of a carrier plate provided with a series of openings extending from near the center of the plate to the perimeter thereof and a series of smaller elliptical-shaped openings arranged near the perimeter of the plate between said first-mentioned openings, each opening having its longer axis extending radially, a pocket formed around each opening and an elliptical-shaped abrading block provided with an opening extending centrally therethrough mounted in each pocket, for the purpose set forth.

970,620. BODY-FORMING MACHINE. CHARLES W. GRAHAM, Rome, N. Y., assignor, by mesne assignments, to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 20, 1905. Serial No. 246,472.

1. In a mechanism of the class described, in combination, a bed, means embracing said bed and provided with members lying at each side thereof, means adapted to reciprocate said first-mentioned means, a series of spaced dogs positioned upon each of said members and spring pressed above the surface of said bed, said dogs being spaced at a distance substantially equal to the throw of said reciprocating means, and magnetic means adapted to co-act with a blank upon said bed, to permit said blank to be fed over said bed by said reciprocating means in a flattened condition.

2. In mechanism of the class described, in combination, a bed, means embracing said bed and provided with members lying at each side thereof, means adapted to reciprocate said first-mentioned means, a series of spaced dogs positioned upon each of said members and spring pressed above the surface of said bed, said dogs being spaced at a distance substantially equal to the throw of said reciprocating means, and magnetic means spaced from said bed and adapted to co-act with a blank lying thereon, to permit said blank to be fed over said bed by said reciprocating means in a flattened condition.



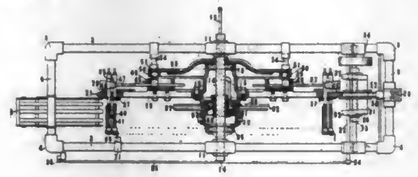
3. In mechanism of the class described, in combination, a bed, magnetic means spaced from said bed and adapted to attract a blank lying thereon toward the bed and hold it in engagement therewith, and means adapted to feed blanks over said bed.

4. In mechanism of the class described, in combination, a bed, magnetic means adapted to attract a blank lying thereon toward the bed and hold it in engagement therewith, and means adapted to feed blanks over said bed.

5. In mechanism of the class described, in combination, a bed, a plurality of magnets the poles of which project through and are magnetically insulated therefrom, and means adapted to feed a blank over said bed within the field of said magnetic means.

[Claims 6 to 154 not printed in the Gazette.]

970,621. CAN-TESTING MACHINE. CHARLES W. GRAHAM, Rome, N. Y., assignor, by mesne assignments, to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 19, 1907. Serial No. 358,319.



1. In apparatus of the class described, in combination, a pair of members adapted to engage opposite ends of a can, one of said members being provided with means adapted to transmit a fluid to the can, an abutment adjacent which said last mentioned member is mounted, means connected with the other of said members, a wedge interposed between said means and said abutment, and means adapted to actuate said wedge to draw together said members.

2. In apparatus of the class described, in combination, a pair of members adapted to engage opposite ends of a can, one of said members being provided with means adapted to transmit a fluid to the can, an abutment adjacent which said last mentioned member is mounted, means connected with the other of said members, a wedge interposed between said means and said abutment, means adapted to actuate said wedge to draw together said members, and means comprising a spring tending to force said members apart.

3. In apparatus of the class described, in combination, a can-receiving member provided with means adapted to transmit a fluid to a can therein, a member adapted to engage the opposite end of said can and mounted to move

toward and away from said first mentioned member, a spring tending to force apart said members, an abutment mounted adjacent said first mentioned member, a pair of rods leading from said second member beyond said abutment, a cross member connecting said rods adjacent said abutment, a wedge interposed between said abutment and said cross member, and means adapted to actuate said wedge to draw said second member toward said can-receiving member.

4. In apparatus of the class described, in combination, means comprising a rotary member adapted to receive cans and develop air pressure therein, a tank through which cans upon said means are carried, driving means adapted to make frictional connection with said rotary member, said driving means being mounted to swing toward and away from said rotary member, a spring mounted to urge said driving means toward said rotary member, means comprising a cam adapted to force said driving means in the opposite direction, a lever controlling said cam, and a member connected with said lever and mounted adjacent said tank.

5. In apparatus of the class described, in combination, means comprising a rotary member adapted to receive cans and develop air pressure therein, a tank through which cans upon said means are carried, driving means adapted to make frictional connection with said rotary member, said driving means being mounted to swing toward and away from said rotary member, a spring mounted to urge said driving means toward said rotary member, means comprising a cam adapted to force said driving means in the opposite direction, a lever controlling said cam, and a member connected with said lever and mounted adjacent said tank and extending substantially from end to end thereof.

[Claims 6 to 17 not printed in the Gazette.]

970,622. ART OF MAKING CAN-BODIES. CHARLES W. GRAHAM, Rome, N. Y., assignor, by mesne assignments, to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 23, 1908. Serial No. 422,660.



1. The art which comprises flanging the opposite edges of a blank, interlocking said flanged edges and producing substantially the desired final form of body, distorting said body within the limit of its elasticity and holding it in temporarily distorted form, with said interlocking edges in a portion of reduced convexity, soldering said interlocking edges, permitting the joint to cool with the body in said distorted form, and permitting the body to resume its form first mentioned.

2. The art which comprises flanging the opposite edges of a blank, interlocking said flanged edges and producing substantially the desired final form of body, forcing said body within the limit of its elasticity into temporarily elliptical form and holding it in said form with said interlocking edges in a portion of reduced convexity, soldering said interlocking edges, permitting the joint to cool with the body in said elliptical form, and releasing the body.

3. The art which comprises forming spaced incisions in a blank, flanging the edge comprehended between said incisions, flanging the opposite edge of the blank, interlocking said flanged edges and producing substantially the desired final form of body, forcing the body into temporarily distorted form with said interlocking edges in a portion of reduced convexity, soldering said opposite edges in assembled relation throughout said interlocking and overlapping portions thereof, permitting the joint to cool with said body in said distorted form, and releasing the body.

4. The art which comprises forming substantially V-shaped incisions in one edge of a blank, flanging the edge comprehended between said incisions, flanging the opposite edge of the blank, interlocking said flanged edges with the unflanged portion overlapping and resting upon the outside of the corresponding portion of the opposite edge and producing substantially the desired final form of body, forcing the body into temporarily distorted form with said interlocking edges in a portion of reduced convexity, soldering said opposite edges in assembled relation throughout the interlocking and overlapping portions thereof, permitting the joint to cool with said body in said distorted form, and then releasing the latter.

5. The art which comprises cutting away the corner portions of a blank, forming spaced incisions in the opposite edge of said blank, flanging the edge portions between said incisions and between said first portions, interlocking said flanged edges with the unflanged portions overlapping and resting upon the corresponding portions of the opposite edge and producing substantially the desired final form of body, forcing the body into temporarily distorted form with said interlocking members in a portion of reduced convexity, soldering the opposite edges in assembled relation throughout said interlocking and overlapping portions thereof, permitting the joint to cool with said body in said distorted form, and releasing the latter.

[Claims 6 to 17 not printed in the Gazette.]

970,623. PROCESS OF PRODUCING PURE OR MIXED AERIFORM ENVIRONMENTS. HENRY J. RANDOLPH HEMMING, Washington, D. C. Filed Feb. 1, 1909. Serial No. 475,540.

1. The method as hereinabove described of eliminating and discharging from a closed receptacle nearly the whole, if not absolutely the whole, of its aeriform contents—its original or "first atmosphere" which method comprises the passing into the receptacle a "displacing gas" from a suitable source of supply, at a convenient pressure, say, five atmospheres or more; closing the connection with the source of supply and releasing the gas from the receptacle so that the pressure therein declines to normal; closing the outlet and again passing the displacing gas into the receptacle as before; repeating these steps until the first atmosphere is so thoroughly eliminated that any remaining trace thereof is inappreciable; and, finally, adjusting the quantity of gas within the receptacle to such expedient pressure, between an atmospheric pressure and the pressure available from the source of gas supply, as may be required, and hermetically sealing the receptacle; substantially as and for the purposes set forth.

2. The method as hereinabove described of eliminating and discharging from a closed receptacle nearly the whole, if not absolutely the whole, of its first atmosphere which method comprises the exhausting the receptacle of its aeriform contents so as to leave a low pressure therein, say, equal to one inch of mercury or even a greater pressure; closing the connection with the rarefaction apparatus and passing into the receptacle a displacing gas from a suitable source of supply, at a convenient pressure, say, five atmospheres or more; closing the connection with the source of supply and releasing the gas from the receptacle so that the pressure therein declines to normal; closing the outlet, and, again, exhausting; repeating these steps until the first atmosphere is so thoroughly eliminated that any remaining trace thereof is inappreciable; and, finally, adjusting the quantity of gas within the receptacle to such expedient pressure, between the capacity of the rarefaction apparatus and the pressure available from the source of gas supply, as may be required, and hermetically sealing the receptacle; substantially as and for the purposes set forth.

3. The method as hereinabove described of eliminating and discharging from a closed receptacle nearly the whole, if not absolutely the whole, of its first atmosphere which method comprises passing into the receptacle a displacing gas from a suitable source of supply, at a convenient pressure, say, five atmospheres or more; closing the connection with the source of supply and releasing the gas from the receptacle so that the pressure therein declines to normal; closing the outlet and exhausting the receptacle of its aeriform contents so as to leave a low pressure therein, say, equal to one inch of mercury or even a greater pressure; closing the connection with the rarefaction apparatus and, again, passing into the receptacle and displacing gas as before; repeating these steps until the first atmosphere is so thoroughly eliminated that any remaining trace thereof is inappreciable; and, finally, adjusting the quantity of gas within the receptacle to such expedient pressure, between the capacity of the rarefaction apparatus and the pressure available from the source of gas supply, as may be required, and hermetically sealing the receptacle; substantially as and for the purposes set forth.

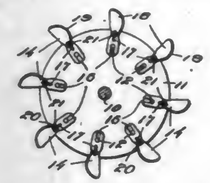
4. The method as hereinabove described of producing in a closed receptacle a practically, if not a theoretically, pure environment of any gaseous substance, which may be either a pure gas or a mixture of any two or more gases, at any desired pressure, ranging from nearly (absolute) zero up to a pressure of many atmospheres which method comprises exhausting the receptacle of its aeriform contents to a low pressure of, say, one inch of mercury or even a greater pressure, allowing a "rest"; closing the connection with the rarefaction apparatus and passing into the receptacle the gaseous substance of which a pure atmosphere is required, from a suitable source of supply, at a convenient pressure, say, above five atmospheres, and then a further rest; closing the connection with the source of supply and releasing the pressure in the receptacle so that it declines to normal; closing the outlet and, again, exhausting; repeating these steps until the first atmosphere, including the "residual gases", is entirely eliminated or so reduced in quantity that any remaining trace thereof is so small as to be inert; and, finally, sealing the receptacle at any desired pressure; substantially as and for the purposes set forth.

5. The method as hereinabove described of protecting organic liquids from bacterial attack which method comprises conveying the liquid to be treated into a suitable closed receptacle; exhausting the aeriform contents thereof to a low pressure of, say, one inch of mercury or even a greater pressure; subjecting the liquid to agitation so as to facilitate the elimination of dissolved gases; closing the connection with the rarefaction apparatus and passing into the receptacle a gas to act as a displacing agent, at a convenient pressure, say, five atmospheres or more, then further agitating the liquid to effect a more complete solution or association of the gas therewith; closing the connection with the source of gas supply and releasing the pressure in the receptacle so that it declines to normal; closing the outlet and, again, exhausting as before, then further agitating the liquid; closing the connection with the rarefaction apparatus and passing into the receptacle a suitable non-respirable or poisonous gas, at a convenient pressure, say, five atmospheres or more; repeating these steps until the free and removable gases which were originally dissolved or associated with the liquid are so completely disgorged and eliminated that any remaining trace thereof is incapable of supporting micro-organic respiration and also until the liquid is saturated with the non-respirable or poisonous gas which is used in the later steps; and, finally, sealing the receptacle at any expedient pressure within the capacity of the apparatus used; substantially as and for the purposes set forth.

[Claims 6 and 7 not printed in the Gazette.]

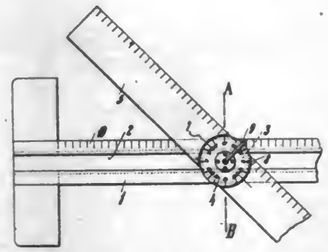
970,624. BAND-CUTTER. JOSEPH KARMANN, Jr., Stanton, Nebr. Filed Mar. 1, 1909. Serial No. 480,646.

In a band cutter, the combination with a revoluble shaft, of a radial disk secured thereto, laterally projecting headed pins carried by the disk spaced from its periphery, and blade members carried by the disk, said blade members each comprising a body portion having a longitudinally extending slot opening on its inner end, and an oblong opening inwardly of said slot, the slotted portion being engaged slidably around the pins beneath the heads thereof, and clamping means for securing the blades upon the disk each blade being enlarged at its outer end upon one side and having a curved cutting edge, the inner portion of which is inclined in the direction of rotation of



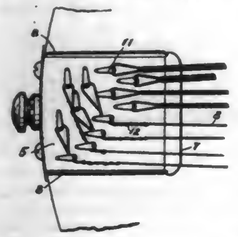
the cutter and being recurved oppositely thereto, said outer curve being of gradually increasing distance from the periphery of the said disk, said cutting edge presenting portions adapted to effect a draw cut and other portions adapted for abrupt and more forcible engagement with a band.

970,625. T-SQUARE. VINCENC KRAJIČEK, Pardubitz, Austria-Hungary. Filed Oct. 11, 1909. Serial No. 522,099.



In an improved T-square, the combination of a graduated blade having a longitudinal slot, a piece adapted to slide in the slot, a graduated disk secured to said piece, a rule pivoted on said piece and interposed between the latter and the disk, a pin carried by the disk, and a pointer carried on the pin, substantially as described and shown and for the purpose set forth.

970,626. TAILPIECE FOR STRINGED MUSICAL INSTRUMENTS. GEORGE D. LAUBIAN, Kalamazoo, Mich., assignor to Gibson Mandolin-Guitar Company, Kalamazoo, Mich. Filed June 24, 1910. Serial No. 568,725.



1. A stringed musical instrument comprising a tail piece having a downturned attaching arm at its rear end, an upturned string rest at its forward end, upturned flanges on its side edges and a plurality of upwardly projecting string-engaging hooks, a portion, at least, of said hooks being arranged in coacting pairs, one hook of each pair being disposed at one side of and substantially at right angles to the other, the said parts being formed integrally of sheet metal; and a sheet metal cap plate having downturned flanges at its sides and rear and the said

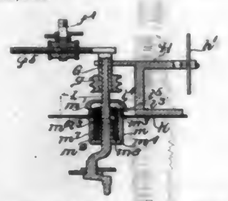
flanges being adapted to embrace the said flanges of said tail piece, the forward end of said cap plate being adapted to project over the said upturned string rest.

2. A stringed musical instrument comprising a tail piece having a downturned attaching arm at its rear end, an upturned string rest at its forward end, and a plurality of upwardly projecting string-engaging hooks, a portion, at least, of said hooks being arranged in coacting pairs, one hook of each pair being disposed at one side of and substantially at right angles to the other, the said parts being formed integrally of sheet metal.

3. A stringed musical instrument comprising a tail piece having a string rest at its forward end, and a plurality of upwardly projecting string-engaging hooks, a portion, at least, of said hooks being arranged in coacting pairs, one hook of each pair being disposed at one side of and substantially at right angles to the other.

4. A stringed musical instrument comprising a tail piece having a plurality of upwardly-projecting string-engaging hooks, a portion, at least, of said hooks being arranged in coacting pairs, one hook of each pair being disposed at one side of and substantially at right angles to the other.

970,627. GAS-METER. CHARLES LAWSON and ROBERT W. LAWSON, Boston, Mass. Filed Mar. 15, 1909. Serial No. 483,373.



1. A bushing for gas meters comprising a chamber; a shaft mounted to oscillate in said chamber; and a packing member mounted to oscillate with said shaft and having an expansible portion extending into said chamber and adapted to expand against the wall of said chamber.

2. A bushing for gas meters comprising a member having an outer wall, an inner cylindrical wall and a chamber between the walls; a shaft mounted to oscillate within the inner wall; and a packing-member mounted to oscillate with said shaft having an expansible portion extending into said chamber and adapted to expand against said outer wall.

3. A bushing for gas meters comprising a member having an outer wall, an inner cylindrical wall and a chamber between the walls; a shaft mounted to oscillate within the inner wall; and a packing member mounted on said shaft and having an expansible portion extending into said chamber and adapted to expand against said outer wall.

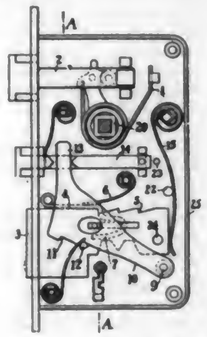
4. A bushing for gas meters comprising a chamber; a shaft mounted to oscillate in said chamber; and a packing member mounted to oscillate with said shaft and having a leather portion extending into said chamber and adapted to expand against the wall of said chamber.

5. A bushing for gas meters comprising a chamber; a shaft mounted to oscillate in said chamber; and a packing member mounted on said shaft and having a supporting ring to engage the shaft and a leather portion supported by said ring and extending into said chamber and adapted to expand against the wall of said chamber.

[Claim 6 not printed in the Gazette.]

970,628. AUTOMATICALLY-LOCKING LOCK FOR DOORS AND THE LIKE. ALOIS LEISTLER, Hollenstein a. d. Ybbs, Austria-Hungary. Filed Jan. 31, 1910. Serial No. 541,049.

1. An automatic safety lock of the character described, comprising a spring actuated latch, a spring actuated bolt having rearwardly chamfered recesses adapted to be operated by a key, and being provided with a plurality of spring actuated tumbler hooks passing with their ends through a slot in said bolt, and engaging said rearwardly chamfered recesses of said bolt, a locking pin upon the bolt a pivoted angle plate with locking teeth at its lower end, said end resting upon the locking pin of the bolt, and an auxiliary bolt adapted to operate an upwardly extending arm of said angle plate, substantially as described and for the purpose set forth.



2. An automatic safety lock of the character described, comprising a spring actuated latch, a spring actuated bolt, having rearwardly chamfered recesses adapted to be operated by a key and being provided with a plurality of spring actuated tumbler hooks engaging the rearwardly chamfered recesses of said bolt, a locking pin upon the bolt and a pivoted angle plate with locking teeth at its lower end, said end resting upon the locking pin of the bolt, an auxiliary bolt adapted to operate an upwardly extending arm of said angle plate, and a rotatably arranged lock-nab constructed in two parts, substantially as described, and for the purpose set forth.

3. An automatic safety lock of the character described, comprising a lock-casing, a bolt, a pin protruding through an opening in said casing, a spring engaging the rear end of said bolt, retained by said pin from engagement therewith, an auxiliary bolt, and a pin upon the rear end of said casing, retaining said auxiliary bolt in its rearward position, for the purpose of permitting the lock to be used as an ordinary lock, substantially as described.

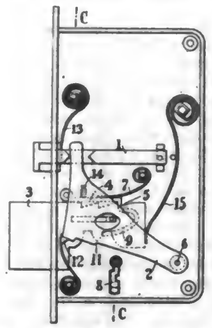
4. An automatic safety lock of the character described, comprising a latch arranged upon the upper edge of a door, a cover plate, a lock pawl pivotally connected to a stud of said plate, a two-armed lever, one arm of which being adapted to be engaged by said pawl, a rod and a rail connecting the other arm of said lever with the locking plate, a toothed recess in said plate, adapted to be engaged by a toothed sector, and a spring tending to draw said rail and rod downward, and a stop upon said pawl, substantially as described, and for the purpose set forth.

5. An automatic safety lock, of the character described, comprising a cam provided with two eccentric studs and a nose, a locking plate adapted to be engaged by one of said studs, a bolt spring against the lower end of which the nose of said cam is bearing, a bent arm having a slot, a cover plate, allowing the passage of the second stud into engagement with said slot, a second arm pivoted to the free end of said bent arm, and having a double hooked end resting upon the rail on the cover plate, and a hook provided with a handle and adapted to be introduced through a slot in the lock rim, and to engage with its downwardly directed hooked end the upper hook of said double hooked arm, substantially as described, and for the purpose set forth.

970,629. SAFETY DEVICE FOR AUTOMATICALLY-LOCKING LOCKS. ALOIS LEISTLER, Hollenstein a. d. Ybbs, Austria-Hungary. Filed Jan. 31, 1910. Serial No. 541,050.

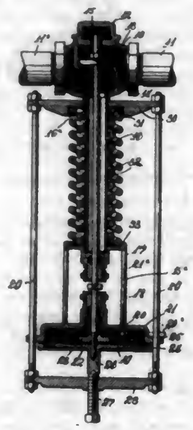
An automatic safety lock of the character described, comprising a pivoted locking plate engaging with its free

end a spring actuated latch, and being provided with teeth upon its lower face, a bolt having a projection engaging said teeth, a spring engaging the rear end of said bolt adapted to press the same into its locking position, and spring actuated tumblers engaging with their hooked



ends slots in said bolt, and an arm upon said locking plate, extending transversely over the tumblers and being provided on its underside with notches corresponding to the steps of the key for said lock, substantially as described, and for the purpose set forth.

970,630. FIRE-PUMP GOVERNOR. NATHANIEL CHASE LOCKE, Salem, Mass., assignor to Locke Regulator Company, Salem, Mass., a Corporation of Massachusetts. Filed July 26, 1909. Serial No. 509,627.



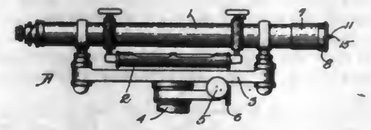
1. An apparatus of the kind described, comprising a valve casing adapted to connect with a steam service pipe, a single seated valve in the casing, a steam and water leg opening from the under side of the valve casing, a water chamber containing water under pressure beneath the water leg, a diaphragm in said chamber, a stem connected with the diaphragm and with the valve, a slide frame connected with the diaphragm, and a coil spring arranged around the water leg and actuating the slide frame.

2. An apparatus of the kind described, comprising a valve casing adapted to connect with a steam supply pipe, a diaphragm chamber below said casing and adapted to connect with water under pressure, a diaphragm forming one wall of said chamber, a stem connected with the valve and with the diaphragm, a movable framework supporting said diaphragm chamber, and a spring supported in said framework and acting against the water pressure.

3. An apparatus of the kind described, comprising a valve casing, a single seated valve therein, a diaphragm chamber located between said casing and adapted to connect with water under pressure, a diaphragm forming one wall of said chamber, a stem connected with the valve and with the diaphragm, a movable framework supporting said diaphragm, and adjustable means in said framework supporting said stem.

4. An apparatus of the kind described, comprising a valve casing adapted to connect with a steam supply pipe, a removable bonnet on said casing, a single seated valve within said casing and located between said bonnet and the valve seat, a diaphragm chamber adapted to connect with water under pressure, a diaphragm forming one wall of said chamber, a stem connected with the valve and the diaphragm, a framework movably supported by said diaphragm chamber, a spring supported by the framework and acting on the diaphragm chamber against the water pressure, and adjustable means in the framework for supporting the stem.

970,631. CENTERING-PIN CAP FOR TELESCOPES. GEORGE W. LOGGIE, Somerville, Mass., assignor to Kinkead Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed Apr. 9, 1910. Serial No. 554,524.



1. The combination with a telescope, of a centering device located in the axial line of the telescope.

2. The combination with a telescope, of a centering device removably located in the axial line of the telescope.

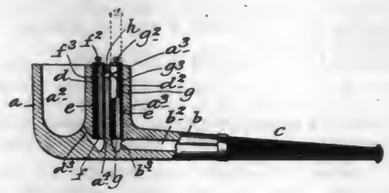
3. The combination with a telescope, of a centering device carried by a removable cap fitting one end of the telescope.

4. The combination with a telescope, of a centering device carried by the objective cap of the telescope.

5. A telescope objective cap, having a centering pin rigidly projecting from its center.

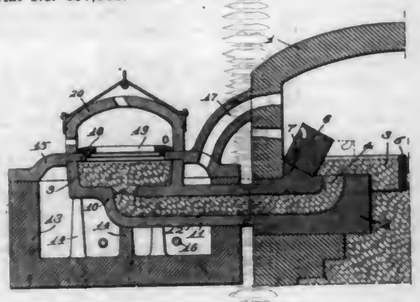
[Claim 6 not printed in the Gazette.]

970,632. TOBACCO-PIPE. RUDOLF LOSKE, Brooklyn, N. Y. Filed Apr. 29, 1910. Serial No. 558,339.



A tobacco pipe, the bowl of which is provided at the front thereof with an enlargement having two vertically arranged bores or passages which open upwardly and one of which communicates with the bottom portion of the bowl of the pipe, and the other with the central bore of the stem, said bores or passages being provided with sleeves or linings, and tubes adapted to be passed downwardly into said sleeves or linings and to be removed therefrom and the upper ends of which are closed and provided with knobs or handles, said partition, said sleeves or linings and said tubes being provided near their upper ends with transverse ports whereby said tubes are placed in communication.

970,633. GLASS-DRAWING APPARATUS. LEOPOLD MAMBOURG and ULOISSE HOUSE, Mount Vernon, Ohio, assignors to The Mambourg Glass Sheet Machine Company, Mount Vernon, Ohio. Filed Dec. 17, 1908. Serial No. 467,931.



1. Glass drawing apparatus comprising, a tank, a pot, and a conduit leading from the tank to the pot, the inlet from the tank to said conduit being downward and at a distance from the wall of the tank, combined substantially as set forth.

2. Glass drawing apparatus comprising, a tank, a pot, a nose-block disposed in the wall of the tank and projecting thereinto and having a downward outlet at a distance from the wall of the tank, and a conduit leading from said outlet to the pot, combined substantially as set forth.

3. Glass drawing apparatus comprising, a tank, a pot, a nose-block disposed in the wall of the tank and projecting thereinto and having a downward outlet at a distance from the wall of the tank, a conduit leading from said outlet to the pot, and a stopper-block resting on said nose-block and adapted to be placed over said downward outlet, combined substantially as set forth.

4. Glass drawing apparatus comprising, a tank, a pot, a nose-block disposed in the wall of the tank and projecting thereinto and having a downward outlet at a distance from the wall of the tank and having a sloping top surface at one side of said outlet, a conduit leading from said outlet to the pot, and a stopper-lock resting on said sloping surface and adapted to be tipped downwardly over said downward outlet, combined substantially as set forth.

5. Glass drawing apparatus comprising, a tank, a pot, a nose-block disposed in the wall of the tank and projecting thereinto and having a downward outlet at a distance from the wall of the tank, a float skimmer held by said nose-block and inclosing said downward outlet, and a conduit leading from said outlet to the pot, combined substantially as set forth.

[Claims 6 to 17 not printed in the Gazette.]

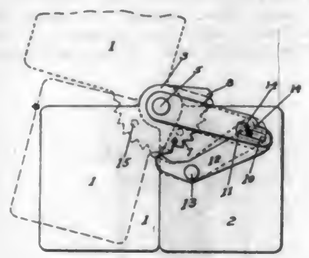
970,634. EXTENSION-TABLE. ALEXANDER EDWARD MATHESON, Goderich, Ontario, Canada. Filed Mar. 19, 1910. Serial No. 550,317.



1. In an extension table, the combination with a supporting frame in two parts slidably joined and having permanent side rails and end rails, and a main table top resting on said frame, of a plurality of extension leaves hinged together in table end sets and adapted to be magasined one above the other parallel with and beneath said table top, a board at each end of said main table top and hinged thereto, of the same depth as the said end rails, and in one position adapted to cover said end rails, and in the other position adapted to form a continuation of the table top to the extension leaves, said boards being hinged to said extension leaves and supporting said extension leaves at one side in their magazined position, and means for retaining the aforesaid extension leaves under said table top.

2. In a device of the class described, in combination, a supporting frame in two parts slidably joined and having permanent side rails and end rails, said side rails having longitudinal recesses in their inner walls extending upwardly from the bottom thereof at each end of the frame, a main table top resting on said frame and terminating at each side intermediate of the width of the top edge face of said side rails, a plurality of extension leaves terminating at each side flush with said table top hinged together in table end sets and adapted to be magazined one above the other, parallel with and beneath said table top and within said recesses, a board at each end of said main table top and hinged thereto, of the same depth as the said end rails and in one position adapted to cover said end rails and in the other position adapted to form a continuation of the table top to the extension leaves, said boards being hinged to said extension leaves and supporting said extension leaves at one side in their magazined position, and pivoted clips suitably secured to the frame and retaining said leaves in said recess.

970,635. HINGE. SAMUEL S. MATTHES, Mansfield, Ohio. Filed Dec. 16, 1909. Serial No. 533,335.



1. In a hinge composed of two parts provided with ears and pivotally connected together, one of said ears being enlarged and provided with serrated edge and projecting finger, a bar having a slot in one end pivotally connected to said ears, a pawl adapted to engage the serrated edge of the enlarged part and pivotally connected to one part of the hinge, a pin secured to the end of said pawl and adapted to engage with the slot formed in the pivoted bar as described.

2. An adjustable device for movable couch sections or the like, comprising a stationary part having an ear with its edge serrated, a movable part pivoted on said stationary part, a pawl pivoted to one of the parts having a pin secured to its free end, a bar pivoted to said parts, and provided with a slot and an intersecting enlarged opening, which said pin is adapted to engage with, and means on the ear of the movable part to throw the pawl out of engagement with the serrated edge of the bar.

3. A hinge comprising two parts pivotally connected together, one movable and the other stationary, one of said parts being provided with notches and a projecting finger, a bar pivotally secured to said parts having a slot provided in its free end, a pawl pivotally mounted on one of the parts and adapted to engage said notches, a pin secured to one end of said pawl and adapted to engage with said slot, said finger being adapted to force the pin secured to the pawl, into the enlarged portion of the slot on the pivoted bar and against the shoulder locking the pawl from engagement with the serrated edge of the movable part.

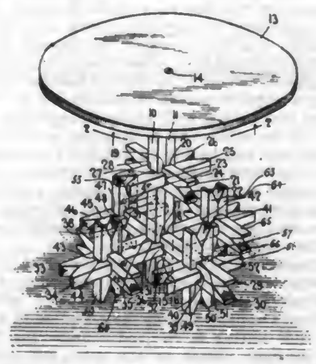
970,636. MIRROR-SUPPORT. ROMIE HENRY MILLER, St. Louis, Mo. Filed Jan. 4, 1910. Serial No. 536,344.



1. In a mirror support, a mirror having a stud and a ball on the end thereof, a stem comprising telescopic sections, one end of said stem being connected to the ball, sockets on the opposite end of the stem, a combined handle and socket retaining device on the stem, means for holding the stem at different positions of adjustment, a bracket having a body provided with a stud, a ball adapted to coact with the sockets of the stem, a rod slidable in the bracket, a stem threaded in the rod, a jaw on the stem, and a coacting device on the body with relation to which the jaw operates for securing the bracket to a fixture.

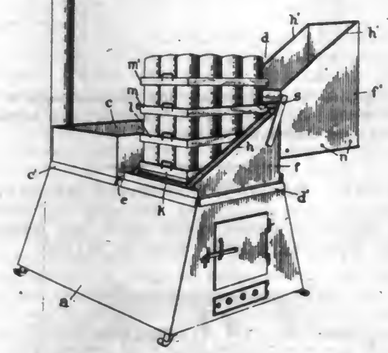
2. In a mirror support, a mirror having a stud and a ball on the end thereof, a stem comprising telescopic sections one end of said stem being connected to the ball, sockets on the opposite end of the stem, a combined handle and socket retaining device on the stem, means for holding the stem at different positions of adjustment, a bracket having a body provided with a stud, a ball adapted to coact with the sockets of the stem, a rod having a bearing in the body wherein it is slidable and rotatable, the said rod being provided with a screw threaded opening, a stem for engaging said threads, means for preventing rotation of the stem, a jaw on the stem, and means on the body with which the jaw coacts to retain the bracket on a fixture.

970,637. TABLE. JOHAN MORRIS, Sykesville, Pa. Filed Aug. 2, 1909. Serial No. 510,744.



The combination in a table, of a vertical standard comprising a pair of vertical members, disposed face to face, and having recesses in their confronting faces, a table top supported upon said standard, a pair of relatively long transverse members arranged one above the other and fitting through the recesses of the standard members and provided with recesses in their confronting faces near the ends and with other recesses intermediate the end recesses thereof, another pair of relatively long transverse members arranged side by side and fitting through the intermediate recesses of the first mentioned pair of transverse members and provided with recesses fitting around the standard members, one of said transverse members having a detachable portion between its intermedite recess and one of the end recesses thereof, a detachable portion externally of one of the outer recesses, and fastening means for said detachable portions.

970,638. STEAM-COOKER. WILLIAM A. C. MURPHY, Springfield, Mo. Filed Aug. 6, 1909. Serial No. 511,628.



1. In a steam cooker, a cooking chamber having a lower body member, and an upper hinged cover member composing the major portion of said chamber and having oblique meeting edges in a single plane extending upward from the bottom portion of one side and terminating intermediately of the height of the opposite side, one of said members having a grooved edge portion and the other member having its meeting edge portion closely engaging the same in a steam-tight manner.

2. In a steam cooker, a cooking chamber having a lower body member and an upper cover member having oblique meeting edges extending upward from the bottom portion of one side and terminating intermediately of the height of the opposite side, said meeting edges having a steam-tight engagement, said body member having downward extending water legs, and a platform support having downturned edge flanges resting upon the bottom of said body member and extending at its ends over said water legs.

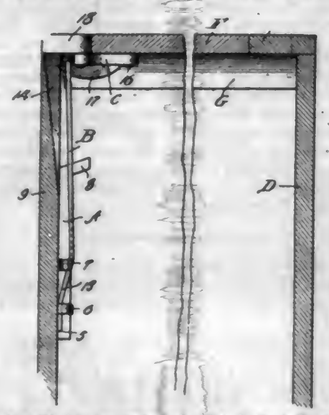
970,639. BOX-FASTENER. WILLIAM H. MURPHY, Albert Lea, Minn. Filed Dec. 18, 1909. Serial No. 533,834.

1. In a device of the character described, a spring yoke, a spring holder consisting of a plate having laterally extending hook-shaped projections faced in opposite directions and a spring guiding lug, and a spring-engaging catch.

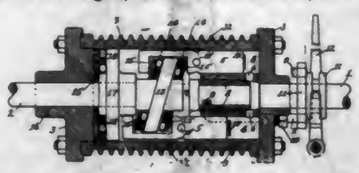
2. In a device of the character described, a spring yoke, the limbs of which are provided with terminal inturned projections, a spring holder consisting of a plate having a groove to receive said projections, laterally extending hook-shaped projections to engage the limbs of the yoke and to place the latter under tension and a spring guiding lug, and a spring-engaging catch.

3. A device of the character described including a spring yoke, the limbs of which are provided with ter-

minal inturned ends, a fastening member including oppositely faced hook-shaped projections to engage the limbs of the yoke and to place the latter under tension and having a groove to accommodate the inturned ends of the limbs of the yoke, and a spring-engaging catch having a beveled hook-shaped projection.



970,640. POWER-TRANSMITTING MECHANISM. CHARLES DAVID MCCLINTOCK, Fruitvale, Cal., assignor of one-half to Samuel Russell Bogue, San Francisco, Cal. Filed Aug. 4, 1909. Serial No. 511,096.



1. In power-transmitting mechanism, the combination of alined shafts; a closed casing receiving said shafts from opposite ends and attached to and rotatable with one of them, said casing having within it an annular series of piston chambers, each with a port opening into the central space of said series; a piston in each chamber; a rotatively differential connection between the pistons and the other shaft to operate them; a hollow open ended valve seated in the central space of the piston chamber series, to control the ports of said chambers; and means to operate the valve.

2. In power-transmitting mechanism, the combination of alined shafts; a closed casing receiving said shafts from opposite ends and attached to and rotatable with one of them, said casing having within it an annular series of piston chambers, each with a port opening into the central space of said series; a piston in each chamber; a flange on the other shaft rotatively differentially engaging the pistons to operate them; a hollow open ended valve seated in the central space of the piston chamber series, to control the ports of said chambers; and means to operate said valve.

3. In power-transmitting mechanism, the combination of alined shafts; a closed casing receiving said shafts from opposite ends and attached to and rotatable with one of them, said casing having within it an annular series of piston chambers, each with a port opening into the central space of said series; a piston in each chamber, each piston having a notched stem; an inclined flange on the other shaft rotatively differentially engaging the notched stems of said pistons to operate them; a hollow open ended valve seated in the central space of the piston chamber series, to control the ports of said chambers; and means to operate said valve.

4. In power-transmitting mechanism, the combination of a driving shaft; a driven shaft in alinement with the driving shaft; a closed casing receiving both shafts and attached to and rotatable with one of them, said casing having within it an annular series of piston chambers each with a port opening into the central space between the chambers, said space being of conical form; a piston in each chamber, each piston having a notched stem; an inclined annular flange on the other shaft, said flange rotatively differentially engaging the notched stems of the pistons; a hollow open ended conical valve in the central space of the piston chamber series to control the ports of said chambers; and means to operate said valve.

5. In power-transmitting mechanism, the combination of a driving and driven shaft; a closed casing receiving said shafts and attached to and rotatable with one of them, said casing having within it an annular series of piston chambers, each with a port opening into the central space of said series; a piston in each chamber, said piston having an opening through it controlled at one end by a valve; means for differentially connecting said pistons with the other shaft; a hollow open ended valve seated in the central space of the piston chamber series, to control the ports of said chambers; and means to operate said last named valve.

[Claims 6 and 7 not printed in the Gazette.]

970,641. COMBINATION T-SQUARE, SCRATCH-GAGE, AND COMPASS. FRANK J. O'NEIL, New Britain, Conn. Filed Oct. 11, 1909. Serial No. 522,048.



1. An implement of the character described, comprising a flat graduated rule having a socket formed at one end for the reception of a point, a slide having opposed inwardly turned tongues grasping the edges of the rule, said slide being slotted transversely to permit the passage of the rule therethrough, the metal of the slide on one side of the slot being elevated, opposed lugs upwardly turned upon the face of the slide, and a clamping lever pivoted between said lugs and having an angular end engaging with the face of the rule to clamp the slide in position.

2. An implement of the character described, comprising a flat graduated rule having a socket formed at one end for the reception of a marking point, a slide having opposed tongues adapted to engage the opposed margins of the rule and formed with a transverse slot through which the rule passes, the metal of the slide on one side of the slot being elevated to permit the passage of the rule, said slide being also formed with opposed lugs struck up from the body of the slide, and a clamping lever pivoted between said lugs and having an angular end engaging the rule when the lever is turned in one position, said slide being provided at one end with a flange projecting outwardly from the face of the slide and extending at right angles to the rule, the flange at its middle being provided with a projecting point.

3 An implement of the character described, comprising a flat graduated rule of metal, the extremity of the rule being slotted to form opposed wings, said wings being bent to form a split socket for the reception of a marking point, a slide having at one end a projecting flange extending at right angles to the rule, said slide being formed at one end with opposed tongues bent over and clasping the edges of the rule, the other end of the slide being provided with a slot through which the rule passes, the metal of the slide on one side of said slot being elevated to permit the passage of the rule, said slide having opposed lugs struck out from its face, and a clamping lever pivoted between said lugs and having an angularly bent end adapted to engage the rule to hold the slide in adjusted position.

970,642. LIGHTNING-CONDUCTOR. EDMOND REDMOND, Rochester, N. Y. Filed Feb. 7, 1910. Serial No. 542,605.



1. A lightning conductor consisting of a metallic chain and a wire or strip passing at intervals through the links of said chain, as described.

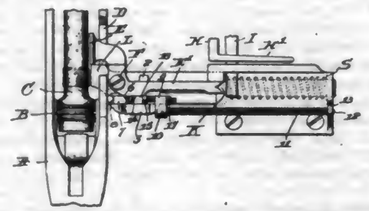
2. A lightning conductor in which a flexible, jointed and continuous member is perforated through its thickness at intervals, the edges of the orifices being angular.

970,643. OIL OR GREASE RESISTANT ARTICLE. ISAIAH L. ROBERTS, Lockport, N. Y. Filed May 6, 1909. Serial No. 494,464.

1. A water and oil or grease-resistant article composed of fibrous cellulose, the article being partially carbonized and impregnated with an alkaline silicate.

2. A water and oil or grease-resistant article composed of fibrous cellulose partially carbonized and impregnated with sodium silicate.

970,644. FILLING-FEELER FOR LOOMS. JOSHUA ROBINSON, Lawrence, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Apr. 29, 1910. Serial No. 558,318.



1. A loom having, in combination, a feeler adapted to enter the shuttle and coöperate with the filling therein, a feeler-governor, and a feeler-lock slidably mounted thereon, including a bunter to engage and be moved by the shuttle-wall, and a lock member adjustable independently of the bunter and normally coöperating with the feeler to lock it from functional movement, shuttle-induced movement of the bunter effecting movement of the lock member to unlock the feeler.

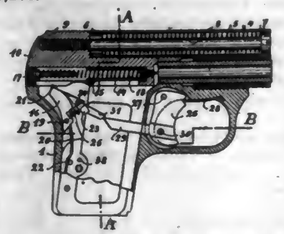
2. A loom having, in combination, a feeler adapted to enter the shuttle and coöperate with the filling therein, a feeler-governor, having a longitudinal guideway thereon, and a feeler-lock comprising an elongated body slidably mounted in said guideway and having upturned ends, the rear end constituting a bunter to engage and be moved by the wall of the shuttle, a lock member adjustable independently of said bunter and mounted in the upturned front end of said body and normally coöperating with the feeler to lock it from functional movement, and a spring to return the feeler-lock bodily to normal, operative position.

3. A loom having, in nombination, a feeler adapted to enter the shuttle and coöperate with the filling therein, a feeler-governor, having a longitudinal guideway thereon, and a feeler-lock comprising an elongated body slidably mounted in said guideway and having upturned ends, the rear end constituting a bunter to engage and be moved by the wall of the shuttle, a polygonal lock member having a screw shank in threaded engagement with the upturned front end of said body, said lock member normally cooperating with the feeler to lock it from functional movement and also being held from accidental rotation by sliding engagement with the outer wall of the guideway, and a spring to return the feeler-lock bodily to normal, operative position.

4. A loom having a reciprocating feeler-governor and a feeler movable therewith and pivoted thereon to swing laterally, a feeler-lock slidable longitudinally on the feeler-governor and comprising a body having an upturned bunter fixed thereon and a lock member adjustable on the body and normally coöperating with the feeler to lock it from swinging movement, a transverse rest for the feeler, on the feeler-governor, and an upturned lug on the inner end of said rest, to limit swinging movement of the feeler in one direction.

5. A loom having, in combination, a feeler adapted to enter the shuttle and coöperate with the filling therein, a reciprocating support on which the feeler is pivoted to swing laterally, a feeler-lock slidably mounted on said support and comprising a shuttle-engaging bunter and a separate lock member rotatively mounted for adjustment independently of the bunter and normally coöperating with the feeler to lock it from functional movement, and a device on said support in sliding engagement with said lock member to prevent accidental rotation thereof.

970,645. AUTOMATIC PISTOL. HENRI ROSIER, La Préalle-Herstal, Belgium. Filed Nov. 18, 1908. Serial No. 463,273.



1. The herein described pistol comprising a body, a fixed barrel, a reciprocating breech bolt carrying a firing pin, and a non-reciprocating, detachable casing surrounding the barrel and abutting at its inner end against a portion of the breech bolt.

2. The herein described pistol comprising a body, a fixed barrel, a reciprocating breech bolt carrying a firing pin, a casing detachably surrounding the barrel, and a spring arranged between an abutment on said casing and an abutment connected with the breech bolt and acting to hold the casing in position about the barrel and to cushion the recoil of the breech bolt.

3. The herein described pistol comprising a body, a fixed barrel, a reciprocating breech bolt carrying a firing pin, a non-reciprocating casing surrounding the barrel and abutting at its rear end against a portion of the breech bolt, a guide rod extending forwardly from the breech bolt into a chamber in said casing, and a coiled spring arranged

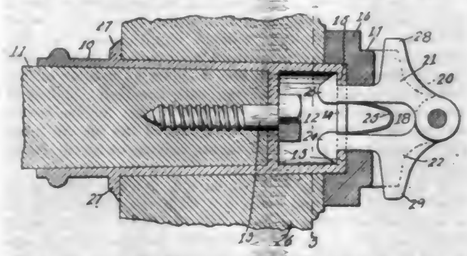
within said chamber about the guide rod and between a head thereon and an abutment within the casing.

4. The herein described pistol comprising a body, a fixed barrel, a reciprocating breech bolt carrying a firing pin, a detachable casing surrounding the barrel, a rod detachably connected with the breech bolt and extending into a chamber in said casing, and a coiled spring within said chamber and surrounding said rod between an abutment thereon and an abutment on the casing, said spring acting to hold the breech bolt and casing together and constituting the sole means for maintaining the casing in position on the barrel.

5. In an automatic or repeating pistol, the combination of a body, a barrel, a sliding breech bolt, the rearward movement of which is not directly obstructed by the body and a coiled spring acting to hold the breech bolt in its forward position and constituting the only check to rearward movement of said bolt.

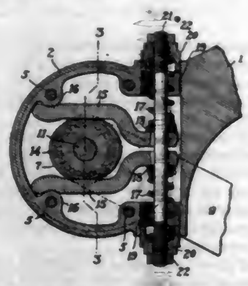
[Claims 6 to 9 not printed in the Gazette.]

970,646. HUB-FASTENER. ARVED E. ROXBERG, Brainerd, Minn. Filed Sept. 17, 1909. Serial No. 518,262.



The combination with an axle journal having a hollow outer portion and an inwardly directed flange at the outer terminal of the hollow portion, a cap fitting over the hollow terminal of the journal and adapted to bear against the hub which is located upon the journal, said cap having a central aperture communicating with the interior of the journal and provided with spaced ears extending in advance thereof, a pin extending through said ears, two arms swinging upon said pin and extending through the aperture of the cap and into the hollow of the journal and having laterally directed terminals engaging behind said flange, lugs projecting laterally from said arms and between said ears and between the pin and the cap and extending beyond the ears, whereby means are provided for releasing the arms and protecting the lugs.

970,647. SHOCK-ABSORBER. JAMES H. SAGER, Rochester, N. Y., assignor to James H. Sager Company, Rochester, N. Y., a Corporation of New York. Filed Apr. 1, 1910. Serial No. 552,900.



1. In combination with the frame and an axle of a vehicle, a shock-absorber having two relatively-rotatable members connected, respectively, with said frame and axle, and movement-resisting mechanism between said members comprising a lever fulcrumed at one end on one of said members, adjustable means between the other end of the lever and said member for adjusting yielding movement of the lever, and means connected with the other of said members, and engaging the lever between its ends, for moving the lever.

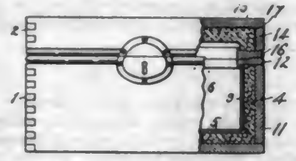
2. In combination with the frame and an axle of a vehicle, a shock-absorber having two relatively-rotatable members connected with said frame and axle, respectively, and movement-resisting mechanism between said members comprising a lever fulcrumed on one member, a spring interposed between said member and the lever, and means connected with the other member for moving the lever against the resistance of the spring.

3. In combination with the frame and an axle of a vehicle, a shock-absorber having two relatively-rotatable members, and movement-resisting mechanism between said members comprising a lever fulcrumed on one member, a spring fulcrumed on one member, a spring interposed between said member and the lever, means for adjusting the force of the spring, and means connected with the other member for moving the lever against the resistance of the spring.

4. In combination with the frame and an axle of a vehicle, a shock-absorber having two relatively-rotatable members, and movement-resisting mechanism between said members comprising two levers fulcrumed on one member, resilient means coöperating with the levers to control the movement thereof, and a cam connected with the other member and located between the levers in position to engage both levers between their fulcrums and their points of engagement with the resilient means.

5. In combination with the frame and an axle of a vehicle, a shock-absorber having two relatively-rotatable members of which one constitutes a casing having an inwardly-extending lug, a cam located within the casing and connected with the other relatively-rotatable member, a cam-lever fulcrumed upon said lug and engaging the cam, and a spring coöperating with the cam-lever and located within the casing.

970,648. CIGAR-CHEST. ALLSTON SARGENT, New York, N. Y. Filed Dec. 18, 1908. Serial No. 468,106.



1. A cigar chest comprising a box portion, a cover portion fitted to the box portion and consisting of a shell, a hard absorptive lining in the shell of the cover portion and extending over the box portion, a layer of substance impervious to moisture arranged between said absorptive lining and the adjacent face of the shell of the cover portion, and a protecting rim 16 secured around the edge of the shell and lining of the cover portion.

2. A cigar chest comprising a box portion having a cementitious body, glass-like plates lining said box portion and having some of their edges projecting into the body for anchorage and a cover portion having a body of hard absorptive material and an external coating therefor.

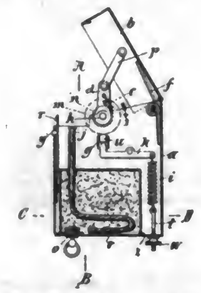
3. A cigar chest comprising a box portion having a cementitious body, a glass-like lining therefor, reinforcement embedded in the corners of said body and a closure for said box portion having an absorptive body.

4. A cigar chest body comprised of a cementitious material and glass-like plates forming a lining therefor and having some of their edges overlapping the edges of the adjacent plates and projecting into said composition.

5. A cigar chest body comprised of a cementitious material and glass-like plates forming a lining therefor and having some of their edges overlapping the edges of the adjacent plates and projecting into said composition and reinforcing devices embedded in the material adjacent the corners.

[Claims 6 to 9 not printed in the Gazette.]

970,649. POCKET-IGNITER. LUDWIG SCHÖN, Vienna, Austria-Hungary, assignor to Siegfried Herlinger, Venice, Cal. Filed Dec. 15, 1909. Serial No. 533,172.



1. In a pocket igniter, the combination with a casing, a hinged cover, a spring adapted to fling the cover open and means for locking and unlocking the cover in its closed position, of a toothed wheel revolubly mounted in the casing, a ratchet wheel rigidly secured to the toothed wheel, a pawl lever and pawl adapted to reciprocate by the side of the ratchet wheel, a spark producing alloy normally held in contact with said toothed wheel, and a link connecting the pawl lever to the hinged cover, whereby by the rotation of said toothed wheel a spark is produced.

2. In a pocket igniter, the combination with a casing of a toothed wheel mounted therein, means for rotating the wheel, a guiding socket secured to the sides of the casing below the wheel, a piece of pyrophorous alloy inserted into this socket, a two-armed lever pivoted within the casing and having the end of one arm placed below the piece of pyrophorous alloy, a coiled spring connected with the other arm of the lever, a screw bolt connected with the said spring and having its free end projecting through a hole in the bottom of the casing, and a draw nut screwed upon the said free end of the bolt, substantially as and for the purpose described.

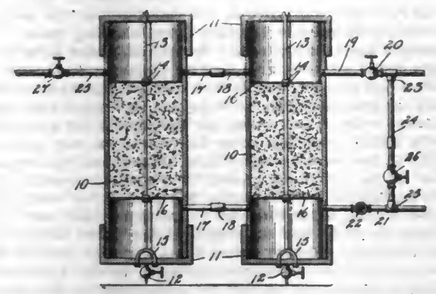
3. In a pocket igniter, the combination with a bottomless casing having a recessed front side, of a toothed wheel revolubly mounted therein, means for rotating the wheel, a guiding socket secured to the sides of the casing below the wheel, a piece of pyrophorous alloy inserted into this socket, a two-armed lever pivoted within the casing and having one end placed below the piece of pyrophorous alloy, a benzin holder of less breadth than the casing and adapted to be inserted through the lower opening of the casing, laterally projecting flaps of the bottom of the benzin holder, a coiled spring connected with the other arm of the said lever, a screw-bolt connected with the said spring and having its free end projecting through a hole of a projecting flap of the benzin holder, and a draw nut screwed upon the said free end of the bolt, substantially as and for the purpose described.

4. An igniter comprising a casing having a spring-actuated cover hingedly secured thereto, a liquid hydrocarbon receptacle fitting in said casing, means to lock said receptacle in said casing, a wick extending from said receptacle, a toothed wheel loosely journaled in said casing and provided with a ratchet wheel, a spark producing alloy in proximity to said wick, means to normally hold said alloy in contact with said toothed wheel, means controllable by the movement of said cover in one direction to rotate said toothed wheel and produce a spark in the direction of and ignite said wick, said alloy serving to hold said toothed wheel inactive during the movement of said cover in the opposite direction.

5. A device of the character described comprising a casing having a spring-actuated cover hingedly secured thereto, a receptacle fitting in said casing, means to hold said receptacle in said casing, a wick extending from said receptacle, a socket in said casing, a spark producing alloy in said socket, a toothed wheel journaled in said casing, a ratchet wheel rigidly secured to said toothed wheel, a lever provided with a pawl to engage said ratchet wheel when moved in one direction, a link connected with said lever and hinged cover and controllable by said cover to rotate said toothed wheel and produce a spark in the direction of and ignite said wick, and means to hold said alloy in contact with said toothed wheel.

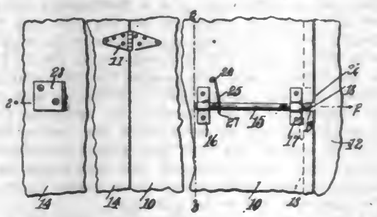
[Claims 6 to 8 not printed in the Gazette.]

970,650. FILTERING DEVICE. REINHARD J. SCHULTZ, Arco, Minn. Filed Dec. 21, 1908. Serial No. 468,649.



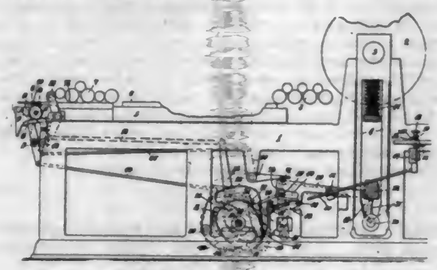
A filter comprising a cylindrical terminally threaded body, a head screwed on to each end of the body, a blow-off valve centrally disposed in one of the heads, a rod having one end passed centrally through the opposite head and having a nut engaged therewith exteriorly of the head, the opposite end of the rod being forked and having the resultant members passed through the first named head at opposite sides of the blow-off valve and provided with terminal nuts, a pair of perforated filter plates disposed upon the rod within the body, one adjacent to each end of the latter, a nut engaged with the rod at each side of each filter plate and in contact therewith, a filtering bed between the plates and ingress and egress pipes connected with the body between the plates and the heads.

970,651. DOOR-LATCH. WILLIAM SCHUMACHER, Readlyn, Iowa. Filed Apr. 25, 1910. Serial No. 557,501.



The combination with a door having a transverse recess in its free edge and a door frame having a stop against which the door bears, said stop having a cavity registering with the recess of the door when the same is closed, a rod having oppositely extending hand grips and connected at one end, one of said hand grip portions being swingingly coupled to the door at one side and the connecting portion extending through the door recess and likewise extending into the stop recess when the door is closed, and a keeper connected to the frame stop and extending over the recess thereof and into the path of one of the handle portions of the rod.

970,652. PRINTING-MACHINE. WALTER SCOTT, Plainfield, N. J.; Isabella Scott and David John Scott executors of Walter Scott, deceased. Filed July 15, 1905. Serial No. 269,799.



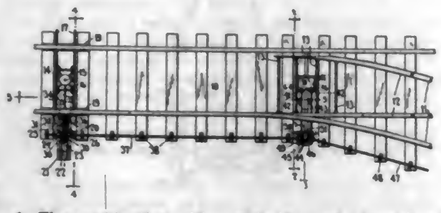
1. In a printing machine, the combination of a multi-revolution impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll, and a distributing surface, a ratchet and pawl for operating the fountain roll, a cam adapted to be moved in under a portion of the said pawl so as to lift the same out of contact with the ratchet, a sector for turning the cam, means for automatically tripping and untripping the impression once to each cycle of the machine, means for interrupting the operation of the automatic tripping means so as to maintain the impression tripped, means for causing the sector to move the cam to lift the pawl out of engagement with the ratchet so as to stop the supply of ink under control of the automatic tripping means but adapted to remain inoperative during the normal operation of the automatic tripping means and adapted to be actuated by the automatic tripping means when its normal operation is interrupted by the interrupting means.

2. In a printing machine, the combination with an impression cylinder, of form carrying means, a fountain and fountain roll, a ductor roll and a distributing surface, a ratchet and pawl for operating the fountain roll, a cam adapted to be moved in under a portion of the said pawl so as to lift the same out of contact with the ratchet, a sector for turning said cam, automatic means for tripping and untripping the impression once to each cycle of the machine, means for interrupting the operation of the automatic means so as to maintain the impression tripped, means whereby the operation of the interrupting means will cause the sector to move the cam to lift the pawl out of engagement with the ratchet, and means whereby the interrupting means can be operated without causing the sector to move the cam.

3. In a printing machine, the combination of an impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll, and a distributing surface, a ratchet and pawl for operating the fountain roll, a cam adapted to be moved in under a portion of the said pawl so as to lift the same out of contact with the ratchet, a sector for turning said cam, means for maintaining the impression tripped, a connection for operating said sector, means whereby the said connection for operating the sector is given a motion so as as cause the cam to lift the pawl out of engagement with the ratchet simultaneously therewith, and means whereby the impression can be maintained tripped without imparting motion to the connection operating the sector aforesaid.

4. In a printing machine, the combination of a multi-revolution impression cylinder, form carrying means, a fountain and fountain roll, a ductor roll, and a distributing surface, a ratchet and pawl for operating the fountain roll, a cam adapted to be moved in under a portion of the said pawl so as to lift the same out of engagement with the ratchet, a sector for turning the cam, means for automatically tripping and untripping the impression once to each cycle of the machine, means for interrupting the operation of the automatic tripping means so as to maintain the impression tripped, means for causing the sector to move the cam to lift the pawl out of engagement with the ratchet so as to stop the supply of ink under control of the automatic tripping means but adapted to remain inoperative during the normal operation of the automatic tripping means and adapted to be actuated by the automatic tripping means when its normal operation is interrupted by the interrupting means, and means whereby the impression can be maintained tripped without causing the sector to move the cam to lift the pawl out of engagement with the ratchet.

970,653. SWITCH MECHANISM FOR RAILWAYS. GEORGE P. SEGRAVES, Perry, Kans. Filed Mar. 2, 1910. Serial No. 546,866.



1. The combination with a main line and a branch, of a switch adapted to join the branch to the main line, laterally shiftable mechanism arranged in the main line, laterally shiftable mechanism arranged in the branch line, connections between said mechanism and the switch, and means for alternately locking the said connections with the switch.

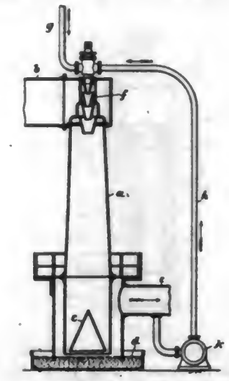
2. The combination of a main track and a branch track, of a switch adapted to join the branch with the main line, laterally shiftable means arranged in the main line and in the branch line, rotatable shafts disposed along the main and branch lines and controlled by said laterally shiftable means, a channeled block connected to the switch, slidable bars mounted within the channeled block and having connection with the rotatable shafts, and means within the block for alternately locking the said slidable bars against sliding movement in said block.

3. The combination with a main track, a branch track and movable switch points connecting the same, of guide rods slidable transversely of the main track at a distance removed from the switch points, a rotatable shaft journaled at one side of the main track, a cog gear fixed to said shaft, a rack operating said cog gear, a connection between the rack and the said slidable rod, a friction roller located centrally of the main track and having superposed connection with the slidable rod, and means operative by the shaft and connected with the switch points to move the latter upon engagement of the friction roller by trip mechanism carried by a moving train on the main track.

4. The combination with a main track, a branch track and movable switch points connecting the same, of guide rods slidable transversely of the main track at a distance removed from the switch points, a rotatable shaft journaled at one side of the main track, a cog gear fixed to said shaft, a rack operating said cog gear, a connection between the rack and the said slidable rod, a friction roller located centrally of the main track and having superposed connection with the slidable rod, tie rods connecting the switch points, a guide block fixed to said tie rods, a stationary guide bar below the plane of the switch points and engaged by the guide blocks, a disk fixed to the shaft, and a pitman eccentrically connected to the disk and to the guide block.

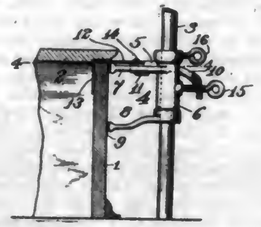
970,654. PROCESS FOR PURIFYING BLAST-FURNACE AND OTHER GASES. FRANÇOIS SEPULCHER, Liege, Belgium. Original application filed Jan. 6, 1908, Serial No. 409,520. Divided and this application filed Nov. 2, 1908. Serial No. 460,781.

1. The herein described process of purifying gas consisting in passing a body of gas through a suitable conduit and subjecting it therein to the action of a spray formed by combining streams of suitable liquid and gas which has passed through said conduit, both liquid and gas being under pressure, and causing the gas escaping from said conduit to pass over a body of liquid in the form of a thin sheet.



2. The herein described process of purifying gas consisting in subjecting a body of gas to the action of a spray formed by combining streams of suitable liquid and gas, both under pressure, and causing the gas saturated by said spray to pass over a body of liquid in the form of a thin sheet.

970,655. HORN-SUPPORTING CRANE. HORACE SHEBLE, Philadelphia, Pa., assignor, by mesne assignments, to New Jersey Patent Company, Orange, N. J., a Corporation of New Jersey. Filed Dec. 21, 1906. Serial No. 348,911.



1. In a horn supporting crane, the combination of a vertical post, a tubular member for receiving the same and having a pair of arms extending inwardly from the upper and lower portions thereof, the inner ends of which arms are adapted to engage the outer surface of one of the sides of a cabinet, a clamping member mounted to slide upon one of said arms having means to engage a surface of said cabinet opposite to that engaged by said arms and having a portion surrounding said tubular member and extending on the outer side thereof to a point intermediate said arms, and means for forcing said portion outwardly from said tubular member applied to the latter intermediate said arms to cause said clamping means and the ends of said arms to tightly engage their coacting surfaces, substantially as described.

2. In a horn supporting crane, the combination of a crane, a vertical crane-receiving member, having arms extending inwardly from the upper and lower portions thereof, the feet of which are adapted to contact one side of a cabinet, a clamping member slidably mounted upon the upper of said arms, having a downward clamping projection upon its inner end adapted to engage a surface of the cabinet, and having a portion extending adjacent said receiving member intermediate said arms, and a screw passing through said portion and coacting with said member intermediate said arms for tightening the engagement of said clamping projection, substantially as described.

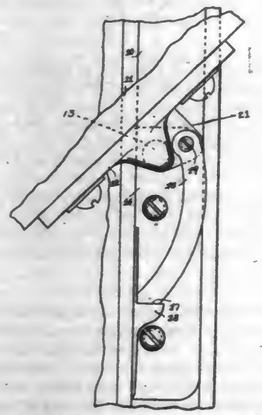
3. In a horn supporting crane, the combination of a crane, a vertical crane-receiving member having arms extending inwardly from the upper and lower portions thereof, the feet of which are adapted to contact one side of a cabinet, a clamping member slidably mounted above the top of said side and the upper of said arms, having a downward clamping projection upon its inner end adapted to engage a surface of the cabinet and having its outer end extending beyond said receiving member and bent downwardly to a point intermediate said arms and a screw passing through said bent portion and contacting the outer side of said member for tightening the engagement of said clamping projection, substantially as described.

4. In a horn supporting crane, the combination of a crane, a vertical crane-receiving member having arms extending inwardly from the upper and lower portions thereof, the feet of which are adapted to contact one side of a cabinet, a clamping member slidably mounted above the top of said side and the upper of said arms, having a downward clamping projection upon its inner end adapted to engage a surface of the cabinet and having its outer end extending around said receiving member in a yoke and bent downwardly on the outer side of said member, and a screw passing through said bent portion and contacting the outer side of said member intermediate said arms, substantially as described.

5. In a horn supporting crane, the combination of a crane, a vertical crane-receiving member having arms extending inwardly from the upper and lower portions thereof, the feet of which are adapted to contact one side of a cabinet, a clamping member slidably mounted upon the upper of said arms and having a cross-head attached thereto engaging the lower surface of said arm, a clamping projection upon the inner end of said clamping member, a yoke surounding said receiving member upon the outer end of said clamping member and bent downwardly beyond the same, and a screw passing through said bent portion and engaging said receiving member, substantially as described.

[Claim 6 not printed in the Gazette.]

970,656. TRANSOM-ADJUSTING DEVICE. FRANK F. SMITH, Newark, N. J. Filed Jan. 28, 1909. Serial No. 474,813.



1. In a window of the reversible pivoted sash type; a stop secured to the frame of said window; and a vertically depending, gravity latch-piece pivotally secured to the sash of said window, the lower end of said latch-piece swinging freely and engaging with the stop after the sash has swung open to a predetermined extent.

2. In combination with a window frame having a reversible sash pivoting about an intermediate transverse

axis, a sash stop acting between said frame and sash consisting of a laterally projecting gravity member 16 on the one acting against a stop 18 on the other, the gravity member being supported on the one by a pivot 19 to gravitate at all times automatically into alinement with the stop and being independent of said stop for its working, said gravity member and stop coming into contact when the sash has been pivoted partly open thereby preventing its further opening, and said gravity member being pivotable out of alinement with the stop to permit reversal of the sash.

3. In combination with a window frame having a reversible sash pivoting about an intermediate transverse axis, a sash stop acting between said frame and sash consisting of a gravity member on the one acting against a stop on the other, the gravity member being pivotally supported on the one to gravitate at all times automatically into alinement with the stop and being independent of said stop for its working, said gravity member and stop coming into contact when the sash has been pivoted partly open thereby preventing its further opening, and said gravity member being pivotable out of alinement with the stop to permit reversal of the sash.

4. In combination with a window frame having a reversible sash pivoting about an intermediate transverse axis, a sash stop acting between said frame and sash consisting of a gravity member on the one acting against a stop on the other, the gravity member being movably supported on the one to gravitate at all times automatically into alinement with the stop and being independent of said stop for its working, said gravity member and stop coming into contact when the sash has been pivoted partly open thereby preventing its further opening, and said gravity member being movable out of alinement with the stop to permit reversal of the sash.

970,657. NECK-YOKE CENTER. SAMUEL A. STEADMAN, Manchester, Iowa. Filed Aug. 30, 1909. Serial No. 515,248.

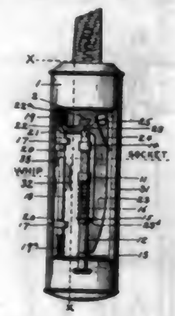


The combination with a yoke, of a vehicle pole holder comprising a plurality of pieces of flexible material folded together in sections to provide a loop on one portion of the holder which is of greater diameter than said yoke, a bolt inserted through the loop and into the yoke to hold said parts together, a single bolt inserted through the central portions of the sections of the holder and being the sole means of holding said sections together and also to form said loop, thus permitting the yoke to have a limited free movement within the loop, and said sections of the holder having registering apertures to receive the pole of the vehicle.

970,658. WHIP-SOCKET. JOHN S. STEVENSON, Crisfield, Md. Filed June 21, 1909. Serial No. 503,280.

1. In a whip socket, a tubular member and a hollow rectangular member integral therewith, inclined surfaces in the tubular member, pivoted jaws below said surfaces, a bar in the rectangular member carrying a seat, spring, sleeve and pin for operating said jaws, in combination with a bar and pawl operated by a key for moving a lever to release the seat, spring, sleeve and pin in order to effect the opening of said jaws, substantially as and for the purpose set forth.

2. In a whip socket, a tubular member and a hollow rectangular member united, inclined surfaces in said tubular member and pivoted jaws below the inclined surfaces, in combination with a bar and pawl integral therewith and operated by a key for moving a lever to release a bar carrying a seat, spring, sleeve and pin analogous to the jaws, in order to allow said jaws to drop and be opened by a spring below their fulcrums, substantially as and for the purpose set forth.



3. In a whip socket, a tubular member and a hollow rectangular member, pivoted jaws below the inclined surfaces in the tubular member, a bar in the rectangular member carying a pin, sleeve, spring and seat for moving said jaws, in combination with a lever supporting said seat and actuated by a pawl integral with a bar moved by a key, for releasing the bar carrying the spring, sleeve and pin in order to allow the jaws to drop below the inclined surfaces and be opened by a spring under their fulcrums, substantially as and for the purpose set forth.

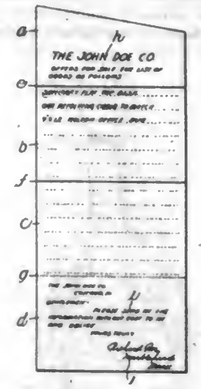
4. In a whip socket, a tubular member and a rectangular member:—the tubular member having inclined surfaces for converging jaws to encircle a whip:—and a pin, sleeve, spring and seat upon a bar to impress the jaws upon the inclined surfaces in the tubular member, in combination with a spring actuated lever to enter under said seat of the bar with the spring, sleeve and pin when the bar is moved upward, to hold the jaws against the inclined surfaces, substantially as and for the purpose set forth.

5. In a whip socket, a rectangular member having a bar with a pawl for engaging a lever:—to lock or release a bar carrying a seat, spring, sleeve and pin adjacent to pivoted jaws in the tubular member:—the said pawl nonoperative after the seat, spring, sleeve and pin have been released, in combination with a plate to engage one side of the rectangular member and having lugs for engaging the bar with the pawl, the lugs disengaging from the bar, when the bar is operated in a direction opposite to its movement to release the whip, said plate provided with an auxiliary plate having means for securing two metal straps, substantially as and for the purpose set forth.

970,659. MAILING-FOLDER. CHARLES C. STEWART, Oak Park, Ill., assignor to The Campbell Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 19, 1910. Serial No. 550,482.

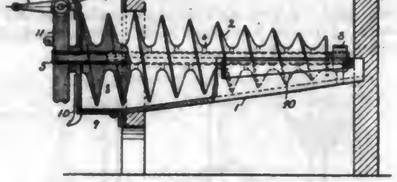
1. A mailing folder consisting of a plurality of sections folded together along parallel lines, the number of sections exceeding two, one section forming a return card having the sender's name and address on the obverse or return side, and the recipient's name and address on the reverse side, the obverse side of said return card being on the inside and covered by the other sections of the folder, one section of the folder constituting an imperforate flap covering a portion of the reverse side of the return card and being foreshortened to thereby expose the name and address of the recipient.

2. A mailing folder consisting of a plurality of sections folded together, the number of sections being an even number exceeding two, one end section of the folder forming a return card and having the name and address of the sender folded inside to be thereby covered by other sections of the folder, and the reverse side of the return card having the name and address of the recipient, the other end section of the folder covering a portion of the reverse side of the return card and being foreshortened to thereby expose the name and address of the recipient.



3. A mailing folder consisting of four integral sections adapted to be folded together to form an open ended piece of mail matter, the lower section being scored or perforated to facilitate removal from the rest of the folder, the upper section being shorter than the lower, and the lower having on it, beneath the lower edge of the upper section when folded, the name and address of the recipient, said lower section constituting a return post card.

970,660. STOKER. WILLIAM H. H. STINEMAN, Baltimore, Md., assignor of one-half to Robert A. Taylor, Baltimore, Md. Filed Dec. 14, 1909. Serial No. 533,000.



1. In an underfeed furnace, the combination with a fire-box, a concaved trough in said fire box, said trough tapering toward its rear end, a hopper connected with said trough, a hollow cone-shaped screw conveyer extending into said fire-box and having a number of apertures therein leading into the fire-box, a gear-wheel on said conveyer, a power shaft having a worm thereon in mesh with said gear-wheel, a plunger having one end projecting into said hopper and adapted to move between the flights of the conveyer whereby the fuel is held against any backward movement when the screw rotates, and a link connecting said plunger with the said gear-wheel.

2. In an underfeed furnace, the combination with a fire-box, a trough within said fire box, a hopper connected with the trough, a graduated screw conveyer extending from said hopper into the fire box, a gear wheel on the conveyer shaft, a driven shaft having a worm thereon meshing with said gear wheel, a plunger having one end pivoted and its opposite end projecting into the hopper and adapted to move between the flights of the conveyer whereby the fuel is held against any backward movement when the screw rotates, and a link connecting the said plunger with the gear wheel, whereby when the latter is rotated the plunger will be operated in and out of said hopper.

3. In an underfeed furnace, the combination with a fire box, a screw conveyer leading into said fire box, a gear-wheel on the conveyer shaft, a power shaft having a worm in mesh with said gear wheel, a plunger having one end projecting into said conveyer and adapted to move between the flights of the conveyer whereby the fuel is held against any backward movement when the screw rotates, and a link connecting said plunger with said gear-wheel.

4. In an underfeed furnace, the combination with a fire box, a hopper outside of said fire box, a screw conveyer leading from said hopper into said fire box, a gear-wheel on the conveyer shaft, a power shaft having a worm in mesh with said gear wheel, a plunger having one end projecting into said hopper and adapted to move between the flights of the conveyer whereby the fuel is held against any backward movement when the screw rotates, and a link connecting said plunger with said gear wheel.

970,661. LATCH. MAUDE R. STODDARD, New York, N. Y. Filed Dec. 23, 1909. Serial No. 534,578.



1. In a latch, the combination of a plate having two openings, a portion of said plate at one end of one of said openings forming a fulcrum-member, with a latch-lever fulcrumed in said opening and engaged with said fulcrum-member, a handle for said lever guided in the other of said openings, and means acting on said latch-lever to maintain said engagement.

2. In a latch, the combination of a plate having two openings, a portion of said plate at one end of one of said openings forming a fulcrum-member, with a latch-lever fulcrumed in said opening and engaged with said fulcrum-member, a handle for said lever guided in the other of said openings, and spring means interposed between said plate and latch-lever for maintaining said parts in operative relation.

3. In a latch, the combination of a plate having two openings, a portion of said plate at one end of one of said openings forming a fulcrum-member, with a latch-lever fulcrumed in said opening and engaged with said fulcrum-member, a handle for said lever guided in the other of said openings, and a spring, mounted at one end on the inner side of said plate and at the other end bearing on said latch-lever to maintain said engagement.

4. In a latch, the combination of a plate having a pair of openings therein, a latch-lever disposed in one of said openings and extending therethrough, said latch-lever having a notch in its upper edge engaging the plate at one end of said opening, a handle on said latch-lever having a free outer end, and a spring having one end mounted upon said plate and its other end engaged by and bearing upon the underside of said latch-lever to maintain said parts in operative engagement, and a segmental projection upon the free end of said handle extending into the other of the openings in said plate for guiding said handle.

970,662. OLEIC-ACID DERIVATIVES CONTAINING A PHENYL GROUP. NATHAN SULZBERGER, New York, N. Y. Filed Jan. 27, 1909. Serial No. 474,635.

1. The esters of oleic acid with phenols, being yellowish oily liquids at ordinary temperature insoluble in water, not distillable under ordinary pressure without decomposition, and split by the action of caustic soda into sodium-oleate and the sodium compound of the corresponding phenol, from which they were formed, produced by chemically combining the radical of oleic acid with such a monohydric phenol as will form an ester with stearic acid, having a melting point upward of about 40 degrees C.

2. The oleic acid ester of phenol of the nature described, to be used for medical and pharmaceutical purposes, being a yellow oily liquid at ordinary temperature insoluble in water, not distillable without decomposition under ordinary pressure, split by the action of caustic soda into sodium-oleate and sodium phenolate, produced by chemically combining the radical of oleic acid with phenol and having the following chemical formula—

$$C_6H_5OOC{-}C_{17}H_{33}.$$

970,663. UMBRELLA. THOMAS M. SUBA, Racine, Wis. Filed Nov. 15, 1909. Serial No. 528,122.



1. The combination in an umbrella of a handle, a plurality of ribs of equal length secured to said handle, a single thimble slidably secured upon said handle and stretcher ribs connected to said ribs and thimble, some of said stretcher ribs being longer than others.

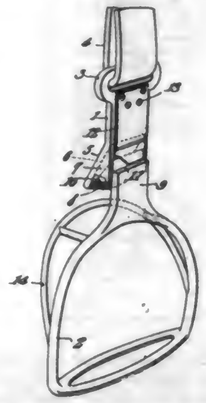
2. The combination in an umbrella of a handle, a plurality of ribs of equal length secured thereto, a single slidable thimble and stretcher ribs connected to said ribs and thimble, some of said stretcher ribs being longer than others, the longer stretcher ribs being secured to the ribs as much higher up on the ribs as they are longer than the other stretcher ribs.

3. The combination in an umbrella of a handle provided with a hand grip, a plurality of ribs secured to said handle, a canopy, a single thimble slidably secured upon said handle, and stretcher ribs connected to said ribs and thimble, some of said stretcher ribs being longer than others, whereby when open more of the canopy will be back of the hand grip.

970,664. STIRRUP. FRED M. SWART, Margaretville, N. Y. Filed Apr. 24, 1909. Serial No. 492,032.

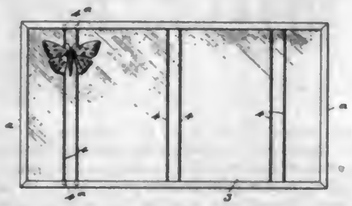
1. A stirrup comprising a strap member formed at the end remote from that engaged by the strap with a prismatic pocket having the bottom inclined and open at the side coincident with the upper portion of the inclined bottom, a foot receiving member formed with a hanger having a prismatic lug or projection adapted to the pocket in the strap member and supported by the bottom of the pocket, and a spring partially extending over the open side of the pocket and normally maintaining the lug in said pocket but yieldable to an abnormally directed force.

2. A stirrup comprising a strap member formed at the end remote from that engaged by the strap with a prismatic pocket having the bottom inclined and the side coincident with the upper portion of the inclined bottom open, a foot receiving member formed with a hanger having a laterally offset prismatic lug or projection adapted to the pocket in the strap member and normally housed therein with one face flush with the open side of the pocket, and a spring partly extending over the open side of the pocket and normally maintaining the lug in said pocket but yieldable to an abnormally directed force.



3. A stirrup comprising a strap member formed at the end remote from that engaged by the strap with a pocket projecting away from one face of the strap member and having an open side coincident with the said face of the strap member, a foot receiving member formed with a hanger having a lug or projection at the upper end and wholly to one side of said hanger and adapted to be entirely housed within the pocket with the hanger to the side of the said strap member remote from that containing the pocket, and a spring on the face of the strap member engaged by the hanger and partly extending over the open side of the pocket and normally engaging the lug housed in the said pocket, said spring being yieldable to an abnormally directed force.

970,665. MOUNT FOR ENTOMOLOGICAL SPECIMENS. FERDINAND TEUTE, Rochester, N. Y. Filed June 6, 1910. Serial No. 565,186.



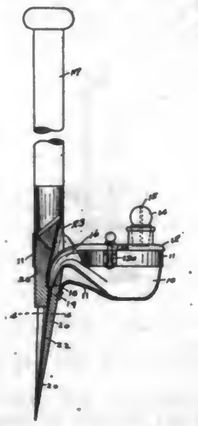
1. In a mount for entomological and natural-history specimens, the combination with a boxing or frame and a transparent closure therefor, of a filamentous specimen support arranged within the box and secured to the walls thereof.

2. In a mount for entomological and natural-history specimens, the combination of a boxing or frame, a filamentous specimen support extending between and connected with the walls of the frame, and a transparent closure for said frame.

3. In a mount for entomological and natural-history specimens, the combination of a boxing or frame, a plurality of spaced filamentous specimen supports extending between and connected with the walls of the frame, and a transparent closure for said frame.

4. In a mount for entomological and natural-history specimens, the combination of a boxing or frame, a plurality of parallelly disposed spaced filamentous specimen supports extending between and connected with the walls of the boxing or frame, and transparent top and bottom closures for the boxing or frame.

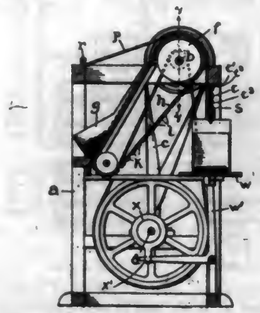
970,666. WEED-DESTROYER. HERMAN THOENI, Spokane, Wash. Filed Apr. 13, 1910. Serial No. 555,171.



1. A weed destroyer comprising a penetrator having a recess on one side, a longitudinal groove terminating at one end of the penetrator, and a duct leading from the recess to the groove; and a reservoir mounted on the penetrator, and having a discharge spout extending into the recess.

2. A weed destroyer comprising a penetrator having a recess on one side, a longitudinal groove terminating at one end of the penetrator, and a duct leading from the recess to the groove; a band secured to the penetrator, and extending in a loop therefrom; a reservoir removably mounted in the loop, and having a shoulder engaging the upper edge thereof, said reservoir having a discharge spout extending into the aforesaid recess; and a latch carried by the looped portion of the band, and engageable with the reservoir.

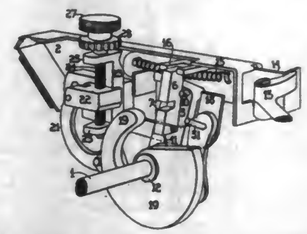
970,667. MACHINE FOR FINISHING SKEWERS. AMOS T. TRUE, Strong, Me. Filed Dec. 29, 1909. Serial No. 535,475.



1. In a machine for finishing skewers, a hopper, a rotary shaft carrying a loose pulley, an endless skewer-carrying belt passing over said pulley, said belt forming the bottom of said hopper and having an endless series of transverse projections separated from each other by intervals, lateral wheels fast upon said shaft at each side of said loose pulley and provided with roughened peripheral surfaces, stationary flexible straps passing around said lateral wheels and having a tension device at one end thereof, and a sharpener wheel for the skewer points adjacent to one of said lateral wheels.

2. In a machine for finishing skewers, a hopper, a rotary driven shaft carrying a loose pulley, an endless inclined skewer-carrying belt passing over said pulley, said belt forming the bottom of said hopper and having an endless series of transverse projections separated from each other by intervals, said belt having engagement with a pulley located below said hopper, lateral wheels fast upon said shaft at each side of said loose pulley, and provided with roughened peripheral surfaces, stationary flexible straps passing around said lateral wheels and having a tension device at one end thereof, a sharpener wheel for the skewer points adjacent to one of said lateral wheels, a rounding cutter wheel for the skewer butts adjacent to the other of said lateral wheels, a vibratory table below said carrying belt and located in the recess beneath one inclined side thereof in position to receive the finished skewers as they fall from the carrying belt, and means for vibrating said table.

970,668. TYPE-WRITING MACHINE. RICHARD W. UHLIG, Rutherford, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 26, 1909. Serial No. 514,706.



1. In a typewriting machine, the combination with a platen, of a line-space mechanism including a wheel connected to the platen and having an annular flange or rim, a dog carrier pivoted concentrically with said wheel, a dog upon said carrier, and having jaws to bite upon opposite sides of said flange or rim, said dog pivoted in proximity to said jaws and having an operating arm, a lever, and a connection between said lever and said operating arm, to drive the latter in a direction to advance the platen.

2. In a typewriting machine, the combination with a platen, of a line-space mechanism including a wheel connected to the platen and having an annular flange or rim, a dog carrier pivoted concentrically with said wheel, a dog upon said carrier, and having jaws to bite said flange or rim, said dog pivoted in proximity to said jaws and having an operating arm, a lever, a connection between said lever and said operating arm, to drive the latter in a direction to advance the platen, and a stop to engage said dog.

3. In a typewriting machine, the combination with a platen, of a line-space mechanism including a wheel connected to the platen and having an annular flange or rim, a dog carrier pivoted concentrically with said wheel, a dog upon said carrier, and having jaws to bite said flange or rim, said dog pivoted in proximity to said jaws and having an operating arm, a lever, a connection between said lever and said operating arm, to drive the latter in a direction to advance the platen, a stop to engage said dog, and means upon said carrier to limit the vibration of the dog thereon.

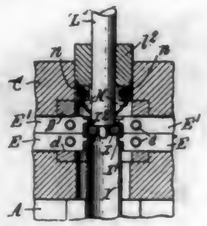
4. In a typewriting machine, the combination with a platen, of a line-space mechanism including a wheel connected to the platen and having an annular flange or rim, a dog carrier pivoted concentrically with said wheel, a dog upon said carrier, and having jaws to bite said flange or rim, said dog pivoted in proximity to said jaws and having an operating arm, a lever, a connection between said lever and said operating arm, to drive the latter in

a direction to advance the platen, a stop to engage said dog, means upon said carrier to limit the vibration of the dog thereon, and means for effecting fine adjustments of said stop.

5. In a typewriting machine, the combination with a platen, of a line-spacing mechanism including a clutch element, operatively connected with the platen, a clutching dog pivotally supported intermediate its ends on a swinging carrier, and having normally disengaged jaws to bite on the clutch element, a lever-actuated arm engaging the clutching dog on one side of its pivotal support for causing the jaws to bite upon the clutch element to rotate the platen, and a stop for arresting the travel of the dog and the thereto-connected clutch element and platen, the stop located in the path of movement of the dog to engage the dog on the opposite side of its pivotal support from the arm, to intensify the bite of the dog on the clutch element at the moment of arrest of the dog and platen.

[Claims 6 to 32 not printed in the Gazette.]

970,669. MACHINE FOR INSERTING NUTS OR DISKS IN TUBES. CHARLES VALLONE and FRANK R. ROGERS, Buffalo, N. Y., assignors to Barcalo Manufacturing Company, Buffalo, N. Y. Filed May 17, 1909. Serial No. 496,626.



1. In a machine for securing nuts or disks in tubes, the combination of means for forming an internal shoulder in the tube, means for inserting the nut or disk into the tube against said shoulder, means for bending inwardly the tube at the outer side of the nut or disk for securing the nut or disk against said internal shoulder, and mechanism for operating said means in succession in the order mentioned, substantially as set forth.

2. In a machine for securing nuts or disks in tubes, the combination of means for creasing the tube to form therein an internal circumferential shoulder, means for inserting the nut or disk in the tube against said shoulder, means for turning in the end of the tube at the outer side of the nut or disk, and mechanism for operating said means in succession in the order mentioned, substantially as set forth.

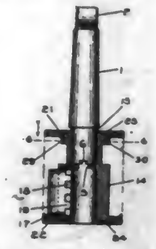
3. In a machine for securing nuts or disks in tubes, the combination of a preliminary die for squeezing the tube to form therein an internal shoulder, means for inserting the nut or disk into the tube against said shoulder, a final die for squeezing the tube at the outer side of the nut or disk, and mechanism for operating said dies and means in succession in the order mentioned, substantially as set forth.

4. In a machine for securing nuts or disks in tubes, the combination of a preliminary contractible die for squeezing the tube to form therein an internal shoulder, means for inserting the nut or disk into the tube, a final contractible die for squeezing the tube at the outer side of the nut or disk, and mechanism which operates first to contract the preliminary die to squeeze and hold the tube, then to actuate the means for inserting the nut or disk, and then to contract the final die on the tube, substantially as set forth.

5. In a machine for securing nuts or disks in tubes, the combination with a press having a reciprocating ram, of a preliminary die for squeezing the tube to form therein an internal shoulder, means for inserting the nut or disk into the tube against said shoulder, a final die for squeezing the tube at the outer side of the nut or disk, and mechanism actuated by the press ram for operating said dies and means in succession in the order mentioned, substantially as set forth.

[Claims 6 to 12 not printed in the Gazette.]

970,670. DRILLING-MACHINE AND DRILL. VERNER J. WAHLSTROM, New York, N. Y., assignor of one-half to Bernard T. Burchardi, Brooklyn, N. Y. Filed June 29, 1909. Serial No. 504,991.



1. The combination with a drill driving member having a driving shoulder provided with an undercut face, of means for centering the drill with respect to the driving member.

2. The combination with a drill driving member having a plurality of driving shoulders the undersides of which are beveled in opposite directions and the driving faces of which are undercut, of means for centering the drill with respect to the driving member.

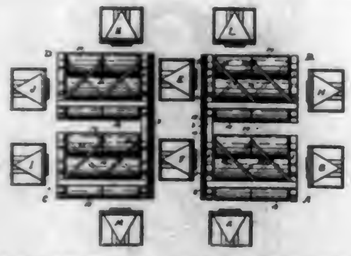
3. The combination with a drill driving member provided with a plurality of segment shaped lugs having undercut driving faces, of means for centering the drill with respect to the driving member.

4. The combination with a drill driving member provided with a plurality of segment shaped lugs the undersides of which are beveled in opposite directions and the driving faces of which are undercut, of means for centering the drill with respect to the driving member.

5. The combination with a drill driving member the underside of which is recessed to form undercut openings of different sizes, the walls of the openings operating as driving faces, of means for centering the drill with respect to the driving member.

[Claims 6 to 12 not printed in the Gazette.]

970,671. PRINTING-PRESS. LYMAN A. WHEAT, Battle Creek, Mich. Filed Apr. 3, 1909. Serial No. 487,673.



1. In a printing press, the combination with the perfecting mechanisms A, B, C, and D arranged with a space between the same and driven by suitable gears, of folders E, F between the said perfecting mechanisms; and folders G, H, I, and J at each end thereof, and folders K, L, M, and N at each side thereof, detachable and reversible angle-bars; all coacting substantially as described and for the purpose specified.

2. In a rotary printing press, the combination of a pair of perfecting mechanisms, the impression cylinders

of which are arranged toward the center of each perfecting press, the lower one being detachable by being removable out at the end of the press, and the plate cylinders being toward the outside and contacting with the corresponding impression cylinders; gears on the shafts of said cylinders meshing directly; and gears that drive the inking mechanism and mesh together on the adjacent sides of said presses and couple the perfecting mechanism together, coacting as specified.

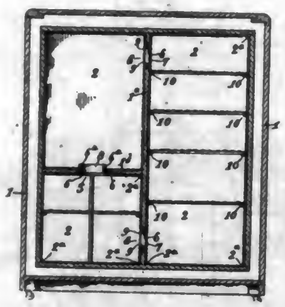
3. In a rotary printing press, the combination with a pair of perfecting mechanisms, the impression cylinders of which are arranged toward the center of each perfecting press, and the plate cylinders being toward the outside and contacting with the corresponding impression cylinders; gears on the shaft of said rolls meshing directly; and gears that drive the inking mechanism and mesh together on the adjacent sides of said presses and couple the perfecting mechanism together, coacting as specified.

4. In a rotary printing press, the combination of a pair of perfecting mechanisms, the impression cylinders of which are arranged toward the center of each perfecting press; and the plate cylinders being toward the outside and contacting with the corresponding impression cylinders; and gears that drive the inking mechanism and mesh together on the adjacent sides of said presses and couple the perfecting mechanism together, coacting as specified.

5. In a perfecting mechanism, the combination of a suitable frame open at the end in arch form so that a central impression cylinder arranged within the frame of such dimension that it can be withdrawn through said arch; printing cylinders toward each side and above the said central impression cylinder, and an impression cylinder above the said central impression cylinder, the same being coupled together successively to avoid the use of intermediate gears; and an inking mechanism arranged below each printing cylinder, all coacting substantially as described and for the purpose specified.

[Claim 6 not printed in the Gazette.]

970,672. REFRIGERATOR-LINING. WALTER H. WHITTIER, Grand Rapids, Mich., assignor to Grand Rapids Refrigerator Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Feb. 10, 1910. Serial No. 543,086.



1. A refrigerator, comprising a case, a partition in the case having an opening, a lining at each side of the partition, a flange on each lining extending within said opening, and a coupling ring in the opening covering the seam between the flanges.

2. A refrigerator, comprising a case, a partition in the case having an opening, a lining at each side of the opening, integral flanges on the linings extending within the opening and spaced apart at the edges, a coupling ring engaging the flanges, and an outwardly projecting member on the ring extending between the flanges to hold the ring in place.

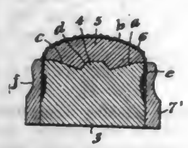
3. A refrigerator, comprising a partition provided with an opening, a sheet metal lining at each side of the partition, integral flanges in the linings extending oppositely within the opening, a half round coupling ring having its flat side engaging the flanges and covering the seam therebetween, and outwardly projecting pins in the ring extending between the flanges.

4. In a refrigerator, a bottom to the ice box having an opening, a lining to the bottom, an upturned flange on the lining surrounding said opening, and a ring in said opening having its upper edge turned outward and downward over the upper edge of the flange.

5. A refrigerator, comprising a case, a partition in the case having openings, a sheet metal lining formed integral for each compartment and also having rounded corners, and integral flanges on the lining extending within said openings.

[Claims 6 to 8 not printed in the Gazette.]

970,673. STAIN OR GREASE REMOVING DEVICE. BRADFORD L. WILLIAMS, Camden, N. J. Filed Dec. 10, 1909. Serial No. 532,328.



1. In a device of the character described, a block provided with an anchor-post projecting from the top thereof, a soap-cake fitting said post and engagingly held thereto, a housing for said block and a covering surrounding said soap-cake and the end portion securely fitted between said block and housing, substantially as and for the purposes described.

2. In a device of the character described, a block provided with an anchor-post arranged centrally of the top and the surface of the top arranged incliningly from said post toward the periphery, a soap-cake arranged to fit said post and engagingly held to the top of said block against turning or displacement, a housing for said block and a covering surrounding said soap-cake and the end portion securely fitted between said block and housing, substantially as and for the purposes described.

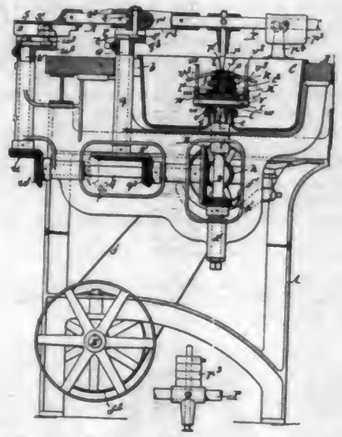
3. In a device of the character described, a block provided with an anchor-post in the top arranged central thereof and the surface of the top arranged to incline toward the periphery, said block having an offset in the peripheral surface, a soap-cake having in the bottom a central recess and said bottom inclining therefrom and having a convex-shaped face, a housing surrounding said block, and a covering for said soap-cake the end of which in the operative position of the device fitting between said block and housing and into the offset of said block, substantially as and for the purposes described.

4. In a device of the character described, a block provided with an anchor-post arranged to extend from the top and having an off-set in the peripheral surface, a soap-cake adapted to fit said post and engagingly seat with the top of said block, a housing embracing said block and a covering surrounding said soap-cake and fitting between said block and housing and securely held in the offset of said block, substantially as and for the purposes described.

970,674. LENS-GRINDING MACHINE. ROGER F. WILLIAMS, Buffalo, N. Y., assignor of two-thirds to Martin L. Failing and Almon J. Gray, Buffalo, N. Y. Filed Mar. 16, 1910. Serial No. 549,092.

1. A lens grinding machine comprising coöperating upper and lower holders, an upright spindle which is journaled in fixed bearings and upon which one of said holders is mounted, a shifting bar operatively connected with the upper holder, and means for revolving said bar bodily together with the holder associated therewith in a substantially horizontal plane comprising an upright

shaft, a crank arm which is arranged at the upper end of said shaft and a universal joint connecting said crank arm and bar.



2. A lens grinding machine comprising coöperating upper and lower holders, an upright spindle which is journaled in fixed bearings and upon which one of said holders is mounted, a shifting bar operatively connected with the upper holder, and means for revolving said bar bodily together with the holder associated therewith in a substantially horizontal plane comprising an upright shaft, a crank arm which is arranged at the upper end of said shaft, and a block which is pivoted vertically on said crank on one side of the axis of the latter and to which said bar is pivoted horizontally.

3. A lens grinding machine comprising coöperating upper and lower holders, an upright spindle which is journaled in fixed bearings and upon which one of said holders is mounted, a front shifting bar operatively connected with said upper holder, a rear shifting bar connected with the front shifting bar, a crank arm pivotally connected with the rear shifting bar, and another crank arm slidingly connected with the rear shifting bar.

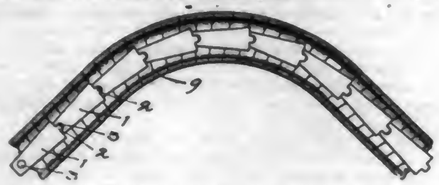
4. A lens grinding machine comprising coöperating upper and lower holders, an upright spindle which is journaled in fixed bearings and upon which one of said holders is mounted, a front shifting bar operatively connected with said upper holder, a front crank arm, a rear shifting bar having a hub pivoted vertically on said front crank arm and to which said front shifting bar is pivoted horizontally, a rear crank arm, and a connection between said rear arm and said rear shifting bar which is slidable lengthwise on the latter.

5. A lens grinding machine comprising coöperating upper and lower holders, an upright spindle which is journaled in fixed bearings and upon which one of said holders is mounted, a front shifting bar operatively connected with said upper holder, a front crank arm, a rear shifting bar having a hub which is pivoted vertically on said front crank arm and to which said front shifting bar is pivoted horizontally, a rear crank arm, a connection between said rear arm and said rear shifting bar which is slidable lengthwise on the latter, a front upright shaft carrying the front arm, a rear upright shaft carrying the rear arm, and a horizontal shaft connected by gearing with said spindle and front and rear shafts.

[Claims 6 to 10 not printed in the Gazette.]

970,675. FLEXIBLE SHAFTING. ROLLIN ABELL, Boston, Mass., assignor of one-half to Guy W. Currier, Methuen, Mass. Filed Dec. 21, 1905, Serial No. 292,755. Renewed May 19, 1909. Serial No. 496,937.

1. A flexible shaft, comprising a series of units of circular cross section, having joints between the units formed by members projecting integrally from opposite sides of one unit and constituting axles journaled by hooking loosely into holes in the adjoining unit.



2. A flexible shaft, comprising a series of similar units, each having holes set in opposite sides near one end, and being formed at the other end into members projecting integrally from the body of the unit constituting axles journaled by engaging loosely in similar holes in the adjacent unit, in combination with a flexible circular casing surrounding the series of units.

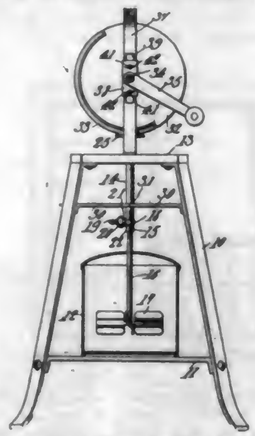
3. A flexible shaft, comprising a series of similar hollow round units, each having one end large enough to receive the smaller end of a similar unit, and having holes set laterally at one end and at the other end being provided with parts projecting integrally and constituting axles journaled loosely in similar holes in the adjacent unit.

4. A flexible shaft, comprising a series of units composed of ductile metal formed into hollow conical shape; the smaller end being adapted to enter the larger end of an adjacent unit; there being lateral holes near one end, and members at the other end integral with the body of the unit, and fitting loosely into the similar holes of the adjacent unit.

5. A flexible shaft, comprising a series of units, having joints between the units composed of members projecting integrally from opposite sides of one unit and constituting axles journaled by being hooked loosely into holes in the adjoining unit, the sides of each member converging from the base of the member toward its tip within the hole.

[Claims 6 to 10 not printed in the Gazette.]

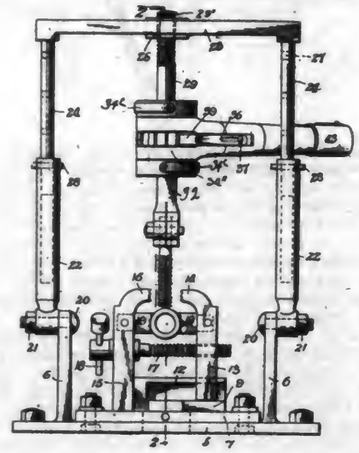
970,676. CHURN. JOHN TILDEN ANTHONY, Fulton, Miss. Filed July 2, 1910. Serial No. 570,128.



1. The combination with a tubular shaft having a longitudinally split end, and a stem extending into the split portion of the shaft, of a split sleeve encircling the split portion of the shaft, and having its ends extended to form a screw stem, a nut screwed on said stem, and a sleeve around the stem between the nut and the first mentioned sleeve, the second mentioned sleeve being shaped to engage the shaft above and below the first mentioned sleeve.

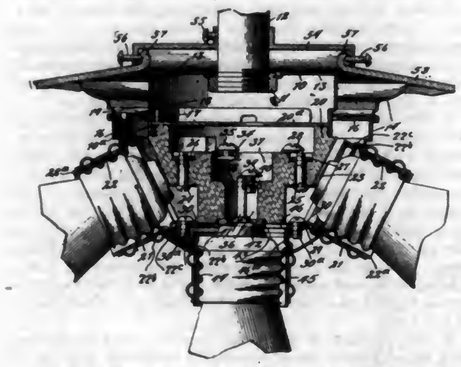
2. The combination with a tubular shaft, having a longitudinally split end, and a stem extending into said end, of a split sleeve encircling the split end of the shaft, and having its ends shaped to form a screw stem, a nut screwed on said stem, and a sleeve around the stem between the nut and the first mentioned sleeve, the inner end of the sleeve being recessed on opposite sides to clear the first mentioned sleeve, and said second mentioned sleeve extending into engagement with the shaft above and below the first mentioned sleeve.

970,677. PIPE-MACHINE. WHEELER BARNETT, Knoxville, Tenn. Filed May 28, 1909. Serial No. 498,860.



In combination, a support provided with spaced upstanding arms, an adjustable U-shaped member pivotally connected to the ends of said arms, a vise arranged between said arms and provided with clamping jaws in horizontal alinement with the upper ends of said arms, a drill mounted upon said U-shaped member and comprising a ratchet head and feed screw and chuck, and means for rotating said ratchet head.

970,678. CLUSTER-LAMP-HOLDING DEVICE. REUBEN B. BENJAMIN, Chicago, Ill., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 5, 1907. Serial No. 387,090



1. In a cluster lamp-holding device, the combination of a supporting cap, a casing removably secured thereto, an insulating base supported in said casing and held in axial alinement by said cap, lamp-holding devices carried by said casing, contacts for said lamp-holding devices and binding-screws carried by said base.

2. In a cluster lamp-holding device, the combination of a supporting cap, a casing, means for detachably securing said casing to said cap, an insulating member within said casing, a plurality of lamp-holding devices carried by said casing and supporting said insulating member, contacts for said lamp-holding devices carried by said insulating member, and means for maintaining said insulating member with its axis in line with the axis of said cap.

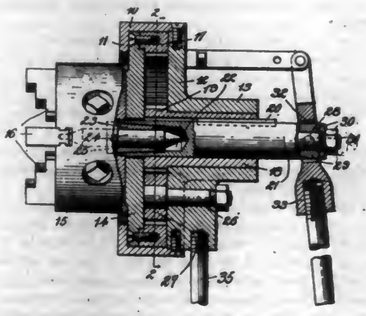
3. In a cluster lamp-holding device, the combination of a supporting cap, a casing, detachable connection between said casing and said cap, an insulating base supported within said casing and having portions resting within said cap and engaged thereby, lamp-holding devices carried by said casing, and contacts for said lamp-holding devices carried by said base.

4. In a cluster lamp-holding device, the combination of a supporting member, a casing detachably secured thereto, lamp-holding devices carried by said casing, contacts for said lamp-holding devices, an insulating member within said casing and positioned by said lamp-holding devices out of contact with said casing, binding-screws carried by said insulating member and electrically connected with said contacts, and means for preventing lateral movement of said insulating member with respect to said supporting member.

5. In a cluster lamp-holding device, the combination of a supporting member, a casing supported thereby, a plurality of lamp-holding devices carried by said casing, a base supported within said casing and contacts carried by said base for engagement with lamps in said lamp-holding devices, said base and supporting member being arranged to engage each other whereby said base is prevented from moving sidewise within said casing.

[Claims 6 to 20 not printed in the Gazette.]

970,679. CENTERING-MACHINE. GEORGE B. BRENNEISEN, Warren, Pa. Filed Oct. 16, 1909. Serial No. 523,014.



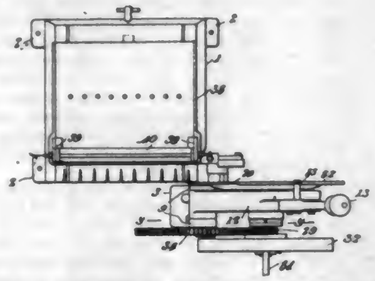
1. The combination in a centering machine, of a casing embodying a rotatable part, a work-holding chuck secured to said rotatable part, a tool spindle rotatably mounted through said casing, and means between said rotatable part and tool spindle to communicate rotation.

2. The combination in a centering machine, of rotatable work holding means, a rotatable tool spindle, and means connecting the same to communicate rotation therebetween.

3. The combination in a centering machine, of rotatable work holding means, a rotatable tool spindle, gearing connecting said chuck and spindle, and means to move said spindle longitudinally.

4. The combination in a centering machine, of a casing, a hand bar connected thereto to steady and prevent rotation of said casing, rotatable chuck supporting means in said casing, a chuck carried thereby, a tool spindle rotatably mounted in said casing, and gearing supported in said casing between said chuck supporting means and said tool spindle.

970,680. SLICING-MACHINE. FRANKLIN P. BURKHARDT, Springfield, Ohio, assignor, by mesne assignments, to The Anderson Tool Company, Anderson, Ind., a Corporation of Indiana. Filed Sept. 28, 1906. Serial No. 336,630.



1. In an apparatus of the character described, the combination, with a supporting table, and a cutter coöperating therewith, of a shaft anpporting said cutter, a pinion loosely mounted on said shaft, a balance wheel rigidly secured to said shaft, a clutch interposed between said pinion and said balance wheel, a stationary rack adapted to engage said pinion and means for moving said shaft and said balance wheel relatively to said rack, substantially as described.

2. In an apparatus of the character described, the combination, with a supporting table, and a cutter coöperating therewith, of a shaft supporting said cutter, a pinion loosely mounted on said shaft, a clutch member secured to said pinion, a balance wheel mounted on said shaft, a clutch member carried by said balance wheel and adapted to engage the clutch member carried by said pinion when said balance wheel is turned in one direction and to disengage the same when said wheel is turned in the opposite direction, and a rack adapted to engage said pinion to rotate the same when said cutter is operated, substantially as described.

3. In an apparatus of the character described, the combination, with a supporting table, and a cutter coöperating therewith, of a shaft supporting said cutter, a pinion loosely mounted on said shaft, a balance wheel rigidly mounted on said shaft, a clutch interposed between said pinion and said balance wheel, a rack adapted to engage said pinion to rotate said cutter, and means for rotating said cutter independently of said rack and pinion, substantially as described.

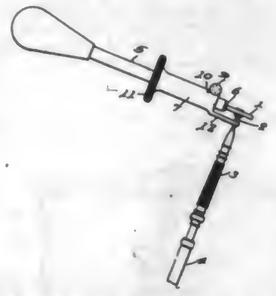
4. In an apparatus of the character described, the combination, with a supporting table, of an arm adapted to move transversely of said table, a shaft journaled in said arm, a cutter secured to said shaft, a pinion carried by said shaft, a fixed rack adapted to engage said pinion to rotate said cutter when said arm is moved transversely of said table and means for rotating said shaft independently of said rack, substantially as described.

5. In an apparatus of the character described, the combination, with a supporting table, of an arm adapted to move transversely thereof, a shaft journaled in said arm, a cutter carried by said shaft, a pinion loosely mounted on said shaft, a balance wheel rigidly mounted thereon, a clutch interposed between said pinion and said balance wheel, and a fixed rack adapted to engage said pinion to rotate said cutter when said arm is moved transversely of said table, substantially as described.

[Claims 6 to 17 not printed in the Gazette.]

970,681. ATTACHMENT FOR EMERY-WHEEL DRESSERS. HARRY G. BUTCHER, Urbana, Ohio. Filed Dec. 3, 1908. Serial No. 465,778.

1. As an article of manufacture, an attachment for abrasive wheel dressers comprising a hollow body portion adapted to receive a dresser and having means to resist the longitudinal movement of said dresser relatively thereto, said body portion also having a hand contact near one end and a projection extending beyond the other end, arranged substantially parallel with said body portion and adapted to engage a fixed object.

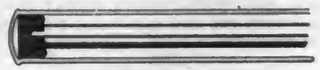


2. As an article of manufacture, an attachment for emery wheel dressers comprising a tubular body or sleeve adapted to receive and grip a dresser, having a hand-contact near one end and a projection at the other having a notch at its extremity to embrace a fixed object.

3. As an article of manufacture, an attachment for emery wheel dressers comprising a tubular body or sleeve slotted part way, a clamping-screw, and a projection extending beyond the body portion or sleeve and adapted to engage with a fixed object.

4. As an article of manufacture, an attachment for emery wheel dressers, comprising a body or sleeve, a hand-contact enlargment at one end and a projection extending beyond the other end and having a notch, the body or sleeve being slotted and having projecting lugs, and a clamping-screw engaging with said lugs.

970,682. METHOD OF MAKING INVOICE AND SCRAP BOOKS. WILLIAM G. BUTLER, Brooklyn, N. Y. Filed May 25, 1910. Serial No. 563,365.

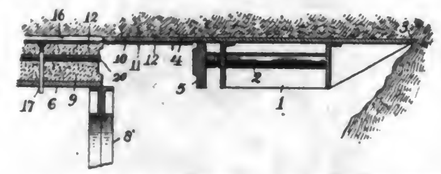


1. The method of producing invoice books containing stub filling pieces, which consists in preparing a series of leaves with a folding line at a distance from one edge less than the full width of the book, but still wide enough to permit the easy, rapid and accurate feeding of the sheets in a book sewing machine, perforating the leaves on a line at such distance from the folding line as will equal the desired width of the finished filling piece, folding the sheets, assembling them, sewing them, binding them and removing that part of the filling piece leaf beyond the line of perforations, all substantially as set forth.

2. The method of producing invoice books containing stub filling pieces, which consists in preparing a series of sheets with a folding line at a distance from the edges less than the full width of the book, but still wide enough to permit the easy, rapid and accurate feeding of the sheets in a book sewing machine, perforating the filling piece leaves on lines at such distances from the folding line as will equal the desired widths of the finished filling pieces, folding the sheets, assembling them, sewing them, binding them and removing those parts of the filling piece leaves beyond the lines of perforations, all substantially as set forth.

3. The method of producing invoice books containing stub filling pieces, which consists in preparing a series of sheets with a folding line at a distance from the edges less than the full width of the book, but still wide enough to permit the easy, rapid and accurate feeding of the sheets in a book sewing machine, perforating the filling piece leaves on lines at such different distances from the folding line as will equal desired different widths of the finished filling pieces, folding the sheets, assembling them, sewing them, binding them and removing those parts of the filling piece leaves which are beyond the respective lines of perforations, all substantially as set forth.

970,683. PROCESS OF WATERPROOFING TUNNELS. HOWARD A. CARSON, Malden, Mass. Filed Oct. 14, 1909. Serial No. 522,582.



1. The herein described method of waterproofing tunnel walls, which consists in temporarily securing to the inner surface of the tail of a tunnel-shield a water-proof coating, building the wall-section in contact with said coating, and then advancing the shield and leaving said coating in permanent position on said wall-section.

2. The herein described method of waterproofing tunnel walls, which consists in applying a water-proof coating to the inner surface of the tail of the tunnel-shield, putting a section of concrete wall in contact with said coating, and then advancing the shield and tail and leaving said coating in permanent position on such wall-section.

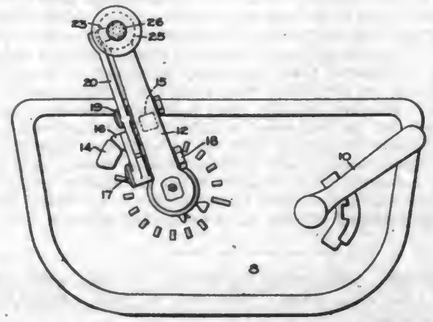
3. The herein described method of externally coating tunnels, which consists in temporarily securing the desired coating to the inner surface of the tail of the tunnel-shield, building the wall-section in contact with such coating, and then advancing the shield and tail and leaving such coating in place on said tunnel wall.

4. The herein described method of waterproofing tunnel walls, which consists in applying paraffin to a water-proof coating, pressing said paraffined surface against the inner surface of the tail of the tunnel-shield, building the wall-section in contact with such coating, and then advancing the shield and tail and leaving said paraffined coating in place on the wall-section.

5. The herein described method of waterproofing tunnel walls, which consists in adhesively securing a water-proof coating to the inner surface of the tail of a tunnel-shield, building the wall-section in engagement with said coating, and then advancing the shield and leaving said coat in position on the wall-section.

[Claims 6 and 7 not printed in the Gazette.]

970,684. CONTROLLER-HANDLE. FRANK E. CASE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 30, 1910. Serial No. 552,410.



1. In combination, a controller having a rotatable member, a handle carried by said member, a fixed stop, a lug carried by said handle and movable into and out of coöperative relation with said stop, and another lug carried by said handle and fixed with reference thereto arranged to coöperate with said stop when the first mentioned lug is not coöperating with it.

2. In combination, a controller having a rotatable member, a handle carried by said member, a fixed stop, a lug carried by said handle and movable into and out of coöperative relation with said stop for limiting the movement of said handle, and another lug carried by said handle and fixed with reference thereto arranged to coöperate with said stop when said first mentioned lug is out of coöperative relation with said stop, the second mentioned lug being arranged to allow further movement of the handle than does said first named lug.

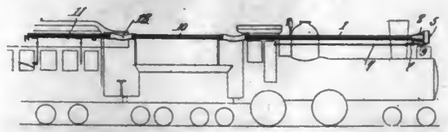
3. In combination, a controller having a rotatable member, a handle carried by said member, a fixed stop, a lug carried by said handle and movable thereon into and out of coöperative relation with said stop, means on said handle for moving said movable lug, and another lug carried by said handle and fixed with reference thereto arranged to coöperate with said stop when the movable lug is out of coöperative relation with said stop.

4. In combination, a controller having a rotatable member, a handle carried by said member, a fixed stop, a movable lug carried by said handle and movable into and out of coöperative relation with said stop, a push-button on said handle, a connection between said push-button and said movable lug whereby the latter may be operated from the former, and another lug carried by said handle and fixed with reference thereto arranged to coöperate with said stop when said movable lug is out of coöperative relation with said stop.

5. In combination, a controller having a rotatable member, a handle carried thereby, a fixed stop, a lug pivotally mounted on said handle and movable into and out of coöperative relation with said stop, means carried by said handle for controlling said pivoted lug, and another lug carried by said handle and fixed with reference thereto arranged to coöperate with said stop when said pivoted lug is out of coöperative relation with said stop.

[Claims 6 and 7 not printed in the Gazette.]

970,685. TRAIN-VENTILATOR. ROBERT CHADWICK, Lexington, Nebr. Filed Apr. 12, 1909. Serial No. 489,449.



1. A ventilating system for railway cars, comprising an air conduit centrally located immediately beneath the roof of each car, another conduit leading to the front of the locomotive and there provided with an expanded bell having controllable means for opening or closing the intake end of the bell, and coupling means between the conduits, the car conduits each being provided with controllable means for the inlets therefrom to the interior of the car.

2. A ventilating system for railway trains, comprising an air conduit upon the locomotive and upon the cars, connecting means for coupling the conduits into one continuous conduit, a collecting bell at the front of the locomotive-carried conduit and provided with means controllable from the cab of the engine for regulating the area of the intake end of the bell, and branch conduits in each car leading from the main conduit extending therethrough and provided with controllable vents within reach of the occupants of the car.

3. A railway train ventilating system comprising a conduit extending centrally through each car immediately beneath the roof of the car, valves or dampers at each end of each conduit, controllable means in each conduit for the entrance of air from the conduit to the car, connections for coupling the conduits of the cars together, and an

engine-carried conduit having an air inlet bell at the front of the engine, and controllable connections between the bell and the engine cab for admitting or preventing the admission of air to the month of the bell.

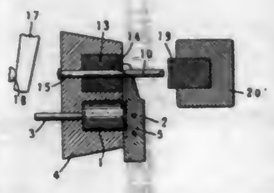
4. In a ventilating system for railway trains, an engine-carried conduit having an air inlet bell at the front of the engine, a valve or damper for closing the mouth of the bell, and means extending to the cab of the engine for operating said valve or damper.

970,686. ELIMINATION OF METALS. GUILLIAM H. CLAMER, Philadelphia, Pa. Filed Oct. 19, 1904. Serial No. 229,101.

1. The method of eliminating and replacing part of a copper alloy which consists in fusing the alloy and a flux and a chemical metallic compound of which the heat of formation is less than the heat of formation of the part to be eliminated with the radical of the compound and of which the base is adapted to replace the part to be eliminated in insufficient quantity for effecting complete elimination, removing the resulting slag, subjecting the fused metallic mass to the action of air whereby the remaining part of the metals to be eliminated are oxidized and form a floating slag, and removing the last mentioned slag, substantially as described.

2. The method of treating an alloy containing copper zinc and metals of which some are electro-positive and some are electro-positive to zinc, which consists in subjecting the fused alloy to the oxidizing action of air, interrupting such oxidizing action when the zinc and the metals electro-positive to zinc have been eliminated, removing the slag, and recovering an alloy of copper with metals electro-negative to zinc.

970,687. METHOD OF MAKING RIVETS. DWIGHT G. CLARK, Plainville, Conn., assignor to Eagle Lock Co., Terryville, Conn., a Corporation of Connecticut. Original application filed Sept. 9, 1909, Serial No. 516,839. Divided and this application filed Mar. 28, 1910. Serial No. 551,976.



1. The method of forming a rivet which comprises cutting a notch in a blank with inclined lateral walls, and then forcing some of the metal from the central portion of the notch to the ends of the notch.

2. The method of forming a rivet which comprises cutting a notch in a blank with inclined lateral walls, and then forcing some of the metal from the central portion of the notch to the ends of the notch and subsequently upsetting the opposite end of the blank.

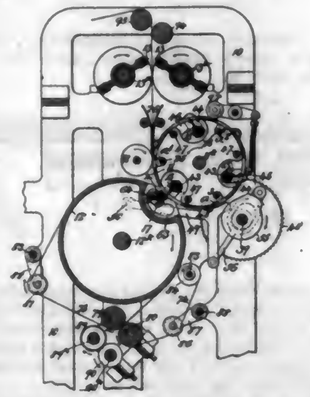
3. The method of making rivets which comprises cutting a blank wedge-shaped at one end and notched at the other end, indenting the notched end and upsetting the wedge-shaped end.

4. The method of making rivets which comprises cutting a blank, notched at one end, driving the notched end against a tapered abutment to form a recess extending below the bottom of the notch and heading the other end while the notched and recessed end is against the tapered abutment.

5. The method of making rivets which comprises cutting a blank wedge-shaped at one end, the length of the wedge-shaped portion being less than the diameter of the stock, and then upsetting the wedge-shaped end to form a round or oval head.

[Claims 6 to 8 not printed in the Gazette.]

970,688. FOLDING MACHINERY. EDGAR H. COTTRELL, Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 16, 1905. Serial No. 245,819.



1. In a folding machine, a pair of rotary cutters for cutting sheets from a running web, a collecting cylinder having three sets of grippers thereon, each arranged to collect sheets one at a time and one upon another on the collecting cylinder, means for conducting the sheets from the cutters to the collecting cylinder, three tucking blades on the collecting cylinder alternating with the three sets of collecting grippers, a folding cylinder having a single set of folding jaws and mechanism arranged to cause the folding jaws to coact with successive tucking blades on the collecting cylinder every one and one-third revolutions of the collecting cylinder.

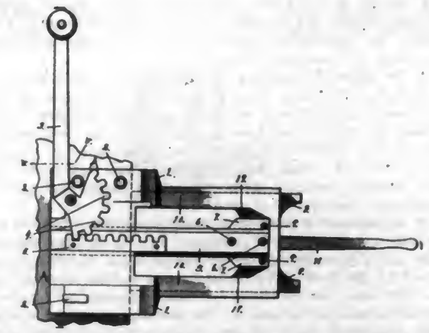
2. In a folding machine, a pair of rotary cutters for cutting sheets from a running web, a collecting cylinder having three sets of grippers thereon, each arranged to collect sheets one at a time and one upon another on the collecting cylinder, means for conducting the sheets from the cutters to the collecting cylinder, three tucking blades on the collecting cylinder alternating with the three sets of collecting grippers, a folding cylinder having a single set of folding jaws and mechanism arranged to cause the folding jaws to coact with successive tucking blades on the collecting cylinder every one and one-third revolutions of the collecting cylinder, and means for rotating the cutters two revolutions for each revolution of the folding cylinder and for rotating the collecting cylinder one and one-third revolutions for each revolution of the folding cylinder.

3. In a folding machine, a pair of rotary cutters for cutting sheets from a running web, a collecting cylinder having three sets of grippers thereon, each arranged to collect sheets one at a time and one upon another on the collecting cylinder, means for conducting the sheets from the cutters to the collecting cylinder, three tucking blades on the collecting cylinder alternating with the three sets of collecting grippers, a folding cylinder having a single set of folding jaws, mechanism arranged to cause the folding jaws to coact with successive tucking blades on the collecting cylinder every one and one-third revolutions of the collecting cylinder, a stationary cam for successively opening each set of collecting grippers to receive a sheet, and a movable cam for opening each set of collecting grippers after it has collected a group of four sheets, to permit the collection to be folded from the collecting cylinder on to the folding cylinder.

970,689. MORTISING-MACHINE. ORLANDO CRANK, Salt Lake City, Utah. Filed Feb. 5, 1910. Serial No. 542,327.

1. In a machine of the class described, the combination of a clamp, a feed lever pivoted thereto, teeth formed on

portion of said lever, a rack slidably mounted on said clamp, teeth on said rack to mesh with the teeth of said lever, a guide secured to said rack, chisels and knives mounted on said guide, a cutting lever also pivoted to said clamp, an arm slidably carried on said lever for said knives, with means for adjusting the throw of said cutting lever.



2. In a mortising machine of the class described, the combination of a clamp, a feed lever pivoted thereto, teeth formed on a portion thereof, a rack slidably mounted on said clamp, teeth thereon which mesh with the teeth of said lever, a guide mounted in a portion of said clamp and secured to said rack, chisel brackets secured to said guide, a knife arm mounted in said guides, knives adjustably fitted thereon, and a cutting lever also pivoted to said clamp, which carries slidably thereon said knife arm.

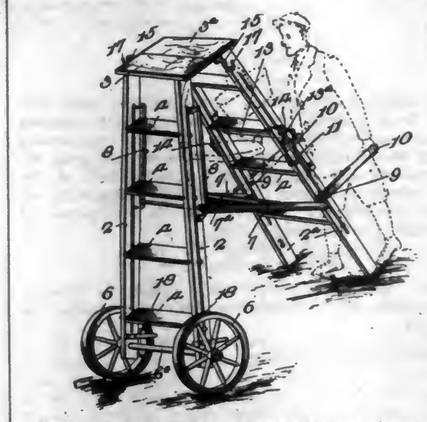
3. A mortising machine consisting of a clamp, a track formed by a portion of said clamp, a feed lever pivoted to said clamp on one side, a cutting lever pivoted on the other side, a guide slidably mounted in said track, chisel brackets adjustably secured thereto, a knife arm slidably mounted in said guides, knives adjustably mounted on said arm, and means for moving said guide by said feed lever, as and for the purposes described.

4. A mortising machine consisting of a clamp, a portion of which forms a track, a feed lever pivoted to said clamp, teeth on the lower portion thereof, a rack slidably mounted in said clamp, having teeth which mesh with the teeth of said lever, a guide member slidably mounted in said track, means for securing knives and chisels on said guide member, and a lever also pivoted to said clamp adapted to move said knives with means for adjusting the throw of said lever, as and for the purposes described.

970,690. DOUBLE-WHEELED STEP-LADDER. CLEVELAND G. DAVIS, Manistee, Mich. Filed Feb. 25, 1910. Serial No. 545,982.

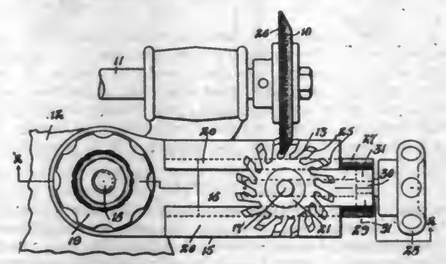
1. A step ladder having opposed pairs of supports, steps carried by each pair of supports, a step at the upper end of each pair of supports, said uppermost steps being hinged to each other, a brace pivoted to one pair of supports and having sliding engagement with the other pair, said brace being connected by cross bars to form a basket support, wheels mounted on the lower ends of one pair of supports, and handles pivoted to the other pair of supports adjacent to the pivoted ends of the parallel bars of the brace, the ends of said bars when the ladder is open forming a stop for the inner ends of the handles.

2. A step ladder having opposed pairs of supports, steps carried by each pair of supports, a step at the upper end of each pair of supports, said uppermost steps being hinged to each other, a brace pivoted to one pair of supports and having sliding engagement with the other pair, said brace being composed of parallel bars connected by cross bars and forming a basket support, wheels mounted on the lower ends of one pair of supports, handles pivoted to the other pair of supports, and a rack comprising side bars pivoted to one of the supports adjacent to the inner ends of the handles, cross bars attached to said side bars, and a flexible connection between the extremity of the rack and the supports.



3. A step ladder having opposed pairs of supports, a step at the upper end of each pair of supports, said steps being hinged to each other, a brace pivoted to the upper end of one pair of supports and having sliding engagement with the other pair, said brace composed of parallel bars connected by cross bars and being adapted to be moved into a position approximately parallel with the supports when the supports are folded together, handles pivoted to the support with which the brace has pivoted engagement, and a rack pivoted to the last named supports adjacent to the pivoted ends of the handles and adapted to be turned outward into a position at right angles to the supports, and a flexible connection between the extremity of the hook and the supports.

970,691. GRINDING-MACHINE. LESLIE N. DAVIS, Cliftondale, Mass. Filed June 8, 1910. Serial No. 565,812.



1. A work holder for cutter-grinding machines comprising a supporting member, a slide adjustably mounted in said supporting member, a spindle carried by said slide, and a sleeve adapted to rotate on said spindle and provided with a tapered end constructed to enter an opening in the cutter to be ground, whereby relative rotation of the cutter and sleeve is prevented.

2. A work holder for cutter-grinding machines comprising a supporting member pivotally mounted at one end and provided with an offset portion at the other end, a slide mounted in and carried by said offset portion, means for adjusting said slide in said offset portion, and a spindle carried by said slide.

970,692. HEEL-PROTECTOR. RICHARD J. DEARBORN, Beverly, Mass., assignor of one-half to Charles B. Dean, Boston, Mass. Filed Dec. 10, 1909. Serial No. 532,344.

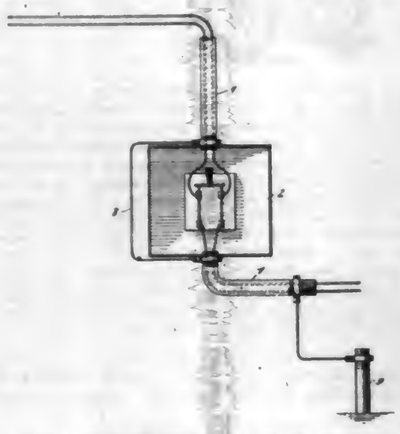
1. A shoe protector formed from a strip of metal having a thick wearing edge and an oppositely disposed cut-

ting edge of greater length than the wearing edge, said strip being bent transversely to form diverging arms.



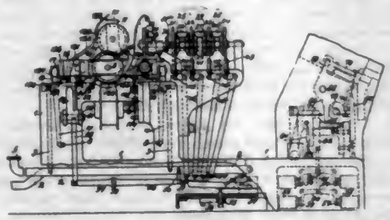
2. A shoe protector formed from a strip of metal having a thick wearing edge and an oppositely disposed elongated cutting edge, said strip being bent transversely to form diverging arms the end edges of said arms being inclined, said strip having an indentation at the angle formed by bending the same, said indentation extending approximately parallel with the intersection of the planes of said arms.

970,693. GROUND-CONNECTOR. JAMES L. DONALD, Mooresville, N. C. Filed Dec. 19, 1908. Serial No. 468,328.



A ground connector for conduit wiring comprising an integral metal collar interiorly pipe threaded for engagement with a pipe end, the pipe thread by reason of its taper affording especially good electrical connection between said collar and pipe, said collar further being provided with an integral laterally extending lug having a lined aperture therein for the reception of a connecting wire.

970,694. TYPE-SETTING MACHINE. HEINRICH DREWELL, Charlottenburg, Germany, assignor to Schnellsetz-Maschinengesellschaft mit beschränkter Haftung, Berlin, Germany. Filed Dec. 9, 1908. Serial No. 466,707.



1. In means for making the operating bands for setting type, the combination of a punching device, with a plurality of means for punching in an operating band different representations of different corresponding canceling or stop actions.

2. In means for making the operating bands for setting type, the combination of a punching device for punching representations of characters in a band, with a plurality of means for punching in the band representations of stop or canceling actions for canceling single characters, stop or canceling actions for canceling words, and stop or canceling actions for canceling lines represented in the band.

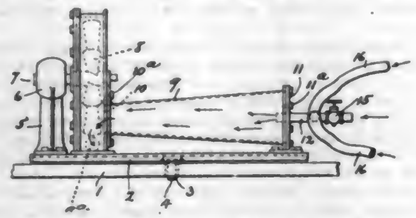
3. In means for making the operating bands of automatic type-setting machines, the combination of a punching device, a typewriter, a paper carriage on the typewriter, means for moving the carriage backward, and means for punching simultaneously the representation of a stop or canceling action.

4. In means for making register bands for setting type, wherein a typewriter is combined with a perforating device and a plurality of electrical contacts adapted to be closed by the typewriter for actuating the perforating device, the combination with the paper carriage of the typewriter, of means for moving the carriage backward and means connected with the latter means for simultaneously closing one of said contacts.

5. In means for making register bands for setting type, wherein a typewriter is combined with a perforating device and a plurality of electrical contacts adapted to be closed by the typewriter for actuating the perforating device, the combination, with the paper carriage of the typewriter, of means for moving the carriage backward and a lever connected with the latter means for simultaneously closing one of said contacts.

[Claims 6 to 10 not printed in the Gazette.]

970,695. APPARATUS FOR PICKING COTTON FROM THE BOLL. COURTLAND C. EARLE, Providence, R. I. Filed May 20, 1910. Serial No. 562,380.

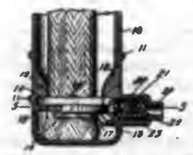


1. In a cotton-picking apparatus, the combination with a portable support, a base-plate pivotally mounted on said support to swing about a substantially vertical axis, a power-driven suction device mounted on said base-plate and having an inlet and an outlet, a frusto-conical member communicating with the inlet, an air supply pipe opening into one end of said member, a plurality of suction tubes communicating with said pipe intermediate its ends, a suction head mounted on each tube and of a size to receive a cotton boll, and a valve carried by said pipe in proximity to its outer end for regulating the air according to the degree of suction required to withdraw the cotton from its boll.

2. In a cotton-picking apparatus, the combination with a portable support, a base-plate pivotally mounted on said support to swing about a substantially vertical axis, a suction device mounted on said base-plate and having an inlet and an outlet, power-driven means to operate said suction device, a horizontal frusto-conical member communicating with the inlet of said suction device and having its outer end closed, an air inlet pipe extending through the outer end of said member, a flexible tube communicating with said pipe, a cup-shaped nozzle secured on the free end of said tube and designed to receive the cotton boll, and a valve carried by said pipe to regulate the inflow of air through the latter.

3. In an apparatus of the character described, the combination with the portable support 1, of the base-plate 2 having a stem 4 to swing about a substantially vertical axis on said support, a casing mounted on said plate and provided with an inlet and an outlet, the fan 8 mounted within said casing, the motor 6 to drive said fan, the frusto-conical member 9 communicating with the inlet of said casing, the plate 11 closing the outer end of said cylinder and having a projecting air pipe 12 communicating with said frusto-conical member, the regulating valve 15 carried by said pipe, the flexible suction tubes 16, 16 communicating with said pipe, and a cup-shaped nozzle 17 secured on the free end of each tube.

970,696. WHIP-SOCKET LOCK. FRED E. ERICKSON, Krem, N. D. Filed Feb. 25, 1910. Serial No. 545,809.



1. A whip socket having a transverse seat, a stationary bearing member supported upon said seat and provided with guide slots, a movable bearing member slidably supported upon said seat and provided with guide pins extending through said slots, yieldable means for supporting said movable bearing member, and a key operating to move said movable bearing member away from the stationary bearing member.

2. A whip socket having a transverse seat and with a hollow projection opposite the seat, a stationary bearing member supported upon said seat and provided with guide slots, a movable bearing member slidably supported upon said seat and provided with guide pins extending through said slots, a spring within said projection and bearing upon the movable bearing member, and a key operating through said projection to move said movable bearing member away from the stationary bearing member.

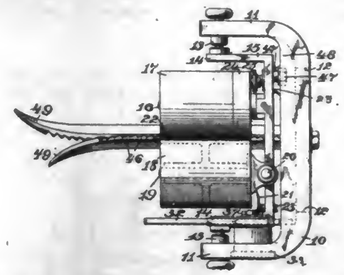
3. A whip socket having a transverse seat and with a hollow projection opposite the seat, a stationary bearing member supported upon said seat, a movable bearing member slidably supported upon said seat, a spring within the projection and bearing upon the movable bearing member, a stud projecting from said movable bearing member and extending into said spring, said stud having a lateral offset, and a tubular key insertible through said tubular projection and engaging over said stud and provided with an L-shaped slot for engaging with the offset of said stud and coupling the key to the stud.

4. A whip socket having a transverse seat and with a hollow projection opposite the seat, a stationary bearing member supported upon said seat and provided with guide slots, a movable bearing member slidably supported upon said seat and provided with guide pins extending through said slots, a spring within said projection and bearing upon the movable bearing member, a stud extending from the movable bearing member and projecting into said spring, said stud having a lateral offset, and a tubular key operating through said projection and engaging over said stud and provided with an L-shaped slot to engage the offset of the stud.

5. A whip socket having a hollow projection at one side, a bearing member movable within said socket, a spring actuated within said projection and bearing upon the movable member, a stud projecting from said movable bearing member and extending into said socket, said stud having a lateral offset, a tubular key insertible through said tubular projection and engaging over said stud and provided with an L-shaped slot for engaging with the offset of said stud and coupling the key to the stud.

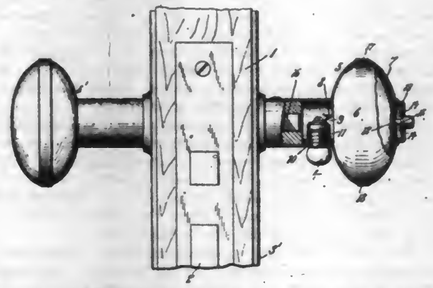
970,697. SELVAGE-FEED FOR CLOTH-TENTERING MACHINES. WILLIAM EVANS, Kearny, N. J., executor of Jeremiah C. Whittles, deceased, assignor to George W. Tait, Kearny, N. J., administrator of Elizabeth E. Whittles, deceased, Kearny, N. J., wife of said Jeremiah C. Whittles. Filed June 17, 1908. Serial No. 438,990.

1. A selvage guide comprising a frame, a tilting yoke in the frame, a fixed shaft on the yoke, a shaft adapted to swing on the yoke, loose rolls on the shafts, a second roll on the fixed shaft and engaging the loose roll on the swinging shaft, means for locking the second roll against movement in the direction of the travel of the cloth and permitting the free rotation of the roll in a direction opposite to the movement of the cloth.



2. A selvage guide comprising a frame, a tilting yoke in the frame, a fixed shaft on the yoke, a shaft adapted to swing on the yoke, loose rolls on the shafts, a second roll on the fixed shaft and engaging the loose roll on the swinging shaft, a ratchet on the second roll, and a pawl on the yoke adapted to engage the ratchet, the pawl and ratchet permitting free rotation in a direction opposite to the movement of the cloth, but locking the second roll against movement by the cloth.

970,698. KEYHOLE-ILLUMINATING DEVICE. CHARLES ETTON, Los Angeles, Cal. Filed June 2, 1910. Serial No. 564,695.



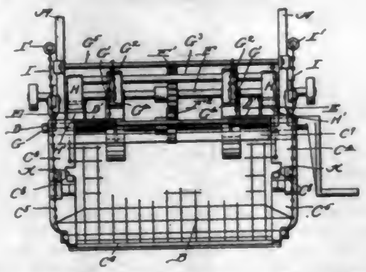
1. In combination with a door lock having a keyhole therein and a hollow door knob, an electric illuminating device mounted on said door knob, an electric battery disposed in the door knob, and electrical connections connecting the battery with the illuminating device, including a pair of resilient contact members disposed one on the illuminating device and one on the battery adjacent thereto and in contact therewith.

2. In combination with a door lock having a keyhole therein and a hollow metallic door knob, an electric illuminating device mounted on the door knob, an electric battery disposed in the door knob and having a pair of terminals, an insulating covering on said battery, a resilient contact member forming one of the terminals of the illuminating device and disposed adjacent to and in contact with one of the battery terminals, a threaded part forming one of the other terminals of the illuminating device, a socket into which said part is threaded, said socket being in electrical connection with the door knob, and a push button located adjacent to the other battery terminal and in electrical connection with the door knob.

3. In combination with a door lock having a keyhole therein, a hollow metallic door knob, provided with glass covered aperture, an electric illuminating device disposed within the door knob adjacent to the aperture, an electric battery disposed in the door knob and having a pair of terminals, a resilient contact member forming one of the

terminals of the illuminating device and disposed adjacent to and in contact with one of the battery terminals, a threaded part forming one of the terminals of the illuminating device, a socket into which said part is threaded, said socket being in electrical connection with the door knob, and a push button located adjacent to the other battery terminal and in electrical connection with the door knob.

970,699. CAR-FENDER. GEORGE FREY, Steelton, and SAMUEL LOTZ, Harrisburg, Pa. Filed Oct. 29, 1909. Serial No. 525,410.



1. A car fender comprising a sectional frame having a net or fabric connected thereto, means for holding said frame and net in a downwardly projected position, together with means for releasing the fender, projecting the lower end forwardly and upwardly and then folding the said frame and net to envelop the object struck, substantially as described.

2. In a street car fender, the combination with a sectional foldable frame having a net or fabric connected thereto, means for holding said frame and net in its normal position, spring actuated means for projecting the said frame forwardly and upwardly when released, together with spring actuated winding means for raising the frame and net, substantially as described.

3. In a car fender, the combination with a sectional foldable frame, of a spring actuated shaft, means for locking said shaft and means connecting the foldable frame with the said locking means whereby when the fender is tripped the locking means will be released and the spring actuated shaft will cause the said fender to be raised and folded, substantially as described.

4. In a car fender, the combination with a spring actuated shaft, and means for locking the same, of a sectional foldable frame having a fender net connected thereto, means for locking said frame in its normal position, spring actuated means carried by said frame for projecting it forwardly and upwardly upon its release, together with means connecting the said frame with the shaft locking means whereby when the fender is dropped the shaft will be released for the purpose of raising and folding the fender, as described.

5. In a car fender, the combination with a sectional foldable frame having a fender net connected thereto, catches for holding the said frame in its normal position, a spring actuated shaft provided with means for locking the same, connections between the fender frame and locking means for the purpose of releasing said means, chains connecting the frame and spring actuated shaft whereby the fender is raised and folded for the purpose of picking up and holding the object struck, as set forth.

[Claim 6 not printed in the Gazette.]

970,700. ELECTRIC FURNACE FOR TRANSFORMING PIG-IRON INTO STEEL. GUSTAVE GIN, Paris, France, assignor to Francis B. Crocker, New York, N. Y. Filed Jan. 25, 1906. Serial No. 297,855.

1. In an induction furnace a hearth comprising a horizontally disposed endless crucible or channel of substantially the same cross-sectional area throughout, said channel inclosing elongated portions, adjacent one end of said elongated portions an electro-magnet adapted to set up an induced electric current in metal contained in said crucible, parts of the said channel being so far elongated from said magnet as to lie relatively outside of the magnetic influence and parallel and so close to each other as to largely reduce self-induction and reactance.



2. In an induction furnace a hearth comprising a horizontally disposed endless crucible or channel of substantially the same cross-sectional area throughout, and an electromagnet having a part thereof disposed within the space surrounded by said crucible, said crucible comprising portions thereof disposed parallel with each other, and so close to each other as to largely reduce self-induction and reactance and at a distance from said magnet not less than the diameter of its horizontal cross-section taken in the plane of said crucible.

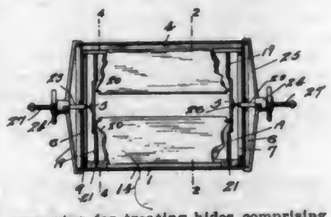
3. In an induction furnace a hearth comprising a horizontally disposed endless crucible or channel, of substantially the same cross-sectional area throughout, disposed to encompass two portions of said hearth, and two electromagnets each having a part thereof disposed within one of said portions of said hearth and each having a coil wound oppositely to the coil of its adjacent electro-magnet, whereby the intensity of the current in metal contained in that portion of said crucible extending between said portions of said hearth is greater than in metal contained in other portions of said crucible.

4. In an induction furnace a hearth comprising a plurality of horizontally disposed endless crucibles or channels of substantially the same cross-sectional area throughout and an electro-magnet having a like plurality of arms, one of which arms is disposed within each one of the spaces surrounded by each said crucibles or channels, each of said crucibles comprising portions parallel with each other and so far elongated from its proximate arm of said magnet as to lie relatively outside of the magnetic influence and so close to each other as to largely reduce self-induction and reaction.

5. In a furnace of the type set forth, a hearth provided with a plurality of endless crucibles or channels inclosing a plurality of elongated portions of said hearth, and one or more electro-magnets disposed in juxtaposition to one end of said elongated portions, said electro-magnet or magnets being provided with one or more energizing coils disposed exteriorly of said crucibles or channels, and said electro-magnet or magnets having a plurality of arms extending within portions of said hearth inclosed by said crucibles or channels, substantially as described.

[Claim 6 not printed in the Gazette.]

970,701. APPARATUS FOR TREATING HIDES. CHARLES JOHN GLASEL, Washington, D. C. Filed Sept. 24, 1909. Serial No. 519,460.



1. An apparatus for treating hides comprising a casing containing a tanning agent, means for suspending the hides in receptacular formation, and means for alternately submerging the hides in the agent and withdrawing them therefrom.

2. An apparatus for treating hides comprising a casing containing a tanning agent, means for suspending the hides in receptacular formation, and rotary means for alternately subjecting the hides to the treating agent and withdrawing them therefrom.

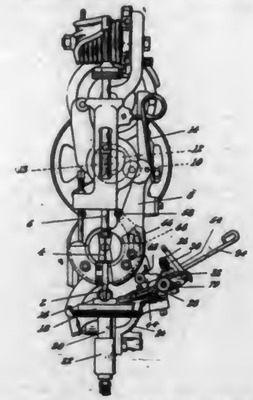
3. An apparatus for treating hides containing a treating agent, devices for suspending the hides in receptacular formation, adjustable means for accommodating different sized hides, and means for alternately submerging the hides in said agent and withdrawing them therefrom.

4. An apparatus for treating hides comprising a closed rotary cylinder containing a treating agent, slotted rings at each end of said cylinder, and a plurality of holding bars seated in said slotted rings for suspending the hides.

5. The combination with a casing having retaining rings therein, of suspending bars as described, and devices for connecting said bars with the rings.

[Claims 6 to 11 not printed in the Gazette.]

970,702. WELT-ATTACHING APPARATUS. GEORGE GODDU, Winchester, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Dec. 5, 1907. Serial No. 405,214.



1. In a machine for attaching a welt to stock, the combination with welt slitting means constructed and arranged to move in the slitting operation from the edge of the welt inward, of means under the control of the operator for actuating said slitting means to slit selected portions of the welt as it is being attached.

2. In a machine of the class described, the combination with means to support a welt, of a welt-slitting knife arranged to operate in a plane inclined to the surface of the welt, and means to move said knife to and fro in said plane to cause it to slit the welt and in the slitting operation to move from the edge inward.

3. In a machine of the class described, the combination with a welt guide, of welt-slitting means arranged to oscillate in a plane inclined to the surface of the welt in the welt guide, and means to actuate said slitting means to slit the welt and in the slitting operation to move from the edge inward.

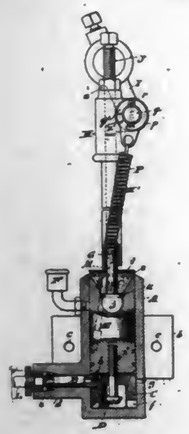
4. In a machine of the class described, the combination with a welt guide and yielding means for clamping welts of various dimensions in said guide, of a slitting knife arranged to slit the welt in said guide from the edge inward.

5. In a machine of the class described, the combination with welt-supporting means, of a slitting knife arranged to slit the welt from the edge inward, and means to hold said welt against movement with the knife.

[Claims 6 to 19 not printed in the Gazette.]

970,703. MECHANICAL BELL-RINGER. GEORGE J. GOLLMAR, Baraboo, Wis. Filed Apr. 26, 1909. Serial No. 492,148.

1. In a mechanical bell-ringer of the species described, the combination of the single-acting engine cylinder provided with a lower lateral hollow boss, the engine-valve and piston in the cylinder, and a hollow plunger in packed sliding engagement with the bore of said boss in opposition to said valve to have side-thrust against the same under pressure of fluid under pressure admitted through said plunger to space between the aforesaid valve and said piston, whereby the valve is crowded tight in the cylinder to prevent leak from the exhaust-port of same.



2. In a mechanical bell-ringer of the species described, the combination of the single-acting engine cylinder provided with a lower hollow boss, the engine-valve in the cylinder having a slabbed outer portion, the engine-piston, and a hollow plunger in packed sliding engagement with the bore of said boss in opposition to the slabbed portion of said valve to have side-thrust against the same under pressure of fluid under pressure admitted through said plunger to space between the aforesaid valve and said piston, whereby the valve is crowded tight in the cylinder to prevent leak from the exhaust-port of same.

3. In a mechanical bell-ringer of the species described, the combination of the single-acting engine cylinder, its piston, and the piston-controlled hollow bottomless valve having a lower rim exhaust-recess from bore to circumference and provided with an upper outer notch that normally communicates with the inlet for fluid under pressure to said cylinder, said recess being alternately in and out of communication with the exhaust-port of the aforesaid cylinder incidental to reciprocation of said piston upon which initial pressure of said fluid is had through said notch.

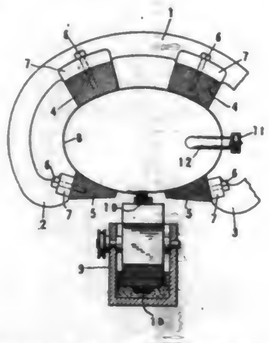
4. In a mechanical bell-ringer of the species described, the combination of the single-acting engine cylinder, its piston, the piston-controlled hollow bottomless valve having an upper notched angular outer portion and a lower rim exhaust-recess, and a hollow plunger in packed sliding engagement with the bore of an offset lower hollow lateral boss with which said cylinder is provided, the inner end of the plunger being diagonal and opposed to the angular portion of said valve to have side thrust against the same under pressure of fluid under pressure admitted through said plunger and the valve notch to space between the aforesaid valve and said piston.

5. In a mechanical bell-ringer of the species described, the combination of the single-acting engine-cylinder, its piston and a connecting-rod held together in detachable ball-and-socket joint connection, the piston-controlled bottomless valve having an upper notched angular outer portion and a lower rim exhaust-recess, and a hollow plunger in packed sliding engagement with the bore of an offset lower hollow lateral boss with which said cylinder is provided, the inner end of the plunger being diagonal and opposed to the angular portion of said valve to have side thrust against the same under pressure of

fluid under pressure admitted through said plunger and the valve notch to space between the aforesaid valve and said piston.

[Claims 6 to 8 not printed in the Gazette.]

970,704. APPARATUS FOR USE IN CAN-MAKING. CHARLES W. GRAHAM, Rome, N. Y., assignor, by mesne assignments, to American Can Company, New York, N. Y., a Corporation of New Jersey. Original application filed Jan. 25, 1908, Serial No. 412,566. Divided and this application filed Oct. 7, 1909. Serial No. 521,616.



1. In a device of the class described, in combination, a can receiving member having longitudinally extending surfaces engaging the outside of a can body, said surfaces forming part of an imaginary flattened cylinder, and means for moving the can body along said surfaces.

2. In a device of the class described, in combination, a can receiving member having distinct longitudinally extending surfaces engaging the outside of a can body, said surfaces being spaced and forming part of an imaginary flattened cylinder, and means extending between spaced surfaces for moving the can body along said surfaces.

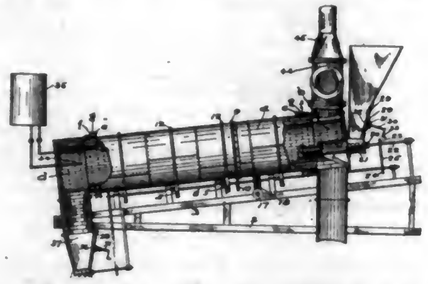
3. In a device of the class described, in combination, a can receiving member having distinct longitudinally extending surfaces engaging the outside of a can body, said surfaces being spaced and forming part of an imaginary flattened cylinder, and means in the space between two of said surfaces adapted to apply solder to the can engaged thereby.

4. In a device of the class described, in combination, a can receiving member having distinct longitudinally extending surfaces engaging the outside of a can body, said surfaces being spaced and forming part of an imaginary flattened cylinder, means in the space between two of said surfaces adapted to apply solder to the can engaged thereby, and means for moving the can body along said surfaces.

5. In a device of the class described, in combination, a can receiving member having distinct longitudinally extending surfaces engaging the outside of a can body, said surfaces being spaced and forming part of an imaginary flattened cylinder, the space between said surfaces being to one side of the longitudinal plane cutting the flattened cylinder in its line of greatest width, and a solder applying means operative in said space.

970,705. QUICKSILVER APPARATUS. IRA HAGEMAN, San Francisco, Cal. Filed May 17, 1909. Serial No. 496,443.

1. In a quicksilver furnace the combination of a revolving volatilizing cylinder, a condensing chamber, a conductor for the fumes between the cylinder and the condensing chamber, a separate outlet for the products of combustion from the cylinder, means for separately controlling the fumes conductor and the said outlet, means for introducing liquid fuel into one end of the cylinder, means for feeding into the opposite end the material to be treated and an outlet for the waste material from the end of the cylinder opposite to the feeding in end.



2. In a quicksilver furnace, the combination of a revolving volatilizing cylinder, a feeding-in chamber for the material in one end of the cylinder, a feeding-in device adapted to advance the material continuously in said conductor, means for preventing the escape of the volatilized products from the cylinder through said conductor, an outlet for the waste products from the cylinder, and means for controlling said outlet to prevent the escape of the volatilized matter from said waste product outlet, and means for burning liquid in the end of the cylinder farthest from the feeding-in end.

3. In a quicksilver furnace, the combination of a revolving volatilizing cylinder, a feeding-in device in one end of the cylinder adapted to be continuously operated, a liquid fuel burner situated in the end of the cylinder farthest from the feeding-in end, a condensing chamber, means for carrying off the volatilized matter from the cylinder and discharging it into the condensing chamber, an outlet from the cylinder for carrying off the waste products of combustion, means for separately controlling said outlets, and means for preventing the escape of fumes from the waste products outlet.

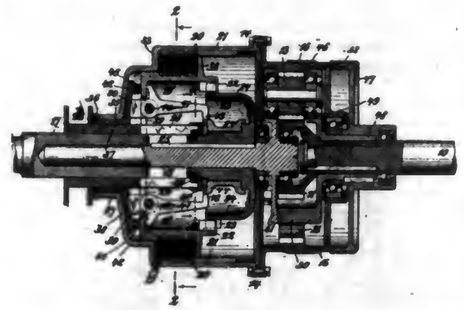
4. In a quicksilver furnace, a revolving volatilizing cylinder, a stationary chamber, a feeding-in device in said chamber having a conductor extending into the cylinder, a stationary chamber at the opposite end having an outlet for the waste products discharged from the end of the said cylinder, means for separately controlling the said inlet and outlet to prevent the escape of the volatilized products at the feeding in and discharge end of the said cylinder, and means independent of the feeding-in and discharging devices for regulating the feed of the material at one end, and the discharge of the waste products at the opposite end.

5. In a quicksilver furnace, the combination of a revolving volatilizing cylinder, an ore-hopper, a conductor leading from the outlet of the hopper into the cylinder, an ore feeding device in said conductor, means for varying the area of the hopper outlet, and means operating to close the outlet end of the conductor when the discharge of the ore therefrom into the cylinder is interrupted.

[Claims 6 to 8 not printed in the Gazette.]

970,706. TRANSMISSION-GEARING. DANIEL HOWARD HAYWOOD, New York, N. Y., assignor, by mesne assignments, to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed July 17, 1909. Serial No. 508,091.

1. Transmission gearing including a driving element, a driven element, and change speed gearing including two clutches for connecting the said elements in different driving relations, the two said clutches including a single operating element by movements of which the one, or the other, or both of the said clutches are operatively connected,—a casing for inclosing the gearing and the said operating element, the said casing being held against any substantial longitudinal movement, and a sleeve having a portion located at the exterior of the casing by which it may be manipulated and having another portion passing to the interior of the casing and connecting with the said operating element.



2. Transmission gearing including a driving element, a driven element, and change speed gearing including two clutches for connecting the said elements in different driving relations, a rotatable casing for inclosing the said clutches, the said casing being held against any substantial longitudinal movement, and operating means for the clutches including a rotatable element having a portion located without the casing, and another rotatable element relatively rotatable with respect to the first said element located within the said casing.

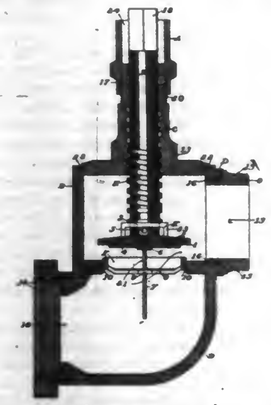
3. Transmission gearing including a driving shaft, an intermediate shaft, a driven shaft, and change speed gearing including two clutches for connecting the said shafts in different driving relations, a casing for inclosing the said clutches, the said casing being held against any substantial longitudinal movement, and operating means for the clutches including a rotatable sleeve having a portion located without the casing, and a rotatable member relatively rotatable with respect to the said sleeve located within the said casing.

4. Transmission gearing including a driving element, a driven element, and change speed gearing including two clutches for connecting the said elements in different driving relations, the two said clutches including a single longitudinally movable operating element adapted to operatively connect one only of the said clutches when at the limit of its movement in one direction, to operatively connect the other only of the said clutches when in an intermediate position, and to operatively connect both of the said clutches when at the limit of its movement in the other direction, a casing for inclosing the said gearing and the operating element, and a sleeve having a portion located at the exterior of the casing by which it may be manipulated, and having another portion passing to the interior of the casing and connecting with the said operating element.

5. In transmission gearing, the combination with a driving element, an intermediate element, and a driven element, all arranged in line with each other, of a central or sun gear mounted upon the driving element, an intermediate planetary gear carried by the intermediate element, a ring gear concentrically mounted with respect to the said elements, the intermediate gear being disposed between the sun gear and the ring gear, a disk clutch, one member of which is secured to rotate with the ring gear and the other member of which is secured to rotate with the driven shaft, a positive sliding jaw clutch, one member of which is mounted to rotate with the driven element and the other member of which is mounted to rotate with the intermediate element, a casing surrounding the said gearing, the said intermediate member, and the said clutches, the said casing being held against any substantial longitudinal movement, means operated by the movement of the latter said sliding clutch member for operating the disk clutch, and means operated from the exterior of the casing for longitudinally moving the last said element of the sliding jaw clutch to move the same into and out of engagement with its co-acting member and also for operating the disk clutch.

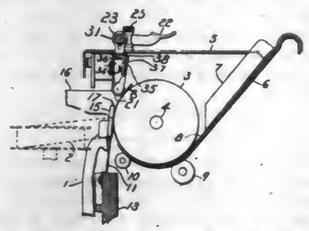
[Claims 6 to 14 not printed in the Gazette.]

970,707. SPRINKLING-VALVE FOR HYDRANTS. JOHN B. HEIM, Madison, Wis. Filed Apr. 13, 1906. Serial No. 311,426.



In a sprinkling valve, the combination of a hydrant attachment having means for attaching to the hydrant; a hose connection thereon, offset against a valve opening within the hydrant attachment; a valve seat and valve within the hydrant attachment; a pliable washer to form the contact between the valve and the valve seat; means for controlling the valve from outside the hydrant attachment and for increasing the pressure on the valve without revolving the valve on the valve seat; a cap on the hydrant attachment larger in diameter than either the valve or the valve seat, with a counter-sunk portion thereon to effectually encompass the means for closing the valve when in position for closing the valve, all substantially as set forth.

970,708. TYPE-WRITING MACHINE. CHARLES HELLSTROM, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 22, 1908. Serial No. 412,119.



1. In a front strike writing machine having a revoluble platen and a carriage therefor, and a ribbon carrier mounted in front of the platen, a card-holder comprising a pair of yielding guides mounted upon the framework and extending upwardly beyond the printing line and contiguous to the platen, one at each side of the ribbon carrier and close thereto, to prevent the leading edge of the card from catching upon the ribbon; each of said guides being in the form of a plate having an eye whose lower edge coincides with the printing line, said eyes coöperating to enable the operator to adjust any desired line on the card to register with the printing line on the platen.

2. In a front strike writing machine having a revoluble platen and a carriage therefor, and a ribbon carrier mount-

ed in front of the platen, a card-holder comprising a pair of yielding guides mounted upon the framework and extending upwardly beyond the printing line and contiguous to the platen, one at each side of the ribbon carrier and close thereto, to prevent the leading edge of the card from catching upon the ribbon; each of said guides being in the form of a plate having an eye whose lower edge coincides with the printing line, said eyes coöperating to enable the operator to adjust any desired line on the card into register with the printing line on the platen; scale marks being provided on said guides at said lower edges to register with type impressions.

3. In a front strike writing machine having a revoluble platen and a carriage therefor, and a ribbon carrier mounted in front of the platen, a card-holder comprising a pair of yielding guides mounted upon the framework and extending upwardly beyond the printing line and contiguous to the platen, one at each side of the ribbon carrier and close thereto, to prevent the leading edge of the card from catching upon the ribbon; each of said guides being in the form of a plate having an eye whose lower edge coincides with the printing line, said eyes coöperating to enable the operator to adjust any desired line on the card to register with the printing line on the platen; each of said guides having a lip flaring from each of its sides to direct the side edges of the card toward the platen as the latter moves with the carriage.

4. In a front strike writing machine, the combination with a revoluble platen and a platen frame, of a rock shaft journaled at its ends upon the platen frame over the platen and extending along the front of the platen, arms dependent from said rock-shaft and having rolls at their lower ends to run upon the platen, a key on said rock shaft to move said rolls away from the platen, and a spring to cause said shaft to press the rolls against the platen; said spring and rock-shaft being constructed to permit the finger piece to rotate the shaft slightly to a position at which the spring is ineffective to operate the shaft and to hold the rolls mechanically away from the platen to form a temporary guard for the card while the leading edge of the card advances between the rolls and the platen.

5. In a front strike writing machine, the combination with a revoluble platen and a platen frame, of a rock shaft journaled at its ends upon the platen frame over the platen and extending along the front of the platen, arms dependent from said rock-shaft and having rolls at their lower ends to run upon the platen, a key on said rock shaft to move said rolls away from the platen, and a spring to cause said shaft to press the rolls against the platen; said spring and rock-shaft being constructed to permit the finger-piece to rotate the shaft slightly to a position at which the spring is ineffective to operate the shaft and to hold the rolls mechanically away from the platen to form a temporary guard for the card while the leading edge of the card advances between the rolls and the platen; said arms splined to the rock shaft for adjustment therealong.

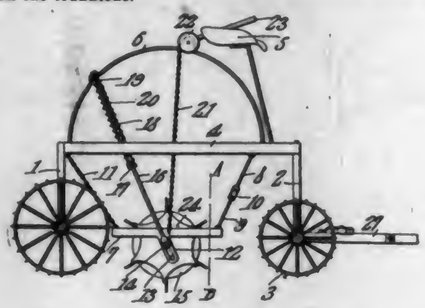
[Claims 6 to 16 not printed in the Gazette.]

970,709. STALK-CUTTER. THOMAS A. HENLEY, Enola, Ark., assignor of one-half to Jessee M. Reynolds, Vilonia, Ark. Filed Mar. 15, 1910. Serial No. 549,427.

1. In a machine of the class described, a wheel supported main frame, an auxiliary frame, downwardly swinging connections between the main and auxiliary frames, an element slidably and revolubly mounted within the auxiliary frame, and a spring controlled means for exerting a constant pressure upon the element.

2. A machine of the class described including a wheel supported main frame, an auxiliary frame therebelow, adjustable connections between the front portions of the auxiliary frame and the main frame, flexible connections between the rear portion of the auxiliary frame and the main frame, an element slidably and revolubly mounted within the auxiliary frame, and means carried by the main frame for exerting a constant downward yielding pressure upon the element.

3. In a machine of the class described a wheel supported main frame, an auxiliary frame therebelow and mounted for swinging movement relative thereto, longitudinally slotted hangers extending from the auxiliary frame, a soil engaging element, trunnions extending therefrom and slidably and revolubly mounted within the slotted hangers, and spring pressed means carried by the main frame for exerting a constant downward pressure upon the trunnions.

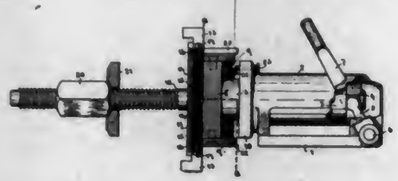


4. A machine of the class described including a wheel supported main frame, a guard thereon, an auxiliary frame mounted for swinging movement relative to said frame, hangers depending from the auxiliary frame, a soil engaging element, trunnions thereon, slidably and revolubly mounted upon the hangers, and spring pressed means carried by the guard for exerting a constant downward pressure upon the trunnions.

5. A machine of the class described including a wheel supported main frame, a guard thereon, an auxiliary frame, longitudinally adjustable connections hingedly attached to the main frame and to the front portion of the auxiliary frame, flexible connections between the rear portions of the auxiliary frame and the main frame, hangers depending from the auxiliary frame, a soil engaging element, trunnions thereon mounted for sliding and rotary movement within the hangers, and spring pressed means carried by the guard for exerting a constant downward pressure upon the trunnions.

[Claims 6 and 7 not printed in the Gazette.]

970,710. PLANER-CHUCK. WILLIAM HONSCHEID, Elmira, N. Y. Filed Sept. 27, 1909. Serial No. 519,733.



1. A chuck comprising a spindle provided with a head having a rearwardly open angular socket, a support in which the spindle is susceptible of both rotary and longitudinal movement, said support being provided with a fixed head shaped to receive said socket, a face-plate on the spindle head provided with two sets of laterally adjustable jaws positioned to operate parallel to one another on opposite sides of the center of the face plate, a clamping screw projecting from the face-plate in axial alinement with the spindle, and a clamping nut and plate on said screw.

2. A chuck comprising a spindle provided with a head having a rearwardly open square socket, a support in which the spindle is susceptible of both rotary and longitudinal movement, said support being provided with a fixed head squared to receive said socket, a face-plate on the spindle head provided with two parallel sets of oppositely disposed jaws slidably mounted therein on opposite sides of the center of the face-plate, right and left hand screws mounted in the face-plate for adjusting the members of each set of jaws simultaneously, a clamping screw projecting from the face-plate in axial alinement with the spindle, and a clamping nut and plate on said screw.

3. A chuck comprising a spindle provided with a head having a rearwardly open square socket, the sides of the socket being provided with rearwardly open pin sockets, a support in which the spindle is susceptible of both rotary and longitudinal movement, said support being provided with a fixed head squared to receive said socket, a longitudinally movable pin in the fixed head positioned in the circle of rotation of the pin sockets, a clamping screw projecting from the outward end of the spindle head in axial alinement with the spindle, and a clamping nut and plate on the screw.

4. A chuck comprising a spindle provided with a head having a rearwardly open angular socket, rearwardly projecting lugs on the sides of the socket adjacent the corners thereof, a support in which the spindle is susceptible of both rotary and longitudinal movement, said support being provided with a fixed head shaped to receive said socket, a clamping screw projecting from the outward end of the spindle head in axial alinement with the spindle, and a clamping nut and plate on the screw.

5. A chuck comprising a spindle provided with a head having a rearwardly open square socket, a rearwardly projecting lug on one side of the socket adjacent one end of said side, a second lug on said side adjacent its other end positioned at a greater radius from the center of the head than the first, a support in which the spindle is susceptible of both rotary and longitudinal movement, said support being provided with a fixed head squared to receive said socket, a bar adapted to be placed on one of the sides of the fixed head to engage said lugs and hold the spindle head at a certain angle, a clamping screw projecting from the outward end of the spindle head in axial alinement with the spindle, and a clamping nut and plate on the screw.

970,711. TREATMENT OF MANURE. WILLIAM HOSKINS, La Grange, Ill., assignor to The Pulverized Manure Company, Chicago, Ill., a Corporation of Maine. Filed Nov. 5, 1909. Serial No. 526,338.

1. A method of treating liquid manure extract which consists in subjecting it to the action of a chemical which will coagulate albuminous fertilizer constituents thereof, then separating therefrom and concentrating the coagulated materials.

2. A method of treating manure which consists in subjecting a mass thereof to maceration in an excess of water, then screening the mass to drain therefrom the water and albuminous fertilizer elements, then subjecting the drained liquid to the action of a chemical which will coagulate said albuminous elements, and finally separating from the liquid and concentrating the coagulated material.

3. The method of treating manure, containing the excrementitious product of live stock, which consists in steeping the mass, then draining therefrom the liquid and fertilizer values, and then concentrating to a more or less dry state said values.

4. The method of treating manure which consists in subjecting a mass thereof to maceration, draining from the mass fertilizer elements in solution, then subjecting the solution to the action of a sulfate to render albuminous fertilizer elements no longer colloid, then separating from the solution and saving the fertilizing constituents of the solution.

5. The method of treating manure which consists in subjecting a mass thereof to maceration, draining from the mass fertilizer elements in solution, then subjecting the solution to the action of a sulfate to render albuminous fertilizer elements no longer colloid, then separating from the solution and drying the fertilizing constituents of the solution.

[Claims 6 and 7 not printed in the Gazette.]

970,712. SEASONING AND METHOD OF MAKING THE SAME. EDWARD D. HOUSTON, Worcester, Mass., assignor of one-half to John W. Knibbs, Worcester, Mass. Filed Apr. 7, 1910. Serial No. 553,954.

1. The method of making seasoning which consists in peeling a quantity of onions so as to expose the moist inner surfaces, adding thereto about 40% by weight of common salt in contact with said moist surfaces, permitting the salt to remain in contact with said surfaces until bubbles in the form of a froth appear thereon, grinding the mixture to a pulp, and drying in a warm place until the pulp forms into a mass consisting of dry flakes.

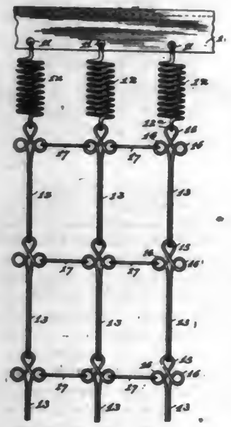
2. The method of making seasoning which consists in peeling a quantity of onions so as to expose the moist inner surfaces, adding thereto about 40% by weight of common salt in contact with said moist surfaces, permitting the salt to remain in contact with said surfaces until bubbles in the form of froth appear thereon, grinding the mixture to a pulp, drying in a warm place until the pulp forms into a mass consisting of dry flakes, with crystals of salt upon one side thereof, and pulverizing the same to produce a fine powder.

3. The method of making a seasoning which consists of peeling a quantity of onions so as to expose the moist inner surfaces, placing in contact with said moist surfaces a quantity of common salt, leaving the salt in contact with said surfaces until bubbles in the form of froth appear thereon, reducing the mixture to a pulp, drying until the pulp forms into a mass of dry flakes, and pulverizing the same to produce a fine powder.

4. As an article of manufacture, a seasoning consisting of onion with salt thereon in the form of masses of dry flakes, having onion pulp on one side and salt crystals on the other.

5. As an article of manufacture, a seasoning consisting of onion in the form of masses of dry flakes, having crystals of salt thereon.

970,713. WIRE FABRIC. JOEL L. ISAACS, Red Bank, N. J. Filed June 23, 1909. Serial No. 503,782.



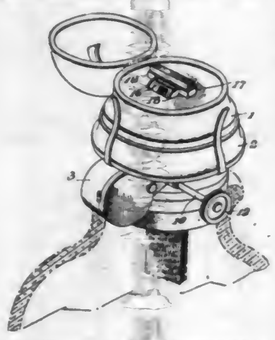
A bed-bottom fabric comprising a plurality of bent wire units arranged in longitudinal and transverse rows, each of said units consisting of a wire bent to form a longitudinal tension member having a hook at one end, a central longitudinally projecting loop at its opposite end for engagement with the hook of an adjacent unit in the same longitudinal strand, and laterally projecting loops located opposite the base of said central loop, and cross-links connecting the laterally projecting loops of the units in adjacent longitudinal strands, said loops affording both longitudinal and transverse elasticity to the units substantially as described.

970,714. PROTRACTOR-LEVEL. WILLIAM PERRY JAMES, Los Angeles, Cal. Filed May 3, 1910. Serial No. 559,235.



A leveling device comprising a frame of suitable material, having straight and parallel side edges, a gravity indicator mounted thereon, the frame being provided with a dial in the form of a circle laid off in degrees from zero to 90 degrees on each side of a central zero, the indicator cooperating with the dial to indicate the angle at which the frame is held, the frame being provided with an arcuate slot, concentric with the circle of the dial, and a spring-held pointer arranged in said slot and movable along the latter all substantially as and for the purpose set forth.

970,715. LAMP-IGNITER. WILLIAM D. JONES, Greeley, Colo. Filed May 3, 1910. Serial No. 559,146.



1. A lamp igniting device, comprising a casing, juxtaposed feeding rollers arranged to feed an ignitible strip from the casing, one of said rollers being formed with a recess, and a scratching element mounted in said recess.

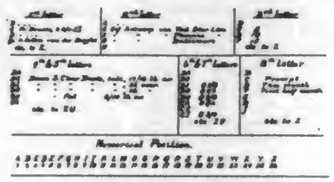
2. A lamp igniting device, comprising a casing, juxtaposed feeding rollers adapted to feed the ignitible strip from the casing, one of said rollers being recessed, and a yielding scratching element mounted in said recess and bearing upon the other roller.

3. A lamp igniting device, comprising a casing, juxtaposed feeding rollers adapted to feed an ignitible strip from said casing and one of said rollers being formed with a recess, and a pivoted scratching element mounted in said recess and bearing upon the other roller.

4. A lamp igniting device, comprising a casing, juxtaposed feeding rollers adapted to feed an ignitible strip from said casing, one of said rollers being formed with a recess, and the other roller having a yielding periphery, and a scratching element yieldingly mounted in said recess and adapted to bear against said yielding periphery.

970,716. CABLE-CODE SYSTEM. CLARENCE H. KEEHN, Indianapolis, Ind. Filed Oct. 19, 1908. Serial No. 458,546.

1. A code system wherein letters or groups of letters of less than a permissible word-number, and capable of being added together into transmittable words, are given arbitrary meanings and checked by having each individual letter possess a predetermined check value which, combined can be indicated by one or more letters.





2. A code system wherein letters or groups of letters of less than a permissible word-number, and capable of being added together into transmittable words, are given arbitrary meanings and checked by having each individual letter possess a predetermined check value which, combined can be indicated by one or more letters combinable with the checked letters.

3. A code system wherein the individual letters thereof are assigned identifying number values which can be accumulated and indicated as a total by a letter or letters having a predetermined value.

4. A code comprised of a plurality of code sections divided into groups with the several members of each group separately designated by numbers in geometrical progression, an aritmetically progressive table comprising as many multi-letter indicators as the arithmetical sum of the designating numbers of the largest group, the said multi-letter indicators each comprising letters pronounceably combinable with any other multi-letter group whereby a word composed of a plurality of said multi-letter groups will serve to designate any possible selection of tables in the several groups.

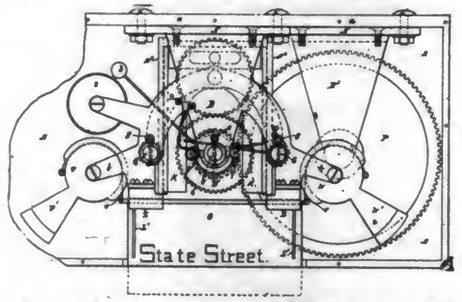
5. A code comprised of a plurality of code sections divided into groups with the several members of each group separately designated by numbers, an arithmetically progressive table comprising as many indicators as the arithmetical sum of the designating numbers of the largest group, the said indicators each comprising members codically combinable with any other indicator whereby a transmittable indicator will serve to designate any possible selection of tables in the several groups.

[Claim 6 not printed in the Gazette.]

970,717. STATION-INDICATOR. HENRY L. KEELER, Lundys Lane, Pa. Filed Feb. 3, 1909. Serial No. 475,888.

1. The combination in a station indicator, of a series of vertically movable sign cards, weight mechanism adapted to normally retain each sign card in its uppermost position, a non-rotatable screw-shaft mounted transversely to said series of sign cards, a rotatable nut on said screw-shaft, vertical guides adapted to be moved horizontally by said nut, a vertically movable slide mounted in said guides, and adapted to contact with each successive sign card in said series at each reciprocation thereof, crank mechanism adapted to impart vertical movement to said slide at each revolution of said nut, and lever and gear mechanism adapted to impart intermittent revolutions to said nut, substantially as and for the purpose set forth.

2. The combination in a station indicator, of a series of vertically movable sign cards, weight mechanism adapted to normally retain each sign card in its uppermost position, a non-rotatable screw-shaft mounted transversely to said series of cards, a rotatable nut on said screw-shaft, gear teeth around the periphery of said nut, guides parallel with said screw-shaft, a vertical frame mounted on said guides and embracing said rotatable nut and adapted to receive horizontal movement therefrom, a spur-gear wheel mounted in the upper part of said frame, a crank-pin on said spur-gear wheel, vertical guides on said frame, a slide mounted in said vertical guides and adapted to be engaged by said crank-pin, gear mechanism adapted to intermittently transmit a complete rotation to said rotatable nut, substantially as and for the purpose set forth.



3. The combination in a station indicator, of a series of vertically movable sign cards, weight mechanism adapted to normally retain each sign card in its uppermost position, a non-rotatable screw-shaft mounted transversely to said series of sign cards, a rotatable nut upon said screw-shaft, vertical guides adapted to be moved horizontally by said nut, a vertically movable slide mounted in said guides and adapted to contact with each successive sign card in said series at each reciprocation thereof, crank mechanism adapted to impart vertical movement to said slide at each revolution of said nut, gear mechanism adapted to cause said rotatable nut to rotate, and lever and ratchet mechanism adapted to turn said gear mechanism a limited portion of a revolution, substantially as and for the purpose set forth.

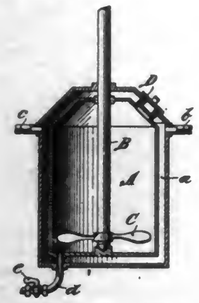
4. The combination in a station indicator of a series of vertically movable sign cards, weight mechanism adapted to normally retain each sign card in its uppermost position, a non-rotatable screw-shaft mounted transversely to said series of sign cards, a rotatable nut upon said screw, vertical guides adapted to be moved horizontally by said nut, a vertically movable slide mounted in said guides and adapted to contact with each successive sign card in said series at each reciprocation thereof, crank mechanism adapted to impart vertical movement to said slide at each revolution of said nut, gear mechanism adapted to cause said nut to rotate around said screw-shaft, lever and ratchet mechanism adapted to turn said gear mechanism a limited portion of a revolution at each operation of said lever, and spring actuated mechanism adapted to return said lever and ratchet mechanism to its normal starting position after each operation thereof, substantially as and for the purpose set forth.

5. The combination in a station indicator of an indicator case, a machine frame secured therein, a series of vertically movable sign cards suspended from said frame, weight mechanism adapted to retain each of said cards in a normally raised position, a non-rotatable shaft secured in said frame transversely to said series of cards, screw-threads on the intermediate portion of said shaft, a rotatable nut having openings therethrough on said screw-threads, rotatable collars on said shaft at each end of the screw-threads thereon, one or more rods rigidly secured in said collars and passing through the openings in said rotatable nut, gear teeth on one of said collars, gear mechanism intermeshing therewith adapted to impart rotary motion to said collar, horizontal guides secured in the machine frame parallel with said non-rotatable screw-shaft, a frame mounted on said guides and adapted to be moved horizontally by the movement of the nut longitudinally of the screw-shaft, vertical guides on said horizontally movable frame, a slide in said guides, and crank mechanism operatable by said nut and adapted to cause said slide to reciprocate, substantially as and for the purpose set forth.

970,718. METHOD OF TREATING MILK. SAMUEL RIDGWAY KENNEDY, Philadelphia, Pa. Filed June 1, 1906. Serial No. 319,671.

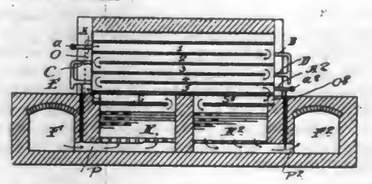
The process of treating milk which consists in condensing it, cooling it, causing the milk sugar and salts to crystallize, beating it to reduce the viscosity, filtering out the milk sugar and salts and drying the remainder.

970,719. METHOD OF TREATING MILK. SAMUEL RIDGWAY KENNEDY, Philadelphia, Pa. Filed June 1, 1906. Serial No. 319,672.



The process of treating milk which consists in first condensing it to a suitable density, cooling it until the milk sugar and salts have crystallized, beating or agitating it until the viscosity is sufficiently reduced, and filtering out the milk sugar and salts.

970,720. HEATING ARRANGEMENT FOR RETORT COKE-OVENS. EUGENE W. KING, Syracuse, N. Y., assignor to Semet-Solvay Company, Syracuse, N. Y., a Corporation of Pennsylvania. Filed Jan. 26, 1910. Serial No. 540,161.



1. The combination with a retort coke oven of horizontally disposed heating flues connected in series, a pair of regenerators located below and parallel with the oven and connected in series with the heating flues, and means for reversing the flow of gas and air through the generators.

2. The combination with a retort coke oven of horizontally disposed heating flues connected in series, a pair of regenerators located below and parallel to the oven, one of said regenerators being connected by a single opening with the series of flues at one end thereof, and the other of said regenerators being connected by a single opening with the series of flues at the other end thereof and flues connected with said regenerators whereby the waste gases of combustion and air are alternately discharged therefrom and admitted thereto.

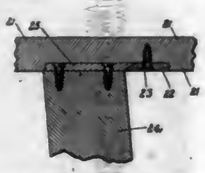
3. In a block of retort coke ovens the combination of an air inlet passage, two flues running longitudinally of the

block and arranged to be alternately connected, the one with said air inlet passage and the other with a waste gas exit passage, a pair of regenerators located below and parallel with each oven and connected the one with one of said flues and the other with the other of said flues, and horizontally disposed heating flues located between the ovens and forming a continuous connecting passage between the regenerators of each pair.

4. The combination with a retort coke oven of horizontally disposed heating flues connected in series and provided at each end thereof with an opening whereby air is admitted to and the waste gases are discharged from the flues, a burner at each end of the series of flues and intermediate burners located opposite the openings which connect adjacent flues.

5. The combination with a retort coke oven of a pair of regenerators located below and parallel with the oven, a series of horizontally disposed heating flues forming a passage between said regenerators, a burner located at each end of the series of flues and intermediate burners located opposite the openings which connect adjacent flues.

970,721. KNOCKDOWN SEAT. WILLIAM A. KIRKPATRICK and JOHN E. ROBBINS, Greensburg, and CLIFFORD P. KIRKPATRICK, Indianapolis, Ind. Filed Aug. 16, 1909. Serial No. 513,063.



1. A knock-down cabinet structure comprising a connecting member, a pair of legs, and a second connecting member connected to the legs by a pair of oppositely threaded screws, the connection between each leg and the first connecting member comprising two plain plates of substantially the same thickness having their adjacent edges oppositely and matingly beveled, one of said plates being secured to the upper end of the leg structure and the other of the said plates being secured to the first mentioned connecting member and lying within a socket formed in said first mentioned connecting member and having one dimension substantially equal to the combined dimensions of the two plates when their beveled edges are mated together, substantially as and for the purpose set forth.

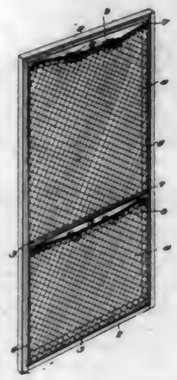
2. In a knock-down cabinet structure, the combination of a pair of separable members one carrying a plain thin plate 25 having a beveled edge, and the other carrying a plain thin plate 22 having a beveled edge matable with the beveled edge of the plate 25, said last mentioned plate 22 being mounted within a socket formed in the member to which it is attached and said socket having a dimension substantially equal to the dimension of the two plates when mated together.

970,722. WIRE-FASTENER. WILLIAM C. KRAMER, Jr., Brenham, Tex. Filed Feb. 10, 1910. Serial No. 543,109.



The combination with a composite post, of a plurality of vertically disposed elongated plates, each being embedded within the post for a major portion of its length, whereby opposite ends thereof will protrude beyond opposite faces of the post, each of said plates being bifurcated at one end to provide ears outturned in opposite directions against one face of the post, each plate being provided with a forwardly inclined V-shaped slot in its opposite end and opening through the upper edge thereof for receiving the runner wire, each of said plates being further provided with an opening spaced forwardly from and in alinement with the slot, and a wire member passed loosely through the said opening in each plate and engageable with a runner wire to maintain it in the said V-shaped slot.

970,723. FLY-ESCAPE FOR WINDOW-SCREENS. JOSEPH KRESS, Bisbee, Ariz. Filed Apr. 6, 1910. Serial No. 553,818.



1. A window screen comprising a rectangular frame, wire gauze held in contact with the frame at its lower and side margins, a transverse metallic strip extending across the upper margin of the wire frame, and spacing members disposed between the transverse strips and the face of the frame, each spacing member having a flange attached to the under face of the cross bar of the frame, then extending upward along the face of the cross bar, then outward and then downward, and then upward into engagement with the transverse strip.

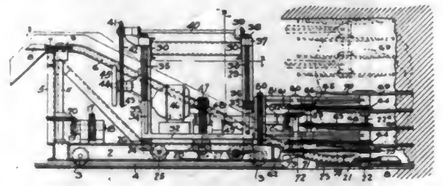
2. A window screen comprising a rectangular frame, wire gauze held in contact with the frame at its lower and side margins, transverse metallic strips extending across the upper margin of the wire gauze and attached at its ends to the side bars of the frame, and spacing members disposed between the middle portion of the transverse strip and the face of the frame and attached to the adjacent cross bar of the frame, each spacing member having a portion engaging with the face of the cross bar, then extending outward at its upper end, then downward and then being bent upward to form a clip engaging on each side of the transverse metallic strip.

3. A window screen comprising a rectangular frame, wire gauze held in contact with the frame at its lower and side margins, transverse metallic strips extending across the upper margin of the wire gauze and attached at their ends to the side bars of the frame, the middle portion of the strip being outwardly bent, and spacing members disposed between the middle portion of the transverse strip and the face of the frame, each having a flange attached to the under face of the adjacent cross bar of the frame, then extending up along the face of the bar, then outward, then downward and then bent upward upon itself to receive and clasp the transverse metallic strip, and U-shaped clips extending over the upper edge of the wire gauze and the transverse metallic strip, binding the wire gauze to the strip and clamping the strip in its engagement with the spacing member.

970,724. COMPOSITION FOR TREATING SWEAT-BANDS OF HATS. WILLITTS A. KRESS, Hutchinson, Kans. Filed Jan. 3, 1910. Serial No. 535,983.

The herein described compound for treating the sweat bands of hats consisting of gum shellac, alcohol, glycerin, and balsam fir.

970,725. METHOD OF MINING COAL. HARRY A. KUHN, Pittsburg, Pa. Filed Oct. 19, 1907. Serial No. 398,196.



1. The method of mining coal consisting in cutting a plurality of slits simultaneously in the wall or solid of the coal at right angles to the face thereof, and dislodging the coal lying between said slits simultaneously with the cutting action.

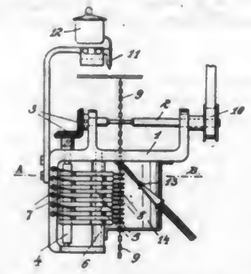
2. The method of mining coal, consisting in cutting a plurality of parallel slits simultaneously in the wall or solid of the coal at right angles to the face thereof, and dislodging the coal lying between said slits simultaneously with the cutting action.

3. The method of mining coal, consisting in cutting continuously a plurality of slits simultaneously in the wall or solid of the coal, and applying a dislodging force intermittently in the slits at an angle to the plane of the cut, while the cutting operation is going on.

4. The method of mining coal, consisting in cutting a plurality of slits at the same time in the wall or solid of the coal, and subdividing intermittently the direct cutting force making each cut and working in each cut into two component forces, one component force working in the plane of the cut and the other component force working at an angle to the plane of the cut, whereby the coal is dislodged.

5. The method of cutting coal, consisting in cutting a plurality of parallel cuts in the wall or solid of the coal, then making a series of cross cuts intersecting said first cuts, and breaking loose the coal between said cuts simultaneously with the cross cutting action.

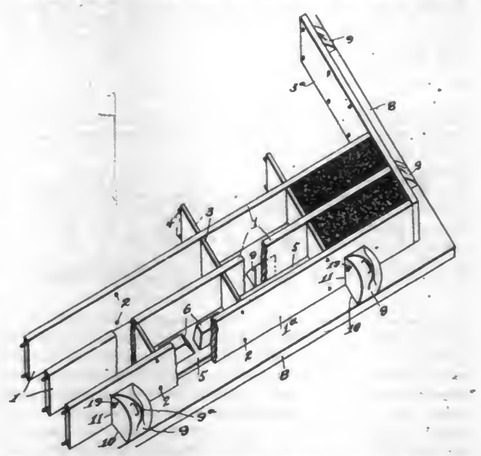
970,726. METHOD OF SOLDERING CHAIN-LINKS. RUDOLF KUNZMANN and ERWIN STIERLE, Pforzheim, Germany, assignors to The Firm of Andreas Daub, Pforzheim, Germany. Filed Jan. 12, 1910. Serial No. 537,722.



1. The method of soldering chain links consisting in bringing the links charged with solder into contact with heat to soften the solder and shaking the chain during the soldering operation to prevent the links from becoming soldered to adjacent links.

2. The method of soldering chain links consisting in passing the chain composed of unsoldered links charged with solder along a suitable support into contact with heat to soften the solder and simultaneously with the soldering operation, shaking the chain to prevent the links from becoming soldered one to another.

970,727. KNOCKDOWN APPARATUS FOR FORMING ARTIFICIAL-STONE BLOCKS. WILMOT LAKE, Washington, D. C. Filed Apr. 22, 1909. Serial No. 491,557.



1. In a frameless apparatus adapted to be knocked down and set up in continuous operation for forming artificial stone, the combination, with independent longitudinal boards, and independent cross-plates between the boards, of transferable stop-blocks for temporarily holding certain of the boards, a plate pivoted at one end in one face of the block, a curved arm projecting from the plate and working in the block, and a suitable pin extending through the block and through the arm for holding the plate in position.

2. In a stop device for the purpose described, the combination, with a transportable weight having anchoring prongs, of a swinging plate pivoted at one end to the weight, a curved arm projecting from the other end of the plate and working in the weight, and a pin engaging the arm for holding the plate at various angles to the weight.

970,728. PROCESS OF PRODUCING A METAL OF HIGH GRADE FROM A METAL OF LOW GRADE. LEWIS A. LEONARD, New York, and JESSE P. LARIMER, Brooklyn, N. Y. Filed Sept. 17, 1909. Serial No. 518,152.

1. A process of treating steel for converting it from a low grade to a high grade, which comprisea the baking of the steel in a closed holder in the presence of a substance preparing the metal to be successfully acted on by carbon, and then subjecting the steel to a baking in the presence of carboniferous material, and finally quenching the steel in a bath.

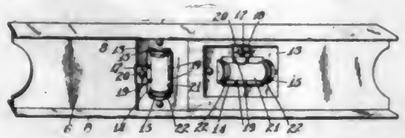
2. A process of treating steel for converting it from a low grade to a high grade, which comprises the baking of the steel in a closed holder in the presence of a substance preparing the metal to be successfully acted on by carbon, and then subjecting the steel to a baking in the presence of carboniferous material, and finally quenching the steel in a bath containing sulfate of lime and ferric oxid mixed with carboniferous material.

3. A process of treating steel for converting it from a low grade to a high grade which comprises the baking of the steel in a closed holder in the presence of hydrated oxid of iron and silica, then subjecting the steel to a baking in the presence of carboniferous material, and finally quenching the steel in a bath.

4. A process of treating steel for converting it from a low grade to a high grade which comprises the baking of the steel in a closed holder in the presence of hydrated oxid of iron and silica, then subjecting the steel to a baking in the presence of carboniferous material, and finally quenching the steel in a bath containing sulfate of lime, ferric oxid and carboniferous material.

5. A process of treating steel for converting it from a low grade to a high grade which comprises the baking of the steel in a closed holder in the presence of hydrated oxid of iron, silica and phosphorus, then subjecting the steel to a baking in the presence of carboniferous material, and finally quenching the steel in a bath.

970,729. SPIRIT-LEVEL. GEORGE W. LINGLE, Burlington, Wis. Filed Nov. 10, 1909. Serial No. 527,145.



1. In a spirit level, the combination of a stock with a web having a spirit-glass opening therethrough, a spirit-glass in the opening, plates adjustably secured to the web on opposite sides thereof and adapted to hold the spirit-glass in the opening and a slidable pointer secured to each plate with its free end adjacent to the spirit-glass.

2. In a spirit level, a stock having a web composed of a plurality of sheets of metal each having two flanges, and having flange-binders embracing the flanges of the sheets of metal, the web of the stock having a spirit glass opening therethrough, a spirit glass in the opening, plates adjustably secured to the web on opposite sides thereof and adapted to hold the spirit glass in the opening, and a slidable pointer secured to each plate with its free end adjacent to the spirit glass.

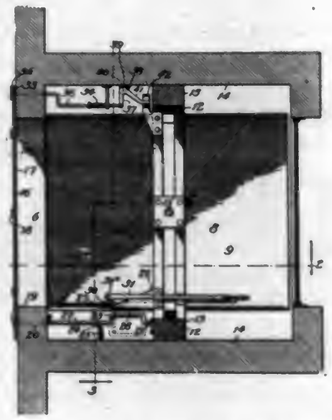
3. In a spirit level, the combination of a stock having a web composed of a plurality of sheets of metal, each sheet having two flanges, and having flange-binders embracing the flanges of the sheets of metal, the web of the stock having two spirit glass openings therethrough the longitudinal axis of one opening being at right angles to the longitudinal axis of the other opening, a spirit-glass in each opening, plates adjustably secured to te web of the stock on opposite sides of each opening and adapted to hold the spirit glass in the opening, and a slidable pointer secured to each plate with its free end adjacent to the spirit glass.

970,730. ELEVATOR. JOHN G. MEISNER, Chicago, Ill. Filed Jan. 5, 1910. Serial No. 536,498.

1. The combination of an elevator-shaft, a car movable in said shaft, a movable barrier for the opening in the shaft, a vertically disposed striker-bar pivoted at its upper and lower ends to the car to cause it to swing about a vertical axis and provided with a deflected striker-portion, and means adapted to be engaged by said bar when the latter is in one position for removing the barrier.

2. The combination of an elevator-shaft, a car movable in said shaft, a rock-shaft having an offset-portion, a barrier operated by said rock-shaft, and a vertically-disposed striker-bar having its upper and lower ends deflected, said bar being pivoted at its upper and lower ends to the car to cause said bar to swing about a vertical axis into and out of position for engaging with the offset-portion of said shaft.

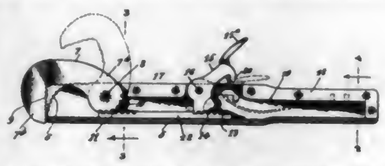
3. The combination of an elevator-shaft, a car movable in said shaft, a movable barrier for the opening in the shaft, a vertically-disposed striker-bar pivoted at its upper and lower ends to the car to cause the bar to swing about a vertical axis and formed with a deflected striker-portion, means adapted to be engaged by said bar when the latter is in one position for removing the barrier, and lever mechanism connected with said bar, for the purpose set forth.



4. The combination of an elevator-shaft, a car movable in said shaft, a vertically-disposed striker-bar pivoted on said car, a barrier, means coöperating with the barrier and with said bar, when the latter is swung on its pivots to a certain position, for removing the barrier, and means for operating said bar comprising an operating-lever fulcrumed on said car, a link fixed on said striker-bar, and a second link secured to the outer end of said first named link and with said operating-lever, for the purpose set forth.

5. The combination of an elevator-shaft, a car movable in said shaft, a movable barrier for the opening in the shaft, a vertically-disposed striker-bar pivoted at its upper and lower ends on said car to cause it to swing about a vertical axis and provided with a deflected striker-portion, means adapted to be engaged by said bar when the latter is in one position for removing said barrier, and means operating automatically to turn said last-named means to inoperative position, for the purpose set forth.

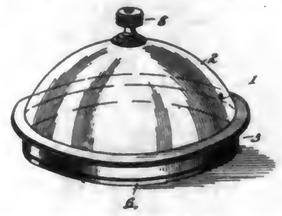
970,731. PIPE-WRENCH. AUGUST L. MELCHERT, Santa Ana, Cal., assignor of one-half to W. F. Greenleaf, Santa Ana, Cal. Filed Jan. 17, 1910. Serial No. 538,359.



1. A pipe wrench comprising a body member, the front end of which forms a fixed jaw and the rear end a handle; a movable jaw pivoted to said body member near the fixed jaw, said movable jaw having the inner end of the shank circular and provided with teeth; a rack bar having teeth on its front end meshing with the teeth on the shank of the movable jaw, said rack bar also having teeth on the rear end thereof; an L-shaped operating lever having teeth on its inner end meshing with the teeth of the rear end of the rack bar, said operating lever being pivoted in the body member and having a thumb piece on the other end thereof; and a spring bearing on the under side of the operating lever.

2. A pipe wrench comprising a U-shaped body member, the front end of which forms a fixed jaw and the rear end a handle; a movable jaw pivoted to the body member near the fixed jaw thereof, said movable jaw being provided at its pivoted end with a segment of a pinion; an L-shaped operating lever pivoted to said body member between the movable jaw and the handle, said operating lever being provided at its inner end with a segment of a pinion, and on its outer end with a thumb piece; a rack mounted in the body member having teeth engaging with the movable jaw and the operating lever; and a spring mounted in the handle and bearing against the under side of the operating lever.

970,732. DISPLAY-COVER. CHARLES HENRY MYERS, Buffalo, N. Y. Filed Dec. 9, 1907, Serial No. 405,777. Renewed May 7, 1909. Serial No. 494,586.

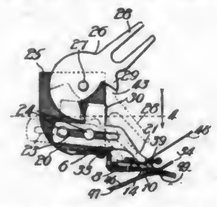


1. A display cover comprising a supporting wall provided at the upper portion with a horizontal groove extending outwardly from the inner face of the said wall, and a transparent top portion constructed of flexible transparent material and having its outer portion or edges sprung into the said grooves.

2. A display cover comprising a metallic supporting wall or rim having a horizontal groove provided at or near its upper edge, said groove opening outwardly at the inner face of the rim, in combination with a dome-shaped top having its lower edge secured in said groove of the supporting wall, and a handle fixed to the center of the top, the latter being constructed of a pyroxylin compound.

3. A display cover having a dome-shaped top made of a single piece of pyroxylin, a handle secured to the top at or about the center, the peripheral edge of the top being extended outwardly at an angle, and a substantially circular supporting wall constructed of different material and grooved at the upper part to receive the outwardly extending edge of the said top to which it is secured, the joint between the rim and the said edge of the top forming an annular flange, the wall depending from the said flange to form a supporting rim for the cover.

970,733. STITCH-REMOVING DEVICE. EVANDER B. MCGILVARY, Madison, Wis., assignor to The McGilvary Company, Madison, Wis., a Corporation of Wisconsin. Filed Apr. 30, 1909. Serial No. 493,181.



1. In a seam-remover, the combination of a member adapted to lie on one side of the plies of sewed material and carrying a thread-guide disposed close to the seam, and of such character as to permit a thread to be drawn under tension therethrough, shears disposed near said thread-guide and in such relation thereto as to enable one thread of the seam, when drawn through said thread-guide, to disengage the extremity of the other thread from the lock-stich and present said extremity to the curtailing action of said shears, and shear-actuating means.

2. In a seam-remover, the combination of a member adapted to lie in contact with the sewed material on one side of the plies thereof, a thread-guide carried thereby adapted to receive the upper thread of the seam, and of such character that said thread may be drawn therethrough and caused to dislodge the extremity of the lower thread, and suitably actuated shears receiving said dislodged extremity and effecting curtailing thereof.

3. In a seam-remover, the combination of a shoe carrying a stationary shearing-shoulder, a movable shear-member having a forwardly-pointing blade which moves transversely to meet said stationary shearing-shoulder, and means permitting one thread to be drawn upwardly slightly in front of the cutting-members, while confined in proper relation to progressively pull out the lock-stitches from a seam lying beneath said shoe, dislodge the successive end portions of the other thread and interpose the same between said shear-members.

4. In a seam-remover, the combination with thread-clipping means and supporting means therefor, of a thread-guide of such character as to enable one thread of a seam to be drawn therethrough under tension and through the medium thereof to maintain the seam in alinement with the thread-clipping means, and thread-confining means in advance of said shears serving to prevent undue unraveling, whereby said thread operates, when pulled, to successively pull the lock-stitches from the seam, dislodge the successive end-portions of the other thread and subject the same to the curtailing action of said clipping means.

5. In a seam-remover, the combination of a stationary shear-member and means for supporting the same at one side of the plies of a seam, a thread-guide in advance of said stationary shear-member having lateral thread-confining walls and a front thread-confining wall, said thread-guide being disposed close to said stationary shear-member, a movable shear-member in the rear of said thread-guide and co-acting with said stationary shear-member, and means for actuating said movable shear-member, all constructed and arranged to enable one thread of a seam to be drawn through said thread-guide and caused to progressively pull the lock-stitches from the seam and subject the successive end-portions of the other thread to the cutting action of said shears.

[Claims 6 to 48 not printed in the Gazette.]

970,734. TREATMENT OF LEATHER WITH INDIA-RUBBER. ALEXANDER MCLENNAN, London, England. Filed Sept. 28, 1909. Serial No. 519,981.

1. A process for the treatment of tanned leather consisting in treating the softened and dried leather with a clarifying solution containing powdered sulfur dissolved in carbon bisulfid, to the liquid residue of which, after straining, is added a mixture adapted to precipitate any undissolved sulfur and dissolve any fats; then after drying treating them with a heated solution containing india-rubber dissolved in a suitable solvent, the hides being worked during the treatment; afterward subjecting to a second heated bath also containing rubber in solution together with a solution of powdered sulfur, carbon bisulfid, chlorid of sulfur together with sulfur precipitating substances, the hides being worked during the treatment; and finally drumming or agitating the hides in a third solution containing rubber in solution together with powdered sulfur, carbon bisulfid, chlorid of sulfur and sulfur precipitating substances; the surplus rubber adhering to the hide being then slickered off and the hide finished with a cloth dipped in a rubber solvent; the treatment being finally completed by rolling the partially dried hide.

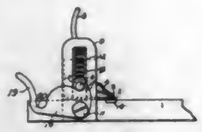
2. A process for the treatment of tanned leather consisting in treating the softened and dried leather with a clarifying solution containing powdered sulfur dissolved in carbon bisulfid, to the liquid residue of which, after straining, is added sulfuric ether, benzol, naphtha benzin, kerosene, rectified spirit of turpentine; then after drying, treating them in a sealed vessel with a heated solution containing india-rubber in a suitable solvent, the hides being worked during the treatment; afterward subjecting to a second heated bath also containing rubber in solution together with a solution of powdered sulfur, carbon bisulfid, chlorid of sulfur together with sulfur precipitating substances, the

hides being again worked during the treatment; and finally drumming or agitating the hides in a third solution containing rubber in solution together with powdered sulfur, carbon bisulfid, chlorid of sulfur and sulfur precipitating substances; the surplus rubber adhering to the hide being then slickered off and the hide finally finished with a cloth dipped in a rubber solvent; the treatment being finally finished by rolling the partially dried hide.

3. A process for the treatment of tanned leather consisting in treating the softened and dried leather with a clarifying solution containing powdered sulfur dissolved in carbon bisulfid, to the liquid residue of which, after straining, is added sulfuric ether, benzol, naphtha, benzin, kerosene, rectified spirit of turpentine; then after drying, treating them in a sealed vessel with a heated rubber solution; the hides being worked during the treatment; afterward in a sealed vessel with a heated solution containing india-rubber in a solvent, together with powdered sulfur and bisulfid of carbon, to the liquid residue of which, is added, sulfuric ether, benzol, naphtha, benzin and chlorid of sulfur, the hides being again worked during the treatment; and finally being drummed or agitated in a solution containing india-rubber in a suitable solvent together with carbon bisulfid and a chlorid of sulfur solution containing sulfur precipitating substances; the surplus rubber adhering to the hide being then slickered off and the hide finished with a cloth dipped in a rubber solvent; the treatment being finally completed by rolling the partially dried hide.

4. A process for the treatment of tanned leather consisting in treating the softened and dried leather with a clarifying solution containing powdered sulfur dissolved in carbon bisulfid, to the liquid residue of which, after straining, is added sulfuric ether, benzol, naphtha, benzin, kerosene, rectified spirit of turpentine; then after drying, treating them in a sealed vessel with a heated rubber solution the hides being worked during the treatment; then treating them in a sealed vessel with a heated solution containing india-rubber in a solvent, together with powdered sulfur and bisulfid of carbon, to the liquid residue of which is added sulfuric ether, benzol, naphtha, benzin and chlorid of sulfur, the hides again being worked during the treatment and finally being treated with agitation in a solution containing india-rubber in a solvent, powdered sulfur and carbon bisulfid, the liquid residue of which after straining having added to it, sulfuric ether, benzol, naphtha, benzin, and chlorid of sulfur; the surplus rubber adhering to the hide being then slickered off and the hide finished with a cloth dipped in a rubber solvent; the treatment being finally completed by rolling the partially dried hide.

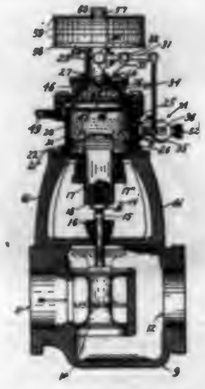
970,735. MANIFOLDING DEVICE. WILLIAM B. NAGLE, New York, N. Y. Filed Jan. 25, 1910. Serial No. 540,102.



1. A book billing device in which is comprised a flat base, standards fixed to said base at each extremity near one edge, a bar movably mounted between said standards, means for raising said bar, a spring actuated carbon-holding plate mounted above said bar, and a spring actuated bill-holding plate located above the carbon holding plate, pivoted at each end, and provided with independent manipulating means, the whole arranged to operate substantially as shown and described.

2. In a device of the character herein specified, the combination with the flat base, and standards carried thereby, of a book-leaf holder, a carbon sheet holder, and a bill-holder carried by said standards, and means carried by each holder for independently manipulating the several holders, substantially as shown and described.

970,736. PRESSURE-REGULATING APPARATUS. SPENCER G. NEAL and JOSEPH M. CHILDRESS, Los Angeles, Cal., assignors to California Valve and Air Brake Company, Palms, Cal., a Corporation of California. Filed Aug. 17, 1908, Serial No. 448,935. Renewed Mar. 19, 1910. Serial No. 550,516.



1. In apparatus of the character described, a main valve, a piston operatively connected with said main valve, a casing forming a piston chamber, said piston having a head working in said chamber, a pilot valve, there being passages leading from said valve to opposite sides of said piston head, a regulating diaphragm, means operatively connecting said regulating diaphragm with said pilot valve, there being a regulating chamber entirely filled with a liquid to operate said regulating diaphragm, an operating diaphragm also in contact with the liquid in said regulating chamber, said operating diaphragm engaging a larger area of the liquid in said regulating chamber than the area engaged by said regulating diaphragm, there being an operating chamber on the side of said operating diaphragm opposite said regulating chamber and a conduit to admit fluid pressure to said operating chamber.

2. In apparatus of the character described, a pilot valve, two diaphragms of differential areas, means operatively connecting the smaller of said diaphragms with said pilot valve, a casing entirely filled with an incompressible liquid in contact with both of said diaphragms, there being a chamber on the side of the larger diaphragm farthest from said smaller diaphragm, and a conduit for supplying fluid to said last named chamber.

3. In apparatus of the character described, a casing provided with a piston chamber, a piston having a head working in said piston chamber, a main valve operatively connected with said piston head, a plunger carried by said piston, said plunger extending through one end of said piston chamber, a pilot valve, there being a passage leading from said pilot valve to each end of said piston chamber, the passage leading to the end adjacent said plunger being continually open to the supply, and means actuated by fluid pressure for operating said pilot valve to open and close the other passage to move said piston.

4. In apparatus of the character described, a casing provided with a piston chamber, a piston having a head working in said piston chamber, a main valve operatively connected with said piston, a plunger carried by said piston, said plunger extending through one end of said piston chamber, a pilot valve, there being a passage leading from said pilot valve to each end of said chamber, the passage leading to the end adjacent said plunger being continually open to the supply, and means actuated by fluid pressure for operating said pilot valve to open and close the other passage to move said piston, said pilot valve being furnished with a hollow-plug having a radial port intermittently in communication with the end of the piston chamber opposite to said plunger, and another radial port of sufficient width to remain continually in communication with the passage leading to end of said piston chamber through which said plunger extends.

5. In apparatus of the character described, a casing containing a piston chamber, a piston having a head working in said chamber, a plunger carried by said piston, said plunger projecting from one side of said head through said chamber, a main valve operatively connected with said piston, and a pilot valve adapted to supply pressure from the supply continually around said plunger beneath said piston head and intermittently to the other side of said piston head.

[Claims 6 to 12 not printed in the Gazette.]

970,737. COUPLING FOR PIPES, SHAFTS, &c. ALBERT H. NELLER, Fairfield, Iowa, assignor to Louden Machinery Company, Fairfield, Iowa, a Corporation of Iowa. Filed Aug. 23, 1909. Serial No. 514,260.



1. In couplings for pipes, shafts, etc., a pair of mating members having bodies adapted to conform approximately to the contour of the parts to be held, mating lugs formed on the bodies of the members so as to stand a distance apart, inwardly extended mating flanges on the outer edges of the lugs, and means applied to the lugs to hold the members together.

2. In couplings for pipes, shafts, etc., a pair of mating members having bodies adapted to conform approximately to the contour of the parts to be held, mating lugs formed on the bodies of the members so as to stand a distance apart, inwardly extended mating flanges on the outer edges of the lugs having their inner ends joined to the meeting edges of the members and means applied to the lugs to hold the members together.

3. In couplings for pipes, shafts, etc., a pair of mating members having bodies made thin and of springy or compressible material and adapted to conform to the general contour of the parts to be held, mating lugs formed on the bodies of the members so as to stand a distance apart, inwardly extended mating flanges on the outer edges of the lugs, and means applied to the lugs to hold the members together.

4. In couplings for pipes, shafts, etc., a pair of mating members having bodies made thin and of springy or compressible material and adapted to conform to the general contour of the parts to be held, mating lugs formed on the bodies of the members so as to stand a distance apart and have openings therein, inwardly extended mating flanges on the outer edges of the lugs around the openings, and bolts passed through the openings in the lugs to hold the members together.

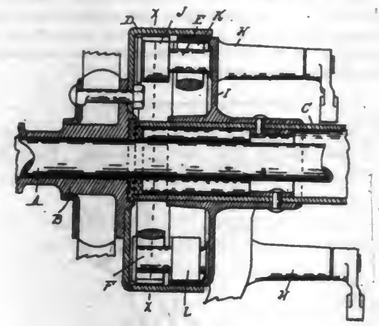
5. In couplings for pipes, shafts, etc., a series of clamps each adapted to hold the end of a pipe or bar and curved flanges one on one end of each of the clamps adapted to fit against a larger pipe or bar, and means to connect the clamps together so as to grip and hold said larger pipe or bar.

[Claim 6 not printed in the Gazette.]

970,738. BRAKE. EMIL A. NELSON, Detroit, Mich., assignor to Hupp Motor Car Company, Detroit, Mich., a Corporation of Michigan. Filed July 16, 1909. Serial No. 508,030.

1. A brake mechanism comprising a brake drum, a pair of adjacent expansible brake shoes arranged within said drum, and rock shafts for respectively expanding said shoes arranged on diametrically opposite sides of the drum, each shaft constituting an anchor for the opposite shoe.

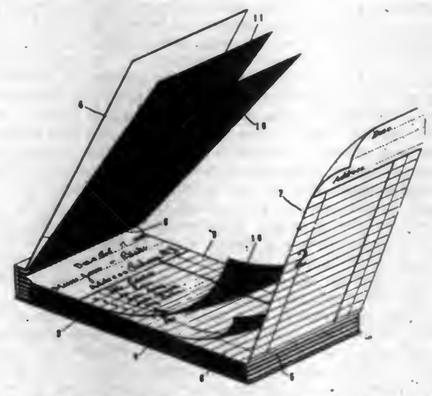
2. A brake mechanism comprising a brake drum, a pair of adjacent split annular brake shoes arranged within said drum, with their points of severance upon opposite sides thereof, cams for expanding said shoes arranged in the splits thereof, and cam shafts for said cams, each constituting a pivot anchor for the opposite shoe.



3. A brake mechanism comprising a brake drum, a stationary head forming a closure for said drum, a pair of adjacent split annular brake shoes arranged within said drum, shafts journaled in said stationary head upon diametrically opposite sides thereof, each forming a central pivotal anchor for one of the shoes, and cams on said shafts for expanding the opposite shoe.

4. A brake mechanism comprising a brake drum, a pair of brake shoes therein, and means for independently operating said shoes, the operating means of each shoe constituting an anchor for the other shoe.

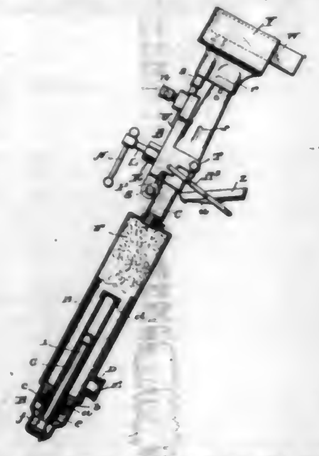
970,739. MANIFOLDING-PAD. THOMAS WILBERFORCE OLD, Montreal, Quebec, Canada, assignor to The Carter-Crume Company, Limited, Niagara Falls, N. Y., a Corporation of Canada. Filed July 3, 1906. Serial No. 324,607.



In a manifolding device, a pad comprising a plurality of uncoated sheets each of which comprises two leaf portions folded one upon the other along a weakened line, one of the leaf portions of each of said sheets being provided with an end portion to which it is joined along a weakened line whereby the sheet is detachable therefrom, and a plurality of sheets having impression-receiving upper sides and provided with a coating of transferring material upon their under surfaces, said last mentioned sheets being disposed in alternate relation with said first mentioned sheets and one of said second mentioned sheets lying interposed between the leaf portions of each of said first mentioned sheets whereby two uncoated leaf portions will be interposed between adjacent coated sheets, said end portions associated with the first mentioned sheets and said second mentioned sheets being secured together

whereby said second mentioned sheets will be permanently secured to said end portions, each of said second-mentioned sheets, upon the removal of the sheet between the leaf portions of which it is normally positioned, being adapted to be superimposed upon the coated sheet positioned between the leaf portions of the succeeding uncoated sheet with its coated side engaging the impression-receiving side of said coated sheet.

970,740. GASOLENE SOLDERING-IRON. CHARLES OLDENBURG, Halifax, Nova Scotia, Canada. Filed Mar. 23, 1909. Serial No. 485,156.

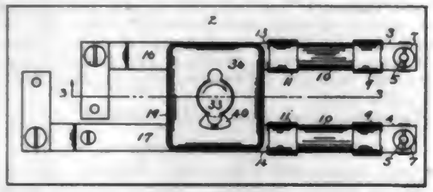


1. The combination in a gasolene soldering iron, of a combined gasolene reservoir and handle portion, a pump carried by said reservoir and handle portion for charging the same with air under pressure, a tube fixed to and communicating with the reservoir and handle portion and having a minute discharge aperture in its end remote therefrom, a valve for controlling the passage of gasolene through the said tube, a burner tube fixed with respect to and extending from the first named tube and tapered toward its upper end, an iron-holder fixed on the first named tube and having a vertical bore, a set screw bearing in said holder and arranged to extend to said bore, an iron having a shank disposed in the bore of the holder and engaged by said set screw, a shield for the iron having a depending sleeve snugly receiving the burner tube and also having a depending sleeve receiving the shank of the iron, a bail connected with the iron holder, and arranged to be swung up and down, and a preheating pan carried by and adjustable on the said bail.

2. The combination in a gasolene soldering iron, of a combined gasolene reservoir and handle portion threaded at its lower end, a pump for charging the reservoir and handle portion with air under pressure having a cylinder fixed therein and projecting beyond the lower end thereof and also having a piston the rod of which extends below the cylinder, and a base cap engaging the threaded lower end of the reservoir and handle portion and inclosing the lower ends of the pump cylinder and piston rod.

3. The combination in a gasolene soldering iron, of a burner tube, a valved tube for supplying the burner tube with gasolene, an iron-holder fixed on the valved tube, an iron having a shank connected with the holder, a bail connected with and arranged to swing on the iron-holder and having a cross-bar partly of angular form in cross-section, a preheating pan arranged on the cross-bar of the bail and having bearings receiving the portions of the cross-bar at opposite ends of the angular portion thereof, and a spring strip connected with the bottom of the pan and disposed at the opposite side of the cross-bar, with reference to the pan.

970,741. PANEL-BOARD CUT-OUT AND DISTRIBUTING MECHANISM. RAYMOND H. OLLEY, Syracuse, N. Y., assignor to Crouse-Hinds Company, Syracuse, N. Y., a Corporation of New York. Filed Dec. 13, 1909. Serial No. 532,722.



1. A switch base, comprising a substantially square body of insulating material having a perforation near each corner and a perforation through its center, and having a perforation positioned between each corner and the central perforation, a central cup-like cavity in the top of the base concentric to said central perforation, and a plurality of irregular recesses formed in the top of the base connecting with the central cavity and also with the corner perforations, the said recesses arranged in pairs, one pair of said recesses being disposed in a lower plane than the other pair, one pair of said recesses lying in a line drawn diagonally through the central cavity from one corner of the base to the other, the other pair of recesses lying in a line drawn across the base at right angles to said first line.

2. A switch base, comprising one piece of porcelain having a perforation near each corner and a perforation through the center, a central cup-like cavity in the top of the base concentric to said central perforation, a plurality of recesses formed in the top of the base connecting with the central cavity and also with the corner perforations, the said recesses arranged in pairs, one pair of said recesses lying in a line drawn diagonally through the central cavity from one corner of the base to the other, the other pair of said recesses lying in a line drawn across the base at right angles to said first line, and a series of integral walls spaced at regular intervals around the central cavity forming barriers between the adjacent recesses.

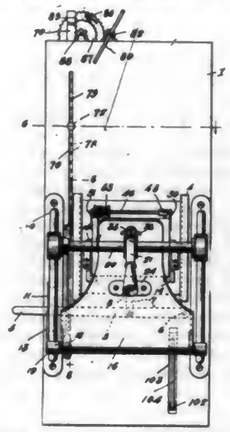
3. A switch base, comprising a body of an insulating material having a perforation near each corner and a perforation through its center, and having a perforation positioned between each corner and the central perforations, a central cup-like cavity in the top of the base concentric to said central perforation, a plurality of irregular recesses formed in the top of the base connecting with the central cavity and also with the corner perforations, the said recesses arranged in pairs, one pair of said recesses being disposed in a lower plane than the other pair, one pair of recesses lying in a line drawn diagonally through the central cavity from one corner of the base to the other, the other pair of recesses lying in a line drawn across the base at right angles to said first line, a series of integral walls spaced at regular intervals around the central cavity forming barriers between the adjacent recesses, and a series of like recesses formed in the bottom of the base concentric to the corner perforation.

4. A switch base, comprising one piece of porcelain having a perforation near each corner and a perforation through its center, and having a perforation positioned between each corner and the central perforations, a central cup-like cavity in the top of the base concentric to said central perforation, a plurality of irregular recesses formed in the top of the base connecting with the central cavity and also with the corner perforations, the said recesses arranged in pairs, one pair of said recesses being disposed in a lower plane than the other pair, one pair of recesses lying in a line drawn diagonally through the central cavity from one corner of the base to the other, the other pair of recesses lying in a line drawn across the base at right angles to said first line, a series of integral walls spaced at regular intervals around the central cavity forming barriers between the adjacent recesses, a series of like recesses formed in the bottom of the base concentric to the corner perforation, and a series of integral ribs arranged on the top of the base at right angles to said walls for supporting a cover.

5. A snap-switch base for panel-board, comprising a rectangular body of insulating material having a perforation through its center and having a central cavity in its top concentric to said perforation, for housing a rotary switch mechanism, a recess arranged adjacent each corner of the top facing the central cavity for receiving stationary contact pieces, a recess in each corner of the bottom facing outwardly for receiving conducting bars, a perforation near each corner connecting the top and bottom recesses, a cover for closing the top of the base, and a series of ribs disposed between the central cavity and the side and end walls of the body for holding the cover in place.

[Claim 6 not printed in the Gazette.]

970,742. PHOTOGRAPHIC-PRINTING MACHINE. GUSTAVE R. OLSON and DEMMIE HIATT, Plattsmouth, Nebr. Filed Feb. 6, 1909. Serial No. 476,509.



1. In a photographic printing machine, the combination of an upright support having an opening, means for supporting a negative at said opening, a movable platen having means for supporting a sensitized element, guides, superposed shutters slidably arranged in said guides, a supporting means for the shutters, a trip for actuating said shutter supporting means to successively release said shutters, a slidably mounted timing bar, and means upon the latter to successively engage and actuate said trip.

2. In a photographic printing machine, the combination of an upright support having an opening, means for supporting a negative at said opening, a movable platen having means for supporting a sensitized element, guides, superposed shutters slidably arranged in said guides, a supporting means for the shutters, a trip for actuating said shutter supporting means to successively release said shutters, a slidably mounted timing bar, and adjustable means upon the latter to successively engage and actuate said trip.

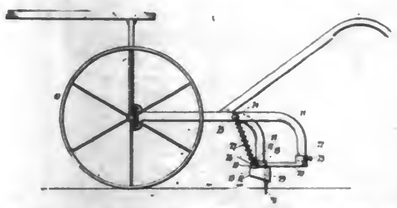
3. In a photographic printing machine, the combination of an upright support having an opening, means for supporting a negative at said opening, a movable platen having means for supporting a sensitized element, guides, superposed shutters slidably arranged in said guides, a supporting means for the shutters, a trip for actuating said shutter supporting means to successively release said shutters, a slidably mounted timing bar, and pins upon said timing bar to successively engage and actuate said trip.

4. In a photographic printing machine, the combination of a support having an opening, means for supporting a negative at said opening, a lever for adjusting said negative supporting means, means for holding said lever in adjusted position, a shutter mechanism at said opening for controlling the admission of light to the negative, a movable platen, and means for actuating said platen.

5. In a photographic printing machine, the combination of a support having an opening, guides in which said negative supporting means is slidably mounted, an adjusting lever, a link connecting said lever to the negative supporting means, a spring pressed ratchet bar for retaining the lever in adjusted position, a movable platen, means for operating the same and means for controlling the admission of light through said opening to a negative.

[Claims 6 to 30 not printed in the Gazette.]

970,743. CULTIVATOR ATTACHMENT. JAMES O'MALEY, near Loogootee, Ind. Filed Mar. 28, 1910. Serial No. 551,856.



1. In an attachment for cultivators, a drag beam, connecting means at one end of said beam adapted to engage a cultivator standard, a bar pivoted to the beam adjacent its other end, said bar being provided with means at its free end to engage a second cultivator standard, and a beveled washer held between said beam and bar at the pivot point.

2. In an attachment for cultivators, a drag beam, connecting means at one end of said beam adapted to engage a cultivator standard, a bar pivoted to said beam adjacent its other end, said bar being provided at its free end with attaching means adapted to engage the lower end of a second cultivator standard, and resilient means adapted to connect said beam to a second point on one of said standards.

3. In an attachment for cultivators, a drag beam, connecting means at one end of said beam adapted to engage a cultivator standard, a bolt projecting above said beam adjacent its center, a bar provided with a plurality of holes at one end adapted to receive said bolt to pivotally connect the bar and beam, securing means at the opposite end of said bar adapted to engage a second cultivator beam, and resilient means adapted to connect said beam to a second point on one of said standards.

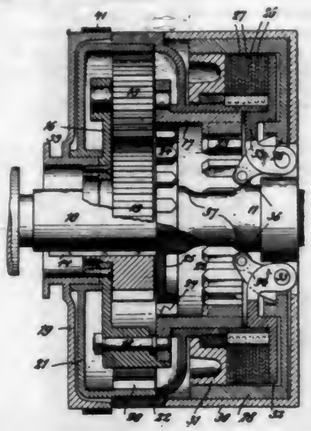
4. In an attachment for cultivators, a drag beam, connecting means at one end of said beam adapted to engage a cultivator standard, a bar pivoted to the beam adjacent its other end, said bar being provided with means at its free end to engage a second cultivator standard, a beveled washer held between said beam and bar at the pivot point, and resilient means adapted to connect said beam to a second point on one of said standards.

5. In an attachment for cultivators, a drag beam, a socket at one end of said drag beam adapted to receive the lower end of a cultivator standard, a bar pivoted to said drag beam adjacent its middle, said bar being provided at its free end with a socket to receive the lower end of a second cultivator standard, set screws for said sockets to secure said standards within the sockets, and resilient means adapted to connect said beam to a second point on one of said standards.

970,744. TRANSMISSION-GEARING. ALDEN E. OSBORN, New York, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed Feb. 2, 1910. Serial No. 541,429.

1. The combination with driving and driven elements, two brake drums, gearing connecting the brake drums

and one of the said elements, and clutches for connecting either or both of the said drums with the other said element, of a single brake for the two said drums, and a single operating element adapted to operate both of the said clutches when in one position, one of them when in another position, and the other of them when in a third position.



2. The combination with driving and driven elements, two brake drums, gearing connecting the brake drums and one of the said elements, and clutches for connecting either or both of the said drums with the other said element, of a single brake for the two said drums, and a single operating element adapted to operate both of the said clutches when at the extremity of its movement in one direction, one of them when at the extremity of its movement in the opposite direction, and the other when in an intermediate position.

3. The combination with driving and driven elements, two drums, gearing connecting the drums and one of the said elements, and clutches for connecting either or both of the said drums with the other said element, of means for holding either of the said drums against rotation, and a single operating element adapted to operate both of the said clutches when in one position, one of them when in another position, and the other of them when in a third position.

4. The combination with driving and driven elements, two drums, gearing connecting the drums and one of the said elements, and clutches for connecting either or both of the said drums with the other said element, of means for holding either of the said drums against rotation, and a single operating element adapted to operate both of the said clutches when at the extremity of its movement in one direction, one of them when in the extremity of its movement in the opposite direction, and the other one in an intermediate position.

5. The combination with driving and driven elements, two drums, gearing connecting the drums and the driving element together, and clutches for connecting either or both of the said drums with the driven element, of means for holding either of the two said drums against rotation, and a single operating element adapted to operate both of the said clutches when in one position, one of them when in another position, and the other of them when in a third position.

[Claims 6 to 29 not printed in the Gazette.]

970,745. BOBBIN-HOLDER FOR SPINNING-SPINDLES. FRANK OSKRIT, Pittsfield, Mass. Filed Jan. 28, 1909. Serial No. 474,685.

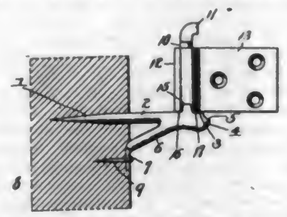
1. As an article of manufacture, a bobbin-holder adapted to be set over a spindle and comprising a metal sleeve formed with a plurality of longitudinally-arranged resilient elements, and a clamping device arranged centrally about the sleeve to secure the sleeve on the spindle whereby the portions of said resilient elements above and below the clamping device constitute independent spring sections for the support of the bobbin.



2. A bobbin-holder adapted to be set over a spindle and wholly inclosed by the bobbin, comprising a spring sleeve having each of its ends movable relatively to the spindle and adapted to be adjusted with relation thereto when the bobbin is set over the sleeve, and clamping means provided centrally on the sleeve for securing the sleeve in position on the spindle, the portions of the sleeve above and below the clamping means forming independent sections adapted to separately engage the bobbin.

3. As an article of manufacture, a bobbin-holder adapted to be set over a spindle and comprising a metal sleeve formed with a plurality of longitudinally-arranged resilient elements and having an annular flange at its lower end adapted to close the space intervening the bobbin and the spindle, and a collar provided centrally about the sleeve for adjustably securing the sleeve in position on the spindle and adapted to form independent spring sections of said resilient elements above and below the collar.

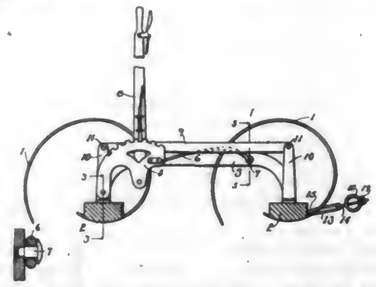
970,746. BLIND-HINGE. JOSEPH A. POIRIER, Woonsocket, R. I. Filed July 11, 1910. Serial No. 571,465.



In a blind hinge, an attaching support comprising a spindle formed with a flattened off-set end, an inner tenon and outer tenon at the base of said spindle, the upper edge of said outer tenon being positioned below that of the inner tenon, in combination with a hinge member comprising a slotted socket rotatably mounted on said spindle and provided with notches in its lower edge for cooperating with said tenons, substantially as described.

970,747. HARROW. DAVID POLLEY, Vicksburg, Mich. Filed Dec. 1, 1909. Serial No. 530,744.

1. In a harrow, the combination with the teeth of a pair of tooth bars arranged substantially parallel, one behind the other; connecting links for said bars, said links having downwardly turned ends pivotally connected to said bars; an adjusting rack secured to the rear bar to project forwardly therefrom, said rack being disposed between said links; upwardly curved, forwardly diverging braces rigidly secured to said rack at their rear ends, their forward ends being pivotally secured to said bar connecting links; an adjusting lever pivoted on said rack; upwardly projecting arms on said bars; a link pivotally connected to said arms and to said lever; and a draft device connected to the forward bar adjacent to the forward ends of said bar connecting links.



2. In a harrow, the combination with the teeth of a pair of tooth bars arranged substantially parallel, one behind the other, connecting links for said bars pivotally connected thereto; an adjusting rack secured to the rear bar to project forwardly therefrom, said rack being disposed between said links; braces rigidly secured to said rack at their rear ends, their forward ends being pivotally secured to said bar connecting links; an adjusting lever pivoted on said rack; upwardly projecting arms on said bars; and a link pivotally connected to said arms and to said lever.

3. In a harrow, the combination with the teeth of a pair of tooth bars arranged substantially parallel, one behind the other; connecting links for said bars pivotally connected thereto; an adjusting rack secured to the rear bar to project forwardly therefrom, said rack being disposed between said links; braces rigidly secured to said rack at their rear ends, their forward ends being pivotally secured to said bar connecting links; an adjusting lever pivoted on said rack; upwardly projecting arms on said bars; a link pivotally connected to said arms and to said lever; and a draft device connected to the forward bar adjacent to the forward ends of said bar connecting links.

4. In a harrow, the combination with the teeth of a pair of tooth bars arranged substantially parallel, one behind the other; connecting links for said bars pivotally connected thereto; an adjusting rack carried by the rear bar; braces having a rigid connection with said rack and a pivotal connection with the front bar; an adjusting lever; upwardly projecting arms on said bars; and a link pivotally connected to said arms and to said lever.

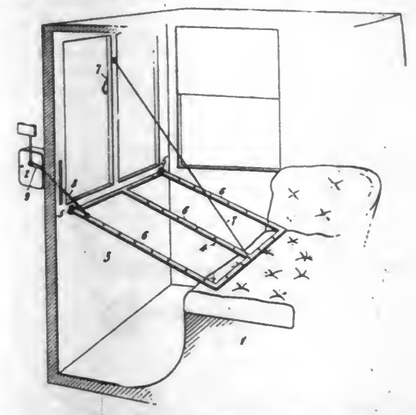
5. In a harrow, the combination with the teeth of a pair of tooth bars arranged substantially parallel, one behind the other; connecting links for said bars pivotally connected thereto; an adjusting rack carried by the rear bar; braces having a rigid connection with said rack and a pivotal connection with the front bar; an adjusting lever; and a connection for said lever to said bars, whereby said bars are held adjustably in position and independent movement thereof permitted.

[Claims 6 and 7 not printed in the Gazette.]

970,748. TAXIMETER FRAUD-PREVENTIVE DEVICE. TRUMAN W. POST, New York, N. Y., assignor, by mesne assignments, to Post Lock Register Co., a Corporation of New York. Filed Aug. 14, 1909. Serial No. 512,822.

1. A taximeter fraud preventive device comprising a taximeter having a controlling part, means movable with respect to a part of a vehicle whereby said vehicle may be rendered tenable or untenable, means connected thereto for putting said taximeter controlling part in fare registering position while said first mentioned means is being positioned to render the car tenable, and means operable from the vehicle operator's seat for controlling the aforesaid movable means.

2. A taximeter fraud preventive device comprising a taximeter having a controlling part and positioned adjacent the seat of the operator of a vehicle, means movable with respect to a part of said vehicle, whereby the said vehicle cannot be occupied by a passenger if the taximeter controlling part is out of fare registering position, and means operable from the vehicle operator's seat for controlling the aforesaid movable means.



3. A taximeter fraud preventive device comprising a taximeter having a controlling part and positioned adjacent the seat of the operator of a vehicle, means movable with respect to a part of said vehicle whereby the said vehicle cannot be entered by a passenger without putting the taximeter controlling part in fare registering relation, said means comprising a member extending through the vehicle casing.

4. A taximeter fraud preventive device comprising a member attached to the casing of a vehicle, a taximeter having a controlling part and positioned upon the outer side of said casing, and means connecting said member and said taximeter controlling part whereby said vehicle is rendered untenable when said part is out of fare registering position.

5. A taximeter fraud preventive device comprising a member downwardly movable within a vehicle from a position in which said member does not interfere with the tenability of the vehicle, to a position where the vehicle is untenable by passengers, a taximeter having a controlling part, and means connected to said member for putting said taximeter controlling part in fare registering position when said member is moved to its first mentioned position in the vehicle, said member moving to a location where it is substantially invisible or inconspicuous when upwardly disposed.

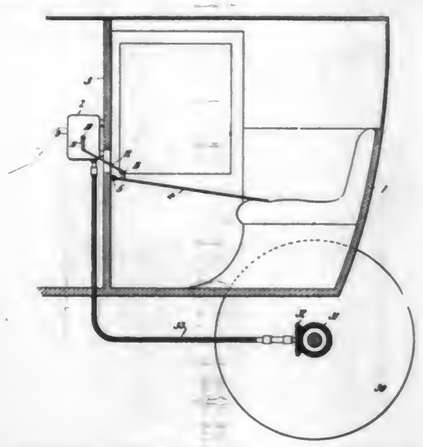
[Claims 6 to 8 not printed in the Gazette.]

970,749. TAXIMETER. TRUMAN W. POST, New York, N. Y., assignor, by mesne assignments, to Post Lock Register Co., a Corporation of New York. Filed Aug. 20, 1909. Serial No. 513,753.

1. In combination with a vehicle having an obstructing member within its passenger carrying space; a taximeter having an operating part and also comprising rotatable registering means, elements of which are brought into operative relationship by a limited or by a completed movement of said part; and normally inseparable connecting means secured to said part and said member.

2. In combination with a vehicle having an obstructing member within its passenger carrying space; a taximeter having an operating lever and further comprising ratchet-driven registering means, elements of which are brought into operative relationship by a movement of said lever; and a linked connection between said lever and said member, whereby the lever may be moved only when said member is moved.

3. In combination with a vehicle having means displaced by the entrance or presence of a passenger in the vehicle; a taximeter having an operating lever and further comprising registering means, elements of which are brought into operative relationship by a movement of said lever; and linked connections between said first mentioned means and said lever.

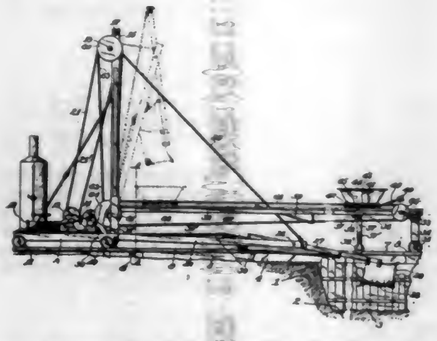


4. In combination with a vehicle having means displaced by the entrance or presence of a passenger in the vehicle; a taximeter having an operating part and further comprising registering means, elements of which are brought into operative relationship by a limited or by a completed movement of said part; and direct connecting means secured to said part and to a part of said means.

5. In combination with a vehicle; a taximeter having an operating part and cam actuated registering means; and means comprising a member movable with respect to a part of said vehicle whereby the said vehicle cannot be entered by a passenger until the taximeter has been placed in fare registering relation, said means further comprising elements normally inseparable connecting said taximeter operating part and said member.

[Claims 6 to 8 not printed in the Gazette.]

970,750. EXCAVATING AND CONVEYING APPARATUS. JOSEPH L. POTTER, Indianapolis, Ind. Filed Oct. 25, 1909. Serial No. 524,459.



1. Hoisting and conveying apparatus including an engine-car, a hoisting-engine on the engine-car, an upright frame on the engine-car, a trestle extending from the engine-car, a horizontal pivot with a stationary axis on the engine-car in proximity to the adjacent end of the trestle, a boom mounted on the engine-car with its end movable upward above the adjacent end of the trestle, a rotative guide on the upper portion of the frame, a cable connected with the hoisting-engine and coöperating with the guide to move the boom, a conveying-car movable on the trestle, a guide-pulley on the engine-car in proximity to the pivot, a guide-pulley on the remote end portion of the trestle, a cable connected to the conveying car and extending about the guide-pulleys to the rotative guide, the cable being operatively connected with the hoisting engine and actuated thereby simultaneously with the movement of the boom, and a lifting device movably connected with the boom and guided thereby first toward and thence above the adjacent end of the trestle.

2. Excavating and conveying apparatus including an engine-car, a hoisting-engine on the engine car, an upright frame on the engine-car, a trestle extending from the engine-car, a boom pivotally supported on the engine-car in proximity to the trestle and the bottom of the frame with its free end movable upward above the adjacent end of the trestle in a vertical plane, a conveying-car movable on the trestle, a rotative guide on the upper portion of the frame, hoisting means connected operatively with the hoisting-engine and the boom, and coöperating with the guide for moving the boom, a draft-cable connected to the conveying-car, and an excavating device connected movably with the boom and guided thereby toward and above the adjacent end of the trestle, with compound gearing mounted on the engine-car and having operative connection with the hoisting-engine and the boom and the draft-cable.

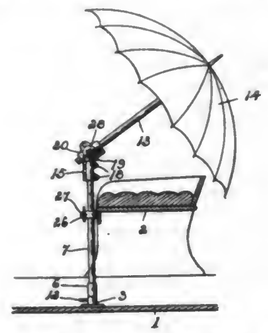
3. Excavating and conveying apparatus including an engine-car, a winding-drum and an upright frame on the engine-car, a trestle extending from the engine-car, a boom pivotally supported on the engine-car in proximity to the trestle and the bottom of the frame with its free end movable upward above the adjacent end of the trestle, a shaft mounted on the upper portion of the upright frame, a large drum mounted on the shaft, a cable connected with the winding-drum and the large drum for operating the drum, a relatively smaller drum on the shaft driven by the large drum, a cable connected to the smaller drum and also to the boom, a conveying car movable on the trestle, a gear pulley on the shaft and driven by the large drum, a rotative guide mounted on the engine-car in proximity to the bottom of the upright frame, a guide sheave on the remote portion of the trestle, power-transmission means having operative connection with the rotative guide and the sheave and connecting the conveying car with the gear pulley, and an excavating device guided by the boom.

4. Excavating and conveying apparatus including an engine-car, a winding-drum and an upright frame on the engine-car, a trestle extending from the engine-car, a boom pivotally supported on the engine-car, an excavating device guided by the boom, a shaft mounted rotatively on the upper portion of the upright frame, a hoisting cable operatively connected with the winding-drum and the boom, a cable-drum secured to the shaft and engaged by the cable for rotating the shaft, a gear wheel secured to the shaft, a countershaft mounted on the engine-car in proximity to the lower portion of the upright frame, a speed-increasing pulley on the countershaft, a sheave on the remote portion of the trestle, a conveying car movable on the trestle, a draft cable in contact with the sheave and connected with the conveying car and the speed-increasing pulley, and driving gearing connecting the gear wheel with the speed-increasing pulley for driving the draft cable faster than the hoisting cable.

5. In excavating and conveying apparatus, the combination of an engine-car, a winding-drum on the engine-car, a boom pivoted on the engine-car to move vertically, a trestle, and a conveying-car movable on the trestle, with speed-reducing gearing mounted on the engine-car and connected with the winding-drum and the boom to move the boom, and speed-increasing gearing mounted on the engine-car and connected with the conveying-car and also operatively with the winding-drum and the boom, for moving the conveying-car relatively farther than the boom simultaneously with the movement of the winding-drum.

[Claims 6 and 7 not printed in the Gazette.]

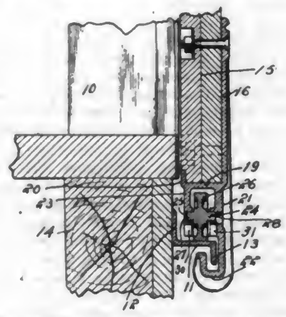
970,751. UMBRELLA-SUPPORT. AUGUST PRANKE, Halfway, Mich. Filed July 1, 1910. Serial No. 569,908.



1. A device of the character described comprising a floor plate having an opening, a vertically extending rotatable supporting post, a member secured to the lower end of said post provided with an axial pin engaging the opening in the floor plate and formed with a series of holes arranged concentrically with said pin, a longitudinally movable pin carried by the floor plate and adapted to engage said series of holes to lock the post in any position to which it may be turned, a socket member secured to the upper end of the post, a clamping member secured to the socket member and rotatively adjustable thereon, said clamping member being formed in two hinge connected parts, and means for securing the two parts of the clamping member together to clamp the umbrella staff therein.

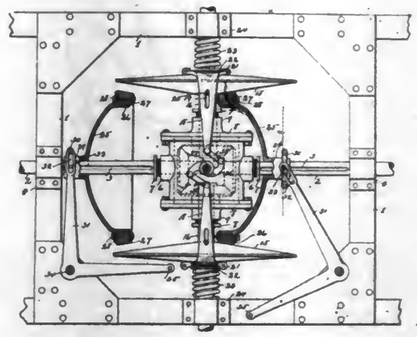
2. A device of the character described comprising a floor member having an upwardly extending boss formed with an axial opening and with a vertical hole at one side of said opening having a lateral slot in one side, a vertically extending supporting post, a member secured to the lower end of said post provided with an axial pin engaging the axial opening in the plate and also formed with a series of holes arranged concentrically around said pin in the lower end of said member, a longitudinally movable pin in the slotted hole in the plate adapted to engage said series of holes, a spring secured to the plate and engaging the lower end of the movable pin to normally hold the same projected upward into engagement with one of said series of holes, a laterally extending arm on said movable pin extending outward through the said slot, and means on the upper end of said post for holding the umbrella staff and permit an angular adjustment of said staff relative to said post.

970,752. CAR-DOOR HANGER. LUCIUS S. PRATT, Union Center, N. Y. Filed Oct. 8, 1908. Serial No. 456,750.



In a door hanger, the combination of a track having a horizontal web and a depending guide flange at the outer edge thereof, a substantially J-shaped bracket for attachment to a door, the hook of which engages under the said guide flange, said bracket being further provided at the upper end of the arm of the hook with an inwardly extending web to bear under the door and a depending vertical web spaced from the arm of the hook and terminating above the horizontal web of the track, the said arm of the hook having a lug on its inner side, said lug and the said vertical web of the bracket having each a bearing and a vertical slot leading therefrom, open at its lower end, and a roller on the said horizontal web of the track and having journals in said bearings, said slots permitting the mounting and detachment of the roller when the latter and the bracket are removed from the track.

970,753. POWER-TRANSMITTING MECHANISM. SIMEON H. RICKARD, Pittsburg, Pa. Filed May 1, 1909. Serial No. 493,274.



1. In a power transmitting device, the combination of oppositely arranged separate shafts, toothed gearing connecting said shafts, friction driving disks in axial alinement and in driving engagement with said shafts, means for moving said disks axially therein, an intermediate friction wheel arranged to contact with said disks, and means for moving said wheel toward and from the center of said disks.

2. In a power transmitting device, the combination of oppositely arranged separate shafts, toothed gearing connecting said shafts, friction driving disks in axial alinement and in driving engagement with said shafts, means for moving said disks axially therein, a counter shaft extending transversely between said separated shafts, a friction wheel slidingly mounted on said counter shaft in driving engagement therewith, intermediate of said disks and arranged to contact therewith, and means for moving said wheel toward and from the center of said disks.

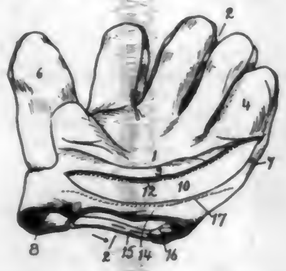
3. In a power transmitting device, the combination of oppositely arranged friction driving disks in axial alinement, means for moving said disks axially, a transversely arranged counter shaft, two friction wheels slidingly mounted on said shaft in driving engagement therewith located intermediate of and arranged to contact with said disks, and means for moving either of said wheels toward and from the center of said disks.

4. In a power transmitting device, the combination of a power driven shaft, a companion shaft in axial alinement therewith, a transverse counter shaft, bevel gears mounted on said shafts and adapted to transmit motion from the first named shaft directly to its companion shaft, oppositely arranged friction driving disks slidingly mounted on the power shaft and its companion shaft outside of said bevel gears, means for moving said disks on said shaft, an intermediate friction wheel slidingly mounted on said counter shaft in driving engagement therewith arranged to contact with said disks, and means for moving said wheel toward or from the center of said disks.

5. In a power transmitting device, the combination of a power driven shaft, a companion shaft in axial alinement therewith, a transverse counter shaft, bevel gears mounted on said shafts and adapted to transmit motion from the first named shaft to its companion shaft, oppositely arranged friction driving disks slidingly mounted on the power shaft and its companion shaft, means for moving said disks on said shaft, two friction wheels slidingly mounted on said counter shaft in driving engagement therewith arranged to contact with said disks, and means for moving either of said wheels toward and from said disks.

[Claims 6 to 9 not printed in the Gazette.]

970,754. BASE-BALL-PLAYER'S GLOVE OR MITT. ELROY L. ROGERS, Springfield, Mass. Filed Sept. 17, 1909. Serial No. 518,127.



1. The combination, in a glove or mitt of the class specified, of a lining, a covering slit and stretched apart to form a gap in its palm or front side between the bases of the thumb and little finger and opening onto said lining, a heel piece narrowed at the ends and attached to the edges of such gap to cover the opening, and padding within the space inclosed by the lining, covering and heel piece.

2. A padded glove or mitt, of the class specified, having an unpadded wrist part and having the palm or front portion of its covering, between the bases of the thumb and little finger and inside of the adjacent edge of said wrist portion, separated from the adjacent portion of the lining, with a heel piece arranged in angular relation to the flatwise plane of said glove or mitt and connecting such separated portions of the covering and lining, the arrangement being such that a prominence is formed between the aforesaid bases of the thumb and little finger, for the purpose set forth.

3. The combination, in a glove or mitt of the class specified, of a covering having a gap in its palm or front side between the bases of the thumb and little finger, a heel piece so attached to the edges of such gap as to cover the opening and permit a part of said side of the covering to project to form a wrist portion, a lining which extends under said wrist portion and is attached to the same, and padding within the space inclosed by the covering, heel piece and lining.

970,755. ELECTROPLATING. AUGUSTUS ROSENBERG, London, England. Filed Mar. 16, 1909. Serial No. 483,748.

1. The method of electroplating which consists in the frictional application to an electrically-conductive surface, in the presence of an electrolyte containing in solution the metal to be deposited, of a second metal electropositive with respect to both said surface and said metal in solution, said electropositive metal being in elemental and comminuted form.

2. The method of electroplating which consists in the frictional application to an electrically-conductive surface, in the presence of an electrolyte containing a double salt of the metal to be deposited, of a metal electropositive with respect to said surface and in elemental and comminuted form.

3. The method of electroplating which consists in the application to an electrically-conductive surface, in the presence of an electrolyte, of a salt of the metal to be deposited, together with a polishing agent.

4. The method of electroplating which consists in the frictional application, to an electrically-conductive surface, in the presence of an electrolyte, of a salt of the metal to be deposited, together with a mechanical polishing agent.

5. The method of electroplating which consists in the application, to an electrically-conductive surface, in the presence of a solid diluent and of an electrolyte containing in solution the metal to be deposited, of a second metal electropositive with respect to both said surface and the metal in solution, said electropositive metal being in elemental and comminuted form.

[Claims 6 to 46 not printed in the Gazette.]

970,756. ANIMAL FIBER FOR FELTING AND PROCESS OF PREPARING THE SAME. MICHAEL EMMET RYAN, Fall River, Mass. Filed Jan. 6, 1910. Serial No. 536,667.

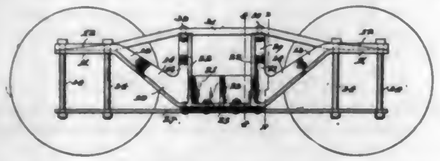
1. The process of preparing animal fibers for felting which consists in attacking a fiber bearing skin with an acid solution until the master hairs are carbonized and the skin has been dissolved and in carroting the resultant fiber.

2. The process of preparing animal fibers for felting which consists in attacking the flesh side of a fiber bearing skin by soaking the skin and fiber in acid solution until the master hairs are carbonized and the skin has been dissolved, and in collecting the resultant fibers.

3. As an article of manufacture, animal fibers for felting obtained entire from skins comprising cuticle, master hairs and fibers, from which the master hairs and cuticle have been eliminated by destruction with an acid.

4. As an article of manufacture, carroted animal fibers for felting obtained entire from skins comprising cuticle, master hairs and fibers, from which the master hairs and cuticle have been eliminated by destruction with an acid.

970,757. CAR-TRUCK SIDE FRAME. CHARLES A. SCHROYER, Oak Park, Ill., assignor to American Steel Foundries, Chicago, Ill., a Corporation of New Jersey. Filed Sept. 19, 1908. Serial No. 453,780.



1. In a railway car-truck side-frame, the combination of a tension member having a spring seat and having its tension portion at the central part of the frame located above said spring-seat, and provided with integral laterally extending braces and an independent compression member fastened to said tension member, substantially as described.

2. In a railway car-truck side-frame, the combination of a tension member having a spring seat integral therewith and adapted to accommodate four springs, said member having a tension portion at the central part of the frame integral therewith and located in the vertical plane above said spring-seat, and provided with lateral braces and a separate compression member fastened to said tension member, substantially as described.

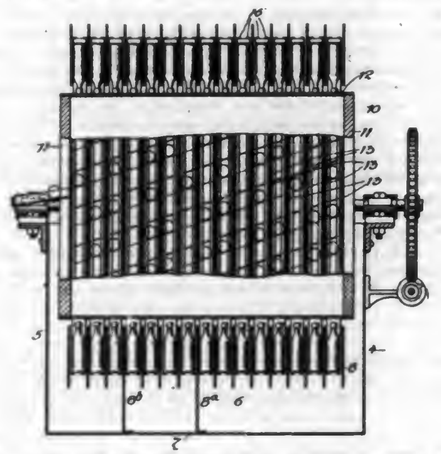
3. A railway car-truck side-frame having a central bolster and spring opening, vertical columns, and a tension member integral with and connecting said columns above said spring-seat, the inner side of said seat being depressed to below the outer side thereof substantially as described.

4. A railway car-truck side-frame member having a central bolster and spring opening, vertical columns integral with said frame, a spring-seat at the base of said columns unitary with said frame member, a tension web or member on the top face of said spring-seat integral therewith and connecting said columns, and one or more transverse braces integral with and connecting said web or member and spring-seat, in combination with an independent frame compression member substantially as described.

5. In a car-truck side-frame, the combination of a lower or tension member of inverted T-shape section at its central portion and channel section at its ends, said ends being adapted to rest on the journal boxes, a compression member having ends resting on and accommodated between the flanges of said lower or tension member ends, and means to fasten together the ends of said tension and compression members, substantially as described.

[Claim 6 not printed in the Gazette.]

970,758. BOTTLE-WASHING MACHINE. WILLIAM SEIDEL, Chicago, Ill., assignor to Seidel Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 3, 1909. Serial No. 516,087.



1. In a bottle washing machine, the combination of a drum, provided around its periphery with circumferentially extending rows of blocks separated from one another and having a continuous upper and lower edge extending parallel with one another and at an angle with respect to the sides and ends, the recesses produced by the separation of the blocks affording chambers for the reception of bottles, the bottle contacting faces of the blocks being beveled with respect to the axis of the drum, and fixed partitions surrounding the drum and lying intermediate the rows of blocks, and provided with passage holes arranged to allow the bottles to successively roll through the holes in the successive partitions, substantially as described.

2. In a bottle washing machine, the combination of a drum, provided around its periphery with circumferentially extending rows of blocks separated from one another and having a continuous upper and lower edge extending parallel with one another and at an angle with respect to the sides and ends, the recesses produced by the separation of the blocks affording chambers for the reception of bottles, fixed partitions surrounding the drum and lying intermediate the rows of blocks, and provided with passage holes arranged to allow the bottles to successively roll through the holes in the successive partitions, and a tank within which the drum is rotatably mounted, said tank being divided to furnish water-tight compartments, substantially as described.

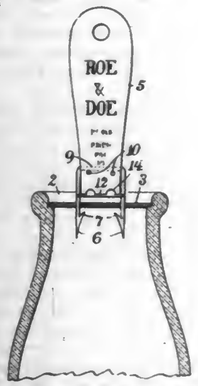
3. In a bottle washing machine, the combination of a drum, provided around its periphery with circumferentially extending rows of blocks separated from one another, the recesses affording chambers for the reception of bottles, the bottle contacting faces of the blocks extending continuously and in a parallel plane with one another and beveled with respect to the axis of the drum, fixed partitions surrounding the drum and lying intermediate the rows of blocks, and provided with passage holes arranged to allow the bottles to successively roll through the holes in the successive partitions, and a tank within which the drum is rotatably mounted, said tank being divided to furnish water-tight compartments, substantially as described.

4. In a bottle washing machine, the combination of a tank, a drum rotatably mounted on the tank and provided around its periphery with rows of members separated from one another, the recesses thus produced furnishing spaces for the reception of bottles, the bottle-contacting faces of the blocks extending continuously and in parallel relation with one another, and beveled with respect to the axis of the drum, and a plurality of partition rings surrounding the drum intermediate said members, said rings being rigidly secured to the tank, and said rings being provided with passage holes, the passage holes of adjacent partition rings being in different planes to facilitate the progression of the bottles through the machine, substantially as described.

5. In a bottle washing machine, the combination of a tank, a drum rotatably mounted on the tank and provided around its periphery with rows of members separated from one another, the recesses thus produced furnishing spaces for the reception of bottles, bottle-contacting faces of the blocks extending continuously and in parallel relation with one another, and beveled with respect to the axis of the drum, a plurality of partition rings surrounding the drum intermediate said members, said rings being rigidly secured to the tank, and said rings being provided with passage holes, the passage holes of adjacent partition rings being in different planes to facilitate the progression of the bottles through the machine, and one of the partition rings being downwardly extended to furnish a partition wall for the tank, dividing the tank into water-tight compartments, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

970,759. MILK-TOP REMOVER. ERSKINE A. SIMMS, Belmont, Mass. Filed Mar. 4, 1910. Serial No. 547,233.



1. A milk-top remover comprising a handle, a wire bent into a U-shape having its extremities sharpened, and means pivotally securing the same to said handle and fastening it rigid therewith.

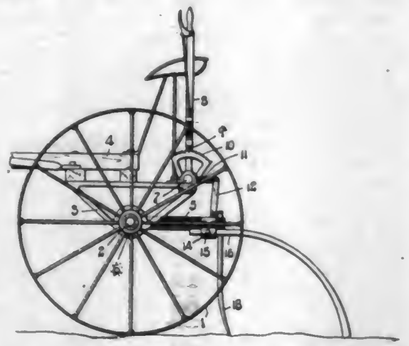
2. A milk top remover comprising a handle, and a single length of wire bent into a U-shape and having its

extremities sharpened and barbed, and means pivotally securing the intermediate section of the wire to said handle for permitting said pointed and barbed ends to be swung up beside the handle.

3. A milk top remover comprising a thin flat handle, a single length of wire bent into a U-shape and having its ends sharpened and barbed, means pivotally securing the intermediate section of the wire to the handle, and notched locking means for normally holding said sharpened ends projecting from the handle.

4. A milk top remover comprising a flat handle having a notch in its end, a single length of wire bent into a U-shape and having its ends sharpened and barbed, means for fastening the intermediate section of said wire in said notch, and a terminally notched metal plate adapted to be fastened upon the notched end of the handle, and to receive the wire members in its said notches.

970,760. SUBSOIL-CULTIVATOR. OTTO J. SPRINGER, Edwardsville, Ill. Filed Apr. 28, 1910. Serial No. 558,256.



1. In a sub-soil cultivator, the combination of a running gear, a carrier pivotally supported by said running gear, soil working claws having straight forward ends rotatably fitted to said carrier, means for holding said claws from rotation, the claws having rear portions curved downwardly and provided with lateral extensions having front cutting edges.

2. A sub-soil cultivator comprising an axle, a carrier loosely fitted to said axle at its forward ends, means for raising and lowering the carrier, socket members parallel with the arms of the carrier and secured thereto, claws having straight forward ends rotatably mounted in the socket members and rear portions curved downwardly, and means for holding said claws from rotation in said socket members.

3. A sub soil cultivator comprising a U-shaped carrier having arms provided with axle eyes at their forward ends, means for raising and lowering the carrier, socket members parallel with the arms of the carrier and secured thereto, set screws in the socket members and claws having straight forward ends rotatably mounted in the socket members and secured by the set screws, and rear portions curved downwardly.

4. A sub soil cultivator comprising a U-shaped carrier having arms provided with axle-eyes at their forward ends, means for raising and lowering the carrier, socket members parallel with the arms of the carrier and secured thereto, set screws in the socket members and claws having straight forward ends rotatably mounted in the socket members and secured by the set screws, and rear portions curved downwardly and provided with lateral portions having cutting edges.

5. A sub soil cultivator comprising a U-shaped carrier having arms provided with axle-eyes at their forward ends, means for raising and lowering the carrier, socket members parallel with the arms of the carrier and secured thereto, set screws in the socket members, claws having straight forward ends rotatably mounted in the socket members and secured by the set screws, and rear portions curved downwardly, the vertical sockets on the back of the carrier, adjacent to the socket members, and teeth adjustably secured in the vertical sockets.

[Claims 6 to 10 not printed in the Gazette.]

970,761. BLIND-FASTENER FOR HARNESS. THEODORE J. STEEN, St. Paul, Nebr., assignor to Walter B. Steen, St. Paul, Nebr. Original application filed Apr. 22, 1908, Serial No. 428,544. Divided and this application filed Oct. 7, 1909. Serial No. 521,493.



1. A winker strap fastener comprising a plate having an arm for engagement with the outer face of a winker and provided with a tubular portion for the reception of a winker strap, said plate being provided with horizontal attaching lugs arranged on opposite sides of said tubular portion and adapted to be bent over the upper edge of the winker and in contact with the inner face thereof.

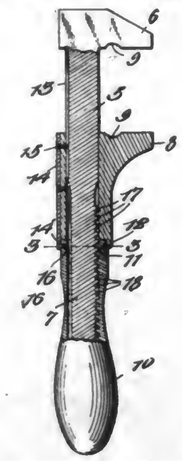
2. A winker strap fastener comprising a plate having means at one end thereof for attachment to the outer face of a winker and its intermediate portion pressed laterally to form a socket for the reception of the adjacent end of a winker strap, said plate being provided with integral horizontally disposed attaching lugs arranged on opposite sides of the socket and adapted to be bent over the upper edge of the winker with their terminals disposed in contact with the inner face of said winker, there being an opening formed in the plate to permit the insertion of a fastening device.

3. As a new article of manufacture, a winker strap fastener comprising a plate having oppositely disposed incisions formed therein and provided at one end with an arm for engagement with one side of a winker, the metal between said incisions being bent laterally to form a tubular portion for engagement with a winker strap, and the metal between the incisions and the adjacent edges of the plate being bent laterally to form horizontally disposed attaching lugs adapted to be bent over the upper edge of a winker and in contact with the other side thereof.

4. As a new article of manufacture, a winker strap fastener comprising a plate having one end thereof tapered and provided with oppositely disposed incisions extending from the longitudinal edges of the plate downwardly in the direction of the tapered portion thereof, the metal between the incisions being bent laterally to produce an open sided socket, and the metal between the incisions and the adjacent longitudinal edges of the plate being bent laterally in the direction of the open side of the socket to form angularly disposed attaching lugs, there being an opening formed in the tapered portion of the plate to permit the insertion of a fastening device.

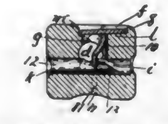
5. As a new article of manufacture, a winker strap fastener comprising a metallic plate having one end thereof tapered to form a reduced extension and its other end substantially square, there being curved incisions extending from the opposite longitudinal edges of the plate downwardly in the direction of the reduced extension thereof, the metal between said incisions being bent laterally to produce an open sided tubular member, and the metal between the incisions and the adjacent longitudinal edges of the plate being bent laterally in the direction of the open side of the tubular member to form attaching lugs, the reduced portion of the plate being provided with an opening for the reception of a fastening device, the metal forming the closed portion of the tubular member being pressed laterally at the base thereof in a direction opposite the attaching lugs to form a depression.

970,762. WRENCH. OLE STENERSON, Superior, Wis. Filed June 8, 1910. Serial No. 565,803.



In a wrench, the combination of a shank having a stationary jaw formed on one end, said shank adjacent to the jaw being rectangular in cross section, the remainder of said shank being cylindrically formed, the rectangular shank portion having a longitudinal slot in its outer face, a sliding jaw on said shank, a handle rotatable on the cylindrical portion of the shank, means connecting the sliding jaw and the handle, means formed on the cylindrical shank portion and the handle for locking engagement to secure the jaw in its adjusted position, a resilient bar secured to said sliding jaw, the end of said bar being laterally disposed, said handle having a notch therein to receive the end of the bar whereby the handle is yieldingly held against rotation, and screws securing the bar to the sliding jaw, one of said screws extending into the longitudinal groove in the shank to limit the sliding movement of said jaw.

970,763. LOOM-SHUTTLE. FRANK H. STETSON, Lawrence, Mass., assignor to U. S. Bobbin & Shuttle Co., Providence, R. I., a Corporation of New Jersey. Filed June 19, 1908. Serial No. 439,358.



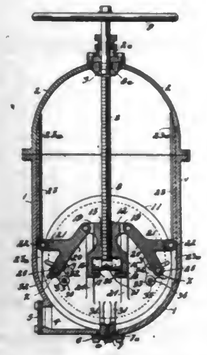
1. A shuttle threading device comprising a tube secured to and extending transversely to the shuttle, and having a portion of its length formed with a helical slot, and a thread guiding post penetrating said tube and projecting laterally therefrom at the inner end of said slot.

2. A shuttle threading device comprising an eye-piece having a longitudinal thread passage, and a helical thread passage surrounding and communicating with the longitudinal passage, and a thread guiding post projecting laterally from the eye-piece at the inner end of the helical passage.

970,764. HIGH-PRESSURE GATE-VALVE. THOMAS W. STONE, Fort Wayne, Ind. Filed Jan. 14, 1908. Serial No. 410,849.

1. The combination with a pair of valve-disks, of a pair of central locking cams having eccentric faces arranged to bear thereon and to meet centrally at their eccentric faces, a valve-stem, and means connecting therewith for operating said cams, substantially as described.

2. The combination with a pair of valve-disks, having central recesses in their back faces, of a pair of locking cams having curved sides fitting in said recesses and eccentric faces adapted to meet and bear centrally one upon the other, a valve-stem and means connecting therewith adapted to bear upon the cams near their eccentric faces for thrusting the disks to their seats or releasing them therefrom, substantially as described.



3. The combination with a pair of valve-disks, of a pair of central locking cams arranged to bear thereon, a connecting yoke bearing on and operating the cams, a screw threaded valve stem working through said yoke and means connecting said yoke with the disks for raising and lowering the disks in the casing, substantially as described.

4. The combination with a pair of valve-disks, of a connecting yoke, means engaging therewith for thrusting the disks against their seats, a screw threaded valve stem engaging with said yoke, and lifting arms pivotally connecting with the yoke and loosely engaging the disks for raising and lowering the disks in the casing, substantially as described.

5. The combination with a pair of valve-disks, of a yoke, means interposed between the yoke and the disks for thrusting the disks against their seats, a screw threaded valve stem passing through a screw threaded opening in the yoke, a pair of lifting arms pivotally connecting with the yoke and loosely engaging with the outer edges of the disks for raising and lowering them in the casing, and guide rollers on the outer ends of said arms for bearing on the casing, substantially as described.

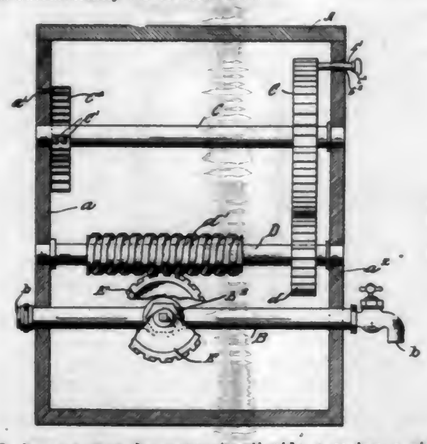
[Claims 6 to 13 not printed in the Gazette.]

970,765. MEASURING APPARATUS. JOHN SULLIVAN and WILLIAM ROSENSTOCK, U. S. Navy. Filed Apr. 13, 1910. Serial No. 555,125.

1. In apparatus for measuring liquids, a pipe adapted to be placed in communication with a source of supply of liquid, and carrying a valve normally closed to cut off communication therethrough, a casing, a revoluble shaft supported in bearings in said casing and carrying a gear, a pin secured to said gear, a clock-spring, one end of which is secured to said shaft and the other end to said casing, a second shaft supported in bearings in said casing and carrying a pinion meshing with said gear and carrying also a worm, and a gear-wheel meshing with said worm and operatively associated with said valve, whereby the throw of the pin winds up said spring and, through said chain of gears, opens said valve and the unwinding of said spring, after release of said pin, returns the parts to normal position and automatically closes said valve.

2. In apparatus for meshing liquids, a casing, a pipe extending therethrough and adapted to be placed in communication with a source of liquid, and carrying a valve normally closed to cut off communication therethrough, a revoluble shaft supported in bearings in said casing and carrying a gear, said casing having an arc-shaped slot, a pin working in said slot and secured to

said gear, a clock-spring, one end of which is secured to said shaft and the other end to said casing, a second shaft supported in bearings in said casing and carrying a pinion meshing with said gear and carrying also a worm, and a gear-wheel meshing with said worm and operatively associated with said valve, whereby the throw of the pin winds up said spring and, through said chain of gears, opens said valve and the unwinding of said spring, after release of said pin, returns the parts to normal position and automatically closes said valve.

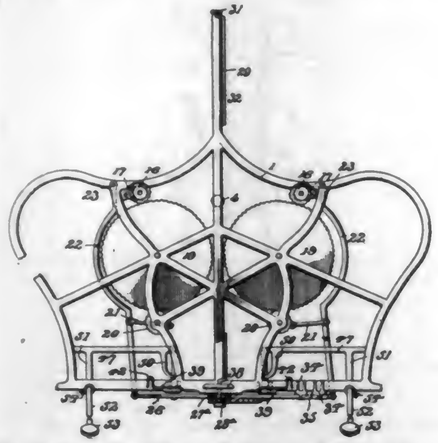


3. In apparatus for measuring liquids, a casing, a pipe extending therethrough and adapted to be placed in communication with a source of supply of liquid, and carrying a valve normally closed to cut-off communication therethrough, a revoluble shaft supported in bearings in said casing and carrying a gear, said casing having an arc-shaped slot and a scale along said slot, a pin working in said slot and secured to said gear, a clock-spring, one end of which is secured to said shaft and the other end to said casing, a second shaft supported in bearings in said casing and carrying a pinion meshing with said gear and carrying also a worm, and a gear-wheel meshing with said worm and operatively associated with said valve, whereby the throw of the pin winds up said spring and, through said chain of gears, opens said valve and the unwinding of said spring, after release of said pin, returns the parts to normal position and automatically closes said valve.

4. In apparatus for measuring liquids, a pipe adapted to be placed in communication with a source of supply of liquid, and carrying a valve having a stem and normally closed to cut off communication through said pipe, a revoluble shaft supported in bearings in said casing and carrying a gear, a pin secured to said gear, a clock-spring, one end of which is secured to said shaft and the other end to said casing, a second shaft supported in bearings in said casing and carrying a pinion meshing with said gear and carrying also a worm, and a gear-wheel meshing with said worm and carried by said valve-stem, whereby the throw of the pin winds up said spring and, through said chain of gears, opens said valve, and the unwinding of said spring, after release of said pin, returns the parts to normal position and automatically closes said valve.

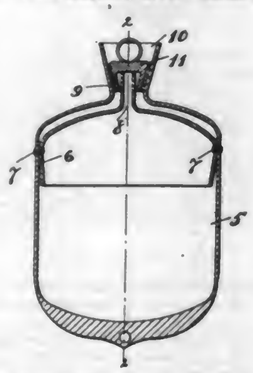
970,766. AUTOMATIC MUSIC-LEAF TURNER. ALBERT J. SWANSON, Stockport, Iowa. Filed Oct. 16, 1908. Serial No. 458,023.

1. A music leaf turner, comprising a supporting framework, leaf turning mechanism carried thereby and embodying reciprocating bars formed with shoulders, dogs pivotally suspended in the framework and spring pressed in a direction to engage said shoulders, and trip devices designed to disengage the dog from the shoulders, each of said trip devices embodying a transversely extending shaft which is journaled at one end in the pivoted end of the adjoining dog, a spring plate in the free end of which the other end of the shaft is journaled, said spring exerting a tension in a longitudinal direction on the shaft so as to maintain the same for a turning movement, the shaft being provided near one end with a depending finger curved to engage the dog and extending over the front face thereof and the shaft being also provided near its opposite end with a depending arm, and an actuating handle secured to said arm.



2. A music leaf turner, comprising a supporting framework, leaf turning mechanism carried thereby and embodying reciprocating bars formed with shoulders, dogs pivotally suspended in the frame work and spring pressed in a direction to engage said shoulders, and trip devices designed to disengage the dog from the shoulders, each of said trip devices embodying a transversely extending shaft which is journaled at one end in the pivoted end of the adjoining dog, a spring plate in the free end of which the other end of the shaft is journaled, said spring exerting a tension in a longitudinal direction on the shaft so as to maintain the same for a turning movement, the shaft being provided near one end with a depending finger curved to engage the dog and extending over the front face thereof and the shaft being also provided near its opposite end with a depending arm, said arm having a forwardly projecting hollow end, and an actuating handle mounted detachably in said end.

970,767. WATER-BOTTLE. ANGELINE L. SWINGLE, Putney, S. D. Filed Aug. 25, 1909. Serial No. 514,651.



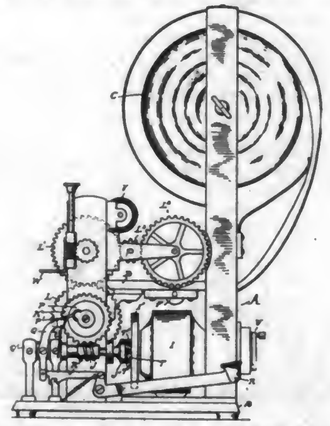
1. In combination, a water receptacle provided with a mouth having a funnel formed thereon, an elastic diaphragm secured at spaced points within said receptacle below the funnel, said diaphragm depending below the points of attachment thereof, and spaced from the walls of said receptacle, and a steam outlet secured to said diaphragm and normally positioned in the funnel formed upon the mouth of said receptacle.

2. In combination, a water bag having a flared entrance mouth, a diaphragm secured at spaced points within said bag, the sides of said diaphragm depending below the points of attachment and being spaced from the inner walls of the bag, said diaphragm being formed of elastic material, a steam outlet tube secured centrally to the diaphragm, said tube being normally positioned in the mouth of said bag, and a cap adapted to close the mouth of the bag and force said tube downwardly against the elasticity of said diaphragm.

3. In combination, a water bag having a mouth formed with a funnel thereon, an elastic diaphragm secured within the upper portion of said bag, the sides of said bag being spaced from said diaphragm, a steam escape tube secured to the center of said diaphragm, the elasticity of said diaphragm extending the tube through the mouth of the bag, the mouth of said bag being provided with interior screw threads, and a screw threaded cap adapted to engage with the threads in the mouth of said bag to force said tube downwardly, the movement of said cap being limited whereby said tube will retain its central position in the mouth of the bag.

4. The combination with a water bag provided with a mouth having a funnel formed thereon, said mouth being provided with interior screw threads, of a resilient member secured within the water bottle below the mouth, a steam escape pipe carried by the resilient member and extending normally through the mouth and through the funnel, and a stopper adapted for removable engagement with the screw threads of the mouth, said stopper being arranged and adapted to engage the steam escape pipe and force the latter inwardly against the action of the resilient support.

970,768. TICKET-PRINTING MACHINE. THOMAS M. VAUGHAN, Detroit, Mich., assignor to Box Office Ticket Printing Machine Company, a Corporation of Illinois. Filed Mar. 27, 1909. Serial No. 486,270.



1. A ticket printing machine, comprising a frame, a holder for a roll or paper strip thereon, a rotary printing cylinder and a rotary platen journaled in said frame, a horizontally arranged guide for directing the opposite edges of said paper strip between said cylinder and platen, a rotary feed roll having a segment for advancing the paper strip along said guide, and a knife and coöperating bearing carried the one by said platen and the other by said rotary cylinder.

2. A ticket printing machine comprising a rotary printing cylinder and a rotary platen, a guide for directing a paper strip therebetween, a feed roll for advancing the paper strip along said guide, a type form upon a segment of said cylinder, a knife for severing the paper strip at the end of said segment, and means for guiding the end of the severed strip into engagement with the opposite end of said type form, for the purpose described.

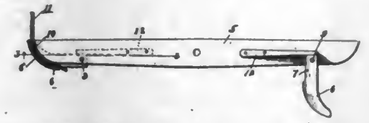
3. A ticket printing machine, comprising a rotary printing cylinder and a rotary platen, a type-form upon said cylinder and projecting beyond the periphery thereof, means for guiding a paper strip between said cylinder and platen, a knife and coöperating bearing carried the one by the platen and the other by the printing cylinder, and arranged to register at one end of said type-form segment, and a feed roll for said paper strip having a projecting segment corresponding in length to the type segment on said cylinder.

4. A ticket printing machine, comprising a rotary printing cylinder and a rotary platen, a type-form upon said cylinder and projecting beyond the periphery thereof, a knife and coöperating bearing, carried the one by the platen and the other by the printing cylinder, and arranged to register at one end of said type-form segment, a feed roll for said paper strip lying in the same horizontal plane as said printing cylinder, having a projecting segment corresponding in length to the type segment on said cylinder, and a horizontal table for guiding said strip between said feed roll and said printing cylinder.

5. A ticket printing machine, comprising a rotary printing cylinder and a rotary platen, a type-form upon said cylinder and projecting beyond the periphery thereof, a knife and coöperating bearing, carried the one by the platen and the other by the printing cylinder, and arranged to register at one end of said type-form segment, a feed roll for said paper strip lying in the same horizontal plane as said printing cylinder, having a projecting segment on said cylinder, a horizontal table for guiding said strip between said feed roll and said printing cylinder, and a second feed roll positioned below said table, extending upward therethrough and coöperating with the segment on said first-mentioned feed roll.

[Claims 6 to 12 not printed in the Gazette.]

970,769. TRACE-FASTENER. ROBERT MCCAY WATSON, Nickleville, Pa. Filed Dec. 24, 1909. Serial No. 534,848.

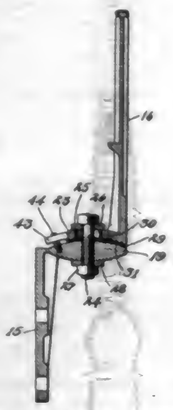


The herein described trace fastener comprising a channeled member formed from a single piece of sheet metal bent to provide the channel flanges, the sides of said member extending beyond the body portion thereof, the free ends of said flanges having openings therein and adapted to be positioned upon opposite sides of a swingletree, said openings receiving a pivot pin extending through the swingletree, a conical stud integrally formed centrally upon the body of the channeled member projecting inwardly between the flanges thereof and adapted to space the body portion of said member from the swingletree and to be positioned in an aperture in a trace arranged between the channeled member and the swingletree, and a leaf spring secured to each side of the swingletree at one end and having its free end engaged with the pivoted ends of the channel arms to yieldingly hold said member in its operative or inoperative positions.

970,770. SIGNAL-LAMP BRACKET. M BROCK WILLISTON, Detroit, Mich., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed May 16, 1908. Serial No. 433,277.

1. In a signal lamp bracket, in combination, a rigid member adapted for attachment to a support and having a lateral projection the upper face of which is curved to the

section of a sphere, a lamp carrying member having a bearing face of complementary curvature and resting upon the curved face of the first named member, a binding bolt passing through the engaging portions of the two members, the bolt opening in one of them being larger than the bolt.



2. In a signal lamp bracket, in combination, a member adapted for attachment to a support and having a lateral projection, a member adapted to carry a lamp and having a lateral projection resting upon and bolted to the projection of the first named member, the engaging faces of projections being curved to a section of a sphere and the bolt hole of one being of greater diameter than the securing bolt.

3. In a signal lamp bracket, in combination, an L-shaped member adapted for attachment to a support, the upper face of its lateral projection being curved to a section of a sphere, a lamp-carrying member seated on such curved surface and being bolted thereto, the bolt-hole in one of the members being larger than the bolt, and a lug on one member entered loosely between stops on the other member.

4. In a signal lamp bracket, in combination, a member adapted for attachment to a support and having a bearing face conforming to a section of a sphere, a lamp-supporting member having a bearing face complementary to the bearing face of the other member, such bearing faces being uneven, a washer of soft material interposed between the bearing faces, and a clamping member for adjustably binding together such two first-named members.

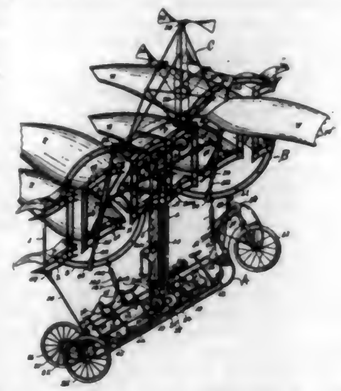
5. In a signal lamp bracket, in combination a bracket member having a horizontal sole plate, the upper face of which is curved to the section of a sphere, a lamp carrying member having a lateral extension resting on the sole plate its lower face conforming to the upper face thereof, a binding bolt uniting the sole plate and extension and being rigidly set in one of the members, the aperture in the other member being of greater diameter than the bolt.

[Claims 6 and 7 not printed in the Gazette.]

970,771. FLYING-MACHINE. JOHN W. WILSON, Boston, Mass. Filed Jan. 2, 1909. Serial No. 470,354.

1. In a flying-machine, the combination of a lower seat-bearing frame and an upper plane-bearing frame, connected together, driving-wheels borne by the lower frame, propellers borne by the upper frame and arranged entirely above the planes for propelling the machine forward, and power-driven means for operating said driving-wheels and said propellers, substantially as described.

2. In a flying-machine, the combination of a lower seat-bearing frame and an upper plane-bearing frame, connected together and movable longitudinally one with relation to the other to shift the weight, propellers borne by said upper frame and arranged above the planes, a power-driven shaft borne by the lower frame, and means, connected with said shaft, for operating said propellers, substantially as described.



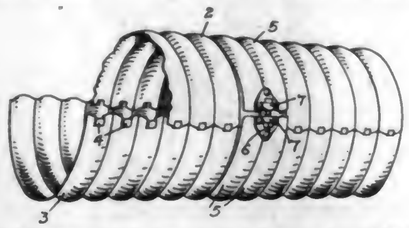
3. In a flying-machine, the combination of a seat-bearing frame and a plane-bearing frame, flexibly connected together, separate propelling means for both frames, and locking-means for holding said frames against longitudinal movement, one with relation to the other, substantially as described.

4. In a flying-machine, the combination of a seat-bearing frame and a plane-bearing frame, and means connecting them together, permitting longitudinal movement of one with relation to the other and an independent tilting movement of the plane-bearing frame, and means for limiting longitudinal movement of said frames and preventing independent tilting movement of the plane-bearing frame, and means for holding said frames against longitudinal movement, yet permitting independent tilting movement of the plane-bearing frame, substantially as described.

5. In a flying-machine, the combination of a seat-bearing frame and a plane-bearing frame, and means connecting them together permitting longitudinal movement of one with relation to the other and a tilting movement of the plane-bearing frame, a locking means for holding said frames against longitudinal movement one with relation to the other yet permitting a tilting movement of the plane-bearing frame, substantially as described.

[Claims 6 to 31 not printed in the Gazette.]

970,772. CULVERT-PIPE. CARL O. WOLD, Minneapolis, Minn., assignor of one-half to Even E. Ellertson, Minneapolis, Minn. Filed Jan. 3, 1910. Serial No. 536,195.



1. A conveyer pipe composed of sections placed end to end, a band inclosing the joint between said sections, the ends of said band having parts lapping by one another and provided with longitudinal slots, and a key fitting into said slots and movable transversely with respect to said band to draw the ends thereof together and clamp the joint between said sections, substantially as described.

2. A conveyer pipe composed of semi-cylindrical sections having circumferential corrugations formed therein, and a series of lugs provided on the edge of one section, said lugs forming a seat for the plain, smooth edge of the other section, and means for locking said sections together.

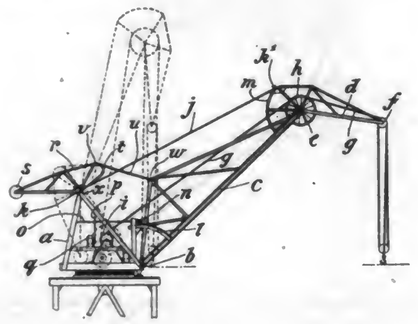
3. A conveyer pipe composed of sections adapted to be placed end to end, a band encircling the joint between said ends, lugs secured to said band and having slots therein, and a key adapted to enter said slots and movable therein transversely with respect to said band.

4. A conveyer pipe composed of sections placed end to end, a band inclosing the joint between said sections, the ends of said band having parts lapping by one another and provided with longitudinal slots, the slots in one end being longer than the slots in the other end of the band, and a key fitting said slots and movable transversely therein to draw the ends of the band together.

5. A conveyer pipe composed of sections adapted to be placed end to end, a band inclosing the joint between said sections, ears having studs formed thereon and fitting within holes in the ends of said band, said ears having longitudinal slots and a key fitting transversely in said slots.

[Claims 6 to 8 not printed in the Gazette.]

970,773. JIB-CRANE. HAMILTON NEIL WYLIE, Edinburgh, Scotland. Filed Jan. 29, 1910. Serial No. 540,746.



1. A crane comprising, in combination, a jib, a structure carrying the same, a lever provided with a curved rest movably mounted on the jib, means for raising and lowering the jib, means for hoisting the load and a tension member connecting the lever to the structure and permitting the lever, when the load is being traversed to move through a greater angle than the jib, and lower the load just as much as the jib raises it or vice-versa so that the load moves through a horizontal path.

2. A crane, comprising, in combination, a jib, a structure carrying the jib, a lever mounted on the outer end of the jib, means for raising and lowering the jib, means for hoisting the load, a hoisting line, pulleys carrying the hoisting line mounted respectively at the outer end of the lever and on or near the lever pivot, a tension member connecting the lever to the structure, and permitting the lever, when the load is being traversed, to turn through a greater angle than the jib, and lower the load just as much as the jib raises it or vice-versa, so that the load moves in a horizontal path.

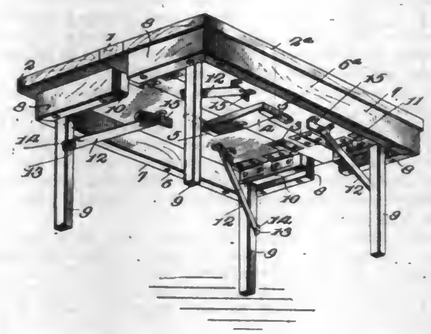
3. A crane comprising, in combination, a jib, a structure carrying the same, a lever shorter in length than the jib and pivoted to the outer end thereof, winding means carried by the structure, a hoisting line, pulleys carrying the same and mounted respectively at the outer end of the lever, and on or near the pivot of the lever, a curved rest on the lever, a tension member secured tangentially to said rest and also connected to the structure and means for raising and lowering the jib.

4. A crane comprising, in combination, a jib, a structure carrying the same, a movable lever mounted at the end of the jib, a tension member connecting the lever with the structure and constraining the same to move through a greater angle thar the jib, counterbalancing means on the structure and connected to the jib, means for raising and lowering the jib and means for raising and lowering the load.

5. A crane comprising, in combination, a jib, a structure carrying the same, a movable lever mounted at the end of the jib, means connecting said lever to the structure, a counterbalancing lever fulcrumed on the structure and connected to the jib by a link spanning directly from the lever to the jib, means for raising and lowering the jib, and means for raising and lowering the load.

[Claims 6 to 11 not printed in the Gazette.]

970,774. FOLDING TABLE. GEORGE S. YOUNG, U. S. Army. Filed Aug. 30, 1909. Serial No. 515,280.



1. A folding table comprising a foldable top consisting of hinged leaves, reinforcing frames provided at the lower faces of the leaves and fitting telescopically one within the other when the leaves are folded, and legs carried by the respective leaves and foldable within the reinforcing frames, one of the leaves being provided with a seating recess in which the reinforcing frame of the other leaf is arranged to fit snugly, as and for the purpose specified.

2. A folding table comprising a foldable top consisting of hinged leaves, reinforcing frames provided at the lower faces of the leaves and fitting telescopically one within the other when the leaves are folded, pairs of legs carried by the respective leaves and foldable within the adjacent reinforcing frames, the legs connected to one leaf being spaced apart from the adjacent reinforcing frame to provide a seating recess for the reception of the other reinforcing frame.

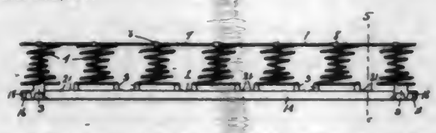
3. A folding table, comprising a foldable top consisting of hinged leaves, reinforcing frames provided at the lower faces of the leaves and fitting telescopically one within the other when the leaves are folded, and legs connected to the leaves and foldable within the adjacent reinforcing frames, the legs attached to one of the leaves having enlarged bases bearing against the adjacent reinforcing frame in the operative position of the legs, the bases being spaced apart from said reinforcing frame when the legs are folded, to provide seating recesses for the reception of the other reinforcing frame.

4. A folding table comprising a top, foldable legs, foldable braces pivotally connected at one end to the top and detachably engaged at their other ends to the legs, the adjacent braces engaging each other when folded in order to be held against accidental displacement.

5. A folding table, comprising a top, pairs of legs pivotally connected to the top and foldable thereagainst, pairs of foldable braces pivoted at one end to the top and having detachable connection at their other ends with the legs to maintain the latter extended, one brace of each pair being of spring formation and bearing frictionally against the other brace when the braces are folded, whereby to maintain the braces against accidental displacement.

[Claim 6 not printed in the Gazette.]

970,775. SPRING-SEAT STRUCTURE. LEONARD A. YOUNG, Detroit, Mich. Filed June 17, 1909. Serial No. 502,757.



1. A base construction for spring seats comprising marginal bars having relatively small oppositely disposed posts extending above the plane thereof, border springs mounted upon the upper ends of said posts which engage opposite marginal portions of the bottom coils thereof, and means for fastening said coils to said posts.

2. A spring seat structure comprising a lower frame, an upper border wire, border springs connected at their upper ends to said border wire, and means engaging marginal portions only of the lower coils of said springs for supporting the lower ends thereof above the plane of the base frame and free from contact therewith.

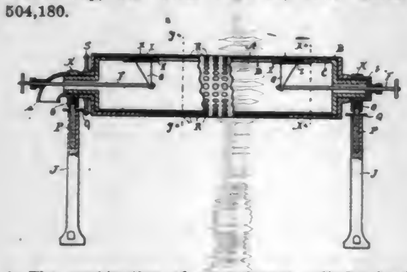
3. In a spring seat structure, a base frame, an upper border wire, centrally disposed springs supported on the base frame, border springs attached at their upper ends to the border wire, and means upon the marginal portions only of the base frame engaging sectoral portions only of the bottom coils of said springs for supporting the lower ends of the border springs above the plane of said base and free from contact therewith.

4. A base construction for spring seats, comprising a frame having marginal bars, side bars having posts rising vertically therefrom arranged in pairs, fingers upon the upper ends of said posts, and border springs mounted upon said posts and engaged by said fingers to retain them thereon.

5. A base construction for spring seats, comprising marginal bars, posts projecting vertically from said bars, border springs each mounted upon the tops of a plurality of said posts which engage the bottom coils of said springs at points only in the circumference thereof, and means for securing the springs to the upper ends of said posts to retain them in place.

[Claims 6 and 7 not printed in the Gazette.]

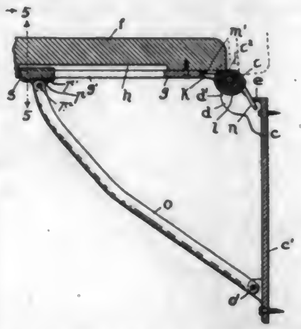
970,776. SUCTION-BOX. DANIEL S. ZIMMERMAN, North Water Gap, Pa. Filed June 24, 1909. Serial No. 504,180.



1. The combination of a stationary cylinder having a slot cut in the upper portion thereof, a plug fitted in said slot, a plate fastened thereto, a bracket secured to said plate, a shaft, one end of which is attached to the bracket, the opposite end passing to the outside of the cylinder for adjusting said plug, a revolving perforated outside cylinder, a sprocket wheel secured thereto, means for revolving the same, wheels placed above the Fourdrinier wire at either end of that portion on which the pulp is adapted to run, rubber deckle straps, adapted to pass over said wheels and rest upon the top of the Fourdrinier wire, stands, adjustable clamps, swivel screws threaded into said stands and fastened to said clamps by means of a plate, a wheel placed about said swivel screws for adjusting the clamp up or down, a shaft movably attached to the clamp, a bracket for holding said shaft in position, attached to the plate, a cap, an opening therein, through which passes one of the adjusting shafts, said cap closing one end of the cylinder, and a joint threaded on the opposite end of the said cylinder, adapted to receive a pipe leading to a suction pump.

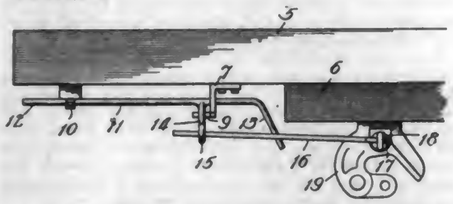
2. In a suction box of the character described, an inside cylinder having a slot cut therein, means for holding said cylinder in position whereby the slot will always be at the top, a plug placed in said slot, means for moving the plug backward or forward making the slot longer or shorter, a revolving perforated cylinder placed about the first named cylinder means for revolving the same, deckle straps resting upon the upper surface of the Fourdrinier wire, a cap for closing one end of the cylinder, a joint connecting the inside cylinder with a suction pump for withdrawing the water, pulp and other particles from the inside cylinder and means for adjusting the suction boxes up and down or backward and forward.

970,777. FOLDING SEAT. MAURICE ACKERMAN, Washington, D. C., assignor of fifteen one-hundredths to Hymen Goldman, Washington, D. C. Filed Dec. 20, 1909. Serial No. 534,116.



A folding seat comprising an elongated bracket having at its upper portion outward extending forks provided with a transverse bracing web connection and at its lower portion a lug projection, a seat having a bottom plate provided with end branches having a pivot pin connection with said forks, a slidable block carried by and working in guides of said bottom plate and having integral seats located centrally of its length and a transverse pin engaging said seats, a prop having at its upper end a pivotal connection with said transverse pin and at its lower end pivotal connection with said lug projection, and a coiled spring having an out-turned central loop portion engaging said bracing web connection and out-turned end portions having a bearing against said bottom plate to hold the seat normally in raised position.

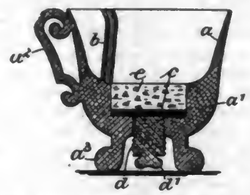
970,778. UNCOUPLING MECHANISM FOR CARS. OLOF ANDERSON, Chicago, Ill. Filed Apr. 30, 1910. Serial No. 558,564.



1. In an uncoupling-mechanism for cars, the combination with the car-frame and coupler locking-pin, of a lever having a short arm and an axially-movable and vertically-swinging long arm provided with an operating crank, a laterally-extending offset on the long arm of the lever, a fixed bearing and fulcrum on the car-frame with which said long arm engages, and a bar at one end engaging the locking-pin, engaging, toward its opposite end, said offset, and in the path between its ends, of said short arm.

2. In an uncoupling-mechanism for cars, the combination with the car-frame and coupler locking-pin, of a lever having a short arm and an axially-movable and vertically-swinging long arm provided with an operating-crank, a laterally-extending offset on the long arm of the lever forming a loop, a fixed bearing and fulcrum on the car-frame with which said long arm engages, and a bar at one end engaging the locking-pin, passing loosely, toward its opposite end, through said loop, and in the path, between its ends, of said short arm.

970,779. SHAVING-CUP. CYRUS ARNONE, New York, N. Y. Filed Aug. 4, 1909. Serial No. 511,107.



1. As a new article of manufacture, a shaving cup of vitrified material having sides of downwardly increasing thickness and a thickened perforated base and having a skirt or circular standard extending down from the thickened base and elevating the cup, the perforation of said thickened base being off-set, a slab of vitrified material fitting within the upper part of the perforation which is also adapted to receive a cake of soap, and a cylindrical exteriorly threaded body movable vertically and centrally through the base of the cup for raising the slab and soap.

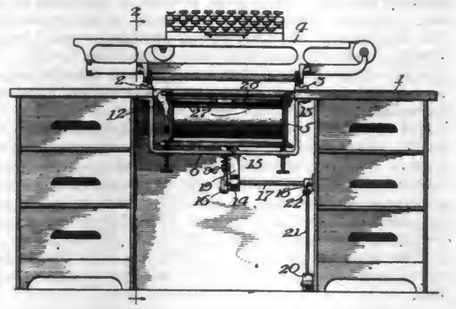
2. As a new article of manufacture, a shaving cup of vitrified material having sides of downwardly increasing thickness, and a thickened base with an off-set perforation therein, the upper part of said perforation being angular, with vertical walls, and the lower part circular and interiorly screw-threaded, a support member formed as a prolongation from the thickened base of the cup, a slab of vitrified material of angular outline adapted to fit the angular perforation, which portion is also adapted to receive an angular cake of soap, and a cylindrical exteriorly threaded body movable vertically and centrally through the lower circular portion of the aperture of the cup for raising the slab and soap.

970,780. MEANS FOR COMBINING AUTOGRAPHIC REGISTERS AND TYPE-WRITERS. ENGLAND J. BARKER, Chicago, Ill. Filed Feb. 13, 1909. Serial No. 477,624.

1. A desk or table having an opening in its top, means for supporting a typewriter over said opening, and devices for retaining an autographic register within said opening below said typewriter comprising brackets secured to said desk adjacent said opening having laterally bent portions and separately adjustable devices, on which each corner of said register rests.

2. A desk or table having an opening in its top, tracks extending alongside of each side of said opening for supporting a typewriter over said opening, and devices for retaining an autographic register within said opening below said typewriter comprising brackets secured to said desk adjacent said opening having laterally bent portions and separately adjustable devices on which each corner of said register rests.

3. A desk or table having an opening in its top, means for supporting a typewriter over said opening, and devices for retaining an autographic register within said opening below said typewriter comprising substantially U-shaped brackets the ends of the parallel arms of which are secured to said desk adjacent said opening, and separately adjustable devices on which each corner of the register rests.

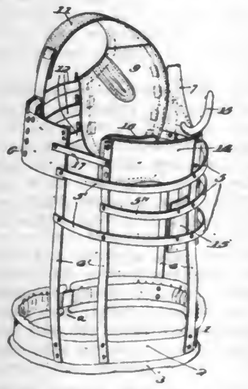


4. A desk or table having an opening in its top, tracks extending along each side of said opening for supporting a typewriter over said opening, and devices for retaining an autographic register within said opening below said typewriter comprising substantially U-shaped brackets the ends of the parallel arms of which are secured to said desk adjacent said opening and seperately adjustable devices on which each corner of the register rests.

5. A desk or table having an opening in its top, means for supporting a typewriter over said opening, and devices for retaining an autographic register within said opening below said typewriter comprising substantially U-shaped hangers depending from said desk and separately operating adjusting screws tapped through the horizontal portion thereof on which each corner of said register rests.

[Claims 6 to 20 not printed in the Gazette.]

970,781. APPLIANCE FOR TREATMENT OF SPINAL AFFECTIONS. JOSEPH W. BATTERSHALL, Attleboro, Mass. Filed Nov. 1, 1909. Serial No. 525,748.



1. A curvature appliance, comprising, in combination, a girdle, a plurality of uprights disposed around said girdle, a spring pressure plate, an integral back pad and shoulder straps adjustably carried by the upper ends of said uprights and a crutch member to support the body off of the spine.

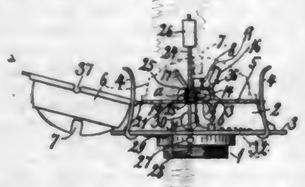
2. A curvature appliance, comprising, in combination, a girdle, a plurality of resilient uprights carried by said girdle, a laterally projected spring plate secured to a front upright, a crutch member adjustably secured to a side upright, a back pad carried by one of said uprights

and having a shoulder strap adapted to be attached to said spring plate, and a plurality of pressure pads carried inside said uprights.

3. A curvature appliance, comprising, in combination, a girdle, a plurality of uprights carried by said girdle, a series of cross straps carried by some of said uprights, a laterally projected spring plate adapted to coöperate with said straps to twist the patient's body, a back pad vertically hinged at the back of the appliance, and having adjustable attaching devices along its opposite edge, a shoulder strap integral with said pad and adapted to be secured to said spring plate, and pressure pads disposed inside said uprights.

4. A curvature appliance, comprising, in combination, a girdle, a plurality of uprights disposed around said girdle; a plurality of cross straps secured near the upper ends of said uprights, a laterally projected spring plate secured to the upper end of one of the front uprights, an adjustable crutch member secured to the upper end of one upright, a back pad secured to the back of the appliance by a plurality of adjusting straps, a shoulder strap carried by said pad and adapted to be secured to said spring plate.

970,782. SAFETY LAMP-BURNER. OLAI O. BERQUAM, Grafton, N. D. Filed Dec. 20, 1909. Serial No. 534,024.

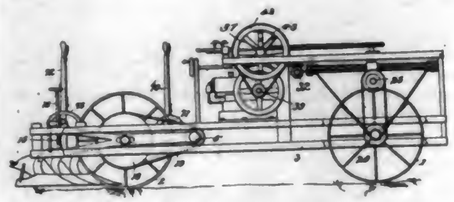


1. In an oil lamp burner the combination with pivoted hood-members adapted to extinguish the flame by closing together above the top of the wick tube, of means gearing together said hood members to make them close and spread in unison, a rocker arm on one of the members, a staff loosely jointed to the rocker arm so as to swing in any direction with its ends, a weight fixed on the upper end of the staff, a support fixed in or to the structure of the burner and having a head-shaped portion for the lower end of the staff to normally stand on, and a spring arranged to act on the rocker arm to close the hood members whenever the staff is brought beyond the supporting head.

2. In an oil lamp burner the combination with pivoted hood-members adapted to extinguish the flame by closing together above the top of the wick tube, of means gearing together said hood members to make them close and spread in unison, a rocker arm on one of the members, a staff loosely jointed to the rocker arm so as to swing in any direction with its ends, a weight fixed on the upper end of the staff, a support fixed in or to the structure of the burner and having a head-shaped portion for the lower end of the staff to normally stand on, and a spring arranged to act on the rocker arm to close the hood members whenever the staff is brought beyond the supporting head: one of said hood members having a clearing for the usual air duct or tube at one side of the wick tube, and a wing adjacent the clearing for closing the upper end of the air tube when the hood members are closed.

970,783. AGRICULTURAL IMPLEMENT. HENRY H. BOENKER, St. Charles, Mo. Filed June 9, 1908. Serial No. 437,592.

1. In an implement of the character described, the combination of a main frame, auxiliary frames pivotally mounted on the main frame, a front wheel pivotally mounted on the main frame to turn about a vertical axis, rear wheels journaled on said auxiliary frames, means for turning the front wheel to steer the machine, an engine mounted upon the main frame, connecting means between said engine and the rear wheels including a reversing clutch mechanism for throwing said rear wheels into or out of gear, or reversing their movement, other connecting means between the front wheel and the engine including a reversing clutch mechanism for throwing said front wheel into or out of gear, or reversing the same, and means for adjusting the auxiliary frames vertically of the main frame.



2. In a machine of the character described, the combination of a main frame, auxiliary frames pivotally mounted on the main frame and provided with toothed portions, a front wheel pivotally mounted on the main frame to turn about a vertical axis, rear wheels journaled on the auxiliary frames, mountings for the front wheel including hangers, a horizontal shaft mounted in said hangers, connecting means between said shaft and the front wheel for transmitting motion thereto, a vertical shaft geared to said horizontal shaft, an engine mounted upon the main frame, a worm meshing with the teeth on each auxiliary frame for adjusting the latter vertically of the main frame, and connecting means for transmitting motion from said engine to said vertical shaft, said means including a reversing clutch mechanism, whereby the front wheel may be reversed or thrown into or out of gear.

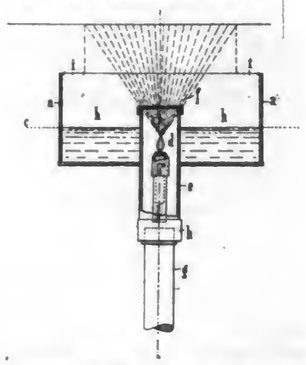
3. In an implement of the character described, the combination of a main frame, auxiliary frames pivotally mounted on the main frame and provided with transverse slots, stub axles journaled in said slots and having rear wheels secured thereto, a front wheel pivotally mounted on the main frame and arranged to turn about a vertical axis, a fifth wheel connection between the front wheel and the framework, a vertical shaft co-incident with the axis of said fifth wheel, a second shaft geared to said vertical shaft, a countershaft, an engine mounted upon the main frame and connected with said countershaft, means for transmitting motion from the engine to the stub axles, means for raising and lowering the auxiliary frames, and gearing between said countershaft and the aforesaid second shaft, said gearing comprising a clutch mechanism for throwing the front wheel into or out of gear or reversing the movement thereof.

4. In combination, a main frame, a transverse shaft journaled on the main frame, auxiliary frames pivotally mounted on said transverse shaft, rear wheels journaled in the auxiliary frames, a front wheel mounted on the main frame to turn about a vertical axis, a countershaft, power translating means between said countershaft and the front wheel including a shaft, a gear wheel fast to said shaft, other gear wheels loose upon the countershaft and in mesh with opposite portions of said gear wheel, a clutch sleeve keyed to the countershaft and adapted to operate between the gear wheels loosely mounted thereon and to clutch either one to the shaft, an engine mounted upon the main frame, and connecting means between said engine and countershaft, a connection between the engine and transverse shaft, means for transmitting motion from the transverse shaft to the rear wheels, and means for raising and lowering the auxiliary frames.

5. In an implement of the character described, the combination with a main frame, a transverse shaft journaled on the main frame, auxiliary frames pivotally mounted on the transverse shaft at opposite sides of the main frame and disposed within the lines of the latter, stub axles journaled in the auxiliary frames and provided with rear supporting wheels, a front wheel pivotally mounted on the main frame and arranged to turn about a vertical axis, an engine supported on the main frame, means for transmitting motion from the engine to the front wheel to rotate the latter, manually operated means operatively connected with the front wheel for guiding said front wheel, means for transmitting motion from the engine to the transverse shaft and a connection between the transverse shaft and the stub axles for rotating the rear wheels of said main frame.

[Claims 6 to 9 not printed in the Gazette.]

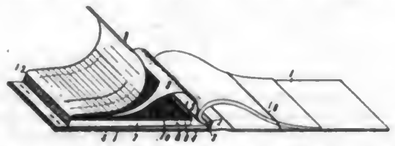
970,784. INSECT-TRAP, ESPECIALLY FOR FLIES. EMIL BÖHM, Finkenkrug, near Seegefeld, Germany. Filed Apr. 20, 1909. Serial No. 491,118.



1. In an insect trap of the character described, comprising a vessel containing a poisonous liquid, a source of heat or light below the level of the liquid, an opaque chimney surrounding the said source and extending through the liquid and beyond the level thereof, to such an extent that the diameter of the base of the cone of the emitted light or heat in the plane of the top of the vessel is smaller than the diameter of the latter.

2. In an insect trap of the character described, comprising a vessel containing a poisonous liquid, a source of heat or light below the level of the liquid, an opaque chimney surrounding the said source and extending through the liquid and beyond the level thereof, to such an extent that the diameter of the base of the cone of the emitted light or heat in the plane of the top of the vessel is smaller than the diameter of the latter, and a perforated cover at the spout of the chimney.

970,785. MANIFOLDING-PAD. EDWARD KIRBY BOTTLE, Niagara Falls, N. Y., assignor to The Carter-Crume Company, Limited, Ontario, Canada, a Corporation of Canada. Filed July 15, 1907. Serial No. 383,925.



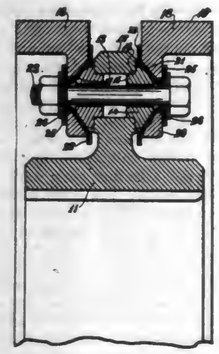
1. In a device of the class described, in combination, a set of superimposed leaves each of which is folded upon itself, a set of leaves each of which is adapted to be inserted between the portions of the uppermost leaf of said first set, a flexible connection between said sets of leaves and a single transfer sheet mounted to be interposed between one leaf of said second set and each of the portions of a leaf of said first set within which it is inserted.

2. In a device of the class described, in combination, a set of superimposed leaves each of which is folded upon itself, a set of leaves each of which is adapted to be inserted between portions of the uppermost leaf of said first set, a flexible connection between said sets of leaves and a folded transfer sheet secured to one of said sets of leaves and adapted to be inserted between the folded portions of the uppermost leaf of said first set and to receive between its folded portions one of the leaves of said second set.

3. In a device of the class described, in combination, a set of superimposed leaves each of which is folded upon itself, a set of leaves each of which is adapted to be inserted between portions of the uppermost leaf of said first set, a folded transfer sheet having one of its ends secured to one of said sets of leaves and mounted to be inserted between the folded portions of the uppermost leaf of said first set and to receive between its folded portions one of the leaves of said second set, said sets of leaves being bound into pads, and means connecting one edge of one pad with the opposite edge of the other.

4. In a device of the class described, in combination, a pad comprising a plurality of superimposed leaves, a back to which said pad is secured, a second pad adapted to rest upon said first pad, means connecting the bound end of said pad with said back, said second pad comprising a plurality of leaves each of which is folded upon itself, and a folded transfer sheet having one of its ends secured to said second pad and adapted to be inserted between the portions of the uppermost leaf thereof and to receive between its folded portions one of the leaves of said first pad.

970,786. DYNAMO-ELECTRIC MACHINE. ARTHUR J. BROWN, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed July 30, 1906. Serial No. 328,331.



1. In combination, a rotary member having radial arms, centering members having beveled surfaces carried by said arms on each side, collector rings having beveled portions engaging the centering members on each side of said arms, and means for clamping the centering members and rings to the arms.

2. In combination, a rotary member comprising radial arms having openings at their outer ends, bushings having beveled outer ends seated in said openings, a plurality of collector rings having corresponding beveled portions engaging beveled portions of the bushings on opposite sides of said arms, and means for clamping the rings and bushings to the arms.

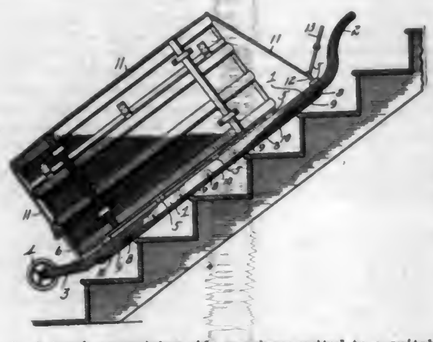
3. In combination, a rotary member having radial arms provided with openings near their outer ends, bushings having beveled outer ends seated in said openings, and extending from opposite sides of the arms, collector rings having beveled portions engaging the beveled ends of the bushings, and bolts for clamping the rings and bushings to the arms.

4. In combination, a rotary member having radial arms provided with openings near their outer ends, a pair of bushings having beveled outer ends seated in each opening and extending outward from opposite sides thereof, a collector ring on each side of the arms, said rings having

beveled portions engaging the beveled ends of the bushings, and a bolt in the opening of each arm extending through the bushings for clamping the rings in position.

5. In combination, a rotary member having radial arms provided with openings near their outer ends, a pair of bushings having beveled outer ends seated in each opening and extending outward from opposite sides thereof, collector rings having inwardly extending arms provided with beveled openings engaging the beveled ends of the bushings, and bolts extending through the rings and bushings for clamping the rings in position.

970,787. HAND-TRUCK. FRANKLIN P. BROWN, Dayton, Ohio. Filed Nov. 15, 1909. Serial No. 528,034.



1. A truck comprising side members united to a suitable number of cross pieces to provide a rigid frame, said side members providing upturned handles at one end and upwardly extended journal extensions at the other end, wheels supported upon said upturned journal extensions, a series of rollers mounted between said side members, a series of cross pieces mounted between said side members and parallel with the rollers, the lower surfaces of said rollers and cross pieces coinciding and lying below the lower surfaces of the side members, and an endless belt passing around said rollers and cross pieces and inclosing the entire lengths thereof, substantially as specified.

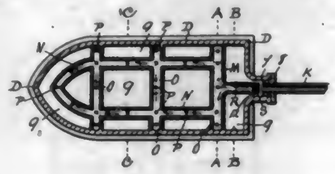
2. In a truck, parallel side members united to cross pieces to provide a frame, said frame having truck wheels at one end which lie upwardly and out of the plane of the side members and serve as the transporting wheels when the truck is elevated, in combination with a series of rollers mounted between said side members and serving as the transporting means when the truck is moved horizontally, and an endless belt surrounding said rollers and inclosing them substantially throughout their lengths.

3. In a device of the class specified, a frame consisting of side members united to suitable cross pieces, the forward ends of said side members being extended upwardly to provide bearings for wheels mounted at the front end of the truck, and the rearward ends of said side members providing handles, a series of rollers mounted between said side members, the lower surfaces of said rollers lying below the lower surfaces of said side members and an endless belt passing around said rollers and inclosing the same substantially throughout the lengths thereof.

970,788. SMOOTHING-IRON. SAMUEL G. BUSKARD, Hamilton, Ontario, Canada. Filed Jan. 3, 1910. Serial No. 535,961.

1. A hollow smoothing iron having a perforated bottom, a cover on the iron, open ended channels, having a neck, in the iron, transverse steam ways communicating with the channels, said channels and ways communicating with the perforated bottom, a flexible steam pipe secured to the rear end of the iron and adapted to convey steam into the hollow iron, a valve in the said neck, and means connected to the valve whereby steam from the flexible tube may be admitted into said neck and cut off from the same.

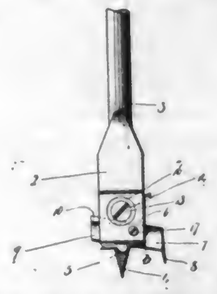
2. A smoothing iron having a chamber and perforations through the bottom of the iron, a cover on the iron, a handle secured on the cover, steam channels in the chamber, steam ways communicating with the channels, said perforations communicating with said channels and ways, a flexible steam tube secured to the rear end of the iron and adapted to feed the chamber with steam, means on the steam channels to admit steam from the flexible tube and from the chamber, and means to cut off the steam from said channels, thereby excluding the steam from the perforations.



3. In a smoothing iron, an iron having a chamber and perforations through the bottom thereof, steam channels, or ways, in said chamber communicating with said perforations, a flexible tube connected to the iron and adapted to admit the ingress of steam into the chamber thereof, to heat the iron, and means connected to the iron to admit steam from the chamber into said steam channels, or ways, and means to control and to cut off the steam from said channels or ways.

4. In a smoothing iron, an iron having a plurality of perforations through the bottom thereof and a chamber, a plurality of steam ways in the chamber, said perforations communicating with said steam ways, a flexible tube connected to the rear of the iron and adapted to supply steam to said chamber, means to admit steam from the chamber into said steam ways, and means connected to the steam ways, and to the iron for cutting off the supply of steam to said steam ways.

970,789. EXPANSIBLE BIT. GEORGE P. BUTLER, New Haven, Conn. Filed July 23, 1909. Serial No. 509,124.

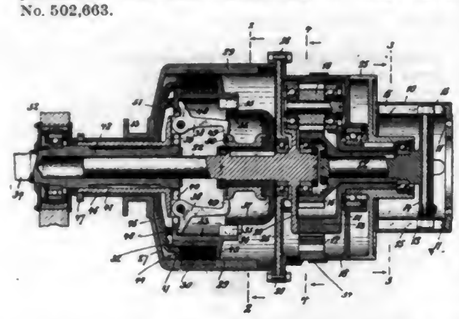


1. The herein described expansible bit comprising a head having a transversely arranged inclined hole, a cutter adapted to be entered into said hole and formed on one side with oppositely inclined surfaces, and screws entered into said head and adapted to bear against the said cutter.

2. The herein described expansible bit comprising a head having a transversely arranged, inclined non-cylindrical hole, a non-cylindrical cutter corresponding in dimensions to said hole and entered therein and formed on one side with oppositely inclined surfaces, and screws entered into said head and adapted to bear against said inclined surfaces.

3. The herein described expansible bit comprising a head and gimlet point, said head formed with a transversely arranged inclined hole opening through the outer or front end of the head at one side of said point, a cutter adapted to be entered into said hole and having a cutting edge which extends beyond the front end of the head, said cutter formed with oppositely inclined surfaces, and screws entered into said head and adapted to bear against said surfaces.

970,790. TRANSMISSION-GEARING. CHARLES A. CARLSON, Brooklyn, ALDEN E. OSBORN, New York, and JAMES C. ANGELINO, Brooklyn, N. Y., assignors to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed June 17, 1909. Serial No. 502,663.



1. In transmission gearing the combination with a driving element, a driven element and change speed gearing between them, of two clutches including operating elements, for connecting the said gearing in different driving relations, the said operating elements including an annular cam longitudinally movable with respect to the said driven element, but partaking of the rotational movement of the said change speed gearing, the said operating elements adapted to operatively connect one of the said clutches when in one position, the other when in another position, and both when in a third position.

2. In transmission gearing, the combination with a driving element, a driven element, and change speed gearing between them, of two clutches including movable operating elements, for connecting the said gearing in different driving relations, and means for longitudinally moving the said operating elements, the said operating elements including an annular cam and being adapted to operatively connect one only of the said clutches when at the limit of their movement in one direction, to operatively connect the other only of the said clutches when in an intermediate position, and to operatively connect both of the said clutches when at the limit of their movement in the other direction.

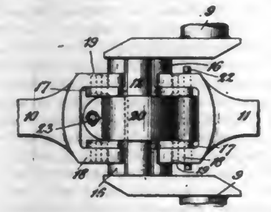
3. In transmission gearing the combination with a driving element, a driven element and change speed gearing between them, the driving and driven elements being arranged axially in line with each other, of two clutches, arranged concentrically with respect to the said elements, for connecting the gearing in different driving relations, the said clutches including operating elements one of which is in the form of a concentric tubular cam, the said operating elements being longitudinally movable with respect to the driving and driven elements, for the purpose of operatively connecting the said clutches, the said operating elements being adapted to operatively connect one only of the said clutches when in one position, the other only when in another position, and both when in a third position.

4. In transmission gearing the combination with a driving element, a driven element and an intermediate element, all arranged axially in line with each other, and planetary gearing comprising a central gear wheel rotatably connected with the driving element, a planetary gear wheel carried by the intermediate element, and a gear ring mounted concentrically with the said central gear wheel, of clutch mechanism including two sets of co-engaging clutch elements and operating means therefor, one set of the said co-engaging clutch elements being arranged for connecting the driving element with the intermediate element, and the other set of the said co-engaging clutch elements being arranged for connecting the driven element with the gear ring, the said operating means including a tubular cam longitudinally movable in the line of the axis of the three said elements, and being adapted to operatively connect one of the set of clutch elements when in one position, the other when in another position, and both when in a third position,—and means for longitudinally moving the said operating means to the three said positions.

5. In transmission gearing the combination with a driving element, a driven element and an intermediate element, all arranged axially in line with each other, and planetary gearing comprising a central gear wheel rotatively connected with the driving element, a planetary gear wheel carried by the intermediate element, and a gear ring mounted concentrically with the said central gear wheel and engaged by the said planetary gear wheel, of a sliding jaw clutch, one member of which is carried rotatively by the intermediate element, and the other member of which is carried rotatively by the driven element, a friction clutch, one member of which is rotatively connected with the driven element, and the other member of which is rotatively connected with the said gear ring, means for moving the member of the jaw clutch which is carried by the driven element, operating arms for the said friction clutch, and means movable with the longitudinally movable member of the sliding jaw clutch for actuating the said arms when at the limit of its longitudinal movement in either direction, and for releasing the said arms when in an intermediate position, the two members of the said jaw clutch being maintained in engagement in the said intermediate position, and in one only of the said other positions.

[Claims 6 to 26 not printed in the Gazette.]

970,791. MACHINE ELEMENT. CHARLES A. CARLSON, Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed July 17, 1909. Serial No. 508,090.



1. The combination with a crank pin, of opposed connecting rods having forked ends and each provided with a bearing element of tubular segmental form, hinged strap elements surrounding the said bearing elements between the forked ends of the connecting rods, and adjustable means for securing the free ends of the hinged strap elements together.

2. The combination with a crank pin, of opposed connecting rods having forked ends and each provided with a bearing element of tubular segmental form, hinged strap elements surrounding the said bearing elements between the forked ends of the connecting rods, and pivotally connected to one of the said connecting rods.

3. The combination with a crank pin, of opposed connecting rods having forked ends, a tubular segmental bearing element for each said connecting rod and means for fastening it thereto, hinged strap elements surrounding the said bearing elements between the said forked ends of the connecting rods, and means for securing the free ends of the hinged strap elements together.

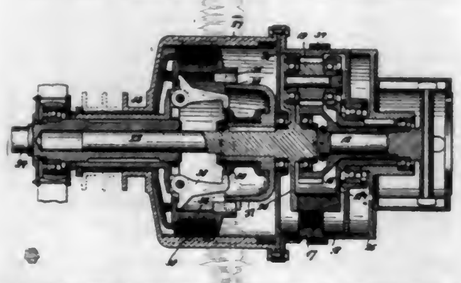
4. The combination with a crank pin, of opposed connecting rods having forked ends, bearing elements for the connecting rods, each bearing element comprising a tubular segment having flanges which extend outward therefrom, means for securing the flanges of each segment to

the forked end of its connecting rod, a hinged strap pivotally connected to one of the connecting rods and surrounding the portions of the tubular segments lying between the flanges thereof, and means for securing the free ends of the hinged strap together.

5. The combination with a crank pin, of opposed connecting rods having forked ends, bearing elements for the connecting rods, each bearing element comprising a tubular segment having flanges which extend outward therefrom, means for securing the flanges of each segment to the forked end of its connecting rod, two strap portions which embrace the said bearing members at points intermediate their ends, a hinge pin for pivotally connecting the two said strap portions together and to one of the said connecting rod ends, and means for connecting the strap portions together at their opposite ends.

[Claim 6 not printed in the Gazette.]

970,792. TRANSMISSION-GEARING. CHARLES A. CARLSON, Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed Feb. 2, 1910. Serial No. 541,412.



1. The combination with transmission gearing of the planetary type adapted to connect driving and driven elements in two different relations, and means for adjusting the parts therefor, of a brake for holding one of the parts stationary when the gearing is adjusted for one of the said relations, and means movable into position by the operation of the brake for interfering with the adjustment of the parts for the other of the said relations.

2. The combination with transmission gearing of the planetary type employing axially shiftable parts for connecting the driving and driven elements in different driving relations, the said parts including a means by which one of the transmission gearing elements may be held against rotation when the said parts are shifted to one position, of operating means for axially shifting the said parts, means for operating the said holding means when the said parts are shifted to one position, and means movable into position when the latter said means is operated for interfering with the operation of the former said operating means.

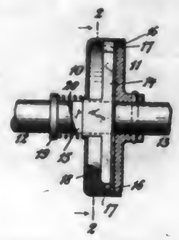
3. The combination with transmission gearing of the planetary type employing axially shiftable parts for connecting the driving and driven elements in different driving relations, the said parts including a brake drum by which one of the transmission gearing elements may be held against rotation when the said parts are shifted to one position, of operating means for axially shifting the said parts, a brake for engagement with the said drum, and means movable into position when the said brake is operated for interfering with the axial shifting of the said parts.

4. The combination with transmission gearing of the planetary type employing axially shiftable parts for connecting the driving and driven elements in high speed and low speed driving relations therethrough and having an element for coaction with a restraining device, of operating means for axially shifting the said parts, means for operating the restraining device, and means operated by the latter said means when the same is operated, for interfering with the operation of the former said means.

5. The combination with transmission gearing of the planetary type employing axially shiftable parts for connecting the driving and driven elements in different driving relations and having two elements for coaction with a single restraining device, of operating means for axially shifting the said parts, means for operating the restraining device, and interlocking means between the two said operating means, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

970,793. SHAFT-COUPLING. CHARLES A. CARLSON, Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed Feb. 2, 1910. Serial No. 541,414.



1. The combination with two shafts, of a coupling therefor comprising two elements secured fast to the shafts respectively but movable longitudinally the one with relation to the other, one of the said elements comprising a transversely disposed bar and a cylindrical casing secured thereto, and the other a disk provided with a plurality of annularly disposed teeth for engagement with the opposite extremities of the said bar; and a spring for pressing the two said elements together.

2. The combination with two shafts, of a coupling therefor comprising an element adapted to be secured fast to one of the said shafts and provided with a plurality of annularly disposed teeth, another element comprising a bar arranged to be mounted in a longitudinal slot in the other shaft whereby the said bar will turn with the shaft but will be permitted a longitudinal movement with respect thereto, the extremities of the said bar being adapted for engagement with the teeth of the first said element, the said bar being provided with means whereby it may be moved longitudinally of the shaft, by hand, from the exterior of the device, and a spring for pressing the said bar toward the first said element.

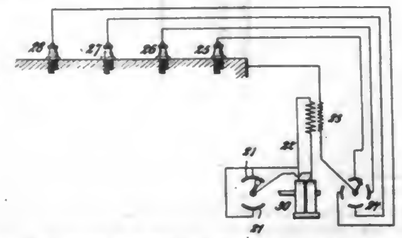
3. The combination with two shafts, of a coupling therefor comprising an element adapted to be secured fast to one of the said shafts and provided with a plurality of annularly disposed teeth, another element comprising a bar arranged to be mounted in a longitudinal slot in the other said shaft whereby the said bar will turn with the shaft but will be permitted a longitudinal movement with respect thereto, the extremities of the said bar being adapted for engagement with the teeth of the first said element, and a cylindrical housing secured to the said bar and extending over the first said element, and a spring for pressing the second said element toward the first said element.

4. The combination with two shafts, of a coupling therefor comprising two elements secured fast to the said shafts, respectively, but movable longitudinally, the one with relation to the other, one of the said elements including a plurality of annularly disposed teeth having their opposite sides parallel with each other, and the other a transverse bar provided with curved faced extremities for engagement with the parallel sides of the said teeth, thereby permitting slight relative angular axial movements but retaining driving relation in both directions of rotation.

5. The combination with two shafts one of which is provided with a longitudinal transverse slot, of a coupling for the said shafts comprising an element adapted to be secured fast to one of the said shafts and provided with a plurality of annularly disposed teeth having parallel side faces, another element comprising a bar arranged to be mounted in the slot in the other said shaft whereby the said bar will turn with the shaft but will be permitted a longitudinal movement with respect thereto, the extremities of the said bar having lateral curved faces adapted for coengagement with the teeth of the first said element, and a spring for pressing the two said elements together.

[Claim 6 not printed in the Gazette.]

970,794. GOVERNING MEANS FOR INTERNAL-COMBUSTION ENGINES. CHARLES A. CARLSON, Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed Feb. 2, 1910. Serial No. 541,415.



1. A device for governing internal combustion engines through control of the electrical ignition circuit therein comprising a closed cylindrical casing, an electrically conductive contact element therein, a radially movable centrifugal weight located in the said casing and adapted under the influence of centrifugal force to engage the said element to close circuit therethrough, a rotatable means for carrying the said weight, and a spring for the said weight, arranged to exert a force to move the same in opposition to the movement thereof under the influence of centrifugal force.

2. A device for governing internal combustion engines through control of the electrical ignition circuit therein, comprising a closed cylindrical casing, an electrically conductive contact element upon the inner cylindrical wall therein, a radially movable centrifugal weight located in the said casing and adapted under the influence of centrifugal force to engage the said element to close circuit therethrough, a rotatable means for carrying the said weight, and a spring for the said weight, arranged to exert a force to move the same in opposition to the movement thereof under the influence of centrifugal force.

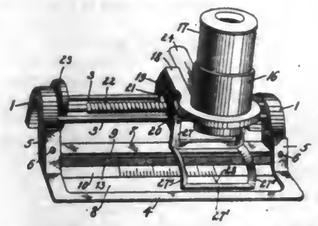
3. A device for governing internal combustion engines through control of the electrical ignition circuit therein, comprising a closed cylindrical casing, an electrically conductive contact element upon the inner cylindrical wall therein, a rotatable carrier within said casing, a weighted arm pivoted thereon at a point eccentric to its center of rotation, the said arm carrying a part for engagement with said contact element, and a spring for opposing the movement of said weighted arm under the influence of centrifugal force.

4. A device for governing internal combustion engines through control of the electrical ignition circuit therein, comprising a closed cylindrical casing, an electrically conductive contact element upon the inner cylindrical wall therein, a rotatable carrier within the said casing, two weighted arms pivotally secured to the carrier upon opposite sides of its axis of rotation, one of the said arms being provided with a part for engagement with the said contact element, and a spring for drawing the said arms together.

5. A device for governing internal combustion engines through control of the electrical ignition circuit therein, comprising a closed cylindrical casing, an electrically conductive contact element upon the inner cylindrical wall therein, a rotatable carrier within the said casing, two weighted arms pivotally secured to the carrier upon opposite sides of its axis of rotation, one of the said arms being provided with a part for engagement with the said contact element, a link connecting the arms together to cause them to move outwardly or inwardly together, and a spring tending to cause the said arms to move inwardly.

[Claims 6 to 18 not printed in the Gazette.]

970,795. THREAD-COUNTING APPARATUS. AUGUST CHRONIK and LOUIS CHRONIK, New York, N. Y. Filed Oct. 26, 1909. Serial No. 524,757.



1. In an instrument for counting threads of fabrics, the combination with a supporting frame adapted to rest flat on the fabric and having an aperture through which the threads of said fabric can be counted, of a microscope carried by said frame and adapted to move in a direction parallel to the plane of the fabric, means secured to and moving with said microscope for illuminating the surface of the fabric being examined, a pointer arranged in the longitudinal axis of said microscope carried by said illuminating means, and a scale mounted upon said frame adjoining said aperture.

2. In an instrument for counting threads of fabrics, the combination with a supporting frame adapted to rest flat on the fabric and having an aperture through which the threads of said fabric can be counted, of a microscope carried by said frame and adapted to move in a direction parallel to the plane of the fabric, a frame secured to and moving with said microscope provided with reflecting surfaces arranged in a plurality of planes for illuminating the surface of the fabric being examined, a pointer arranged in the longitudinal axis of said microscope carried by said illuminating frame, and a scale mounted upon said supporting frame adjoining said aperture.

3. In an instrument for counting threads of fabrics, the combination with a supporting frame adapted to rest flat on the fabric and having an aperture through which the threads of said fabric can be counted, of a microscope carried by said frame and adapted to move in a direction parallel to the plane of the fabric, a frame secured to and moving with said microscope provided with reflecting surfaces arranged in a plurality of intersecting planes for illuminating the surface of the fabric being examined, a pointer arranged in the longitudinal axis of said microscope carried by said illuminating frame, and a scale mounted upon said supporting frame adjoining said aperture.

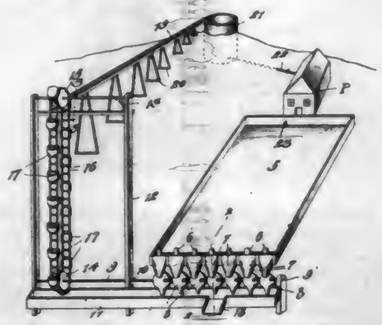
4. In an instrument for counting threads of fabrics, the combination with a supporting frame adapted to rest flat on the fabric and having an aperture through which the threads of said fabric can be counted, of a microscope carried by said frame and adapted to move in a direction parallel to the plane of the fabric, means secured to and moving with said microscope for illuminating the surface of the fabric being examined, a scale mounted upon said frame adjoining said aperture, and a pointer carried by said illuminating means, its pont being arranged in the longitudinal axis of said microscope and close to said scale, but not contacting with the latter.

5. In an instrument for counting threads of fabrics, the combination with a supporting frame adapted to rest flat on the fabric and having an aperture through which the threads of said fabric can be counted, of a microscope carried by said frame and adapted to move in a direction parallel to the plane of the fabric, a frame secured to and

moving with said microscope provided with reflecting surfaces arranged in a plurality of planes for illuminating the surface of the fabric being examined, a scale mounted upon said supporting frame adjoining said aperture, and a pointer carried by said illuminating frame, its point being arranged in the longitudinal axis of said microscope and close to said scale, but not contacting with the latter.

[Claim 6 not printed in the Gazette.]

970,796. SUPPLY SYSTEM FOR WATER-POWER PLANTS. CHARLES FRANKLYN CLARK, Calistoga, Cal. Filed May 9, 1910. Serial No. 560,141.

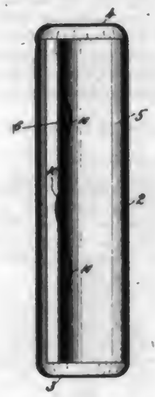


1. A water supply system for the purpose set forth comprising a main reservoir adapted to be arranged adjacent to a body of water affected by the change of tide, said reservoir being filled by the rise of the tide, a power shaft arranged beneath one end of the reservoir, a plurality of water wheels on said shaft, means arranged in one end of the reservoir to control the water and discharge the same on said water wheels to rotate said shaft, elevating mechanism operated by said shaft to elevate a portion of the water discharged from the reservoir, and means for conveying the water so elevated to a power plant.

2. A water supply system of the character set forth comprising a main reservoir adapted to be arranged adjacent to a body of water affected by the change of tide, said reservoir being filled by the rising of the tide, a power shaft arranged adjacent to one end of the reservoir, a plurality of water wheels arranged thereon, a discharge nozzle extending from the reservoir over each of the water wheels, a plurality of gates adapted to control the discharge of water from the reservoir into said nozzles, a trough arranged beneath the water wheels to receive the water discharged therefrom, a frame structure arranged adjacent to the reservoir, elevating mechanism supported by said frame structure and arranged on the shaft to be operated thereby, said mechanism being adapted to elevate a portion of the water from said trough, and means for conveying the water so elevated to a power plant.

3. A water supply system of the character set forth comprising a main reservoir adapted to be arranged adjacent to a body of water affected by the tides, said reservoir being filled by the rise of the tide, a power shaft mounted in bearings adjacent to one end of the reservoir, means for controlling the discharge of water from the reservoir, means arranged on the shaft to receive the water so discharged and rotate said shaft, a frame structure arranged adjacent to the reservoir, a shaft mounted in the upper end thereof, a sprocket on the power shaft and the shaft in the upper end of said frame, an endless chain connecting said sprockets and carrying a plurality of buckets, a trough arranged beneath said shaft to receive the water discharged from the reservoir, said buckets being adapted to elevate a portion of the water to the top of the frame, a second reservoir arranged at a higher elevation than the first named reservoir, an inclined flume extending from the upper end of the elevator to said reservoir, and a water conducting pipe connecting said reservoir to the power plant.

970,797. CASE FOR SHAVING APPLIANCES. WALTER LEIGHTON CLARK, New York, N. Y. Filed Feb. 18, 1907. Serial No. 358,099.



1. A case for shaving appliances comprising a tubular body portion having an inner tube of less diameter and a supplementary partition piece contained therein and bearing laterally against each other and against opposite sides of the body portion, said contained parts being arranged to form respectively the inner walls of longitudinally-extending compartments which are open at one end of the case.

2. A case for shaving appliances comprising a tubular body portion and longitudinally-extending partition walls removably located therein, side by side, and arranged to exert a lateral spring pressure on opposite sides of the interior of said body portion, said partition walls providing longitudinal compartments within the body portion, substantially as described.

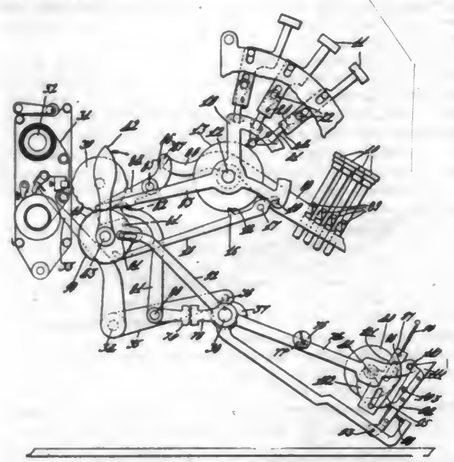
3. A case for shaving appliances comprising a tubular body portion and an arrangement of partition walls extending longitudinally therein and consisting of a tube of less diameter than the body portion and bearing against one side of the same, and a supplementary partition piece bearing against the opposite side of said body portion and also against said inner tube, said partition walls being arranged to exert a lateral pressure on the interior of the body portion whereby they are removably held therein.

4. A case for shaving appliances comprising a tubular body portion and longitudinally-extending partition walls contained therein and consisting of an inner tube and a supplementary partition piece secured to one side thereof and diverging laterally therefrom, said partition walls being arranged to bear against opposite sides of the interior of said body portion and providing longitudinal compartments within the same which are open at one end thereof.

970,798. CASH-REGISTER. JOSEPH P. CLEAL, Dayton, Ohio, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio (incorporated in 1906). Filed July 29, 1905. Serial No. 271,728.

1. In a registering machine, the combination with accumulating devices, and printing devices for printing totals therefrom, of means for resetting the accumulating devices to zero independently of the total printing operation; and means for preventing such resetting to zero of the accumulating devices without an attendant printing of the total accumulated thereon.

2. In a registering machine, the combination with accumulating devices, and printing devices for printing totals therefrom, of a manipulative device for controlling the printing of totals; means for resetting the accumulating devices to zero; and means for preventing the resetting of the accumulating devices to zero until the manipulative device has been operated to prepare for the printing of the total.

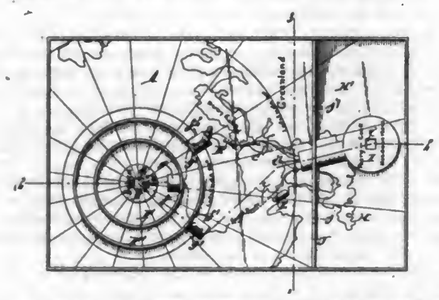


3. In a registering machine, the combination with accumulating devices, and printing devices for printing totals therefrom, of means for controlling such printing of totals; means for resetting the accumulating devices to zero; a lock for normally preventing such resetting to zero; and means connected with the total printing means for disabling said lock to permit resetting to zero.

4. In a registering machine, the combination with accumulating devices, and printing devices for printing totals therefrom, of means for controlling such printing of totals; means for resetting the accumulating devices to zero; a lock for normally preventing such resetting to zero; means connected with the total printing means for disabling said lock to permit resetting to zero; and means connected with said resetting means for enabling said lock.

5. In a registering machine, the combination with accumulating devices, and printing devices for printing totals therefrom, of means for resetting the accumulating devices to zero; and means for compelling the printing of a total before the resetting means can be actuated.

970,799. GAME APPARATUS. HERMAN C. CLEVELAND, Buffalo, N. Y. Filed Nov. 15, 1909. Serial No. 527,993.



1. A game apparatus, comprising a base, a covered inclosure mounted thereon and having an entrance-opening in its top and an exit-opening in another part thereof, and a game-piece consisting of a hollow rollable body partly filled with mercury and adapted to be jumped through said entrance-opening.

2. A game apparatus, comprising a base, a covered inclosure having an entrance-opening in its top and an exit-opening in its side, one or more walls surrounding said inclosure and having openings for the passage of game-pieces, covered passages extending from one or more of said walls in line with their openings, and game pieces movable on the base and adapted to be passed through said wall-openings and to be jumped into said inclosure through its top-opening.

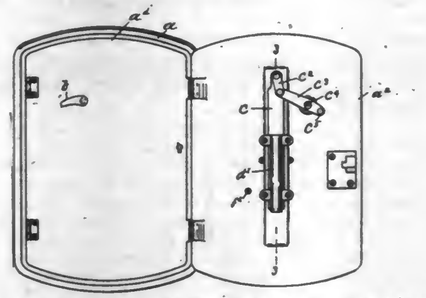
3. A game apparatus, comprising a base bearing a map of the polar regions, an object mounted thereon and representing the pole, a game piece movable on the base and representing an arctic-explorer, and a covered inclosure mounted on the base at a distance from said pole-object and representing a cache, said inclosure having an exit-opening and an entrance-opening in its top through which the game-pieces are adapted to be jumped into it.

4. A game apparatus, comprising a base bearing a map of the polar regions, an object mounted thereon and representing the pole, game-pieces movable on the base and representing arctic-explorers, independent starting compartments for the respective game-pieces arranged at a distance from said pole-object, and a partition separating said compartments and consisting of a covered inclosure provided in its top with an entrance-opening for the game-pieces, said inclosure also having an exit leading to the space containing said pole-object.

5. A game apparatus, comprising a box having a map of the polar regions delineated upon its bottom, a covered inclosure representing the pole, mounted on said map and having an entrance-opening in its top and an exit-opening in its side, walls surrounding said inclosure and having passages, the spaces between said walls and between the latter and the inclosure being uncovered, a second covered inclosure representing a cache, mounted on said map at a distance from the first-named inclosure and provided with an exit-opening and in its top with an entrance-opening, and game-pieces representing arctic-explorers movable upon the bottom of the box and adapted to pass through said openings and passages.

[Claim 6 not printed in the Gazette.]

970,800. SIGNAL-BOX. FREDERICK W. COLE, Newton, Mass., assignor to The Gamewell Fire Alarm Telegraph Company, New York, N. Y., a Corporation of New York. Filed July 10, 1906. Serial No. 325,442.



1. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-plate arranged on the front side of the box door beneath the hand-engaging portion of said actuator and transversely with respect thereto, whereby it is engaged by said hand-engaging portion intermediate its length, and recessed end-supports for said frangible-plate arranged on the front side of said box door, the entrance to the recesses thereof being arranged at the bottom, and means for holding the frangible-plate in position in the end-supports, substantially as described.

2. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-member obstructing movement of said actuator, but which does not cover the hand-engaging portion there-

of, and a frame arranged on the front side of the box door inclosing said frangible-member, having a slot through which the hand-engaging portion of said actuator extends, which is open at its lower end to permit the hand-engaging portion to engage the frangible-plate, substantially as described.

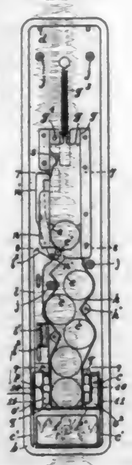
3. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-member obstructing movement of said actuator, but which does not cover the hand-engaging portion thereof, and a frame arranged on the front side of the box door having a recess to receive said frangible-member and to support it at its ends and having a slot through which the hand-engaging portion of said actuator extends, which is open at its lower end to permit the hand-engaging portion to engage the frangible-member, substantially as described.

4. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-member obstructing movement of said actuator, but which does not cover the hand-engaging portion thereof, and a frame arranged on the front side of the box door having a recess for the frangible-member, which is open at the bottom to permit of the introduction of said member, and having a slot through which the hand-engaging portion of the actuator extends, which permits engagement thereof with the frangible-member, and means for holding the frangible-member in the recess in the frame, substantially as described.

5. A fire-alarm box having an actuator for the signal-transmitting mechanism extended through the box door and provided with an external hand-engaging portion, a frangible-member obstructing movement of said actuator, but which does not cover the hand-engaging portion thereof, and a frame arranged on the front side of the box door having a recess for the frangible-member, which is open at the bottom to permit of the introduction of said member, and having a slot through which the hand-engaging portion of the actuator extends, which permits engagement thereof with the frangible-member, and means for holding the frangible-member in the recess in the frame, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

970,801. COIN VENDING-MACHINE. ANTHONY COSEGLIA, West Hoboken, N. J. Filed June 9, 1909. Serial No. 501,113.

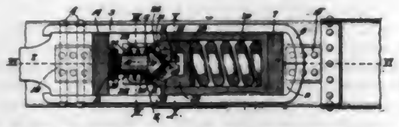


1. In a vending machine, the combination, with a vertical case, of a magazine having a latch pivoted at the bottom with finger projected forwardly, a slide-bar mounted movably upon the magazine with inclined end or tongue to engage such finger when releasing the packages, and means for actuating the slide-bar and the pivot-latch to release a package.

2. In a vending machine, the combination, with a vertical case, of a magazine having a latch pivoted at the bottom with fingers projected forward and backward upon its upper and lower ends respectively, a spring for holding the lower finger in the path of the packages, a slide-bar mounted movably upon the machine with inclined end to engage the forwardly projecting finger, and means for actuating the slide-bar and the pivoted latch to release a package.

3. In a vending machine, the combination, with a vertical case, of a magazine having a latch pivoted at the bottom with vertical arms o' at its opposite ends connected by a cross-bar o, means for turning the latch, the pivots p upon the front of the magazine for the latch-arms o' and the tongue p^2 extended downward upon the front of the magazine between the latch-arms to act as a stripper for the package f when the latch is turned.

970,802. DRAFT-GEAR. JOHN F. COURSON, Pitcairn, Pa. Filed Dec. 24, 1909. Serial No. 534,765.



1. In a friction draft gear, the combination with the casing and the relatively movable draw bar; of friction blocks engaging the casing, a buffing block adapted to receive the impact of the draw bar having an angle-faced shoe, and differential angle wedge blocks interposed between the friction blocks and said shoe.

2. In a friction draft gear, the combination with the casing and the relatively movable draw bar; of friction blocks engaging the casing, a buffing block adapted to receive the impact of the draw bar having an angle-faced shoe, differential angle wedge blocks interposed between the friction blocks and said shoe, and relatively movable abutments mounted in said shoe, and engaging the differential angle wedge blocks.

3. In a friction draft gear, the combination with the casing and the relatively movable draw bar; of friction blocks engaging the casing, a wedge block, an angle-faced shoe therefor, differential angle wedge blocks between the friction blocks and said shoe, and relatively movable abutments mounted in said shoe adapted to engage the wedge block and the differential angle wedge blocks.

4. In a friction draft gear, the combination with the casing and the relatively movable draw bar; of friction blocks engaging the casing, a wedge block, an angle-faced shoe therefor, differential angle wedge blocks between the friction blocks and said shoe, and relatively movable abutments mounted in said shoe adapted to engage the wedge block and having sloping faces engaging the under sides of the differential angle wedge blocks.

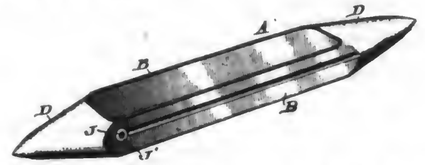
5. The combination with the differential angle wedge blocks having inclined inner faces, of a wedge block and its angle-faced shoe, and relatively movable releasing pins for the differential angle wedge blocks mounted in said shoe and engaging the wedge block.

[Claims 6 to 9 not printed in the Gazette.]

970,803. METALLIC SHUTTLE. GEORGE CUTHBERT, Philadelphia, Pa., and FRANCIS J. FEE, Collingswood, N. J. Filed June 17, 1909. Serial No. 502,678.

1. In a shuttle, a body formed of a single piece of sheet metal comprising sides, a bottom and a tubular end portion, and a tip, the latter having on its inner end an internally recessed neck which occupies said end portion, said tip being fused jointless and seamless with said portion.

2. In a shuttle, a sheet metal body composed of sides, a bottom and tubular end members, the material composing said members being fused unbroken and jointless continuities circumferentially and comprising the inner portions of the noses of the shuttle, and tips on said end members interiorly-recessed, having necks on their inner portions, the same entering said end members, said tips comprising the outer portions of the noses, the materials of said end members and tips being fused unbroken and jointless continuities of each other in the longitudinal direction of the shuttle.



3. A shuttle having a body formed of a single piece of sheet metal comprising a bottom, sides, and a tubular end member, and a tip having its outer end solid and its inner portion composed of an interiorly-recessed neck occupying said member, the wall of said neck being fused jointless and seamless with said member.

4. A shuttle having in the body thereof a resilient base on which a cop is adapted to be seated, said base being corrugated and arched upwardly.

5. A shuttle having in the body thereof a resilient base on which a cop is adapted to be seated, said base being corrugated and arched upwardly, combined with a cop retainer against which said base is opposed.

[Claims 6 to 8 not printed in the Gazette.]

970,804. SHADE-HOLDER. JOHN H. DALE, New York, N. Y. Filed Jan. 13, 1909, Serial No. 472,003. Renewed Sept. 14, 1909. Serial No. 517,745.



1. A shade holder having an interior groove at its upper end, a ring interrupted on one side and received in said groove, and means for rigidly joining together the free ends of said ring.

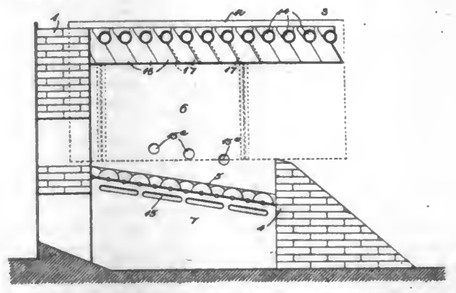
2. A shade holder having an interior groove at its upper end with an adjacent opening to receive a lamp socket, a ring interrupted on one side and received in said groove, and means connected to one end of said ring and adapted to be connected to the other for rigidly joining together the free ends of said ring to constrict the same to a size insufficiently small to pass through said opening, but sufficiently small to positively clasp the lamp socket.

3. A shade holder having an interior groove at one end, a ring interrupted on one side and received in said groove, means for rigidly joining together the ends of said ring within said groove, said groove having an aperture to expose the ends of said ring and said means.

4. A shade holder having an interior groove at one end, a ring interrupted on one side and received in said groove, the ends of said ring projecting through the wall of said shade holder, and a hasp for rigidly joining together the ends of said ring.

5. A shade holder having an interior groove at one end, a ring interrupted on one side and having an eye and an outwardly bent hook at its free ends, said eye and said hook projecting through the walls of the shade holder, and a hasp pivoted to said eye and adapted to engage said hook.

970,805. FURNACE. JAMES DONALD and THOMAS F. DOWNEY, Chicago, Ill. Filed Aug. 12, 1909. Serial No. 512,532.



1. A furnace tile construction comprising a tile having a concavity formed in one of its sides, the sides of said tile below said concavity being straight and parallel, the portion of the tile above said concavity being narrower than the portion below said concavity, said portions extending at an angle with each other, a locking tile adapted to lie in contact with the narrow upper portion of the first mentioned tile, and supporting means lying in contact with said concavity and said locking tile, said locking tile being wedged between said narrow portion and a part of said supporting means.

2. A furnace tile construction comprising a tile having a concavity formed in one of its sides, the sides of said tile below said concavity being straight and parallel, the portion of the tile above said concavity being narrower than the portion below said concavity, a locking tile adapted to lie in contact with the narrow upper portion of the first mentioned tile, the locking tile having a concavity therein, the two concavities being in opposite sides of the pair of contacting tiles and supporting means lying in contact with said concavities.

3. A furnace tile construction comprising a tile having a concavity formed in one of its sides, the sides of said tile below said concavity being straight and parallel, the portion of said tile above said concavity being narrower than the portion below said concavity, a locking tile adapted to lie in contact with the narrow upper portion of the first mentioned tile, the locking tile having a concavity therein, the two concavities being in opposite sides of the pair of contacting tiles, said straight parallel sides being inclined at an angle other than a right angle to a plane passing through the centers of the circles on which the concavities are formed and supporting means lying in contact with said concavities.

4. A furnace tile construction comprising a tile having a concave surface 22, two straight parallel sides 19 and 20, two sides 24 and 25 and an inclined surface 27, a locking tile having a concave surface 29, two parallel surfaces 31 and 33, the surface 31 being adapted to lie in contact with the surface 24, and an inclined surface 30 adapted to lie in contact with the surface 27 and supporting means lying in contact with the concave surfaces 22 and 29.

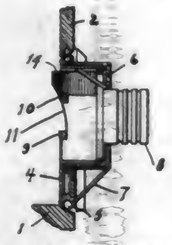
5. A furnace arch comprising a plurality of supporting members spaced apart and arranged in a plane, a tile extending between every two adjacent supporting members and contacting one of said members, a portion of said tile being above the plane of said members and a portion of the tile being below said plane, the portion above said plane being nearer to said contacted supporting member than to the other supporting member, and a locking member bearing upon said other supporting member and contacting the upper part of said tile.

[Claims 6 to 17 not printed in the Gazette.]

970,806. CAR-DOOR CLOSURE. ARTHUR FAGET, San Francisco, Cal. Filed Jan. 17, 1910. Serial No. 538,509.

1. In a plug for car doors, a frame, means to make said frame air-tight in a door opening, an air pipe connected

with said frame, and deflecting means interposed in the path of the air to direct the air toward the roof of a car, as described.

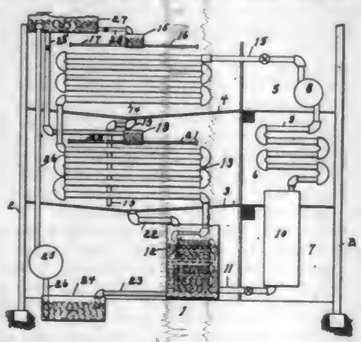


2. In a plug for car doors, a frame, means to make said frame air-tight in a door opening, an air pipe connected with said frame, and deflectors arranged in the frame at the end of said pipe so as to direct the air in a fan-shaped body toward the roof of a car, substantially as described.

3. In a plug for car doors, a frame, means to make said frame air-tight in a door opening, an air pipe connected with said frame, and deflecting means interposed in the path of the air to direct the air toward the roof of a car, and comprising a series of curved plates adapted to spread the air into a fan-shaped body near the roof of a car, as set forth.

4. In a plug for car doors, a frame, means to make said frame air-tight in a door opening, and an air pipe connected with said frame and adapted to direct the air passing through the frame in a fan-shaped body near the roof of a car, said means comprising a series of laterally curved plates interposed in the path of the air from the pipe, substantially as set forth.

970,807. APPARATUS FOR ECONOMIZING POWER IN PRECOOLING PLANTS. ARTHUR FAGET, San Francisco, Cal. Filed Jan. 17, 1910. Serial No. 538,510.



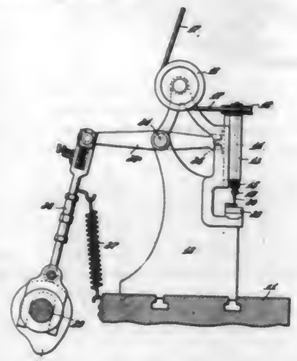
1. In an apparatus for economizing power in refrigeration plants, a series of cooling coils, means to supply said coils with a refrigerant, a liquid cooler through which said refrigerant passes on its way to the cooling coils, drip pipes over the cooling coils, and pipes to pass the solution from the drip pipes through the liquid cooler, substantially as set forth.

2. In an apparatus for economizing power in refrigeration plants, a series of cooling coils, means to supply said coils with a refrigerant, a cooler through which said refrigerant passes on its way to the cooling coils, means to periodically remove accumulations of ice from the cooling coils, and means to deliver the ice and solution from said coils to the cooler to utilize the cold stored in such accumulations of ice to cool the refrigerant on its way to the cooling coils, as described.

3. In an apparatus for economizing power in precooling plants, a series of cooling coils, means to compress the cooling agent, a liquid cooler connected with said compressor and said coils, drip pipes over the coils, and means to pass the solution from the drip pipes through the liquid cooler, as set forth.

4. In an apparatus for economizing power in precooling plants, a series of cooling coils, means to compress the cooling agent, a liquid cooler connected with said coils, drip pipes over the coils, means to pass the solution from the drip pipes through the liquid cooler, and means to return said solution to the drip pipes, as described.

970,808. MACHINE FOR MAKING HEDDLES. WILLIAM FEHR and JACOB KAUFMANN, Philadelphia, Pa., assignors to Steel Heddle Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 26, 1908. Serial No. 454,931.



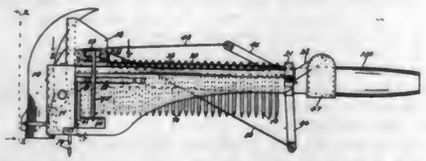
1. In a machine of the character described, the combination with means for slitting a strip of metal, of a support for the strip, a rotating pin, and means for inserting said pin into the slit in the strip of metal in a direction transverse to the plane of the strip of metal.

2. In a machine of the character described, the combination with means for slitting a strip of metal, of a support for the strip, a rotating pin, said pin having its free end tapered, and means for inserting said pin into the slit in the strip of metal in a direction transverse to the plane of the strip of metal.

3. In a machine of the character described, the combination with means for slitting a strip of metal, of a support for the strip, a rotating pin, said pin having a series of longitudinal flutes or corrugations, and means for inserting said pin into a slit in the strip of metal in a direction transverse to the plane of the strip of metal.

4. In a machine of the character described, the combination with means for slitting a strip of metal, of a support for the strip, a rotating pin, a collar mounted on said pin, and means for inserting said pin into the slit in the strip of metal in a direction transverse to the plane of the strip of metal.

970,809. NAIL-SETTER. JOHN CHANDLER GATES, Tipton, Ind. Filed Aug. 26, 1907. Serial No. 390,258.



1. The combination with a hammer having a handle, of means for holding and feeding the nails and the like extending alongside the hammer, means at one end thereof surrounding the head of the hammer, and means at the other end thereof surrounding the handle of the hammer for securing the nail holding and feeding means thereto.

2. Means for driving nails and the like including a magazine for holding the nails and the like, a casing into which the nails successively enter from said magazine, a hammer-like member fulcrumed within said casing so that one side thereof coöperating with the walls of the casing will furnish a guide for the nails and the like, there being a shoulder at the lower end of said hammer-like member, a spring tending to force the lower end of said hammer-like member toward the wall of the casing, and means for forcing the nails and the like successively down below the shoulder in said hammer-like member.

3. Means for driving nails and the like including a magazine in the form of a slotted chute for holding the heads of the nails and the like, an endless chain extending from said magazine with claws secured thereto adapted to engage the heads of the nails and the like, a spring secured to the chute at one end and conected with said chain at the other end whereby the spring may be stretched into set position and as it contracts will actuate said chain, a casing into which the nails and the like are successively discharged, a hammer-like member in said casing, and means for forcing the nails in said casing to the driving position in connection with said hammer-like member.

970,810. MEANS OF FORMING RAIL-JOINTS. HORATIO G. GILLMOR, Bath, Me., assignor to Charles A. Price, Quincy, Mass. Filed Apr. 16, 1906. Serial No. 311,931.

1. A self locking wedge clamp comprising a clamp body with suitably formed arms extending upwardly and inwardly and a self locking wedge constructed with wedging surfaces to engage with the clamp body and other bodies to secure pressure between the clamp and said bodies, the said wedge being constructed with a plurality of catches any one of which is adapted to engage with suitably formed surfaces of an arm of said clamp body to prevent slackening of the wedge when driven into position.

2. A self locking wedge clamp comprising a clamp body with suitably formed arms extending upwardly, one of the said arms being overturned inwardly at its upper edge and a self locking wedge clamp constructed to exert wedging forces in two directions approximately at right angles between the said clamp and other bodies, said wedge being constructed with a plurality of catches any one of which is adapted to engage with suitably formed surfaces of an arm of the said clamp body to prevent slackening of the wedge when driven into position.

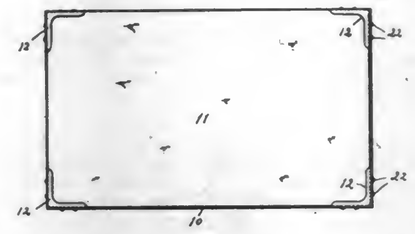
3. A self locking wedge clamp comprising a clamp body with suitably formed arms extending upwardly and inwardly and self locking wedges constructed with wedging surfaces to engage with the clamp body and other bodies to secure pressure between the said clamp and said bodies, one of the said wedges being constructed with a plurality of catches any one of which is adapted to engage with suitably formed surfaces of an arm of the said clamp body to prevent slackening of the wedges when driven into position, for substantially the purposes set forth.

4. A self locking wedge clamp comprising a clamp body with suitably formed, upwardly extending arms, one of the said arms being overturned inwardly at its upper edge; and wedges constructed to engage with each other, the clamp body and other bodies to exert wedging forces between the clamp and said other bodies in two directions approximately at right angles, one of the said wedges being constructed with a plurality of catches any one of which is adapted so to engage with suitably formed surfaces of an arm of said clamp body as to prevent slackening of the wedges when driven into position; for substantially the purposes set forth.

5. A rail joint comprising the rails, a clamp body or chair having upwardly projecting arms, a wedge constructed to exert wedging forces between the said clamp body or chair and other parts of the joint and provided with a plurality of catches, any one of which is adapted so to engage with suitably formed surfaces upon an arm of the said clamp body or chair as to prevent slackening of the wedge when driven into position, for substantially the purposes set forth.

[Claims 6 to 56 not printed in the Gazette.]

970,811. DESK-PAD. JACOB GOERK, Irvington, N. J. Filed Oct. 6, 1909. Serial No. 521,199.



1. In a desk pad, the combination of a body portion having sockets in its upper surface adjacent to one of its corners, a corner-piece on said corner having feet projecting into said sockets, and means for releasably holding said feet in said sockets.

2. In a desk pad, the combination of a body portion having sockets in its upper surface adjacent to one of its corners and perforations extending from its edge inward and intersecting said sockets, a corner-piece seated on said body portion, feet projecting from said corner-piece into said sockets, and pins in said perforations engaging said feet.

3. In a desk pad, the combination of a body portion having sockets adjacent to one of its corners, a corner-piece having a lower flange seated on said body portion, feet projecting from said flange into said sockets, and means for releasably holding said feet in said sockets.

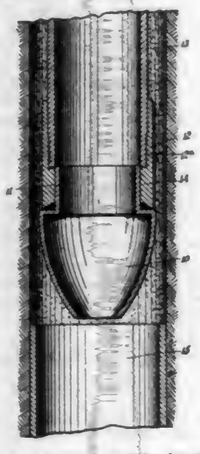
4. In a desk pad, the combination of a body portion having sockets adjacent to one of its corners and perforations extending inwardly from its edge and intersecting said sockets, a corner-piece having a lower flange seated on said body portion, feet projecting from said flange into said sockets, and pins in said perforations engaging said feet.

970,812. SHOE-GUIDE FOR WELL-CASINGS. ALBERT C. GRAHAM, Oilfields, Cal. Filed Dec. 7, 1909. Serial No. 531,757.

1. A guiding device for directing one section of well casing within another, constructed of a fragile material, whereby it is adapted to be crushed into fragments within the well and removed therefrom through the casing.

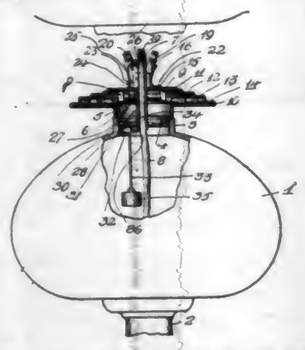
2. The combination of a section of well casing, a shoe carried by the lower end of the said section of well casing.

and a shell to direct the section of well casing into a larger section of well casing, removably applied to the



shoe and of a material more readily fragile than the shoe or well casing.

970,813. LAMP-EXTINGUISHER. ISADOR GREENWALD and JOSEPH BLAUSTEIN, Pittsburg, and MORRIS Z. WEISS, McKeesport, Pa. Filed Apr. 21, 1910. Serial No. 556,754.

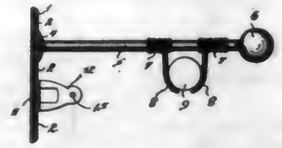


1. A clamp extinguisher comprising the combination with a burner casing, a chimney support carried thereby, and a wick guide extending through said casing, of a pair of pivoted shutters adapted to be closed over the end of said wick guide, gear connections between said shutters for simultaneously opening and closing them when one of the shutters is shifted, means connected to one of said shutters for shifting it whereby both of the shutters will be actuated, a pivoted lock arm adapted to normally engage one of said shutters and maintain the shutters in open position, a vertically movable member engaging said lock arm and adapted when shifted in one direction to move the lock arm clear of the shutter whereby the shutters can be simultaneously actuated, and a gravity movable element extending through said member and provided with means for shifting the member when said element is moved.

2. A lamp extinguisher comprising the combination with a burner casing, a chimney support carried thereby, and a wick guide extending through said casing, of a pair of pivoted shutters adapted to be closed over the end of said wick guide, gear connections between said shutters for simultaneously opening and closing them when one of the shutters is shifted, means connected to one of said shutters for shifting it whereby both of the shutters will be actuated, a pivoted lock arm adapted to normally engage one of said shutters and maintain the shutters in open position, a vertically movable member engaging said lock arm and adapted when shifted in one direction to move the lock arm clear of the shutter whereby the shutters will close by the action of said spring, and a gravity movable element extending through said member and provided with means engaging the member for shifting it to release the lock arm when said element is moved.

3. A lamp extinguisher comprising the combination with a burner casing, and a wick guide extending through said casing, of a pair of spring-controlled pivoted shutters normally maintained in open position against the action of the spring, a gear connection between the shutters for simultaneously closing them when the spring is released, the spring connected to one of the shutters, a spring-controlled pivoted lock arm engaging with one of said shutters for maintaining the shutters open against the action of said spring, a vertically-movable member adapted when shifted in one direction to move the lock arm clear of the shutter whereby the shutters will close by the action of said spring, and a gravity movable element connected to said casing and extending through said member and provided with means engaging the member for shifting it to release the lock arm when said element is moved.

970,814. WINDOW-FIXTURE. JOSEPH A. HAAS, Pittsburg, and FREDOLIN HAAS, West Apollo, Pa. Filed Apr. 21, 1910. Serial No. 556,725.



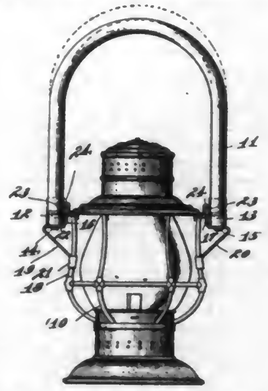
A curtain and shade fixture comprising a bracket adapted to be secured to a window frame, said bracket having a vertically-disposed portion, a button mounted in said vertically-disposed portion and provided with a threaded aperture, a rod provided at one end with a plurality of threads and at its other end with a knob and having its threaded end engaging the threads of the button whereby the rod is connected to the bracket, said rod disposed at right angles with respect to the bracket, said bracket formed with a slot, a headed stud mounted in said slot, one end of said slot being enlarged for the removal of the stud, a shade roller support connected to said stud, and a pair of wires coiled upon the rod and adjustable thereon and each having a depending arm substantially triangular in contour, said arms having the lower portion extending toward each other and constituting a curtain pole support.

970,815. LANTERN. WILLIAM S. HAMM, Hubbard Woods, Ill., assignor to The Adams & Westlake Company, Chicago, Ill., a Corporation of Illinois. Filed July 13, 1908. Serial No. 443,359.

1. In a lantern, in combination, a pair of bail-attaching brackets one at each side of the lantern and each having a pair of apertures, a bail, a pair of studs at each end of the bail and engageable with the bracket apertures either simultaneously or singly.

2. In a lantern, in combination, a bail, a pair of brackets each having a pair of T-shaped apertures, a pair of headed studs secured to the bail at each of its ends and being engageable with the apertures simultaneously or separately.

3. In a lantern, in combination, a frame, a bracket or bail-lug attached to the frame and comprising an upstanding loop one wall of which has a vertical slot, a bail having a laterally-projecting headed stud adapted to enter the aperture, the head of the stud being of greater thickness than the width of the throat of the loop.

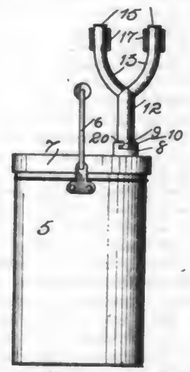


4. In a lantern, in combination, a frame, a bracket attached thereto and being of sheet metal and having a horizontal shoulder, and a vertical wall rising therefrom, such shoulder and wall each having a T-shaped aperture, the contracted end of the aperture of the shoulder being adjacent the wall, and a bail having a laterally and a longitudinally-projecting headed stud adapted to engage such apertures.

5. In a lantern, in combination, a frame, a pair of brackets attached thereto and having outstanding slotted sole-plates, the slots having their inner ends contracted, and a bail having headed ends for engaging the bracket slots, and shoulders for bearing upon the upper face of the sole-plate, the spread of the bail being normally less than the distance between the wider portions of the slots of the two brackets.

[Claim 6 not printed in the Gazette.]

970,816. SANITARY MILKING-PAIL. THOMAS WALTER HANKINS, Stella, Mo. Filed Nov. 17, 1909. Serial No. 528,544.

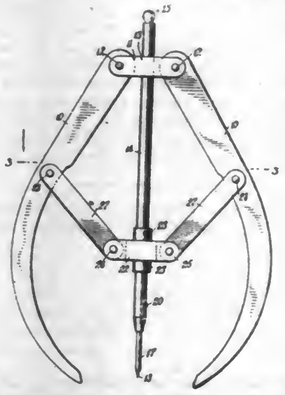


1. In combination, a vessel, a lid provided with a collar having a marginal slot and enlargement, an elastic conduit having two branching ducts, each duct being provided with an elastic loop, and a spring ring secured to the lower end of said conduit with projecting operating stems said rings being held within said collar and said stem within said enlargement.

2. The combination with a vessel; of a lid having a collar provided with a marginal slot, an elastic conduit having elastic loops adjacent its upper end a spring ring secured to the lower end of the conduit and adapted for removable engagement with the slot and a covering disposed over said ring and between the conduit and the collar.

3. A device of the character described, comprising a vessel having a lid, a collar carried by said lid, said collar being provided with a marginal slot and an enlargement, a conduit and means carried by the lower end of the conduit for removably securing the same within the collar and in engagement with the slot.

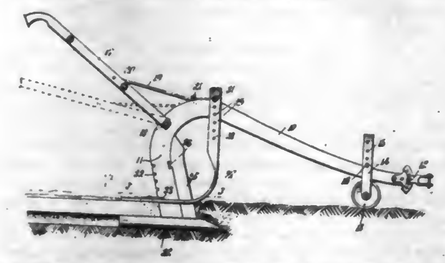
970,817. CALIPERS. WILLIAM HENRY HARRIS, Laurium, Mich. Filed Jan. 18, 1910. Serial No. 538,592.



1. A device of the class described, comprising legs, a member pivotally connecting said legs, a centering rod rigidly secured to said member, a slide movably mounted upon said rod, links operatively connecting said slide and said legs, a point carried at the lower end of said rod and having a limited movement, and a spring tending normally to hold said point in a predetermined position.

2. A device of the class described, comprising legs, a crown piece pivotally connecting said legs, a centering rod rigidly carried by said crown piece, a slide movably mounted upon said rod, links operatively connecting said slide and said legs, said rod having a bore, a pointed member movably mounted in said bore, a stop limiting the movement of said member, and a spring within said bore and tending normally to project said member.

970,818. PLOW. CARREL R. HARRYMAN, Shawnee, Okla. Filed Feb. 23, 1910. Serial No. 545,282.



1. The combination of a plow-beam, a sub-soil share removably attached to the beam, and a knife extending upwardly from the share and detachably conducted thereto and to the beam.

2. The combination of a plow-beam, a plowshare having an undercut groove in the upper side thereof receiving the heel of the beam, and a knife having a heel adapted to fit within the forward portion of the groove and extend upwardly at the front of the beam, with the said knife and

beam constructed to permit of the withdrawal of the knife from the recess of the share when the upper portion of the knife is moved forwardly from the beam.

3. The combination of a plow share having a groove undercut at the ends, a plow-beam, and a knife having heels fitting within the groove, one of which has a beveled edge to permit of the removal of the other from the recess when the upper portions of the beam and knife are moved apart.

4. The combination of a plowshare having a groove provided with undercut ends, a plow-beam, and a knife having heels removably fitting within the groove of the share and provided with interfitting portions near the upper portion of the knife constructed to be released by a relatively lateral movement.

5. The combination of a plow-beam, a sub-soil plowshare removably secured to the heel of the beam, and a knife adapted to extend from the share along the forward edge of the beam and having a heel movable into and out of engagement with the share in a downwardly and rearwardly inclined position, and having means near the upper portion thereof movable into and out of locking engagement with the beam by a relatively lateral movement.

[Claims 6 to 9 not printed in the Gazette.]

970,819. CURTAIN-HOLDER. PHILIP HEFFLER, Pittsburg, Pa. Filed Dec. 7, 1909. Serial No. 531,855.



In a curtain holder, the combination with a window frame, of a bearing adapted to be carried thereby, an arm having the one end thereof bent to provide a pivot member adapted to loosely engage in said bearing, a triangular-shaped hinge member mounted in the outer end of said arm, and an arm pivotally connected to said hinge member and adapted to swing into parallelism with the first mentioned arm, said arms having the confronting ends thereof beveled to limit the movement of one arm relative to the other, substantially as described.

970,820. APPARATUS FOR REPRODUCING PICTURES OR CHARACTERS. GUSTAV E. HOGLUND, Chicago, Ill., assignor to William N. Selig, Chicago, Ill. Filed Sept. 10, 1909. Serial No. 517,075.



1. In a device of the class described, the combination of an instrument for transmitting impulses when passed over a roughened surface, said impulses varying in strength according to the varying degrees of roughness of the surface, an instrument comprising a light for making a visual record of such impulses on a sensitized plate, said light being energized from a local circuit, a main transmission line from the transmitting instrument, and a connection between the main line and local circuit, whereby the impulses created by the transmission instrument and conveyed over the main line affect the strength of the local circuit, whereby the varying strength of the impulses created by the transmitting instrument produces a variation in the degree of brilliancy of said light, substantially as described.

2. In a device of the class described, the combination of an instrument for transmitting impulses when passed over the roughened surface of a plate, said impulses varying in strength according to the varying degrees of roughness of the surface, a telephone transmitter connected to said instrument, means for horizontally moving the roughened plate, an instrument comprising a light for making a visual record of such impulses on a sensitized plate, said light being energized from a local circuit, means for reciprocally moving said recording instrument, means for horizontally moving said sensitized plate, a main line from the transmitting instrument, a connection between the main line and local circuit, whereby the impulses created by the transmitting instrument and conveyed over the main line affect the strength of the local circuit, whereby the varying strength of the impulses created by the transmitting instrument produces a variation in the degree of brilliancy of said light, substantially as described.

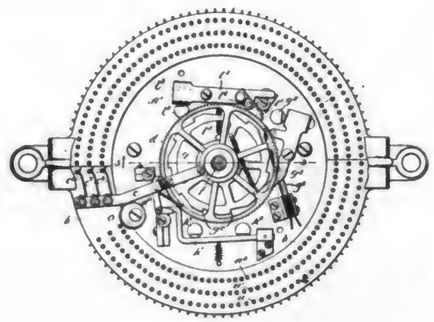
3. In a device of the class described, the combination of an instrument for transmitting impulses when passed over the roughened surface of a plate, said impulses varying in strength according to the varying degrees of roughness of the surface, a telephone transmitter attached to said instrument, an instrument including a lamp for making a visual record of such impulses on a sensitized plate, a mounting for the plate at the transmitting station, and a mounting for the plate at the receiving station, each consisting of a movable carriage, a mounting for the instrument at the transmitting station, and a mounting for the instrument at the receiving station, each consisting of a movable carriage, means for automatically moving each of said carriages on which the instruments are mounted synchronously, means for automatically moving each of said carriages on which the plates are mounted synchronously, the lamp of the receiving instrument being energized by a local circuit, a main line from the transmitting instrument, and a connection between the main line and the local circuit, whereby the vibrations sent over the main line by the transmitting instrument act to vary the strength of the local circuit, whereby the degree of brilliancy of the light is varied, substantially as described.

4. In a device of the class described, the combination of an instrument for transmitting impulses when passed over a roughened surface, said impulses varying in strength according to the varying degrees of roughness of the surface, an instrument for making a visual record of such impulses on a sensitized plate, said instrument being energized from a local circuit, a main line from the transmitting instrument, and a combined telephone transmitter and receiver, comprising a receiver coil, a diaphragm and a transmitter coil, said instrument forming a connection between the main line and local circuit, the main line being connected to the receiver coil of said instrument, and the local circuit being connected to the transmitter coil, whereby the impulses sent out over the main line by the action of the transmitting instrument produce a variation in the strength of the local circuit, whereby the receiving instrument is affected to produce various impressions corresponding in density to the strength of the current set up in the local circuit, substantially as described.

5. In a device of the class described, the combination of an instrument for transmitting impulses when passed over a plate having a roughened surface, said impulses varying in strength according to the varying degrees of roughness of the surface, a telephone transmitter attached to said instrument, an instrument for making a visual record on such impulses on a sensitized plate, comprising a light energized by a local circuit, an electrical connection between the two instruments, a mounting for the plate at the transmitting station, and a mounting for the plate at the receiving station, each consisting of a movable carriage, a mounting for the instrument at the transmitting station, and a mounting for the instrument at the receiving station, each consisting of a movable carriage, means for reciprocally moving the carriages on which the transmitting and recording instruments are mounted over the surfaces of the plates on which the instruments are operating, and means for horizontally moving the carriages on which the plates are mounted, to bring the different portions of their surfaces into engagement with the instruments, a main line from the transmitting instrument, and a connection between the main line and local circuit, whereby the vibrations transmitted over the main line act to affect the strength of the local circuit, thereby varying the density of the light of the receiving instrument in accordance with the strength of the impulse sent out by the transmitting instrument, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

970,821. AUTOMATIC EXCHANGE-SELECTOR. HOWARD B. HOLMES, Park Ridge, and EDWARD B. CRAFT, Wilmette, Ill., assignors to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed June 4, 1906. Serial No. 320,035.



1. In a selector, the combination with stationary line terminals and a movable brush carrier having brushes which it is adapted to trail over said line terminals, a ratchet wheel moving with said brush carrier, electromagnetic stepping mechanism for advancing said ratchet wheel in short steps, a second ratchet wheel operatively connected to advance said brush carrier in long steps, said first mentioned ratchet being mounted to have an advance movement independent of the long step ratchet, means for limiting said independent advance movement and electromagnetic mechanism for advancing said long step ratchet.

2. In a selector, the combination with a movable brush carrier and a ratchet wheel for advancing the same in short steps, a second ratchet wheel mounted coaxially with the first ratchet and rotatable relatively thereto, a connection adapted to cause the first mentioned ratchet and brush carrier to be advanced by the advance movement of the second ratchet, said first ratchet being mounted to have a further advance movement independent of the second ratchet, a stop for limiting said independent advance movement, and separate electromagnetic stepping mechanisms for advancing the respective ratchets.

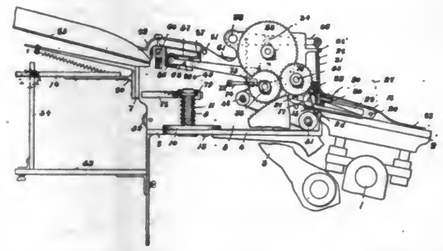
3. In an automatic telephone exchange, the combination with the line terminals, of a contact brush adapted to sweep over said terminals, a continuously rotating shaft, a ratchet loosely mounted on said shaft adapted to advance said brush, and electromagntic mechanism for securing said ratchet to the shaft to rotate therewith.

4. In an automatic telephone exchange selector, the combination with stationary line terminals, of a contact brush adapted to sweep over said terminals, a continuously rotating shaft, a ratchet loosely mounted on said shaft adapted to advance said brush, an electromagnetically controlled retaining pawl for said ratchet, electromagnetic mechanism for causing said ratchet to rotate with said shaft, and mechanism adapted to restore said ratchet and brush.

5. In an automatic telephone exchange selector, the combination with the line terminals, of a contact brush adapted to sweep over said terminals, a continuously rotating shaft, a sleeve loosely mounted on said shaft, adapted to effect the advance of said brush over said terminals, and a magnetic clutch adapted to cause said sleeve to rotate with said shaft.

[Claims 6 to 18 not printed in the Gazette.]

970,822. AUTOMATIC FEEDER FOR PLATEN PRINTING-PRESSES. HANS HONIGMANN, Duluth, Minn. Filed June 21, 1909. Serial No. 503,414.



1. The combination with a platen printing press, of a pivoted frame adjacent thereto, a radially movable carriage carried by the frame, endless conveyers carried by the carriage and arranged to simultaneously convey the sheets of paper to and from the platen of the press.

2. The combination with a platen printing press, of a frame pivoted adjacent the press, means at the rear of the frame for supporting a stack of sheets, means at the forward end for feeding the sheets to and from the platen of the press, means carried by the frame for conveying at intervals sheets from the stack to the feeder, and said means and feeder operated by the press.

3. The combination with a platen printing press, of a frame pivoted adjacent thereto, an upwardly swinging carriage carried by the outer end of the frame and extending over the platen of the press, arms pivoted to the frame at one end, links connecting the opposite ends of the arms and the said carriage, means for rocking said arms whereby the carriage is raised and lowered with the rocking of the platen and means carried by the carriage for feeding the sheets to and from the platen of the press, and means operated by the press for operating the arms and feeding mechanism.

4. The combination with a platen printing press, of a frame pivoted adjacent thereto, an upwardly swinging carriage pivoted to the frame, arms pivoted to the frame at one end, links pivotally connecting the opposite ends of the arms and the carriage, means operated by the press for rocking said arms whereby the carriage is raised and lowered with the rocking of the platen of the press, endless belts carried by the carriage for feeding the sheets to and from the platen of the press and means operated by the press for operating said belts.

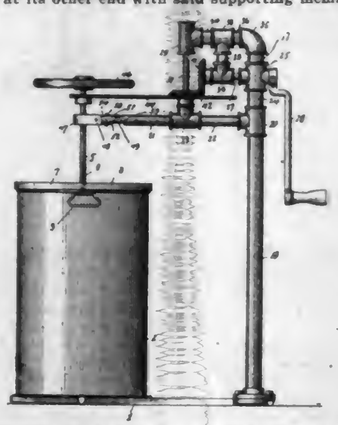
5. The combination with a platen printing press, of a frame pivoted adjacent thereto, an upwardly swinging carriage pivoted to the frame, means for raising and lowering said carriage, a shaft mounted in the outer end of said carriage, a shaft carried by the frame beyond the inner end of the carriage, endless belts passing around the shafts, and adapted to feed the sheets of paper to and from the platen and means operated by the press for raising and lowering the carriage and driving said endless belts.

[Claims 6 to 15 not printed in the Gazette.]

970,823. CHURN. JOHN H. HOPKINS, Punxsutawney, Pa. Filed Dec. 7, 1909. Serial No. 531,858.

1. In combination, a base, a churn body mounted thereon, an upright fixed to the base at one side of said body, a dasher shaft journaled in the churn body and provided with a dasher, a right-angularly-disposed supporting member connected to said upright, a horizontally-disposed drive shaft supported by said upright, a vertically-disposed driven shaft supported by said member and upright, a beveled gear carried by the drive shaft, a beveled gear connected to the driven shaft and meshing with the gear carried by the drive shaft, a sprocket wheel fixed to the hub of the gear upon the driven shaft, a sprocket pinion

fixed to the dasher shaft, an operative connection between said sprocket pinion and sprocket wheel for operating the dasher shaft when the driven shaft is operated, a handle connected to the drive shaft for operating it, and a tensioning device for said operative connection, said tensioning device connected at one end with said dasher shaft and at its other end with said supporting member.

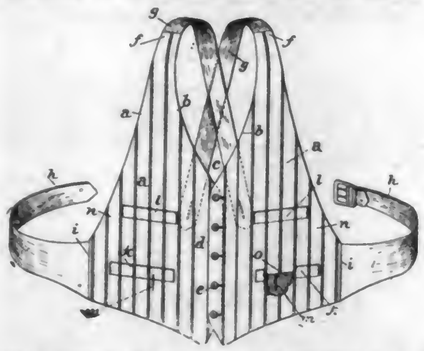


2. In combination, a base, a churn body mounted thereon, an upright fixed to the base at one side of said body, a dasher shaft journaled in the churn body and provided with a dasher, a right-angularly-disposed supporting member connected to said upright, a horizontally-disposed drive shaft supported by said upright, a vertically-disposed driven shaft supported by said member and upright, a beveled gear carried by the drive shaft, a beveled gear connected to the driven shaft and meshing with the gear carried by the drive shaft, a sprocket wheel fixed to the hub of the gear upon the driven shaft, a sprocket pinion fixed to the dasher shaft, an operative connection between said sprocket pinion and sprocket wheel for operating the dasher shaft when the driven shaft is operated, a handle connected to the drive shaft for operating it, a tensioning device for said operative connection, said tensioning device connected at one end with said dasher shaft and at its other end with said supporting member, and vertically-disposed deflectors secured to the inner face of said churn body and arranged above the plane of the dasher.

3. In combination, a base, a churn body mounted thereon, an upright fixed to the base at one side of said body, a dasher shaft journaled in the churn body and provided with a dasher, a right-angularly-disposed supporting member connected to said upright, a horizontally-disposed drive shaft supported by said upright, a vertically-disposed driven shaft supported by said member and upright, a beveled gear carried by the drive shaft, a beveled gear connected to the driven shaft and meshing with the gear carried by the drive shaft, a sprocket wheel fixed to the hub of the gear upon the driven shaft, a sprocket pinion fixed to the dasher shaft, an operative connection between said sprocket pinion and sprocket wheel for operating the dasher shaft when the driven shaft is operated, a handle connected to the drive shaft for operating it, a tensioning device connected at one end with said dasher shaft and at its other end with said supporting member, vertically-disposed deflectors secured to the inner face of said churn body and arranged above the plane of the dasher, and a hand wheel mounted upon the outer end of the dasher shaft.

970,824. COMBINED VEST AND SUSPENDERS. HARRIS HOPPENSTEIN, Baltimore, Md. Filed Jan. 28, 1910. Serial No. 540,629.

A vest-front comprising two front-halves which diminish in width upwardly and taper to the shoulders, and having pockets whose openings are exposed at the outer surface of the vest and the back wall of which pockets is provided with a button-hole that is covered and concealed by the front wall—said button-hole being adapted to engage a button on the front part of the trousers, and a suspender strap attached to the end of each of said upwardly-tapered parts and extending down the back and adapted to engage buttons on the back part of trousers.



970,825. METHOD OF MAKING FORMATES AND FORMIC ACID. HENRY HOWARD, Brookline, Mass. Filed June 10, 1908, Serial No. 437,676. Renewed Aug. 8, 1910. Serial No. 576,077.

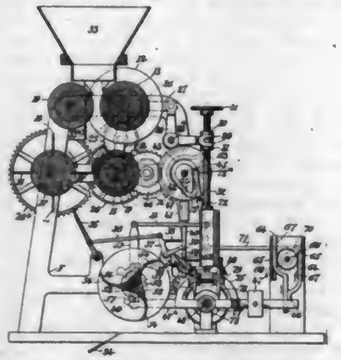
1. The method of making formic acid which consists in mixing an alkali metal hydroxid with the alkali metal salt which is to constitute the solid residue of the operation, subjecting the mixture to the action of carbon monoxid under suitable conditions to produce formate, and decomposing the formate by the acid which enters into the constitution of the alkali metal salt mixed with the hydroxid.

2. The method of making formates which consists in mixing an alkali metal hydroxid and sulfate, and subjecting the mixture to the action of carbon monoxid under suitable conditions to produce formate.

3. The method of making sodium formate which consists in mixing caustic soda and sodium sulfate, and subjecting the mixture to the action of carbon monoxid under suitable conditions to produce sodium formate.

4. The method of making formic acid and sodium sulfate which consists in mixing an alkali metal hydroxid and sulfate, subjecting the mixture to the action of carbon monoxid under suitable conditions to produce formate, and decomposing the formate by sulfuric acid.

970,826. DIVIDING APPARATUS. ROSCOE HOYT, New York, N. Y. Filed Sept. 22, 1904. Serial No. 225,453.



1. A machine for dividing plastic material comprising means for dividing the material into strips, means for dividing the strips into separate portions, and means automatically controlled by the weight of a portion for adjusting the position of one of the dividing means.

2. A machine for dividing plastic material comprising a plurality of pairs of rolls, one of said pairs being provided with a circumferential blade and another pair having a longitudinal blade, and means automatically controlled by the weight of material passed between the rolls for adjusting the position of one of the first-named pair.

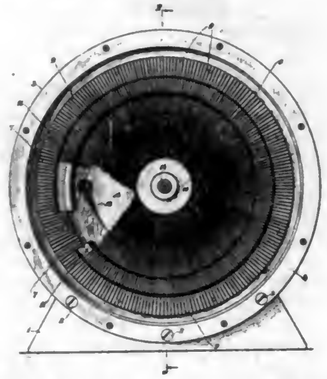
3. A machine for dividing plastic material comprising an upper pair of coacting rolls provided with circumferential blades, a lower pair of rolls, one of which has longitudinal blades, means for adjusting the position of one of said rolls, and means connected thereto and controlled by the weight of material passed between the lower rolls for controlling said adjusting means.

4. The combination with means for dividing material into portions, one part of said means being movable, of means controlled by the weight of a portion separated by said dividing means, for automatically adjusting the position of said movable part of the dividing means.

5. The combination with means for dividing material into portions, one part of said means being movable, of power-operated means controlled by the weight of a divided portion for adjusting the position of the dividing means.

[Claims 6 to 19 not printed in the Gazette.]

970,827. DYNAMO-ELECTRIC MACHINE. ALBERT S. HUBBARD, Belleville, N. J., assignor to Gould Storage Battery Company, a Corporation of New York. Filed July 3, 1908. Serial No. 441,739.



1. In a field structure for dynamo-electric machines, a plurality of radially arranged laminations having their inner ends in close proximity to each other, so as to form a unipolar field structure.

2. In a field structure for dynamo-electric machines, a plurality of radially arranged laminations having their inner ends in close proximity to each other forming a substantially continuous ring of laminated magnetic material and a magnetizing coil concentric with said ring.

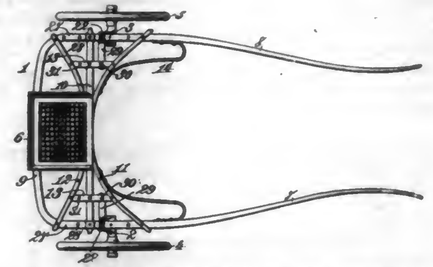
3. In a field structure for dynamo-electric machines, a plurality of radially arranged laminations having their inner ends in close proximity to each other so as to form a unipolar field structure and a magnetizing coil adapted to be connected to a source of alternating current.

4. In an alternating current dynamo-electric machine, a homopolar field structure formed of radial laminations, a field coil partially embraced by said laminations and adapted to be energized by alternating currents and a rotatable metallic armature within said field coil.

5. In a dynamo-electric machine, a field structure embracing radial laminations substantially U-shaped and a field coil located between the legs of the U-shaped laminations.

[Claims 6 to 12 not printed in the Gazette.]

970,828. TROTTING-SULKY. GEORGE W. HUBBARD, Cockeysville, Md. Filed Apr. 4, 1910. Serial No. 553,199.



1. In a vehicle of the type specified, the combination of a frame including a pair of shafts; a vertical axle arm connected to each shaft and connected to the same for bodily adjustment longitudinally with respect thereto, and a wheel carried by each arm.

2. In a vehicle of the type specified, the combination of a frame including a pair of shafts, and tie-bars connecting the shafts; a pair of axle arms connected to said shafts for bodily adjustment longitudinally of the same, said arms having portions thereof adjustably connected with said tie-bars; and a wheel carried by each arm.

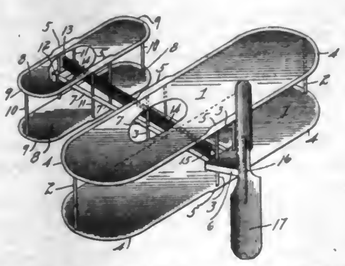
3. In a vehicle of the type specified, the combination of a frame including a pair of shafts, a pair of tie-bars connecting the shafts, and a pair of straps connecting the tie-bars adjacent the ends thereof; a pair of axle arms connected to said shafts for bodily adjustment longitudinally of the same, each arm having a portion thereof adjustably connected with the adjacent strap; and a wheel carried by each arm.

4. In a vehicle of the type specified, the combination of a frame including a pair of shafts each having a toothed member attached to its under surface; a pair of axle arms having toothed portions engaged with the adjacent toothed members for bodily adjustment longitudinally of said shafts; a wheel carried by each arm; and means for retaining said arms in adjusted position.

5. In a vehicle of the type specified, the combination of a frame including a pair of shafts; an axle arm connected to each shaft bor bodily adjustment longitudinally of the same, each arm having its upper end engaged with the under surface of the corresponding shaft, and provided at its lower end with a lateral spindle; and a wheel carried by each arm.

[Claims 6 to 10 not printed in the Gazette.]

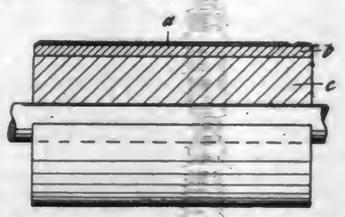
970,829. TOY FLYING-MACHINE. ISAAC W. HUMPHREY and HARRY A. SPURGEON, Dayton, Ohio. Filed Feb. 19, 1910. Serial No. 544,761.



A toy of the type specified comprising a downwardly curved motor frame extending the length of the device and constituting the main frame, a propeller supported on the forward end of said frame, an elastic motor having one end connected to the shaft of said propeller and the other end connected to the tail-piece of the motor frame,

two forwardly disposed planes held apart by end braces and supported on the motor frame by intermediate braces, and two rearward planes having areas approximately one fourth of the areas of the front planes, said rearward planes being held apart by end braces and supported on the motor frame by intermediate braces engaging the motor frame and the tail-piece of the motor frame, said rear planes being adapted to be varied in their angles relative to the front planes, as herein shown and described.

970,830. METHOD OF MANUFACTURING PRINTING-ROLLERS. CARL JAEK, Berlin, Germany. Filed Oct. 22, 1908. Serial No. 459,054.



1. A method of manufacturing printing rollers which consists in providing a cylindrical core, placing thereon a layer of softer material than the material of which the core is made, turning down the outer layer until the roll attains the desired diameter, providing the outer surface with a suitable pattern, and finally hardening said outer surface.

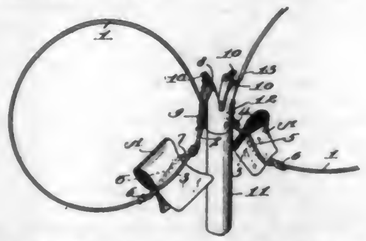
2. A method of manufacturing printing rollers which consists in providing a cylindrical core, placing thereon a layer of softer material than the material of which the core is made, turning down the outer layer until the roll attains the desired diameter, providing the outer surface with a suitable pattern, and finally providing the outer surface with a covering of hard material.

3. A method of manufacturing printing rollers which consists in providing a cylindrical core, placing thereon a layer of material comprising a substance adapted to char when subjected to heat, turning down the outer layer until the roll attains the desired diameter, providing the outer surface with a suitable pattern, placing on said surface a coating of fusible material, subjecting the roll to heat, whereby the coating material will fuse and the substance in the layer will char, thus permitting the fusible material to enter the space formerly occupied by such substance, and finally cooling the roll and allowing the fusible material to harden.

4. A method of manufacturing printing rolls, which consists in providing a cylindrical core, placing thereon a layer of material, comprising sawdust, turning down the outer layer until the roll attains the desired diameter, providing the outer surface with a suitable pattern, placing on said surface a coating of fusible material, subjecting the roll to heat whereby the coating material will fuse and the sawdust in the outer layer will char, thus permitting the fusible material to enter the space formerly occupied by the sawdust, and finally cooling the roll and allowing the fusible material to harden.

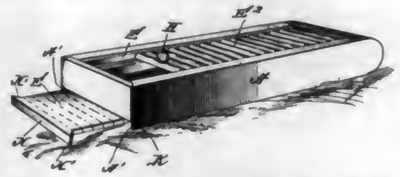
970,831. TRAIN-ORDER HOLDER. CHARLES JOHNSON, Bozeman, Mont. Filed May 14, 1910. Serial No. 561,364.

1. A train order holder consisting of a single section of wire bent into annular form and having its end portions arranged in overlapping relation, one end portion being formed at distant points with coils which surround the other end portion and intermediate the coils of an outline to coact with the other end portion and forming a wedge slit, and the other end portion being formed beyond the coils aforesaid with a tangentially disposed loop, a portion of which is bent back upon the said overlapping end portions and is coiled thereabout, in combination with a staff having means for engagement with the loop, the latter constituting a hanger.



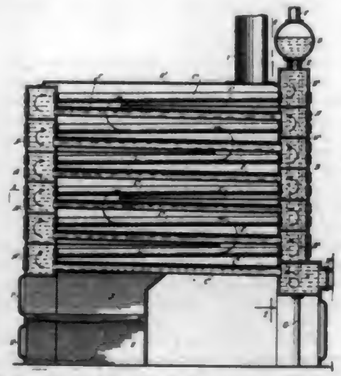
2. A train order holder comprising an integral section of wire which is bent into annular form and has its end portions overlapping and constructed for interlocking engagement and also to provide train order holding means and a tangentially disposed loop in combination with a staff having means to engage the loop, the latter constituting a hanger.

970,832. FLEXIBLE CLOSURE FOR CABINETS, &c. THOMAS M. JONES and GEORGE SEEL, Oak Hill, Ohio. Filed Apr. 28, 1910. Serial No. 558,307.



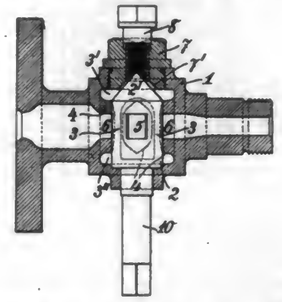
A cabinet having an opening at one side and grooved ways formed opposite each other upon the inner surface of the side walls and continuous with curved grooves at one end of the cabinet, the side walls of the cabinet projecting beyond the back wall thereof and flanged forming a guideway extending the length of the back, an opening through one end wall of the cabinet, a flexible closure made up of cross strips fastened together, said closure extending the entire lengths of the grooves, means fastened to one end of the closure to draw the same through the opening in the end, and a handle upon the opposite end of the closure.

970,833. HOUSE-HEATING BOILER. MARTIN F. KENELY, Elizabeth, N. J. Filed Mar. 18, 1910. Serial No. 550,167.



A boiler comprising front and rear water sections, each section consisting of a plurality of superposed compartments, the compartments of one of the sections being staggered with respect to the compartments of the other section, a water drum above the rear section and delivering to the lowermost compartments of the said section, inclined water tubes connecting each compartment of each section with the next lowest compartment of the other section, a connection between the upper-most compartment and the water drum, baffle plates extending horizontally and alternately from the front and rear water sections, and a fire box under the front water section and the front portion of the lower-most water tubes.

970,834. COCK AND THE LIKE. RICHARD KLINGER, Gumpoldskirchen, near Vienna, Austria-Hungary. Filed Mar. 9, 1909. Serial No. 482,272.



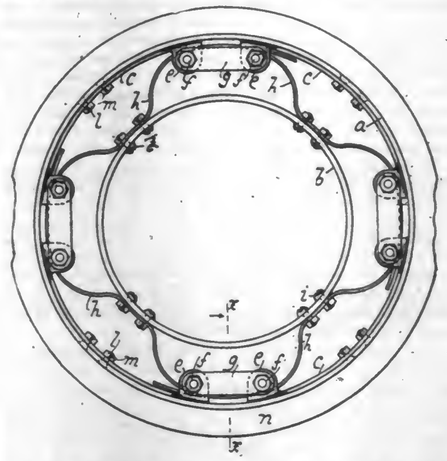
1. The combination, in a cock, of a shell having a threaded opening in its upper end, and formed with interiorly located upper and lower annular passages, and with spaced vertical passages connecting the same, said passages being adapted to receive packing; a cap threaded in said opening and formed with a threaded bore into which the packing may be introduced, said bore terminating at its lower end in a conical recess; a rotatable hollow plug fitted within said shell and provided with a conical upper end projecting into said recess, the wall of said end being spaced from that of said recess; and a plug threaded in said bore for forcing the packing through said space into the upper annular passage, and thence into the other passages, and for regulating the pressure of said packing upon said rotatable plug.

2. The combination, in a cock, of a shell having a threaded opening in its upper end, and formed with interiorly located upper and lower annular passages, and with spaced vertical passages connecting the same, said passages being adapted to receive packing; a cap threaded in said opening and formed with a threaded bore into which the packing may be introduced, said bore terminating at its lower end in a conical recess; a rotatable hollow plug fitted within said shell and comprising a body member and a top member movable therein, said top member being formed with a conical end projecting into said recess, whereby the liquid flowing through the cock will force said members in opposite directions; and a plug threaded in said bore for forcing the packing between the wall of said recess and said conical end into the upper annular passage and thence into the other passages.

970,835. SPRING-WHEEL. ANTON KNEIP, Maspeth, N. Y., assignor of one-half to William E. Bellion, Brooklyn, N. Y. Filed Apr. 12, 1910. Serial No. 555,070.

1. A spring wheel comprising an outer and an inner metal band, a series of springs secured to and normally in contact with the outer band, and a series of springs fastened to the inner band, each of said inner springs having one end connected to one of the outer springs, and the other end in contact with and engaging the said outer spring.

2. A spring wheel, comprising an outer and an inner metal band, a series of springs secured to and normally in contact with the outer band, bolts carried by the outer springs, and a series of springs fastened to the inner band, said inner springs each having one of their ends connected to one of said bolts and the other end in contact with and engaging a pair of said outer springs.

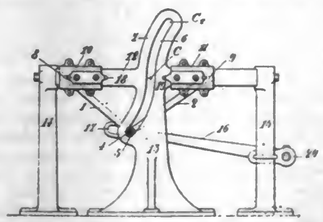


3. A spring wheel consisting of an outer metal band and an inner metal band, springs secured to the said outer metal band, ears on said springs, bolts in said ears and links connecting the springs, springs having one end rigidly secured to one of the bolts, the other end working freely on a bolt, said last named springs being also secured to the inner band.

4. A spring wheel consisting of an outer metal band and an inner metal band, a series of outer springs connected to the outer metal band, ears in said outer spring a series of inner springs secured to the inner band, one end of said inner springs being rigidly fastened to a bolt in the outer spring and the other end working freely under a bolt in the other end of the outer spring.

5. A spring wheel consisting of an outer metal band and an inner metal band, a series of outer springs fastened to the outer metal band, ears in said springs, links connecting said outer springs, a bolt in each end of the outer springs, one of said bolts having a revolving collar, a series of inner springs, placed opposite the outer springs and fastened to the inner band, one end of each inner spring being fastened to a bolt in one end of the outer spring, and the other end of said inner spring adapted to pass under and act freely on the bolt with the revolving collar in the outer spring, substantially as shown and described.

970,836. CONTROLLING MECHANISM FOR CHANGE-SPEED GEARINGS. MARCEL LAMORT, Vitry-le-François, France. Filed May 4, 1908. Serial No. 430,799.



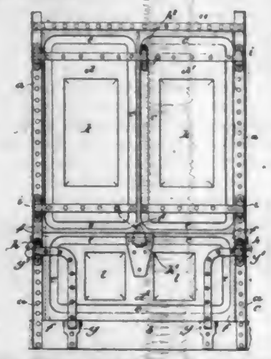
1. An actuating device for speed changing mechanism, said device comprising two slides adapted to operate the speed changing elements; a guide-bar (12) on which said slides move; two connecting rods (1), (2), hinged respec-

tively, at one of their ends, to one of the said slides, operating the same and movable respectively, in the same plane; a roller (5), connecting the other end of the said connecting rods; a track (6) parallel to the said connecting rods, and guiding the said roller; a lever (16) controlling the displacement of the said roller in the said track.

2. An actuating device for speed changing mechanism, said device comprising two slides adapted to operate the speed changing elements; a guide-bar (12), on which said slides move; two connecting rods (1), (2), hinged, respectively, at one of their ends, to one of the said slides, operating the same and movable respectively, in the same plane; a roller (5), connecting the other ends of the said connecting rods; a track (6) parallel to the said connecting rods, and guiding the said roller; a lever (16) controlling the displacement of the said roller in the said track, the latter consisting of a double circular curve having a radius equal to the length of the connecting-rods, in such a manner that, if the roller (5) is displaced in the first half of this track, the slide (10) remains stationary and the slide (11) is displaced, while if the roller (5) is displaced in the second half of this track, the slide (11) remains immovable, and the slide (10) is displaced in the opposite directions, and vice versa.

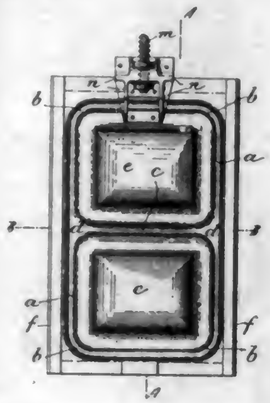
3. An actuating device for speed changing mechanism, said device comprising two slides adapted to operate the speed changing elements; a guide-bar (12), on which said slides move; two connecting rods (1), (2), hinged, respectively, at one of their ends to one of the said slides, operating the same and movable respectively, in the same plane; a roller (5), connecting the other end of the said connecting-rods; a track (6) parallel to the said connecting rods, and guiding the said roller; a lever (16) controlling the displacement of the said lever in the said track, the latter consisting of a double circular curve having a radius equal to the length of the connecting rods, in such a manner that the roller (5) operates the connecting rods and the slides in producing, first, the putting out of action of the speed changing element which was in action, and, second, putting into action the speed changing element which was out of action.

970,837. FREIGHT-CAR DOOR. FRANCIS LAWRENCE LANE, Leeds, England, assignor to Leeds Forge Company, Limited, Leeds, England. Filed Aug. 9, 1907. Serial No. 387,913.



A freight car door consisting of a rectangular sheet of steel having extending around it at a distance from its edges a continuous hollow ridge, said ridge being rounded at its corners and being formed by pressing the metal of the sheet bodily inwardly, the margin of the sheet outside this ridge being flat, said sheet having within said continuous ridge a dished or arched panel formed by bodily pressing inwardly the metal of the sheet, the sheet between this dished portion and the ridge being flat and in the same plane with the flat marginal portion, said dished or arched panel being rectangular and having its edges lie parallel, with the vertical and horizontal portions of the said ridge, for the purpose set forth.

970,838. DOOR SUITABLE FOR CLOSING OPENINGS IN SHIPS' BULKHEADS AND OTHER PURPOSES. FRANCIS LAWRENCE LANE, Leeds, England. Filed Nov. 6, 1908, Serial No. 461,377. Renewed Aug. 9, 1910. Serial No. 576,393.



1. A pressed steel door formed of one piece with a continuous strengthening corrugation or hollow ridge around the door at some little distance from its edge, the portion of the door inclosed thereby having extending across it another corrugation or hollow ridge.

2. A pressed steel door formed with a continuous strengthening corrugation or hollow ridge around the door at some little distance from its edge, the portion of the door inclosed thereby having extending across it another corrugation or hollow ridge, which merge with opposite portions of said continuous surrounding corrugation.

3. A pressed steel door formed with a continuous strengthening corrugation or hollow ridge around the door at some little distance from its edge, the portion of the door inclosed thereby having extending across it another corrugation or hollow ridge, which are located between dished or embossed parts of the panel and merge with opposite portions of said continuous surrounding corrugation.

4. A pressed steel door formed with a continuous strengthening corrugation the main portions of which are parallel to the edges of the door and the corners of which are curved, opposite side portions of said corrugation having merged into them the widened out end portions of a transverse corrugation.

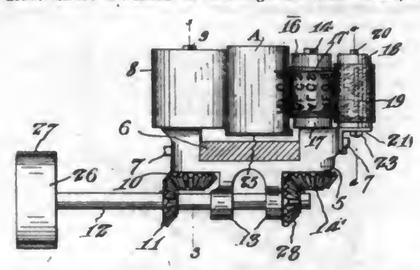
5. A pressed steel door constructed of a rectangular plate of metal and formed with a continuous strengthening corrugation or hollow ridge around the door at some little distance from its edge, the portion of the door inclosed thereby having extending across it another corrugation or hollow ridge that merges into said continuous corrugation.

[Claim 6 not printed in the Gazette.]

970,839. MARKING ATTACHMENT FOR CANNING-MACHINES. GUSTAV J. LANGE, Eau Claire, Wis. Filed Nov. 26, 1909. Serial No. 529,996.

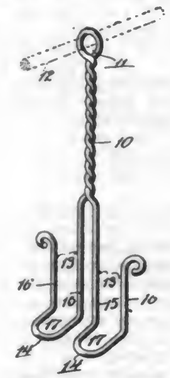
An attachment of the character described comprising a supporting frame having a centrally recessed portion adapted to receive an endless carrier, shafts extending vertically through the opposite ends of said frame, a guide roller removably mounted on one of said shafts, a marking roll removably mounted on the other of said shafts, a bracket extending laterally from the frame, an inking roller longitudinally adjustable on said bracket having frictional engagement with said marking roll and adapted to be rotated thereby, said marking roll being provided with identifying numerals or letters and peripheral ribs,

pinions secured to the lower ends of said shafts, and a drive shaft mounted in bearings on said frame, said



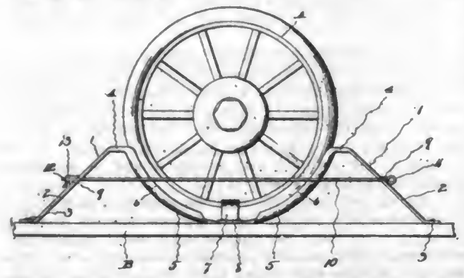
drive shaft carrying pinions engaging with the first named pinions substantially as and for the purpose set forth.

970,840. POULTRY-HOOK. FRANK B. LEWIS, Jr., Whiting, Ind., assignor to Poultry Dust Bath Company, Whiting, Ind., a Corporation of Indiana. Filed Mar. 11, 1910. Serial No. 548,739.



A hook of the class described, comprising a shank having a forked end, each member of the fork being formed with a transversely extending open sided loop, and a member projecting from one end of the loop in a line parallel with the fork.

970,841. VEHICLE-WHEEL SUPPORT. PHINEAS J. MACCONNELL, Cincinnati, Ohio, assignor of one-half to John T. Creahan, Cincinnati, Ohio. Filed Jan. 5, 1910. Serial No. 536,574.



1. In a vehicle-wheel support, supporting members having inclined portions suitably secured, each member having a concaved segmental portion to engage the wheel-tire, rods engaging said inclined portions to clamp the segmental portions in engagement with the wheel-tire, and an inverted U-shaped member secured between the ends of the segmental portions and engaging the wheel-rim, substantially as shown and described.

2. In a vehicle-wheel support, supporting members having inclined portions suitably secured, each member having a concaved segmental portion to engage the wheel-tire, said inclined portions being wider than the segmental portions and formed with tubular bosses thereon, rods engaging said tubular bosses and having threaded ends to clamp the segmental portions in engagement with the tire, and an inverted U-shaped member secured between the ends of the segmental portions and engaging the wheel-rim, substantially as shown and described.

970,842. AERIAL NAVIGATION. RICHARD P. MARABLE, Yuma, Ariz. Filed Aug. 30, 1909. Serial No. 515,331.



1. A gas holder comprising an aluminum cigar-shaped body divided into a series of separate gas compartments by bulkheads, propellers for the body arranged in the same vertical plane at different points around said body, steering means, an annular engine chamber formed within said body externally of one of the gas chambers and a plurality of engines in said annular chamber, each of said engines being connected to one of said propellers.

2. A gas holder comprising an aluminum cigar-shaped body divided into a series of separate gas compartments by bulkheads, propellers for the body, steering means, an annular engine chamber formed within said body externally of one of the gas compartments, an engine located at the bottom of said annular engine chamber, another engine at the top of said annular engine chamber, and two engines at points between the first engines, each of said engines being connected to one of said propellers.

3. A gas holder comprising a light, metallic, cigar-shaped body, propellers therefor, steering means, a plurality of adjustable aerial-planes extending longitudinally on each side of the body, each aerial-plane comprising a shelf attached to the body, and a curved plate extending outwardly and downwardly from said shelf.

4. A gas holder comprising a light, metallic, cigar-shaped body, propellers therefor, steering means, a plurality of adjustable aerial-planes extending longitudinally on each side of the body, each aerial-plane comprising a plate, a shelf between the plate and body, and means for independently adjusting said aerial-planes.

5. A gas holder comprising a light, metallic, cigar-shaped body, propellers therefor, steering means, a plurality of adjustable aerial-planes extending longitudinally on each side of the body, means for independently adjusting said aerial-planes, each aerial-plane comprising a plate, a shaft supporting the plate, a shelf between the plate and body, two ropes extending from opposite edges of each plate through a hole in the body, and means for independently or simultaneously operating said ropes.

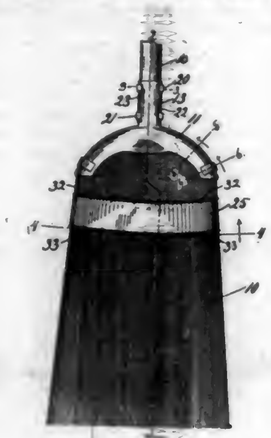
[Claims 6 to 8 not printed in the Gazette.]

970,843. BROOM. HUGH M. MARSH, Chicago, Ill. Filed Apr. 2, 1908. Serial No. 424,735.

1. In a broom in combination a body composed of corn strands, a pair of clamping jaws binding the heads of the strands together one of such jaws having fingers folded over upon and passing through the other jaw, both jaws having shanks for interfolding the handle, one of such shanks having teeth folded over upon and passing through the other shank and entering the body of the handle.

2. In a broom, in combination, a body composed of corn strands and a handle, and a pair of clamping jaws binding

the heads of the strands together, both jaws having shanks for interfolding the handle, one of such shanks having



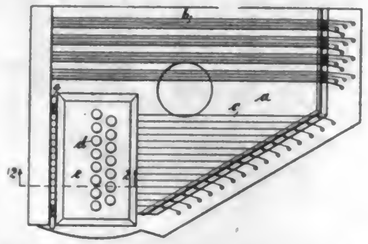
teeth folded over upon and passing through the other shank and entering the body of the handle.

970,844. BOX-CLOSURE. HARRY MATCHETT, Pittsburg, Pa. Filed Mar. 6, 1907. Serial No. 360,873.

1. The combination of a box having a flanged lid overlying the front of the box, and also having a rolled edge along the edge of the front flange of said lid, said flange having an opening above the axis of the rolled edge, a keeper secured to the box in close proximity to the rolled edge when the lid is in closed position, the plane of the outer face of the rolled edge lying without and parallel with the plane of the exposed face of the keeper, whereby the rolled edge will form an overhanging portion for the keeper to partially hide and protect it, and means removably carried by the box and lid and extending through said opening and the keeper and around the rolled edge for fastening the lid in position, said means in fastening position being located entirely below and spaced from a plane corresponding to that of the top of the box and being free from abrupt bends.

2. The combination of a box having a flanged lid overlying the front of the box, and also having a rolled edge along the edge of the front flange of said lid, said flange having an opening above the axis of the rolled edge, a keeper secured to the box in close proximity to the rolled edge when the lid is in closed position, the plane of the outer face of the rolled edge lying without and parallel with the plane of the exposed face of the keeper, whereby the rolled edge will form an overhanging portion for the keeper to partially hide and protect it, and a ductile metallic fastening strip removably carried by the lid and box and extending through said opening and the keeper and around the rolled edge for fastening the lid in position, said strip, in fastening position, being located entirely below and spaced from a plane corresponding to that of the top of the box, the ends of the strip being inter-engaged to form the fastening to retain the lid in closed position.

970,845. STRINGED MUSICAL INSTRUMENT. FREDERICK MENZENHAUER, Jersey City, N. J. Filed Jan. 10, 1910. Serial No. 537,109.



1. In a stringed musical instrument comprising a sounding board with strings thereon, an attachment on the sounding board above the strings comprising adjustable keys, and flexible hammers below said keys and above the strings.

2. In a stringed musical instrument comprising a sounding board with an open scale of strings thereon, a key-board above said strings with adjustable keys, and flexible hammers below said keys and above the strings, each flexible hammer being provided with an elastic metal strip whereby same is returned into the normal position after striking a string.

3. In a stringed musical instrument, melody strings, a key-board above said melody strings attached to the sounding board having adjustable keys, and flexible hammers below said keys and above the melody strings, each flexible hammer being provided with an elastic metal strip, and a layer of soft material on said strip against which the key strikes.

4. In a stringed musical instrument of the type described, melody strings, a key-board on the sounding board above the melody strings having keys consisting each of a body with an adjustable screw in its lower portion, and flexible hammers below said keys and above the melody strings provided each with an elastic strip of sheet steel, and a layer of felt on the top surface, so arranged that the head of the adjustable screw of the key rests on the felt of the flexible hammer.

5. In a stringed musical instrument of the type described, melody strings, a set of flexible hammers above the melody strings suitably mounted and arranged in rows consisting each of a small bar with downward extension on one end adapted to strike the string, an elastic metal strip secured with one end to the top surface of the bar opposite its extension leaving its middle portion free, and a layer of felt on the top surface of said elastic strip.

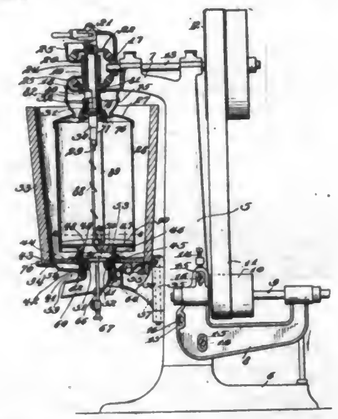
[Claims 6 and 7 not printed in the Gazette.]

970,846. ICE-CREAM MACHINE. FRANKLIN P. MILLER, Bloomfield, N. J. Filed Apr. 8, 1909. Serial No. 488,778.

1. In an ice cream freezing machine or the like, the combination with a receptacle for the freezing material, a rotary freezing cylinder arranged therein, the cylinder having a bottom outlet, a dasher in the cylinder having a rotation imparted thereto in a direction reverse to that of the cylinder, and a swinging supporting means for the receptacle and cylinder and having means to separably engage the bottom outlet.

2. In an ice cream freezing machine or the like, the combination of a containing receptacle for the freezing material, a cylinder for the material to be frozen provided with a bottom outlet, a dasher disposed in the cylinder, the cylinder and dasher being rotated in reverse directions, mechanism for operating the cylinder and dasher, and a supporting table carrying the said receptacle and cylinder and having means to separably engage the bottom outlet.

3. In an ice cream freezing machine, the combination of a receptacle for the freezing material, a rotary receptacle for the material to be frozen arranged therein, a rotary shaft arranged vertically in the last named receptacle and carrying blades, the bottom of the receptacle for the freezing material having a bottom outlet means with which the outlet opening of the receptacle for the material to be frozen communicates, means for operating the shaft and said rotary receptacle, gathering devices operated by the shaft and moving over the bottom of the rotary receptacle to draw the frozen material toward the outlet opening, an outlet feeding device supporting the shaft and located in the outlet opening of the rotary receptacle, and an exteriorly operative valve located in the bottom outlet of the receptacle for the freezing material for controlling the exit of the frozen material from both receptacles.



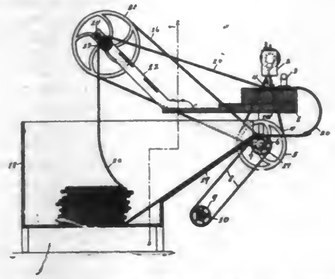
4. In a machine for freezing ice cream and the like, the combination of a containing receptacle for refrigerating material, a can rotatably mounted in the said receptacle and having an outlet neck extending through the bottom of the latter, a dasher mounted in the can, means for rotating the dasher and can in reverse directions, means in the bottom of the can and in the neck for ejecting the frozen material from the can, and an outlet spout coöperating with the neck and having a valve located in the neck above the spout to open and close communication between the neck and spout, the containing receptacle and can being separable from the valve.

5. In a machine for freezing ice cream and the like, the combination of a containing receptacle for refrigerating material, a can rotatably mounted in said receptacle and having a bottom outlet neck extending through the bottom of said receptacle, a dasher mounted in the can and provided with blades of hook shape traveling close to the bottom of the can to draw the frozen material into the neck, a device engaged by said shaft and located in the neck to cause the frozen material to be fed downwardly, means for rotating the dasher and can in reverse directions, and an upwardly movable valve for opening and closing the outlet neck and supported in separable relation to the receptacle and can.

[Claims 6 to 14 not printed in the Gazette.]

970,847. FEEDING MECHANISM FOR SEWING-MACHINES. JOSEPH MCKAY, Troy, N. Y., assignor to Hall, Hartwell & Co., Troy, N. Y., a Firm. Filed Oct. 17, 1904. Serial No. 228,823.

1. In a machine of the class described, the combination with a sewing machine: of a pair of draft-rolls rotatively mounted in rear of the sewing machine, one having a yielding surface and the other a coöperating smooth surface, said rolls being adapted to receive therebetween a strip of fabric from said machine; and means for rotating said roll having the yielding surface at a peripheral speed greater than the speed of the sewing machine feed whereby the fabric may slip relatively to said rolls, but is held taut between the sewing-machine and said rolls.



2. In a machine of the class described, the combination with a sewing machine table; a sewing machine mounted upon said table; shafting beneath said table; and operating connections between said shafting and sewing machine; of a pair of draft-rolls rotatively mounted in rear of said machine, adapted to receive therebetween a strip of fabric from said machine; means for rotating one of said rolls; and a fabric-guide extending beneath said table above said shafting, whereby a belt of fabric may by a continuous operation be repeatedly passed through said machine and between said rolls.

3. In a machine of the class described, the combination with a sewing-machine table and sewing-machine; and a cross-shafting beneath said table for operating said sewing-machine; of a pair of draft-rolls rotatively mounted in rear of said machine, one of said rolls being provided with a yielding surface, and the other with a coöperating smooth surface, said rolls being adapted to receive therebetween a strip of fabric from said machine; means for rotating one of said rolls at a peripheral speed greater than the speed of the sewing-machine feed; an open box beneath said draft-rolls having on its front end an upwardly and forwardly inclined guide extending beneath said sewing-machine table, to a point above the cross-shafting.

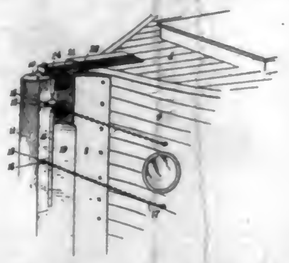
4. In a machine of the class described, the combination with a sewing machine table; a sewing machine mounted thereon; shafting beneath said table; and operating connections between said shafting and said sewing machine; of a pair of draft-rolls rotatively mounted in rear of said machine, one of said rolls being in the form of a rotary brush; means for rotating one of said rolls at a peripheral speed greater than the speed of the sewing machine feed; a receptacle beneath said draft-rolls adapted to receive fabric fed therebetween; and a guide extending beneath said sewing machine table, above said shafting, whereby a strip of fabric can be returned from said receptacle to the sewing machine.

5. In a machine of the class described, the combination with a sewing-machine table; a sewing-machine mounted upon said table; and means for operating said sewing-machine; of a pair of draft-rolls rotatively mounted in rear of said machine adapted to receive therebetween a strip of fabric from said machine; means for rotating one of said rolls; and a fabric-guide extending from rear to front under said table, whereby a belt of fabric may, by a continuous operation, be repeatedly passed through said machine and between said rolls.

970,848. COLLISION-SHOCK-ABSORBER FOR SHIPS. JOSEPH PATRONAGGIO, New York, N. Y. Filed Apr. 26. 1910. Serial No. 557,687.

1. In a shock absorber for ships, a ship having a stem with side members, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-water which rest against the sides of the side members, and spring means for holding the pivoted members yieldingly against the sides of the side members.

2. In a collision shock absorber for ships, a ship having a stem with side members, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-water, which rest against the sides of the side members, and flexible members secured to the cut-water and to the sides of the ship.



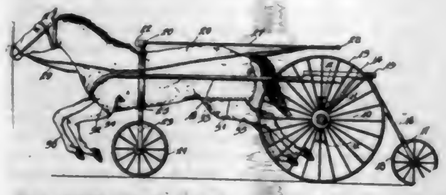
3. In a collision shock absorber for ships, a ship having a stem with side members, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-water, which rest against the sides of the side members, and springs connecting the members pivoted to the cut-water for holding them yieldingly in position.

4. In a shock absorber for ships, a ship having a stem with side members flared outwardly, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, curved members pivoted to the cut-water, which rest against the sides of the side members, and spring means for holding the curved members yieldingly against the sides of the side members.

5. In a collision shock absorber for ships, a ship having a stem with side members flared outwardly, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-water, which have inner terminals which rest against the sides of the side members, springs connecting the members pivoted to the cut-water, for holding them against the sides of the side members of the stem, and members having terminals secured to the cut-water and to the sides of the ship.

[Claims 6 and 7 not printed in the Gazette.]

970,849. CHILD'S VEHICLE. MORGAN PETTIT and LEWIS S. ROLL, Connersville, Ind. Filed Nov. 5, 1909. Serial No. 526,468.



In a child's vehicle, a figure representing an animal and having a body and legs, said body being hollow and having openings therein at the points of juncture of the legs, and springs each extending over one of the openings and having one end of each spring fixed to the body and the free end thereof attached to and supporting one of the legs.

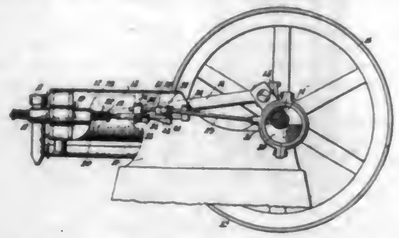
970,850. WIRELESS TELEPHONY. ALBERT PLISNIER, Jr., Stuttgart, Germany, assignor of one-half to Arthur Stelnacker, Fiume, Austria-Hungary. Filed Feb. 12, 1908. Serial No. 415,536.

A switching organization for wireless telephony by means of undampened electric waves, consisting of an oscillating circuit embodying a self-induction coil, and a shunt circuit embodying a microphone and capacity switched to the poles of the self-induction coil and earthed at a point between the said microphone and capacity,



whereby the tension on the microphone may be changed or diminished at will and the electric-acoustic action of the oscillating circuit may be increased.

970,851. VALVE MECHANISM AND GOVERNOR. GUY P. RANDOLPH, Jennings, La. Filed Oct. 19, 1909. Serial No. 523,390.



1. In combination, with an engine having a valve controlling the operation thereof, two relatively movable members, one of said members controlling said valve, the other of said members being operable by the engine, one of said members having a dog adapted to be engaged by the other of said members, operatively to associate said members, said dog being normally operative, said dog being displaced by said other member, whereby the inertia of said dog prevents the operative engagement of said members when their relative movement exceeds a predetermined speed.

2. The combination, with an engine having a controlling valve, of a member adapted to be reciprocated, and operable by said engine, a second member controlling said valve, and means whereby said first member serves to operate said second member intermittently, said members being arranged side by side.

3. The combination, with an engine having a controlling valve, of a member adapted to be reciprocated, and operable by said engine, a second, valve-controlling member, and means for operatively connecting said members, said means becoming automatically inoperative when a predetermined speed of said first member is exceeded, said members being movable in the directions of their lengths, and being positioned side by side.

4. The combination, with an engine having a controlling valve, of relatively slidable members, one of said members controlling said valve, a dog carried by one of said members and adapted to be engaged by the other of said members operatively to connect said members, resilient means tending to hold said dog operative, said dog being inoperative when the other of said members is moving in one direction, and a spring tending to hold said valve in a predetermined position.

5. The combination, with an engine having a controlling valve, of relatively slidable parallel members arranged out of alinement, one of said members controlling said valve, a dog carried by one of said members and adapted to be engaged by the other of said members operatively to connect said members, and resilient means tending to hold said dog operative, said dog being displaceable by said first member.

[Claims 6 to 15 not printed in the Gazette.]

970,852. PROCESS OF AND MEANS FOR DEPOSITING METALS. AUGUSTUS ROSENBERG, London, England. Original application filed Mar. 16, 1909, Serial No. 483,748. Divided and this application filed Aug. 2, 1910. Serial No. 575,115.

1. The method of electroplating which consists in the frictional application to an electrically conductive surface, in the presence of an electrolyte containing in suspension the metal to be deposited, of a second metal electropositive with respect to both said surface and said metal in suspension, said electropositive metal being in elemental and comminuted form.

2. The method of electroplating which consists in the application to an electrically-conductive surface, in the presence of an electrolyte, of the metal to be deposited together with a polishing agent.

3. The method of electroplating which consists in the frictional application, to an electrically conductive surface, in the presence of an electrolyte, of the metal to be deposited, together with a mechanical polishing agent.

4. The method of electroplating which consists in the frictional application, to an electrically conductive surface, of a mixture comprising an electrolyte, a carbohydrate, and a metal electropositive with respect to said surface and in elemental and comminuted form.

5. The method of electroplating which consists in the frictional application, to an electrically conductive surface, in the presence of an electrolyte and a solid diluent, of a metal electropositive with respect to said surface and in elemental and comminuted form.

[Claims 6 to 18 not printed in the Gazette.]

970,853. EYEGLASS-CHAIN ATTACHMENT. EDWARD R. MATTHAS, Neosho, Mo., assignor to American Optical Company, a Corporation of Massachusetts. Filed Dec. 10, 1909. Serial No. 532,412.



1. A device of the class described comprising a support; a winding drum mounted for rotation adjacent the support; means for actuating the drum; a pinion secured to the drum; a centrally open pawl pivoted to the support and having a rack to mesh with the pinion; and means mounted upon the support within the contour of the pawl and engageable by the pawl, for locking the rack in engagement with the pinion.

2. A device of the class described comprising a support; a winding drum mounted for rotation adjacent the support; means for actuating the drum; a pinion secured to the drum; a centrally open pawl pivoted to the support and having a rack to mesh with the pinion; and means movably mounted upon the support within the contour of the pawl and engageable by the pawl, for locking the rack in engagement with the pinion, the pawl being movable to dispose said means in a position inoperative to lock the rack in engagement with the pinion.

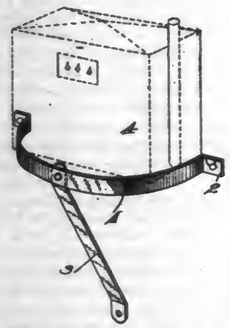
3. A device of the class described comprising a support; a winding drum mounted for rotation adjacent the support; means for actuating the drum; a pinion secured to the drum; a centrally open pawl pivoted to the support and having a rack to mesh with the pinion; and a ratchet wheel rotatably mounted upon the support within the contour of the pawl and engageable by the pawl, to lock the rack in engagement with the pinion.

4. A device of the class described comprising a support; a winding drum mounted for rotation adjacent the support; means for actuating the drum; a pinion secured to the drum; a centrally open pawl pivoted to the support and having a rack to mesh with the pinion; and a ratchet wheel rotatably mounted upon the support within the contour of the pawl and having unequal indentations, the smaller of the indentations being engageable by the pawl to hold the rack in engagement with the pinion, and the larger of the indentations being engageable by the pawl to dispose the rack in unlocked position with respect to the pinion.

5. A device of the class described comprising a support; a winding drum mounted for rotation adjacent the support; means for actuating the drum; a pinion secured to the drum; a centrally open pawl pivoted to the support and having a rack to mesh with the pinion; a ratchet wheel rotatably mounted upon the support within the contour of the pawl, and having unequal indentations, the smaller indentations being engageable by the pawl to lock the rack in engagement with the pinion, and the larger of the indentations being engageable by the pawl to dispose the rack in unlocked position with respect to the pinion, the pawl having spaced teeth, one of which is arranged to engage the ratchet wheel to present the indentations thereof for successive engagement by the other tooth.

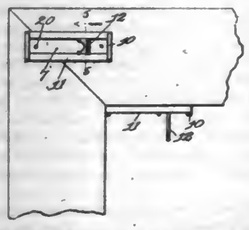
[Claims 6 to 9 not printed in the Gazette.]

970,854. METER-SHELF. SIGMUND SCHWARTZ, San Francisco, Cal., assignor of one-half to Van E. Britton, San Francisco, Cal. Filed Mar. 26, 1910. Serial No. 551,788.



A bracket adapted to be secured to a wall and to support a meter, said bracket consisting of a piece of flat metal bent into segmental form and with its ends bent to stand in a plane parallel with the wall to which the bracket is secured, said piece of metal being edgewise disposed and having its upper edge forming a support for the outer angles of the bottom of the meter, and a brace member having its opposite ends bent in reverse directions, one of said ends being secured to the central portion of the segmental piece and the other end portion being adapted to be secured to the wall.

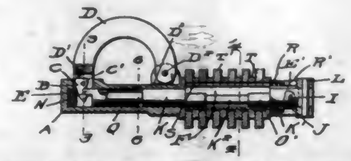
970,855. ADJUSTABLE SHADE OR CURTAIN BRACKET. WALTER E. SEVERIN, St. Louis, Mo. Filed Sept. 8, 1908. Serial No. 451,995.



An adjustable shade or curtain bracket comprising an elongated flattened base-plate stamped and formed of a single sheet, the sides of said base-plate being bent up-

wardly and inwardly forming guides; the ends of said plate being bent upwardly and inwardly over the ends of the guides and acting as stops; a bracket comprising a shank and a plate formed of integral material and bent at right angles, the sides thereof operating in the guides; and a pair of upwardly projecting lugs formed on the plate and contacting with the edges of the guides so as to prevent the bracket from binding while the same is being adjusted to its set position, substantially as specified.

970,856. PIVOTAL-SHACKLE PERMUTATION-PADLOCK. JOSEPH A. SIMISKY, Worcester, Mass. Filed May 5, 1910. Serial No. 559,474.



1. A pivotal shackle permutation padlock comprising a longitudinally slotted casing, a spring-pressed shackle mounted thereon, a pawl carried by said shackle, a rod rotatable within said casing and having a projection at one end, said rod reduced in diameter to form a cam portion, a tumbler member normally seated in the reduced part of the rod and adapted to be moved outwardly as the cam portion bears against said member, a series of disk rings journaled upon the shank portion of the casing and having notches adapted to be brought into registration to receive said tumbler member.

2. A pivotal shackle permutation padlock comprising a longitudinally slotted casing, a spring-pressed shackle mounted thereon, a pawl carried by said shackle, a rod rotatable within said casing and having a projection at one end, said rod reduced in diameter to form a cam portion, a tumbler member mounted in said reduced part, integral arms upon said tumbler member embracing said rod, a series of numeral bearing disk rings journaled upon the cylindrical shank portion of the casing and provided each with a notch upon its inner surface, which notches are adapted to be brought into registration to receive the member.

3. A pivotal shackle permutation padlock comprising a longitudinally slotted casing, a spring-pressed shackle mounted thereon, a pawl carried by said shackle, a rod rotatable within said casing and spring operated and having a projection at one end, said rod reduced in diameter to form a cam portion, a tumbler member normally seated in the reduced part of the rod and adapted to be moved outwardly as the cam portion bears against the member, a series of disk rings journaled upon the shank portion of the casing and having notches adapted to be brought into registration to receive said tumbler member.

4. A pivotal shackle permutation padlock comprising a casing, a spring-pressed shackle mounted thereon, a spring-pressed pawl pivotally mounted upon the shackle, said casing having a cylindrical shank portion which is slotted longitudinally, a rotatable spring-pressed rod mounted within the casing and reduced in diameter to form a cam portion, a tumbler member carried in said reduced part of the rod and held to the latter and movable through said slot by contact of the cam portion therewith, a series of disk rings journaled upon said cylindrical shank portion of the casing and each disk provided with a notch adapted to be brought into registration to receive said tumbler member, one end of the rod having a projection adapted to engage the pawl and hold the shackle in a locked relation, and means for limiting the rotary movement of the rod.

5. A pivotal shackle permutation padlock comprising a casing, a spring-pressed shackle mounted thereon, a spring-pressed pawl pivotally mounted upon the shackle, said casing having a cylindrical shank portion which is slotted longitudinally, a rotatable spring-pressed rod mounted within the casing and reduced in diameter to form a cam portion, a tumbler member carried in said reduced part of the rod and held to the rod and movable through said slot by contact of the cam portion therewith, a series of disk rings journaled upon said cylindrical shank portion of the casing and each disk provided with a notch adapted to be brought into registration to receive said tumbler member, one end of the rod having a projection adapted to engage the pawl and hold the shackle in a locked relation, and a pin projecting from said rod and engaging a slot in the shank portion of said casing.

[Claims 6 and 7 not printed in the Gazette.]

970,857. TURN-TABLE. ELMER F. SMITH, Marion, Mass. Filed May 19, 1910. Serial No. 562,211.



1. In a turn-table, a platform frame comprising a central supporting casting, radially arranged girders, said casting provided with means engaging the upper sides of the inner ends of said girders, and with means engaging the under sides of said girders at points remote from their inner ends, whereby said girders constitute radial cantalivers adapted to support the platform floor, and a bearing for said casting.

2. In a turn-table, a platform frame comprising an integral, central, supporting casting, provided with an upper flange and a lower flange, girders radially secured to said casting for supporting the floor of the platform, the ends of said girders being held in the channel between said flanges of the casting, and a bearing on which said casting is journaled.

3. In a turn-table, a platform frame comprising a central supporting casting provided with an upper flange and a lower supporting shelf of sufficient breadth to serve as the middle support of a cantaliver, the end support of which is the upper flange, and radially arranged girders resting on said shelf and projecting under said upper flange, forming cantalivers adapted to support the platform floor.

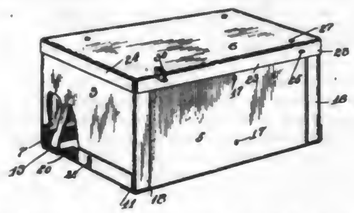
4. In a turn-table, a platform frame comprising an integral, central, supporting casting, provided with an upper flange and a lower flange, girders radially secured to said casting for supporting the floor of the platform, the ends of said girders being held in the channel between said flanges of the casting, a bearing on which said casting is journaled, and lugs on said lower flange adapted to hold said girders in radial position.

5. In a turn-table, a platform frame comprising an integral, central, supporting casting, girders radially secured to said casting for supporting the floor of the platform, a bearing on which said casting is journaled, and means to adjust said casting vertically with relation to said bearing.

[Claims 6 to 13 not printed in the Gazette.]

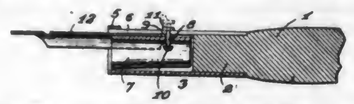
970,858. COLLAPSIBLE BOX. KARL SMITH, Sharpsville, Pa. Filed Mar. 5, 1910. Serial No. 547,469.

1. A collaspible box comprising a bottom plate having the edges thereof provided with vertical flanges, side walls having the edges thereof provided with flanges with the vertical flanges thereof extending inwardly upon the bottom plate and the longitudinal bottom flanges thereof engaging the bottom side of the bottom plate, end walls having the edges thereof provided with flanges and the vertical flanges of said end walls engaging the outer sides of said side walls, the bottom flanges of said end walls extending over and upon the bottom plate, the top flange of one wall engaging under a top flange of one side wall and the top flange of the other end wall engaging over the top flange of the other side wall, a lid having depending flanges adapted to embrace the outer sides of said side walls and end walls, and means adapted to secure said walls, bottom plate and lid in assembled position.



2. A collapsible box comprising a bottom plate having the edges thereof provided with vertical flanges, side walls having the edges thereof provided with flanges with the vertical flanges thereof extending inwardly upon the bottom plate and the longitudinal bottom flanges thereof engaging the bottom side of the bottom plate, end walls having the edges thereof provided with flanges and the vertical flanges of said end walls engaging the outer sides of said side walls, the bottom flanges of said end walls extending over upon the bottom plate, and the top flange of one wall engaging under a top flange of one side wall and the top flange of the other end wall engaging over the top flange of the other side wall, a lid having depending flanges adapted to embrace the outer sides of said side walls and end walls, and means adapted to secure said walls, bottom plate and lid in assembled position, said means including staples adapted to secure the top flanges of said side and end walls together and wires adapted to hold said lid in engagement with said side walls.

970,859. PENHOLDER. THOMAS C. SPENCER, Wewahitchka, Fla. Filed Jan. 18, 1910. Serial No. 538,613.



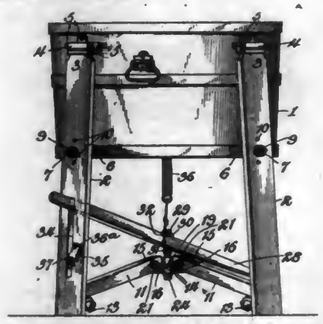
1. In a device of the character described, a handle, a split resilient sleeve clamped to said handle and having its longitudinal edges spaced apart to form a longitudinal slot and having a strip at one end overlapping said sleeve, a longitudinally movable core in said sleeve and a pin connected to said core and projecting through said slot and adapted to operate said core.

2. In a device of the character described, a handle, a split resilient sleeve clamped to said handle and having its longitudinal edges spaced apart to form a slot and having a transverse strip at one end overlapping said sleeve, a longitudinally movable core mounted in said sleeve and a vertically movable pin extending through said core and through said longitudinal slot in the sleeve and having a head at each end.

3. In a device of the character described, a handle, a split resilient sleeve clamped thereto and having its longitudinal edges spaced apart to form a longitudinal slot and having a transverse strip at one end overlapping the sleeve, a tubular core loosely mounted in said sleeve and having its longitudinal edges spaced apart and bearing against the inner side of the sleeve, and a vertically movable pin extending through one side of said core and through the longitudinal slot in said sleeve and having a head at each end.

4. In a device of the character described, a handle, a split resilient sleeve clamped thereto and having its longitudinal edges spaced apart to form a slot and having at one end a projecting strip overlapping the sleeve, a tapering tubular core longitudinally movable in said sleeve, and loosely mounted therein and normally spaced at its upper side from the top to the sleeve and having longitudinal edges spaced apart and resting on the bottom of the sleeve and a vertically movable finger piece consisting of a pin attached to and extending through one side of said core and through the slot in the sleeve and having a head at each end, said pin being normally in lowered position with its upper head resting against said longitudinal slot.

970,860. LEG-LIFTING CASTER DEVICE FOR TUBS, &c. WILLIAM WALLACE TERRIFF, Portland, Mich. Filed Oct. 6, 1909. Serial No. 521,338.



1. The combination with legs adapted to support a tub or other object, of bars movable upwardly and downwardly and connected with the lower portions of the legs and forming braces for the same, anti-friction devices carried by the bars, operating means connected with the inner portions of the bars, a latch for locking the bars at the limit of their downward movement, and a spring for automatically moving the bars upward.

2. The combination with legs adapted to support a tub or other object, of bars movable upwardly and downwardly and connected with the lower portions of the legs and forming braces for the same, anti-friction devices carried by the bars, a lever connected with the bars for raising and lowering the same, a latch mounted on one of the legs and arranged to engage the lever for holding the bars at the limit of their downward movement, and a spring connected with the lever for automatically raising the bars when the lever is released from the latch.

3. The combination with legs adapted to support a tub or other object, of radially arranged bars hinged at their outer ends to the legs and arranged to swing upward and downward and forming braces for the legs when at the limit of their downward movement, anti-friction devices carried by the bars and arranged to project beyond the lower ends of the legs when the bars are moved downward, a lever fulcrumed to one of the legs and guided by the opposite leg and connected at an intermediate point with the inner ends of the bars, and means for engaging the lever to lock the anti-friction devices in their extended position.

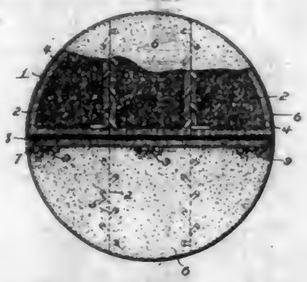
4. The combination with legs adapted to support a tub or other object, of radially arranged bars hinged at their outer ends to the legs and arranged to swing upward and downward and forming braces for the legs when at the limit of their downward movement, anti-friction devices carried by the bars and arranged to project beyond the lower ends of the legs when the bars are moved downward, a lever fulcrumed to one of the legs and guided by the opposite leg and connected at an intermediate point with the inner ends of the bars, a spring located above the lever and connected with the same for moving the bars upwardly, and a latch arranged in the path of and adapted to automatically engage the lever to lock the bars at the limit of their downward movement.

5. The combination with legs adapted to support a tub or other object, one of which is provided with a longitudinal slot, bars extending inwardly from the legs and movable upwardly and downwardly, anti-friction devices carried by the bars and arranged to project below the legs, a

lever fulcrumed at one end to one of the legs and having its other end operating in the said slot, and a latch eccentrically pivoted to the slotted leg and arranged at an inclination and having its lower end extending across the slot to confine the lever in the lower portion thereof.

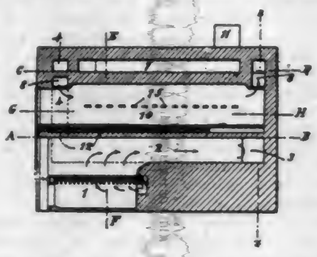
[Claims 6 to 10 not printed in the Gazette.]

970,861. TABLE-PAD. GEORGE J. VEACH, Oil City, Pa. Filed Feb. 29, 1908. Serial No. 418,613.



A pad comprising sections, each section being constructed independently of the others and each comprising a sheet of straw board, asbestos cloth secured to respective faces of said straw board with adhesive material, and a binding of tape extending around said section and covering the edges thereof, the edge of one section adapted to lie parallel with the adjacent edge of another section and the adjacent sections having perforations near their edge portions, and a tape laced alternately through the perforations of adjacent sections, whereby the pad sections can be folded in either direction and made to lie flat, one against another.

970,862. BAKING WITH QUICK HEATING AND COOLING. FELICISSIMO VIRGILI, Genoa, Italy, assignor to Societa Anonima per Griglie e Forni Virgili, Genoa, Italy. Filed Jan. 19, 1907. Serial No. 353,042.



1. A furnace for the baking of bread, or other alimentary substances, comprising a baking chamber, a combustion chamber on the outside of the baking chamber, a series of flues arranged in coil shape placed below the baking chamber, a second series of flues also in coil shape above the baking chamber, and through which all the products of combustion pass, the said second series of flues communicating with the chimney, vertical flues at the front portion of the furnace for connecting the upper and lower flues, the said baking chamber being provided with openings in its top at the front, transverse flues extending above the top of the baking chamber at the front end thereof, the said flues communicating with the vertical flues and with the openings in the top of the baking chamber at the front thereof, dampers for directing the products of combustion to said transverse flues, to cause the products of combustion after having passed through all the lower flues to pass through the baking chamber, from the front to the rear thereof, transverse flues communicating with openings in the top of the baking chamber at the rear end thereof and extending in opposite directions to the sides of the furnace the said flues terminating in longitudinal flues extending forward at the sides of the furnace and communicating at their front ends with the said flues above the baking chamber, and dampers for controlling said communication whereby the products of combustion after passing through the baking chamber pass through all the higher flues to the chimney.

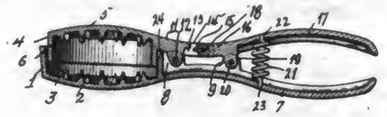
2. In a furnace for the baking of bread and other alimentary substances, a baking chamber, a combustion chamber, flues in coil shape arranged below the baking chamber, flues also in coil shape arranged above the baking chamber and communicating with the chimney, the baking chamber being provided with inlet openings in its top at the front thereof and outlet openings in the rear portion of the top, transverse flues extending in opposite directions above the rear portion of the top of the baking chamber and communicating with the said outlet openings of the baking chamber, the said flues terminating in longitudinal flues extending forward at the sides of the furnace, the transverse and longitudinal flues being adapted to connect the said outlet openings of the baking chamber with the flues above the baking chamber, means for closing the hearth draft to diminish the intensity of the fire, and the heat in the lower flues, and means for permitting cold air entering the mouth of the furnace to pass into the baking chamber through the said inlet openings, the air passing from the baking chamber by way of the outlet openings and then passing through all the upper flues, for the purpose described.

3. In a furnace for baking bread, or other alimentary substances, a baking chamber provided with a series of openings, at opposite sides thereof, the openings being arranged in a horizontal line at the center of the height of the baking chamber, the furnace having a dead space below the hearth, and an annular space around the baking chamber, the annular space extending upward from said dead space to half the height of the baking chamber and communicating with the said openings in the baking chamber, and pipes arranged to convey steam to the openings in the baking chamber, the steam escaping from said pipes into the baking chamber causing a circulation of the air contained in the dead space below the hearth and in the annular space around the baking chamber.

4. In a furnace for the baking of bread and other alimentary substances, a baking chamber, a combustion chamber, a series of flues arranged below the baking chamber, a second series of flues arranged above the baking chamber and communicating with the chimney, vertical flues at the front of the furnace and through which the products of combustion are adapted to pass from the lower flues to the upper flues, dampers for controlling the communication between the said vertical flues and the upper flues, the top of said baking chamber being provided at its front portion at each side of its longitudinal center with a series of inlet openings and at its rear portion with a series of outlet openings at each side of its longitudinal center, transverse flues at the top of the baking chamber at the front end and communicating with said inlet openings in the top of the baking chamber, dampers for directing the products of combustion rising in the vertical flues into said transverse flues, flues having transverse portions at the rear of the furnace above the top of the baking chamber and communicating with the outlet openings in the top of said baking chamber, the said flues having longitudinal portions extending forward at the sides of the furnace and adapted to communicate at their front ends with the said upper flues, and dampers for controlling said communication.

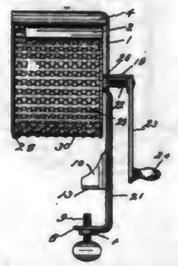
970,863. ICE-CRUSHING IMPLEMENT. CONSTANTIN WALDVOGEL, Pittsburg, Pa. Filed Jan. 17, 1910. Serial No. 538,438.

1. An ice crushing implement comprising a combined ice supporting and crushing cup having a closed bottom, a handle projecting therefrom, an ice crushing element having a lateral extension pivoted intermediate its ends to said handle and adapted to extend in said cup, a lever pivoted to the handle, and means to provide a pin and slot connection between the lever and said extension.



2. An ice crushing implement comprising a combined ice holding and crushing cup having a closed bottom provided with interiorly-arranged and vertically-disposed crushing points, and a shiftable ice-holding and crushing element of inverted cup-shape adapted to extend within said cup and having a closed top provided with interiorly-arranged depending crushing points.

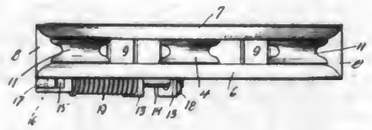
970,864. VEGETABLE-GRATER. DAVID S. WASHBURN, Meriden, Conn. Filed Nov. 16, 1909. Serial No. 528,332.



1. A vegetable grater comprising a support formed of a single piece of sheet metal, said support having a frame provided with a receiving opening, bent forwardly at the top, a bracket provided with a threaded perforation, bent forwardly at the bottom, feet bent forwardly from the sides above the bottom, and a bracket provided with a bearing perforation, bent rearwardly near the middle, a clamp screw turning in the threaded perforation in the bottom bracket, a spindle extending through the perforation in the bearing bracket, spring fingers at the forward end of the spindle, a handle attached to the rear end of the spindle, a drum having a perforated roughened peripheral surface, and a supporting tube attached to the drum and fitted upon and frictionally held by the fingers at the forward end of the spindle.

2. A blank for forming a vegetable grater frame having integral wings formed near its upper end, a perforated bracket formed at its lower end, integral wings projecting from each side near its lower end, integral feet projecting from the lower edges of said latter wings, and a perforated tongue near the middle for providing a spindle bearing.

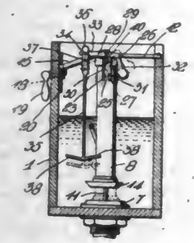
970,865. TROLLEY. GEORGE WEBER, Mount Oliver, Pa., assignor of one-tenth to Adolph Kiefer, Pittsburg, Pa. Filed June 17, 1909. Serial No. 502,772.



1. In a trolley, the combination with a trolley pole, a pin carried by said pole and a trolley wheel journaled upon said pin, of guards carried by the ends of said pin, said guards having the ends thereof rounded, and the upper edges thereof flared outwardly, horizontal plates connecting the ends of said guards, trolley wheels revolubly mounted between the ends of said guards and adapted to coöperate with the trolley wheel of said pole, and a yieldable device connected to said pole and to the forward end of said guards for normally supporting said guards in a horizontal position.

2. In a trolley, the combination with a trolley pole, a pin carried by said pole and a trolley wheel journaled upon said pin, of guards carried by the ends of said pin, said guards having the ends thereof rounded, and the upper edges thereof flared outwardly, horizontal plates connecting the ends of said guards, trolley wheels revolubly mounted between the ends of said guards and adapted to coöperate with the trolley wheel of said pole, a yieldable device connected to said pole and to the forward end of said guards for normally supporting said guards in a horizontal position, said yieldable device comprising a clamp carried by said pole and having apertured extensions, and a spring held rod mounted in said apertured extensions and connecting with the forward ends of said guards.

970,866. FLUSHING MECHANISM FOR CLOSET-TANKS. JOHN S. WELBORN, High Point, N. C. Filed May 19, 1910. Serial No. 562,154.



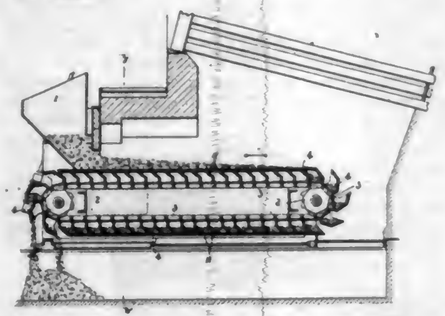
In a flushing tank, an outlet valve seat, a guide rod secured at its lower end in said seat, a bracket to secure the upper end of said rod, a pair of spaced parallel guide members depending from said bracket, one of said guide members being extended to a point beyond the outer edge of the other of said guide members, a lever pivotally mounted upon said bracket above said parallel guide members, said lever having a weighted rear arm and a depending catch adapted normally to extend across the space between the guide members and contacting with the extended portion of the extended guide member, a tubular outlet valve having a laterally projecting lug adjacent its upper end adapted to extend between said parallel guide members and engage said catch, and a tripping bar adjustably connected to the forward end of said lever to release said catch, said tripping bar being formed with laterally projecting flanges adjacent its lower end.

970,867. CLOTHES-PIN. ALVIN HERBERT WILEY and JOHN EDWARD ARMENIOUS BANGER, Linden, Tex. Filed Dec. 2, 1909. Serial No. 531,086.



A clothes pin of the class described, comprising a body portion, a pair of clamping jaws pivotally mounted at opposite ends of the body portion and a single jaw-engaging wire to normally hold the jaws in clamping position, said wire being arranged with its central portion bearing against the rear face of the body portion of the pin, its ends bent approximately at right angles with its central portion and extending through the body portion and the inner ends of the clamping jaws and the terminals of its end portions bearing against the outer ends or clamping portions of the clamping jaws, whereby the latter are normally held in clamping position.

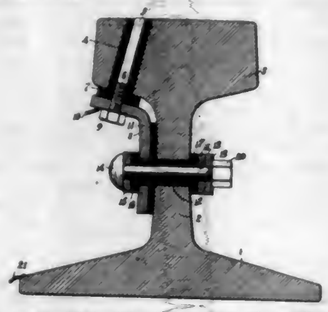
970,868. MECHANICAL STOKER. WILFRED ROTHERAY WOOD, London, England. Filed Feb. 23, 1910. Serial No. 545,476.



1. In traveling grate stokers of the class described a fuel carrying surface formed by the upper plates of a series of contacting channel sections, means for so separating and closing the contacting channel sections at the inner and outer ends of the furnace that the ash and unburned fuel will be caught within the channel sections at the inner end and delivered at the outer end of the furnace.

2. In traveling grate stokers, endless chains channel sections adapted to contact carried thereby, means for admitting air at the ends of the sections, means for so opening and closing the channel sections at the inner and outer ends of the furnace that the ash and unburned fuel will be caught within the sections at the inner end and delivered at the outer end of the furnace.

970,869. INSULATED RAIL-JOINT. EMIL CARL ZIMMERMANN, New York, N. Y. Filed Mar. 10, 1910. Serial No. 548,496.



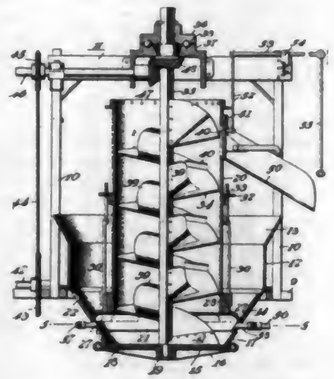
1. In a rail joint, the combination of a rail member, a plate of conducting material supported thereby and insulated therefrom, and a bolt connected with said plate of conducting material and provided with a contact portion, said bolt being insulated from said rail.

2. The combination of a rail member provided with a hole, a tube of insulating material mounted within said hole, a contact member extending through said tube to a point substantially flush with the tread surface of said rail, a metallic plate connected with said contact member, and means for insulating said plate from said rail.

3. The combination of a rail member provided with a head having a hole therethrough, a tube of insulating material mounted within said hole, a contact member fitted into said tube and provided with a surface substantially flush with the surface of said head, and electric connections for said contact member.

4. A device of the character described, comprising a rail provided with a tread surface, and further provided with a hole extending to said tread surface, a contact member mounted within said hole and extending substantially flush with said tread surface, means for insulating said contact member from said rail, a metallic plate connected with said contact member, and means for insulating said metallic plate from said rail.

970,870. CONCRETE-MIXING MACHINE. HAYES J. J. ALEXANDER, Youngstown, Ohio, assignor of one-half to Charles L. Berry, Youngstown, Ohio. Filed Feb. 10, 1910. Serial No. 544,919.



1. In a machine of the character set forth, the combination with a casing, of a rotary mixer and elevator operating therein, a plurality of material holding magazines having discharge mouths delivering to the lower portion of the casing, and means for individually controlling the mouths.

2. In a machine of the character set forth, the combination with an outer casing having a bottom, of an inner casing having an open lower end terminating short of the bottom, forming a receiving chamber, a mixer and elevator operating in the inner casing and in the receiving chamber, a plurality of partitions interposed between the outer and inner casings and forming material holding magazines communicating with the receiving chamber, and means for governing the passage of material from the magazines into the chamber.

3. In a machine of the character set forth, the combination with an outer casing having a bottom, of an inner casing having an open lower end terminating short of the bottom, forming a receiving chamber, a mixer and elevator operating in the inner casing and in the receiving chamber, and a plurality of partitions interposed between the outer and inner casings and forming material holding magazines communicating with the receiving chamber, said partitions having downwardly inclined deflector flanges.

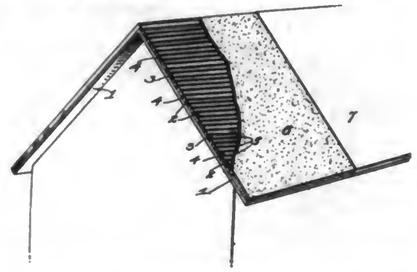
4. In a machine of the character set forth, the combination with an outer casing having a bottom, of an inner casing having an open lower end terminating short of the bottom, forming a receiving chamber, a mixer and elevator operating in the inner casing and in the receiving chamber, a plurality of partitions interposed between the outer and inner casings and forming material holding magazines communicating with the receiving chamber, said partitions each having oppositely extending and downwardly inclined deflector flanges forming contracted mouths, and gates controlling the mouths.

5. In a machine of the character set forth, the combination with an outer casing, of an inner casing located therein, a mixer and conveyer operating in the inner casing, partitions interposed between the casings and forming material holding magazines that communicate with the inner casing, and controlling gates mounted on said inner casing for governing the passage of material from the magazines.

[Claims 6 to 13 not printed in the Gazette.]

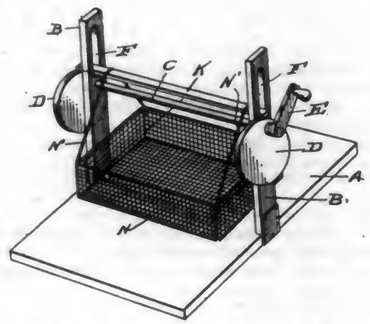
970,871. COMPOSITE ROOFING. ROY ANDERSON and WILLIAM E. MOLTZ, Charleston, Ill. Filed Dec. 6, 1909. Serial No. 532,165.

WITHDRAWN.



A composite roofing comprising 80 lbs. of plaster and ¼ lb. of hair mixed together with water to form a stiff mortar, 2 pints of coal tar being added to form a binder, said composition after being secured to a roof and hardened having a coating of suitable paint applied thereto.

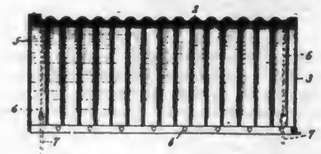
970,872. DISH-WASHING APPARATUS. ANNIE BABCOCK, Minneapolis, Minn. Filed July 11, 1910. Serial No. 571,528.



1. A dish washing apparatus comprising a horizontally disposed, rotatable shaft, eccentrics fixed thereto, means for rotating the same, a bar riding upon the circumference of said eccentrics, means for guiding the bar as it is raised and lowered, and a dish receptacle suspended from said bar.

2. A dish washing apparatus comprising upright standards which are vertically slotted, a shaft journaled in said standards, eccentrics fixed to said shaft, a bar resting upon the circumferences of said eccentrics and guided within said slots, a dish holding receptacle suspended from said bar, and means for rotating the eccentrics.

970,873. ANIMAL-SHELTER. CARLTON J. BEAR, Monticello, Ill. Filed Feb. 18, 1910. Serial No. 544,596.



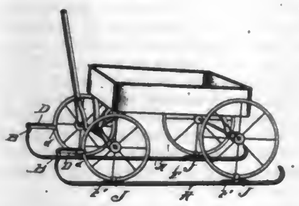
1. An animal shelter comprising a rigid sill-frame formed of angle-iron and having its direction of length including a substantially U-shaped configuration, a dome of corrugated sheet metal permanently carried by said sill-frame, and secured to the vertical flange thereof, and guy wires extending laterally of said dome and provided with ground connections at their ends outside of and adjacent to the sill-frame to prevent lateral shifting of the shelter, said guy wires and depressions in the corrugated sheet metal of the dome engaging each other so as to prevent shifting and longitudinal displacement of the shelter.

2. An animal shelter comprising a sill-frame of angle-iron L-shaped in cross-section, said frame having its direction of length including a substantially U-shaped configuration, an open-front dome of corrugated sheet metal riveted to the vertical flange of said sill-frame, means permanently carried by the dome and frame for stiffening and protecting the raw forward edge of the dome, guy wires passing laterally over said dome and lying in the depressions of the corrugated metal so as to prevent longitudinal shifting and displacement of the shelter, said guy wires having ground pegs or connections outside of and adjacent the sill-frame to prevent lateral shifting of the shelter.

3. An animal shelter comprising a rigid sill-frame formed of angle-iron, a sheet metal dome carried thereby, and having a closed back and an open front, and a dome stiffening and edge protecting arch of channel iron springing from the rigid sill-frame and inclosing the raw edge of the sheet metal dome at the front thereof, said channel iron being secured to both the sill-frame and the dome.

4. An animal shelter comprising a sill-frame formed of angle-iron L-shaped in cross-section, a dome of corrugated sheet metal, the lower edges of which are riveted to the outside of the vertical flange of said sill frame, and a dome stiffening and edge protecting arch of channel iron springing from the rigid sill-frame and secured at its lower ends to the vertical flanges thereof, said arch inclosing the raw edge of the dome front.

970,874. SLEIGH-RUNNER FOR WHEELED VEHICLES. LEONARD BEFFEL, Jackson, Mich. Filed Sept. 9, 1909. Serial No. 516,860.



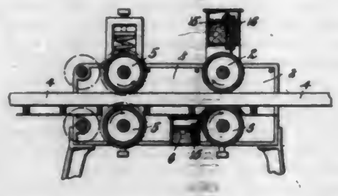
1. A sleigh runner having horizontally disposed bars integral therewith laterally adjustable, clamps adapted to engage said bars and to engage the wheel fellies, and means for actuating the clamps.

2. A sleigh runner having a bar struck up from between its edges, said bar having an aperture thereunder, coordinate clamping members coacting with the said bar to engage the wheel felly, said clamping members being laterally adjustable to fit wheel fellies of various widths.

3. A sleigh runner having horizontally disposed bars secured thereto, said bars having horizontally disposed apertures thereunder, clamps having horizontal extensions disposed within the apertures, said clamps being laterally adjustable for receiving wheel fellies of different sizes.

4. A sleigh runner having a raised portion, said raised portion having a slot thereunder, coördinate members disposed on the opposite sides of said raised portion, and adapted to engage said raised portion, said clamping member being provided with means of adjustment to wheel fellies of various widths.

970,875. WOOD-SURFACING MACHINE. JOHN WARREN BELL, Vancouver, British Columbia, Canada. Filed Nov. 27, 1908. Serial No. 464,583.



As a means for forming a finishing surface on dressed lumber, the combination with feed rolls between which the wood is passed, of a polishing roller to engage the surface of the wood, means for pressing such roller against the surface of the wood, a stationary reservoir mounted adjacent to said roller and a capillary member carried by such reservoir to wipe against said roller to apply an unctuous material thereto, substantially as shown and for the purposes described.

970,876. TOY GUN. WALTER R. BENJAMIN, Granite City, Ill. Filed Mar. 15, 1910. Serial No. 549,532.



1. The combination with a toy air gun having a movable element, of a perforated plug adapted to fit against the end of the gun, and means for connecting the said element with the plug so that the latter may be moved to and from the gun by the movement of the said element.

2. The combination with a toy air gun having a movable stock and provided with guides on its barrel at the front end of the same, connecting rods playing through said guides and pivotally attached to the stock, and a perforated plug carried by the said connecting rods and adapted to hold a film against the end of the barrel.

3. The combination with a toy air gun having a movable stock, of connecting rods pivotally attached to the said stock, and a perforated plug carried by the front ends of said connecting rods and adapted to clamp a film over the end of the gun.

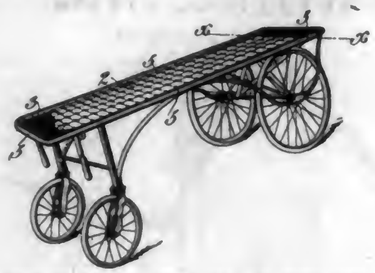
4. The combination with a toy air gun having a movable stock, of connecting rods pivotally attached to the said stock, a cap carried by the front ends of said rods, and an elastic perforated plug secured to said cap and adapted to fit against the end of the gun.

5. The combination with a toy air gun having a movable stock, of connecting rods actuated by said stock, a cap carried by the front ends of said rods and provided with an annular flange, and an elastic perforated plug fitted within said flange and adapted to hold a film against the end of the barrel.

[Claims 6 to 10 not printed in the Gazette.]

970,877. STRETCHER FOR HOSPITAL AND OTHER PURPOSES. WILLIAM F. BERNSTEIN, Philadelphia, Pa. Filed Mar. 29, 1909. Serial No. 486,585.

A wheeled stretcher composed of a bed bottom, a border-frame therefor, running gear on which said frame is supported, and a cushion member on the exterior of said frame, the latter having therein a channel which extends horizontally around the same, and said cushion being partly seated in said channel and partly projecting beyond



the exterior of said frame, and the outer sides of said running gear.

970,878. VAT DYE AND PROCESS OF MAKING SAME. RENÉ BOHN, Mannheim, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation of Baden. Filed June 9, 1910. Serial No. 565,940.

1. The process of producing vat coloring matter by heating indanthrene monosulfonic acid with sulfuric acid containing a small proportion of water so as to split off the sulfonic acid group.

2. The process of producing vat coloring matter by heating indanthrene monosulfonic acid with sulfuric acid containing a small proportion of water and also boric acid,

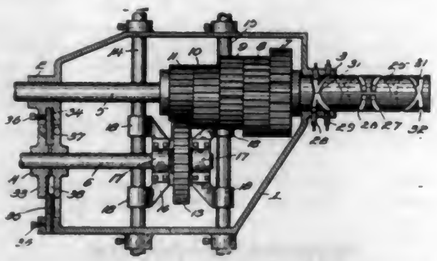
3. The process of producing vat coloring matter by heating indanthrene blue with sulfuric acid containing a small proportion of water, the heating being carried out so that the final product contains no considerable trace of indanthrene sulfonic acid.

4. The process of producing vat coloring matter by heating indanthrene blue with sulfuric acid containing a small proportion of water and also some boric acid, the heating being carried out so that the final product contains no considerable trace of indanthrene sulfonic acid.

5. The process of producing vat coloring matter by heating indanthrene blue with from ninety-two to ninety-five per cent. sulfuric acid at a temperature of about one hundred and twenty degrees centigrade.

[Claim 6 not printed in the Gazette.]

970,879. VARIABLE-SPEED TRANSMISSION-GEARING. BERNARD BORGMAN, Geneva, N. Y. Filed Sept. 14, 1909. Serial No. 517,631.



1. Variable speed transmission gearing comprising a drive shaft and a driven shaft parallel with each other, a single gear on one of said shafts, and a series of gears on the other shaft, said series of gears embodying alternately arranged concentric and eccentric members, and means for shifting said series of gears across the periphery of the single gear and correspondingly shifting the single gear to compensate for the variation in the diameters of the members forming the series of gears.

2. Variable speed transmission gearing embodying parallel shafts, a single gear fast on one of said shafts, a slide having bearings for the shaft of the single gear and movable at right angles to the length of said shaft, a series of gears mounted slidably on the other shaft and composed of alternately arranged concentric and eccentric members, and means for simultaneously shifting the series of gears on the shaft thereof and also shifting the slide by which the single gear is carried to compensate for variations in the diameters of the members of the series of gears.

3. Variable speed transmission gearing comprising parallel shafts, a single gear on one of said shafts, a slide having bearings for the shaft of the single gear and movable at right angles to the length of said shaft, a series of gears on the other shaft composed of alternately arranged concentric and eccentric members, and a sliding yoke embracing the series of gears and operatively connected with said slide for shifting said slide transversely of said shafts.

4. Variable speed transmission gearing comprising parallel shafts, a single gear fast on one of said shafts, a slide having bearings for the shaft of the single gear and movable at right angles to the direction of length of said shaft, a series of gears mounted to slide across the periphery of said single gear and composed of alternately arranged concentric and eccentric members, a yoke for sliding said series of gears, means connecting said yoke with the slide for causing said slide to shift when the yoke is actuated, and means for shifting said yoke consisting of a spirally grooved sleeve embracing the shaft of the series of gears and connected at one end to the yoke, and one or more dogs movable into and out of engagement with said spirally grooved sleeve.

5. Variable speed transmission gearing comprising a gear casing embodying a slidable section, parallel shafts one of which has a bearing in the slidable section of the gear case and is shiftable therewith, a single gear wheel fast on the shiftable shaft, a slide having bearings for the shaft of the single gear and movable at right angles to the length of said shaft, a series of gears mounted on the other shaft and shiftable across the periphery of the single gear and composed of alternately arranged concentric and eccentric members, a yoke embracing the series of gears shiftable therewith, said yoke coöperating with the slide for simultaneously shifting the latter at right angles to the direction of movement of the yoke, and means for shifting said yoke.

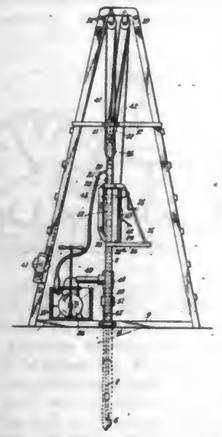
[Claim 6 not printed in the Gazette.]

970,880. WELL-BORING MACHINE. PETER ANTONE BOUCHET, Merced, Cal. Filed Nov. 10, 1909. Serial No. 527,174.

1. A well boring machine comprising a boring rod; a rotary head adapted to be fixedly attached to said rod; a platform connected with said head to be suspended therefrom; a beveled gear wheel fixedly mounted on said head; a pinion gear in toothed engagement with said beveled gear wheel; a crank shaft mounted in bearings on said platform and having fixedly mounted thereon said pinion; and vertical guide members for said platform stationarily mounted in parallel relation to said rod.

2. A well boring machine comprising a standing frame having a portion suspended above the proposed well; a boring rod embodying a plurality of joined sections; a rotary head adapted to be fixedly attached to said rod; a platform connected with said head to be suspended therefrom; a hoisting mechanism for said platform operatively controlled at said platform and embodying a windlass and tackle connecting the said head and frame; a beveled gear wheel fixedly mounted on said head; a pinion gear in toothed engagement with said beveled gear wheel; a crank shaft mounted in bearings on said platform and having fixedly mounted thereon said pinion; and vertical guide members for said platform stationarily mounted in parallel relations to said rod.

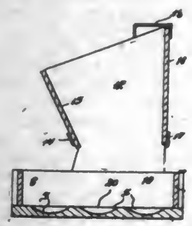
3. A well boring machine comprising a hoisting frame disposed above the proposed well and provided with hoisting tackle; a boring rod; a rotary head adapted to be fixedly attached to said rod; a platform connected with said head to be suspended therefrom; a beveled gear wheel fixedly mounted on said head; a pinion gear in toothed engagement with said beveled gear wheel; a crank shaft mounted in bearings on said platform and having fixedly mounted thereon said pinion; vertical guide members for said platform stationarily mounted in parallel relation to said rod; and guide loops mounted on said platform to loosely surround said guide members.



4. A well boring machine comprising a hoisting frame disposed above the proposed well and provided with hoisting tackle; a boring rod; a rotary head adapted to be fixedly attached to said rod; a platform connected with said head to be suspended therefrom; a beveled gear wheel fixedly mounted on said head; a pinion gear in toothed engagement with said beveled gear wheel; a crank shaft mounted in bearings on said platform and having fixedly mounted thereon said pinion; vertical guide members for said platform stationarily mounted in parallel relation to said rod; open ended loops formed on said platform to loosely surround said guide members; removable closure members adapted to close the open end of said loops; and means for securing said closure members in position to close the said loops.

5. A well boring machine comprising a boring rod; a rotary head adapted to be fixedly attached to said head; a platform connected with said head to be suspended therefrom; manually operated means mounted on said platform for rotating said head; vertical guide members for said platform stationarily mounted in parallel relation to said boring rod; and a suspension mechanism for said platform connected with said guide members and manually controlled upon said platform to permit the weight of the platform and articles carried thereby to rest upon said boring rod.

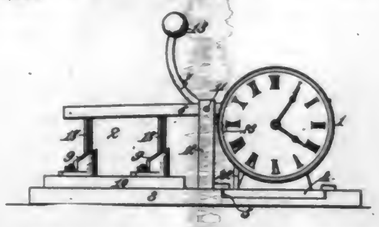
970,881. TOY AND GAME APPARATUS. JOSEPH W. CADWALLADER, Monessen, Pa. Filed May 21, 1910. Serial No. 562,723.



In a game apparatus, a base-plate having a plurality of recesses formed therein adapted to receive a ball, rails

mounted upon said plate and providing trays with some of said recesses in each tray, side plates detachably connected to said base plate, front and rear plates detachably connected to said side plates and adapted to provide a hopper having an open bottom above said trays to deflect a ball into said trays and the recesses thereof, substantially as described.

970,882. AUTOMATIC TIME-SWITCH. HARRY C. CALVIN, Dothan, Ala. Filed Apr. 3, 1909. Serial No. 487,627.



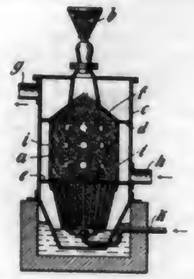
1. In a switch of the type set forth, in combination, a base plate, a clock supported at one end thereof, contacts provided at the other end thereof, an upstanding post arranged between the clock and the contacts, a switch arm pivoted between its ends to the post and having one end provided with means to engage the contacts and having a free end portion disposed adjacent the clock, a momentum element pivoted coincidently with the switch arm and having a depending portion projecting beyond its pivot, and a cam secured to a shaft of the clock and arranged to engage the depending portion and to produce thereby an operative movement of the momentum element, the latter in turn engaging the free end portion of the switch arm and producing an operative movement thereof.

2. In a switch of the type set forth, in combination, a base plate, a clock supported at one end thereof, contacts provided at the other end thereof, an upstanding post arranged between the clock and the contacts, a switch arm pivoted between its ends to the post and having one end provided with means to engage the contacts and having a free end portion disposed adjacent the clock, the switch arm having a transverse slot and the pivot of the switch arm passing through the slot, a momentum element having a sleeve disposed in the slot and surrounding the pivot of the switch arm and having an extension depending from the sleeve, the switch arm normally having a horizontal position and the momentum element normally having an upright position and bearing against a wall of the slot, and a cam secured to a shaft of the clock and arranged to engage the extension and to produce thereby an operative movement of the momentum element, the latter in turn engaging the free end portion of the switch arm and producing an operative movement thereof.

970,883. PROCESS OF OBTAINING AMMONIA. NIKODEM CARO, Berlin, Germany. Filed Mar. 23, 1909. Serial No. 485,153.

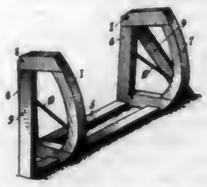
1. The process of obtaining ammonia from organic material having a high oxygen and nitrogen content which comprises charging the material into a gas producer, maintaining a sufficiently rapid combustion in the lower part of the charge to produce a temperature in the upper part of the charge sufficient to simultaneously vaporize the water and decompose the material of the charge at the same point thereof and supplying to the charge a large quantity of steam with a small quantity of air, thereby causing the nitrogen of the charge to combine with the hydrogen to convert substantially all of the nitrogen into ammonia at the same point that the vaporization of the water contained in the charge takes place.

2. The process of obtaining ammonia from organic material having a high oxygen and nitrogen content which comprises charging the material into a gas producer, maintaining a combustion in the lower part of the charge sufficiently rapid to produce a temperature in the upper part of the charge sufficient to simultaneously vaporize



the water and decompose the material of the charge at the same point thereof, and supplying to the charge a large quantity of superheated steam with a small quantity of air.

970,884. REEL-CRADLE. HAROLD BOOTHBY CARTER, Springfield, Vt. Filed Jan. 11, 1910. Serial No. 537,409.



1. A reel cradle having a base on which it is adapted to stably seat, and reel supports spaced apart and attached to the base, having rockers arranged at one side thereof and extending from the base, the reel supports provided with bearings for engaging the journals of the reel, arranged adjacent to the opposite sides of the supports, with the bearings located at a greater distance from the base than from the rockers.

2. A reel cradle comprising reel supports spaced apart and connected together, each support having a seating portion and a rocking portion, and bearings carried by the supports for the journals of the reel, arranged relatively closer to the rocking portion of the supports than to the seating portions thereof.

3. A reel cradle comprising reel supports arranged side by side and spaced apart, each support having a seating portion and a rocking portion, with the rocking portion substantially continuous with the seating portion, and bearings carried by the supports for the journals of the reel, arranged to permit of the reel seating on the surface on which the cradle is supported when the cradle is standing on the rocking portions of the supports, and to support the reel above the surface on which the cradle is supported when the cradle is standing on the seating portions of the support.

4. A reel cradle having a base, reel supports spaced apart and secured to the base, each support having a rocker at one side thereof forming a continuation of the base and provided with a bearing arranged adjacent to the opposite side relatively closer to the rocker than the base, and braces arranged between the reel supports and the base at the outer sides of said supports.

970,885. METALLIC SHINGLE. HOWARD M. CLEMMER, Dallas, N. C. Filed Sept. 11, 1909. Serial No. 517,241.

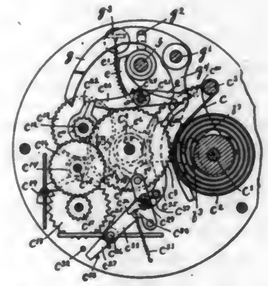
A metallic shingle having a joint lock member at one edge thereof consisting of a wall rising above the surface of the body of the shingle and bent back over the body

of the shingle to provide a hook engaging portion and then doubled upon itself to close said portion and form a spring locking member and carried outwardly and then downwardly below the level of the body of the shingle and having a substantially horizontal nailing flange extending from the end of the downwardly extending part and provided with a ridge projecting upwardly into line with the lower surface of the shingle body to bear with spring pressure against the adjoining shingle, said flange being spaced from the adjoining shingle between the lower end and said ridge to form a gutter and being continued



beyond said ridge to form a nailing portion, said first shingle at its opposite edge having a complementary member consisting of a raised hook member passing over the first described member of an adjoining shingle and engaging the returned portion and bearing against the surface of the body of the shingle, the main body portions of the adjoining shingles extending in the same plane up to the bases of said members and said plane lying below the top of the members and above the nailing and gutter flange, said members being held together by spring action, substantially as described.

970,886. FIRE AND POLICE TELEGRAPH SYSTEM. FREDERICK W. COLE, Newton, Mass., assignor to Gamewell Fire-Alarm Telegraph Company, New York, N. Y., a Corporation of New York. Filed Sept. 27, 1907. Serial No. 394,783.



1. In a signal-box, the combination with a signal-transmitter having a winding-member, a pivoted actuating-lever adapted to engage said winding-member, a lever secured to the pivot-shaft of said actuating-lever, and two independent actuators for engaging said levers to turn the pivot-shaft and thereby operate the actuating-lever, substantially as described.

2. In a signal-box, the combination with a signal-transmitter having a winding-member, a pivoted actuating-lever adapted to engage said winding member, a lever secured to the pivot-shaft of said actuating-lever and two independent actuators adapted to respectively engage the opposite ends of said lever and move it in the same direction to turn the pivot-shaft and thereby operate the actuating-lever, substantially as described.

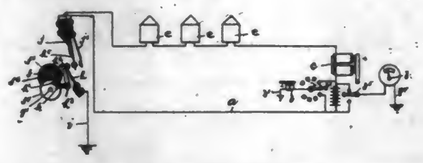
3. In a signal-box having an inner door and an outer door, the combination with a signal-transmitter having a winding-member, a pivoted actuating-lever adapted to engage said winding-member, a lever secured to the pivot-shaft of said actuating-lever, a pivoted actuator on the inner door and a sliding actuator on the outer door, both of said actuators being constructed and arranged to engage said lever and turn the pivot-shaft and thereby operate the actuating-lever, substantially as described.

4. In a signal-box, the combination with a signal-transmitter having a winding-member, a pivoted actuating-lever having a pawl adapted to engage said winding-member, means for moving said pawl into and out of position to engage said winding-member, a lever secured to the pivot-shaft of said actuating-lever and two independent actuators for engaging said lever to turn the pivot-shaft and thereby operate the actuating-lever, substantially as described.

5. In a signal-box, the combination with a signal-transmitter having a winding-member, a locking-lever for said transmitter, a detent on the pivot-shaft of said locking-lever, a flat spring adapted to be moved into position to obstruct movement of said detent and thereby hold the locking-lever, a pawl normally engaging said flat spring and also the actuating member, downward movement of said actuating-lever to operate the winding-member disengaging the pawl from the spring, permitting it to move to obstruct the detent, and upward movement of said actuating-lever causing the pawl to engage said spring and to be thereby turned on its pivot into position to again engage the winding-member, and also to lift said spring to release the detent, substantially as described.

[Claims 6 to 35 not printed in the Gazette.]

970,887. FIRE-ALARM-TELEGRAPH SYSTEM. FREDERICK W. COLE, Newton, Mass., assignor to The Gamewell Fire Alarm Telegraph Company, New York, N. Y., a Corporation of New York. Filed Apr. 25, 1908. Serial No. 429,153.



1. In a signal-box, signal-transmitting mechanism, a circuit-operating device, a ground branch circuit adapted to be connected with the main circuit by said circuit-operating device, means operated by said transmitting-mechanism when one or more alarms have been sent to connect the ground branch with the main circuit and operated by the winding-shaft when turned to rewind said mechanism to restore said circuit-operating device and disconnect said ground branch from the main circuit, substantially as described.

2. In a signal-box, signal-transmitting-mechanism having a box-number circuit-operating device, a main circuit operated thereby, and another circuit-operating-device for momentarily opening said circuit, means operated by said transmitting-mechanism when one or more alarms have been sent for operating said last-named circuit-operating-device to open and close said circuit and operated by the winding-shaft when turned to rewind said mechanism to restore said last-named circuit-operating-device to normal position, substantially as described.

3. In a signal-box, signal-transmitting-mechanism, having a box-number circuit-operating device, another circuit-operating device, means operated by said mechanism for setting said last-named circuit-operating-device in condition to operate a distant signal and operated by the winding-shaft when turned to rewind said mechanism for restoring said last-named circuit-operating-device, and an emergency circuit-operating-device, and means also operated by said mechanism for operating said emergency circuit-operating-device while the last-named circuit-operating device is set, which is subsequently restored by the winding-shaft when turned to rewind said mechanism, substantially as described.

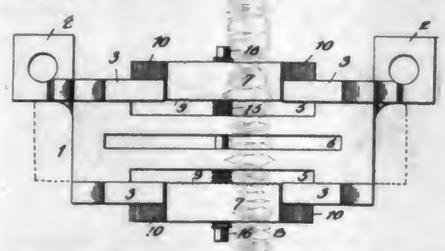
4. In a signal-box, signal-transmitting mechanism, a circuit-operating device, a ground branch circuit adapted to be connected with the main circuit by said circuit-operating device, means operated by said transmitting-mechanism when one or more alarms have been sent to connect the ground branch with the main circuit and operated by the winding-shaft when turned to rewind said mechanism to restore said circuit-operating device and

disconnect said ground branch from the main circuit, and an emergency circuit-operating device for momentarily opening the main circuit, and means operated by said mechanism for operating said emergency circuit-operating device to open and close the main circuit which is subsequently restored by the winding shaft when turned to rewind said mechanism, substantially as described.

5. In a signal-box, signal-transmitting mechanism having a stop-wheel connected with its winding-shaft, and having a box-number circuit-operating device, and another circuit-operating device disposed adjacent its actuating-spring which is engaged and set by said spring in condition to operate a distant signal and which is restored when said spring is re-wound, and an emergency circuit-operating device, and means operated by said stop-wheel for operating said emergency circuit-operating device, which is subsequently restored when said stop-wheel is returned to normal position by re-winding the signal-transmitting mechanism, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

970,888. ADJUSTABLE DIE-HOLDER. PATRICK J. CONBOY, Auburn, N. Y. Filed Sept. 27, 1909. Serial No. 519,668.



1. A die holder comprising a body portion having formed in its opposite sides recesses, guide lugs arranged on the opposite sides of said body portion, die gripping jaws arranged in said recesses and slidably engaged with said guide lugs, and means to adjust said jaws and to clamp the same into tight engagement with dies of various sizes.

2. A die holder comprising a body portion having recessed opposite sides, guide lugs arranged on the opposite sides of said body portion, gripping jaws slidably engaged with said guide lugs to move into and out of said recesses, and a jaw adjusting screw whereby said jaws are simultaneously adjusted to enable the same to be engaged with dies of different widths.

970,889. FUSE-IGNITER. RENE CONINGS, Pittsburg, Kans. Filed Nov. 2, 1909. Serial No. 525,866.

1. A device of the class described, comprising an igniting chamber, means for removably holding the end of a fuse within said chamber, a wick for igniting the fuse, and means for advancing said wick into said chamber.

2. A device of the class described, comprising a wick container, an igniting chamber associated therewith, and means for advancing a wick from said container into said igniting chamber, said igniting chamber having an opening adapted to permit the entrance of a fuse into said igniting chamber, and means for holding the fuse and closing said opening of said igniting chamber.

3. A device of the class described, comprising an igniting chamber having a perforate wall, means for removably holding the end of a fuse within said chamber, a wick for igniting the fuse, and means for advancing the wick into said chamber.

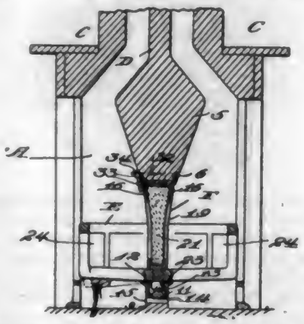
4. A device of the class described, comprising a wick-container, an igniting chamber associated therewith and having a wall fashioned from gauze, means for advancing a wick from said container into said igniting chamber, said igniting chamber having an opening adapted to permit the entrance of a fuse into said igniting chamber, and means for holding the fuse and closing said opening of said igniting chamber.



5. A device of the class described, comprising a wick-container having a wick tube, means for advancing a wick through said wick tube from said container, an igniting chamber associated with said wick tube adapted to receive the end of the fuse, said igniting chamber having a reticulate wall and at the end an opening, a fixed jaw at said opening, a movable jaw at said opening, said jaws being formed to receive the end of a fuse therebetween and being adapted to close said opening of said igniting chamber, and means for manipulating said movable jaw.

[Claim 6 not printed in the Gazette.]

970,890. REVOLVING GRATE. HENRY J. CORRIGAN, Dublin, Ga. Filed May 18, 1909. Serial No. 496,709.



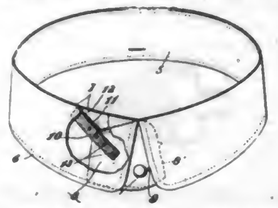
1. The combination, with a fireplace; of a revoluble grate located therein and comprising a frame composed of connected side and end members, the latter members being formed at their sides with vertical seats, a pair of grate sections disposed upon opposite sides of the frame and having their ends fitted in said seats, and connecting devices extending across said end members and secured at their ends to said sections, for attaching the latter to said frame.

2. The combination, with a fireplace and a pair of spaced bearing members located therein and arranged one above the other; of a grate revolubly mounted between said members, the lower member having beveled longitudinal edges located in close proximity to the bottom of the grate, to shear off the clinkers protruding therethrough when said grate is revolved.

3. A support for revolving grates comprising a member formed with an ash-receiving chamber, and a member resting upon the first-named member and formed with a thrust-bearing cup projecting downwardly into said chamber, said cup having its bottom wall perforated.

4. A support for revolving grates comprising a member formed with an ash-receiving chamber, and a member resting upon the first-named member and formed with a thrust-bearing cup projecting downwardly into said chamber, the bottom wall of said cup being provided with an upstanding bearing point and with a series of perforations surrounding the base thereof.

970,891. COLLAR ATTACHMENT. EDWARD M. CRANE, Hardwick, Vt. Filed June 10, 1910. Serial No. 566,229.



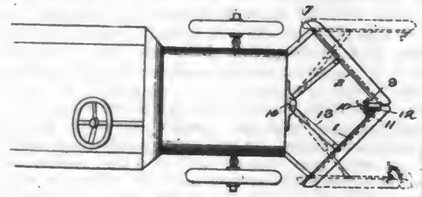
1. In combination with a turned-down collar, of a clip to straddle one tongue of the collar and having one end portion extending beyond the upper edge of the tongue to bear on the inner face of the fold of the collar, for the purposes described.

2. In combination with a turned-down collar, of a resilient clip to straddle one tongue of the collar and having one end portion extending beyond the upper edge of the tongue to bear on the inner face of the fold of the collar, for the purposes described.

3. In combination with a turned-down collar, of a resilient clip including a pair of side portions to bear on the opposite faces of one tongue of the collar, said side portions being connected together at one end and extending beyond the upper edge of the tongue to bear on the inner face of the fold of the collar, for the purposes described.

4. In combination with a turned-down collar, of a resilient clip to be detachably and adjustably secured to one tongue of the collar and having one end portion extending beyond the upper edge of the tongue to bear on the inner face of the fold of the collar, for the purposes described.

970,892. AUTOMOBILE-FENDER. YVES MARIE CAZCHRIOU, Monterey, Cal. Filed Oct. 30, 1909. Serial No. 525,461.

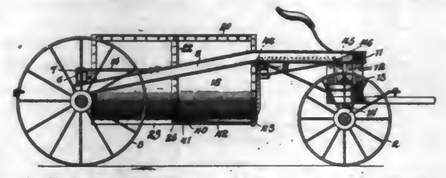


1. A fender comprising two members, means for pivotally supporting the relatively rear ends of said members, manually operable means for connecting the forward ends of said members to arrange the members at an angle to each other, means for automatically releasing the forward ends of said members upon the engagement of either member with an object, telescopic sections connected respectively to the members and to the vehicle, and a spring tensioned to force said sections in relatively opposite directions.

2. A fender including two members, each of said members including upper and lower frame bars arranged at an angle with respect to each other and meeting adjacent their forward ends, means for pivotally connecting the rear end of each frame bar to the vehicle to permit independent lateral movement of said member, means for connecting the forward ends of the members together so as to dispose said members at a relatively divergent angle toward the vehicle, means for automatically releasing the forward ends of said members upon the movement of either member toward the other, member operating means including telescopic sections arranged between each member and the vehicle, one of the sections being connected to the member and the other section connected to the vehicle, and a spring arranged to operate the sections in opposite directions, said sections being disposed to tension the spring when the respective members are connected at their forward ends.

3. A fender comprising two members, means for pivotally supporting the rear ends of the members, a hook projecting from the forward end of one of the members, a latch pivotally connected to the forward end of the other of said members and adapted to engage the hook to connect the members at an angle to each other with their forward ends in slightly spaced relation, a spring carried by one of the members to operate the latch in a direction away from the hook, and spring operated means arranged between each member and the vehicle to swing said member on its pivotal connection upon the disconnection of the latch and hook.

970,893. DUMPING-WAGON. FREDERICK N. CRONHOLM, Naches, Wash. Filed May 12, 1909. Serial No. 495,399.



1. In a wagon of the class described, the combination of a wheel-supported frame, with a body composed of two sections movable independently of each other in opposite directions to drop the load from the bottom of the body, said sections of the body having end walls arranged to meet, reinforcing members extending along portions of the meeting edges of the end walls from the bottom of the sections, gudgeons on the upper ends of the reinforcing members on one section of the body and extending horizontally therefrom, sleeves on the upper ends of the reinforcing members of the other section and extending horizontally therefrom to surround the gudgeons and form bearings therefor, and bearings on the supporting frame in which the sleeves are rotatably mounted.

2. In a dumping wagon, the combination of a body frame, wheels supporting the same, a body, separate means for pivotally connecting the front of the body to the front of the frame and the rear of the body to the rear of the frame, said body having a semi-cylindrical bottom and vertically-extending sides disposed tangentially to the bottom, end walls secured to the bottom and side walls and extending above the points of pivotal connection of the body to the frame to coöperate with the side walls for supporting a considerable portion of the load above the axis on which the body is suspended, the said axis being slightly above the center of gravity of the load, said body being divisible longitudinally in a vertical plane coincident with the said points of pivotal connection to permit the sections to open outwardly and close inwardly at the bottom, longitudinally-extending reinforcing members disposed along the top and bottom edges of each section, and transversely-extending reinforcing members on each section extending between the longitudinal reinforcing members thereof, each means consisting of a sleeve on one section of the body rotatably mounted on the frame, and a gudgeon on the other section of the body rotatably mounted in the sleeve.

3. In a dumping wagon, the combination of front and rear axles, wheels thereon, a frame extending from one axle to the other and having inclined side beams, a body disposed between the side beams and composed of two outwardly opening sections, a rear transverse beam disposed above the side beams, a front transverse beam disposed under the side beams, and separate pivots for connecting the front and rear ends of the body sections to the said front and rear transverse beams respectively.

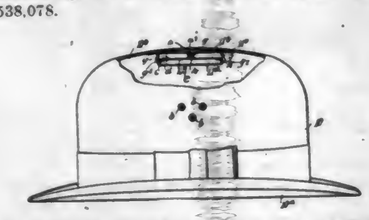
4. In a dumping wagon, the combination of a support-

ing frame, oppositely-disposed body sections having downwardly and inwardly inclined bottoms and vertical end portions, gudgeons attached to the end portions of one section and extending horizontally outwardly therefrom, sleeves attached to the end portions of the other section and extending horizontally outwardly therefrom and surrounding the gudgeons to form bearings therefor, and bearings on the supporting frame in which the sleeves are rotatably mounted to permit the body sections to swing open and closed and the body to swing as a whole on a common axis.

5. In a dumping wagon, a supporting frame, laterally opposed sections having downwardly and inwardly inclined bottoms and vertical end portions, alined gudgeons attached to and projecting from the end portions of one of said sections, sleeves surrounding said gudgeons to form bearings therefor and attached to the end pieces of the other body section and rotatably supported on the frame, a spring-actuated bolt carried by one of the sections and engaging with latching mechanism on the other of said sections to lock the sections together, and means whereby the bolt may be withdrawn to permit the sections to separate.

[Claims 6 to 8 not printed in the Gazette.]

970,894. VENTILATOR FOR HATS. JOHN M. DAVIES, Plattsburg, N. Y. Filed Jan. 14, 1910. Serial No. 538,078.



1. A ventilator for hats, comprising a shell having a top and bottom wall, the bottom wall being apertured and adapted to be secured in the crown of a hat, said shell being provided with a plurality of valved openings, and with a flexible and weighted diaphragm secured at its edges within the shell intermediate of its top and bottom walls.

2. A ventilator for hats, comprising a flanged shell having a top and bottom wall and adapted to be secured in the crown of a hat, said shell having an opening in its bottom wall and valved openings in its sides and top wall, and a weighted diaphragm secured within the shell intermediate of its top and bottom wall.

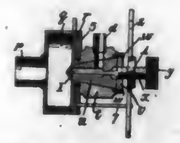
3. The combination with a hat body having an air inlet in its crown, of an automatic ventilating device within the hat body, comprising a cylindrical shell, having a top wall, a bottom wall, a valve controlled inlet in the top wall, valve controlled outlets in the side of the shell, and a weighted diaphragm therein adapted to vibrate when the hat is jolted by the wearer.

4. The combination with a hat body of nearly rigid material, and having a perforation in its crown, of an automatic ventilating device within the hat body, comprising a cylindrical shell having perforations therein, flap valves controlling said perforations, a perforated top wall, a flap valve controlling said perforation, a perforated bottom wall, a diaphragm wall therein spaced from the top and bottom walls, said diaphragm being adapted for vibration, and a weight centrally mounted on the diaphragm.

970,895. GAS-REGULATOR. JOHN DOYLE, New York, N. Y. Filed Feb. 14, 1910. Serial No. 543,823.

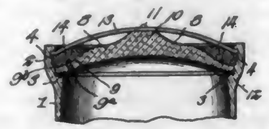
1. In an apparatus of the character described, the combination of a gas supply pipe, a burner, and a gas and air mixing device located therebetween, said device including a gas valve and an apertured shutter connected to said valve so as to move therewith, a stationary apertured shutter and a hand operated movable shutter, said shutters being mounted parallel to each other and in proximity to the casing of the valve, substantially as described.

2. In an apparatus of the character described, the combination of a gas supply pipe, a delivery pipe for the mixed air and gas and a regulating device between said pipes, including a mixing chamber, a valve casing screwed into one part of said mixing chamber and connected to the gas pipe, a valve adjustably arranged in said casing, a lever for operating said valve, an apertured shutter connected to said lever so as to move therewith, a stationary apertured shutter and a hand operated apertured shutter, said shutters being arranged parallel to each other and in planes perpendicular to said valve, substantially as described.



3. In an apparatus of the character described, the combination of a gas supply pipe, a delivery pipe for the gas and air, an air mixing device located between said pipes including a mixing chamber, a valve casing screwed into said mixing chamber, one end of said mixing chamber being apertured to form a shutter, a perforated plug mounted in said valve casing, a needle valve movable in said plug, means for adjusting said needle valve, a lever connected to said needle valve for operating same, an apertured shutter mounted on said valve casing and connected to said lever so as to move in conformity therewith, and a hand operated, apertured shutter, said three shutters being parallel to each other and mounted on one end of the valve casing, substantially as described.

970,896. FRUIT-JAR. GEORGE W. DRUHE, Oakland, Cal. Filed Dec. 21, 1909. Serial No. 534,323.



1. The combination with a jar having a mouth portion provided with an internal shoulder, an annular recess above said shoulder, and cam locking members above said recess, of a lid adapted to be inserted within the mouth and to be supported by said shoulder, said lid having its upper surface provided with an upstanding central portion formed with spaced guides and provided adjacent its peripheral edge with an annular concavity, a bowed spring extending between said retaining members and having its inner ends engaged with said cam locking members, and a body of sealing material filling the mouth within the annular recess and concavity of the lid and having the ends of the spring embedded therein.

2. The combination with a jar having a mouth provided with an internal shoulder, an annular recess above said shoulder, and cam locking members above said recess, of a lid inserted within the mouth and supported by the shoulder, said lid being formed with a bottom concavity and having its upper surface provided with an upstanding central portion formed with spaced returning members and provided adjacent its peripheral edge with an annular concavity, the body of said lid being formed with an opening extending therethrough adjacent said peripheral edge and intersecting the top and bottom concavities, a removable plug closing said opening, a bowed spring extending across the top of the lid between said retaining members of the upstanding portion and having its ends interlocking with said cam locking members, and a body of fusible sealing material filling the mouth within said annular grooves and upper concavity of the lid, the projecting end of the plug and the ends of the spring being embedded in said material.

970,897. LEVEL. HIRAM OWEN EARMAN, Manhasset, N. Y. Filed Dec. 15, 1909. Serial No. 533,136.



1. In a level, the combination of a leveling tube, a stock for supporting the same, said stock being provided with wings so shaped as to form a housing, and a shield movable relatively to said housing and to said leveling tube, said shield being adapted to be moved by hand so as to cover said leveling tube or to be hidden within said housing.

2. In a level, the combination of a stock provided with a housing of substantially cylindrical form, a leveling tube also of substantially cylindrical form disposed substantially in axial alinement with said housing, a shield having a cylindrical form and slidable in the general direction of its axis relatively to said leveling tube and to said housing.

3. In a level, the combination of a leveling member, and a stock for supporting the same, said stock comprising a body portion of sheet metal bent upon itself so as to form two panels disposed oppositely to each other, and portions integral with said panels and extending obliquely inward therefrom.

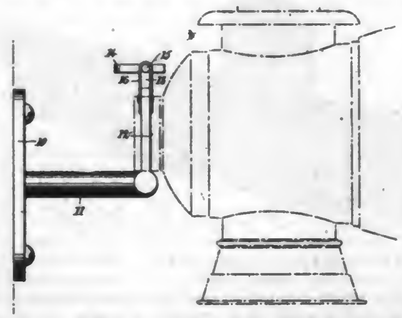
970,898. CHEMICAL COMPOUND. AUGUST EKLUND, Spokane, Wash. Filed Mar. 15, 1909. Serial No. 483,532.

1. A chemical compound comprising crystals formed of KNO_3 and H_2O_2, said compound being identified as follows: blue coloration when added to KI and starch; discoloration of $KMnO_4$ in presence of H_2SO_4 under giving off of O; yellow precipitate with solution of titanic acid in presence of SO_3; blue coloration in oil solution of guaiacum mixed with infusion of malt; blue coloration with tinct. of guaiacum in presence of $FeSO_4$; and blue coloration with CrO_5.

2. The process of forming the above named compound comprising, dissolving KNO_3 in boiling water, allowing the mixture to cool, and adding a certain amount of H_2O_2 when the same reaches a predetermined temperature substantially as specified.

3. The process of forming the above mentioned compound comprising, dissolving 96 gr. of KNO_3 in 100 cc. of boiling water, allowing the mixture to cool to about 80° C. at which point 4 gr. of H_2O_2 at 10% strength are added, the mixture crystallizing on cooling.

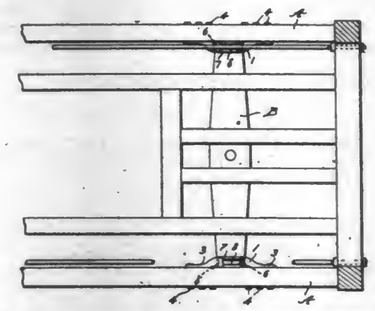
970,899. LAMP-BRACKET. HENRY C. ENGELBERG, New York, N. Y. Filed Oct. 30, 1908. Serial No. 460,210.



The combination of a lamp post having a slot in its upper end providing ears, a wall closing said slot at one side, and a gravity-operated guard pivoted between said ears, contacting with the face of said wall when moved into the slot to extend the post, and contacting with the upper edge of the wall when moved out of the slot and crosswise of the post

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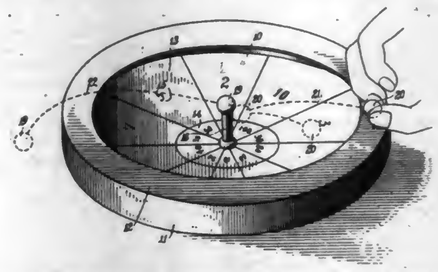
970,900. SILL-PROTECTOR, BOLSTER-STOP, AND TRUSS-ROD SUPPORT FOR CARS. JOHN ERICKSON, Cheyenne, Wyo. Filed May 21, 1910. Serial No. 562,654.



1. In a combination with a car frame of a plurality of supporting bodies secured to the side sills each of said bodies being recessed in its lower edge adapted to receive the end of a bolster therein, and an integral projection on its upper edge provided with a longitudinal seat adapted to receive and support a truss rod.

2. In a combination with a car frame of a plurality of supporting bodies secured to the side sills, each of said bodies having a recess in its lower edge adjacent to one side of the body and a coinciding recess of larger width than the first mentioned recess, said recesses retaining the bolsters from displacement and an integral projection on its upper edge provided with a longitudinal seat adapted to receive and support a truss rod.

970,901. GAME APPARATUS. EMIL R. ERNST, New York, N. Y. Filed July 16, 1910. Serial No. 572,273.



1. Game apparatus comprising a board having values indicated thereon, and provided with a support for a projectile, said board having a second support for a removable object member adapted to be struck by the projectile, to displace the object member so that the projectile can fall upon said board.

2. Game apparatus, comprising a board having values indicated thereon, and provided with an elongated support adapted to receive thereon a projectile at any one of a plurality of points, said board having within the confines thereof a second support, for a removable object member adapted to be struck and displaced by the projectile.

3. Game apparatus, comprising a board having a flanged rim constituting a support for a projectile, and provided within said rim with a second support, for an object member adapted to be struck and displaced by said projectile, whereby said projectile can fall upon said board.

4. Game apparatus, comprising a board having a flanged rim constituting a support for a projectile, and provided within said rim with a second support, for an object member adapted to be struck and displaced by said projectile, whereby said projectile can fall upon said board, said board having indicated on the surface thereof divisions representing different values.

5. Game apparatus, comprising a board having a support for a projectile, said board having a second support spaced from said first support, and adapted to receive a removable object member, said removable object member being adapted to be struck by the projectile to displace the object member so that the projectile can fall upon said board.

[Claims 6 and 7 not printed in the Gazette.]

970,902. WORK-SUPPORT. EUGENE FAGAN, Whittier, Cal. Filed Oct. 1, 1909. Serial No. 520,536.

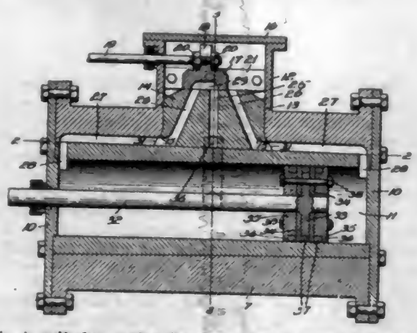


1. An improved work support, comprising a bracket, a bearing upon the bracket, a work tray, a knuckle connected with the work tray and loosely surrounding the bearing, stops limiting the adjustment of the work tray in either direction, and temporary holding means for maintaining the work tray in positions of adjustment.

2. An improved work support comprising a bracket, a bearing upon the bracket, a work tray, knuckles surrounding the bearing, a projection from the knuckles connected with the work tray, stops mounted upon the bracket and limiting the pivotal movement of the knuckles around the bearing, and a cam plate connected with the bracket and in connection with which said projection from said knuckles co-acts.

3. An improved work support, comprising a bowed bracket, a bearing projecting from the upper end of the bracket, a work tray, knuckles connected with the work tray and pivotally surrounding the bearing, stops limiting the pivotal movement of the work tray in either direction, and temporary holding means for maintaining the work tray in positions of pivotal adjustment.

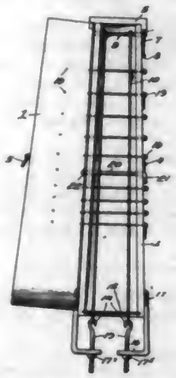
970,903. STEAM-ENGINE. JOHN M. FENNELL, Quitman, Ga. Filed Apr. 23, 1910. Serial No. 557,261.



1. A cylinder casing having a longitudinal slightly tapering aperture and a transverse opening extending therefrom, a steam chest casing upon the cylinder casing, a valve seat mounted in the transverse opening, and a core seated in the longitudinal aperture and retaining the valve seat against inward displacement.

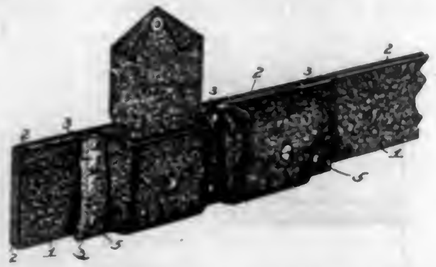
2. A cylinder casing having a longitudinal aperture and a transverse opening, the side walls of which are beveled at their inner ends, a valve seat mounted in the opening and having beveled flanges engaging the side walls thereof, a steam chest casing connected with the cylinder casing, and a core detachably seated in the longitudinal aperture of the cylinder casing.

970,904. POST-MOLD. GUSTAV H. FENSKE, Clark, Mo. Filed June 15, 1909. Serial No. 502,265.



A fence post mold comprising sides hingedly connected together, bolts loosely mounted in openings formed in opposing sides adjacent their upper ends, a bottom bridging the space between the sides at their lower ends, said bottom being formed with slots, brackets depending from and secured to the outer surfaces of the opposing sides, said brackets including lateral portions underlying the mold bottom, adjusting bolts mounted for longitudinal adjustment in lateral portions of the brackets, the respective mold sides being formed with a series of horizontally alined openings, the bolts at the upper end of the mold and the adjusting bolts below the bottom of the mold serving to receive the terminal ends of post reinforcing wires, the slots in the bottom of the mold permitting the passage of reinforcing wires through said bottom.

970,905. CARTRIDGE-BELT. WILLIAM C. FISHER, Middletown, Conn. Filed July 1, 1909. Serial No. 505,482.



1. The combination with a belt having parallel continuous recesses, of a pocketed carrier and metallic attaching devices secured to said carrier and provided with hooked ends to enter said continuous recesses.

2. The combination with a woven fabric belt having a plurality of plies, the upper and lower portions of said plies being separated forming continuous recesses at respective edges of said belt, of a pocketed carrier, and metallic attaching devices secured to said carrier and having hooked ends entering the continuous recesses formed between the separated plies at the edges of the belt.

970,906. CARTRIDGE-BELT. WILLIAM C. FISHER, Middletown, Conn. Filed July 29, 1909. Serial No. 510,321.



1. A woven fabric cartridge belt comprising a narrow body portion and integral pockets on the face of the narrow body portion and depending below the same.

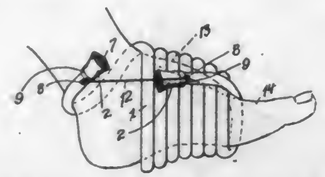
2. A woven fabric cartridge belt provided with integral woven pockets depending below the lower edge of the body of the belt.

3. A woven fabric belt provided with an integral pocket, said pocket having a depth appreciably greater than the width of the belt.

4. A woven fabric belt provided with an integral pocket having a dimension from the open top to the closed bottom thereof, which is greater than the width of the belt on which said pocket is woven.

5. A woven fabric cartridge belt comprising a plurality of plies and having integral pockets comprising four separated plies, two of said separated plies disposed in line with the other two plies and constituting a portion of the pocket depending below the lower edge of the body of the belt.

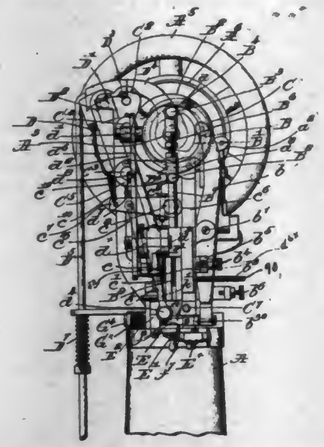
970,907. HOT-WATER BANDAGE. JAMES E. FORBES, Kopple, and BARBARA A. DARR, McKees Rocks, Pa. Filed Dec. 2, 1909. Serial No. 531,073.



1. A fluid containing bandage comprising an elongated flexible hollow cylindrical member open at each end and constituting a reservoir, a mouth piece secured to and projecting from each end of said member, means for closing each of said mouth pieces, an attaching band mounted upon said flexible member and abutting against the inner end of each of said mouth pieces, an eyelet secured to and projecting laterally from each of said bands, and a flexible coupling element engaging with said eyelets for connecting the ends of the member together whereby the bandage is maintained in position.

2. A fluid containing bandage comprising a relatively long flexible hollow cylindrical member open at each end and constituting a reservoir, a funnel-shaped mouth piece secured to and projecting from each end of said member and provided with interior threads and a seat at the outer terminus of the threaded portion, means extending in each of said mouth pieces and engaging with the thread and abutting against the seat of its respective mouth piece for closing the latter, a pair of bands mounted upon said member and abutting against the inner ends of said mouth pieces, eyelets carried by and projecting laterally from said bands, and a flexible coupling element fixed at one end to one of said eyelets and adapted to have its other end attached to the other of said eyelets for connecting the ends of said member together whereby the bandage is maintained in position.

970,908. MACHINE FOR INSERTING METALLIC FASTENINGS. EDWIN T. FREEMAN, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed June 14, 1902. Serial No. 111,622.



1. In a machine for inserting fastenings, a constantly rotating cam, an awl, independently controllable mechanism operated by said cam for actuating the awl to cause it to form a fastening receiving opening in the work, wire feeding mechanism and means whereby said wire feeding mechanism is moved by the awl actuating mechanism.

2. In a machine for inserting fastenings, wire feeding mechanism, an awl, mechanism for actuating the awl to cause it to form a fastening receiving opening in the work, operating means for said actuating mechanism, means under the control of the operator for interrupting the connection between said awl actuating mechanism and its operating means, and means operated through the awl actuating mechanism to move said wire feeding mechanism whereby the operation of said feeding mechanism is interrupted when the operation of said awl actuating mechanism is interrupted.

3. In a machine for inserting fastenings, the combination with means for inserting fastenings, of an awl, mechanism for operating the awl to cause it to form a fastening receiving opening in the work, wire feeding mechanism, means for actuating one of said last-named two mechanisms, means whereby an operative movement of one of said mechanisms is effected by transmission to it of a movement of an element of the other mechanism, and means for interrupting the actuation of said mechanisms without interrupting the actuation of the means for inserting fastenings.

4. In a machine for inserting fastenings, the combination with fastening inserting mechanism, of an awl, mechanism for operating the awl to cause it to form a fastening receiving opening in the work, wire feeding mechanism comprising a member arranged to engage a member of said awl operating mechanism whereby one of said mechanisms is actuated through the other, means for actuating one of said last named two mechanisms constructed and arranged to be brought into inoperative relation to said mechanism without interrupting the operation of the fastening inserting mechanism.

5. In a machine for inserting fastenings, the combination with a driving shaft, an awl, a vertically reciprocating awl bar and wire feeding mechanism, of means for suspending the vertical reciprocation of the awl bar and awl

while the driving shaft continues in operation, and means whereby the stopping of the vertical reciprocation of the awl bar effects an immediate discontinuance of the operation of the wire feeding mechanism.

[Claims 6 to 12 not printed in the Gazette.]

970,909. PROCESS OF MAKING AMMONIUM CHLORID. FRANCIS ARTHUR FREETH, Great Crosby, and HERBERT EDWIN COCKSEDGE, London, England. Filed Jan. 17, 1910. Serial No. 538,564.

1. The process for manufacturing pure, or nearly pure, ammonium chlorid, from ammonium sulfate and common salt, which consists in stirring together at a temperature of 103 degrees centigrade, or thereabout, equivalent quantities of ammonium sulfate and sodium chlorid with just sufficient quantity of water to yield after the reaction is completed a solution which is saturated with both ammonium chlorid and sodium sulfate at the temperature at which the reaction was performed, continuing the stirring at 103 degrees centigrade or thereabout, until the whole of the sodium chlorid has been converted into ammonium chlorid; separating at that same temperature the sodium sulfate precipitated, adding to the solution remaining a small quantity of water, and then cooling to about 30 degrees centigrade, and at this temperature separating the ammonium chlorid which precipitates, and washing the same with water or ammonium chlorid solution to remove the adhering mother liquor.

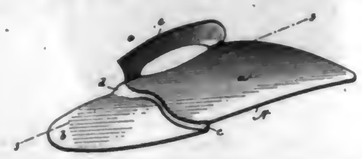
2. The process of obtaining pure, or nearly pure, ammonium chlorid from ammonium sulfate and sodium chlorid, which consists in stirring together at a temperature of 103 degrees centigrade a mixture of these salts with water in the proportion of 97 parts of ammonium sulfate, 86 parts of sodium chlorid, and 100 parts of water until the whole of the sodium chlorid is converted into ammonium chlorid, then separating the sodium sulfate at that temperature, adding to the solution remaining a little water, cooling to 30 degrees centigrade and separating the ammonium chlorid thus precipitated.

3. The process for manufacturing pure or nearly pure ammonium chlorid from ammonium sulfate and common salt, which consists in stirring together at a temperature of about 103° centigrade, equivalent quantities of ammonium sulfate and sodium chlorid with water, the two latter being in the form of natural brine, and evaporating the mixture until the concentration of the solution is such that it is just saturated with ammonium chlorid and sodium sulfate at the temperature at which the reaction was performed and was completed, continuing the stirring at 103° centigrade or thereabout until the whole of the sodium chlorid has been converted into ammonium chlorid, separating at the same temperature the sodium sulfate precipitated, adding to the solution remaining a small quantity of water and then cooling to about 30° centigrade and at this temperature separating the ammonium chlorid which precipitates, and washing the same with water or ammonium chlorid solution to remove the adhering mother liquor.

4. The process of recovering ammonia from impure mother liquor produced in the manufacture of ammonium chlorid from ammonium sulfate and common salt, which consists in concentrating the mother liquor from which the ammonium chlorid has been separated at 30° centigrade or thereabout, until it is just saturated with ammonium chlorid at a temperature of 103° centigrade or thereabout, removing at that temperature the sodium sulfate thrown out by the concentration, adding to the solution remaining a small quantity of water, and then cooling it to 30° centigrade or thereabout, separating the ammonium chlorid precipitated at that temperature, washing the same to remove the adhering mother liquor, and repeating this cycle of operations as often as may be necessary.

970,910. FOOT-SUPPORT. ALGY DEEN FRENCH, Shelton, Conn. Filed Jan. 12, 1910. Serial No. 537,644.

1. As a new article of manufacture a foot support, consisting of a plate having a flat front portion to extend under the arch of the foot and a flat rear or heel portion offset downwardly from the front portion on a compound curved line terminating at the inner edge of the plate at a point farther forward than at the outer edge, forming an extension for the heel portion, which extension is slightly depressed below the remainder of the heel portion, whereby an abutment conforming to the front of the heel is formed at the front of the flat heel portion of the plate, the front portion of the plate being provided at its inner edge with a wing having its rear edge inclined downwardly and forwardly, said wing forming a brace for the inner side of the foot from the heel to the ball of the foot.



2. As a new article of manufacture, a foot support comprising a plate having a flat front portion to extend under the arch of the foot and a flat rear or heel portion offset downwardly from the front portion on a compound curved line terminating at the inner edge of the plate at a point farther forward than at the outer edge, forming an extension for the heel portion, said extension being slightly depressed below the remainder of the heel portion, whereby an abutment conforming to the front of the heel is formed at the front of the flat heel portion of the plate.

3. As a new article of manufacture, a foot support, comprising a plate having a substantially flat front portion to extend under the arch of the foot, and a substantially flat heel portion offset downwardly from the front portion on a compound curved line, forming a depressed heel portion having at its front portion a shoulder or abutment conforming to the front of the heel.

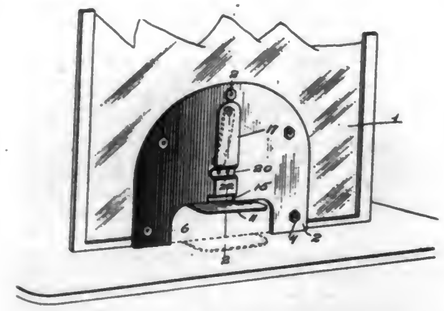
970,911. VEHICLE-WHEEL. SAMUEL MORRIS FRIEDMAN, New York, N. Y. Filed May 12, 1909. Serial No. 495,347.



1. A vehicle wheel having a plurality of spoke sections, a rim formed of a plurality of separate sections pivotally connected together, certain of said sections being rigidly secured to said spoke sections, and the remainder of said rim sections being independent of the spoke sections, and flexible casings inclosing said last-mentioned rim sections, and an annular tire carried by said rim and having a plurality of bolts embedded therein and extending through certain of said rim sections.

2. A vehicle wheel having a hub, including a bearing sleeve and an annular chamber or casing carried thereby, a plurality of spoke sections secured about the periphery of said chamber or casing, a plurality of spoke sections telescopically mounted within the first-mentioned spoke sections and each having a head upon its inner end and presenting a convex surface within said annular chamber, said heads being normally countersunk within the peripheral wall of the chamber, an annular pneumatic cushion or bag disposed within said chamber or casing and removable therefrom and having its outer peripheral wall polygonal in cross section, the number of faces upon said peripheral wall corresponding to the number of telescoping spoke sections, each face of said wall being in engagement with the convex surface of the corresponding spoke section.

970,912. SELF-LOCKING TICKET-WINDOW CLOSURE. JOHN M. GAMBLE, Burlington, Iowa. Filed Dec. 31, 1909. Serial No. 535,871.



1. In a device of the character described, a closure formed with an opening therein, a sliding gate for closing said opening, resilient means for normally holding said gate open, and pivotally mounted means for holding said gate closed against the action of said resilient means.

2. In a device of the character described, a closure proper formed with an opening therein, a sliding gate therefor, a spring for normally moving said sliding gate to an open position, and a catch for holding said gate closed when moved to a closed position.

3. In a device of the character described, a closure proper formed with an opening therein, a sliding gate for normally closing said opening, means for holding said gate in its closed position, and a retractile spring for opening said gate when said last mentioned means has been released.

4. In a device of the character described, a closure proper formed with an opening, a gate for said opening, a retractile spring for tending at all times to hold said gate open, and a catch for holding said gate closed against the action of said spring after the same has been manually closed.

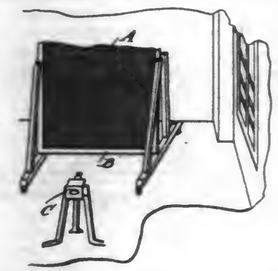
5. In a device of the character described, a closure proper formed with an opening, a gate for said opening formed with a thumb member adapted to be manually engaged for closing the gate, a catch for normally holding the gate closed, and a spring for opening the gate when said catch has been released.

[Claims 6 to 8 not printed in the Gazette.]

970,913. SCREEN FOR DISPLAYING PROJECTED PICTURES. MARIO GANZINI, Milan, Italy. Filed May 15, 1909. Serial No. 496,282.

1. An opaque screen, for displaying projected pictures in a lighted place, having a lattice, consisting of a net work of walls, connected directly to its surface.

2. An opaque screen, for displaying projected pictures in a lighted place, having a lattice, consisting of a net



work of walls, connected directly to its surface, said walls being perpendicular to said screen.

970,914. HYDROPNEUMATIC PUMP. JESSE B. GARBER, Salem, Ohio, assignor to The Deming Company, Salem, Ohio, a Corporation of Ohio. Filed May 7, 1910. Serial No. 559,873.



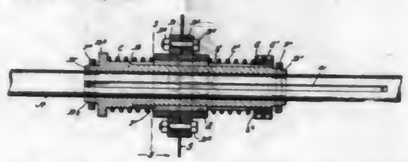
1. A hydropneumatic pump head having a discharge passage therethrough, in combination with an air pumping cylinder within said head depending from the cover thereof, a plunger in said cylinder, a plunger packing adapted to expand and contract alternately with each stroke of the plunger, a check valve for admitting air to said cylinder above the plunger, and a discharge cock also above said plunger for opening said cylinder to the atmosphere.

2. A hydropneumatic pump head having a discharge passage therethrough, in combination with an air pumping cylinder within said head depending from the cover thereof, a plunger in said cylinder, a plunger packing adapted to expand and contract alternately with each stroke of the plunger, an annular check valve adapted to expand circumferentially for admitting air to said cylinder above the plunger, and a discharge cock also above said plunger for opening said cylinder to the atmosphere.

3. A hydropneumatic pump head having a discharge passage therethrough, in combination with an air pumping cylinder located centrally within said head and depending from the cover thereof, a plunger rod entering said cylinder from above, a plunger-packing within said cylinder adapted to expand and contract alternately with each stroke of the plunger rod, an annular packing for the entrance of said plunger rod serving also as a check

valve, a stuffing-box gland for securing said annular packing in position, and a discharge cock at the upper end of the pump head for opening the air pumping cylinder to the atmosphere.

970,915. SLASHER-HEAD AND COUPLING. FREDERICK W. GEBOTT, Everett, Wash. Filed Jan. 19, 1910. Serial No. 538,881.



1. A saw carrying shaft, a sleeve, rigidly mounted thereon, a saw coupling head slidably mounted on said sleeve, and resilient means on each side of said coupling head engaging said sleeve and coupling head.

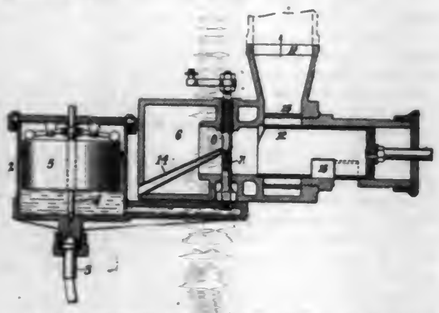
2. A saw carrying shaft, a sleeve rigidly mounted thereon, collars adjacent the ends of said sleeve, a saw coupling head slidably mounted on said spring, and springs mounted on said sleeve on each side of the coupling head and engaging the aforesaid collars.

3. A saw carrying shaft, a sleeve, rigidly mounted on said shaft, a saw coupling head slidably mounted on said sleeve, coiled springs mounted on the sleeve on each side of the saw coupling head, and means, mounted on the sleeve for adjusting the tension of said springs.

4. A saw carrying shaft, a sleeve keyed to said shaft, said sleeve having slitted tapered ends, a saw coupling head slidably mounted on said sleeve, coiled springs mounted on said sleeve on each side of said coupling head, and tapered nuts or rings engaging the slitted tapered ends of the sleeve.

5. A saw carrying shaft, a sleeve keyed to said shaft, said sleeve having slitted tapered ends, and an annular collar adjacent to one of said ends, said sleeve having its opposite end externally threaded in the rear of the slitted end, jam nuts threaded on said threaded portion of the sleeve, tapered nuts fitted on the tapered ends of the sleeve, and coiled springs mounted on the sleeve on each side of the coupling head and abutting the annular collar and jam nut, respectively.

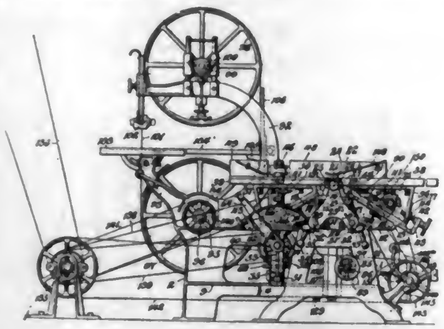
970,916. CARBURETER FOR GAS-ENGINES. LOUIS C. GEAKEN, New York, N. Y. Filed Apr. 20, 1908. Serial No. 428,036.



1. In a carbureting device, a mixing chamber having a port adapted to be connected with an engine cylinder and also having an air port, an adjustable valve controlling the air port, a throttle valve controlling the engine port, a fuel discharge nozzle extending into the said chamber, an air jet-pipe terminating adjacent to and behind the nozzle, and a perforated screen or baffle in the engine port around the throttle valve, the air jet being arranged at an oblique angle to said screen to direct the mixed air and fuel against said screen at an angle to the plane thereof; substantially as described.

2. In a carbureting device, a mixing chamber having a laterally extending outlet provided with a port adapted to be connected to an engine cylinder, a hollow cylindrical throttle valve seated in said extension and controlling said port, a fuel discharge nozzle within said chamber, an air discharge pipe terminating adjacent to and behind the nozzle and directed toward the open end of the throttle valve, and the casing having another air port controlled by the throttle; substantially as described.

970,917. UNIVERSAL WOODWORKING-MACHINE. ALFRED C. GETZ, Sidney, Ohio. Filed June 22, 1910. Serial No. 568,371.



1. A universal woodworking machine including a frame comprising spaced sides, a transverse frame member mounted upon and secured to one of the said sides and provided with bearings arranged to receive a jointer shaft, and a longitudinal frame member mounted upon the other side of the frame and secured at its ends to the same and having an intermediate portion connected with and supporting the adjacent end of the transverse frame member.

2. A universal woodworking machine including a frame comprising spaced sides, a transverse frame member extending across the frame and secured to one of the sides thereof and provided with spaced upwardly extending supporting portions having bearings adapted to receive a jointer shaft, and a longitudinal frame member mounted upon the other side of the frame and consisting of terminal guides, and an intermediate connecting portion secured to and supporting the adjacent end of the transverse frame member.

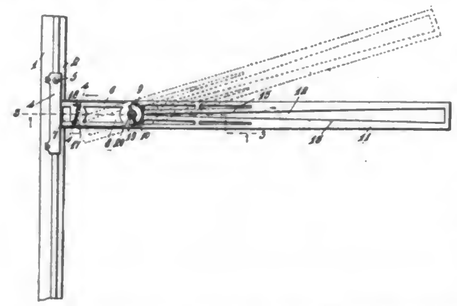
3. A universal woodworking machine including a frame comprising spaced sides, a hollow transverse frame member mounted upon one of the sides of the frame and composed of sides, a connecting top portion, and spaced supports extending upwardly from the top portion and having bearings to receive a jointer shaft, said transverse frame member being also provided with an end wall, and a longitudinal frame member mounted upon the other side of the frame and provided with terminal guiding portions and having an intermediate web or plate secured to the end wall of the transverse frame member.

4. A universal woodworking machine including a frame comprising spaced sides, a transverse frame member secured at one end to one of the sides of the frame, and a longitudinal frame member consisting of approximately triangular terminal guiding portions, and an intermediate connecting web or plate secured to and supporting the adjacent end of the transverse frame member.

5. A universal woodworking machine including a frame comprising spaced sides, a transverse frame member connected at one end to one of the sides and having bearings adapted to receive a jointer shaft, and a longitudinal frame member mounted upon the other side of the frame and consisting of flanged triangular terminal guiding portions, and an intermediate connecting portion secured to and supporting the adjacent end of the transverse frame member.

[Claims 6 to 39 not printed in the Gazette.]

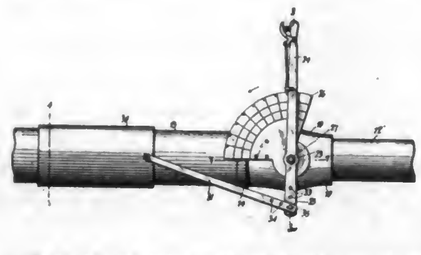
970,918. PLOTTER. GEORGE H. GROVE, Harrisburg, Pa. Filed Jan. 10, 1910. Serial No. 537,293.



1. An instrument of the class described, comprising a horizontal ruler, a track bar thereon, a slide bar on the track bar, a bearing extension extending from the slide bar, a marking ruler pivoted intermediate its ends upon the bearing extension provided with a pair of inside marking edges which diverge from the inner ends outwardly pivoted to the extension of the slide bar and locking means comprising a bar pivoted upon the bearing extension and provided with means for holding the marking ruler in a perpendicular position with relation to the horizontal ruler.

2. An instrument of the class described, comprising a horizontal ruler, a track bar thereon, a slide bar mounted on the track bar, a bearing extension extending from the track bar, a marking ruler pivoted to the bearing extension and provided with a beveled convex inner end, a cross bar extending across the bottom face of the bearing extension and having a recessed inner edge to receive the inner end of the marking ruler, means for locking the marking ruler in alinement with the bearing extension and means for holding the ruler at different angular adjustments.

970,919. AIR AND GAS MIXING DEVICE. STEPHEN H. HALE, Neodesha, Kans. Filed Mar. 2, 1910. Serial No. 546,881.



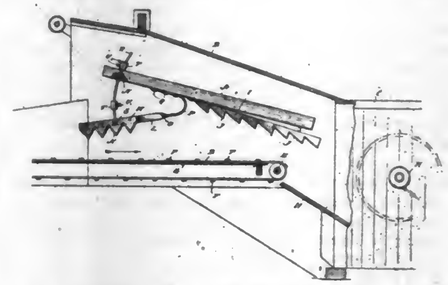
1. In an air and gas mixing device, the combination of a mixing chamber, a gas inlet valve and an air inlet valve, means for opening said valves simultaneously and for closing them simultaneously, said valves being constructed and arranged for progressively increasing the effective area of the air inlet valve at a constantly diminishing ratio, and for progressively increasing the effective area of the gas inlet valve.

2. In an air and gas mixing device, the combination of a mixing chamber, a gas inlet valve provided with a tapering port adapted to be opened from its narrow end toward its broad end, a tapering air inlet valve adapted to be opened from its broad end toward its narrow end, and means for simultaneously opening and closing said valves.

3. In an air and gas mixing device, the combination of a mixing chamber, a gas inlet valve, an air inlet valve provided with a tapering opening adapted to be uncovered from its broad end toward its narrow end, a gas delivery nozzle having its mouth disposed in proximity to the opening to the air inlet valve, and a common means for simultaneously opening the gas inlet valve and uncovering the opening of the air inlet valve.

4. In an air and gas mixing device, the combination of a casing forming a mixing chamber and provided with a tapering air inlet opening, a sliding closure adapted to uncover said air inlet opening from its broad end toward its narrow end when moved in one direction, a gas inlet valve, and a common means for simultaneously opening the gas inlet valve and moving said sliding closure to uncover the air inlet opening.

970,920. BAND-CUTTER FOR THRESHING-MACHINES. JOSEPH T. HANSON, Sioux Falls, S. D. Filed Mar. 16, 1910. Serial No. 549,677.



1. In combination with the beams and the apron of a self-feeder for threshing machines, of a resilient bar secured by one end to the lower face of a beam, of the feeder, said bar being bent backwardly beneath the beam toward the front end thereof, and being given a quarter turn at approximately the center thereof, a plurality of sickle blades secured to the free end of the bar and extending toward the apron, an arc shaped rod pivoted to the bar near its free end, the beam having an opening through which the rod extends, sleeves on the rod, one above and one below the beam, and a set screw threaded through each sleeve and engaging the rod.

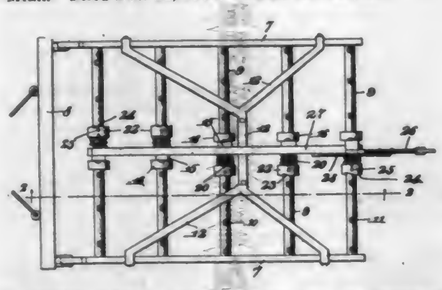
2. In combination with the beams and the apron of a self-feeder for threshing machines, of a resilient bar secured by one end to the lower face of a beam, of the feeder, said bar being bent backwardly beneath the beam toward the front end thereof, and being given a quarter turn at approximately the center thereof, a plurality of sickle blades secured to the free end of the bar and extending toward the apron, a rod pivoted to the bar and extending through the beam, and a sleeve adjustable on the rod above and below the beam.

3. In combination with the beams and the apron of a self feeder for threshing machines, of a resilient bar secured by one end to the lower face of a beam of the feeder, the bar being bent backward on itself beneath the beam toward the front end thereof, cutting blades on the free end of the bar extending toward the apron, an arc-shaped rod pivoted by one end to the bar near the free end thereof, the beam having an opening through which the rod passes, and sleeves adjustable on the rod above and below the beam.

4. In combination with the beams and apron of a self feeder for threshing machines, of a resilient bar secured by one end to a beam of the feeder, said bar being bent backwardly upon itself beneath the beam toward the front end thereof, cutting blades on the free end of the bar ex-

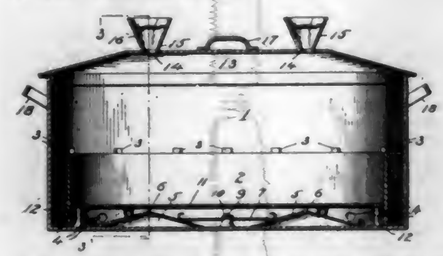
tending toward the apron, means for limiting the movement of the bar toward and from the beam and means for adjusting said limiting means to vary the extent of movement of the bar.

970,921. LEVER-HARROW. HENRY HECHT, Jackson, Minn. Filed Dec. 21, 1909. Serial No. 534,285.



A harrow frame, a tooth-carrying rock bar supported therein, a lever arm having a slotted hub engaging the rock bar, a stop member extending through the rock bar and abutting at its upper end upon the shoulder at one end of the slot in the hub, a collar supported loosely upon the rock bar, a spring coiled upon the bar and connected at its ends with the collar and with the hub of the lever arm, and means for securing the collar in various positions with relation to the rock bar to regulate the tension of the spring.

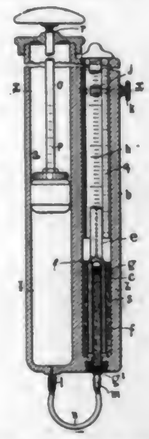
970,922. WASHBOILER. HENRY B. HEMPHILL, Eldorado, Ill., assignor of one-half to Andy Moore and Walter Chamberlain, one-fourth to Robert C. Crozier, and one-fourth to Charles W. Johnson, Eldorado, Ill. Filed Dec. 6, 1909. Serial No. 531,610.



1. In a wash boiler, a partition arranged therein and secured to the bottom thereof to provide a space between the boiler and the partition, said partition having formed in its opposite ends near its bottom a series of water circulating passages, members arranged on the bottom of said boiler and adapted to be lifted by the pressure of steam formed beneath the same, a spring to hold said members down in yielding engagement with the bottom of the boiler, and a screen arranged within said partition above said members.

2. In a boiler of the class described, a partition arranged therein and secured to the bottom thereof to form between itself and the sides of the boiler a continuous water circulating space, said partition having formed in its opposite ends adjacent to its bottom a series of water circulating passages, cone-shaped agitating members hingedly connected at one side to the bottom of the boiler and adapted to be actuated by the pressure of steam generated beneath the same, a spring to hold the hinged members down in yielding engagement with the bottom of the boiler, a screen arranged above said members and removably supported within said partition, and means to brace the upper portion of the partition and to secure the same in spaced relation to the sides of the boiler.

970,923. MEANS FOR MEASURING OR ANALYZING GASEOUS MIXTURES. BERTRAND CHASE HINMAN, London, England. Filed Nov. 5, 1909. Serial No. 526,469.



1. In an apparatus for analyzing gaseous mixtures comprising a receptacle containing a substance which will re-act with the constituent of the gas to be determined with the production of a change of temperature, means for delivering a measured quantity of the gas to be analyzed to said receptacle, and means for measuring the change in temperature so produced.

2. In an apparatus for analyzing gaseous mixtures comprising a receptacle containing a substance which will re-act with the constituent of the gas to be determined with the production of a change of temperature, means for forcing a measured quantity of the gas to be analyzed into the receptacle and means for measuring the change of temperature so produced.

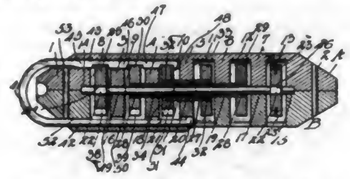
3. In an apparatus for analyzing gaseous mixtures a cartridge like vessel containing a substance which will re-act with the constituent of the gas to be determined with the production of a change of temperature, means for introducing a measured quantity of the gas to be analyzed into the vessel and a thermometer placed in proximity to the vessel to indicate the change in temperature so produced.

4. In an apparatus for anlyzing gaseous mixtures a receptacle containing a substance which will re-act with the constituent of the gas to be determined with the production of a change of temperature, a syringe adapted to draw in a measured quantity of the gas to be analyzed and to force same out into the receptacle and a thermometer in proximity to said receptacle to indicate the change of temperature so produced.

5. In an apparatus for analyzing gaseous mixtures a receptacle containing a substance which will re-act with the constituent of the gas to be determined with the production of a change of temperature, means for admitting a measured quantity of the gas to be analyzed into said receptacle, a thermometer in proximity to the receptacle to indicate the change of temperature so produced and a movable graduated scale reading percentages of the constituent of the gas to be determined in proximity to the stem of the thermometer.

970,924. COMBINATION-LOCK. MARTIN L. HITCHCOCK, Fayetteville, W. Va., assignor of one-half to C. R. Summerfield, Fayetteville, W. Va. Filed Dec. 6, 1909. Serial No. 531,630.

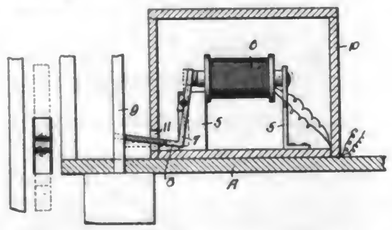
1. A lock comprising a casing, a web extending crosswise in the casing, a shaft passing through the web and journaled in the ends of the casing, a tumbler carried by the shaft on one side of the web, an index wheel fastened to the shaft on the other side of the web, the casing provided with an aperture exposing a portion of the periphery of the index wheel whereby the wheel may be rotated, and a shackle adapted to be inserted in said casing and held by the tumbler.



2. A lock comprising a casing, a plurality of recesses extending crosswise in the casing, a shaft journaled in the casing, a plurality of hollow shafts carried by the first mentioned shaft, a tumbler carried by the shaft and by each of the hollow shafts, each tumbler being located in one of said recesses, an index wheel fastened to the shaft and to each of the hollow shafts, each index wheel being positioned in one of the recesses, the casing provided with a plurality of apertures exposing a portion of the periphery of the index wheels whereby the wheels can be rotated to operate the tumblers, and a shackle adapted to be inserted in the casing and be engaged by the tumblers.

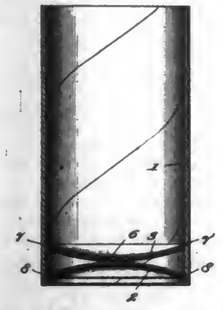
3. A lock comprising a casing, a plurality of recesses extending crosswise in the casing, a shaft journaled in the casing, a plurality of hollow shafts carried by the first mentioned shaft, a tumbler carried by the shaft and by each of the hollow shafts, each tumbler being located in one of said recesses, an index wheel fastened to the shaft and to each of the hollow shafts, each index wheel being positioned in one of the recesses, one of the index wheels being provided with a rotatable rim carrying the characters whereby the combination may be changed without removing the casing, the casing provided with a plurality of apertures exposing a portion of the periphery of the index wheels whereby the wheels can be rotated to operate the tumblers, and a shackle adapted to be inserted in the casing and be engaged by the tumblers.

970,925. ATTACHMENT FOR ELEVATORS. WILLIAM H. INGLE, Tacoma, Wash. Filed Sept. 14, 1909. Serial No. 517,643.



A safety attachment for elevators comprising in connection with an elevator car, a supporting frame upon the floor of said car, an electro-magnet supported by said frame, an armature lever mounted pivotally upon the frame, said lever being provided with a notched flange, a housing for the electro-magnet having a slot through which the notched flange of the armature lever projects, a controlling lever arranged in the path of the notched flange of the armature lever, and an electrical circuit including the electro-magnet and including also a plurality of spring actuated contact devices, one of said contact devices being disposed at each of the elevator landings in the path of the door whereby admission to the elevator car is obstructed, said contacts being held normally open when the doors are closed, whereby the opening of one door will close the circuit and energize the electro-magnet to attract the armature.

970,926. CLOSURE FOR RECEPTACLES. CHARLES FRANCIS JENKINS, Washington, D. C., assignor to Single Service Package Corporation of America, New York, N. Y., a Corporation of New Jersey. Filed Feb. 1, 1910. Serial No. 541,398.

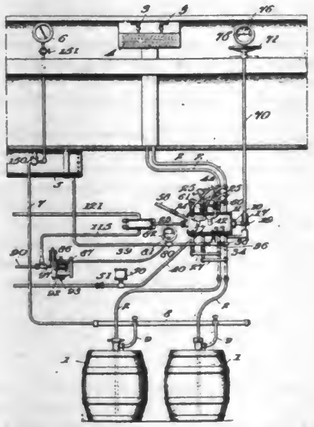


1. In a vessel the combination of a body portion, and a closure comprising oppositely dished portions the extreme edges of which fit the interior of said body portion; substantially as described.

2. In a vessel the combination of a body portion, and a closure comprising oppositely dished portions the extreme edges of which fit the interior of said body portion, and means for securing said portions together; substantially as described.

3. In a paper vessel the combination of a body portion, and a pair of oppositely dished disks closely fitting the interior of said body portion and glued together; substantially as described.

970,927. BEER-DISPENSING APPARATUS. ALVA D. JONES, Louisville, Ky., assignor to National Hygenic Service Company, Louisville, Ky., a Corporation of Kentucky. Filed June 19, 1909, Serial No. 503,240. Renewed June 1, 1910. Serial No. 564,457.



1. In a beverage dispensing apparatus the combination of a suitable supply; a service pipe and cooling coil connected therewith; a multiway valve and a pump connected with said cooling coil and adapted to suck beer out of said coil and force the same into said supply; and automatic means for controlling said pump, substantially as described.

2. In a beverage dispensing apparatus the combination of a suitable supply; a service pipe and cooling coil connected therewith; a multiway valve and a pump in said valve connected with said cooling coil and adapted to

suck beer out of said coil and force the same into said supply; a motor for said pump; and an automatic means for controlling said pump and motor; substantially as described.

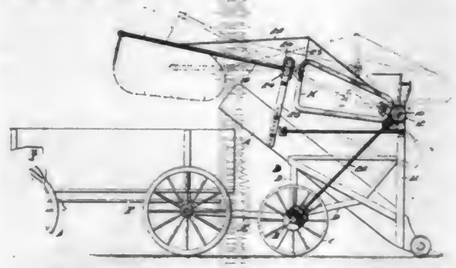
3. In a beverage dispensing apparatus the combination of a multiway valve; a pump in said valve; a hand wheel; gear connections between said hand wheel and valve; and connections leading from said valve to a source of supply, substantially as described.

4. In a beverage dispensing apparatus the combination of a multiway valve; a pump in said valve; a hand wheel; an indicator operated by said wheel; gear connections between said wheel and valve; a motor for operating said pump; means for automatically controlling said motor; and connections leading from said valve to a source of supply, substantially as described.

5. In a beer dispensing apparatus the combination of a source of supply; a bar; connections between said source and bar; a multiway valve in said connections; a pump in said multiway valve; a hand wheel connected with said valve; an indicator operated by said wheel; a motor for said pump; an electromagnetic controller for said motor; and a source of cleansing fluid connected to said valve and pump; substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

970,928. ATTACHMENT FOR HAY-LOADERS. ARTHUR B. JONES, St. Johns, Mich. Filed Sept. 24, 1909. Serial No. 519,391.



1. An attachment for hay loaders including a fork frame, means for slidably supporting said frame, a track frame connected with the fork frame, and means for imparting to the track frame an orbital movement around the operating means.

2. An attachment for hay loaders including a fork frame, means for slidably supporting the same, a track frame connected with the fork frame, a sprocket wheel exteriorly engaging the track frame, and a guide wheel interiorly engaging the track frame and movable orbitally around the sprocket wheel.

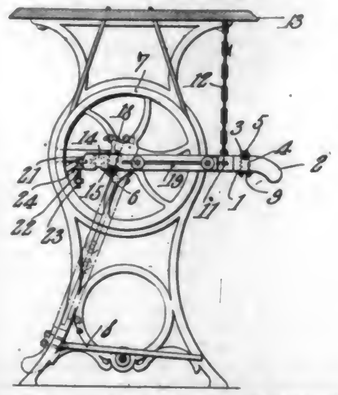
3. An attachment for hay loaders including a fork frame, means for slidably supporting the same, a track frame connected with the fork frame, a shaft supported for rotation and carrying a sprocket wheel exteriorly engaging the track frame, a link supported upon the shaft adjacent to the sprocket wheel, a guide wheel upon said link interiorly engaging the track frame, and means for rotating the shaft.

4. In a device of the character described, a slidably supported fork frame, a track frame connected therewith, a sprocket wheel exteriorly engaging the track frame, a guide wheel interiorly engaging the track frame and holding the latter in engagement with the sprocket wheel, supporting means for the guide wheel whereby said wheel may move orbitally around the sprocket wheel, and means for rotating the latter to cause the track frame to move orbitally around said sprocket wheel.

5. In a device of the character described, a slidably supported fork frame, a track frame connected therewith, said track frame being provided with sprocket-engaging apertures, and a guide wheel interiorly engaging the track frame and supported for orbital movement around the sprocket wheel said guide wheel being constructed to accommodate the points of the sprocket teeth projecting through the apertured frame.

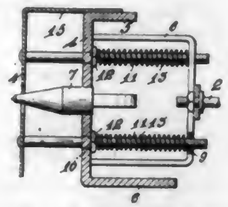
[Claims 6 to 11 not printed in the Gazette.]

970,929. PITMAN. JAMES T. KILBY, Danville, Va. Filed Jan. 20, 1910. Serial No. 539,094.



A pitman comprising members having elongated slots, securing devices passing through the slots of the members, one member having at its upper edge in the vicinity of its end a bearing, said member having a downturned handle projecting beyond the edge of the inner portion opposite the edge having said bearing, the other member having at its lower edge in the vicinity of its outer end a bearing, said bearings being out of longitudinal alinement with the slots.

970,930. ATTACHMENT FOR HAY-PRESSES. BOAZ KINGHAM, Tecumseh, Okla. Filed Jan. 31, 1910. Serial No. 541,071.



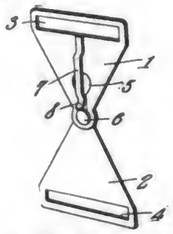
1. In a hay press, a baling plunger comprising a plunger rod, a plunger head secured to said rod, a core pin arranged in said plunger head to form a passage through the bale of hay formed in the press, and means to prevent the hay from catching on said core pin during the process of feeding the hay to the bales.

2. In a baling press, a plunger comprising a plunger rod, a plunger head secured thereto, a core pin secured to said head and adapted to be projected thereby through the charges of hay when forced into the press thereby providing a ventilating passage through the bale, a guard plate yieldingly connected to said plunger head and adapted to prevent the hay from catching on and interfering with the operation of the plunger head and core pin.

3. In a hay baling press, a plunger comprising a plunger rod, a plunger head secured to the end of said rod, said head comprising a plate having on its upper edge a right angularly rearwardly projecting flange and on its lower edge right angularly projecting guide fingers, a core forming pin secured to said plunger plate, guide frames secured to the rear or outer side of said plunger

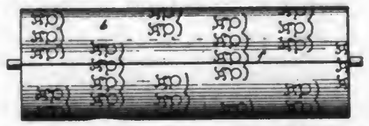
plate, guide rods slidably engaged with said plate and frames, springs arranged on said rods to normally project and to hold the same in projected position, a guard plate secured to the outer ends of said rods, said plate having formed therein a central passage to receive said core forming pin, and a guard flange formed on the upper edge of said plate and adapted to engage the flange on said plunger plate whereby hay is prevented from entering between said guard and plunger plates.

970,931. SUSPENDER ATTACHMENT. HENRY H. KRAMER, Terre Haute, Ind., assignor of one-half to S. Ed Sparks, Terre Haute, Ind. Filed Mar. 1, 1909. Serial No. 480,040.



A device of the class described comprising a pair of triangular plates having their apexes overlapped, each plate having a transverse slot located adjacent the edge of the plate remote from the overlapped apexes, one of said plates having a key-hole slot, the narrow portion of which extends into the overlapped apex of said plate, there being in the overlapped apex of the other plate, a headed stud arranged to be received in the key-hole slot; a resilient tongue assembled at one end with the first named plate and alined with the key-hole slot therein, the tongue having its free extremity outwardly bent to extend across and to bear against the periphery of the head of the stud; and a strip of fabric inclosing the edges of the first named plate and engaging the tongue to hold the free extremity thereof against the head of the stud, the ends of the strip being extended through the transverse slot in the first named plate; the intermediate portion of the tongue being arched away from the plate with which it is assembled, to provide for the insertion of the head of the stud through the enlarged portion of the key-hole slot, and to space the tongue from said plate for engagement by the fabric.

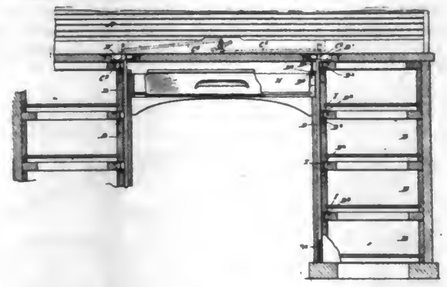
970,932. STAMPING AND PRINTING PAPER WEBS. OTTO KRÜGER, Leipzig, Germany. Filed Dec. 18, 1909. Serial No. 533,877.



1. The process of making printing rollers for printing paper webs consisting in placing upon a plastic surface separate, independent portions of the fabric to be imitated, subjecting the same to pressure, preparing a metallic reproduction from said pattern, rolling said reproduction into cylindrical form, soldering the meeting edges and engraving said solder filling, as and for the purpose set forth.

2. The process of forming a printing roller for the printing of imitation fabric paper webs, consisting in placing independent fragments of a fabric upon a plastic surface, and pressing the same into said surface, removing said fabric and permitting the plastic material to harden, preparing a flat metallic reproduction from said hardened surface, rolling the said reproduction into cylindrical form, uniting the edges by a suitable filling material, and continuing the fabric design across said filling.

970,933. DESK. HARRY M. LEESE, Washington, D. C. Filed Nov. 22, 1909. Serial No. 529,287.



1. The improvement in desks herein described, comprising a desk frame, a vertical series of drawers therein, a vertical locking rod provided at its upper end with a lateral arm forming a bearing, a series of studs carried by said rod and movable with the same and also having a limited movement independent of the said rod, springs actuating said studs to operative position, a cover for the desk, an operating device in the form of a rocker carried by the cover, means for locking said rocker against rocking movement, a lever pivoted at its upper end to the cover and swinging at its lower end into engagement with the lateral arm on the slide rod whereby to depress the same, a connection between said lever and the rocker whereby the latter may operate the lever and a locking means carried by the desk frame and engaging with the said lever to lock the cover in closed position, substantially as set forth.

2. The combination with a desk frame, a series of drawers and a movable cover, of a slide rod for locking the drawers, a swinging lever carried by the cover and operating said slide rod to locked position and means carried by the frame for engaging with the lever to lock the cover when closed, substantially as set forth.

3. The combination with a desk frame, a series of drawers and a movable cover, of a slide rod for locking the drawers, a swinging lever carried by the cover and operating said slide rod to locked position, means carried by the frame for engaging with the lever to lock the cover when closed, a rocker carried by the cover and a connection between said rocker and lever, substantially as set forth.

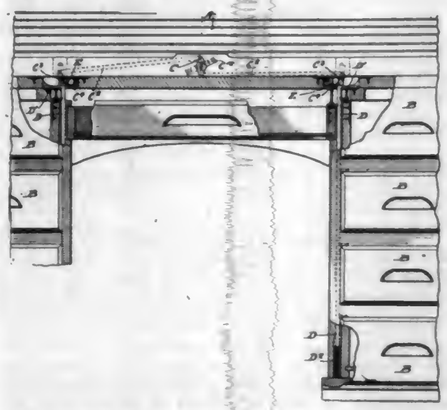
4. The combination of a vertical series of drawers, a sliding rod having means for locking the same, a swinging lever for operating said slide rod into locked position, a rocker connected with said lever for operating the same and key-operated means for locking said rocker, substantially as set forth.

5. The combination with the desk frame and a vertical series of drawers and a cover, of a slide rod having means for locking the drawers, a lever pivoted to the cover and arranged to operate the slide rod, means for operating said lever and a bolt carried by the desk frame and engaging with said lever to lock the cover, substantially as set forth.

970,934. LOCK. HARRY M. LEESE, Washington, D. C. Original application filed Nov. 22, 1909, Serial No. 529,287. Divided and this application filed May 5, 1910. Serial No. 559,581.

1. The herein described locking device comprising a rocker having its barrel provided with a key hole slot and with an extension, said barrel being also provided with a non-circular opening for the reception of a locking bolt, a spring actuated locking bolt moving into and out of said opening, a casing for said bolt having surrounding, the bolt, a bearing for the barrel of the rocker, said casing being also provided with lateral arms having offset portions adapted for connection with a support, all substantially as and for the purposes set forth.

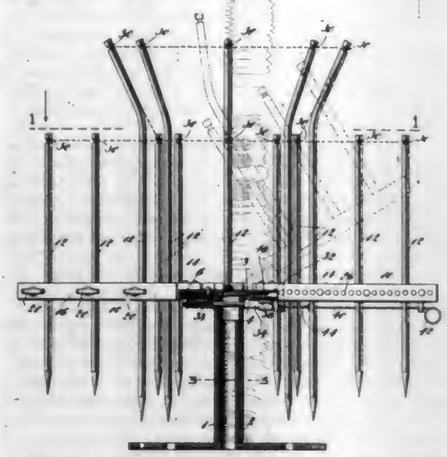
2. A locking device comprising a rocker having a rocker arm and a barrel provided in front and rear thereof with cylindrical portions, an escutcheon having a chamber receiving one of said cylindrical portions, a casing receiving at one end the other of said cylindrical portions, and a bolt in said casing for locking the rocker, substantially as set forth.



3. In a lock, the combination of a barrel having a non-circular opening, a bolt movable in the direction of the axis of said barrel and movable into and out of said opening, and a casing for said bolt having offset portions adapted for connection with a support, all substantially as and for the purposes set forth.

4. A locking device comprising a rocker, a bolt for locking the rocker and movable longitudinally in the axial line of the rocker, a casing for said bolt having means forming a bearing for the rocker, and lateral arms on said casing having offset portions adapted for connection with a support, substantially as and for the purposes set forth.

970,935. HAT-FRAME MACHINE. SAMUEL MANN, Boston, Mass., assignor to Ideal Hat Frame Machine Company, a Corporation of Massachusetts. Filed Apr. 7, 1910. Serial No. 554,070.



1. In a hat frame machine, a series of guides, a series of wire-supporting members held vertically in each guide, individual means for yieldingly clamping each supporting member against the guide, and means for securing the supporting members against movement.

2. In a hat frame machine, a series of guides, a series of wire-supporting members for each guide, spring pressed means on each guide for automatically holding said supporting members in upright position yet allowing them to be adjusted vertically, and means for securing the supporting members in adjusted position.

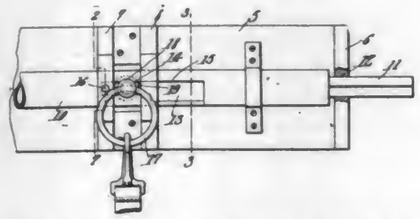
3. In a hat frame machine, a series of guides provided with transverse grooves, a series of wire-supporting members located in said grooves, and individual means for yieldingly clamping each supporting member in its groove.

4. In a hat frame machine, a series of guides provided with transverse grooves, a series of wire-supporting members located in said grooves, individual means for yieldingly clamping each supporting member in its groove, and means for securing the supporting members against vertical movement.

5. In a hat frame machine, a series of radially arranged guides, a series of wire-supporting members held vertically in each guide, individual means for yieldingly holding each supporting member against the guide to allow vertical adjustment of said member, and means for securing the supporting members against vertical movement.

[Claims 6 to 14 not printed in the Gazette.]

970,936. HITCHING AND RELEASING DEVICE. JOHN MEIKLE, Springfield, Ill. Filed May 31, 1910. Serial No. 564,124.



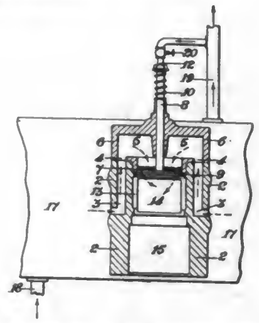
1. In a device of the class described, a support including spaced members, a tube mounted slidably in said support and formed with a slot, a hitching member having a headed shank fitted in said slot and confined between the spaced members of said support, and a pin carried by one of the said spaced members and projecting into said slot.

2. In a device of the class described, a support including spaced members, a tube mounted slidably in the spaced members of said support and formed with a slot relatively wide throughout a portion of its length and relatively narrow throughout the remainder of its length, and a hitching member having a headed shank fitted in said slot and confined between the spaced members of said support, the said tubes being slidable to position with the relatively narrow portion of the slot between the spaced members of the support whereby to so confine the headed shank as to prevent withdrawal and being movable to position to bring the relatively wide portion of the slot between the said spaced members whereby to release the said headed shank.

970,937. INTERNAL-COMBUSTION ENGINE. HENRY MERRETT, East Burwood, and CHARLES EDWARD MERRETT, South Melbourne, Victoria, Australia, assignors to Thomas Boustead Simpson, London, England. Filed May 11, 1909. Serial No. 495,318.

1. In an internal combustion engine, the combination with a cylinder, a valve box communicating with the combustion chamber of the engine below the valve, a valve in the upper part of said box, air inlet passages in the walls of said box extending from a point below to a point above said valve and communicating with the interior of the valve box above the valve and with the atmosphere, and means for admitting water or steam into the box and onto the valve, said valve controlling the inlet of air, water or steam into the combustion chamber.

2. In an internal combustion engine, the combination with a cylinder, a valve box adjacent the port thereof, the portion of the box below the valve communicating with the combustion chamber of the engine, and adapted to be heated by the exhaust, an inwardly opening valve in the upper side of said box, air inlet passages in the walls of said box extending from a point below to a point above said valve and communicating with the interior of the valve box above the valve and with the atmosphere, a spring for normally closing the valve, and means for admitting water or steam into the box above the valve, said valve controlling the inlet of air, water or steam into the combustion chamber.



3. The combination of an explosive engine cylinder, a valve box communicating with the combustion chamber of the engine below the valve and adapted to be heated by the exhaust gases, and provided with air inlet passages in its walls communicating with the interior of the valve box above the valve and with the atmosphere below the valve, a valve in said box, and means for admitting steam or water into the box and onto the valve, said valve controlling the inlet of air, water or steam into the combustion chamber.

4. In combination an explosive engine cylinder, a valve box, the lower part of said box communicating with the combustion chamber of the engine below the valve and adapted to be heated by the exhaust gases, and provided with air inlet passages in its walls communicating with the interior of the valve box above the valve and with the atmosphere below the valve, an inwardly opening valve in said box, means for admitting steam or water into the box above the valve, and a spring for normally closing said valve, said valve controlling the admission of air, steam or water into the combustion chamber, substantially as described.

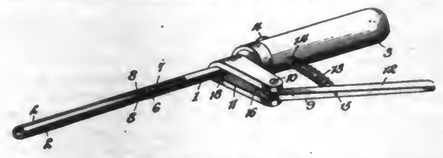
5. In an explosive engine, the combination of a cylinder, a valve box having its lower part communicating with the combustion chamber of the engine below the valve and adapted to be heated by the exhaust gases and having air inlet passages in its walls communicating with the interior of the valve box above the valve and with the atmosphere below the valve, a valve closing said passages, and a cover for said valve box provided with an opening for the admission of water or steam into said valve box, said valve controlling the admission of air, steam or water into the combustion chamber, substantially as described.

[Claim 6 not printed in the Gazette.]

970,938. INCANDESCENT-LAMP-STEM CENTERING AND DRAWING TOOL. ROBERT K. MICKEY, Emporium, Pa., assignor of one-half to Novelty Incandescent Lamp Company, Emporium, Pa., a Corporation of Pennsylvania, and one-half to Elmer M. Dwyer, Lynn, Mass. Filed Dec. 14, 1909. Serial No. 533,024.

1. A tool of the class described comprising a shank, a pair of normally closed resilient jaws, a plunger movable in the shank to engage between the jaws for forcing them apart against their own tension, a handle connected with the shank, and a spring-pressed hand-operated lever mounted on the shank and operatively connected with the plunger to actuate the same.

2. A tool for the purpose set forth comprising a pair of normally-closed resilient jaws, a handle supporting said jaws, a plunger arranged to move in the handle and between the inner ends of the jaws to separate the latter, and operating means for the plunger having a portion located adjacent the handle so as to be grasped by the hand that grips the handle and connected with the plunger to move the same longitudinally of the jaws.



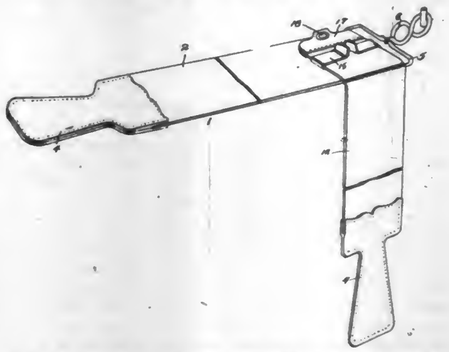
3. A tool of the class described comprising a rod-like member split longitudinally to form spring jaws normally closed, a device movable longitudinally of the member and engaging between the jaws for spreading the latter apart, a bracket mounted on the member, a lever fulcrumed on the bracket and operatively connected with the device, said lever having an arm disposed adjacent the handle whereby the lever can be actuated by the hand of the user while gripping the tool by the handle.

4. A tool of the class described comprising a tubular rod-like member split longitudinally to form spring jaws normally closed and having a slot at a point intermediate its ends, a handle on the end of the member opposite from the jaws, a plunger movable in the member and engaging between the jaws for spreading the same, a bracket extending from the member, a bell crank lever fulcrumed on the bracket and having one arm extending into the slot and connected with the plunger and another member disposed adjacent the handle to move toward and from the same, and a spring interposed between the handle and the last-mentioned member of the lever to hold the same outwardly from the handle.

5. A tool comprising a member split longitudinally to form spring jaws, the opposed faces of the jaws having oppositely-inclined portions, a plunger mounted on the member and having oppositely-disposed lugs adapted to wedge between the inclined faces of the jaws for spreading the latter open when the plunger is moved in one direction, and means mounted on the member for actuating the plunger.

[Claims 6 to 8 not printed in the Gazette.]

970,939. RAZOR-STROP. MERRICK A. MIHILLS, Chicago, Ill. Filed Feb. 25, 1910. Serial No. 545,908.



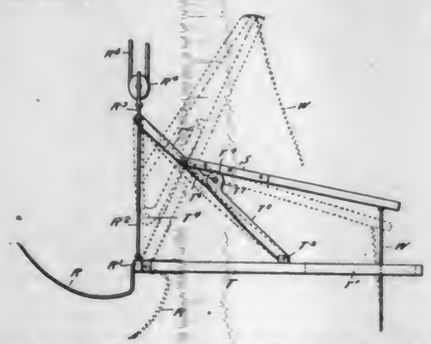
1. In a device of the class described, a honing and finishing strop, a cleaning strop, and a member pivotally engaged with one of such strops and having retaining means with an open portion for receiving and supporting such strop, the said means being mounted for pivotal movement whereby it may be swung to assume a position approximately at right angles to the said honing and finishing strop so that the cleaning strop may be moved to a posi-

tion to hang downwardly at one side of the said honing and finishing strop and over one edge of the same.

2. In a device of the class described, companion strops, a bolt extending through one of the strops, an annular shoulder formed upon the bolt, and a retaining member apertured to receive the shoulder of the said bolt, the said retaining member being formed to provide a support for one of the strops and provided with spaced arms overlying such strop.

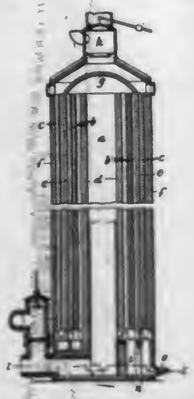
3. A device of the class described comprising companion strops, a bolt extending through one of the strops, a retaining member supporting the other strop and mounted for pivotal movement on the bolt, the said retaining member having a main body portion extending transversely of its supported strop, and arms spaced from the said main body portion and connected therewith and spaced from each other at their opposing or terminal ends to facilitate the engagement of the strop with the said retaining member.

970,940. HAY-FORK. JOHN A. MILLER and HARVEY BINGAMAN, Harding, S. D. Filed Feb. 10, 1910. Serial No. 543,113.



In combination with a fork having a slotted handle having a cross-piece at one end thereof, a bail fastened to the opposite ends of the cross-piece of the fork, links pivoted together, one of said links being pivoted to the handle and the other connected to said bail, wings projecting from said link, a lever adjustably and pivotally connected to one of said links and adapted to fulcrum over the pivotal ends of the links, and a rope secured to the lever and passing through the slot of said handle.

970,941. HOT-BLAST STOVE. RALPH SWITZER MOORE, Westminster, London, England. Filed Sept. 10, 1909. Serial No. 517,109.

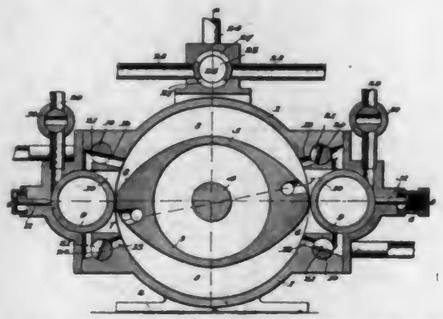


1. In a hot blast stove of the kind described, the combination with the outer and intermediate passes, of segmental chambers with which the lower ends of the said passes communicate and of air relief valves fitted in the outer wall of said segmental chambers by means of which each of the latter can be placed in communication with the atmosphere independently of the other.

2. In a hot blast stove of the kind described, the combination with the outermost and intermediate passes, of segmental chambers in communication with the lower ends of said passes, the said segmental chambers being formed by radial partitions provided in the lower part of the stove between the ports in the intermediate wall and of air relief valves fitted in the outer wall of the segmental chambers, whereby each chamber can be put in communication with the atmosphere, independently of the other.

3. A three pass stove provided at its bottom with partitions in the outer and intermediate passes in line with each other and radially disposed, forming segmental chambers, apertures in the wall of the intermediate pass and outer wall of the outer pass, in each of said chambers, in line radially with each other and a valve controlling the aperture in the outer wall of each chamber.

970,942. ROTARY ENGINE. WILLIAM S. MOSES, Tracy, Minn. Filed Dec. 2, 1909. Serial No. 530,967.



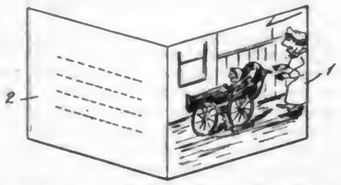
1. In a rotary engine, a cylindrical casing, a piston comprising a body portion of approximately elliptical form in longitudinal section leaving piston heads at opposite ends of the body portion, side flanges and steam passages on opposite sides of said body portion between said flanges, said piston also having a pair of circumferential inlet ports at each side, having undercut cavities or channels leading to the steam passages, roller abutments mounted at each side of the casing and working against the elliptical body portion of the piston, means for feeding steam to the circumferential ports at either side of the piston heads, and means for controlling the exhaust of the steam.

2. In a rotary engine, a cylindrical casing, a piston comprising a body portion of approximately elliptical form in longitudinal section leaving piston heads at opposite ends of the body portion, side flanges and steam passages on opposite sides of said body portion between said flanges, said piston also having a pair of circumferential inlet ports at each side having undercut cavities or channels leading to the steam passages, roller abutments mounted at each side of the casing and working against the body portion of the piston, means for feeding steam to the circumferential ports at either side of the piston, means for controlling the exhaust of the steam, and resilient means for holding the abutments in contact with the body portion of the piston.

3. In a rotary engine, a cylindrical casing, a piston comprising a body portion of approximately elliptical form in longitudinal section leaving piston heads at opposite ends of the body portion, side flanges and steam passages on opposite sides of said body portion between said flanges, said piston also having a pair of circumferential inlet ports at each side having undercut cavities or channels leading to the steam passages, roller abutments mounted at each side of the casing and working opposedly against the body portion of the piston, means for feeding steam to the circumferential ports at either side of the piston, means for controlling the exhaust of the steam, and spring projected pins for holding the abutments in contact with the body portion of the piston.

4. In a rotary engine, a cylindrical casing, a piston comprising a body portion of approximately elliptical form in longitudinal section leaving piston heads at opposite ends of the body portion, side flanges and steam passages on opposite sides of said body portion between said flanges, roller abutments mounted at opposite sides of the casing and working opposedly against the piston, means for simultaneously feeding steam to both steam passages at opposite sides of the piston, means for controlling the feed and exhaust of the steam and spring-projected means for holding the abutments in contact with the piston.

970,943. ILLUSTRATED BOOK AND PAMPHLET. PETER S. H. NEWELL, Leonia, N. J. Filed June 1, 1910. Serial No. 564,390.



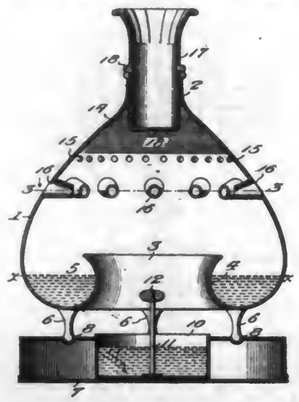
1. A book of rhomboidal form, comprising a series of leaves of like form provided with designs the ground lines whereof are parallel to the base of the leaves.

2. A book consisting of pictorial representations on leaves of rhomboidal form, such representations having their ground lines parallel to the base of the leaves.

3. A collection of leaves of rhomboidal form, provided with designs on such leaves, the ground lines of which designs are parallel to the base of the leaves.

4. A leaf of rhomboidal form in combination with a pictorial design figured thereon such design having its ground line parallel to the base of the leaf.

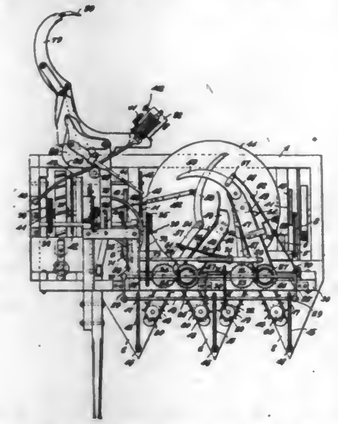
970,944. FLY-CATCHER. WILLIAM GORO. ODATEY, Los Angeles, Cal. Filed Feb. 25, 1910. Serial No. 545,934.



1. A fly trap embodying a base, a vessel having its bottom disposed in spaced relation to the base and formed with an upstanding tubular projection providing a fly inlet and surrounding insecticide trough, an insecticide containing vessel supported by the base below the first-named vessel, and a bait supporting element extending upwardly from the second-named vessel into said tubular projection.

2. A fly trap embodying a base having a cavity therein, a vessel provided with supporting legs resting upon the base and having its bottom formed with an upstanding tubular projection providing a fly inlet and a surrounding insecticide trough, a vessel adapted to be placed in said cavity in the base, and a bait supporting element extending upward from said vessel into said tubular projection.

970,945. CORN-HARVESTER. LEWIS E. PARSONS, Lewistown, Ill. Filed Sept. 22, 1908. Serial No. 454,183.



1. In a corn harvester, the combination with a rotary platform, and means for operating the same, of packers arranged above said platform and comprising endless slatted, toothed belts at their forward ends, and one having curved pivoted arms at its rear end, frame-like arms paralleling said packers and one having at its rear end curved pivoted arms crossing the aforesaid arms, means for holding the packers convergently toward their rear ends, operating shafts for said belts means for driving said shafts, and cutting mechanism arranged in front of said packers, substantially as set forth.

2. The combination with the packers and the binder and dropper, of shocking arms pivoted to one of the packers, other shocking arms pivoted near and adapted to cross said first mentioned shocking arms, a rod connected to the first mentioned shocking arms, pulleys mounted upon the frame of the machine, a line or cord connected with said rod and passing over said pulleys, a slotted slide bar to which said line is connected said bar having an apertured outer end and an engaging spring carried by the binder and dropper and adapted to engage the apertured end of said slide bar at a certain point during the operation of the machine.

3. In a corn harvester, the combination with a rotary platform and means for rotating the same, of packers arranged above said platform, resilient means for holding the packers convergently toward their rear ends and cutting mechanism arranged in front of said packers.

4. In a corn harvester having a rotary platform and means for operating the same, packers arranged above the platform and comprising endless toothed belts, shocking arms pivoted to the rear end of one of the packers, frame like arms arranged substantially parallel with said packers, other shocking arms pivoted to the rear end of one of said frame like arms and crossing the first mentioned shocking arms, resilient means for holding the packers convergently toward their rear ends and other resilient means to cause the frame like arms to press the grain against the packers as it passes rearwardly.

5. In a corn harvester having a rotary platform and means for operating the same, packers arranged above the platform and comprising endless toothed belts, shocking arms pivoted to the rear ends of one of the packers, frame like arms arranged substantially parallel with said pack-

ers, other shocking arms pivoted to the rear end of one of said frame like arms and crossing the first mentioned shocking arms, resilient means for holding the packers convergently toward their rear ends, other resilient means to cause the frame like arms to press the grain against the packers as it passes rearwardly and a spring tending to hold the first mentioned shocking arms against outward movement.

[Claims 6 to 10 not printed in the Gazette.]

970,946. HORSESHOE. JOHN H. PENHORWOOD, Buckeye City, Ohio. Filed June 16, 1910. Serial No. 567,311.



1. A horseshoe comprising a body portion, a toe calk removably secured to the forward end of the body portion, the rear end of the body portion having vertical tapering grooves and heel calks having spikes extending from the upper and lower faces thereof, one spike abutting against the rear walls of the heels of the shoe, and the other spike forming the tread, tapering lugs carried by the inner faces of the spikes and entering the tapering grooves in the heel and bolts passing through the calks and secured to the shoe and holding the calks on the lower face of the shoe.

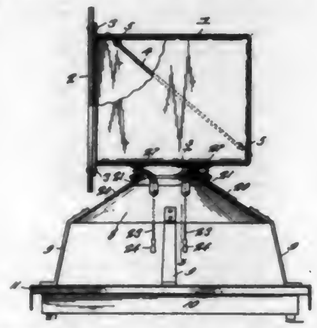
2. A horseshoe comprising a body portion, a toe calk removably secured to the toe of the body portion, the rear ends of the body portion having grooves gradually tapering outwardly from the lower faces of the body portion, heel calks having spikes extending from the upper and lower faces thereof, one spike abutting against the rear of the wall of the shoe, the other spike forming the tread, tapering lugs carried by the inner faces of the spikes and entering the tapering grooves in the heels and bolts passing through the calks and screwed into the shoe to hold the calks on the lower faces of the shoe.

3. A horseshoe comprising a body portion, a toe-calk removably secured to the body portion, the rear end of the body portion having grooves gradually tapering outwardly from the lower face of the body portion, heel calks having spikes extending from the upper and lower faces thereof, one spike abutting the rear wall of the heel of the shoe and the other spike forming the tread, tapering lugs carried by the inner faces of the spikes and entering the tapering grooves of the heel, bolts passing through the calks and screwed into the shoe, the forward end of the body portion having a vertical groove, a toe-calk extending from the upper and lower faces thereof, one spike entering the groove and the other spike forming the tread, and bolts passing through the calks and screwed into the shoe, substantially as described.

970,947. PICTURE-EXHIBITOR. BENNONI PHELPS, Hawarden, Iowa. Filed Sept. 14, 1909. Serial No. 517,642.

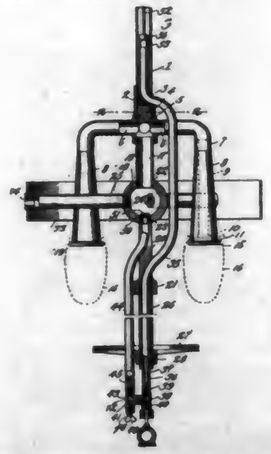
1. In an apparatus of the character described comprising a camera having an inclined reflector therein, a lens connected to the bottom of said camera, a connection surrounding said lens, a flaring reflector provided with feet and upon which said connection is supported upon ball bearings, a cord passing around the connection and provided with handles for rotating the camera upon the flaring reflector.

2. In an apparatus of the class described, the combination with a camera or box having a glass side and an inclined reflector therein, the bottom of the box being provided with a lens, a connector surrounding the lens and having its outer surface provided with annular depressions, cord members secured to these depressions, a flaring reflector upon the lower face of the connector, offset plate members connected with the reflector and engaging the bottom annular recess of the connector, the cords of the connector extending within the reflector, and feet for the reflector, substantially as and for the purpose set forth.



3. A substantially rectangular box having an open face, said box being provided with offsets adjacent its open face, a glass connected with this face, the box being provided upon its top and rear with inclined brackets, a reflector secured to said brackets, the bottom of the box being provided with an opening, a lens for this opening, a connector for the bottom of the box surrounding the lens, said connector comprising an annular member having a pair of spaced annular depressions upon its outer surface, a cord connected with the upper annular depression of the connector, a flaring reflector, said reflector having its upper portion provided with plates having curved lips and adapted to engage the lower annular depression of the connector, feet for the flaring reflector and the cords of the connecting member passing through the reflector and having their ends provided with handles.

970,948. LAMP. MARION W. PITNER, Chicago, Ill. Filed June 11, 1907. Serial No. 378,403.



1. A lamp including a hanger tube, a coupling having connection with said tube, a spider removably connected to the coupling, a series of burner tubes carried by the spider, a feed conduit extending through the hanger tube, said conduit being laterally projected through an opening formed in the coupling and depending between the burner tubes, and means for delivering the fuel from said conduit to the burner tubes.

2. A lamp including a hanger tube, a coupling having connection with the tube, a series of burners supported by the coupling, a feed conduit extending through the hanger tube and projected laterally through an opening in the coupling above the burners, said conduit depending between the burners and terminating below the same in alinement with the hanger tube, and means for delivering the fuel from the conduit to the burners.

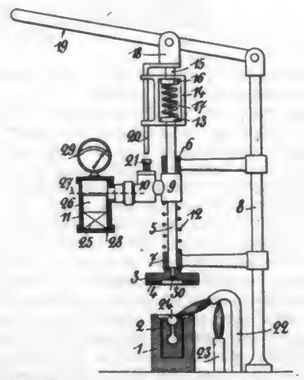
3. A lamp including a hanger tube, a coupling connected with the tube and formed with an opening, a spider arranged below the coupling, a plug connecting the coupling and spider, a series of burner tubes carried by the spider, a mixer connected to the spider and depending in alinement with the hanger tube, a feed conduit extending through the hanger tube and projected laterally through the opening in the coupling, said conduit depending between the burners in parallel relation to but beyond the mixer, and means for delivering the fuel from said conduit to the burner tubes.

4. A lamp including a hanger tube, a coupling connected with the tube and formed with an opening, a spider arranged below the coupling, a plug connecting the coupling and spider, a series of burner tubes carried by the spider, a mixer connected to the spider and depending in alinement with the hanger tube, a feed conduit extending through the hanger tube and projected laterally through the opening in the coupling, said conduit depending between the burners in parallel relation to but beyond the mixer, and a generator supported solely by the conduit and in communication with the mixer.

5. A lamp including a hanger tube, a globe holder support arranged below and in alinement with the hanger tube, a burner carrying spider arranged between and in alinement with the hanger tube and globe holder support, a mixer arranged between and in alinement with the globe holder support and spider, a feed conduit arranged within the hanger tube and globe holder support, said conduit being arranged wholly beyond the spider and mixer, and means for delivering the fuel from the conduit to the mixer.

[Claim 6 not printed in the Gazette.]

970,949. APPARATUS FOR CASTING UNDER PRESSURE SMALL METAL PIECES. BENVENUTO PLATSCHICK, Paris, France. Filed Nov. 25, 1907. Serial No. 403,761.

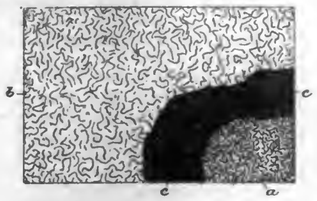


1. An apparatus for casting small metal pieces under pressure, comprising a flask, a flask lid, a mold in the flask, and a cushion of porous material on the inner face of the lid, designed to be impregnated by a volatile substance and used for the purpose of giving off the vapors produced by the said substance under the influence of heat.

2. An apparatus for casting small metal pieces under pressure, comprising a flask, a flask lid, a mold in the flask, a cushion of porous material in the lid, a lid rod, a support having a socket to guide the lid rod a spring adapted to raise or lift the said rod, and a hand lever pivoted to said support and jointed to said rod.

3. An apparatus for casting small metal pieces under pressure comprising a flask, a flask lid, a mold in the flask, a cushion of porous material in the lid, a tubular lid rod, a funnel and a cock on said rod, and means whereby said rod may be raised and lowered.

970,950. FIBROUS FABRIC. GUSTAVE C. RASCH, Burlington, Wis., assignor of one-half to William G. Rasch, Burlington, Wis. Filed May 14, 1908. Serial No. 432,853.



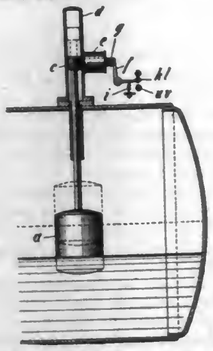
1. In a composite fabric, a face layer of loosely matted fibers, a similar backfacing layer, and a filling layer including a stay fabric for tensile strength, said composite fabric embodying in its structure loops of one face layer carried through the filling layer and the stay fabric, and loops of the other face layer carried through both the filling and stay fabric and into the other face layer.

2. In a composite fabric, a face layer of loosely matted fibers, a similar back facing layer, a filling layer, and a stay fabric for tensile strength interposed between the filling layer and each facing layer, said composite fabric embodying in its structure loops of one face layer carried through the filling layer and both stay fabrics and loops of the other face layer carried through the filling layer and stay fabrics and into the other face layer.

3. In a composite fabric a face layer of loosely matted fibers, a similar backfacing layer and a filling layer including a stay fabric for tensile strength, such composite fabric embodying in its structure loops of one face layer carried into the filling layer and through the stay fabric and loops of the other face layer carried into the filling layer.

4. In a composite fabric a face layer of loosely matted fibers, a similar backfacing layer, a filling layer, and a stay fabric for tensile strength interposed between the filling layer and each face layer, said composite fabric embodying in its structure loops of one face layer carried through one stay fabric into the filling layer and loops of the other face layer carried through the other stay fabric into the filling layer.

970,951. BOILER-FEED REGULATOR. KARL REUBOLD, Linden, near Hanover, Germany. Filed Sept. 8, 1909. Serial No. 516,734.

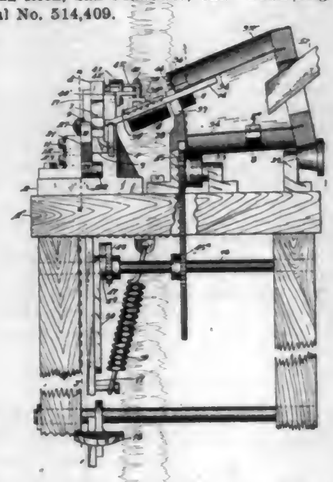


1. In apparatus for controlling the water supply to a steam generator the combination of a float in the gen-

erator, a tube on the generator in communication only with the steam space therein, an electro-magnet constantly energized and having its iron circuit disposed around the tube, a magnetic body adapted to rise and fall in the tube, an operative connection between the magnetic body and the float, an armature adapted to move toward the electro-magnet when the magnetic body is in that portion of the tube which is surrounded by the iron circuit of the electro-magnet, an electric circuit controlled by said armature, a water supply to the generator, an inlet valve for such supply, an electro-magnet operating such inlet valve and controlled by the electric circuit, a feed pump, a starting valve for said pump and an electro-magnet operating said pump and controlled by the electric circuit substantially as set forth.

2. In apparatus for controlling the water supply to a steam generator, the combination of a float in the generator, a tube on the generator in communication only with the steam space therein, an electro-magnet constantly energized and having its iron circuit disposed around the tube, a guide extending downwardly from said tube, a stem on the float passing through said guide, a magnetic body mounted on the stem and adapted to rise and fall in the tube, an armature adapted to move toward the electro-magnet when the magnetic body is in that portion of the tube which is surrounded by the iron circuit of the electro-magnet, an electric circuit controlled by said armature and a water supply to the generator controlled by such circuit substantially as set forth.

970,952. LAUNDRY-TAGGING MACHINE. EDWARD WELLS RICE, San Francisco, Cal. Filed Aug. 24, 1909. Serial No. 514,409.



1. In a tagging machine, the combination of a pair of jaws movable toward and from each other, means for maintaining them normally open, means for supporting a tag to be bent in front of the open jaws, means for forcing the tag into the jaws and simultaneously bending it, and means for subsequently operating the jaws to close the tag, said last-named means being connected to and operating the tag bending means.

2. In a tagging machine, the combination of a tag blank holder, means for giving the tag blank a preliminary fold, and means for subsequently closing it on the material to be tagged, said closing means being connected to and operating the tag folding means.

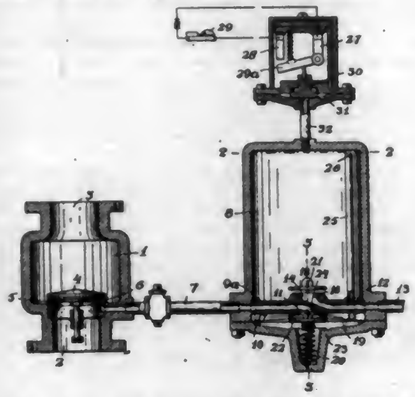
3. In a tagging machine, the combination of a pair of bending jaws, means for supporting a blank tag in the jaws, means for imparting to the tag blank a preliminary bend, and means for operating the jaws subsequently to close the bend, said tag blank bending means being moved into and out of operative position by said jaw operating means.

4. In a tagging machine, the combination of a pair of jaws and a movable carriage upon which the jaws are mounted, means for imparting a preliminary bend to a tag blank upon the movement of the carriage, and means for actuating the jaws to close the bent tag, said tag bending means being moved into and out of operative position by said jaw-actuating means.

5. In a tagging machine, the combination of a pair of jaws, means including a reciprocating member for operating the jaws, a tag bending member coöperating with the jaws, and connections between said tag bending member, and said reciprocating member to operate the former.

[Claims 6 to 14 not printed in the Gazette.]

970,953. APPARATUS FOR OPERATING ALARMS OR OTHER DEVICES. GEORGE I. ROCKWOOD, Worcester, Mass. Filed Apr. 17, 1907. Serial No. 368,648.



1. The combination of a receiving chamber having inlet and discharge openings, a supply passage communicating with said inlet opening, a valve at said inlet opening arranged to be opened by pressure of liquid in said supply passage, a valve at said discharge opening arranged to be closed upon the opening of said inlet valve, and means operated by a predetermined amount of liquid in said receiving chamber for increasing the size of said inlet opening.

2. The combination of a receiving chamber having inlet and discharge openings, valves for said openings, with the valve for said discharge opening arranged to be closed when the valve for said inlet opening is opened, a liquid supply passage communicating with said inlet opening arranged to open said inlet valve by pressure of liquid in said passage, and means operated by liquid in said chamber for still further opening said inlet valve.

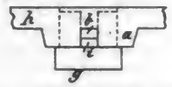
3. The combination of a receiving chamber having inlet and discharge openings, valves for said openings, with the valve at said discharge opening arranged to be closed as soon as the valve at said inlet opening is opened, a liquid supply passage communicating with said inlet opening, a valve at the other end of said supply passage, upon the opening of which the pressure in said supply passage is increased, thereby opening said inlet valve and closing said exit valve, and means for still further opening said inlet valve by the entrance of a predetermined amount of liquid into said chamber.

4. The combination with a receiving chamber, a liquid supply-system under pressure, a passage connecting said supply-system and said chamber; means for normally closing the receiving end of said passage, a valve closing the delivery end of said passage, a boss carried by said valve and entering the delivery end of said passage, and a spring for holding said valve normally in a closed position.

5. The combination of a receiving chamber having inlet and discharge openings, valves for said openings, an elastic connection between said valves arranged to close the discharge valve by opening the inlet valve, a liquid supply passage communicating with said inlet opening arranged to open said inlet valve by the pressure of liquid in said passage, and means for still further opening said inlet valve by the increased amount of water in said chamber, thereby also exerting increased pressure to hold said exit valve closed.

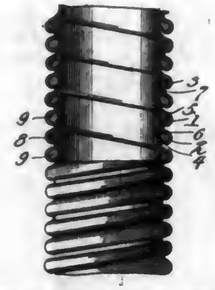
[Claims 6 to 12 not printed in the Gazette.]

970,954. HORSESHOE WITH EXCHANGEABLE CALK. MAX RÖSCHMANN, Flensburg, Germany. Filed Jan. 16, 1909, Serial No. 472,733. Renewed Aug. 5, 1910. Serial No. 575,797.



A horse shoe provided with a reinforce, said reinforced portion being provided with an oblong opening parallel sided, and with a notch at right angles thereto, and a calk having a tenon provided by a deep notch extending nearly to the body of the calk, leaving a small web, said web being parallel sided to fit the opening of the reinforce, the tenon engaging said slot with the said web below the bottom of the notch in the reinforce providing an opening for the introduction of a separating tool.

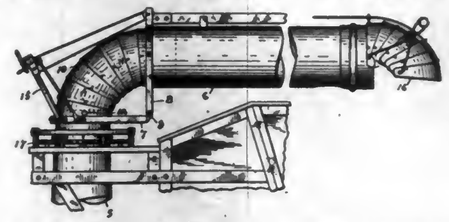
970,955. TUBING. LOUIS RUBES, Brooklyn, N. Y. Filed Apr. 21, 1908. Serial No. 428,333.



A flexible metallic tubing comprising a helically wound strip having a pair of substantially similar external hollow helical beads disposed parallel to each other with their convolutions spaced apart and extending the full length of the tubing, one bead being disposed along one edge of the strip and the other bead being disposed intermediate the edges, the unbeaded edge being formed into an outwardly and backwardly inclined flange spaced from the intermediate bead at such a distance that the flange on each convolution of the strip will extend into the intermediate bead of the adjacent convolution to lock the convolutions together, a packing strip set into the edge bead, and a packing strip set into the intermediate bead and engaging the said flange throughout its length to coöperate with the first packing strip to form separate and spaced fluid-tight joints between the beaded portion of each convolution and the unbeaded portion of the adjacent convolution.

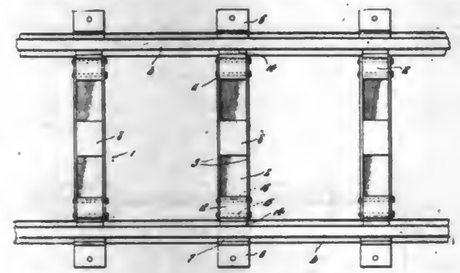
970,956. PNEUMATIC STACKER. FREDRICK L. RUDDELL, Georgetown, Ontario, Canada, assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed July 15, 1909. Serial No. 507,688.

1. A pneumatic stacker chute comprising a stump or inner section, an outer section, hinged arms connecting said sections, an elbow connecting said sections comprising a series of pivotally connected overlapping joint sections, the lower end of which elbow is affixed to said inner chute section and the upper end of which is slidably mounted in said outer section, and means for adjusting said outer chute section whereby the same may be telescoped downwardly to incase said elbow and brought into registry perpendicularly with said inner chute section.



2. A pneumatic stacker chute comprising a stump section, an outer section, hinged arms connecting said sections, an elbow detachably connected to said stump section and slidably mounted in said outer section comprising a plurality of overlapping jointed sections imperforate when in curved position and perforate when in substantially straightened position, and means for adjusting said outer chute section to register perpendicularly with said stump section and incase said elbow to prevent lateral escape of air therethrough.

970,957. STEEL TIE AND CLAMP. ACE E. RUNION, Chandler, Okla. Filed Oct. 27, 1909. Serial No. 524,851.



The herein described metallic tie comprising a bottom, sides and fixed clamp members, the clamp members being connected with the sides of the tie adjacent the open ends thereof, the sides being provided with openings, the base being provided with ribs, and inner clamp members pivotally connected with the sides of the tie, said clamp members each comprising a top plate provided with side plates, and with a projecting overlying flange, each side being further provided with a pair of openings spaced away from each other, the sides of the tie being also provided with spaced coinciding openings, and removable securing elements for said openings.

970,958. GLOVE. ISIDOR A. SCHULHERR and BENJAMIN I. VINCENT, St. Louis, Mo. Filed Aug. 9, 1909. Serial No. 512,061.

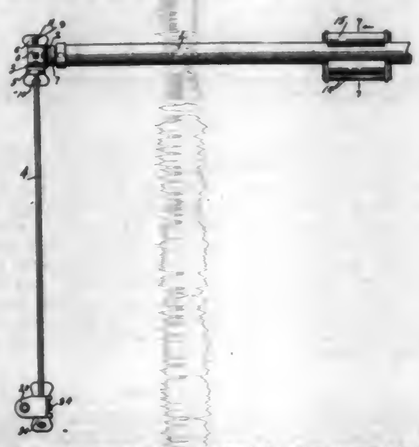
1. A glove comprising a palm having a slit therein, a thumb inserted into said slit and secured to the edges thereof, fingers integral with said palm, a back having fingers integral therewith, each of said first-mentioned fingers being respectively wider than each of said second-mentioned fingers, a plurality of quirked fourchettes, each of said fourchettes being provided with a pair of points and having a pair of edges disposed at an obtuse angle and a pair of edges disposed at right angles, said points extending partly the length of the side between each two adjacent fingers, said edges disposed at an obtuse angle being secured to the edges contiguous thereto at the base of said first-mentioned fingers, said edges disposed at right angles being secured to the edges contiguous therete at the base of said second-mentioned fingers, and means for

securing the remaining edges of said first-mentioned fingers to the edges adjacent thereto of said second-mentioned fingers, said means, also, being employed to secure adjoining edges of said palm and said back together.



2. A glove, comprising, in combination, a back having finger pieces, a palm having opposing finger pieces, and fourchettes formed to separate said opposing fingers at their bases, and having their sides converge in such relation that the edges of the palm finger pieces are directed to join the edges of the back finger pieces and terminating at points near the bases of said fingers, whereby the palm finger pieces will be caused to curl toward the edges of the back finger pieces and lie in the straight lines of said edges, and whereby the seams of the glove fingers will lie at the back thereof.

970,959. AWNING ATTACHMENT. CHARLES P. SESTER, Peoria, Ill. Filed May 14, 1908. Serial No. 432,942.



1. A center support for an awning roller, comprising a base plate having perforations at its opposite ends, through which bolts may be passed, a plurality of perforations in the upper central portion thereof, through which a bolt or bolts may be passed, and with a transverse elongated slot in the lower central portion thereof, also through which a bolt may be passed, a pair of U-shaped arms adapted to be bolted to the said plate by passing bolts through the arcuate portions thereof, and the perforations at the opposite ends of the plate, and anti-friction and guide rollers adapted to be supported by said arms by being connected to the upper and lower extensions thereof.

2. In combination, a bracket having a yoke of overlying portions, a worm-wheel provided with a hub on one side having a bearing in the lower portion of the yoke, a bushing having a bearing in the upper portion of the yoke, a washer interposed between wheel and bushing, and means for operatively uniting the wheel, bushing and washer.

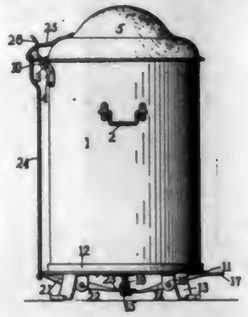
3. In combination, a bracket having a yoke of overlying portions, a worm-wheel provided with a hub on one side having a bearing in the lower portion of the yoke, a bushing having a bearing in the upper portion of the yoke, a washer interposed between wheel and bushing, a shaft adapted to pass through the bushing, washer and wheel, a cotter pin adapted to be passed through the washer and shaft for operatively uniting the wheel, bushing and washer.

4. In combination, a bracket having a yoke of overlying portions, a worm-wheel provided with a hub on one side having a bearing in the lower portion of the yoke, a bushing having a bearing in the upper portion of the yoke, a washer interposed between wheel and bushing, a shaft adapted to pass through the bushing, washer and wheel, a cotter pin adapted to be passed through the washer and shaft for operatively uniting the wheel, bushing and washer, and a worm operatively mounted in said bracket, in mesh with said worm-wheel.

5. In combination, a bracket provided with over and underlying portions of a yoke and a bearing plate integral therewith, a worm-wheel having a suitable bearing between the over and underlying portions of said yoke, a bearing plate adapted to have a detachable connection with said bracket, a worm adapted to have a bearing between the bearing plate of the yoke and said detachable bearing plate and in mesh with said worm-wheel, and a friction bearing plate bearing against one end of said worm.

[Claims 6 to 8 not printed in the Gazette.]

970,960. GARBAGE-RECEPTACLE. WILLIAM E. SEYMOUR, Buffalo, N. Y., assignor to Gustave Steinwachs, Buffalo, N. Y. Filed Dec. 30, 1909. Serial No. 535,648.



1. In a garbage receptacle, the combination with a support or base, of a can mounted on said support, a cover hinged to said can, a foot lever pivoted to the support, a connecting lever pivoted to the support, said foot lever having lapped engagement with said connecting lever, and a rod connected at its respective ends to the connecting lever and cover.

2. In a garbage receptacle, the combination of a base, a can on the base, a cover hinged to said can and having a lug thereon, a plurality of levers pivotally supported by the base, a connecting rod, one of said levers being connected to said cover by the connecting rod and having a flattened end, another of said levers having lapped engagement with said flattened end and having a foot-plate projecting laterally beyond said base.

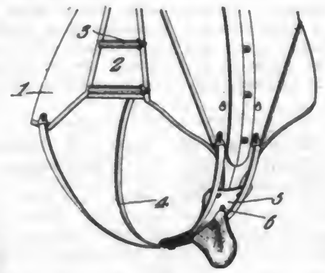
3. In a garbage receptacle, the combination with a support or base, of a can detachably mounted on said support, a cover detachably hinged to said can, a lever pivoted to the support, a rod connecting said lever to the cover and a series of diametrically extending foot levers arranged at angles to each other and pivoted to the support, all of said foot levers having their inner ends operatively engaging the inner end of the first mentioned lever.

4. In a garbage receptacle, the combination of a base, a can on the base, a cover hinged to said can, lugs depending from the said base, a foot lever pivoted at an intermediate point to one of said lugs and having thereon a foot plate, a second lever pivoted to another of said lugs and having an end portion in lapping engagement with an end portion of the foot lever, said second lever having an end projecting laterally outward from said base, and a rod connected at its upper end to the cover and at its lower end to the outer portion of the second lever.

5. The combination in a garbage receptacle comprising a base, and a can removable from said base, of a cover removably pivoted to said can, a connecting lever pivoted to the base and having a flattened end, a rod connecting said cover and said lever, a foot lever pivoted to said base, said foot lever coacting with said connecting lever and with said rod to raise the said cover.

[Claims 6 and 7 not printed in the Gazette.]

970,961. ABDOMINAL AND PELVIC SUPPORTER. EDWARD F. SMALL, Atlanta, Ga., assignor of one-half to Willis E. Ragan, Atlanta, Ga. Filed Apr. 3, 1909. Serial No. 487,804.



1. In an appliance as described, a primary apron and a vulvar apron having an approximately U shaped dam detachably applied to the inner side thereof.

2. In an appliance as described, a primary apron and a vulvar apron detachably applied to the inner side thereof, and having an approximately U shaped dam rising at its ends from the plane of the vulvar apron and being highest at a point intermediate its ends.

3. In an appliance as described, a slitted apron, and a vulvar apron detachably applied to the inner side thereof and having a sack adapted to depend through the slit in the apron.

4. In an appliance as described, a slitted apron, and a vulvar apron detachably applied to the inner side thereof, and having dams upon its opposite sides and a depending reversible sack.

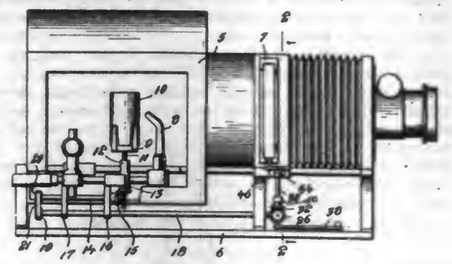
5. In an appliance as described, a slitted apron, and a vulvar apron detachably applied to the inner side thereof and having an opening with approximately U shaped dams located upon its opposite sides about said opening, and a reversible sack depending from the edges of the opening.

970,962. DISSOLVING STEREOPTICON. ALPHONSO D. SMITH, Kents Store, Va., assignor of one-half to Nathaniel H. Myers, Kents Store, Va. Filed Mar. 22, 1910. Serial No. 550,875.

1. In a stereopticon, the combination with a rotatable lime holder and a movable slide carrier; of a connection between the slide carrier and lime holder operating to turn the lime holder during each movement of the slide carrier, for the purposes described.

2. In a stereopticon, the combination with a rotatable lime holder and a movable slide carrier; of a connection between the slide carrier and lime holder operating to turn the lime holder on the initial movement of the slide carrier, for the purposes described.

3. In a stereopticon, the combination with a rotatable lime holder and a movable slide carrier, of a connection between the slide carrier and lime holder operating to automatically turn the lime holder during each movement of the slide carrier, for the purposes described.

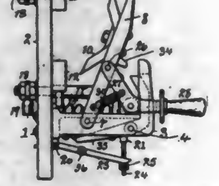


4. In a stereopticon, the combination with a rotatable lime holder and a movable slide carrier; of a connection between the slide carrier and lime holder operating to automatically turn the lime holder on the initial movement of the slide carrier.

5. In a stereopticon, the combination with a rotatable lime holder and a movable slide carrier, of a connection between the slide carrier and lime holder operating to turn and move the lime holder vertically during each movement of the slide carrier, for the purposes described.

[Claims 6 to 13 not printed in the Gazette.]

970,963. ELECTRIC SWITCH. FRANK W. SMITH, New York, N. Y., assignor to Sundh Electric Company, a Corporation of New York. Filed Apr. 19, 1910. Serial No. 556,367.



1. The combination of a support, circuit contacts, a bracket projecting from said support, a guide bar on said bracket, a pivoted switch lever closing circuit at said contacts, an arm pivoted to said lever and bearing on said guide bar, a retracting spring connected to said lever and said arm, means for retaining said switch lever in circuit closing position, and means for releasing said retaining means.

2. The combination of a support, circuit contacts, a bracket projecting from said support, a guide bar on said bracket, a switch lever pivoted on said bracket and closing circuit at said contacts, an arm pivoted to said lever, a roller on said arm bearing on said guide bar, a retracting spring connected to said lever and said arm, a latch for retaining said switch lever in circuit closing position, and means for releasing said latch.

3. The combination of a support, circuit contacts, a bracket projecting from said support, a switch lever pivoted on said bracket and closing circuit at said contacts, a bent arm pivoted to said lever, a roller on said arm bearing on said bracket, a retracting spring connected to said lever and said arm, a latch pivoted on said bracket and engaging said roller when said arm is in position to cause said switch lever to close circuit, and means for releasing said latch.

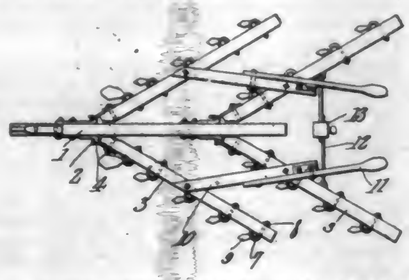
4. The combination of a support, circuit contacts, a bracket on said support, a guide bar on said bracket, a pivoted switch lever closing circuit at said contacts, a shoulder on said switch lever, an arm pivoted on said

lever, a bar on said arm engaging said shoulder, a roller on said arm bearing on said guide bar, a retracting spring connected to said lever and said arm, means for retaining said lever in circuit closing position, and means for releasing said retaining means.

5. The combination of a support, circuit contacts, a bracket on said support, a guide bar on said bracket, a switch lever pivoted on said bracket and closing circuit at said contacts, an arm pivoted to said lever, a roller on said arm bearing on said guide bar, a retracting spring connected to said lever and said arm, means for retaining said switch lever in circuit closing position, and means controlled by the circuit closed by said switch lever for releasing said retaining means.

[Claims 6 to 8 not printed in the Gazette.]

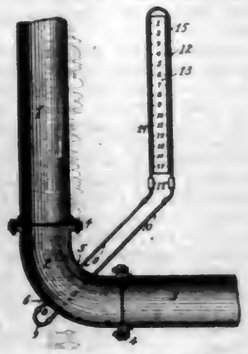
970,964. HARROW. WILLIAM J. SNOW, Vilonia, Ark. Filed Apr. 11, 1910. Serial No. 554,826.



1. A harrow comprising a beam, forward and rear bars pivoted at the opposite sides of the beam, connecting bars pivotally attached at their forward ends to the forward side bars and pivotally attached at their rear ends to the rear side bars, a cross brace pivotally connected at its ends with the rear side bars, and handles mounted upon the pivoted connecting bars.

2. A harrow comprising a beam, forward and rear side bars pivoted thereto, connecting bars pivoted at their forward ends to the forward side bars and pivoted at their rear ends to the rear side bars, said connecting bars converging toward each other at the rear of the harrow, a cross plate pivotally connected at its ends with the rear side bars and handles mounted upon the said pivoted connecting bars.

970,965. METHOD OF MEASURING THE FLOW OF FLUIDS. JAMES BUCKNER SPEED, Berkeley, Cal., assignor of one-half to Andrew Murray Hunt, Berkeley, Cal. Filed Aug. 10, 1909. Serial No. 512,213.

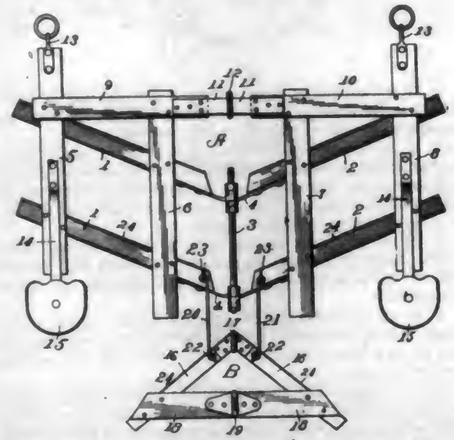


1. A process of measuring the rate of flow of a fluid which is flowing in a curved conduit which it fills, which process consists in observing the difference in pressure resulting from said flow between the concave and convex sides of said curved conduit, and computing the rate of flow from the data consisting of the geometrical description of the curved conduit and the said observed difference of pressure.

2. A process of measuring the rate of flow of a fluid which consists first in causing the fluid to flow through a curved conduit which is filled by the fluid and has a uniform circular cross section, and the center line thereof a constant radius of curvature for a part at least of the length of the curved portion; second, in measuring the difference between the pressures on the inner surfaces of the concave and the convex sides of said part; third, in computing the flow according to a suitable rule which takes into account the diameter of the circular section, the radius of curvature of the curved conduit where it is uniform, and the said difference in pressure.

3. A process of measuring the rate of flow of a fluid which consists in causing the fluid to flow through a circular conduit having a bend or turn in its course of at least 45 degrees change in direction, said bend having a circular cross section substantially equal in diameter to the rest of the conduit, in observing the difference in pressure caused by the flow, and which exists between the concave and the convex parts of the curved conduit, and in computing the flow according to a suitable rule which takes into account the diameter of the circular section, the radius of curvature of the circular conduit where it is uniform, and the said observed difference in pressures.

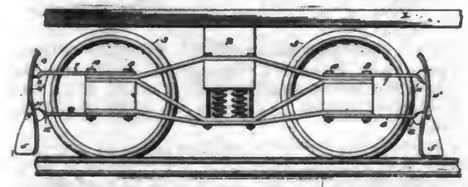
970,966. ROAD-SCRAPER. GEORGE W. SPICER, Peru, Ind., assignor to George N. Clymer, Rochester, Ind. Filed May 7, 1909. Serial No. 494,675.



1. In a scraping device, a main frame including pairs of beams, a cross piece connecting each pair of beams, a hinge connection between said cross pieces, front and rear pairs of scraper bars secured to said beams, the pairs of scraper bars diverging forwardly, means for hingedly connecting the pairs of scraper bars together thereby forming the main frame into two sections, whereby one section of the main frame may be folded upon the other section thereof and said other section serve as a runner to transport the device, a leveling frame including rearwardly diverging scraper bars hingedly connected together, and link connections between the rear scraper bars of the main frame and the scraper bars of the leveling frame, the leveling frame being smaller than the main frame and when folded adapted to be disposed between the folded sections of the main frame without disconnecting said link connections and thereby transport the leveling frame upon said runner section.

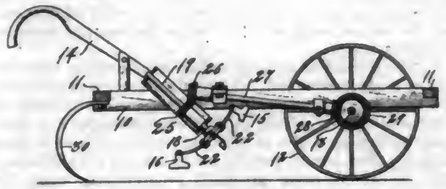
2. In a scraping device, a frame including pairs of beams, a cross piece connecting each pair of beams, a hinge connection between said cross pieces, front and rear pairs of scraper bars secured to said beams, hinges connected to the inner ends of said scraper bars, and a single hinge pintle extending through said hinges, thereby forming the frame into two sections, whereby one section of the frame may be folded upon the other section thereof and said other section thereof serve as a runner to transport the device.

970,967. FENDER. JOHN W. SPRINT, Boyce, Va., assignor of one-half to Joseph A. Dewar, Millwood, Va. Filed Feb. 18, 1910. Serial No. 544,616.



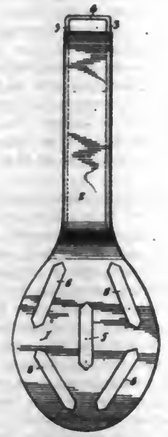
A fender for car wheels comprising a fender blade arranged in front of the car wheel and constructed of a blade of sheet metal extending transversely of the track at the top and twisted substantially for its entire length for causing the lower edge to set at an angle diagonally across the rail, a lower bar with one end rigidly secured to said fender blade and conforming to the contour thereof, said lower supporting bar being twisted and bent to extend in a general direction at right-angles to the end secured to said fender blade, an upper supporting bar secured to said fender and twisted so as to extend at a substantial right-angle thereto, said bars extending substantially parallel and being provided with apertures therein for accommodating the bolts of the truck of said car for rigidly securing the supporting bars to the truck of said car.

970,968. COTTON-CHOPPER. SAMUEL STALLINGS, Fountain Inn, S. C. Filed Sept. 25, 1908. Serial No. 454,774.



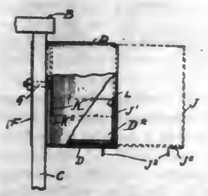
In a cotton chopper, a pair of spaced ground wheels, an axle on which said ground wheels are fixed, a frame supporting said axle and including a pair of spaced longitudinally disposed horizontal members, said ground wheels supporting said frame adjacent the front end of the frame, earth working tools supporting the rear end of said frame, a rectangular frame rigidly secured between the longitudinal frame members, said rectangular frame extending at an angle to the first mentioned frame with its lower end inclined forwardly and downwardly and terminating below the first mentioned frame and its upper end terminating above the first mentioned frame, bearings formed in the end members of said rectangular frame, a shaft carried in said bearings, a bevel gear on said shaft and lying within the frame, a shaft extending longitudinally of the first mentioned frame, bearings secured to the first mentioned frame and supporting the longitudinal shaft, a bevel gear on the rear end of the second shaft meshing with the first mentioned bevel gear, bevel gears on the front end of the longitudinal shaft and on the axle, the last mentioned bevel gears meshing to drive the longitudinal shaft as the axle is rotated, a cutter head on the lower end of the first mentioned shaft and situated outside of the inclined frame, cutter head arms carried by said cutter head and recurved toward the upper end of the shaft whereon said head is located, said arms being recurved to such extent that as the shaft is revolved the extremities of the arms will successively assume parallel positions to the ground, and cutter blades carried at the extremities of said arms.

970,969. EGG AND CREAM BEATER. DOROTHY TAYLOR, Colfax, Cal. Filed Mar. 19, 1909. Serial No. 484,383.



As an article of manufacture, a beater comprising a single piece of metal formed into an elliptical body and a handle, said body being of flexible metal and flat on opposite sides, there being a central slot disposed in the major axis of the body and obliquely disposed slots one in each quarter of the body between the major and minor axes, the obliquely arranged slots being arranged inwardly from and following approximately the peripheral edge of the body and the adjacent ends of juxtaposed slots being spaced apart for connecting the marginal portion of the body beyond the obliquely disposed slots with the central portion of the body located inwardly from the slots.

970,970. DESK ATTACHMENT. MARGARET TENNENT, Chicago, Ill. Filed Feb. 15, 1909. Serial No. 477,923.



1. A desk attachment comprising a case having a series of compartments each of less width below than above, partitions between each compartment having vertical flanges at their sides and projecting beyond the front edge of the top of the case and a perforated back, with a perforated securing plate, securing bolts passing each through registering perforations in the back and the securing plate, and a series of receptacles each provided with an upper flange underlying and engaging the front edge of the case when the receptacles are in closed position, said vertical flanges on the receptacles being substantially as long as the height of the wider portion of the compartment.

2. A desk attachment comprising a case having a series of compartments each of less width below than above, partitions between each compartment having vertical flanges at their sides and projecting beyond the front edge of the top of the case and a perforated back with a per-

forated securing plate, securing bolts passing each through registering perforations in the back and the securing plate, and a series of receptacles each provided with an upper flange underlying and engaging the front edge of the case when the receptacles are in closed position, and vertical flanges to engage the vertical flanges on the case on the front edges thereof, said vertical flanges on the receptacles being substantially as long as the height of the wider portion of the compartment.

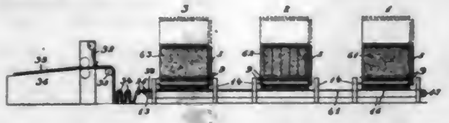
3. A desk attachment comprising a case having a series of compartments each of less width below than above, partitions between each compartment having vertical flanges at their sides and projecting beyond the front edge of the top of the case, and a series of receptacles each provided with an upper flange underlying and engaging the front edge of the case when the receptacles are in closed position, and vertical flanges to engage the vertical flanges on the case, said vertical flanges on the receptacle being substantially as long as the height of the wider portion of the compartment.

4. A desk attachment comprising a case having a series of compartments each of less width below than above, partitions between each compartment having vertical flanges at their sides and projecting beyond the front edge of the top of the case and a perforated back with perforated securing plates, securing bolts passing each through registering perforations in the back and the securing plate, and a series of receptacles each provided with an upper flange underlying and engaging the top of the case at the front, and vertical flanges on the case.

5. A desk attachment comprising a case having a series of compartments each of less width below than above, partitions between each compartment having vertical flanges at their sides and projecting beyond the front edge of the top of the case and a perforated back, with a perforated securing plate, securing bolts passing each through registering perforations in the back and the securing plate, and a series of receptacles each provided with an upper flange underlying and engaging the top of the case at the front when the receptacles are in closed position, and vertical flanges to engage the vertical flanges on the case.

[Claims 6 to 9 not printed in the Gazette.]

970,971. METHOD FOR MANUFACTURING COTTON-BATTING AND PRODUCT OF THE SAME. EDWIN W. THOMPSON, Charlotte, N. C. Filed Apr. 14, 1910. Serial No. 555,380.



1. The method of making cotton batting and the like, which consists in forming a bottom or first web of batting; secondly, forming a second or middle web of batting provided with a plurality of transverse loosely laid strengthening threads; thirdly, covering the threaded batting with a top or third layer of batting; and fourthly, stitching the whole, through and through to make a series of parallel lines of stitching in longitudinal rows, to bind the transverse layers of loose threads into the fabric, thus completing a system of reinforcing the batting, and giving it strength in both directions.

2. The herein described continuous method of making cotton batting and the like of indefinite lengths, which consists in forming a plurality of webs, incorporating into one of the webs during its process of formation continuous loose strengthening threads, superposing the webs, and then stitching them together along lines which cross the said strengthening threads.

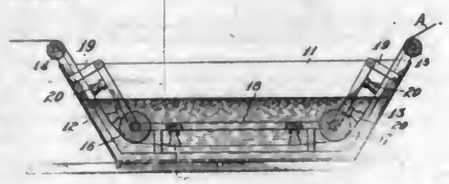
3. The method of making cotton batting and the like, which consists in first laying a plurality of loose artificial threads onto a web of batting; secondly, covering the threaded web with a top and with a bottom layer of batting, and thirdly stitching the whole together.

4. A method of making cotton batting and the like, which consists of forming a bottom web, forming a middle web with loose strengthening threads therein, then covering the threaded web and then uniting the two webs by stitching with a top web of batting.

5. A new article of manufacture for quilts, comforters, and the like, which comprises a layer or web of batting transversely strengthened by continuous threads passing back and forth crosswise of the layer or web and lines of stitching through the batting extending in the direction of the length of the batting.

[Claims 6 to 9 not printed in the Gazette.]

970,972. METHOD OF COATING PICTURE-FILMS. FREDRICK B. THOMPSON, Chicago, Ill., assignor to National Waterproof Film Company, Chicago, Ill., a Corporation of Illinois. Filed July 29, 1909. Serial No. 510,251.



1. The method of providing the face of a continuous web having an imbibitive surface with a protective coating which consists in first moistening the said surface of the web, and in then applying to the said surface a film of coating material in a fluid state, such operations being practiced progressively upon the web from end to end.

2. The method of providing the face of a continuous web having an imbibitive surface with a protective coating which consists in first moistening the said surface of the web, and in then applying to the said surface a film of coating material in a fluid state, such operations being practiced progressively upon the web from end to end, and an interval of time being permitted to elapse between the moistening and the coating of any specific portion of the web, whereby the imbibitive surface material of the web may be swelled with moisture when the coating material is applied thereto.

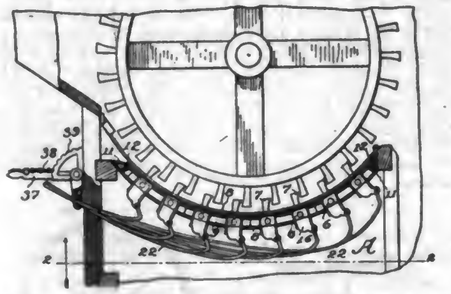
3. The method of forming a protective coating upon the face of a continuous web comprising a gelatin pellicle carried by a flexible non-absorptive support which consists in first swelling the gelatin pellicle with water and in then applying thereto a film of celluloid varnish in a fluid state while the said gelatin pellicle is still swelled with moisture, such operations being practiced progressively upon the web from end to end.

4. The method of forming a protective coating upon the face of a web comprising a gelatin pellicle carried by a non-absorptive support which consists in first swelling the gelatin pellicle with water and in then applying thereto a film of celluloid varnish in a fluid state while the said gelatin pellicle is still swelled with moisture.

5. The method of providing the face of a continuous web having an imbibitive surface with a protective coating which consists in first immersing the web in water, then exposing it to the air for a time to permit adhering water to be absorbed by the imbibitive surface, and in then applying to the said surface while still swelled with water a film of coating material in a fluid state, such operations being practiced progressively upon the web from end to end.

970,973. THRESHING-MACHINE. ORA THOMPSON, Earl Park, Ind. Filed Oct. 30, 1909. Serial No. 525,437.

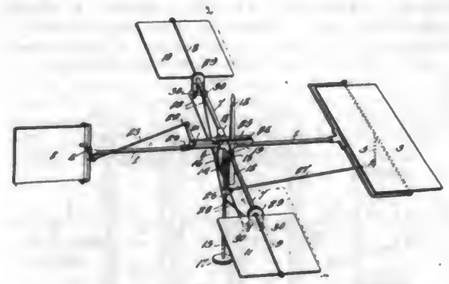
1. In a threshing machine, a concave comprising a plurality of pivotally supported tooth carrying bars, operating rods suitably connected with said bars, means for supporting the operating rods independently at various adjustments, and means for actuating the supporting means to simultaneously shift a plurality of the operating rods thereby simultaneously rocking a plurality of tooth carrying bars to present the teeth at a different angle.



2. In a threshing machine, a concave comprising a plurality of pivotally supported tooth carrying bars, operating rods connected with said bars for rocking or oscillating the same, a rock shaft supported for oscillation and having a plurality of spaced arms between which the operating rods are guided, and means for securing the operating rods in adjusted position with relation to the arms of the rock shaft; and means for oscillating the rock shaft and for securing it at various adjustments.

3. In a threshing machine, a pivotally supported tooth carrying bar having a shoulder or offset, a block supported adjacent to said offset, a pin extending through the offset and engaging the block to hold the latter against lateral displacement, a stirrup mounted upon the offset, fastening means extending through the stirrup and the block, and an operating rod pivotally connected with said block and whereby the tooth carrying bar may be rocked or oscillated to present the teeth at different angles.

970,974. FLYING-MACHINE. PETER ROBERT TORBRAND, Denver, Colo. Filed Feb. 25, 1910. Serial No. 545,910.



1. A flying machine including a horizontal rudder, a vertical rudder, lateral balancing planes, a fore and aft swinging element, a gravity-controlled universally-movable member operatively connected with said horizontal rudder and balancing planes, said member being movable in a fore and aft direction with said swinging element to control the horizontal rudder and movable laterally independent of said swinging member to control said balancing planes, and a manually operable device movable in one direction to jointly operate said swinging element and gravity-controlled member and in a different direction independent of said element and member for operating the vertical rudder.

2. A flying machine comprising a frame, vertical and horizontal rudders mounted upon the frame, tilting laterally balancing planes mounted upon the frame, a yoke bracket pivoted to the frame for a fore and aft swinging movement and having a slot therein extending transversely of the frame, a pendulum universally jointed to the frame, said pendulum being movable laterally in said slot independent of the bracket and movable in a fore and aft direction with the bracket, operating connections between the pendulum and the horizontal rudder and between said pendulum and the balancing planes, a bell crank lever mounted upon the frame and having a longitudinally slotted arm, a connection between the vertical rudder and other arm of said lever, and an operating lever pivotally connected for lateral movement upon the bracket and extending through the slotted arm of the bell crank lever, said operating lever being movable fore and aft in said slotted arm to swing the bracket laterally of the shaft and bell crank lever without affecting said bracket.

3. A flying machine including vertical and horizontal steering rudders, lateral balancing planes, a pendulum, an operating connection between the pendulum and the horizontal rudder, operating connections between the pendulum and the balancing planes for simultaneously adjusting the latter in opposite directions, and a lever operatively connected with the pendulum for adjusting the horizontal rudder without affecting the balancing plane and operatively connected with the vertical rudder for adjusting said rudder without affecting the horizontal rudder or balancing planes.

4. A flying machine including a frame member extending in a fore and aft direction, a second frame member extending transversely, a fore and aft swinging element mounted upon said second frame member, horizontal and vertical steering rudders mounted upon the first-named frame member, a swinging pendulum movable in a fore and aft direction with said swinging element and laterally independent of said element, a connection between the pendulum and horizontal rudder for adjusting the latter through the fore and aft swinging movement of said pendulum, lateral balancing planes upon the second-named frame member, operating connections between the pendulum and said planes for adjusting the latter in reverse positions upon the lateral swinging movements of said pendulum, an operating lever movable in a fore and aft direction to swing said swinging element and movable laterally independent of said element, and means controlled by the lateral movement of the lever for adjusting the vertical rudder.

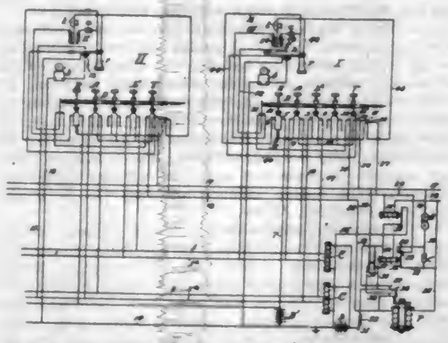
5. A flying machine including a frame structure, vertical and horizontal rudders, a bracket pivoted for a fore and aft movement upon the frame structure, lateral balancing planes, a pendulum movable in a fore and aft direction with said bracket and in a lateral direction independently thereof, a connection between the pendulum and horizontal rudder for adjusting the latter upon the fore and aft movements of the pendulum, connections between the pendulum and the balancing planes for simultaneously moving said planes in opposite directions upon the lateral swinging movements of the pendulum, a lever having a fore and aft movement to operate said bracket and a lateral movement independent of said bracket, and operating connections between the lever and the vertical rudder including a slotted link adapted to permit independent fore and aft movement of the lever and to transfer motion to said rudder upon the lateral movement of the lever.

970,975. PRIVATE-BRANCH INTERCOMMUNICATING TELEPHONE SYSTEM. JOHN N. WALLACE, La Crosse, Wis., and EDWARD B. CRAFT, Chicago, Ill., assignors to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 23, 1907. Serial No. 403,548.

1. The combination with an intercommunicating telephone system, of a trunk line multiplied with two or more stations of said system, switching means at each of said stations for connecting the telephone set thereof to said trunk line, a path in substitute of the telephone for maintaining the direct current continuity of the trunk line, and a relay associated with the trunk line for controlling the insertion of said substitute path, said relay being unresponsive to the normal current of said trunk line, but being responsive when the central office operator has plugged into the trunk line.

2. The combination with an intercommunicating telephone system, of a trunk line multiplied with two or more stations of said system, switching means at each of said

stations for connecting the telephone set thereof to said trunk line, a path in substitute of the telephone for maintaining the continuity of the trunk line, a relay associated with the trunk line for controlling the insertion of said substitute path, said relay being unresponsive to the normal current of said trunk line, but being responsive when the central office operator has plugged into the trunk line, and switching means at each of said stations for closing the circuit of said relay.



3. The combination with an intercommunicating telephone system, of a trunk line leading from a central office exchange and multipled with two or more stations of said system, switching means at each of said stations for connecting the telephone set thereof to said trunk line, a path in substitute of the telephone for maintaining the continuity of the trunk line, a polarized relay associated with the trunk line for controlling the insertion of said substitute path, and means for reversing the flow of current in the trunk line when the central office operator plugs into said trunk line.

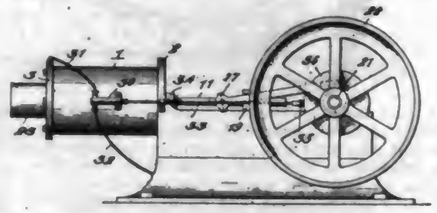
4. The combination with an intercommunicating telephone system, of a trunk line leading from a central office exchange and multipled with two or more stations of said system, switching means at each of said stations for connecting the telephone set thereof to said trunk line, a path in substitute of the telephone for maintaining the continuity of the trunk line, a polarized relay associated with the trunk line for controlling the insertion of said substitute path, means for reversing the flow of current in the trunk line when the central office operator plugs into said trunk line, and switching means at each of said stations for closing the circuit of said relay.

5. The combination with an intercommunicating telephone system, of a trunk line leading from a central office exchange to said intercommunicating system and multipled with two or more stations thereof, a trunk key and one or more local keys at said stations for connecting the telephone set of a station to the trunk line or to a local line of the system, respectively, a polarized relay in a normally-open bridge of the trunk line adapted to be momentarily closed upon the operation of a local key at the time the trunk key of that station is in its operated position, a connecting circuit at the central office adapted when connected to the trunk line to reverse the battery connection of said trunk line, a bridge of the trunk line constituting a holding circuit in substitute of the telephone set, and circuits controlled by said polarized relay for controlling the closure of said holding circuit.

[Claims 6 to 15 not printed in the Gazette.]

970,976. EXPLOSIVE-ENGINE. JAMES I. WOOD, Salida, Colo., assignor to Woods Gas Engine Company, Salida, Colo. Filed Jan. 15, 1910. Serial No. 538,239.

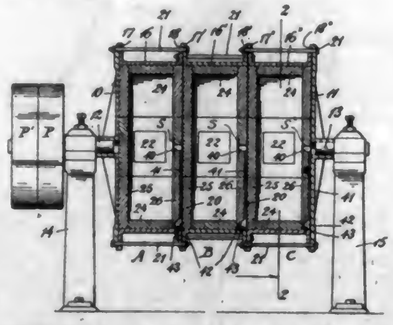
1. In an explosive engine, the combination of a cylinder formed with a transverse row of inlet ports intermediate its ends; a corresponding series of radial ports at one of its ends, and a series of longitudinal passages connecting the said ports, the cylinder being also formed with an air inlet port arranged adjacent the last mentioned end of the cylinder, and an exhaust port arranged adjacent the first mentioned series of inlet ports, a piston to reciprocate in the cylinder, a head upon one end of the cylinder and provided with an outwardly projecting boss containing a central bore and inner and outer chambers communicating with the bore, the inner chamber also communicating with the cylinder and forming with the bore a tubular portion, said head being also formed with a radial oil inlet passage to discharge oil upon said tubular portion, and a pump actuated by the engine and adapted to force oil through said oil passage.



2. In an explosive engine, the combination of a cylinder, a head at one end thereof and provided with an outwardly extending enlargement containing a longitudinal bore and inner and outer chambers communicating with said bore, the inner chamber also communicating with the cylinder and forming in connection with the bore a tubular portion, means for supplying oil to said tubular portion, and a piston to work in said cylinder.

3. In an explosive engine, the combination of a cylinder, a member containing a longitudinal bore and inner and outer chambers communicating with the bore, the inner chamber also communicating with the cylinder and forming in connection with the bore a tubular portion, and means for supplying oil to said tubular portion.

970,977. TUMBLING-BARREL. GEORGE E. ABBOTT, Hartford, Conn., assignor to The Globe Machine & Stamping Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 22, 1909. Serial No. 529,166.



1. A tumbling barrel comprising a rotatable casing having in its interior lining, at its sides and its interior periphery, one of said sides having an aperture, a conduit connecting with said aperture and the atmosphere and disposed in said lining.

2. A tumbling barrel consisting of a plurality of suitable units, each comprising a spacer-ring having two cooperating flanges; means for disassembling said units into a single and distinct compartment; and means comprising said coöperating flanges for uniting any number of said units into one common structure.

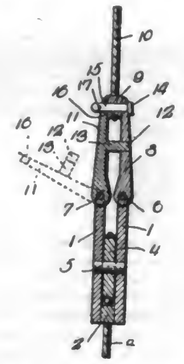
3. A tumbling barrel consisting of a plurality of separable units each comprising a chamber, means for separating said units from each other, and means for venting each individual unit independently of the other.

4. A tumbling barrel consisting of a plurality of separable units, each comprising a chamber, partition-plates for separating said units from each other, and means for venting each individual unit independently of the other.

5. A tumbling barrel consisting of a plurality of separable units, each comprising a chamber, means for separating said units from each other, and means for venting each individual unit independently of the other, said venting means comprising a conduit leading from the central portion of said units to the peripheral surface thereof, and independent relief-valves connected with said conduits.

[Claims 6 and 7 not printed in the Gazette.]

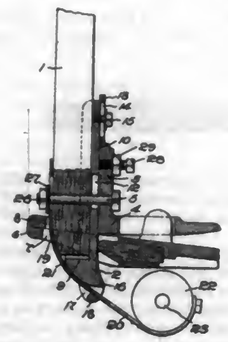
970,978. PULLEY-BLOCK. CHARLES ANDERSEN, New Rochelle, N. Y. Filed Nov. 27, 1909. Serial No. 530,280.



1. A pulley block having a grooved roller, an apertured supporting arm, a grooved support connected thereto, an arm pivoted to the block and provided with a stud to engage the aperture in the supporting arm, a pin extending through the supporting arm and support and through the pivoted arm, and retaining means for engaging said pin to hold the pivoted arm in place.

2. A pulley block comprising spaced plates, a roller supported by the plates, a support located above the roller and comprising separable members pivotally connected with the said spaced plates, and retaining means for holding the separable members against separation.

970,979. PICKER-STICK. TRAUGOTT F. ARZT, West Manchester, N. H. Filed June 23, 1909. Serial No. 503,870.



1. A picker-stick for looms comprising a body member, a foot member having a shank, positioning means and alining means on said shank, a seat for the body member, a heel portion provided with ears having shoulders thereon, a connecting member for said ears and a rocker adjustably connected with the body and foot members.

2. A picker-stick for looms comprising a body member, a foot member having a shank, positioning means and alining means on said shank, a seat for the body member, a heel portion provided with ears having shoulders thereon and a rocker adjustably connected with the body and foot members.

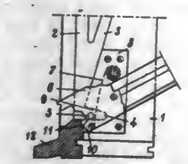
3. A picker-stick for looms comprising a rocker, a body member, a foot member forming a seat for the lower end of the body member and adjustable with respect thereto and to the rocker, and positioning means for said foot member.

4. A picker-stick for looms comprising a body member, a foot member having a shank, positioning means and alining means on said shank, a seat for the body member, a heel portion provided with ears, and a rocker adjustably connected with the body and foot members.

5. A picker-stick for looms comprising a body member, a foot member having a shank, positioning means and alining means on said shank, a seat for the body member, a heel portion provided with ears, a connecting member for said ears and a rocker adjustably connected with the body and foot members.

[Claims 6 to 22 not printed in the Gazette.]

970,980. WINDOW. RICHARD BIEL, Itzehoe, Germany. Filed May 28, 1909. Serial No. 498,942.



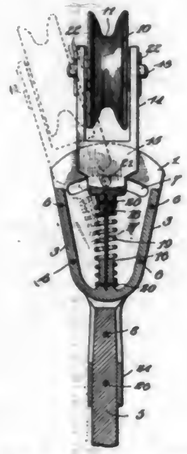
1. In a sash window of the character described, the combination of a frame having longitudinal, lateral grooves terminating in two lateral, transverse, substantially horizontal recesses, a sash having two rims on either side of, and normally projecting below the top of, the bottom transverse member of said frame, and two lateral pins at the bottom of said sash movable in said grooves and said recesses.

2. In a sash window of the character described, the combination of a frame having longitudinal grooves terminating below in a transverse recess, a spring in said frame projecting into said recess, a sash having limbs normally embracing the bottom member of said frame, and a pin arranged on the side of said sash, movable in said groove and said recess, and adapted to abut against said spring when said sash is tilted in the lowest position thereof.

3. In a sash window of the character described, the combination of a frame having longitudinal grooves terminating below in a transverse recess, said longitudinal grooves being connected above said recess by a transverse groove, a spring in said frame projecting into said recess, a sash having limbs normally embracing the bottom member of said frame, and a pin arranged on the side of said sash, movable in said groove and said recess, and adapted to abut against said spring when said sash is tilted in the lowest position thereof, and a guide arranged on the side of said sash movable in said longitudinal grooves and in said transverse groove.

4. In a sash window of the character described, the combination of a frame having longitudinal grooves terminating below in a transverse recess, a spring in said frame projecting into said recess, a sash having limbs normally embracing the bottom member of said frame, and a pin arranged on the side of said sash, movable in said groove and said recess, and adapted to abut against said spring when said sash is tilted in the lowest position thereof, and guiding means movable in said longitudinal grooves.

970,981. TROLLEY-HARP. ROBERT DEANY BLACKSTONE, Muskogee, Okla. Filed Oct. 5, 1909. Serial No. 521,109.



1. A trolley harp comprising a substantially fan-shaped frame having a socket for receiving the pole and composed of superposed plates spaced apart from each other, a yoke comprising a body portion received between the plates, and spaced arms, a trolley wheel journaled between the arms, the frame having a rounded lug at its apex, and the yoke body a similar lug, said lugs being slotted, a resilient tongue having its ends received in the slots and secured to the lugs, a spiral spring encircling the tongue, the ends thereof engaging the lugs, one of the plates having an arc-shaped slot, and the yoke a pin playing in the slot.

2. A trolley harp comprising a frame, composed of superposed spaced plates connected at one end and provided at the said end with a socket and with a rounded lug between the plates, a yoke comprising a body portion received between the plates and spaced arms projecting beyond the plates and having a rounded lug at the opposite end of the arms, a resilient tongue having its ends secured to the lugs, a spiral spring encircling the tongue, the ends thereof engaging the lugs, one of said plates having an arc shaped slot, and the yoke a pin moving in the slot.

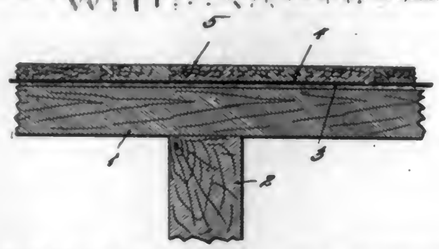
970,982. OIL-STRAINER. JOHN T. BOND, Palatka, Fla. Filed June 3, 1910. Serial No. 564,890.



1. The combination in a filter of a body portion, a cap screwed thereon and having an internal shoulder opposite the end of the body and a second shoulder of less diameter than the first and between the same and the end of the cap, a screen and strainer fitting said smaller shoulder and a gasket on the larger shoulder and between the same and the body of the filter and extending inwardly to overlie and secure the screen, substantially as set forth.

2. The combination in a filter with the body portion and a cap applied thereto and shouldered forming a seat for a gasket and having a shoulder beyond said first shoulder, straining devices seated against said second shoulder and a gasket held against the first shoulder and projecting inwardly to secure the straining devices upon the second shoulder, substantially as set forth.

970,983. MOISTURE-PROOF WOOD FLOOR AND METHOD OF LAYING SAME. JOHN W. BRADY, St. Louis, Mo. Filed Mar. 19, 1910. Serial No. 550,538.



1. The herein described flooring consisting of a sub-floor, upper floor and an interposed layer of pulverized absorbent material.

2. The herein described flooring comprising a sub-floor, a layer of pulverized absorbent material thereon, a thin sheet of wax coated material on the layer of pulverized material and an upper floor on top of the thin sheet of material.

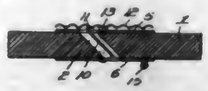
3. The herein described flooring consisting of a sub-floor, a layer of pulverized chalk thereon, a sheet of wax coated paper on the layer of chalk, and an upper floor on the sheet of wax coated paper.

4. The herein described method of protecting the under surface of hard wood flooring from moisture consisting of locating a layer of pulverized absorbent material immediately adjacent the under surface of the hard wood flooring.

5. The herein described method of protecting the under side of hard wood flooring from moisture consisting of applying a thin sheet of material to the under side of the hard wood flooring and applying a layer of pulverized absorbent material against the under side of the thin sheet of material.

[Claims 6 to 8 not printed in the Gazette.]

970,984. COMBINED ERASER AND PENCIL-SHARPENER. HENRY E. BRYANT, Atlanta, Ga. Filed Nov. 18, 1909. Serial No. 528,737.



1. A device of the character described comprising a body of erasing material having a slot therein, reinforcing plates disposed on opposite sides of the body and having registering slots, a blade disposed in the slot in the body and having a cutting edge projecting through the slot in one of said plates, the latter plate being provided with a locking depression or recess, rivets extending through the body and plates and uniting the same, and a guard pivotally mounted upon one of said rivets, said guard having a locking indentation to engage said locking recess.

2. A device of the character described comprising a body of erasing material having a slot therein, reinforcing plates secured to opposite sides of the body and having registering slots, a blade disposed in the slot in the body and having a cutting edge projecting through the slot in one of said plates, and a pivoted guard for covering the edge of the blade.

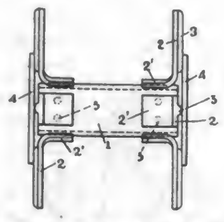
970,985. METAL DOOR. GUST CARLSON, Jamestown, N. Y. Filed Feb. 25, 1910. Serial No. 545,863.



1. A door comprising single sheets of material, one of the sheets being bent to provide a stile, top and bottom rails, the other sheet being bent to provide a stile, the edges of the stile sheets being inturned and bent to provide L-shaped flanges, channeled strips engaging the flanges, panel retaining strips having flanges correspondingly shaped to the first named flanges and abutting against the latter, and channeled securing strips engaging said flanges and locking the panel retaining strips against the inner faces of the stiles and top and bottom rails.

2. A door comprising single sheets of material, one of the sheets being bent to provide a stile, top and bottom rails, the other sheet being bent to provide a stile, the edges of the stile sheets being inturned and bent to provide L-shaped flanges, channeled strips engaging the flanges, panel retaining strips having flanges correspondingly shaped to the first named flanges and abutting against the latter, channeled securing strips engaging said flanges and locking the panel retaining strips against the inner faces of the stiles and top and bottom rails, and U-shaped strips securing the panel retaining strips together.

970,986. REEL. ADOLPH F. RIETZEL, Charlestown, R. I., assignor to Wallace H. Rowe, Pittsburg, Pa. Original application filed June 11, 1909, Serial No. 501,505. Divided and this application filed Nov. 26, 1909. Serial No. 529,848.



1. A metal reel comprising a tubular body portion and metal wings or arms consisting of metal strips having bent inner ends and welded by the faces of said bent ends to the peripheral face of the tube.

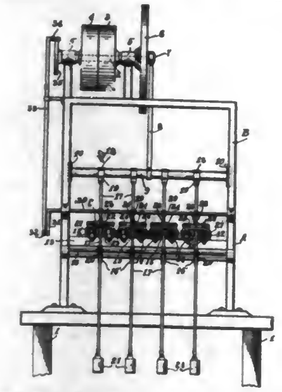
2. In a metal reel, a body portion consisting of a metal tube and reel arms or wings consisting of metal strips having bent inner ends, shaped to fit the contour of the tube and united by welding projections to the peripheral face of the tube near its end.

3. A metal reel comprising a tubular body portion and reel arms or wings consisting of metal strips or plates having radial ribs and bent ends, bent to lie against the peripheral face of the tube and welded by a face of said bent end to the face of the tube.

4. In a metal reel, a metal tube forming the body portion thereof, wings or arms radially ribbed and having bent inner ends welded by their faces to the peripheral face of the tube and strengthening plates or washers welded to the arms or wings by their radial ribs.

5. In a metal reel, a tubular body portion combined with ribbed wings or arms welded to the body portion and a strengthening plate or washer united to the arms by welding projections afforded by the ribs.

970,987. GLASS-TUBE-GRINDING MACHINE. JOHN J. CHALOUX, Watervliet, N. Y. Filed Mar. 12, 1910. Serial No. 548,876.



1. A machine of the class described comprising a plurality of grinding elements arranged side by side, a chuck movable longitudinally of the elements for supporting a plurality of tubes, and a flexible element connected with the chuck for reciprocating the same.

2. A machine of the class described comprising a plurality of grinding elements, a reciprocatory tube holder mounted thereon and including means for holding a tube on each element, a mechanism for reciprocating the holder, and means for turning the tubes on their respective grinding elements when the holder reaches a predetermined position.

3. A machine of the class described comprising a grinding member, a tube holder movable thereon, a flexible element connected with the holder, a reciprocatory device connected with the holder for moving the same in one direction, and a device operating in opposition to the first mentioned device for moving the holder in the opposite direction.

4. A machine of the class described comprising a grinding member, a reciprocatory holder movable thereon, a flexible element connected with and having portions extending in opposite directions from the holder, a weight connected with one end of the element, and a device connected with the opposite end of the element for coöperating with the weight to reciprocate the holder.

5. A machine of the class described comprising a plurality of grinding elements disposed approximately horizontally, a tube holder mounted to support tubes on the elements to move longitudinally thereof, a yielding means operatively connected with each holder for moving the same in one direction, flexible elements connected with the holders, a reciprocatory cross head connected with all the elements to move the holders in the opposite direction, a crank element, a pitman connected with the cross head, and means for adjustably connecting the pitman with the crank element.

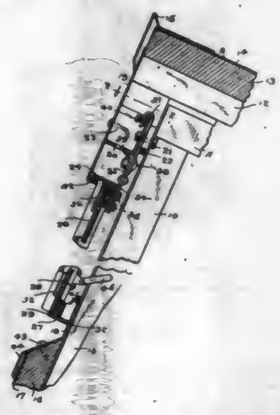
[Claims 6 to 19 not printed in the Gazette.]

970,988. WINDOW. STEPHEN E. CIBULAS, Bridgeport, Conn., assignor to The G. Drouve Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Feb. 23, 1910. Serial No. 545,317.

1. The combination with a window section having an upper angle iron, of a continuous angle iron, hooks detachably secured to said continuous angle iron, and hinged members secured respectively to said hooks and to the upper angle iron of the window section, said window section being provided with a projection to support the same when closed.

2. The combination with a window section having an upper angle iron, of a continuous angle iron, hooks detachably secured to said continuous angle iron, and hinge

members secured respectively to said hooks and to the upper angle iron of the window section, said window section being provided with a lower tee-iron one wing of which supports the lower end of the window when the latter is closed.



3. The combination with a window formed of a plurality of sections, an upper angle iron, and a lower angle iron, of a continuous angle iron, hooks detachably secured to said continuous angle iron, and hinge members secured respectively to said hooks and to the upper angle iron of the window section, one wing of said lower angle iron serving to support the lower end of the window when the latter is closed.

4. The combination with a window having an upper angle iron, and a continuous angle iron, of hooks detachably secured to the continuous angle iron and hinge members secured respectively to the hooks and to the upper angle iron of the window.

5. The combination with a window having an upper angle iron, a continuous angle iron and hooks detachably secured thereto, of hinge members secured to the upper angle iron of the window and other hinge members connected thereto and to the hooks and having angle pieces engaging the continuous angle iron.

[Claims 6 to 8 not printed in the Gazette.]

970,989. DOCUMENT-FILE. ALBERT GEORGE CLARKE, Montreal, Quebec, Canada. Filed Apr. 20, 1910. Serial No. 556,490.



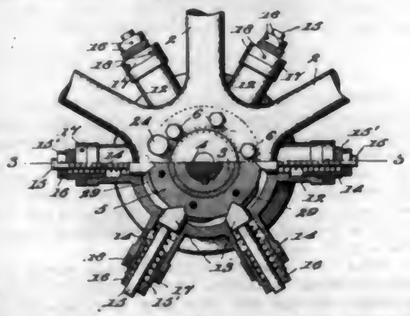
In a document file, a back having a pair of holes suitably spaced and eyelets protecting the edges of said post holes and a pair of holes arranged between said post holes, a bar of flexible metal inserted through one of said post holes and threaded through the central holes and through the other post hole extending outwardly from said post holes at each end forming document filing posts, a cover having corresponding post holes and eyelets protecting the edges of said post holes and adapted to fit on said post ends of the flexible bar and locking bars of channel formation having the longitudinal flanges thereof at each side inwardly turned and lugs projecting inwardly from the end of said flanges, and catches having lateral flanges extending under the flanges of said locking bars and adapted to slide over the post ends of said flexible bar and lock the same in said channeled bars.

970,990. WRENCH. PEARL M. CLARK, Island Lake, Wis. Filed June 6, 1910. Serial No. 565,252.



In a wrench, the combination of a handle provided with a jaw at one end thereof formed with a longitudinal slot, said handle having teeth adjacent to said slot, a lever provided with a jaw coacting with that aforesaid and provided with teeth on the jaw to engage the teeth of the handle, said lever passing through the slot of the handle, the handle having a recess longitudinally thereof, a flat spring between the handle and lever and secured to the handle in its recess, the recess being formed with a groove receiving one end of the spring and the opposite end of the spring being free to engage the lever, and a yoke integrally formed with the secured end of the spring so that the lever passes through said yoke and has a bearing thereagainst.

970,991. SAFETY YIELDABLE GEARING. ELMER M. COBB, South Portland, Me., assignor to Edward M. Lang, Jr., Portland, Me. Original application filed Nov. 24, 1909, Serial No. 529,829. Divided and this application filed Jan. 28, 1910. Serial No. 540,676.



1. In a machine of the character described, the combination of driven mechanism, including a main shaft, and safety devices, including a pulley loosely mounted on said shaft and provided with notches on its hub, a casting secured to said shaft, spring-pressed pawls mounted in said casting and adapted normally to engage the notches in the hub of said pulley, and a notched disk carried by said casting on which said pawls are adapted to ride, when by reason of any obstruction to the driven mechanism, said pawls are disengaged from the notches in said hub, substantially as described.

2. In a machine of the class described, the combination of driven mechanism, including a main shaft, and safety devices, including a pulley loosely mounted on said shaft and provided with a notched hub, a casting secured to said shaft, spring-pressed pawls mounted in said casting and adapted normally to engage the notches in said hub, and a disk secured within said hub, said disk being provided with notches corresponding to the notches in the hub with portions of the same diameter as the diameter of the hub, and with other portions of greater diameter, substantially as described.

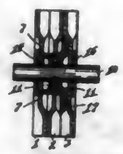
3. In a machine of the character described, the combination of driven mechanism, including a main shaft, and safety devices, including a pulley loosely mounted on said shaft and having a notched hub, a casting secured to said shaft and provided with projecting tubes, spring-pressed pawls in said tubes, adjusting means, and a notched disk secured within said hub, having portions thereon of greater diameter than the diameter of said hub, substantially as described.

4. In a machine of the character described, the combination of driven mechanism, including a main shaft, and safety devices, including a pulley having a notched hub loosely mounted on said shaft, means for securing said pulley on said shaft, a casting secured to said shaft and provided with projecting tubes, pawls in said tubes, springs normally pressing said pawls inwardly, means for adjusting the tension of said springs, and a notched disk secured within the hub, having portions thereon greater in diameter than the diameter of the hub of said pulley, substantially as described.

5. The combination of a shaft, a pulley having a notched hub loosely mounted thereon, a casting secured to said shaft, spring-pressed pawls carried by said casting and normally adapted to engage the notches in said hub, and a notched ring located between said casting and said hub, and having raised portions thereon of greater diameter than the diameter of the hub of the pulley, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

970,992. TOOL FOR TRUING ABRADING-WHEELS. OTTO H. COLLMER, South Bend, Ind., assignor to Collmer Brothers, South Bend, Ind., a Copartnership. Filed Apr. 3, 1909. Serial No. 487,717.



1. A tool for truing abrading wheels comprising radially corrugated disks, each having a central opening and also smaller openings, a spindle inserted through the central openings, a washer disposed adjacent one of the outermost disks and having elements passing through the smaller openings of the latter and through certain of the smaller openings of the intermediate disk, a second washer disposed adjacent the other outermost disk and having elements passing through its smaller openings and through certain of the smaller openings of the intermediate disk, said elements locking all of the disks rigidly together, with the inner ends of the locking elements confined between the disks.

2. A tool for truing abrading wheels comprising a plurality of disks, concavo-convex washers disposed between the disks, washers disposed adjacent the outer faces of the outermost disks and having arms passed through the outermost disks and also through the intermediate disk and at their extremities bearing against the convex faces of the concavo-convex washers, the latter washers each having oppositely disposed flanges, said arms being adapted to be upset against the concavo-convex washers with their extremities lying against said flanges.

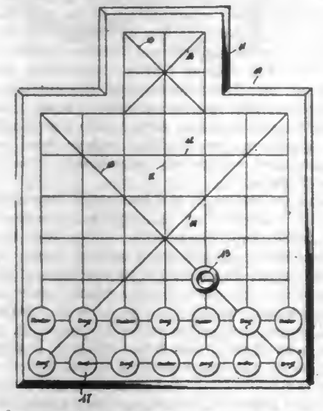
3. A tool for truing abrading wheels comprising three disks, each having a central opening, the two outer disks also having two smaller openings disposed diametrically opposite each other, the intermediate disk having four openings adjacent the central opening, each smaller opening being diametrically opposite another smaller opening, concavo-convex washers disposed between each outer disk and the intermediate disk with the convex portion of the washer contiguous with the intermediate disk and locking washers positioned adjacent the outer faces of the outer disks and having integral arms passing through the openings in an outer disk and the intermediate disk, with the ends of the arms engaging the convex portions of the concavo-convex washers whereby the arms are spread and the disks are locked together.

4. A tool of the character described comprising three disks, each having openings therein, and means disposed adjacent the outer face of each of the outermost disks each of said means having arms projecting through the openings of the corresponding outer disk and openings in the intermediate disk with the free ends of the arms disposed adjacent opposite faces of the intermediate disk and upset to effect an interlocking of the disks together.

5. A tool of the character described comprising outer disks, each having a pair of openings therein, the pair of openings of one outer disk being arranged at right angles to the pair of openings of the other outer disk, an intermediate disk having one pair of openings for alinement with the openings of one outer disk and another pair of openings for alinement with the openings of the other outer disk, and locking means passing through the alining openings of the disks.

[Claims 6 to 8 not printed in the Gazette.]

970,993. GAME APPARATUS. CHARLES A. COLOMB, Elgin, Ill. Filed Dec. 22, 1909. Serial No. 534,483.

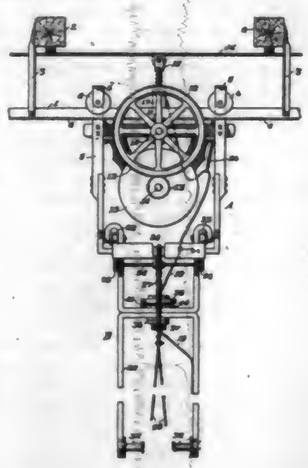


A game apparatus comprising a board formed of a body portion and an extension portion, said body and extension portions being each provided with a plurality of lines crossing at right angles, diagonal lines crossing the body of the board obliquely and cutting the right angled lines at their crossing points, diagonal lines crossing the extension portion of the board obliquely and cutting the right angled lines thereon at their crossing points, a special figure having a distinctive designation, and a plurality of figures having distinctive designations, said figures being movable upon said right angled and oblique lines.

970,994. MEAT-SIDING MACHINE. HUGH E. CONGER and CHARLES W. WALLER, Chicago, Ill. Filed Jan. 25, 1910. Serial No. 540,025.

1. In a meat cutter of the character described, the combination of a track, a frame mounted upon the track and provided with cutting mechanism, a motor mounted upon

the frame, gearing between said motor and track for effecting movement of the frame, a second motor mounted upon the frame, connecting means between the second motor and cutting mechanism for actuating the latter, and controlling means for throwing either of the motors into operation for effecting movement of the frame or the cutting mechanism.



2. In a meat cutter of the character specified, the combination of a track, a frame mounted upon the track, a motor mounted upon said frame, connecting means between the motor and track to effect movement of the frame, a second frame mounted upon the first mentioned frame and movable with reference thereto, cutting mechanism mounted upon said second frame, a motor likewise mounted upon the second frame, connecting means between the last mentioned motor and the cutting mechanism, and controlling means mounted upon the second frame and adapted to throw either one or both of the motors into operation for effecting independent or simultaneous movement of the first mentioned frame and the cutting mechanism.

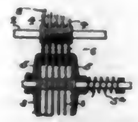
3. In a meat cutter of the character substantially as set forth, the combination of a track, a frame mounted upon the track and comprising upper and lower sections connected by means of a swivel joint, operating means between the track and upper section of the frame to effect positive movement of the frame upon the track, actuating means mounted upon the lower section of the frame and having connection with the operating means to effect movement of the frame when required, cutting mechanism carried by the lower section of the frame, a motor for the cutting mechanism, and means carried by the lower section of the frame to throw the motor into or out of action.

4. In a meat cutter the combination of a track, a frame mounted upon the track and comprising upper and lower sections connected by means of a swivel joint, operating means between the frame and track to effect positive movement of the frame, actuating means for said operating means carried by the lower section of the frame, a cutting mechanism, a motor for the cutting mechanism carried by the lower section of the frame, and controlling means for said motor.

5. In combination a track, a frame mounted to travel upon the track and comprising upper and lower sections which are connected by means of a swivel joint, an approximately horizontal frame pivotally connected with the lower section of the first mentioned frame to turn therewith and to move in a vertical plane at any angular position, cutting mechanism mounted upon the horizontal frame, a motor, connecting means between said motor and cutting mechanism for actuating the latter, and controlling means mounted upon said horizontal frame for bringing the operating mechanism into play for positively moving the first mentioned frame upon the track.

[Claims 6 to 11 not printed in the Gazette.]

970,995. POWER-TRANSMISSION MECHANISM. THOMAS C. DILL, Philadelphia, Pa. Filed Sept. 20, 1909. Serial No. 518,635.



1. A new article of manufacture consisting of a power transmission disk having anti-friction devices mounted to project beyond its side faces adjacent to its edge.

2. A new article of manufacture consisting of a power transmission disk having a series of recesses adjacent to its edge, and a plurality of pairs of anti-friction elements mounted in said recesses so as to project beyond its side faces.

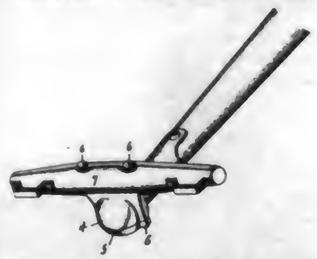
3. A new article of manufacture consisting of a power transmission disk having mounted adjacent to its periphery a series of pairs of co-acting anti-friction elements; the elements of each pair respectively projecting beyond its side faces.

4. A new article of manufacture consisting of a power transmission disk having mounted adjacent to its periphery a number of pairs of anti-friction elements, one element of each pair projecting beyond one face of the disk and the other projecting beyond the other face thereof.

5. A new article of manufacture consisting of a power transmission disk having a series of slots; with a pair of co-acting anti-friction rollers mounted in each slot and respectively projecting beyond the side faces of the disk.

[Claims 6 to 11 not printed in the Gazette.]

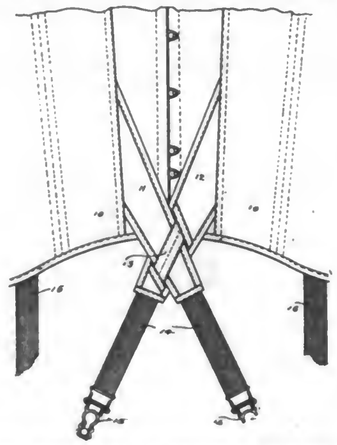
970,996. COUPLING FOR NECK-YOKES AND VEHICLE-TONGUES. DANIEL S. DILLENBACK, Hastings, Nebr. Filed May 5, 1910. Serial No. 559,568.



The combination with a vehicle tongue and neck-yoke, of a coupling comprising a casting formed with a tapered socket to receive the tongue and with a spherical head alined with said socket, and a second casting formed of upper and lower parts which are divided horizontally, rivets passing vertically through said parts and the neck-yoke, whereby the three are secured rigidly together, the rear side of such two-part casting having a spherical socket adapted to receive and hold securely the spherical head of the tongue casting, as shown and described.

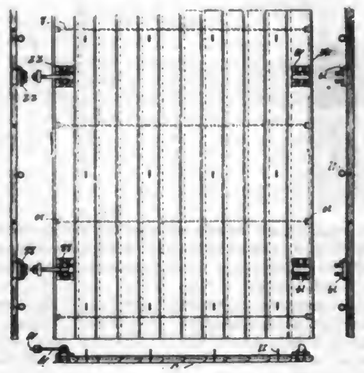
970,997. CORSET. JAMES E. DOOLITTLE, Bridgeport, Conn., assignor to Birdsey, Somers Company, Bridgeport, Conn., a Corporation of New York. Filed May 14, 1910. Serial No. 561,455.

The combination with the halves of a corset, of downwardly and obliquely extending draw straps which are attached to the halves back from their front edges, one of said draw straps being provided with a loop through which the other slides and reinforcing stays secured at the ends of said loop and extending parallel to the other strap and



both of said straps being provided with supporters for attachment to stockings on the side opposite to the point of attachment to the corset.

970,998. FORM FOR BUILDING CONCRETE STRUCTURES. DAVID M. DULLER, Houston, Tex. Filed Oct. 7, 1909. Serial No. 521,605.



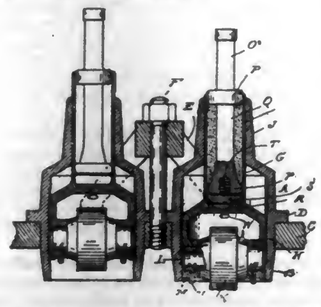
1. A form section comprising a series of strips, each having one edge convex and the other concave from face to face, the strips being arranged side by side with the convex edge of one fitting the concave edge of the succeeding strip, said series having a plurality of transverse registering openings, the ends of the openings on the convex sides of the strips being widened from face to face, flexible rods traversing the openings, for securing the strips together, pairs of spaced lugs arranged longitudinally of the outermost strip on each side of the form, a threaded stem pivoted between each pair on one side and secured between the corresponding pair on the other side, said pair having recessed outer faces, a washer on the stem having a convex face fitting the recesses, and a nut for forcing the washer toward the lugs.

2. A form section comprising a series of strips, each having one edge convex and the other concave from face to face, the strips being arranged side by side with the convex edge of one fitting the concave edge of the succeeding strip, said series having a plurality of transverse registering openings, the ends of the openings on the convex sides of the strips being widened from face to face, flexible rods traversing the openings, for securing the strips together, and means on the outermost strips at each side of the form sections, for securing said strips together.

3. A form section comprising a series of strips, each having one edge convex, and the other concave from side to side, the strips being arranged side by side with the convex edge of one fitting the concave edge of the succeeding strip, said strips having registering transverse openings, the openings on the convex edge being enlarged from face to face of the strip, flexible rods traversing the openings, and means in connection with the rods for securing the strips together.

4. A form section comprising a series of strips arranged side by side with the edge of one abutting the edge of the other, said strips having registering transverse openings, the openings on one edge being enlarged from face to face of the strip, flexible rods traversing the openings, and means in connection with the rods for securing the strips together.

970,999. VALVE-ACTUATING ROD. GEORGE W. DUNHAM, Lansing, Mich., assignor to Olds Motor Works, Lansing, Mich., a Corporation of Michigan. Filed Mar. 19, 1907. Serial No. 363,217.



1. A valve actuating rod comprising two members telescopically engaging each other and provided with separated coöperating bearings or abutments, and a rigid exchangeable filler block between said abutments or bearings.

2. A valve actuating rod comprising two members telescopically engaging each other and having coöperating shoulders or abutments, and a rigid filler block between said shoulders or abutments.

3. A valve actuating rod comprising two members telescopically engaging each other, having coöperating shoulders or abutments, and a plastic filler between said coöperating shoulders or abutments.

4. A valve actuating rod comprising two members telescopically engaging each other and having coöperating shoulders or abutments, the inner member being cut away to form a chamber for a plastic material, said plastic material being drawn from said chamber upon the separation of said shoulders or abutments to fill the space between the same.

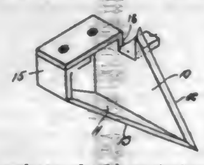
5. A valve actuating rod comprising a member provided with a hollow cylindrical portion and a polygonal stem of reduced diameter, having a cylindrical recess therein, a cam bearing roll journaled within a said hollow cylindrical portion, a casing in which said member is slidably secured, having portions respectively fitting said hollow cylindrical portion and stem, and a member fitting the socket in said stem and having an abutment therein.

[Claims 6 to 11 not printed in the Gazette.]

971,000. LAWN-TRIMMING IMPLEMENT. WILLIAM S. S. FLEMING, Portland, Oreg. Filed Sept. 27, 1909. Serial No. 519,714.

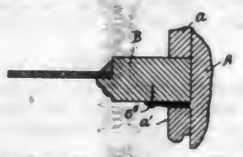
A lawn trimming implement formed from a single sheet of metal comprising a forwardly extending V-shaped cutting portion with vertically extending side portions at the

rear and with a horizontal portion uniting the vertical portions, a laterally-extending gage member between the cut-



ting portion and one of said vertical portions, and a handle connected to said horizontal portion.

971,001. WEATHER-STRIP. JAMES H. FOOTE, Cincinnati, Ohio. Filed Nov. 22, 1907. Serial No. 403,268.



1. In a weather strip, a strip of resilient material folded longitudinally to form two spring members and having means for attaching close to the fold thus formed whereby said spring members are adapted to exert pressure laterally from each other against the window-frame and sash respectively between which they are adapted to fit and be moved when in use.

2. In a weather strip, a strip of resilient material folded longitudinally whereby two spring members are formed one of said spring members being bent backward at a point near the fold thus formed whereby said spring members are maintained substantially parallel between said fold and said point and means for attaching said strip within said parallel portion.

3. A strip of resilient material folded longitudinally and secured in operative position near its folded edge and having two free edges each adapted to exert pressure laterally from the other to engage a window-frame and sash respectively.

4. In a weather strip a resilient material folded longitudinally upon itself whereby two spring members are formed, and adapted to exert pressure laterally from each other against the window-frame and sash respectively between which they are adapted to fit and be moved, one of said spring members being bent backward at a point near the fold thus formed whereby said members are maintained substantially parallel between said fold and said point, and the other one of said spring members being bent backward at a point near its free edge as and for the purpose herein specified.

5. A weather strip of resilient material and consisting of two longitudinal spring-members connected together by a longitudinal fold and thence diverging whereby one member is adapted to exert a lateral pressure against a window sash and the other to exert a lateral pressure against the window frame, and means extending through said fold for securing said strip in an operative position.

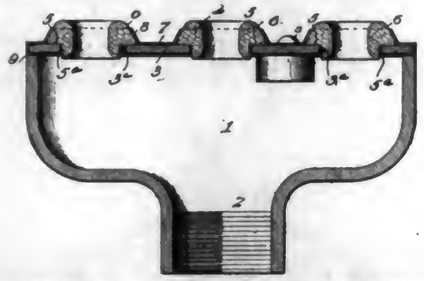
[Claims 6 and 7 not printed in the Gazette.]

971,002. COVER FOR ELECTRICAL OUTLET-BOXES. EDGAR H. FREEMAN, Trenton, N. J., assignor to E. H. Freeman Electric Company, Trenton, N. J., a Corporation of New Jersey. Filed June 24, 1910. Serial No. 568,739.

1. An outlet box cover comprising a cover plate, insulating bushings fitted to the cover plate, and a metallic cap plate secured upon the cover plate and having a holding engagement with said bushings.

2. An outlet box cover comprising a cover plate, insulating bushings fitted to the cover plate, and a cap plate secured upon the cover plate and having flanges engaging the bushings.

3. An outlet box cover comprising a cover plate, insulating bushings fitted to the cover plate, and a cap plate secured upon the cover plate and having individual holding flanges for each bushing.

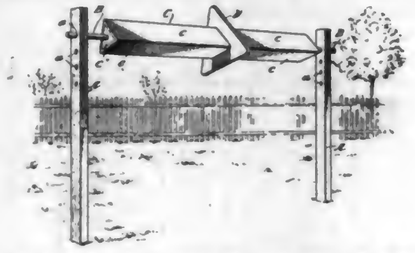


4. An outlet box cover comprising a cover plate, wire holding bushings fitted to the cover plate, and a cap plate secured upon the cover plate and having individual holding means for each bushing.

5. An outlet box cover comprising a cover plate, insulating bushings fitted to the cover plate, and a cap plate secured upon the cover plate and having individual annular holding flanges for each bushing.

[Claims 6 and 7 not printed in the Gazette.]

971,003. AMUSEMENT APPARATUS. THOMAS F. GILBRIDE, New York, N. Y., assignor of one-half to William H. Diamond, Poughkeepsie, N. Y. Filed June 14, 1910. Serial No. 566,762.



1. An amusement apparatus comprising an elongated body having a cross-section of polygonal shape and mounted to rotate freely on a horizontal axis arranged parallel to its sides.

2. An amusement apparatus comprising an elongated body having a cross-section of polygonal shape and mounted to rotate freely on a horizontal axis arranged parallel to its sides and provided with an obstruction extending laterally from its sides.

3. An amusement apparatus consisting of two upright supports in combination with a shaft having bearings in said supports, and an elongated body of polygonal cross-section mounted on said shaft and extending approximately from one support to the other, for the purpose set forth.

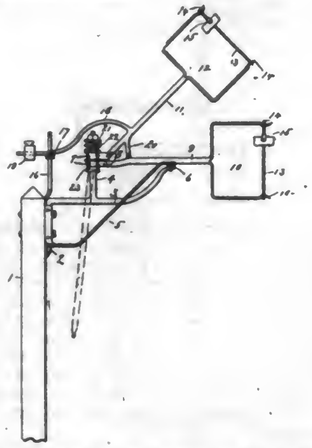
4. An amusement apparatus comprising an elongated body of triangular cross-section rotatably mounted at an elevation upon a horizontal axis.

5. An amusement apparatus comprising an elongated body of triangular cross-section mounted at an elevation upon a horizontal axis, and having a lateral projection from each face located between the extremities thereof.

[Claim 6 not printed in the Gazette.]

971,004. TRAIN-ORDER-DELIVERY APPARATUS. AUGUST HALVORSON, Spokane, Wash. Filed Oct. 19, 1909. Serial No. 523,548.

1. A train order delivery apparatus comprising a horizontally and vertically swinging holder, a support for said holder from which the latter drops when swung horizontally, and a second vertically swinging holder mounted above the first holder, and supported thereby, said first holder, when dropping off its support, releasing the second holder, and the latter dropping on said support when thus released.



2. A train order delivery apparatus comprising a horizontally and vertically swinging fork, a second vertically swinging fork, a support for the first-mentioned fork from which it drops when swung horizontally, and a foot extending from the second fork, and resting on the first fork, said first fork, when swinging horizontally, being disengaged from the foot to release the second fork, and the latter dropping on said support when thus released.

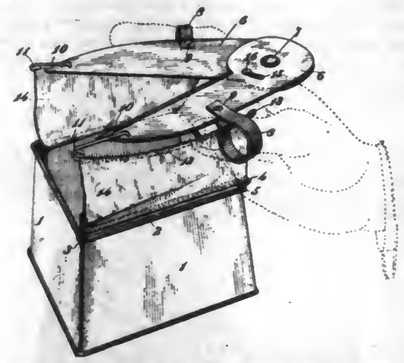
3. A train order delivery apparatus comprising a horizontally and vertically swinging fork, a second vertically swinging fork, a support for the first mentioned fork from which it drops when swung horizontally, a foot extending from the second fork, and resting on the first fork, said first fork, when swinging horizontally, being disengaged from the foot to release the second fork, and the latter dropping on said support when thus released, an arm extending from the second fork, and a guide in which said arm works.

4. A train order delivery apparatus comprising a horizontally and vertically swinging fork, a second vertically swinging fork, a support for the first-mentioned fork from which it drops when swung horizontally, a foot extending from the second fork, and resting on the first fork, said first fork, when swinging horizontally, being disengaged from the foot to release the second fork, and the latter dropping on said support when thus released, an arm extending from the second fork, a guide in which said arm works, and a stop block between the guide, and engageable by the arm.

5. A train order delivery apparatus comprising an upright post, a fork, a sleeve mounted on the post, and carrying the fork, the latter being pivoted to the sleeve to swing in a vertical plane, and the sleeve being rotatably mounted on the post to permit the fork to swing horizontally, a support on which the fork rests, and from which it drops when swung horizontally, and a second vertically swinging fork carried by the post above the first-mentioned fork, and supported thereby, said first fork, when dropping off its support, releasing the second fork, and the latter dropping on said support when thus released.

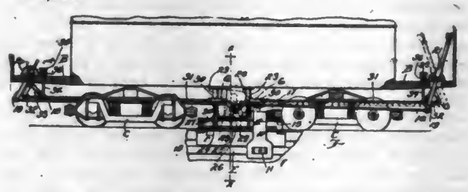
971,005. FRUIT-PICKER. EDWIN M. HANSLEY and HUGO WILL, Williamsburg, Mich. Filed Feb. 17, 1910. Serial No. 544,443.

1. In a device of the character described, a receptacle, a cutting apparatus comprising pivotally connected blades having loops connected therewith, arms connected with the loops, arms extending forwardly from the blades, coils connecting said arms together, and flexible aprons connecting the arms adjacent to the blades with the receptacle.



2. In a device of the character described, a rectangular receptacle having a beaded upper edge and a reinforcing wire interposed at the corners of the receptacle, longitudinally disposed loops connected with the reinforcing wire, a cutting device consisting of pivotally connected blades having finger loops connected therewith, arms connected with the finger loops and disposed adjacent to the outer edges of the blades, arms connected with and extending forwardly from the blades, coils connecting the latter arms with the arms attached to the finger loops, and flexible aprons connecting the arms located adjacent to the outer edges of the blades with the loops connected with the receptacle.

971,006. ELECTRIC RAILROAD. GEORGE P. HORTON, Washington, D. C. Filed Sept. 30, 1909. Serial No. 520,244.



1. In a device of the character described, a car frame, a plow having adjacent to its upper edge a laterally extending lug and an upwardly extending lug, said lugs being disposed adjacent to opposite side edges, supporting means engaging the laterally extending lug, and adjusting means connected with the upwardly extending lug.

2. In a device of the character described, a car frame, a plow provideu adjacent to its upper edge with a laterally extending lug and an upwardly extending lug, said lugs being disposed adjacent to opposite side edges, pivotal supporting means engaging the laterally extending lug, oppositely extending rods connected with the upwardly extending lug, actuating levers connected with the rods, detachable handles for said actuating levers, and means for retaining the parts in adjusted position.

3. In a device of the character described, the combination with a car having a hingedly supported plow, and means for moving the plow to various positions and for supporting it at various adjustments, of a plow pit, a hingedly supported cover for the same, and means carried by the car frame for engaging the cover to move the same to an open position.

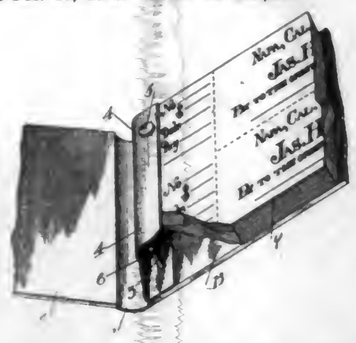
4. In a device of the character described, a car frame, a hingedly supported plow, means for adjusting the plow to various positions, a plow pit, a hingedly supported

cover for the same having upturned lugs, and a vertically adjustable frame carried by the car frame and adapted to engage the lugs to move the cover to an open position.

5. In a device of the character described, a car frame, a plow, a shaft carried by the car frame and engaging the plow adjacent to an upper corner thereof to pivotally support the same, a plow pit having hingedly supported covers, and a frame carried by the car frame and adapted to be vertically adjusted to engage the pit covers and to move the same to an open position.

[Claims 6 to 9 not printed in the Gazette.]

971,007. LOOSE-LEAF BINDER. BERT S. HUBBARD, Oakland, Cal., assignor to The Union Telegraph Company, San Francisco, Cal., a Corporation of California. Filed Feb. 23, 1910. Serial No. 545,480.



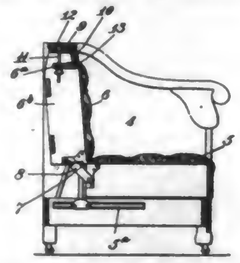
1. The combination with a suitable backing consisting of top and bottom covers and connecting back, and filing studs carried by said bottom cover, said studs having a circumferential groove adjacent to their outer ends, of a secondary flexible back secured along one edge to the bottom cover and having the remaining portion unconnected to said cover and to the top cover and also to the first-named back, and arranged parallel with the latter whereby the top cover and its connecting back wholly incloses the secondary back, said secondary back having spring locking members telescoping with the groove ends of the filing studs.

2. A binder consisting of top and bottom covers and a connecting back, said bottom cover having filing studs fixed to it, and a secondary flexible back parallel with and wholly inclosed by the first-named back and secured along one edge to the bottom cover and having the remaining portion normally and permanently separated from the top cover and the back which connects the top and bottom covers, the opposite or free edge of the secondary back having locking members to engage the ends of the filing studs.

971,008. SOFA OR DAVENPORT BED. EDWIN M. HULSE, Columbus, Ohio, assignor to The E. M. Hulse Company, Columbus, Ohio, a Corporation of Ohio. Filed June 4, 1910. Serial No. 564,939.

1. In a sofa or davenport bed the combination with a main frame including ends 4, of a depressible upholstered back adapted to be moved into position between said ends, said back comprising a frame including a top cross piece, the upholstery covering of the back frame extending to and secured upon said cross piece, and an ornamental top rail constructed to fit upon the said top cross piece and conceal the said covering thereon, and means for temporarily securing said top rail to said cross piece.

2. A sofa or davenport bed having a depressible upholstered back including a frame having at its upper portion a horizontal cross bar with upright end pieces, the covering of said upholstery extending over said horizontal cross bar and secured thereto, combined with an ornamental top rail including top and front portions to fit upon the upper portion of the back frame, and means for temporarily fixing said ornamental top rail to said horizontal cross bar of the frame, substantially as described.



3. A sofa or davenport bed having a depressible upholstered back including a frame having at its upper portion a horizontal cross bar with upright end pieces, the covering of said upholstery extending over said horizontal cross bar and secured thereto, combined with an ornamental top rail including top and front portions to fit upon the upper portion of the back frame, and means for temporarily fixing said ornamental top rail to said horizontal cross bar of the frame, said means consisting of bolts and nuts adapted to permit a separation of said rail and back without detaching the rail, substantially as described.

4. A sofa or davenport bed having a depressible upholstered back including a frame having at its upper portion a horizontal cross bar with upright end pieces projecting above the ends of said horizontal portion, the covering of said upholstery extending over the said horizontal cross bar and secured thereto, combined with an ornamental top rail including top and front portions to fit the upper portion of the back frame and means for detachably connecting said top rail to said back frame, substantially as described.

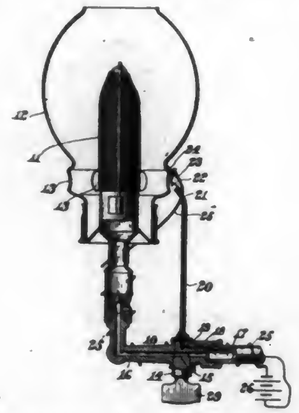
971,009. PROCESS OF MAKING ENGRAVED PRINTING-ROLLERS. JOHN W. IPPENS, New York, N. Y., assignor of one-half to Carl A. Roessel, Brooklyn, N. Y. Filed Sept. 15, 1909. Serial No. 517,776.

1. The process herein described of making printing rollers, consisting in producing a design in relief upon a lithographic stone, printing said design directly from said stone onto a transparent celluloid plate, next photochemically printing said design upon a sensitized metallic plate by the action of light passing through the transparent plate, then etching the parts of said metallic plate not exposed to the light so as to form a negative of the design, and then transferring said design to a printing roller, and finally etching the design on the roller.

2. The process herein described of making printing rollers, consisting in producing the positive of a design in relief upon a lithographic stone, printing said design directly from said stone to a transparent celluloid plate, next photochemically printing said design upon a sensitized metallic plate by the action of light passing through the transparent plate, then etching the parts of said metallic plate not exposed to the light so as to form a raised negative of the design, and then repeatedly transferring said design to a printing roller until said roller is covered with the repeated design, and finally etching the repeated design on the roller.

971,010. ELECTRIC GAS-LIGHTING DEVICE. ROBERT A. JEWETT, Worcester, Mass. Filed July 3, 1907. Serial No. 381,982.

1. The combination of a gas burner provided with a passage to the main gas supply; a valve located at one side of and parallel to said burner adapted to control the flow of gas through said passage and having two radial holes in its casing between the valve plug and the main gas supply; a by-pass communicating with one of said holes through said valve adapted to permit the passage of a limited supply of gas therethrough during the movement of said valve; a tubular extension outside the limits of said burner communicating with said by-pass and terminating in a radial portion adapted to emit the gas in the direction of said burner; an ignition device at the mouth thereof; and means for operating said ignition device by the movement of said valve.



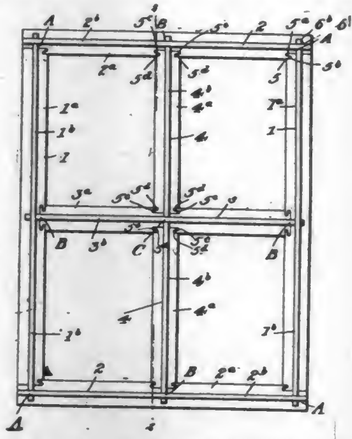
2. The combination of a gas burner provided with a passage to the main gas supply; a valve located at one side of and parallel to said burner adapted to control the flow of gas through said passage and provided with means for admitting a portion of the gas supply to the center of said valve; a tube secured to said valve in axial line therewith communicating with said passage; a clip secured to the globe of said burner provided with a wiper finger; a wire secured to said clip adapted to conduct an electric current to said wiper finger; and a co-acting wiper finger secured to said tube.

3. The combination of a gas burner provided with a passage to the main gas supply; a valve located at one side of and parallel to said burner adapted to control the flow of gas through said passage; a wiper finger secured to the globe of said burner; an axial extension to said valve revoluble therewith; and a wiper finger secured thereto adapted when the valve is operated to turn on the gas to coact with the burner wiper finger to ignite the gas passing from said burner.

4. The combination of a gas burner provided with a horizontal passage to the main gas supply; a valve located with its axis transverse to said passage and adapted to control the flow of gas through said passage; a globe to said burner provided with a plurality of air inlets; a wiper finger secured to said globe at one of said inlets; a tubular member secured to said valve and revoluble therewith; means for admitting a limited supply of gas to said tubular member during the rotation of said valve; and a wiper finger at the outlet to said tubular member adapted during the rotation of said valve to coact with the wiper finger affixed to the globe to cause an ignition of the gas passing from said tubular member.

5. The combination of a gas burner provided with a passage to the main gas supply; a valve located at one side of and parallel to said burner adapted to control the flow of gas through said passage and provided with means for admitting a portion of the gas supply to the center of said valve; a tube secured to said valve in axial line therewith communicating with said passage; a clip detachably secured to a fixed member outside the limits of the burner and provided with a wiper finger; a wire secured to said clip adapted to conduct an electric current to said wiper finger; and a co-acting wiper finger secured to said tube.

971,011. METAL SASH CONSTRUCTION. WILLIAM R. KINNEAR, New Castle, Pa. Filed Nov. 17, 1909. Serial No. 528,501.



1. In a metal frame structure, members constructed with flanges and webs rigidly jointed together with their flanges abutting in the plane of the flanges and provided with interlocking parts also lying in said plane and with their webs in abutment and provided with interlocking parts lying in the planes of said webs.

2. In a metal frame structure, members constructed with flanges and webs rigidly jointed together, said members having their webs in abutment and having integral parts interlocking at a point above the plane of the flanges and having their flanges abutting in the plane of the flanges and provided, on opposite sides of the plane of the web-interlock, with parts interlocking in the said plane of the flanges.

3. In a metal frame structure comprising members constructed with flanges and with webs; a joint between two such members comprising an interlock formed between their flanges and a dowel connection formed between their webs.

4. In a metal frame structure, a continuing web-and-flange member having an undercut seat in its flange and a perforation in its web, and an abutting web-and-flange member having an undercut head on its flange fitting the said seat of the continuing member, and a dowel on its web entering the perforation in the web of said continuing member.

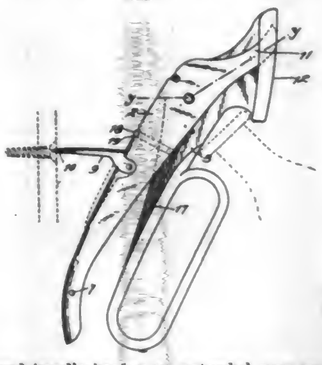
5. In a metal frame structure, a web-and-flange member having a longitudinal recess at an intermediate point in its flange and an opening in its web adjacent thereto and a web-and-flange member having its flange abutting that of the first named member in the plane of the flanges and provided with a laterally presented tongue at the end of its flange entering the recess in the flange of the member first named, also having its web in abutment with the web of the member first named and having a dowel in the plane of its web, entering the opening in the web of the member first named.

[Claims 6 to 15 not printed in the Gazette.]

971,012. COMBINATION-TOOL. GEORGE T. PARSLEY, Hornbrook, Cal. Filed Dec. 14, 1908. Serial No. 467,443.

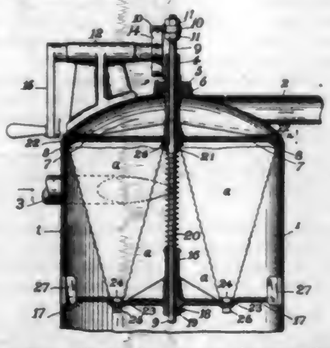
A tool of the character described comprising a pair of handles pivoted together shear fashion, one of said handles having a widened jaw at one end said jaw having a right-angled flange extension along its lower edge said extension being longitudinally slotted, and said other handle having a reduced jaw portion operating through the slot of the right-angled flange of the first-named jaw, said second jaw

co-acting with the edge walls of said slot to shear material placed between the two jaws, said widened portion of the



first-named handle having an extended rear portion forming a broad seating portion back of the second jaw portion.

971,013. DUST-COLLECTOR FOR VACUUM-CLEANERS. FRIEND W. SMITH, Jr., Bridgeport, Conn., assignor to Clarence C. Payne, Bridgeport, Conn. Filed Apr. 21, 1910. Serial No. 556,765.

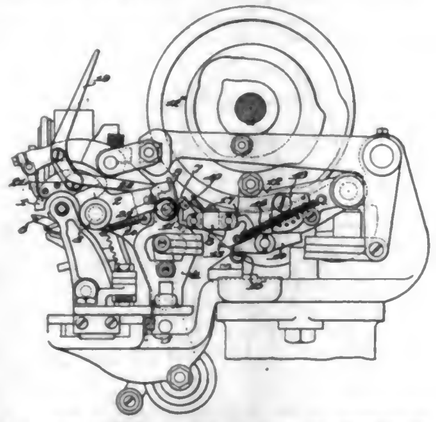


1. In a dust collector for vacuum cleaners, the combination of a dust separating chamber having its top formed with converging walls, an upper and a lower support located in said chamber, a ring secured to the outer edge of the upper support, means for adjusting the position of said upper support to form a dust-proof joint between said ring and the inner face of said converging walls, and a screen interposed between said supports and secured at its upper edge to said ring and at its lower edge to the lower support.

2. In a dust collector for vacuum cleaners, the combination of a dust separating chamber having its top formed with converging walls, an exteriorly threaded sleeve extending upwardly through said converging walls, a support located in said chamber and secured to said sleeve, a ring secured to the outer edge of said support, a support located in said chamber below the first-named support, a screen interposed between said supports and secured at its uppper edge to said ring, and at its lower edge to the second-named support, and a nut engaged with said sleeve for raising the same, to form a dust-proof joint between said ring and the inner face of said converging walls.

971,014. PRESSER-FOOT MECHANISM. ERASTUS E. WINKLEY, Lynn, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Jan. 14, 1905. Serial No. 240,985.

1. A sole sewing machine, having, in combination, a presser foot lever provided at one end with a presser-foot, a ratchet connected with the other end of the lever, a pawl to engage the ratchet, a hand-operated lever mounted to move independently of the presser foot, and connections operating when the lever is actuated to move the pawl out of engagement with the ratchet and raise the presser foot, substantially as described.



2. A sole sewing machine, having, in combination, a presser foot lever provided at one end with a presser-foot and at the other end with a ratchet, a pawl to engage the ratchet, a hand-operated lever for raising the presser foot lever, having a limited movement independently thereof, and means actuated by the hand-operated lever during its independent movement for moving the pawl out of engagement with the ratchet, substantially as described.

3. A sole sewing machine, having in combination a presser foot, a ratchet movable therewith, a pawl to engage the ratchet, a hand-operated lever mounted on the presser foot and acting when actuated to raise the presser foot, and means operated by the hand-operated lever for moving the pawl out of engagement with the ratchet, substantially as described.

4. A sole sewing machine, having in combination a presser foot lever provided at one end with a presser foot and at the other end with a ratchet, a pawl to engage the ratchet, a hand-operated lever for raising the presser foot lever mounted upon the presser foot lever and having a limited movement independently thereof, and means actuated by the hand-operated lever during this independent movement for moving the pawl out of engagement with the ratchet, substantially as described.

5. A sole sewing machine, having in combination a presser foot lever provided at one end with a presser foot and at the other end with a ratchet, a pawl to engage the ratchet, a hand-operated lever for raising the presser foot lever pivotally mounted thereon and having a limited movement independently thereof, and a link mounted on the presser foot lever and arranged to be actuated by the hand-operated lever to move the pawl out of engagement with the ratchet, substantially as described.

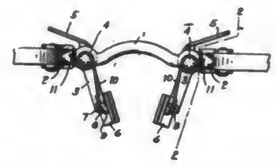
[Claim 6 not printed in the Gazette.]

REISSUES.

13,151. EYEGLASS-MOUNTING. GUSTAV A. BADER, Rochester, N. Y. Filed Aug. 12, 1910. Serial No. 576,932. Original No. 957,925, dated May 17, 1910, Serial No. 504,931.

1. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of nose-guards pivoted to their brackets; means for yieldingly tilting the upper ends of said noseguards toward each other; and stops for limiting the movement of said nose-guards; substantially as shown and described.

2. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of nose-guards pivoted to their brackets; springs carried by the frame and adapted, respectively, to engage said nose-guards to tilt them toward each other; and stops for limiting the movement of said nose-guards under the action of said springs; substantially as shown and described.



3. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of nose-guards pivoted to their brackets; springs each attached under tension at one end to the frame and at its other end to one of the nose-guards above its pivotal connection with its bracket; and stops for limiting the movement of said nose-guards under the action of said springs; substantially as shown and described.

4. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of nose-guards, having pivotal connections with their brackets; and means whereby said nose-guards also rotate at right angles to such connections; substantially as shown and described.

5. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of nose-guards, having pivotal connections with their brackets; means whereby said nose-guards also rotate at right angles to such connections; means for yieldingly rocking said nose-guards upon one pair of axes; and stops adapted to limit such movement; substantially as shown and described.

6. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of nose-guards, having pivotal connections with their brackets; means whereby said nose-guards also rotate at right angles to such connections; springs for yieldingly rocking said nose-guards upon one pair of axes; and stops adapted to limit such movement; substantially as shown and described.

7. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of nose-guards, having pivotal connections with the brackets; means whereby said nose-guards also rotate on axes at right angles to such connections; springs adapted to yieldingly rock said nose-guards upon both of their axes; and stops adapted, respectively, to limit such movement; substantially as shown and described.

8. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of secondary brackets pivoted to the ends of the brackets first mentioned, respectively, and nose-guards pivotally supported by said secondary brackets, on axes parallel with the plane of their rotation around said first-mentioned brackets; substantially as shown and described.

9. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of secondary brackets pivoted to the ends of the brackets first mentioned, respectively, and nose-guards pivotally supported by said secondary brackets, on axes parallel with the plane of their rotation around said first mentioned brackets; springs adapted to yieldingly rock said nose-guards upon one pair of axes; and stops adapted, respectively, to limit such movement; substantially as shown and described.

10. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of secondary brackets pivoted to the ends of the brackets first mentioned, respectively, and nose-guards pivotally supported by said secondary brackets, on axes parallel with the plane of their rotation around said first mentioned brackets; springs adapted to rock said nose-guards upon both of their axes; and stops adapted, respectively, to limit such movement; substantially as shown and described.

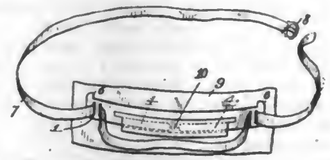
11. In eye-glass mountings, the combination with a frame, of nose-guard brackets pivotally supported opposite each other, each pivotally supporting in turn a nose-guard at its outer end; and a pair of springs supported by the frame, adapted respectively, to engage one of said parts under tension; substantially as shown and described.

12. In eye-glass mountings, the combination with a frame, of nose-guard brackets pivotally supported opposite each other, each pivotally supporting in turn a nose-guard at its outer end; and a pair of springs supported by the frame adapted, respectively, to engage said nose-guards under tension, and thereby tilt them against suitable stops; substantially as shown and described.

13. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of secondary brackets pivoted to the ends of said first mentioned brackets, respectively, and nose-guards pivotally supported by said secondary brackets, on axes parallel with the plane of their rotation around said first mentioned nose-guards; and a pair of springs supported by the frame adapted, respectively, to engage the nose guards under tension to rotate them against suitable stops; substantially as shown and described.

14. In eye-glass mountings, the combination with a frame comprising a bow, lens-clips and nose-guard brackets, of secondary brackets pivoted to the ends of said first mentioned brackets, respectively, and nose-guards pivotally supported by said secondary brackets, on axes parallel with the plane of their rotation around said first mentioned brackets; and pairs of springs adapted, respectively, to turn the outer edges of said nose-guards yieldingly inwardly against suitable stops; substantially as shown and described.

13,152. SKIRT-SUPPORTER. NORA C. EDWARDS, Buffalo, N. Y. Filed Aug. 10, 1907. Serial No. 388,064. Original No. 730,751, dated June 9, 1903, Serial No. 123,802.



1. A skirt-supporter comprising a substantially rectangular plate provided with end openings and a pair of lugs and further provided with a T-shaped opening forming a pair of attaching-arms, and a waist-belt extending through the said end openings and lying against one face of said plate.

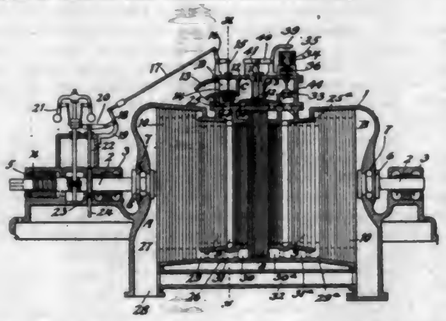
2. A skirt-supporter comprising a plate provided with a T-shaped opening forming a pair of attaching-arms adapted to enter a pocket in a waist, and a waist-belt secured to said plate and adapted to encircle the waist of a person for securing the plate thereto.

3. A skirt-supporter comprising a plate provided with a pair of oppositely-disposed attaching-arms adapted to enter a pocket in a waist, and a belt secured to said plate and lying lengthwise over said attaching arms.

13,153. TURBINE AND REGULATING MEANS THEREFOR. JOHN P. NIKONOW, Evansville, Ind., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed July 3, 1908. Serial No. 441,911. Original No. 862,187, dated Aug. 6, 1907, Serial No. 334,710.

1. In a turbine, the combination of a driving shaft, two distinct revoluble elements mounted in common upon said

shaft, means for admitting steam to one of said elements, and means automatically governed by the load and independent of the speed of the turbine for admitting the steam to both of said elements simultaneously.



2. In a turbine, the combination of a case, a driving shaft journaled therein, the case being provided with an intermediate abutment or partition dividing it into two distinct compartments, a revoluble element in each of said compartments, a steam chest, one compartment of which has open communication with the first set of blades of one compartment of the case and has a valved communication with the other compartment of the case, governor controlled means for automatically admitting steam to the said compartment of the steam chest, and means governed by the load and independent of the speed of the turbine for controlling the valved communication betwen the steam chest and the said compartment of the case.

3. In a turbine, the combination of two distinct turbine units which embody revoluble blades, means governed by the load for admitting steam to both units simultaneously, and means for automatically admitting high pressure steam to low pressure blades of both units, said last named means being actuated by the other means as set forth.

4. In a turbine, the combination of two revoluble elements embodying high pressure blades and low pressure blades, and a high pressure chamber communicating with the first blade of the high pressure series, and a low pressure chamber communicating with the last blade of the high pressure series and the first blade of the low pressure series, there being provided a passage communicating directly with the low pressure chamber at one end, governor controlled means, for controlling the delivery of steam to said high pressure chamber, and a high pressure chamber independent of the first named high pressure chamber and communicating with the said passage at its other end, and means governed by the load and independent of the speed of the turbine for automatically admitting high pressure steam to the second mentioned high pressure chamber, for the purpose specified.

5. In a turbine, the combination of two distinct turbine units, each embodying a revoluble element, a steam chest common to both units and divided into compartments, one of said compartments having open communication with one unit and a valve controlling its communication with the other unit, means for admitting steam into the said compartment, a solenoid, and a plunger having operative connection with the said valve, the plunger being arranged to be moved by the energization of said solenoid, substantially as described.

6. In a turbine, the combination of two distinct turbine units, each embodying a revoluble element, a steam chest common to both units and divided into compartments, one of said compartments having open communication with one unit and a valve controlling its communication with the other unit, means for admitting steam into the said compartment, a solenoid, a plunger having operative connection with the said valve, the plunger being arranged to be moved by the energization of the solenoid, and means for manually opening said valve.

7. In a turbine, the combination of two distinct turbine units, each embodying a revoluble element, a steam chest common to both units and divided into compartments, one of said compartments having open communication with one unit and a valve controlling its communication with the other unit, means for admitting steam into the said compartment, a solenoid, a plunger having operative connection with said valve, the plunger being arranged to be moved by the energization of the solenoid, and means for manually opening said valve, said means comprising a threaded valve stem, a hand wheel having threaded engagement with said stem, and a stop for the movement of said hand wheel in one direction, substantially as described.

8. In a turbine, the combination of two distinct turbine units, each embodying a revoluble element, a steam chest common to both units and divided into compartments, one of said compartments having open communication with one unit and a valve controlling its communication with the other unit, means for admitting steam into the said compartment, a solenoid, a plunger having operative connection with the said valve, the plunger being arranged to be moved by the energization of the solenoid, an armature also arranged to be attracted by said solenoid, and an overload valve designed to be actuated by the movement of said armature, the turbine units embodying both high pressure and low pressure blades, there being passages provided for directly admitting high pressure steam to the low pressure series of blades, the said admission of steam being controlled by said overload valve.

9. In a turbine, the combination of two distinct turbine units, each embodying a revoluble element, a steam chest common to both units and divided into compartments, one of said compartments having open communication with one unit, and a valve controlling its communication with the other unit, the units embodying high pressure blades and low pressure blades and means for admitting high pressure steam directly to the low pressure blades, said means including an armature arranged to be attracted by a solenoid, a plunger arranged to be moved by the energization of said solenoid, an automatically returned lever on one arm of which the armature is carried, and a valve operatively connected to the other arm of said lever, and there being provided ports and passages for the live steam, the said ports being controlled by said valve.

10. In a turbine, the combination of a case, a driving shaft journaled therein, the case being provided with an intermediate abutment dividing it into two distinct compartments, a revoluble element in each of said compartments, each revoluble element embodying a series of high pressure blades and a series of low pressure blades, means automatically governed by the load for admitting steam to one of said revoluble elements, or to both of said revoluble elements simultaneously, and means also governed by the load for admitting steam directly to the low pressure blades of both elements as well as to the high pressure blades.

11. In combination with the rotor element of a turbine, a supply valve and an overload valve, and means responsive to load variations and independent of speed variations for controlling the operation of said overload valve.

12. In a turbine, the combination of a case, a driving shaft journaled therein, two distinct revoluble elements mounted in common upon said shaft and within the case, a steam chest, one compartment of which has open communication with a set of blades of one revoluble element, and a valved communication with a set of blades of the other revoluble element, governor controlled means for automatically admitting steam to the said compartment of the steam-chest, and electrically actuated means governed by the load on the turbine for controlling the valved communication between the steam-chest and the other revoluble element.

13. In combination with the rotor element of a turbine, speed responsive means for controlling the delivery of motive fluid to the turbine, load responsive means independent of the speed of the turbine and of said speed responsive means for controlling the delivery of an auxiliary supply of fluid to the turbine.

14. In combination with the rotor of a turbine, a main supply valve and an overload valve delivering motive fluid to the turbine, speed responsive means controlling the operation of said main supply valve, and load responsive means for controlling the operation of said overload valve.

15. In combination with the rotor element of a turbine, a casing therefor provided with a plurality of series of fluid delivery ports, means for delivering motive fluid to said ports, and means responsive to variations of load on the turbine and independent of the speed for proportioning the delivery of motive fluid through one series of said ports in accordance with the load demand.

16. In combination with the rotor element of a turbine, a casing therefor provided with a plurality of series of fluid delivery ports, means for delivering motive fluid to said ports, and load responsive means for successively opening one series of said ports to proportion the delivery of motive fluid to the turbine in accordance with the load demand.

17. In combination with a multi-stage turbine, governor controlled means for delivering motive fluid to a high pressure stage of said turbine, and means, independent of said governor controlled means and responsive to variations of load on the turbine for by-passing motive fluid around the high pressure stage and delivering it to a stage of lower pressure.

18. In combination in a multi-stage turbine, means for delivering motive fluid thereto, and load responsive means independent of said before mentioned means and independent of the speed of the turbine for proportioning the delivery of motive fluid to the stages of the turbine.

19. In combination in an elastic fluid turbine, a rotor element, a casing therefor provided with a plurality of fluid delivery ports, speed responsive means for delivering motive fluid to said ports, and load responsive means for proportioning the delivery of motive fluid through said ports in accordance with the load demand.

20. In combination in a turbine, two separate multi-stage sections, means for delivering motive fluid to each section, a valve controlling the delivery of motive fluid to one section, and an overload valve for simultaneously by-passing motive fluid, received from said means, around a high pressure stage of each section.

21. In combination in a turbine, two separate multi-stage sections, speed responsive means controlling the delivery of motive fluid to both of said sections, a valve receiving motive fluid from said means and controlling the delivery of motive fluid to one of said sections, and an overload valve receiving motive fluid from said means for simultaneously by-passing motive fluid around a high pressure stage of each section.

22. In combination in an impulse turbine, alternately arranged fluid delivery passages, speed responsive means for delivering motive fluid to one of said passages, and load responsive means for delivering motive fluid to the next adjacent fluid delivery passage.

23. In a multi-stage turbine, governor controlled means for admitting motive fluid to the initial stage of said turbine, and load responsive means, independent of the speed of the turbine for by-passing fluid around the initial stage and admitting it to a stage normally of lower pressure.

24. In a multi-stage turbine, governor controlled means for delivering motive fluid to the turbine, and load responsive means independent of the speed of the turbine for by-passing motive fluid around a stage of said turbine.

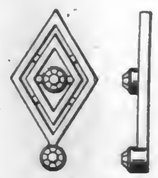
DESIGNS.

40,885. HAT-PIN. SIDNEY O. BIGNEY, Attleboro, Mass. Filed June 30, 1910. Serial No. 569,840. Term of patent 3½ years.



The ornamental design for a hat pin, as shown.

40,886. JEWELRY ORNAMENT. HENRY W. FISHEL, New York, N. Y., assignor to Henry W. Fishel and Theodore H. Fishel, New York, N. Y., Copartners. Filed June 7, 1910. Serial No. 565,657. Term of patent 7 years.



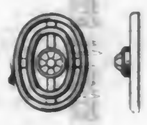
The ornamental design for a jewelry ornament as shown.

40,887. JEWELRY ORNAMENT. HENRY W. FISHEL, New York, N. Y., assignor to Henry W. Fishel and Theodore H. Fishel, New York, N. Y., Copartners. Filed June 7, 1910. Serial No. 565,658. Term of patent 7 years.



The ornamental design for a jewelry ornament as shown.

40,888. JEWELRY ORNAMENT. HENRY W. FISHEL, New York, N. Y., assignor to Henry W. Fishel and Theodore H. Fishel, New York, N. Y., Copartners. Filed June 7, 1910. Serial No. 565,659. Term of patent 7 years.



The ornamental design for a jewelry ornament as shown.

40,889. JEWELRY ORNAMENT. HENRY W. FISHEL, New York, N. Y., assignor to Henry W. Fishel and Theodore H. Fishel, New York, N. Y., Copartners. Filed June 7, 1910. Serial No. 565,661. Term of patent 7 years.



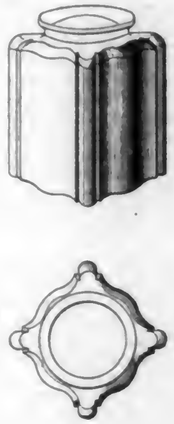
The ornamental design for a jewelry ornament as shown.

40,890. SPOON, FORK, OR SIMILAR ARTICLE. JOHN R. DEAN, Wallingford, Conn., assignor to International Silver Co., Meriden, Conn., a Corporation of New Jersey. Filed June 13, 1910. Serial No. 566,704. Term of patent 7 years.



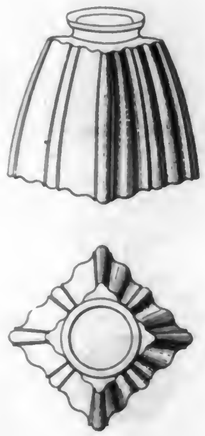
The ornamental design for a spoon, fork or similar article, as shown.

40,891. ARTIFICIAL-LIGHT SHADE. KRAFT BOOTH, Philadelphia, Pa., assignor to Gillinder & Sons, Inc., Philadelphia, Pa., a Corporation of Pennsylvania. Filed July 23, 1910. Serial No. 573,585. Term of patent 14 years.



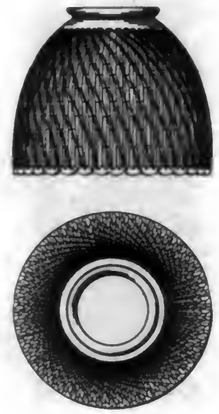
The ornamental design for an artificial light shade, as shown.

40,892. ARTIFICIAL-LIGHT SHADE. KRAFT BOOTH, Philadelphia, Pa., assignor to Gillinder & Sons, Inc., Philadelphia, Pa., a Corporation of Pennsylvania. Filed July 23, 1910. Serial No. 573,586. Term of patent 14 years.



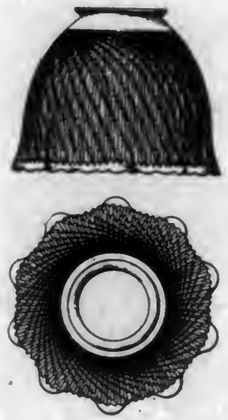
The ornamental design for an artificial light shade, as shown.

40,893. LAMP-SHADE. HARRY A. SCHNELBACH, Crafton, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Filed July 21, 1910. Serial No. 573,154. Term of patent 7 years.



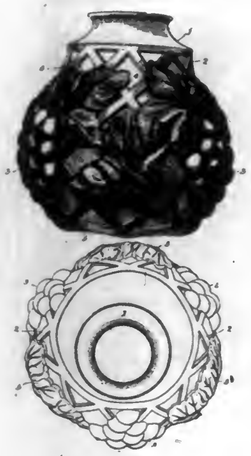
The ornamental design for a lamp shade, as shown.

40,894. LAMP-SHADE. HARRY A. SCHNELBACH, Crafton, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Filed July 21, 1910. Serial No. 573,155. Term of patent 7 years.



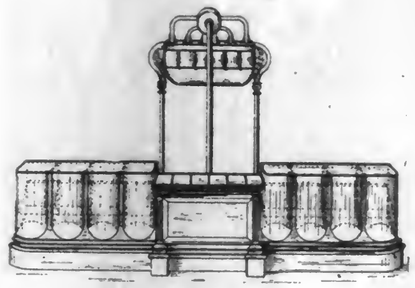
The ornamental design for a lamp shade, as shown.

40,895. SHADE. HUGH MCAFEE, Pittsburg, Pa., assignor to Consolidated Lamp & Glass Co., Coraopolis, Pa., a Corporation of West Virginia. Filed July 23, 1910. Serial No. 573,787. Term of patent 7 years.



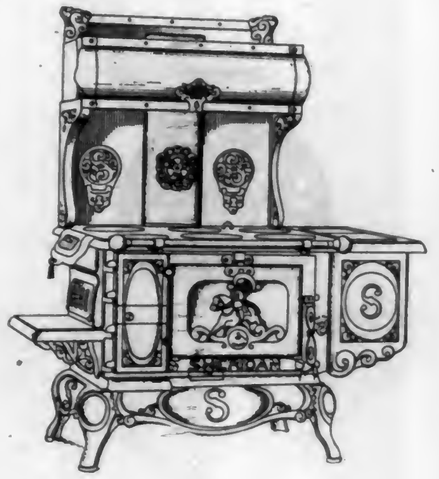
The ornamental design for a shade, substantially as shown and described.

40,896. COFFEE-COUNTER. FRANK F. WEAR, San Francisco, Cal. Filed Feb. 7, 1910. Serial No. 542,655. Term of patent 7 years.



The ornamental design for a coffee counter as shown.

40,897. STOVE. SIDNEY P. LANDCRAFT, Quincy, Ill. Filed July 19, 1910. Serial No. 572,750. Term of patent 7 years.



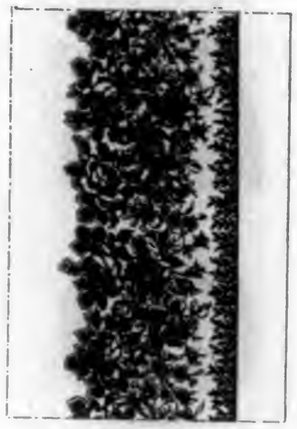
The ornamental design for a stove, as shown.

40,898. TEXTILE FABRIC. SOPHIA L. CROWNFIELD, New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 13, 1910. Serial No. 561,268. Term of patent 3½ years.



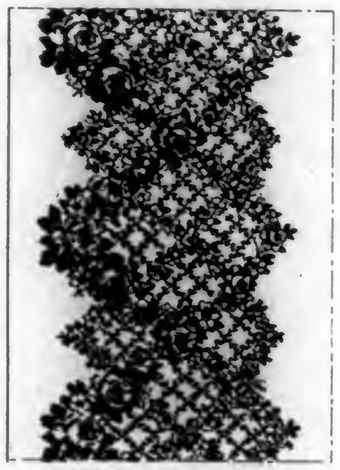
The ornamental design for a textile fabric, as shown.

40,899. TEXTILE FABRIC. ROBERT GATTIKER, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 17, 1910. Serial No. 561,925. Term of patent 3½ years.



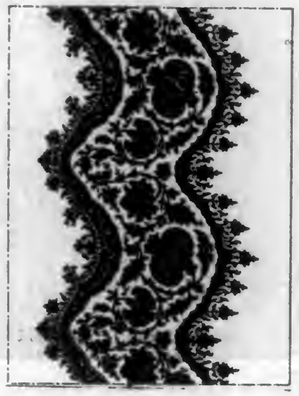
The ornamental design for a textile fabric as shown.

40,900. TEXTILE FABRIC. ROBERT GATTIKER, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 21, 1910. Serial No. 562,785. Term of patent 3½ years.



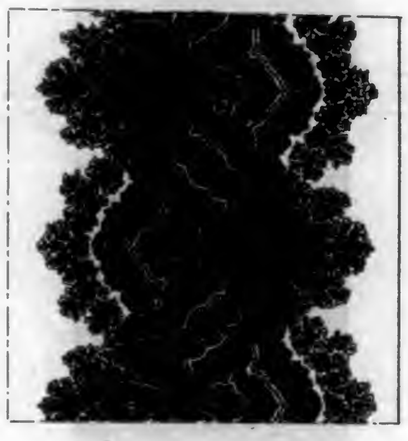
The ornamental design for a textile fabric, as shown.

40,901. TEXTILE FABRIC. PAUL MOUTON, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 19, 1910. Serial No. 562,347. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

40,902. TEXTILE FABRIC. PAUL MOUTON, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 21, 1910. Serial No. 562,784. Term of patent 3½ years.



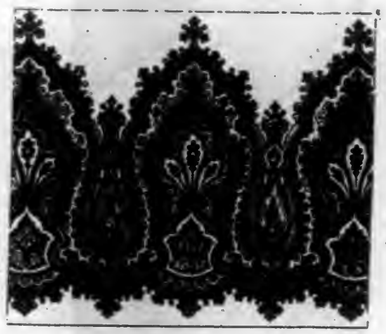
The ornamental design for a textile fabric, as shown.

40,903. TEXTILE FABRIC. PAUL MOUTON, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 23, 1910. Serial No. 563,020. Term of patent 3½ years.



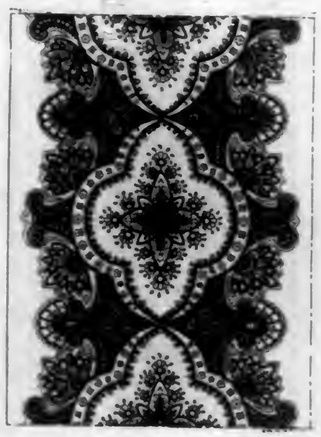
The ornamental design for a textile fabric, as shown.

40,904. TEXTILE FABRIC. PAUL MOUTON, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 25, 1910. Serial No. 563,444. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

40,905. TEXTILE FABRIC. EMILE SINS, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 7, 1910. Serial No. 560,097. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

40,906. RUG. JOHN MERRY, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,016. Term of patent 7 years.



The ornamental design for a rug, as shown.

40,907. RUG. JOHN MERRY, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,017. Term of patent 7 years.



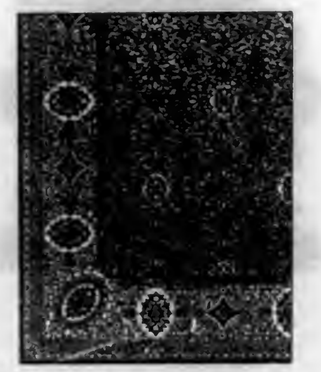
The ornamental design for a rug, as shown.

40,908. RUG. WILLIAM G. REITH, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,018. Term of patent 7 years.



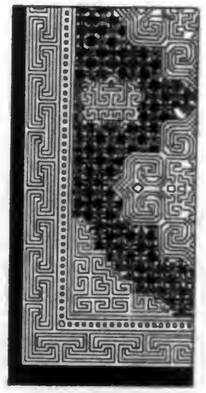
The ornamental design for a rug, as shown.

40,909. RUG. WILLIAM G. REITH, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,019. Term of patent 7 years.



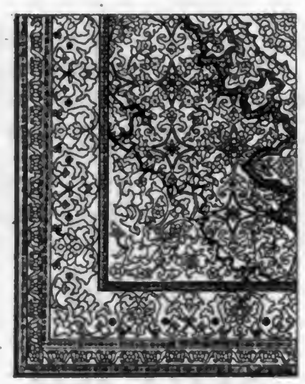
The ornamental design for a rug, as shown.

40,910. RUG. WILLIAM A. SPRING, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,020. Term of patent 3½ years.



The ornamental design for a rug, as shown.

40,911. RUG. WILLIAM A. SPRING, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,021. Term of patent 3½ years.



The ornamental design for a rug, as shown.

40,912. RUG. JOHN H. WITZEL, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,022. Term of patent 7 years.



The ornamental design for a rug, as shown.

40,913. RUG. JOHN H. WITZEL, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,023. Term of patent 7 years.



The ornamental design for a rug, as shown.

TRADE-MARKS

PUBLISHED SEPTEMBER 20, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 35,136. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) ROBERT BISHOP, trustee of the estate of Robert Bishop, Boston, Mass. Filed June 4, 1908.

ARROW BRAND

Particular description of goods.—Cotton Lamp-Wicking.

Ser. No. 35,446. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) MARKT & CO, LTD., New York, N. Y. Filed June 17, 1908. Used ten years.



Particular description of goods.—Bit-Braces.

Ser. No. 37,542. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) CARL ZEISS, Jena, Germany. Filed Sept. 22, 1908.

Hypoplast

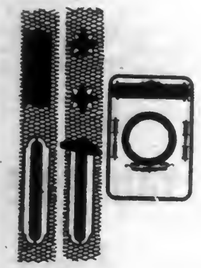
Particular description of goods.—Telescopes.

Ser. No. 37,543. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) CARL ZEISS, Jena, Germany. Filed Sept. 22, 1908.

Teleplast

Particular description of goods.—Telescopes.

Ser. No. 41,286. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) LEMARCHAND FRÈRES & CIE., Treboul, France. Filed Mar. 19, 1909.



Particular description of goods.—Canned Sardines in Olive-Oil.

Ser. No. 43,178. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) EDOUARD LEURENT, Tourcoing, France. Filed June 22, 1909.

"Securitas."

Particular description of goods.—Linen and Wool Piece Goods.

Ser. No. 43,179. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) EDOUARD LEURENT, Tourcoing, France. Filed June 22, 1909.

"LILAINE"

Particular description of goods.—Linen and Wool Piece Goods.

Ser. No. 43,183. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) EDOUARD LEURENT, Tourcoing, France. Filed June 22, 1909.

Securitas.

Particular description of goods.—Linen and Wool Piece Goods.

Ser. No. 44,008. (CLASS 48. MALT EXTRACTS AND LIQUORS.) GABRIEL SEDLMAYR, BRAUEREI ZUM SPATEN, Munich, Bavaria. Filed Aug. 6, 1909. Used ten years.

VERSANDT BIER GABRIEL SEDLMAYR BRAUEREI ZUM SPATEN MÜNCHEN

Particular description of goods.—Beer.

Ser. No. 45,113. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) PITTMAN INK COMPANY, Battle Creek, Mich. Filed Oct. 4, 1909.

Red Top

Particular description of goods.—Edge-Ink.

Ser. No. 46,544. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DIEHM-FANSLER GROCER COMPANY, East St. Louis, Ill. Filed Dec. 15, 1909.

AS YOU LIKE IT

Particular description of goods.—Canned Fruits, Vegetables, Pork and Beans, Oysters, Salmon, Sauer-Kraut, and Hominy.

Ser. No. 46,545. (CLASS 10. FERTILIZERS.) HOME FERTILIZER & CHEMICAL COMPANY, Baltimore, Md. Filed Dec. 15, 1909. Used ten years.

CEREAL

Particular description of goods.—Fertilizers.

Ser. No. 47,476. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) JOHN MORTON BARTH, East St. Louis, Ill. Filed Jan. 31, 1910.



The picture being fanciful.

Particular description of goods.—Furniture-Polish.

Ser. No. 47,965. (CLASS 12. CONSTRUCTION MATERIALS.) COLLOSEUS CEMENT COMPANY, New York, N. Y. Filed Feb. 23, 1910.

COLLOS

Particular description of goods.—Hydraulic Cement.

Ser. No. 48,087. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) MORITZ GOODMAN, San Francisco, Cal. Filed Mar. 1, 1910.



Consisting of my portrait and a facsimile of my signature.

Particular description of goods.—A Medicine for Stomach, Kidney, and Bladder Troubles, Malaria and Typhoid Fever, Dysentery, Cramps, Catarrh of the Stomach, Indigestion, Dyspepsia, Heartburn, Piles, Gonorrhea, Diabetes, Pain or Strain, Appendicitis, Headache, Bronchitis, Whooping-Cough, Colds, La Grippe, Sore Throat, Asthma, Gravel, Nervousness, and Insomnia.

Ser. No. 48,574. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ALBERT MACKIE GROCER COMPANY, LTD., New Orleans, La. Filed Mar. 21, 1910.

M&

Particular description of goods.—Flavoring Extracts, Corn and Cane Syrup, Cane and Corn Syrup Compound, Mustard, Nutmegs, Spices, Rice, Wheat-Flour, Dried Shrimps, and Canned Fruits, Vegetables, Fish, Oysters, Baked Beans, Sauer-Kraut, and Lye-Hominy.

Ser. No. 49,056. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE DEERLICK OIL STONE COMPANY, Chagrin Falls, Ohio. Filed Apr. 13, 1910. Used ten years.

Deerlick

Particular description of goods.—Sharpening-Stones, Whetstones, Oil-Stones, Scythe-Stones, Slip-Stones, Ax-Stones, Razor-Hones, and Gouge-Stones.

Ser. No. 49,225. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) F. RASCHIG, Ludwigshafen-on-the-Rhine, Germany. Filed Apr. 21, 1910.



Particular description of goods.—Carbolic Acid, Cresol, and Disinfectants.

Ser. No. 49,263. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) THE OHIO TRUSS CO., Cincinnati, Ohio. Filed Apr. 23, 1910.



Particular description of goods.—Abdominal Supporters and Bandages and Suspensories.

Ser. No. 49,645. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) ADAMS & ELTING COMPANY, Chicago, Ill. Filed May 11, 1910.

HY-POL

Particular description of goods.—Polishes for Furniture, Pianos, Floors, Interior Woodwork, Automobiles, Carriages, and All Varnished or Waxed Surfaces.

Ser. No. 49,763. (CLASS 2. RECEPTACLES.) THE UNION BAG AND PAPER COMPANY, Jersey City, N. J., and New York, N. Y. Filed May 16, 1910.

DRUM HEAD



Particular description of goods.—Paper Bags.

Ser. No. 49,771. (CLASS 12. CONSTRUCTION MATERIALS.) IMPERVIOUS PRODUCTS COMPANY, New York, N. Y. Filed May 17, 1910.

IMPERVITE

Particular description of goods.—Composition to be Added to Cement, Mortar, or Concrete for Rendering the Same Waterproof.

Ser. No. 49,827. (CLASS 39. CLOTHING.) KLUSEWITZ BROS., Reading, Pa. Filed May 20, 1910.

RED MAN'S

Particular description of goods.—Hosiery.

Ser. No. 49,897. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) W. W. WHITE & Co., Norfolk, Va. Filed May 24, 1910.

ZANCO

Particular description of goods.—Fruit-Flavored Ciders.

Ser. No. 49,937. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CONNOLLY & SLAVEN, Galesburg, Ill. Filed May 26, 1910.

Raid

Particular description of goods.—Powders, Pastes, Granules, and Solutions for the Extermination of Noxious Insects and Parasites.

Ser. No. 50,052. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE MODEL PHARMACY COMPANY, St. Joseph, Mo. Filed June 2, 1910.

PIXIE

Particular description of goods.—A Medicated Emollient Cream for Milk-Bags and Teats of Cows.

Ser. No. 50,138. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) EXCELSIOR QUILTING COMPANY, New York, N. Y. Filed June 6, 1910.



Particular description of goods.—Bed-Mattress Protectors.

Ser. No. 50,218. (CLASS 39. CLOTHING.) A. D. KATCHER & BRO., New York, N. Y. Filed June 9, 1910.

"SMILING BEAUTY"

Particular description of goods.—Infants' and Children's Caps.

Ser. No. 50,254. (CLASS 38. PRINTS AND PUBLICATIONS.) TOBACCO WORLD CORPORATION, Audubon, N. J., and Philadelphia, Pa. Filed June 10, 1910.



Particular description of goods.—A Weekly Periodical.

Ser. No. 50,255. (CLASS 38. PRINTS AND PUBLICATIONS.) TOBACCO WORLD CORPORATION, Audubon, N. J., and Philadelphia, Pa. Filed June 10, 1910. Used ten years.

THE TOBACCO WORLD

Particular description of goods.—A Weekly Periodical.

Ser. No. 50,369. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) NORVAL LANDON BURCHELL, Washington, D. C. Filed June 17, 1910.

SUN-LAN

Particular description of goods.—Tea.

Ser. No. 50,508. (CLASS 15. OILS AND GREASES.) ADAM COOK'S SONS, New York, N. Y. Filed June 22, 1910.



The picture being fanciful.
Particular description of goods.—A Lubricating-Grease.

Ser. No. 50,546. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) HERMANN HILLE, Oak Park, Ill. Filed June 24, 1910.



Particular description of goods.—Medicinal Tonic.

Ser. No. 50,602. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) THE REPUBLIC METALWARE COMPANY, Buffalo, N. Y. Filed June 27, 1910.

MAGNOLIA

Particular description of goods.—Enameled Metal Ware.

Ser. No. 50,676. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SOUR KROUT CANDY CO., Chicago, Ill. Filed July 2, 1910. Used ten years.

SOUR KROUT

Particular description of goods.—Candy.

Ser. No. 50,758. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) H. R. HALL CO., Chicago, Ill. Filed July 8, 1910.

ROMEO

Particular description of goods.—Coffee, Tea, Spices, Flavoring Extracts, and Essences.

Ser. No. 50,865. (CLASS 32. FURNITURE AND UPHOLSTERY.) CHARLES H. THUNER FURNITURE & CARPET CO., St. Louis, Mo. Filed July 16, 1910. Used ten years.

Thuner's

Particular description of goods.—Beds, Bedsteads, Bed-Springs, Cots, Mattresses, Lounges, Sofas, Settees, Sideboards, Wardrobes, Chiffonniers, Bureaus, Bookcases, Desks, Tables, Chairs, China-Closets, and Stools.

Ser. No. 50,876. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) LA FRANCESA CO., Louisville, Ky. Filed July 18, 1910.



The portrait being fanciful.
Particular description of goods.—Face-Powder, Rouge, and Nail-Polish Spread on Paper.

Ser. No. 50,938. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed July 20, 1910. Used ten years.



The letter "N" appearing colored in red.
Particular description of goods.—Lubricating-Oils.

Ser. No. 50,939. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed July 20, 1910. Used ten years.



The letters "C T" appearing colored in red.
Particular description of goods.—Lubricating-Oils.

Ser. No. 50,940. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed July 20, 1910. Used ten years.



Particular description of goods.—Lubricating-Oils.

Ser. No. 50,941. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed July 20, 1910. Used ten years.



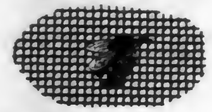
"Extra" appearing colored in red.
Particular description of goods.—Lubricating-Oils.

Ser. No. 50,945. (CLASS 12. CONSTRUCTION MATERIALS.) THE CINCINNATI SHEET METAL & ROOFING COMPANY, Cincinnati, Ohio. Filed July 20, 1910.



Particular description of goods.—Composition Roofing.

Ser. No. 50,963. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) CLINTON WIRE CLOTH COMPANY, Clinton, Mass. Filed July 21, 1910.



Particular description of goods.—Wire-Cloth.

Ser. No. 50,964. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) CLINTON WIRE CLOTH COMPANY, Clinton, Mass. Filed July 21, 1910. Used ten years.

SILVER FINISH

Particular description of goods.—Wire-Netting.

Ser. No. 50,977. (CLASS 38. PRINTS AND PUBLICATIONS.) FRED L. KIMBALL COMPANY, Waterloo, Iowa. Filed July 21, 1910.

THE CREAMERY JOURNAL

Particular description of goods.—A Periodical Publication Published Weekly.

Ser. No. 51,046. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) CLINTON WIRE CLOTH COMPANY, Clinton, Mass. Filed July 25, 1910. Used ten years.

POMPEIIAN

Particular description of goods.—Wire-Cloth.

Ser. No. 51,063. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) DANIEL CLEMENS, Fort Wayne, Ind. Filed July 26, 1910.

MAHOGANY

Particular description of goods.—Straight Whisky.

Ser. No. 51,064. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) DANIEL CLEMENS, Fort Wayne, Ind. Filed July 26, 1910.

PLANK ROAD

Particular description of goods.—Straight Whisky.

Ser. No. 51,065. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) DANIEL CLEMENS, Fort Wayne, Ind. Filed July 26, 1910.

OLD TOLL HOUSE

Particular description of goods.—Straight Whisky.

Ser. No. 51,066. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) DANIEL CLEMENS, Fort Wayne, Ind. Filed July 26, 1910.

OPTIMO

Particular description of goods.—Straight Whisky.

Ser. No. 51,188. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE ROSENBLATT CO., San Francisco, Cal. Filed July 30, 1910.

VIRGIN BRAND

Particular description of goods.—Brandy.

Ser. No. 51,215. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) A. G. SPALDING & BROS., Jersey City, N. J., and New York, N. Y. Filed Aug. 1, 1910.

BABY

DIMPLE

Particular description of goods.—Golf-Balls.

Ser. No. 51,248. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) FRITZSCHE BROTHERS, New York, N. Y. Filed Aug. 3, 1910.

AVOLIN

Particular description of goods.—A Solvent and Fixative for Essential and Fixed Oils, Aromatic Chemicals, Natural and Synthetic Flower-Oils, Balsams, and Resins.

TRADE-MARKS

REGISTERED SEPTEMBER 20, 1910.

79,542. BAKING-POWDER. ABSOPURE BAKING POWDER COMPANY, San Francisco, Cal.
Filed May 23, 1910. Serial No. 49,869. PUBLISHED JULY 19, 1910.

79,543. FISH-HOOKS. S. ALLCOCK & CO., LIMITED, Redditch, England.
Filed September 15, 1908. Serial No. 37,391. PUBLISHED OCTOBER 19, 1909.

79,544. WHEAT-FLOUR. THE ALLEN & WHEELER COMPANY, Troy, Ohio.
Filed May 25, 1910. Serial No. 49,914. PUBLISHED JULY 19, 1910.

79,545. CERTAIN MACHINERY. AMERICAN ROAD MACHINE COMPANY, Kennett Square, Pa.
Filed November 27, 1909. Serial No. 46,141. PUBLISHED JULY 19, 1910.

79,546. COVER-PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 3, 1910. Serial No. 50,088. PUBLISHED JULY 19, 1910.

79,547. ALL KINDS OF CANDY. PAUL F. BEICH COMPANY, Bloomington, Ill.
Filed June 2, 1910. Serial No. 50,061. PUBLISHED JULY 19, 1910.

79,548. VARNISH-STAINS AND ENAMELS. BINDLEY HARDWARE & MFG. CO., Pittsburg, Pa.
Filed April 14, 1910. Serial No. 49,101. PUBLISHED JULY 19, 1910.

79,549. CERTAIN CHEMICAL COMPOUNDS. BIRD-ARCHER COMPANY, New York, N. Y.
Filed May 7, 1910. Serial No. 49,568. PUBLISHED JULY 19, 1910.

79,550. [WITHDRAWN.]

79,551. CANDIES. ISAAC EMANUEL BLOCK, Chicago, Ill.
Filed June 3, 1910. Serial No. 50,085. PUBLISHED JULY 19, 1910.

79,552. ORANGE-BITTERS. BOOTH'S DISTILLERY LIMITED, London, England.
Filed April 2, 1910. Serial No. 48,819. PUBLISHED JULY 19, 1910.

79,553. BOOKS OF A LITERARY NATURE. BRENTANO'S, New York, N. Y.
Filed May 7, 1910. Serial No. 49,567. PUBLISHED JULY 19, 1910.

79,554. MAN-PROPELLED REPAIRMAN'S TRUCK. THE BROWN COMPANY, Syracuse, N. Y.
Filed May 3, 1910. Serial No. 49,540. PUBLISHED JULY 19, 1910.

79,555. HOSIERY. BROWN DURRELL CO., Boston, Mass.
Filed October 4, 1909. Serial No. 45,139. PUBLISHED DECEMBER 7, 1909.

79,556. TOILET PREPARATIONS. EDWARD BURNHAM, Chicago, Ill.
Filed March 23, 1910. Serial No. 48,628. PUBLISHED JULY 19, 1910.

79,557. MOP-WRINGER PAIL. CHARLES B. BUSHNELL, Mansfield, Ohio.
Filed June 3, 1910. Serial No. 50,081. PUBLISHED JULY 19, 1910.

79,558. CHEWING-GUM. COLGAN GUM CO., Louisville, Ky.
Filed May 12, 1910. Serial No. 49,655. PUBLISHED JULY 19, 1910.

79,559. CANNED HERRING-ROE. COULEHAN & HOGAN, Baltimore, Md.
Filed May 5, 1910. Serial No. 49,527. PUBLISHED JULY 19, 1910.

79,560. SCRAP-FILES. FRANK O. CUNNINGHAM, New Bedford, Mass.
Filed May 21, 1910. Serial No. 49,834. PUBLISHED JULY 19, 1910.

79,561. SWEETENED FOOD COMPOSITION. GEORGE B. DOUGHTY, Cleveland, Ohio.
Filed April 4, 1910. Serial No. 48,845. PUBLISHED JULY 19, 1910.

79,562. TOILET PREPARATIONS AND MEDICINES. JOHN T. ECKES, Minneapolis, Minn.
Filed August 17, 1908. Serial No. 36,785. PUBLISHED JULY 13, 1909.

79,563. SUSPENDERS AND GARTERS. THE C. A. EDGARTON MFG. CO., Shirley, Mass.
Filed June 27, 1910. Serial No. 50,608. PUBLISHED JULY 19, 1910.

79,564. CERTAIN ELECTRIC APPARATUS AND SUPPLIES. ELECTR. SIGNAL- UND KRAFTANLAGEN WALTER BLUT, Berlin, Germany.
Filed January 31, 1910. Serial No. 47,477. PUBLISHED JULY 19, 1910.

79,565. REMEDY FOR PILES. JOHN ELEFRITZ, St. Louis, Mo.
Filed November 8, 1909. Serial No. 45,764. PUBLISHED FEBRUARY 1, 1910.

79,566. GLOVES, MITTENS, AND FUR COATS. ELLSWORTH AND THAYER MANUFACTURING COMPANY, Milwaukee, Wis.
Filed June 17, 1910. Serial No. 50,348. PUBLISHED JULY 19, 1910.

79,567. PREPARATION FOR THE TOILET. EMERSON DRUG CO., Baltimore, Md.
Filed June 24, 1910. Serial No. 50,564. PUBLISHED JULY 19, 1910.

79,568. MEDICINE. PIERRE FAMEL, Paris, France.
Filed August 25, 1908. Serial No. 36,931. PUBLISHED JULY 19, 1910.

79,569. SMELLING-SALTS, TOILET PREPARATIONS, AND PERFUMES. FINLAY DICKS & CO. LTD., New Orleans, La.
Filed June 29, 1908. Serial No. 35,846. PUBLISHED JULY 19, 1910.

79,570. SCALP-LOTIONS, FOOT-LOTIONS, AND HAIR-DRESSINGS. PAUL C. GILL, Los Angeles, Cal.
Filed March 1, 1910. Serial No. 48,088. PUBLISHED JULY 19, 1910.

79,571. VEGETABLE BUTTER. WILMER INGALLS GORDON, Sr., Cleveland, Ohio.
Filed April 28, 1910. Serial No. 49,347. PUBLISHED JULY 19, 1910.

79,572. CANDY. GREEK AMERICAN CONFECTIONERY CO., New York, N. Y., assignor to Novelty Candy & Chocolate Co., a Corporation of New Jersey.
Filed August 9, 1907. Serial No. 29,312. PUBLISHED SEPTEMBER 7, 1909.

79,573. [WITHDRAWN.]

79,574. SILK, COTTON, MERCERIZED, AND MACHINE SEWING-THREADS. GUDEBROD BROS. CO., New York, N. Y.
Filed May 7, 1910. Serial No. 49,591. PUBLISHED JULY 19, 1910.

79,575. FOOT-POWDER. HAEFNER REMEDY CO., St. Louis, Mo.
Filed March 24, 1909. Serial No. 41,370. PUBLISHED JULY 19, 1910.

79,576. REMEDY FOR DISEASES OF THE BLOOD. WILLIAM F. HILL, Richmond, Ind.
Filed April 28, 1910. Serial No. 49,374. PUBLISHED JULY 19, 1910.

79,577. REMEDY FOR CERTAIN DISEASES. THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Y., assignor, by mesne assignments, to Sirolin Co., New York, N. Y., a Corporation of New York.
Filed June 2, 1910. Serial No. 50,060. PUBLISHED JULY 19, 1910.

79,578. SAUCE FOR SEASONING FOODS. HOLBROOKS LIMITED, Birmingham, London, and Manchester, England.
Filed March 26, 1910. Serial No. 48,668. PUBLISHED JULY 19, 1910.

79,579. ACID PYROGALLIC CRYSTALS. CHARLES S. HOLLANDER, St. Louis, Mo.
Filed June 24, 1910. Serial No. 50,563. PUBLISHED JULY 19, 1910.

79,580. MEDICINES FOR PILES. JOHN P. HOLLIWAY, St. Joseph, Mo.
Filed March 30, 1910. Serial No. 48,745. PUBLISHED JULY 19, 1910.

79,581. ALL KINDS OF CANDIES. THE FREMONT CANDY COMPANY, Fremont, Ohio.
Filed April 16, 1910. Serial No. 49,161. PUBLISHED JULY 19, 1910.

79,582. BOTTLE-HOLDER. THE HOLZ MANUFACTURING CO., Cleveland, Ohio.
Filed April 26, 1910. Serial No. 49,312. PUBLISHED JULY 19, 1910.

79,583. TOILET PREPARATIONS. FREDERICK F. INGRAM CO., Detroit, Mich.
Filed September 15, 1909. Serial No. 44,706. PUBLISHED JULY 19, 1910.

79,584. STAMPED AND MARKED EMBROIDERY-PATTERNS. THE INITIAL COMPANY, INC., Wytheville, Va.
Filed January 19, 1910. Serial No. 47,246. PUBLISHED JULY 19, 1910.

79,585. METAL CASTINGS AND FORGINGS. WILLIAM JESSOP & SONS, LIMITED, Sheffield, England.
Filed March 2, 1910. Serial No. 48,119. PUBLISHED JULY 19, 1910.

79,586. WASHBOILERS. MYER KAMENSTEIN, New York, N. Y.
Filed May 19, 1910. Serial No. 49,814. PUBLISHED JULY 19, 1910.

79,587. BLANK BOOKS. KIGGINS & TOOKER CO., New York, N. Y.
Filed May 21, 1910. Serial No. 49,850. PUBLISHED JULY 19, 1910.

79,588. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed May 24, 1910. Serial No. 49,887. PUBLISHED JULY 19, 1910.

79,589. CANNED CORN. THE KROGER GROCERY & BAKING COMPANY, Cincinnati, Ohio.
Filed June 3, 1910. Serial No. 50,078. PUBLISHED JULY 19, 1910.

79,590. BLENDED COFFEE. THE H. D. LEE MERCANTILE COMPANY, Salina, Kans.
Filed June 3, 1910. Serial No. 50,097. PUBLISHED JULY 19, 1910.

79,591. WORSTED CLOTH PIECE GOODS. MARTIN SONS AND COMPANY, LIMITED, Huddersfield, England.
Filed December 9, 1909. Serial No. 46,379. PUBLISHED JULY 19, 1910.

79,592. FIRE DOORS AND SHUTTERS AND FRAMES THEREFOR. DAVID CHARLES MEEHAN, Columbus, Ohio.
Filed May 27, 1910. Serial No. 49,975. PUBLISHED JULY 19, 1910.

79,593. ARTIFICIAL PLUMES. LOUIS METZGER & CO., New York, N. Y.
Filed May 25, 1910. Serial No. 49,919. PUBLISHED JULY 19, 1910.

79,594. THREAD AND YARN. JOHN C. MEYER, Lowell, Mass.
Filed April 5, 1909 Serial No. 41,606. PUBLISHED JUNE 8, 1909.

79,595. BICYCLES AND TRICYCLES. NATIONAL CYCLE MANUFACTURING COMPANY, Bay City, Mich.
Filed May 22, 1906. Serial No. 19,771. PUBLISHED JULY 19, 1910.

79,596. RUBBER SOLES AND RUBBER HEELS. CLIFFORD H. OAKLEY, Trenton, N. J.
Filed March 9, 1910. Serial No. 48,302. PUBLISHED JULY 19, 1910.

79,597. RUBBER QUOITS AND CROQUET-BALLS. CLIFFORD H. OAKLEY, Trenton, N. J.
Filed March 9, 1910. Serial No. 48,303. PUBLISHED JULY 19, 1910.

79,598. CERTAIN TEXTILES. PARKES MACHINE COMPANY, New York, N. Y.
Filed February 15, 1910. Serial No. 47,859. PUBLISHED JULY 19, 1910.

79,599. PORCELAIN WARE. PORZELLANFABRIK WEIDEN, GEBR. BAUSCHER, G. M. B. H., Weiden, Germany.
Filed October 28, 1909. Serial No. 45,593. PUBLISHED JULY 19, 1910.

79,600. CERTAIN FOODS. RIBO-WERKE, G. M. B. H., Bremen, Germany.
Filed February 24, 1910. Serial No. 48,006. PUBLISHED JULY 19, 1910.

79,601. KNIT SCARFS AND MUFFLERS. N. J. RICH & CO., Cleveland, Ohio.
Filed June 6, 1910. Serial No. 50,155. PUBLISHED JULY 19, 1910.

79,602. KNIT SCARFS AND MUFFLERS. N. J. RICH & CO., Cleveland, Ohio.
Filed June 6, 1910. Serial No. 50,158. PUBLISHED JULY 19, 1910.

79,603. PREPARATION FOR TREATING BLIGHT. JOHN W. ROBERTSON, Rector, Ark.
Filed June 27, 1910. Serial No. 50,504. PUBLISHED JULY 19, 1910.

79,604. CERTAIN PIECE GOODS. ROGERS & THOMPSON, West New York, N. J., and New York, N. Y.
Filed September 15, 1909. Serial No. 44,702. PUBLISHED JULY 19, 1910.

79,605. SUSPENDERS, BELTS, AND EMBROIDERIES. ROUSE, HEMPSTONE & CO., Baltimore, Md.
Filed May 3, 1909. Serial No. 42,194. PUBLISHED JULY 19, 1910.

79,606. NECKTIES, CRAVATS, SCARFS, NECKCLOTHS, AND BELTS. ROUSE, HEMPSTONE & CO., Baltimore, Md.
Filed May 3, 1909. Serial No. 42,197. PUBLISHED JULY 19, 1910.

79,607. REMEDIES FOR CERTAIN DISEASES. ROYAL HEALTH MEDICINE CO., Middlesboro, Ky.
Filed June 8, 1910. Serial No. 50,193. PUBLISHED JULY 19, 1910.

79,608. CORSETS. THE SAHLIN COMPANY, Chicago, Ill.
Filed May 12, 1910. Serial No. 49,671. PUBLISHED JULY 19, 1910.

79,609. CHOCOLATE DROPS. ABRAHAM SCHOFF, Philadelphia, Pa., assignor to American Caramel Company, York, Pa., a Corporation of Pennsylvania.
Filed January 24, 1910. Serial No. 47,327. PUBLISHED JULY 19, 1910.

79,610. REMEDY FOR THE TREATMENT OF MALARIA. SHARP & DOHME, Baltimore, Md.
Filed November 16, 1909. Serial No. 45,931. PUBLISHED MARCH 8, 1910.

79,611. REMEDY FOR CHILLS, FEVER, AND AGUE. SKIDOO REMEDY COMPANY (by change of name now Lee Remedy Company), Seattle, Wash.
Filed May 31, 1910. Serial No. 50,007. PUBLISHED JULY 19, 1910.

79,612. BAR-STEEL. SWEDISH IRON & STEEL CORPORATION, New York, N. Y., and New Orleans, La.
Filed June 13, 1910. Serial No. 50,287. PUBLISHED JULY 19, 1910.

79,613. LUBRICATING-OIL. THE TEXAS COMPANY, Houston, Tex., and New York, N. Y.
Filed June 17, 1910. Serial No. 50,346. PUBLISHED JULY 19, 1910.

79,614. HOSIERY. E. M. TOWNSEND & CO., New York, N. Y.
Filed June 18, 1910. Serial No. 50,426. PUBLISHED JULY 19, 1910.

79,615. WOVEN-WIRE FABRICS FOR SCREENS. THE W. S. TYLER COMPANY, Cleveland, Ohio.
Filed March 26, 1909. Serial No. 41,425. PUBLISHED JULY 19, 1910.

79,616. WRITING AND PRINTING PAPER. UNION CARD & PAPER CO., New York, N. Y.
Filed June 18, 1909. Serial No. 43,099. PUBLISHED JULY 19, 1010.

79,617. SALVE FOR THE FACE, CHAPPED HANDS, AND BURNS. JOSEPH P. URBEN, Pittsburg, Pa.
Filed March 11, 1909. Serial No. 41,115. PUBLISHED NOVEMBER 16, 1909.

79,618. METAL FORGINGS. J. H. WILLIAMS & CO., New York, N. Y.
Filed June 15, 1910. Serial No. 50,326. PUBLISHED JULY 19, 1910.

79,619. COFFEE. THOMAS WOOD & CO., Boston, Mass.
Filed January 28, 1909. Serial No. 40,183. PUBLISHED JULY 19, 1910.

79,620. FLUID-PRESSURE GAGES, FLUID-PRESSURE INDICATORS, AND FLUID-PRESSURE REGULATORS. A. SCHRADER'S SON, INCORPORATED, New York, N. Y.
Filed May 6, 1910. Serial No. 49,546. PUBLISHED JULY 19, 1910.

79,621. VALVES AND PARTS OF VALVES. WILLIAM E. ZIERDEN, Johnsonburg, Pa.
Filed May 18, 1910. Serial No. 49,785. PUBLISHED JULY 19, 1910.

79,622. ANTISEPTIC AND ASTRINGENT MOUTH-WASH. THE ZYMOLE COMPANY, New York, N. Y.
Filed May 23, 1910. Serial No. 49,878. PUBLISHED JULY 19, 1910.

79,623. CIGARETTES AND SMOKING-TOBACCO. ABDULLA & CO., LD., London, England.
Filed February 16, 1906. Serial No. 17,161. PUBLISHED JULY 19, 1910.

79,624. BEERS AND MALT EXTRACTS. ADOLPH COORS COMPANY, near Golden and Denver, Colo.
Filed May 9, 1910. Serial No. 49,605. PUBLISHED JULY 19, 1910.

79,625. HEAD-MIRRORS, THROAT-MIRRORS, AND DENTAL MIRRORS. BAUSCH & LOMB OPTICAL CO., Rochester, N. Y.
Filed June 6, 1910. Serial No. 50,150. PUBLISHED JULY 19, 1910.

79,626. CHAMPAGNE COGNAC BRANDY. J. GAUTRET FILS, Jonzac, France.
Filed September 1, 1908. Serial No. 37,081. PUBLISHED JULY 19, 1910.

79,627. COGNAC BRANDY. J. GAUTRET FILS, Jonzac, France.
Filed September 1, 1908. Serial No. 37,082. PUBLISHED JULY 19, 1910.

79,628. CHAMPAGNE COGNAC BRANDY. J. GAUTRET FILS, Jonzac, France.
Filed September 1, 1908. Serial No. 37,083. PUBLISHED JULY 19, 1910.

79,629. STRAIGHT BOURBON WHISKY. THE KELLY-STEINMETZ LIQUOR CO., Minneapolis, Minn.
Filed March 8, 1910. Serial No. 48,258. PUBLISHED JULY 19, 1910.

79,630. PRESERVATIVE COMPOSITIONS FOR LEATHER AND RUBBER GOODS. LEATHER AND RUBBER VITALIZING CO., San Francisco, Cal.
Filed April 11, 1910. Serial No. 49,043. PUBLISHED JULY 19, 1910.

79,631. CERTAIN TOOLS. NORVELL-SHAPLEIGH HARDWARE COMPANY, St. Louis, Mo.
Filed January 17, 1910. Serial No. 47,178. PUBLISHED JULY 19, 1910.

79,632. PLASTIC MATERIAL. PROTAL COMPANY, Portland, Me., and New York, N. Y.
Filed November 17, 1909. Serial No. 45,947. PUBLISHED JULY 19, 1910.

79,633. PLASTIC MATERIAL. PROTAL COMPANY, Portland, Me., and New York, N. Y.
Filed November 17, 1909. Serial No. 45,948. PUBLISHED JULY 19, 1910.

79,634. PLASTIC MATERIAL. PROTAL COMPANY, Portland, Me., and New York, N. Y.
Filed November 17, 1909. Serial No. 45,949. PUBLISHED JULY 19, 1910.

79,635. PLASTIC MATERIAL. PROTAL COMPANY, Portland, Me., and New York, N. Y.
Filed November 17, 1909. Serial No. 45,950. PUBLISHED JULY 19, 1910.

79,636. PAINT AND VARNISH CLEANING COMPOUND. AUGUST M. RAUSCH, Pittsburg, Pa.
Filed February 28, 1910. Serial No. 48,083. PUBLISHED JULY 19, 1910.

LABELS

REGISTERED SEPTEMBER 20, 1910.

15,323.—*Title:* "SEYAH." (For Cigars.) CHAS. R. HAYES, Detroit, Mich. Filed August 17, 1910.

15,324.—*Title:* "THE W. CO. SCIENTIFIC WHITE SAPPHIRE." (For Artificially-Made White Sapphires.) WENDELL AND CO., Chicago, Ill. Filed September 9, 1910.

15,325.—*Title:* "THE W. CO. SCIENTIFIC SAPPHIRE." (For Artificially-Made Sapphires.) WENDELL AND CO., Chicago, Ill. Filed September 9, 1910.

15,326.—*Title:* "OXIDIZED." (For Cotton Piece Goods.) BURTON BROS. & CO., New York, N. Y. Filed May 28, 1910.

PRINTS

REGISTERED SEPTEMBER 20, 1910.

2,642.—*Title:* "BECKY, I KNOW HIM." (For Wheat Breakfast Food.) CREAM OF WHEAT CO., Minneapolis, Minn. Filed March 24, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE GARRETT.

Decided June 1, 1910.

EXAMINATION OF APPLICATION — IMPORTANCE OF COMPLETE OFFICE ACTIONS.

"Complete actions on the part of this Office are as important as the avoidance of piecemeal prosecution on the part of the applicant. Thereby the burden incident to the prosecution of the application is reduced both for the applicant and the Office, unnecessary delay is eliminated and the issuance of the patent expedited. The importance of an early issuance of a patent on an application containing allowable subject-matter, thereby placing the invention in the hands of the public through the expiration of the patent monopoly at as early a date as possible, has been emphasized in many Commissioners' decisions."

ON PETITION.

VOTING-MACHINE.

Mr. William A. Megrath for the applicant.

MOORE, *Commissioner:*

This is a petition praying:

1. That the Commissioner of Patents direct the Examiner in charge of this application to thoroughly examine this application and to put all his objections to the case on the record.

2. That the Commissioner direct the Examiner to examine all pending applications relating to this class of invention to determine whether there is any other interference between this application and any other pending application.

3. It is requested that the time for making the claims now suggested by the Examiner be extended until the examination prayed for is completed.

In his answer to the petition the Examiner states that prior to his last action he instructed his assistant to do what is asked for in the first two prayers of the petition and that he has therefore already complied with said prayers.

Complete actions on the part of this Office are as important as the avoidance of piecemeal prosecution on the part of the applicant. Thereby the burden incident to the prosecution of the application is reduced both for the applicant and the Office, unnecessary delay is eliminated and the issuance of the patent expedited. The importance of an early issuance of a patent on an application containing allowable subject-matter, thereby placing the invention in the hands of the public through the expiration of the patent monopoly at as early a date as possible, has been emphasized in many Commissioners' decisions.

In his actions of January 15 and January 20, 1910, the Examiner suggested two claims, under the provisions of Rule 96, for interference purposes. Whether it would have been possible for the Examiner to have suggested claims for the prospective interference earlier in the prosecution of the case does not appear; but the Examiner states that good reasons exist why the prospective interference did not sooner develop, which reasons he does not deem it proper to put of record at this stage of the proceedings.

Obviously if any additional informalities exist in petitioner's application or if ground exists for additional interferences the Examiner should take proper action concerning the same without unnecessary delay.

In view of the statement of the Examiner the petition is dismissed as to grounds 1 and 2, and applicant's time for making the suggested claims is extended twenty days from the date hereof.

The petition is granted to the extent indicated.

KEITH, ERICKSON, AND ERICKSON *v.* LUNDQUIST *v.* LORIMER AND LORIMER.

Decided July 5, 1910.

1. INTERFERENCE—MOTIONS—APPEAL.

A motion will not be considered on appeal which has been dismissed by the Examiner of Interferences, having original jurisdiction thereof, although the reason for which it was dismissed no longer exists.

2. INTERFERENCE—EVIDENCE OF CONSOLIDATION OF INTEREST—SUPPRESSION.

The mere fact of consolidation of interest between two or more parties to an interference *Held* immaterial to the question of priority and testimony on this point properly suppressed in the absence of any showing as to its special relevancy.

APPEAL on motion.

AUTOMATIC EXCHANGE.

Mr. A. Miller Belfield and *Messrs. Bulkley, Durand & Drury* for Keith, Erickson, and Erickson.

Mr. C. L. Redfield for Lundquist.

Mr. Henry C. Townsend for Lorimer and Lorimer.

BILLINGS, *Acting Commissioner:*

This is an appeal by Keith, Erickson, and Erickson from the decisions of the Examiner of Interferences rendered May 17, 1910, dismissing in part and denying in part their motion relating to certain testimony which they wish to have appear in the record of this interference.

They moved for leave to retake certain testimony which was taken by them after February 12, 1910.

without proper authorization in so far as it relates to the three-party interference. The motion suggested that instead of actually retaking it the testimony already taken might be entered after proper opportunity for cross-examination had been given. The substantive part of this motion was dismissed by the Examiner of Interferences because an appeal was then pending before the Commissioner in which Keith, Erickson, and Erickson sought to have this testimony accepted as it stands. Since the merits of the proposition have not been considered as yet by the Examiner of Interferences, who has original jurisdiction in the premises, the appeal as to this point will be dismissed.

Keith, Erickson, and Erickson have also appealed from that part of the decision suppressing certain testimony taken for the purpose of showing a consolidation of interest between Lundquist and Lorimer and Lorimer and from the refusal to grant leave to take further testimony for this purpose.

Appellants have not pointed out wherein this testimony would tend to discredit any of the testimony now in or otherwise bear directly upon the question of priority, but contend that it—

> may have a very direct bearing on the case when the same is heard on its merits.

Counsel for Lorimer and Lorimer stated at the hearing that they acknowledge the existence of a consolidation between Lundquist and Lorimer and Lorimer, but urged that the exact nature of the arrangement was a personal and private matter which could have no bearing on the question of priority.

It is not uncommon for the applications of two different parties in an interference to be owned or controlled by the same interests, and since the purpose of an interference is to determine which of several parties is the prior inventor, and therefore entitled to a patent for a given invention, rather than to promote contention between the parties, this fact when it exists does not at all destroy the theory upon which an interference is based, as Keith, Erickson, and Erickson contend. It is very important for the party owning the two applications to get his patent on the right application, if at all.

The mere fact of consolidation of interests is therefore immaterial to the question of priority, and in the absence of any showing as to its special relevancy in this case it must be held that the Examiner of Interferences was justified in suppressing the testimony on this point and in refusing to set times for the taking of additional testimony of this kind.

As to the first point the appeal is dismissed, and as to the second the decision of the Examiner of Interferences is affirmed.

BARNEY *v.* HESS.

Decided July 12, 1910.

1. INTERFERENCE—BURDEN OF PROOF—JUDGMENT ON THE RECORD—RULE 122.

   Rule 122, providing that there shall be no appeal from decisions on motions to shift the burden of proof, applies also to cases where such a motion is made in response to a rule to show cause and judgment on the record results from the decision of the Examiner of Interferences on such motion.

2. SAME—PRIORITY—OPERATIVENESS OF PARENT CASE—TESTIMONY.

   Where one party attacks the operativeness of the structure disclosed in a parent application upon which reliance is placed by the other party for constructive reduction to practice, *Held* that upon proper showing the taking of testimony on the question will be permitted.

3. SAME—SAME—SAME—SAME—FULL PROOFS.

   Where it is found that judgment on the record must be suspended in order to take testimony as to the operativeness of a party's disclosure, full proofs on the question of priority will be permitted to avoid piecemeal consideration of testimony.

ON PETITION.

TYPE-WRITING MACHINE.

Mr. Jacob Feibel for Barney.

Mr. Edw. C. Davidson and *Messrs. Baldwin & Wight* for Hess.

TENNANT, *Assistant Commissioner:*

This is a petition by Barney (1) that the decision of the Examiner of Interferences awarding priority of invention to Hess be vacated upon the ground that the same is premature; (2) that an appeal be granted from the decision of the Examiner of Interferences upon a motion to shift the burden of proof and that the Examiner of Interferences be directed to fix the limit of appeal from his decision refusing to shift the burden of proof to the party Hess; (3) that the limit of appeal from the decision of the Examiner of Interferences awarding priority to Hess be extended.

The record shows that the claims which form the issue of this interference are contained in an application by Barney filed July 6, 1906, and in an application by Hess filed November 30, 1909, the latter being alleged to be a division of a prior application by Hess filed November 15, 1905.

The date of conception alleged in Barney's preliminary statement being later than the filing date of Hess's earlier application, an order was issued by the Examiner of Interferences against Barney to show cause why judgment should not be rendered against him under the provisions of Rule 114. In response to this order to show cause Barney filed a motion to shift the burden of proof, alleging as a basis therefor that—

> an examination of the file-wrapper and contents of both the first and so-called divisional applications of Hess shows that while the latter discloses a structure on which the issue of the interference may be read, the former shows an inoperative structure and one which does not afford sufficient or proper basis for making the claim in issue.
>
> Subsequent to the filing date of the Barney application, Hess endeavored to cure the defects of his inoperative construction as originally filed, by filing substitute drawings and amending his specification from time to time both of his own motion and at the suggestion of the Primary Examiner. Substitute drawings were filed on the following dates: November 20th, 1907, November 21st, 1908, November 19th, 1909, and November 30th, 1909, and the specification was also amended on certain of these dates for the purpose of curing the defects of the disclosure, or in other words, for the avowed purpose of making an operative construction.

The Examiner of Interferences in a decision rendered March 17, 1910, granted the motion to shift the burden of proof, vacated the order against Barney to show cause why judgment should not be

rendered against him, and set times for the taking of testimony. Subsequently a rehearing was granted by the Examiner of Interferences and a decision rendered May 24, 1910, the former decision was set aside and reversed, the burden of proof reshifted to the party Barney, and since he failed to show within the time assigned for the purpose sufficient cause why judgment should not be rendered against him on the record such judgment was entered.

Rule 122 provides in part that—

> motions to shift the burden of proof should be made before, and will be determined by, the Examiner of Interferences. No appeal from the decision on such motions will be entertained, but the matter may be reviewed on appeal from the final decision upon the question of priority of invention.

It is, however, urged in behalf of Barney that this rule should not apply in a case in which a motion to shift the burden of proof was made in answer to the order to show cause why record judgment should not be entered against the moving party. In support of this contention it is pointed out that if upon appeal from the final decision upon priority the decision of the Examiner of Interferences should be reversed it would become necessary to take testimony, and a double course of appeals would result. This contention is believed to be without substantial force, for the reason that the same circumstances obtain in any case in which a motion for dissolution granted by an Examiner is reversed on appeal or in any case at law or in equity in which a demurrer sustained by a trial court is subsequently reversed by an appellate tribunal.

The petition that the Examiner of Interferences vacate his decision upon the motion to shift the burden of proof is therefore denied, as is also the petition that an appeal be allowed from the decision of the Examiner of Interferences upon this point.

It is observed, however, that in the present case the decision upon the motion to shift the burden of proof involved also the decision on priority of invention upon circumstances which are closely analogous to judgment rendered by the Examiner of Interferences under Rule 130, following a decision by the Primary Examiner upon a motion for dissolution holding that the claim in issue is patentable to both parties. In cases where one of the parties to an interference attacks the right of his adversary to make the claim at issue the question raised has been uniformly held to be ancillary to the question of priority of invention. This is also true where it is urged by a moving party that his opponent has no right to make the claim for the reason that the device shown in his application is inoperative. In the latter case the moving party has, upon presentation of a sufficient showing, been permitted the right to take testimony to show that his opponent's device is inoperative.

In the case of *Brown v. Stroud* (122 O. G., 2688; 1906, C. D., 226) it is stated:

> It has been pointed out in recent decisions to which the petitioner refers that the question of a party's right to make claims may be considered in connection with the decision upon priority where the determination of such question may affect the correctness of that decision. The petitioner states that—
>
> "* * * it is not the present practice to set times for taking testimony where, aside from his right to make the claims in issue, no other question is involved."
>
> No reason is seen why the consideration of the question of right to make claims as a basis for decision upon priority should be materially different where no other question is involved from what it is where other questions are involved. It is true that times for taking testimony are not fixed as a matter of course where the allegation in a preliminary statement fails to antedate the filing date of an opponent; but if in answer to the usual order issued in such cases a party makes out a *prima facie* case of inoperativeness in his opponent's device which does not extend to his own and proposes to take testimony in support of his position, so far as is now known he will be authorized to do so, provided a satisfactory showing is made that the proposed testimony is of a character to justify such action.

See also *Lowry and Cowley* v. *Spoon* (122 O. G., 2678) and *Pym* v. *Hadaway*, (125 O. G., 1702.)

In the cases above cited the right of the applicant to make the claim in the application involved in the interference was attacked. In the present case there appears to be no doubt that Hess has a right to make the claim in issue in his later application; but Barney denies that the subject-matter thereof was operatively disclosed in the earlier or alleged parent application. The question, therefore, whether Hess's disclosure in the earlier application is such as to entitle him to the date of his earlier application as a constructive reduction to practice of the invention obviously is material to the question of priority. In the case of *McKnight* v. *Pohle* (130 O. G., 2069; 30 App. D. C., 92) evidence was considered which was held to show that the application on which the McKnight patent, involved in the interference, was granted did not, as originally filed, disclose the invention in issue, and priority was awarded to Pohle, the junior party. The court said:

> The Commissioner repeats his conclusion, therefore, that McKnight's original application did not disclose the invention now in issue and was not a proper foundation for the amendments by which it was made to include this invention, and further concludes that the patent granted upon this application is not to be accepted as proof of the invention of the issue at the date of the application and since the amendments were unwarranted the patent is not to be deemed evidence of this invention by McKnight at any time. We concur in this conclusion and in the decision that Pohle was entitled to a patent upon his application which fully disclosed the invention in issue.

In the case of *Neuberth* v. *Lizotte* (141 O. G., 1162; 32 App. D. C., 329) the Court of Appeals of the District of Columbia held that certain claims of the issue were not in Neuberth's specification as originally filed, but were made after it had been amended, that the meaning of the claims must be determined in the light of the amended specification, and that the claims when so interpreted were not readable upon the construction disclosed in his original specification, and that he was not therefore entitled to the date of filing of his original application as a constructive reduction to practice of the invention. Under those conditions priority was awarded to Lizotte. A similar ruling was made by the same court in the case of *Townsend* v. *Thullen*, (142 O. G., 1116; 32 App. D. C., 575.)

In the light of these decisions it is clear that the question whether the original application of Hess is sufficient to support the claims in issue is a question of fact material to the question of priority of invention. It therefore is believed that if Barney desired to produce testimony in support of this fact he would have been given the right to do so, providing a motion for this purpose, based

upon a satisfactory showing, had been presented within a reasonable time after the decision upon the motion to shift the burden of proof. It does not appear, however, that any useful purpose would have been subserved by merely setting the case down for final hearing in the absence of a motion to take testimony upon the question of inoperativeness of Hess's original application. There is therefore no reason for vacating the final decision of the Examiner of Interferences at this time.

In view of the peculiar circumstances of this case the limit of appeal from the decision of the Examiner of Interferences upon the question of priority is hereby extended until July 27, 1910.

If prior to the expiration of the limit of appeal a motion is made by Barney to take testimony, the Examiner of Interferences will consider such motion and if the same be granted will set times for the parties to take their full proofs in order that piecemeal consideration of the testimony may be avoided.

The petition is denied as to the first and second grounds, but is granted in so far as it extends the limit of appeal as above set forth.

EX PARTE WADE.

Decided August 22, 1910.

APPEAL—DECISION OF THE EXAMINERS-IN-CHIEF—NEW REFERENCES CITED.

Where in a decision affirming the action of the Primary Examiner the Examiners-in-Chief refer to a new reference as showing certain features of the claims not disclosed in the references of record, *Held* that the applicant is entitled to further prosecution of the case before the Primary Examiner.

ON PETITION.

GAS-ENGINE.

Messrs. Wilkinson & Fisher for the applicant.

TENNANT, *Acting Commissioner:*

This is a petition that the above-entitled application be remanded to the Examiner for further prosecution in view of a new reference cited by the Examiners-in-Chief in their decision upon appeal from the action of the Examiner rejecting claims 1 to 4, inclusive, of this application.

The Examiners-in-Chief affirmed the action of the Examiner as to claim 1 and stated in respect to the remaining claims that—

The same criticism is made as to claims 2, 3 and 4, which also specify that the compression-cylinder is larger than the explosion-cylinder. No references have been cited on this point which does not seem to have been considered; but it is within the knowledge of the members of the Board of Examiners-in-Chief that the construction is a common one; (see, for example, Cornell, 406, 263, July 2, 1889,) and furthermore there is no invention in adapting the size of the cylinder to its needs.

The remainder of the decision comprises a further discussion of the patent to Cornell. The Examiners-in-Chief did not refer the case to the Examiner under the provision of Rule 139 (*a*) for further consideration in the light of the new reference.

In view of the circumstances above set forth it is believed that the application is entitled to further prosecution before the Primary Examiner in the light of the new reference.

The petition is granted.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Second Circuit.

TIME SAVER COMPANY *v.* STAMFORD TRUST COMPANY.

Decided January 11, 1910.

PATENTABILITY—INVENTION—BANK ACCOUNT-BOOK.

The Rand patent, No. 746,157, for a bank account-book, in which the leaves have a vertical crease down the center, upon which the outer half may be folded forward or backward to facilitate the carrying forward of balances to another page, is void for lack of invention in view of the prior art.

Mr. R. Cushman for the appellant.

Mr. E. R. Newell for the appellee.

Before LACOMBE, WARD, and NOYES, Circuit Judges.

NOYES, *Cir. J.:*

This is a suit in equity to restrain the alleged infringement of Letters Patent No. 746,157 issued December 8, 1903, to James H. Rand for an improvement in bank-ledgers or similar books and assigned to the complainant.

The patent relates particularly to skeleton or daily-balance ledgers used in banks for recording the daily deposits, withdrawals, and balances of depositors. Each page is provided with vertical lines dividing it into columns to receive the appropriate items for different days as well as the names of the depositors. On each page are usually three groups of columns, so that when the ledger is open spaces for six days' transactions are shown. The successive pages required for the names of depositors are termed a section. Sections recording the weekly transactions are repeated throughout the book. At the end of each week it is necessary to continue each depositor's account in the next succeeding section by carrying forward the balance of the last day. In the absence of a device to facilitate the operation it was the practice in transferring balances to bend the successive pages of the old weekly section forward so as to expose Saturday's transactions and to bend the corresponding pages of the new section backward to expose Monday's column and the additional column for Saturday's balance. This practice required much care in adjusting the corresponding horizontal lines and the leaves turned toward each other were bulged at the center.

The primary object of the patent in suit was to facilitate this operation of the carrying of the balances forward. In the ledger of the patent there is a vertical crease or perforation at the middle of each leaf. At the end of the week, when it is desired to carry over the balances, the left-hand page is folded forward at the crease, and the corresponding right-hand page, with the intervening leaves, is folded backward. The creases being vertical in the middle of the pages, the edges of the leaves meet at the center of the book in proper alinement and the leaves lie comparatively flat.

The first claim of the patent—which may be taken as illustrative—is as follows:

An account-brok having leaves creased vertically midway between their bound edges and their free outer edges whereby opposing leaves meet at the center of the book when folded toward each other, each leaf being provided on opposite sides of its crease with account-columns having appropriate headings, and at its outer vertical margin with a balance-column having a suitable heading substantially as set forth.

It is unquestionable that account-books with creased leaves were old. It is also certain that account-columns with appropriate headings—and even marginal balance-columns—had been used or described before the time of this patent. Indeed all the complainant contends for as novel is the combination with the other elements of the vertical crease in the middle of the pages.

While the vertical crease of the claim is not referred to anywhere in the patent as being double-acting, it must necessarily be of that nature to operate as described. Each leaf must be folded both forward and backward and the crease must permit this to be done. The patentee says that "one or more lines of perforations formed in the middle of the leaves" may be employed in lieu of the crease.

The defense being invalidity of the patent, it is thus necessary to look in the prior art for an account-book with vertical creases or perforations in the middle of each page permitting it to be turned forward and backward. But in making this investigation we are not called upon to go farther than to the Wever and Parmerter patent, No. 632,769, of September 21, 1899, which likewise relates to bank account-books. If that patent does not anticipate or show such a state of the art as to negative invention, no other patent or prior use does. The complainant concedes, and the defendant claims, that it is the best reference.

The object of the Wever and Parmerter patent is substantially the same as that of the patent in suit. The patentees speak of carrying over the balance from one week to the next and say:

The purpose and object of our invention is to facilitate the accurate transferring of these balances by having exposed to the view of the accountant the name of the depositor in the preceding closed period or week and at the same time the names of the same depositors in the succeeding period or week to which the balance is being carried, and also to have the transferring-point approximately at the center of the page, or, in other words, a considerable distance from its edges, which makes the transferring of the balance much easier and much more convenient than when made at the edge of the book.

The first claim of the Wever and Parmerter patent is illustrative:

An account-book comprising a plurality of leaves containing the depositor's name or the subject-matter of the account, each leaf provided with a forwardly-folding crease at a point sufficiently removed from its edge to expose the depositor's name, and the succeeding leaves adapted to be turned backward to receive the balances of the accounts, substantially as described.

While the claims of the Wever and Parmerter patent speak of a forwardly-folding crease, the specifications say:

Each page is provided with a vertical crease or line of perforations.

It is undoubtedly true that the preferred form of construction under the Wever and Parmerter patent does not anticipate the patent in suit. The crease is located a considerable distance from the middle of the leaf toward the edge. Consequently, when the left-hand leaf is folded forward upon the crease, it does not meet the right-hand leaf, which is bent backward, anywhere near the center of the book.

This construction was apparently considered by the present patentee to be the only construction of the Wever and Parmerter patent, and an objection thereto was thus pointed out by him when that patent was cited against him in the Patent Office:

In Wever and Parmerter, No. 632,769, the leaves are creased between their middle and their outer edges, and the leaves when folded for transferring balances, therefore, do not reach the center of the book, but extend merely to the center of the page. This requires the right-hand leaves to be rolled or bulged at the center of the book, * * * which is objectionable.

This objection the patentee sought to, and undoubtedly did, remove by the improvement of the patent in suit. But the difficulty is that he did not escape the Wever and Parmerter patent by so doing. He apparently overlooked the alternative construction permitted by the specifications of that patent. After describing the preferred form of construction it is said:

Or the first balance-column and transactions of the first day may be placed before the name-column without varying from the principle of our invention.

The "transactions of the first day" are, obviously, the transactions for Monday, including the deposits, checks, and balance. Those are the items included under the headings for each day as shown in all the drawings of the patent.

Now the Wever and Parmerter patent calls for a crease or perforation which must be so located as to expose the depositors' names when the left-hand page is folded forward. Consequently the crease must be at the right of the depositors' names—the name-column—on the left-hand pages. But "the first balance-column and the transactions of the first day" together with the name-column would, according to the drawings of the patent, occupy substantially half the left-hand page. This would bring the vertical crease practically in the middle of the page. Folding the left-hand leaf upon the crease, and turning the right-hand pages backward, would make the opposing leaves meet at practically the center of the book. It is true that the patent does not expressly call for backward-folding creases in the right-hand leaves, but it does say in its claims that the leaves "must be adapted to be turned backward to receive the balances." And the most obvious way of turning them backward would be to fold them upon the line of the forwardly-folding creases. This would bring the edges of the right-hand leaves, like the edge of the left-hand leaf, substantially at the center of the book. If the pages were perforated, instead of creased, it is hardly conceivable that they would be turned back upon anything else than the line of perforations. Therefore it seems to us that the Wever and Parmerter patent may fairly be said to present an account-book with creases or perforations in the middle of each page, permitting it to be turned forward and backward, and, consequently, to anticipate the patent in suit.

But whether, in view of the fact that the crease of the Wever and Parmerter alternate construction does not necessarily come precisely at the middle of the page, and thus bring the edge of the folded leaf at the exact center of the book, and of the further fact that it is not expressly required that the right-hand leaves should be folded backward flat upon the same crease or perforations, anticipation is shown,

we need not definitely determine. It is sufficient now to say that, in our opinion, a person skilled in the art, with this construction before him, would have no difficulty by the use of mere mechanical skill in making the creases or lines of perforations precisely in the middle of each page, and in so making them that the left-hand pages could be turned forward and the right-hand pages turned backward upon them.

It follows, then, that the first claim of the patent is invalid for want of invention in view of the prior art. This disposes of the case. There is nothing in the remaining claims showing invention, if it is absent from the first claim. The second and third claims are not materially different from the first. The additional elements of the fourth and fifth claims do not help them.

The decree of the circuit court is affirmed, with costs.

ADJUDICATED PATENTS.

The Campbell patent, No. 675,812, for a cargo vessel, as limited by the proceedings in the Patent Office, *Held* not infringed. *Campbell* v. *American Shipbuilding Co.*, (C. C. A.,) 179 Fed. Rep., 498.

The Perkins patent, No. 626,927, for an incandescent-lamp socket, *Held* valid and infringed by one structure which had been made and sold by defendant, but not infringed by other styles. *Yost Electric Mfg. Co.* v. *Perkins Electric Switch Mfg. Co.*, (C. C. A.,) 179 Fed. Rep., 511.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 8, 1910.

Luin F. Mangis, his assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Hitchcock-Hill Company, of 100 Lake street, Chicago, Ill., for registration of a trade-mark and a trade-mark registered to Luin F. Mangis, of 435 Main street, Portland, Oreg., and a communication having been received from the post-office to the effect that it has been unable to deliver the letter to said Mangis, notice is hereby given to the said Mangis, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

Maud Meyberg, her assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of G. R. Springer, of 1332 Grand avenue, Kansas City, Mo., for registration of a trade-mark and a trade-mark registered to Maud Meyberg, of Chicago, Ill., and the notice of said declaration sent by registered mail to the said Maud Meyberg having been returned undelivered, notice is hereby given to the said Maud Meyberg, her assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

William Johnson Nelson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Lanman & Kemp, of 135–137 Water street, New York, N. Y., for registration of a trade-mark and trade-mark registration to the following named parties: (1) Minard's Liniment Manufacturing Company, Framingham, Mass.; (2) George H. Rundle, Piqua, Ohio; (3) Adelia B. De Grath, 302 West Thirty-fourth street, New York, N. Y.; (4) William Johnson Nelson, Bridgewater, county of Lunenberg, Province of Nova Scotia, Canada, and the notice of such declaration sent by registered mail to the said William Johnson Nelson at the address given above has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said William Johnson Nelson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 6, 1910.

George J. Washburn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of William S. Scull, of Front and Federal streets, Camden, N. J., for registration of a trade-mark and the trade-mark registrations to Wolfe, McMillan and Company, of 11 South Front street, Philadelphia, Pa.; George J. Washburn, of 115 East Second street, Davenport, Iowa; The Brewster Manufacturing Company, of Newark, N. J.; Chase and Sanborn, of Boston, Mass.; Bensdorp and Company, of Amsterdam, Netherlands, and Walter McEwan, of Albany, N. Y., and the notice of such declaration sent by registered mail to the said George J. Washburn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George J. Washburn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., August 10, 1910.

The H. L. Berry Company, its assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of Hoffman Brothers Company, of Fort Wayne, Ind., for registration of a trade-mark and a trade-mark registration to The H. L. Berry Company, Whitfield, Fla., and the notice of such declaration sent by registered mail to the said The H. L. Berry Company at the address above given has been returned by the Post-Office Department as undeliverable.

Notice is therefore hereby given to the said The H. L. Berry Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

FREDERICK A. TENNANT, *Acting Commissioner.*

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CONTENTS.

	Page.		Page.
ATTORNEYS	707	LABELS	882
APPLICATIONS UNDER EXAMINATION	708	COMMISSIONER'S DECISIONS—	
NOTICE	708	Taylor v. Gilman	883
PATENTS GRANTED	709	Ex parte Sturtevant and Sturtevant	885
REISSUES	None.	DECISION OF THE SECRETARY OF THE INTERIOR—	
DESIGNS	871	Dunkley v. Beekhuis	886
TRADE-MARKS—REGISTRATION APPLIED FOR	875	ADJUDICATED PATENTS	887
TRADE-MARKS—REGISTERED	879	INTERFERENCE NOTICES	887
TRADE-MARKS—CANCELED	881	ISSUE OF SEPTEMBER 27, 1910	888

ATTORNEYS.

Department of the Interior,
United States Patent Office,
Washington, D. C., September 20, 1910.

Attention is called to the following order of the Secretary of the Interior. Attorneys or agents practicing before the Patent Office will be required to enter their appearance, in all pending cases, in accordance with the procedure therein specified.

CORNELIUS C. BILLINGS,
Acting Commissioner.

(Order.)

Department of the Interior,
Washington, September 15, 1910.

To the several Bureaus and Offices of the Interior Department:

It is hereby ordered that hereafter firms of attorneys or agents as such will not be admitted to practice before this Department, or recognized as having the right to appear before it or any Bureau or Office thereof, in any proceeding or matter involving the services of an attorney or agent, and in the presentation of any matter by any such firm it must be represented by one or more duly-qualified members thereof in his or their own proper person: *Provided*, That this order shall not be construed to prevent such firms of agents or attorneys from filing powers of attorney from clients as evidence of authority to represent such clients, but the power, when filed, must be accompanied by an appearance in that behalf, in writing, signed by one or more duly-qualified members of such firm, and all pleadings, briefs, or memoranda filed in the further presentation of any such matter by the firm shall be similarly signed.

If any firm of attorneys or agents shall retain as a member thereof, or receive into such membership any person who stands disbarred or suspended from the practice of this Department, its Bureaus or Offices, all of the members thereof who may have been admitted to practice shall be subject to disbarment.

This order is in lieu of departmental order of July 28, 1910, and all regulations of this Department in conflict herewith are hereby vacated and annulled

(Signed) FRANK PIERCE,
Acting Secretary.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business September 20, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended.	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Aug. 5	Aug. 5	350
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Aug. 1	Aug. 13	208
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Aug. 15	Sept. 6	196
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Aug. 11	July 28	407
167	5. Bookbinding; Harvesters; Jewelry; Music.	June 16	June 17	576
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	July 15	July 29	311
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	July 21	Aug. 4	470
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Aug. 12	Aug. 11	380
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	June 15	July 28	483
235	10. Carriages and Wagons	July 20	July 22	699
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	July 15	July 28	359
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	July 14	July 15	716
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	June 18	July 25	566
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	July 28	Aug. 1	346
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	July 8	July 26	639
100	16. Telegraphy; Telephony	July 5	July 9	322
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Aug. 15	Aug. 15	216
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	July 18	July 28	345
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Aug. 3	Aug. 1	451
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Aug. 22	Aug. 3	218
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	July 21	July 30	380
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	June 11	July 5	652
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	July 23	July 29	389

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended.	No. of applications awaiting action.
144	24. Apparel; Apparel Apparatus; Electricity, Medical and Surgical; Sewing-Machines; Surgery.	July 6	July 12	683
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Aug. 26	Aug. 27	108
106	26. Electricity, Generation; Motive Power.	July 11	July 14	256
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Aug. 21	Aug. 21	337
65	28. Internal-Combustion Engines	July 20	July 15	417
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	July 23	Aug. 3	382
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	July 11	Aug. 3	403
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Aug. 3	July 28	237
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Aug. 1	Aug. 10	288
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Aug. 1	July 30	340
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	July 27	July 23	401
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Aug. 17	Aug. 18	538
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	July 23	July 15	614
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	July 8	July 8	455
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	July 1	July 11	511
321	39. Water Distribution	July 23	Aug. 1	373
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Aug. 15	Aug. 8	544
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	June 7	June 25	593
279	42. Electric Railways; Electric Signaling; Railway Signaling; Signals.	June 7	July 2	691
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	July 13	July 28	290

Oldest new case, June 7; oldest amended, June 17.

Total number of applications awaiting action..... 18,040

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Aug. 1	Sept. 7	846
	Designs	Aug. 26	Sept. 6	102
	Labels and Prints	Sept. 14	Sept. 14	14

Notice.

Decision leaflets of the OFFICIAL GAZETTE are sold as a separate publication—

Single numbers ..... 5 cents
Subscription per year $2.00

PATENTS

GRANTED SEPTEMBER 27, 1910.

971,015. MAIL-CHUTE. FRANK E. ANDERSON, New York, N. Y., assignor to Cutler Mail Chute Company, New York, N. Y., a Corporation of New York. Filed June 22, 1906. Serial No. 322,809.



1. In a mail chute, a front having a glass plate supported upon a narrow ledge, an open lattice sheet outside said glass and spring flanges secured to the sides of said lattice sheet adapted to contact with the sides of the chute and press them against said glass.

2. In a mail chute, a glass plate for the front rabbeted to receive the forward ends of the sides of the chute.

3. In a mail chute, a glass plate for the front and a cornice at each end thereof adapted by its resiliency to hold the sides of the chute in contact with an abutting side edge of said glass.

4. In a mail chute, a front composed of four members, namely, a glass plate, a metallic latticed sheet and at each side a cornice secured to said latticed sheet and extending rearwardly to contact with the sides of the chute.

5. In a mail chute, a glass plate for the front and a latticed sheet to protect the same, having an inwardly extending ledge to support said glass.

[Claims 6 to 23 not printed in the Gazette.]

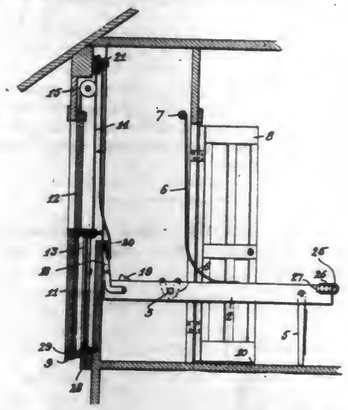
971,016. WINDOW-BED. LYMAN P. ARMSTRONG, San Jose, Cal. Filed June 25, 1910. Serial No. 568,936.

1. The combination with a sleeping apartment provided with a window, of a bed adapted to fold up opposite said window to receive light and air therefrom, a sash for said window, and means for automatically raising and lowering said sash when the bed is folded up or let down.

2. The combination with a sleeping apartment provided with a window, of two sashes therefor, means for causing said sashes to move simultaneously in opposite directions, a bed adapted to fold up opposite said window, and operative connections between said bed and said sashes.

3. The combination with a sleeping apartment provided with a window, of two sashes therefor, one being glazed and the other provided with blind slats, a bed adapted to fold up opposite said window, and means whereby the glazed sash is closed and the other sash opened when the bed is folded up, and vice versa.

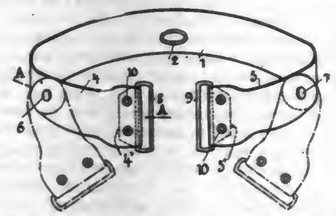
4. The combination with a sleeping apartment provided with a window, of two sashes therefor, a drum for raising and lowering said sashes, a bed adapted to fold up opposite said window, and connections between said bed and said drum whereby the sashes will be operated when said bed is folded up or let down.



5. The combination with a sleeping apartment having an alcove provided with a window, of a bed pivoted at the entrance to said alcove, a stationary wainscot protecting the lower part of said window, a glazed and a blind sash for the upper part of said window, and means for actuating said sashes in opposite directions when said bed is turned up or let down.

[Claims 6 to 10 not printed in the Gazette.]

971,017. COLLAR HOLDER OR RETAINER. AUGUSTE LOUIS A. BIDDELOO, Paris, France. Filed Sept. 15, 1909. Serial No. 517,828.

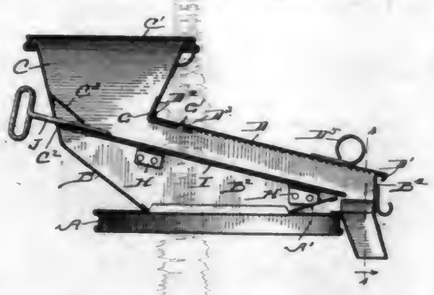


In a holder for neck-ties, the combination with a neck band, of two end pieces each pivoted to said band and movable thereon and in respect thereto, the pivotal axis being at a right angle to the material of the band, each of said pivoted end pieces being supplied with an open loop at its outer extremity, substantially as and for the purpose explained.

971,018. ASH-SIFTER. THOMAS P. BOLGER, Gloucester, Mass., assignor to Success Manufacturing Company, Gloucester, Mass., a Corporation of Massachusetts. Filed May 12, 1906. Serial No. 316,513.

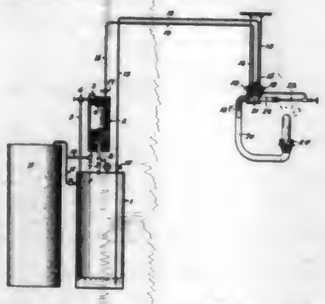
An ash sifter comprising a cap, a casing carried by the cap, a hopper supported by the casing and having a side

opening, the said casing extending beyond the cap, a spout carried by the casing, an inclined, slidably mounted sieve arranged within the casing and extending under the hopper, a handle connected to the upper end of the sieve



and working through the opening in the hopper, an inclined plate arranged above the upper end of the sieve, and an inclined plate arranged below the lower end of the sieve, said plates respectively directing ashes upon the sieve and through the cap.

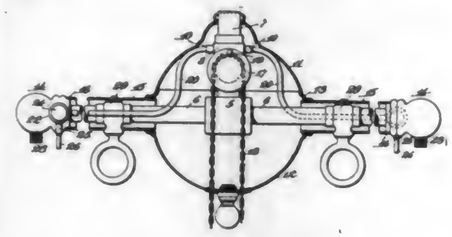
971,019. GAS APPARATUS. JESSE CAPPON and JOHN A. SCHANTZ, Milwaukee, Wis. Filed Mar. 10, 1910. Serial No. 548,371.



1. In a gas apparatus comprising a fuel tank adapted to contain a volume of oil and air under pressure above the same, a valve-controlled gas generating burner, and a main supply pipe connected to the burner and terminating in the tank adjacent to its bottom; the combination of a carbureter located above the fuel tank containing a filling of metallic shavings, a valve-controlled pipe connection between the carbureter and upper portion of the fuel tank, a valve-controlled oil feed pipe extending into said carbureter and terminating above its bottom to form an oil trap, the feed pipe being in communication with the upper portion of the fuel tank, an auxiliary supply pipe in communication with the top of the aforesaid carbureter and connected to the burner, and a controlling valve for the auxiliary supply pipe carried by said burner.

2. In a gas apparatus comprising a fuel tank adapted to contain a volume of oil and air under pressure above the same, an air tank in communication with the fuel tank, a valve-controlled gas generating burner, and a main supply pipe connected to the burner and terminating within the fuel tank adjacent to its bottom; the combination of a carbureter located above said fuel tank containing a filling of metallic shavings, an air-supply pipe connecting the air tank and carbureter bottom, a valve-controlled pipe connection between the top of the carbureter and upper portion of the aforesaid fuel tank, a valve-controlled oil feed pipe extending into said carbureter above its bottom to form an oil trap, the feed pipe being in communication with the upper portion of the fuel tank, an auxiliary pipe connecting the top of the aforesaid carbureter and burner, independent ducts in the burner communicating with the main and auxiliary supply pipes, and independent valves carried by the burner for controlling the ducts.

971,020. CHANDELIER FOR GAS-LAMPS. GEORGE W. CASSIDY, East Orange, N. J., assignor to Cassidy & Son Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Mar. 15, 1910. Serial No. 549,405.



1. In a chandelier for gas lamps having a plurality of arms, the combination with an arm pipe, of a monitor fitting on the end of such pipe, an ornamental tube covering the arm pipe and engaging the monitor fitting and a pilot light tube tapped into the monitor fitting inside of the ornamental covering tube, substantially as set forth.

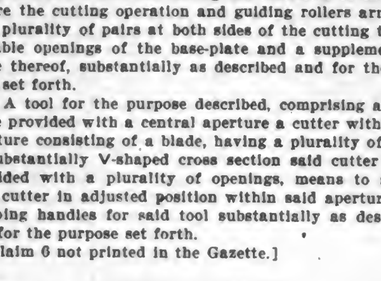
2. In a chandelier for gas lamps having a plurality of arms, the combination with an arm pipe and an ornamental covering tube, of a monitor fitting on the end of the arm pipe, a pilot light tube entering the monitor fitting inside of the ornamental covering tube, and a valve fitting on the side of the monitor fitting connected with the pilot light tube, substantially as set forth.

3. In a chandelier for gas lamps, the combination with the main stem, gas body and a plurality of gas pipe arms, of monitor fittings on the ends of the gas pipe arms, ornamental tubes covering the gas pipe arms and engaging the monitor fittings, a main gas valve in the stem of the chandelier controlling all the arms, pilot light tubes connected with the stem beyond the main valve extending through the ornamental covering tubes to the ends of the separate arms and tapped into the monitor fittings inside such ornamental covering tubes and valves on the sides of the monitor fittings for separately controlling the pilot lights, substantially as set forth.

4. In a chandelier for gas lamps, the combination with an arm pipe, of a monitor fitting on the outer end of the arm pipe, having a main gas channel connected with the arm pipe and provided with a nipple for supporting the gas lamp at right angles to the arm pipe, a pilot light tube entering the inner end of the monitor fitting and communicating with a channel inside of the fitting opening laterally out of such fitting, and a pilot valve fitting secured to the side of the monitor fitting and provided with a screw valve and with a nipple for the pilot light tube extending to the gas lamp, substantially as set forth.

971,021. KNIFE OR TOOL FOR TAPPING RUBBER AND OTHER GUM TREES. ROWLAND WOOD CATER, West Croydon, and GEORGE VAUGHAN ARTHUR SCHOFIELD, London, England. Filed Jan. 26, 1910. Serial No. 540,293.

1. A tool for the purpose described, comprising a base-plate having its edges cut away provided with a central aperture, a cutter within the aperture for cutting channels of various configurations in the cortex of a rubber tree, means to adjustably secure the cutter in said aperture, a handle positioned directly over said cutter, a spike at the front end of the tool for testing the thickness of the bark and guiding rollers arranged in pairs in suitable openings of the base-plate to both sides of the cutting tool for guiding the tool and assisting in squeezing the latex from the incised latex cells, substantially as described.



2. A tool for the purpose described, comprising a base-plate having beveled edges provided with a central aperture, a cutter within the aperture, a grooved bracket secured to the base-plate above said aperture and adapted to receive the shank of said cutter, an opening in the cutter, a boss secured to the outside of said bracket, a bolt passing through said bracket and the cutter and a thumb-screw upon the outer screw-threaded end of said bolt for regulating the position of the cutter and locking the same in its adjusted position substantially as described and for the purpose set forth.

3. A tool for the purpose described, comprising a base-plate having its edges cut away provided with a central aperture, a handle positioned directly over said cutter a cutter within the aperture for cutting channels of various configurations in the cortex of a rubber tree, means to adjustably secure the cutter in said aperture, a finger-guard secured to the standards of the handle parallel to the base-plate and the grip of said handle, a spike at the front end of the tool for testing the thickness of the bark and guiding-rollers arranged in pairs in suitable openings of the base-plate to both sides of the cutting tool for guiding the tool and assisting in squeezing the latex from the incised latex cells, substantially as described.

4. A tool for the purpose described, comprising a base-plate provided with a central aperture, and, a cutter within said aperture, consisting of a single blade adapted for making incisions and for paring, means to adjustably secure the cutter in said aperture, grips at both sides of said aperture providing a handle for the tool, a spike at the front end of the tool for testing the thickness of the bark before the cutting operation and guiding rollers arranged in a plurality of pairs at both sides of the cutting tool in suitable openings of the base-plate and a supplementary plate thereof, substantially as described and for the purpose set forth.

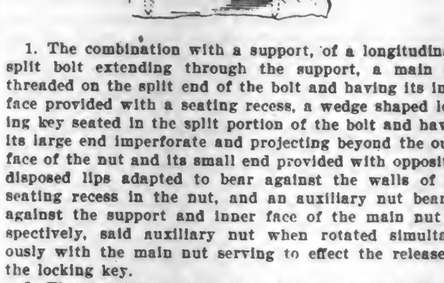
5. A tool for the purpose described, comprising a base-plate provided with a central aperture a cutter within the aperture consisting of a blade, having a plurality of arms of substantially V-shaped cross section said cutter being provided with a plurality of openings, means to secure said cutter in adjusted position within said aperture and gripping handles for said tool substantially as described and for the purpose set forth.

[Claim 6 not printed in the Gazette.]

971,022. CUTTING MECHANISM. ELLIS W. COOPER, New York, N. Y., assignor, by mesne assignments, to R. Hoe and Co., New York, N. Y., a Corporation of New York. Filed Mar. 15, 1909. Serial No. 483,363.

1. The combination with a carrier, of a cutter mounted thereon, said carrier being constructed to move the cutter in a curved path during the cutting operation, means for causing the cutter during the cutting operation to assume successive positions which are parallel to each other, and a coöperating cutting member.

2. The combination with a rotary carrier, of a cutter mounted thereon, means for causing the cutter during the cutting operation to assume successive positions which are parallel to each other, and a coöperating cutting member.



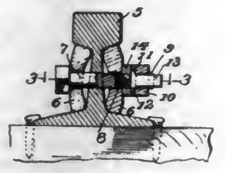
3. The combination with a rotary carrier, of a cutter mounted thereon, the edge of the cutter being so disposed that a part thereof comes into operation before another part, whereby a shearing cut is effected, means for causing the cutter during the cutting operation to assume successive positions which are parallel to each other, and a coöperating cutting member.

4. The combination with a rotary carrier, of a cutter mounted thereon, means for causing the cutter during the cutting operation to assume successive positions which are parallel to each other, and a second rotary carrier having a coöperating cutting surface.

5. The combination with a rotary carrier, of a cutter mounted thereon, means for causing the cutter during the cutting operation to assume successive positions which are parallel to each other, and a second rotary carrier having a coöperating cutting edge.

[Claims 6 to 9 not printed in the Gazette.]

971,023. NUT-LOCK. ARTHUR B. CORNELIUS and DANIEL C. DEAN, Alton Park, Tenn. Filed Mar. 27, 1909. Serial No. 486,155.



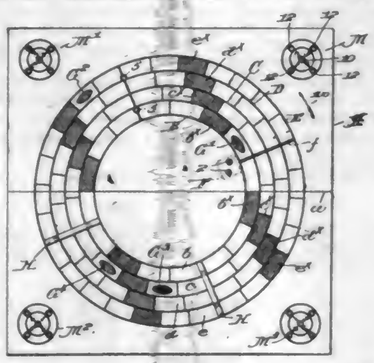
1. The combination with a support, of a longitudinally split bolt extending through the support, a main nut threaded on the split end of the bolt and having its inner face provided with a seating recess, a wedge shaped locking key seated in the split portion of the bolt and having its large end imperforate and projecting beyond the outer face of the nut and its small end provided with oppositely disposed lips adapted to bear against the walls of the seating recess in the nut, and an auxiliary nut bearing against the support and inner face of the main nut respectively, said auxiliary nut when rotated simultaneously with the main nut serving to effect the release of the locking key.

2. The combination with a support, of a longitudinally split bolt extending through the support, a main nut threaded on the split end of the bolt and having an inner flat bearing face provided with a seating recess surrounding the bolt receiving opening, an imperforate wedge-shaped locking key seated in the split portion of the bolt and having its large end projecting beyond the outer face of the nut and its small end provided with oppositely disposed laterally extending lips arranged to enter the seating recess in the main nut, and an auxiliary nut having its side walls disposed flush with the side walls of the main nut and provided with oppositely disposed flat bearing surfaces, one of which engages the support and the other the inner flat bearing face of the main nut to form with said recess a housing for the lips of the locking mem-

ber, said auxiliary nut when rotated simultaneously with the main nut serving to effect the release of the locking member.

3. The combination with a longitudinally split bolt, of a nut threaded on the split end of the bolt and having its rear face provided with a conical shaped recess surrounding the bolt receiving opening, an imperforate wedge shaped locking member seated in the slotted portion of the bolt and having its large end projecting beyond the outer face of the nut and its small end provided with oppositely disposed laterally extending lips having inclined bearing faces for engagement with the walls of the recess in the nut, and an auxiliary nut having its side walls disposed flush with the side walls of the main nut and provided with oppositely disposed flat bearing surfaces, one of which is adapted to bear against the recessed face of the main nut and form with said recess a housing for the laterally extending lips of the locking key, said auxiliary nut when rotated simultaneously with the main nut serving to effect the release of the locking member.

971,024. GAME APPARATUS. SAMUEL E. CREASEY, Sanford, Me., assignor of one-half to John V. Tucker, Sanford, Me. Filed Apr. 30, 1910. Serial No. 558,637.



1. A game apparatus comprising a board provided with a plurality of concentric and adjacent circular paths constituting a track, each path being divided into a number of sections or spaces, a common starting line crossing the several paths, a plurality of hurdles crossing the paths, cross-overs leading from the inner to the outer path, and other cross-overs leading from the outer to the inner path, each cross-over comprising a distinctive section of each path traversed and successive distinctive sections overlapping.

2. A game apparatus comprising a board provided with a plurality of concentric and adjacent circular paths constituting a track, each path being divided into segmental sections, the number of sections of one path differing from the number of sections in an adjacent path, cross-overs between the inner and the outer of said paths, comprising distinctive and adjacent sections in successive paths, each of such sections overlapping the corresponding section of the next path, and a plurality of movable objects each having distinguishing means for indicating ownership thereof.

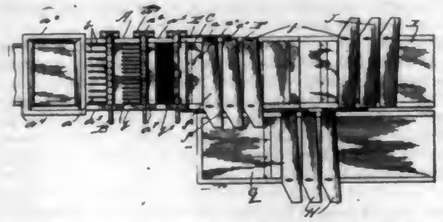
3. A game apparatus comprising a board provided with a plurality of concentric and adjacent circular paths constituting a track, each path being divided into a number of sections or spaces, a common starting line crossing the several paths, a plurality of hurdles detachably mounted on the board and crossing the concentric paths at intervals, and cross-overs from one to another path comprising distinctively colored sections in adjacent paths and overlapping each other, to indicate the course to be taken by moving objects when passing from one to another of the paths.

4. A game apparatus comprising a board provided with a plurality of concentric and adjacent circular paths constituting a track, each path being divided into a number of sections or spaces, a common starting line crossing the several paths, said board being provided with sets of apertures located in lines radial to and crossing the paths, detachable hurdles having depending pins to enter such apertures and thereby position the hurdles, and diagonally-arranged and distinctively colored series of spaces in adjacent paths constituting cross-overs to indicate the course to be traversed by moving objects when passing from one to another of the circular paths.

5. A game apparatus comprising a board provided with a plurality of concentric and adjacent circular paths constituting a track, each path being divided into a number of sections or spaces, a common starting line crossing the several paths, a plurality of detachable hurdles adapted to be mounted on the board to cross the paths at intervals, a detachable judges' stand adapted to be mounted on the board at one end of the starting line, and cross-overs traversing the paths between the hurdles to indicate the course to be taken by moving objects when passing from one to another path.

[Claims 6 to 8 not printed in the Gazette.]

971,025. CONCENTRATOR OR SEPARATOR. GEORGE W. DENNIS, Harvey, Ill. Filed May 11, 1907. Serial No. 373,130.



1. A concentrator and separator embracing an inclined trough having notched side members, skimmers adjustable in said notches in the side members, riffles rigidly but removably secured to the bottom of the trough, riffles adjustably secured to said riffles and a dumping section for each riffle normally forming part of the trough.

2. In a device of the class described a trough, riffles rigidly secured therein, skimmers in said trough, one for each riffle having its forward edge above the riffle, means for adjusting each skimmer to vary the distance of its edge above the top of the respective riffle and an adjustable riffle secured to each rigid riffle adapted to be adjusted toward or from the respective skimmer.

3. A concentrator or separator comprising a sluice box having its side members notched, riffles acting from the bottom of the sluice box, skimmers adjustable in the notches to vary the distance between the edge of the same and the top of the riffles, said skimmers acting from the top of material running thereby.

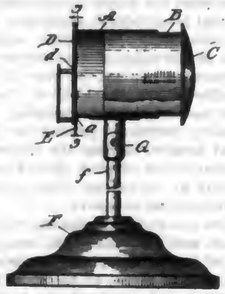
4. A concentrator or separator comprising a sluice box, riffles acting from the bottom thereof, skimmers acting from the top of a moving mass of material and dumping sections in advance of the riffles forming part of the bottom of the trough and adjustable for emptying the material retained thereby without stopping the operation.

5. A concentrator or separator comprising riffles acting from the bottom, skimmers acting from the top of a moving mass of material, means for dumping the material retained by the riffles without stopping the operation and automatically operating auxiliary riffles for preventing waste of the unconcentrated material while dumping.

[Claims 6 to 32 not printed in the Gazette.]

971,026. SCHEMATIC EYE. HENRY L. DE ZENG, Philadelphia, Pa., assignor to De Zeng-Standard Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Mar. 5, 1910. Serial No. 547,451.

1. In combination, a chamber carrying a representation of an eye ground on one of its walls, and a pupil opening in another of its walls, a movable member mounted adjacent to the said pupil opening having two or more openings of different sizes therein adapted to be brought successively into registration with the said pupil opening and a lens in one of the said openings.



2. In combination, a chamber adapted to carry a picture of an eye ground, a pupil opening in one of its walls, a movable member mounted adjacent to the said pupil opening having a series of apertures therein of different sizes adapted to be brought successively into registration with the said pupil opening and a lens in the said pupil opening.

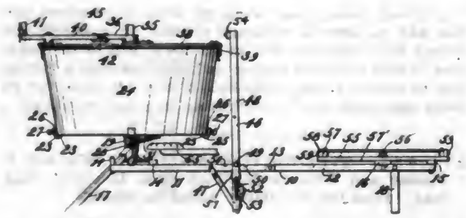
3. In combination, a representation of an eye ground, a light screen, a pupil opening in the said light screen for admitting light to the said eye ground, a lens in said pupil opening, an adjustable member mounted adjacent to the said pupil opening having a series of different size apertures therein which will register successively with the said pupil opening and thus vary the effective size of the said pupil opening.

4. In combination, a casing carrying a representation of a retina on one of its walls, another of its walls being provided with a pupil opening, a disk pivoted adjacent to said pupil opening and having therein a series of openings of different sizes so located that they will register successively with said pupil opening when the disk is rotated, and a lens in one of said openings.

5. In combination, a chamber carrying a representation of a retina on one of its walls, and having a pupil opening in another of its walls in line with the said retina, a disk pivotally mounted on the latter wall, said disk having a series of openings of different sizes so located that they will register successively with said pupil opening when the disk is rotated, and a lens in the said pupil opening.

[Claims 6 and 7 not printed in the Gazette.]

971,027. WASHING-MACHINE. JOHN P. DORAU, Waukesha, Wis. Filed Oct. 14, 1908. Serial No. 457,601.



1. A washing machine, comprising a supporting frame, a tub pivotally mounted on said frame, a rubber positioned within the tub, and tub oscillating means free from connection with the frame and mounted on the tub and connected to the rubber to cause the rubber to oscillate in a direction opposite to the oscillation of the tub.

2. A washing machine, comprising a supporting frame, a tub pivotally mounted on said frame, a rubber positioned within the tub and free from connection with the frame, a tub oscillating lever mounted on the tub and a connection between the lever and the rubber to cause the rubber to move in a direction opposite to the movement of the tub.

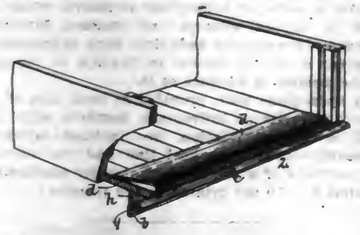
3. A washing machine, comprising a supporting frame, a tub pivotally mounted on said frame, a rubber positioned within the tub, an arm connected to the rubber, and a tub oscillating lever pivotally mounted on the tub free from connection with the frame and pivotally connected to the arm to cause the rubber to move in a direction opposite to the movement of the tub.

4. A washing machine, comprising a supporting frame, a tub pivotally mounted on said frame, a rubber positioned within the tub, an arm connected to the rubber, a link connected to the arm, and a lever mounted on the tub and connected to the link to cause the rubber to move in a direction opposite to the movement of the tub.

5. A washing machine, comprising a supporting frame, a tub pivotally mounted on said frame, a rubber positioned within the tub, an arm connected to the rubber, a link connected to the arm, a lever mounted on the tub and connected to the link to cause the rubber to move in a direction opposite to the movement of the tub, and a spring connected to the lever and the arm to hold the parts in medial position.

[Claims 6 to 10 not printed in the Gazette.]

971,028. WAGON-BOX PROTECTOR. NELS P. B. ESKILDSEN, Hampton, Nebr. Filed Mar. 9, 1910. Serial No. 548,245.



1. A wagon box end protector, comprising a substantially U-shaped sheet metal body having a wear plate for projecting on the tail end of the wagon bed, a reinforced portion for fitting over the said end and a fastening member adapted for being secured to the wagon box.

2. A wagon box protector formed of a single piece of sheet metal bent to form a protecting portion of substantially U-shape in cross section and bent to form a pendent flange for fastening to the wagon box and bent to form an inwardly extending wear plate for fitting over the tail end of the wagon bed.

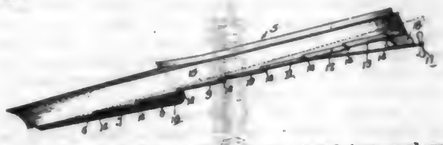
3. The combination with the tail end of a wagon bed and a cross cleat on the under side thereof; of a metallic protector bent to fit over the tail end of the wagon bed, provided with a pendent flange for engaging with the cross cleat, an abutment for the lower edge of the end gate and an inwardly projected wear plate for covering the tail end of the wagon bed, and means for securing the flange to the said cleat.

4. The combination with the wagon bed; and a cross cleat on the under side of the tail end; of a metallic protector comprising a portion of a substantially U-shape in cross section for fitting over the tail end of the bed, a flange that projects pendently from the said portion, ears bent down from the upper part of the said portion over and secured to the flange, an abutment bent up from the inner edge of the top of the said portion and a wear plate that projects inwardly from the abutment.

971,029. HYDROPLANE BOAT. WILLIAM HENRY FAUDER, Chicago, Ill. Filed Sept. 10, 1908. Serial No. 452,456.

1. A hydroplane boat provided at each side of the center line of the bottom of its hull with a series of hydroplane

members which form the flotation surface of the said bottom and are arranged in stepped relation and inclined laterally and downwardly toward the keel line of the boat.



2. A hydroplane boat having a pointed bow and provided at each side of the center line of the bottom of its hull with a series of hydroplane members which form the flotation surface of said bottom and which are arranged in stepped relation, are inclined laterally and downwardly toward the keel line and are of gradually increasing width from the bow toward the widest part of the boat.

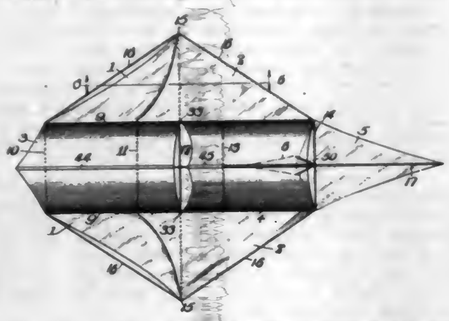
3. A hydroplane boat having a pointed bow and provided at each side of the center line of the bottom of its hull with a series of hydroplane members which form the flotation surface of said bottom, which are arranged in stepped relation, are inclined laterally and downwardly toward the keel line and are of gradually increasing width from the bow toward the widest part, and are, at said keel line, at gradually increasing distances below the side margins of the bottom from the bow toward the stern of the boat.

4. A hydroplane boat provided at each side of its bottom with a series of hydroplane members, which are arranged in stepped relation and inclined laterally and downwardly toward the keel line, each hydroplane member having a greater lateral inclination at its rear end than the member in advance of it.

5. A hydroplane boat, provided at each side of its bottom with a series of hydroplane members which are arranged in stepped relation, are inclined laterally and downwardly toward the keel line and the downwardly facing surfaces of which are transversely concaved.

[Claims 6 to 10 not printed in the Gazette.]

971,030. AEROPLANE. WILLIAM H. FAUBER, Nanterre, France. Filed Oct. 24, 1908. Serial No. 459,364.



1. An apparatus for aerial navigation comprising a central longitudinal aeroplane member and a plurality of lateral aeroplane members located in a substantially horizontal plane at the sides of said central longitudinal member, and arranged one at the rear of another, with their forward edges above the level of their rear edges, the central aeroplane member having its lateral margins adjacent to the inner edges of said lateral aeroplane members and extending at its central portion above the level of said lateral aeroplane members.

2. An apparatus for aerial navigation comprising a central longitudinal aeroplane member and a plurality of substantially horizontal, lateral aeroplane members located at the sides of said central longitudinal member and arranged one at the rear of another, with their forward edges above the level of the rear edges, and having their rear portions downwardly curved, said central supporting member having its lateral margins adjacent to the inner edges of said lateral supporting members and extending at its central portion above the level of said lateral supporting members.

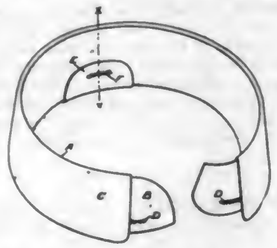
3. In an apparatus for aerial navigation, the combination with a central longitudinal aeroplane member and a plurality of substantially horizontal, lateral aeroplane members located at the sides of said central, longitudinal member, and arranged one at the rear of another with their forward edges above the level of their rear edges, and having their rear portions downwardly curved with a gradually increasing curvature toward the rear, said central, longitudinal member having its lateral margins adjacent to the inner edges of said lateral aeroplane members and extending at its central portion above the level of said lateral supporting members.

4. An apparatus for aerial navigation comprising a central, longitudinal arched, collapsible aeroplane member, and a plurality of lateral aeroplane members located in a substantially horizontal plane, at the sides of said central longitudinal member and arranged one at the rear of another, with their forward edges above the level of their rear edges.

5. An apparatus for aerial navigation comprising a horizontal frame work, a central, longitudinal aeroplane member, of flexible material, connected at its side margins with said frame work, and a plurality of substantially horizontal, lateral aeroplane members of flexible material, applied to said frame work at the sides of said central, longitudinal member and arranged one at the rear of another with their forward edges above the level of their rear edges, said lateral members being downwardly curved from their front to their rear edges.

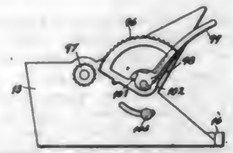
[Claims 6 to 28 not printed in the Gazette.]

971,031. COLLAR. CLARENCE W. FERGUSON, Troy, N. Y., assignor of one-half to Tim & Co., Troy, N. Y., a Corporation of New York, and one-half to C. W. Ferguson Collar Co., Troy, N. Y., a Corporation of New York. Filed July 8, 1908. Serial No. 442,440.



A turned down collar having an outer or turndown portion and an inner or neckband portion, an upwardly-projecting tab connected only at its lower end to the lower edge of said neckband portion and provided with a buttonhole to receive a rear collar-button, said tab except at its lower edge being free to move away from said neckband.

971,032. TYPE-WRITING MACHINE. WILLIAM Y. FORBES and WILLIAM H. ROTHWELL, Liverpool, England. Filed Oct. 31, 1908. Serial No. 460,554.



1. In a typewriting machine, in combination, paper fingers for keeping the paper close to the platen, a carrier

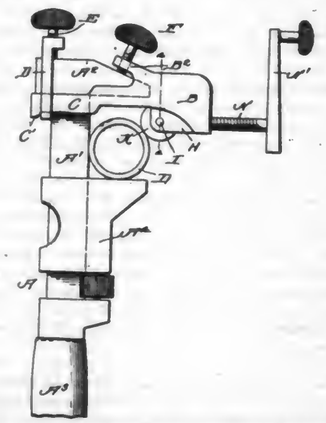
rod adapted to form a slide for said fingers, rods attached to said fingers and projecting from each side of the typewriting machine, and finger pieces on said projecting rod ends, whereby said paper fingers may be adjusted to any width of paper on the platen, as described.

2. In a typewriting machine, the combination with the platen spindle, of a pinion wheel, a toothed sector adapted to engage and disengage with said pinion, a lever pivoted on the platen carriage, a boss on said lever eccentric relatively to said pivot and forming a journal for said sector, whereby as the lever is moved on its pivot the sector is placed in gear with the pinion, a tooth on said boss and a pin on the sector in the path of said tooth, whereby the sector is carried around with the lever when said tooth and pin engage, and an adjustable stop on the platen carriage for limiting the travel of the sector, whereby headed letter paper placed on the platen is fed forward to its date line by a movement of said lever, as described.

3. In a typewriting machine, the combination with mechanism by which headed letter paper placed on the platen is fed forward to its date line by a movement of such mechanism, of means for placing the platen out of friction with the line spacing ratchet, comprising a friction cone on said ratchet, a lever for placing said cone in and out of friction with the platen, and an eccentric finger piece for actuating said lever, whereby the platen is held out of friction with its ratchet while the said date line feeding mechanism is operated as described.

4. In a typewriting machine, the combination with a revoluble platen, a paper table disposed to the rear and inclining forwardly downward to the platen, a supplementary paper holder disposed on the front side of the platen and having its upper portion hinged to its lower portion, a scale bar attached to said upper portion, rods adapted to carry paper fingers also attached to said upper portion of said paper holder, whereby paper sheets intended as original copies may be successively inserted into said holder without disturbing the paper upon the platen which receives carbon copies of said successive originals, substantially as described.

971,033. WRENCH ATTACHMENT. OTHO H. FORD, Kansas City, Mo. Filed Oct. 27, 1909. Serial No. 524,898.



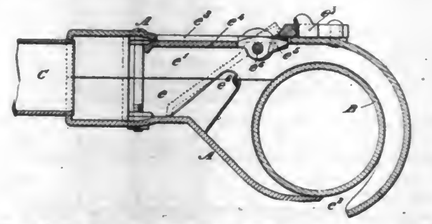
1. An attachment for wrenches comprising a jaw member having a recess to receive the jaw of a wrench, said jaw member being provided with parallel arms adapted to straddle the shank of the wrench, a yoke adapted to straddle said arms and head of the jaw, a set screw carried by said yoke for engaging the head of the jaw of the wrench, a set screw carried by said jaw member for engaging the jaw of the wrench and a movable knife carrying block mounted in said jaw member.

2. An attachment for wrenches comprising a jaw member having a recess to receive the jaw of a wrench and provided with a dove-tail shaped groove, parallel arms extending outwardly from said jaw member adapted to straddle the shank of the wrench, a yoke for securing said arms in position on the wrench, a knife carrying block provided with a dove-tail shaped head mounted in said dove-tail shaped groove, a rotary knife carried by said block and a crank operated screw mounted in said jaw member connected to said block for operating the same.

3. An attachment for wrenches comprising a jaw member adapted to be arranged over the outer jaw of a wrench, means for securing said jaw member in position on the jaw of the wrench, said jaw member being provided with a recess having a dove-tail shaped groove, a bifurcated knife carrying block provided with a dove-tail shaped head mounted in the groove of the jaw member, a shaft extending through the walls of the bifurcation of said knife carrying block, a disk cutter mounted on said shaft, said jaw member having a threaded bore in its end, and a crank operated screw mounted in said threaded bore swiveled in said knife carrying block.

4. A pipe cutting attachment for wrenches comprising a jaw member adapted to be arranged over the outer jaw of a wrench, said jaw member being provided with parallel arms straddling the shank of the wrench, a yoke for securing said arms in position on said wrench, said yoke having a thumb screw for engaging the head of the jaw of the wrench, a set screw carried by said jaw member for engaging the jaw of the wrench, said jaw member being provided with a threaded bore in its end, a knife carrying block slidably mounted in said jaw member, a rotary knife carried by said knife carrying block, and a crank operated screw mounted in the threaded bore of the jaw member having a reduced end swiveled in said knife carrying block.

971,034. AIR-INTAKE FOR CARBURETERS. LAWSON MAYO FULLER, Moline, Ill., assignor to Velie Motor Vehicle Company, Moline, Ill., a Corporation of Illinois. Filed July 31, 1909. Serial No. 510,633.



1. A device of the character described comprising a box approximately rectangular in cross-section at its inner end, said end being adapted for connection to an air-supply pipe, the box being formed at its outer end to embrace a heated pipe and to provide air space between the pipe and the walls of said box, an opening being formed in said outer end to admit air in contact with the heated pipe, one wall of the rectangular portion of the box being formed with an opening, and a door hinged to the box and controlling the latter opening, the door when open admitting air from the atmosphere and forming a partition between said inflowing column of air and the heated pipe.

2. A device of the character described comprising a box formed at its inner end for connection to an air-supply pipe and having its outer end formed to embrace a heated pipe, said outer end being provided with an opening to admit air in contact with said heated pipe, the inner end of the box being also formed with an opening for the admission of air, a movable door controlling said opening and adapted when open to form a partition across the box between the heated pipe and the column of air flowing to the air-supply pipe, and means for locking the door in its opened or closed position.

3. A device of the character described comprising a box or cage formed of separable sections, the sections being formed at one end to connect to an air-supply pipe and

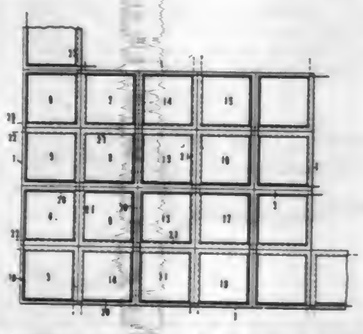
being formed at their opposite ends to embrace the exhaust pipe of a motor, the separable sections at their ends embracing the exhaust pipe being separated to admit air in contact with said exhaust pipe.

4. A device of the character described comprising a box or cage formed of separable sections each section composed of a plate having side-flanges extending therefrom, the side flanges of one section abutting those of the other for a portion of their length, each section having at one end a semi-cylindrical boss, said bosses forming jointly a connection for an air-supply pipe to a carbureter, and the opposite ends of the sections being oppositely curved or concaved to embrace opposite sides of the exhaust pipe of a motor, the side flanges spacing their respective plates away from the exhaust pipe to provide an air-space at its sides, the extremities of the concaved ends being separated to permit the entrance of air into the box and means for securing the separable sections together.

5. A device of the character described comprising a box or cage formed to be connected to the air-supply pipe of a carbureter and formed also to be mounted on the exhaust pipe of a motor, the box being formed to admit air in contact with said heated pipe and the box being also formed with an opening to admit air out of contact with the heated pipe, and a door controlling the latter opening and adapted to open inwardly, the door when open resting on the opposite wall of the box or cage and cutting off the exhaust-pipe portion from the pipe leading to the carbureter

[Claims 6 and 7 not printed in the Gazette.]

971,035. BUILDING CONSTRUCTION. THOMAS J. GEORGE, Inglewood, N. J. Filed Nov. 5, 1907. Serial No. 400,853.



1. In building construction, in combination, a plurality of sets of blocks, tie-members secured about and binding together the blocks of certain of said sets, and tie-members secured about and binding together a plurality of blocks comprising a block of each of said last sets and a block of another set.

2. In building construction, in combination, a plurality of sets of incombustible blocks, a metallic tie-member secured about and binding together the blocks of each of said sets, and a metallic tie-member secured about and binding together a block of each of said sets and a block of another set.

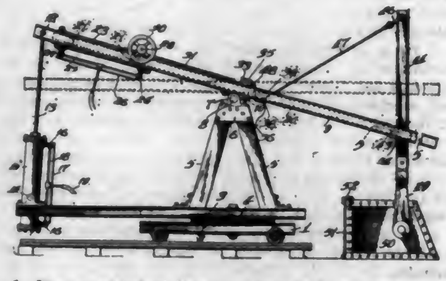
3. In building construction, in combination, a plurality of pairs of blocks arranged side by side to form a substantially continuous surface, a tie-member secured about and binding together each pair, and other tie-members secured about and binding together a block of each pair and a block of another pair, each of said tie-members being complete in itself, and connected to itself about said blocks.

4. In building construction, in combination, a plurality of sets of blocks arranged side by side to form a portion of a floor, continuous tie members secured about the lower portions of each of said sets, and continuous tie members secured about the lower portion of a member of each of said sets and a member of another set, said members being substantially in contact with said blocks throughout their length.

5. In building construction, in combination, a plurality of blocks arranged side by side to form a portion of a floor, a tie member secured about the lower portions of two of said blocks, and a separate tie member secured about the lower portion of one of said two blocks and another of said blocks adjacent thereto, each of said tension members being complete in itself and connected to itself about said blocks.

[Claims 6 to 21 not printed in the Gazette.]

971,036. SHOVELING-MACHINE. CHARLES L. GLASS, Joplin, Mo. Filed Jan. 24, 1910. Serial No. 539,789



1. In a machine of the class described, a tilting crane, members movable longitudinally relative to the tilting crane, a shovel, a beam connected with the shovel, said beam being fulcrumed over one of the movable parts carried by the crane and a flexible connection between the upper end of the shovel beam and one of the movable parts carried by the crane.

2. In a machine of the class described, a tilting crane and straps provided with rollers carried by the crane, a shovel, a shovel beam pivotally secured to the shovel, a shaft carried by the forward end of said straps and means for connecting the shovel beam with said shaft, a pulley carried by said straps, a cross head carried by the crane, a flexible connection between the cross head and the upper end of the shovel beam, said connection embracing said pulley, a motor for moving the cross head longitudinally relative to the crane and a motor for tilting the crane.

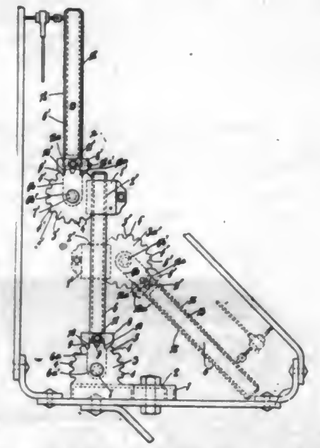
3. In a machine of the class described, a tilting crane constructed of parallel beams, straps interposed between said beams and movable longitudinally relative to the beams, a shaft carried by said straps adjacent their forward ends, a pulley carried by said straps, a motor carried by said straps, a cross head movable longitudinally of the beams and connected with said motor, a shovel, a shovel beam pivotally secured to the shovel and arranged to fulcrum over the shaft carried adjacent the free ends of said straps, a flexible connection between the cross head and the upper free end of the shovel beam, said flexible connection embracing said pulley, means for changing the bodily position of the straps and the parts carried thereby longitudinally relative to the beams and means for tilting said beams.

4. In a machine of the class described, a tilting crane constructed of parallel I-beams, straps interposed between said beams, shafts connecting said straps, rollers carried by said shafts and arranged for travel on the flanges of said beams, a fluid pressure motor carried by said straps, a pulley carried by said straps, a cross head provided with rollers connected with said motor and arranged for movement longitudinally relative to the beams, a shovel, a beam pivotally secured to the shovel, said beam being secured to the foremost shaft carried by said straps, a flexible connection between said beam and said cross head and means whereby the strap and parts carried thereby may be moved longitudinally relative to the beams.

5. In a machine of the class described, a tilting crane constructed of parallel I-beams, straps interposed between said beams, shafts connecting said straps, rollers carried by said shafts and arranged for travel on the flanges of said beams, a fluid pressure motor carried by said straps, a pulley carried by said straps, a cross head provided with rollers connected with said motor and arranged for movement longitudinally relative to the beams, a shovel, a beam pivotally secured to the shovel, said beam being secured to the foremost shaft carried by said straps, a flexible connection between said beam and said cross head, means whereby the straps and parts carried thereby may be moved longitudinally relative to the beams, a wheeled truck supporting the crane and a fluid motor carried by said truck and connected with the crane for operating the crane.

[Claims 6 and 7 not printed in the Gazette.]

971,037. DRILL-BRACE. JOHN S. GLENN, West Covington, Ky. Filed July 3, 1909. Serial No. 505,894.

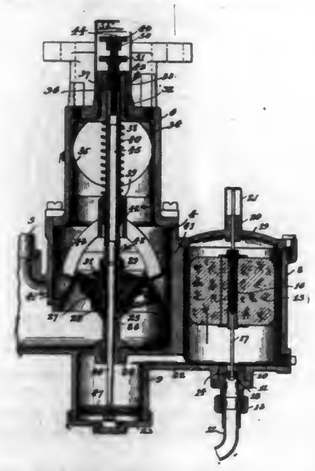


1. A drill brace having an adjustable member and a segment concentric to which the member is pivoted, and a detent slidable on the member to engage with the segment and hold the member in adjusted positions, teeth on the segment, each two adjacent of which have adjacent sides diverging and other sides parallel, and teeth on the detent to correspond and coöperate with the teeth on the segment, substantially as and for the purposes specified.

2. In a drill brace, as an improved article of manufacture, the combination with a segment having a central opening, of an adjustable member comprising a solid head with a transverse opening therein and a tubular extension with a longitudinal rib thereon presenting a surface for the engagement of a drill stock, and a pin passing through the opening in the segment and the transverse opening in the solid head of the adjustable member, said solid head affording a bearing for the member on the pin and said longitudinal rib reinforcing the extension of the member, whereby said extension may be tubular, as herein set forth.

3. In a drill brace, as an improved article of manufacture, the combination with a segment having a central opening, of an adjustable member comprising a tubular extension with a longitudinal rib reinforcing it and presenting a surface for the engagement of a drill stock, and a detent slidable on the member, embracing it and having a recess to pass over the rib thereon, said detent being adapted to engage with the segment to hold the member in adjusted positions, and said rib on the tubular extension terminating adjacent to the segment, and engaging means inserted into the recess to engage with the termination of the rib, whereby said rib forms a step to limit the movement of the detent away from the segment, as herein set forth.

971,038. CARBURETER. EDWARD J. GULICK, Mishawaka, Ind., assignor to The Simplex Motor Car Company, Mishawaka, Ind., a Corporation of Indiana. Filed May 4, 1907. Serial No. 371,840.

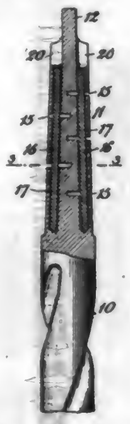


1. In a carbureter, the combination of a casing having branches for the intake of air and for connection to the suction side of an engine, of a carbureting chamber situated between said branches, an annular choke tube within the walls of said carbureting chamber and having a beveled operating surface thereon, a spray plug in said carbureting chamber, said spray plug provided with a conical annular passage terminating opposite the beveled surface of the annular choke tube, a needle-valve seated at the apex of said annular passage, and connected to said choke tube whereby the suction of said engine moves said choke tube and needle-valve relative to said spray plug to increase or decrease the amount of air and oil delivered to said engine, and means for returning said choke tube and needle-valve to their seated positions, substantially as described.

2. In a carbureter, the combination of a casing having branches for the intake of air and oil and for connection to the suction side of an engine, a carbureting chamber situated between said branches, an internally tapered annular choke tube slidable within said carbureting chamber, a spray plug within said carbureting chamber having formed therein an axial passageway provided with an annular valve-seat and, beyond said valve-seat with an annular flaring passageway the walls whereof converge toward their upper end, the upper end of said annular passageway terminating opposite the tapered side of said slidable choke tube, and a needle-valve extending through said spray plug and coöperating with said annular valve-seat to control the amount of oil admitted, substantially as described.

3. In a carbureter, the combination of a casing having branches for the intake of air and oil and for connection to the suction side of an engine, a carbureting chamber situated between said branches, an internally tapered annular choke tube slidable within said carbureting chamber, a spray plug within said carbureting chamber having formed therein an axial passageway provided with an annular valve-seat and, beyond said valve-seat with an annular flaring passageway the walls whereof converge toward their upper end, the upper end of said annular passageway terminating opposite the tapered side of said slidable choke tube, a needle-valve extending through said spray plug and coöperating with said annular valve-seat to control the amount of oil admitted, and a dash pot cylinder on the lower end of said carbureting chamber, and a dash pot piston connected to the lower end of said needle-valve, substantially as described.

971,039. TOOL-SHANK. GEORGE E. HACKETT, New York, N. Y. Filed Feb. 24, 1910. Serial No. 545,726.



1. A tool shank comprising a plurality of concentric sections provided with eccentric connecting portions joining them together.

2. A tool shank having a portion provided with means whereby it may be retained against rotation in a socket, and a portion nearer the tool body capable of limited rotational movement under torsional stress, the said shank being provided with an eccentrically disposed part for connecting the two said portions together.

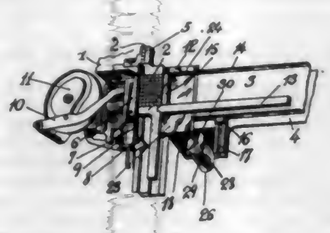
3. A tool shank having a plurality of oppositely disposed transverse cuts therein which partially sever the same, leaving the remaining portions connected together by eccentrically disposed connecting elements.

4. A tool shank comprising a plurality of substantially rigid sections yieldingly connected together, and means for positively limiting the relative movements permitted between the sections.

5. A tool shank having a plurality of transversely arranged lines of weakness therein, the portions between the lines of weakness being rigid, whereby the weakened portions will yield to permit slight relative movements of the rigid portions with respect to each other, and having means for positively limiting the relative movements permitted between the said rigid portions.

[Claims 6 to 15 not printed in the Gazette.]

971,040. ATTACHMENT FOR TYPE-CASTING MACHINES. AARON WOOD HAMAKER, New York, N. Y. Filed Mar. 1, 1909. Serial No. 480,761.



1. In a type casting machine the combination of means for supporting the finished types, a transparent member supported flush with the upper surface of said supporting means and a reflecting member located beneath said transparent member for observing the lower ends of the finished types.

2. In a type casting machine the combination of means for feeding the finished types out of the machine, a housing, a glass in said housing and forming part of means for supporting the finished types as they are fed out, a mirror in said housing below the said glass for reflecting the bottoms of the types.

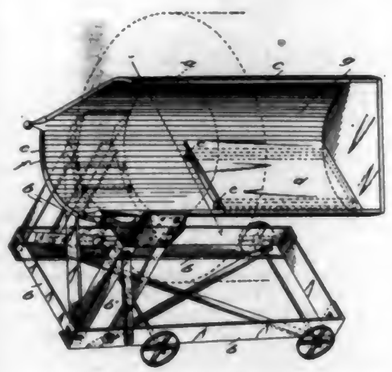
3. An attachment for type casting machines comprising supporting means, a transparent member carried thereby, a mirror located below said transparent member and means for affixing the said attachment to the said machines.

4. An attachment for type casting machines comprising a frame work, a transparent glass carried thereby, a mirror below said glass, illuminating means, the said attachment being adapted to be affixed to the said type casting machines near the galley pan thereof for the purpose of observing the unexposed bottoms of the finished types.

5. In a type casting machine the combination of a main frame, a galley pan supporting shelf, a galley pan on said shelf, a housing interposed between the said shelf and frame, means for attaching the said shelf and housing to the said frame, a transparent member carried by said housing flush with the bottom of the said galley pan, a mirror supported below said transparent member for reflecting the bottoms of the finished types and means for illuminating the interior of the said housing.

[Claim 6 not printed in the Gazette.]

971,041. BUTTER-COLLECTING APPLIANCE FOR CHURNS. SVEND HARTMANN, Melbourne, Victoria, Australia. Filed June 8, 1910. Serial No. 565,804.



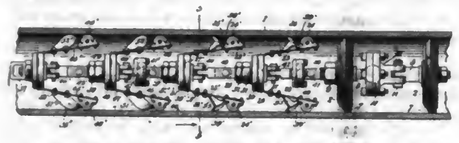
1. A butter collecting appliance for rotary churns, comprising a trough having a continuous bottom and provided with a support independent of the churn whereby the trough may be moved into and from the churn, and a tray mounted to travel on the bottom of said trough in the direction of the length thereof.

2. A butter collecting appliance for rotary churns, comprising a trough having a continuous transversely curved bottom, and provided with a support independent of the churn and having a closed rear end and open front end, and a tray mounted to travel on the bottom of said trough in the direction of the length thereof.

3. A butter appliance for rotary churns, comprising a trough having a continuous transversely curved bottom, and provided with a support independent of the churn and having a closed rear end and open front end, and a tray mounted to travel on the bottom of said trough in the direction of the length thereof, one side of the trough being higher than the other.

4. A butter collecting appliance for rotary churns, comprising a trough having a continuous curved bottom, a wheel support for said trough, said support and trough being connected together at one end, and leaving a free space between them rearwardly from the connection, and a tray mounted to travel on the bottom of said trough in the direction of the length thereof.

971,042. APPARATUS FOR CLEANING WATER-PIPES. NICHOLAS S. HILL, Jr., and BURT B. HODGMAN, East Orange, N. J., assignors to National Water Main Cleaning Company, a Corporation of Maine. Filed June 30, 1908. Serial No. 441,220.



1. In a pipe-cleaner, the combination of a shaft, a set of rearwardly extending and outwardly inclined resilient carriers, and a tool for acting upon the deposit in the pipe mounted on each of said carriers with capacity of adjustment lengthwise the carrier on its inclined part, whereby the edge of the tool may be adjusted relatively to the interior of the pipe.

2. In a pipe-cleaner, the combination of a shaft, a set of rearwardly extending and outwardly inclined resilient carriers, a tool for acting upon the deposit in the pipe mounted on each of said carriers with capacity of adjustment lengthwise the carrier on its inclined part, whereby the edge of the tool may be adjusted relatively to the interior of the pipe, and a roller mounted on the free end of each of said carriers and adapted to engage the interior surface of the pipe.

3. In a pipe-cleaner, the combination of a shaft, a set of rearwardly and outwardly extending resilient carriers each having a tool mounted thereon for acting upon the deposit in the pipe, each of said tools being adjustable relatively to the interior of the pipe, and a roller mounted on each of said carriers for engaging the interior surface of the pipe.

4. In a pipe-cleaner, the combination of a shaft, a set of scrapers each comprising a shank having a blade extending practically at right angles therefrom and with substantially the entire edge of the blade curled or bent forwardly and the cutting edge thereof adapted to act upon the deposit in the pipe on a line substantially transverse to the length of the pipe.

5. In a pipe-cleaner, the combination of a shaft, a set of rearwardly extending and outwardly inclined resilient carriers, a scraper mounted on each of said carriers and comprising a shank having a blade extending practically at right angles therefrom and with substantially the entire edge of the blade curled or bent forwardly and the cutting edge thereof adapted to act upon the deposit in the pipe on a line substantially transverse to the length of the pipe, each of said scrapers having capacity of adjustment along the length of its carrier on its inclined part.

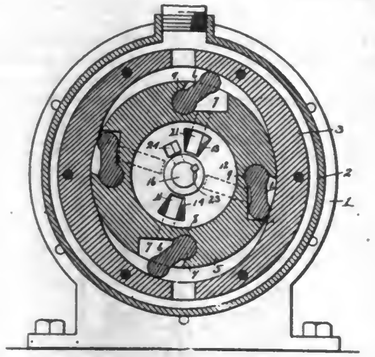
[Claims 6 to 9 not printed in the Gazette.]

971,043. ROTARY ENGINE. WILLIAM M. HOFFMAN, Buffalo, N. Y., assignor to Frank B. Allen, Toronto, Canada. Filed Nov. 18, 1909. Serial No. 528,671.

1. A rotary engine, having in combination a central cylindrical abutment holder, provided with a steam chest contained in itself, and with cavities in its outer surface for abutment members, abutment members engaging in said cavities, a rotary piston having an internal chamber oval in cross section, and with discharge openings through the walls of said piston at the extremities of the long diameter of said oval chamber, means for securing the piston to a shaft, a valve actuated by the shaft of the piston arranged to control the steam ports admitting steam into said piston, substantially as described.

2. A rotary engine, having a cylindrical fixed abutment holder, a piston adapted to rotate about said abutment holder having an oval cavity equally divided by a diameter of said abutment holder, discharge passages through the piston walls located at the ends of the long diameter of said oval cavity, means for controlling the admission of steam, and for admitting steam through the walls of said abutment holder into said oval cavity, substantially as described.

3. In a rotary engine, a rotary piston having a chamber therein oval in cross section, an abutment holder located in said chamber, a steam chest located in said abutment holder, valve controlled passages communicating between



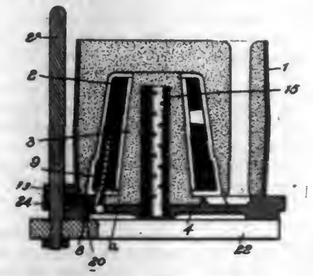
said steam chest and the oval chamber in said piston, a shell external to said piston and spaced therefrom, passages leading through the walls of said piston from the chamber therein to the spaces in said shell, substantially as described.

971,044. HAND VACUUM-CLEANER. CHARLES G. HUTCHINSON, New York, N. Y. Filed Feb. 16, 1909. Serial No. 478,178.



A dust collecting implement adapted to be reciprocated over a surface to be cleaned, comprising the combination of a rigid suction spout adapted to be moved over a surface to be cleaned, a suction pump, a dust receptacle extending diametrically beyond the end of the pump cylinder and located between said spout and pump cylinder, said dust receptacle being provided with an air filter and means for removal of dust and the air filter without disconnecting the pump from the dust receptacle.

971,045. MOLD FOR HOLLOW ARTICLES. EDWARD KERR and JAMES SMITH, Pittsburg, Pa. Original application filed Sept. 1, 1908, Serial No. 451,230. Divided and this application filed Apr. 5, 1909. Serial No. 487,908.

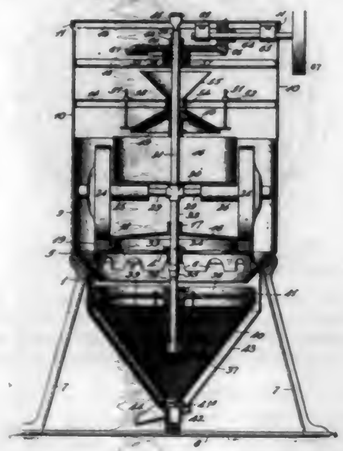


1. A mold having in combination a matrix, a plate closing a portion of the matrix, and cores independently supported by the plate and extending into the matrix, through the opening closed by the plate.

2. A mold for hollow articles having in combination a flask having formed therein a matrix, a plate for closing

a portion of the matrix and provided with independent seats or recesses for the cores, and cores provided with prints or anchors fitting in the seats or recesses of the plate and extending into the matrix through the opening closed by the plate.

971,046. ORE-DRESSING MACHINE. HOWARD G. KING, Denver, Colo. Filed Aug. 30, 1909. Serial No. 515,249.

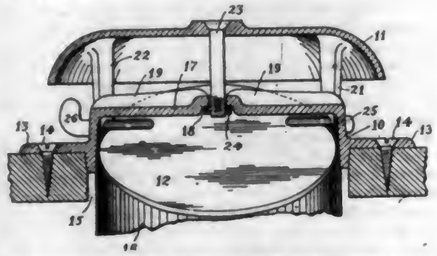


1. In an ore dressing machine, a supported base; a frame secured to said base; a gear wheel rotatably mounted upon said frame; a vertical shaft, one end of which has a sliding engagement with the hub of said gear wheel, but adapted to turn therewith, and means for rotating said gear wheel; lateral shafts secured to said vertical shaft; vertical disk-shaped crushing rollers mounted on said shafts; a horizontal tread ring on said base upon which said rollers are adapted to roll; a circular receptacle supported upon said roller shafts, and adapted to revolve with said shafts and said rollers; a conical distributer secured to the vertical shaft above said receptacle; a conical feed disk adjustably mounted upon said frame relatively to said conical distributer, to form a feed passage between said distributer and said feed disk, said feed disk being provided with a hub which surrounds said vertical shaft loosely; a conical hopper, the lower end of which fits into said hub and which surrounds said shaft; means for feeding ore from said receptacle in advance of the rollers; a casing surrounding said receptacle and said rollers and said base, and provided with an inverted conical chute portion; a conical screen secured to the shaft below said base and arranged to receive the pulverized ore from said tread ring and the chute portion of said casing; a conical chute surrounding said conical screen and attached to said base; and separate discharge spouts at the lower ends of said screen and chute.

2. In an ore dressing machine, a base in the form of an inverted conical band; a platform of less diameter than the upper edge of said base and integrally secured to said base by a rim having a plurality of apertures; a two-part tread ring secured to said base; a vertical shaft extending above and below said base and through the axial center of the same; lateral shafts secured to said vertical shaft, and means for rotating said vertical shaft; crushing rollers having projecting hubs which extend into said bearings, and which are adapted to travel on said two-part tread rings; caps on the outer ends of the lateral shafts, which are adapted to hold said rollers in place; a circular receptacle secured to said bearings and adapted to rotate upon its axis with said rollers; pipes connected to the bottom of said receptacle and adapted to feed ore in advance of said rollers; shields for preventing the ore from said pipes from discharging over the edge of said tread ring and for leveling the ore to a uniform depth on said ring; means for feeding ore to said receptacle; a conical screen on the lower end of said shaft below said base; a disk for receiving the ore as it discharges from the base through the apertures of said platform rim and for discharging said ore by centrifugal force against the upper portion of said screen; and a conical chute surrounding said screen.

3. In an ore dressing machine, a two-part base; a two-part tread ring mounted upon said base, and an upright frame secured to said base; a driven pinion secured to said frame; a gear wheel in mesh with said pinion and a hollow shaft in sliding engagement with the hub of said gear wheel, but adapted to rotate therewith, and an anti-friction bearing for said gear wheel, which is mounted upon said frame; a cross coupling secured at its upper end to the lower end of said shaft; lateral hollow shafts projecting from opposite ends of said cross coupling; bearings secured upon said lateral shafts; rollers having hubs which project into said bearings, said rollers being adapted to travel upon said tread ring; caps secured upon the outer ends of said lateral shafts, which secure said rollers against displacement; a bearing in the axial center of said base; a hollow shaft extending from the lower end of said cross coupling through said bearing; a wheel secured upon said shaft below said base, of greater diameter than said base; a disk secured upon the lower side of said wheel, of less diameter than the inner surface of said wheel; a receptacle upon the bearings of said rollers; pipes in the bottom of said receptacle; and means for feeding material in a uniform stream to said receptacle.

971,047. VENTILATING-VALVE. GEORGE E. KNOWLES, New York, N. Y. Filed Feb. 19, 1910. Serial No. 544,830.



1. A device of the character described comprising in combination a movable valve adapted to control the movement of air or other fluid, a fluid distributing device associated with said valve, and means mechanically connected to said fluid distributing device for locking the said valve in any desired position, substantially as described.

2. A device of the character described comprising in combination a movable valve adapted to control the movement of air or other fluid, a fluid distributing device associated with said valve, and means for producing a variable frictional engagement between said fluid distributing device and said valve for locking the latter in any desired position, substantially as described.

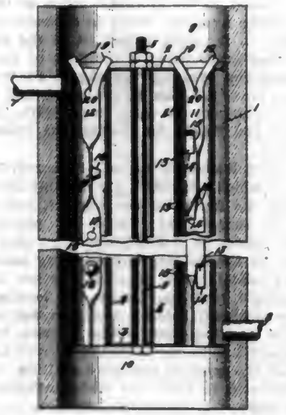
3. A device of the character described comprising in combination a movable valve adapted to control the movement of air or other fluid, a pivotal mounting for said valve, a fluid distributing device associated with said valve and having a bearing on said pivotal mounting, and means for varying the pressure of contact between said fluid distributing device and said pivotal mounting, substantially as described.

4. A device of the character described comprising in combination a ring, a valve having a pivotal mounting in said ring, a fluid distributing device having one bearing on said ring and another on said pivotal mounting, and means for varying the pressure of contact between said fluid distributing device and said pivotal mounting, substantially as described.

5. A device of the character described comprising in combination a ring, a valve having two pivots bearing on said ring, a fluid distributing device having one bearing on said ring and two additional bearings resting upon said two pivots respectively, and means for varying the pressure of contact between said fluid distributing device and said pivots, substantially as described.

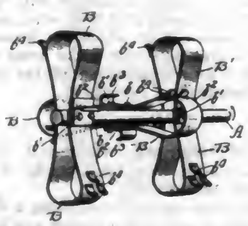
[Claims 6 to 8 not printed in the Gazette.]

971,048. AGITATOR FOR GRAIN-HEATERS. AUGUST J. KOEGLER, Milwaukee, Wis. Filed May 12, 1910. Serial No. 560,799.



In a grain deflector and agitator for the heating tubes of grain heaters, a spirally curved strip of sheet metal provided with a plurality of integrally formed deflecting members alternating with each other from opposite sides of said strip, said deflecting members being respectively formed from the respective edges of said strip by a single horizontal and vertical slit, and by bending that portion of the metal above the horizontal slit outwardly at an angle to the vertical, and means for suspending said strip centrally from the upper end of a grain heating tube.

971,049. FLEXIBLE BEATER AND SCRAPER. JOHN W. KOHLHEPP, Chicago, Ill., assignor to The Allbright-Nell Company, a Corporation of Illinois. Filed Feb. 14, 1908. Serial No. 415,872.



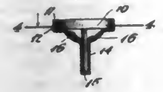
1. In a device of the class described a shaft, oppositely disposed beaters secured thereto, each constructed of a piece of flexible belting bent to form a loop and having their ends secured on opposite sides of the shaft, said opposed beaters having their ends overlapped, curved scraping blades secured at one end to one side of the beaters and a short reinforcing flexible member on the rear side of each beater to prevent short bending of the beater.

2. The combination with a shaft of a beater comprising a resilient and flexible strip of material having the width of the strip directed longitudinally of the shaft and the ends folded against opposite sides of the shaft forming a loop in the beater, a plate curved at the outer end, means securing the ends of the strip and plate to the shaft, and blades secured to the beater at the loop.

3. A beater of the class described comprising a piece of flexible material forming a loop with the ends connected on opposite sides of the beater shaft, and scrapers rigidly secured near the outer end of said beater.

4. In a device of the class described a shaft, a beater comprising a strip of resilient and flexible material having one end on one side of the shaft and the opposite end on the opposite side of the shaft providing a loop which lies outwardly from the shaft, means for securing the ends of the beater to the shaft, scraping blades secured to the beaters adjacent the loop and a member secured to the shaft to prevent short bending of the beater.

971,050. KEY-LEVER CUP. KARL LANDA, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 21, 1907. Serial No. 363,601.



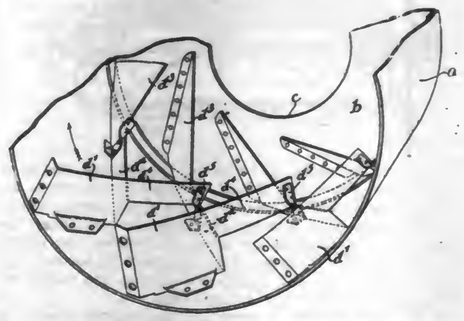
1. A key-lever cup formed of a single piece of material and comprising a cup portion in the hub connected therewith, and reinforcing extensions for stiffening the hub relatively to the cup.

2. A key-lever cup comprising a tablet-receptacle, and a hub, and formed of a single piece of sheet metal, and drawn to form said hub, an aperture in said hub, and an aperture in the receptacle and adapted to receive a lip on a tablet.

3. In a finger-key or manual, a cup and shank formed from the same piece of metal, the shank being flattened below its junction with the cup leaving a lengthwise opening elongated transversely.

4. The combination with a key lever or stem, of a key consisting of a cup having a flattened shank to fit the stem or lever, the cup being of larger diameter than the shank and formed integral therewith.

971,051. MIXER. WILLIAM H. LARKIN, Jr., Somerville, Mass., assignor to United Concrete Machinery Company, New York, N. Y., a Corporation of Maine. Filed Oct. 21, 1905. Serial No. 283,733.



1. A concrete mixer having a rotatable mixing drum and a series of V-shaped mixing vanes therein, each vane having one side of the V higher than the other at the apex and the other side having a vane extension in line therewith beyond the apex and lying above the peripheral wall of the mixer.

2. A concrete mixer having a rotatable mixing drum, a series of V-shaped mixing vanes therein, one side of the V being higher than the other at the apex and having

a vane extension beyond the apex above the bottom of the mixer and extending and secured to the narrower side of the next adjacent set of V-shaped vanes.

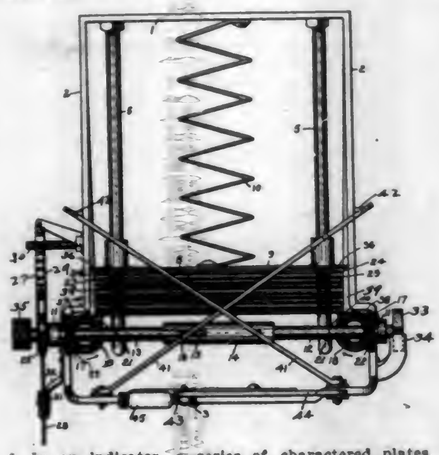
3. A concrete mixer having a rotatable mixing receptacle and mixing means secured to the interior thereof to rotate therewith, said means comprising pairs of angularly inclined vanes joined at an angle, one member of each pair being broader than the other at its junction therewith and extending to substantially one end of the mixing receptacle, and the other, narrower member of the pair extending from the junction to substantially the opposite end of the mixing receptacle but terminating in a relatively broader end portion.

4. A concrete mixer comprising a rotatable mixing drum having an axial end opening, mixing vanes secured to the interior of the body of said receptacle and inclined to cause travel of the ingredients contacting therewith toward one end of said receptacle, other vanes inclined transversely of said first mentioned vanes and having each a broadened face opposed to the said vanes near the end opening to prevent escape of the material deflected by said first vanes through said opening.

5. In a rotary concrete mixer, the combination with pairs of annularly inclined mixing vanes, of other vanes each forming an extension of one member of each of said pairs and passing between adjacent pairs but raised above the peripheral wall of the mixer to permit the flow of material beneath the same and serving as baffle plates for the materials moving from one pair of vanes to the next, thereby assisting in the mixing.

[Claims 6 and 7 not printed in the Gazette.]

971,052. INDICATOR. THOMAS G. LEAVELL, Spokane, Wash., assignor of three-fourths to A. Kunkel, P. H. Sherman, and E. C. Lloyd, Spokane, Wash. Filed Mar. 29, 1910. Serial No. 552,251.



1. In an indicator, a series of charactered plates, a support on which the plates are slidably mounted, resilient arms located on opposite ends of the plates, an adjustable connection between the arms for spreading the same, means carried by the arms for holding the plates on the support, said means being operable to successively release the plates, and means for moving the plates off their support after they are released.

2. In an indicator, a series of charactered plates, a support on which the plates are slidably mounted, resilient arms located on opposite ends of the plates, said arms having inturned and loosely connected ends, an angle lever pivoted to one of said ends and connected to the other one of said ends, means carried by the arms for holding the plates on the support, said means being operable to successively release the plates, and means for moving the plates off their support after they are released.

3. In an indicator, a series of charactered plates, a support on which the plates are slidably mounted, resilient arms located on opposite ends of the plates, an adjustable connection between the arms for spreading the same, means carried by the arms for holding the plates on the support, said means being operable to successively release the plates, a shaft carried by the arms, and comprising slidably connected sections, said shaft being operatively connected to the holding means, and means for moving the plates off their support after they are released.

4. In an indicator, a series of charactered plates having lugs on opposite edges, the lugs of alternate plates being in different planes from the lugs of the other plates, a support on which the plates are slidably mounted, shafts located adjacent to the aforesaid edges of the plates, fingers projecting from the shafts in opposite directions, one finger being in the path of one set of the aforesaid lugs, and the other finger being in the path of the other set of lugs, means for rotating the shafts to remove one of the fingers from the lugs of one plate, and simultaneous therewith to engage the other finger with the lug of the next plate, and means for moving the released plate off the support.

5. In an indicator, a series of charactered plates, a support on which the plates are slidably mounted, means for holding the plates on the support, said means being operable to successively release the plates, means for moving the plates off their support after they are released, a support for the holding and releasing means, said support being adjustable to place said means into operative or inoperative position, means for holding the plates when the aforesaid holding and releasing means are in inoperative position, and means carried by the frame and engageable with the second-mentioned holding means for placing the same in operative position when the support is adjusted to place the first-mentioned holding and releasing means in inoperative position.

[Claims 6 and 7 not printed in the Gazette.]

971,053. WATCHCASE-BOW. BERNARD LEVY, Riverside, N. J., assignor, by mesne assignments, to The Keystone Watch Case Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed July 27, 1909. Serial No. 509,804.



A Swiss bow for use in connection with a watch case, formed of a single piece of gold filled wire, and comprising a bow proper, each end of which has formed thereon a bar having two free ends, the whole being covered with precious metal with the exception of the inner ends of said bar, substantially as described.

971,054. DUST-REMOVER. HERMAN J. S. LEWIS and JOHN F. REYNOLDS, New York, N. Y. Filed Feb. 23, 1909. Serial No. 479,302.

1. A portable dust remover comprising a dust chamber; a pump mounted on said dust chamber and in communication therewith; a bracket rigidly secured to the dust chamber; a nozzle swingedly secured to the bracket and adapted to be moved over the surface to be cleaned; and a flexible pipe connecting the dust chamber and nozzle.

2. A portable dust remover comprising a dust chamber; an air filter therein; a pump mounted on said dust chamber and in communication therewith; a bracket rigidly secured to the dust chamber; a nozzle swingingly secured to the bracket and adapted to be moved over the surface to be cleaned; and a flexible pipe connecting the dust chamber and nozzle.

3. A portable dust remover comprising a dust chamber; a pump mounted on said dust chamber and in communication therewith; a bracket rigidly secured to the dust chamber; a nozzle swingingly secured to the bracket; stops on said nozzle to limit its swing; and a flexible pipe connecting said nozzle and chamber.



4. A portable dust remover comprising a dust chamber, a pump mounted thereon, and in communication therewith, a nozzle, a nipple on said nozzle, a flexible pipe from the nozzle to the dust chamber, a dust pocket in the side of the nipple the nozzle slot forming the front boundary thereof.

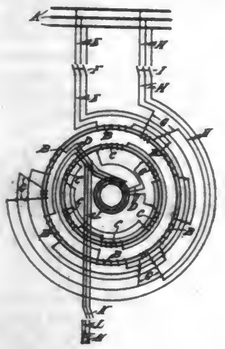
5. A portable dust remover comprising a dust chamber, a pump barrel on said chember and in communication therewith, a piston adapted to reciprocate in the barrel, a check valve interposed between said pump barrel and the dust chamber, a bracket rigidly secured to the dust chamber, a nozzle swingingly secured to the bracket and adapted to be moved over the surface to be cleaned, and a flexible pipe connecting the dust chamber and nozzle.

971,055. SPOUT FOR POWDER-CANS. DOMENICO LOCANDRO, Collinsville, Ill. Filed Sept. 24, 1909. Serial No. 519,501.



A spout for powder cans comprising a wedge shaped cover slide having on its converging edges inturned guide flanges, and at its center an opening, a cone-shaped spout body having a beveled outer end, a lid hinged to the lowest portion of the beveled end of the spout body and adapted to swing down upon said end to close the same, a coil spring arranged within the spout body and having one end fixed thereto, and its other end connected to the lid adjacent its hinge, and a semi-circular shaped weight arranged on the under face of the lid adjacent its front edge and adapted to enter the spout body and serve as a guide for said lid.

971,056. SYNCHRONOUS INDUCTION-MOTOR. CARL A. LOHR, Chicago, Ill. Filed Oct. 29, 1906. Serial No. 341,057.



1. In combination with an alternating-current motor both members of which have alternating-current windings, an auxiliary polyphase winding on one member of said motor, said auxiliary winding being able to produce a magnetic rotary field of half the number of poles said other windings would produce, means for connecting said auxiliary winding to an alternating current source, and means for connecting said alternating current windings with an alternating-current source simultaneously, so that the magnetic fields in both members of said motor rotate in opposite directions.

2. In combination with an alternating-current motor, both members of which have polyphase windings, an auxiliary polyphase winding on one member of said motor for starting same, said auxiliary winding being able to produce a magnetic rotary field, the speed of which is equal or approximately equal to the synchronous motor-speed obtainable by supplying alternating currents to both members of said motor when operating normally, and switching instrumentalities for electrically operatively connecting at will said auxiliary polyphase winding alone or said polyphase windings on both members of said motor simultaneously.

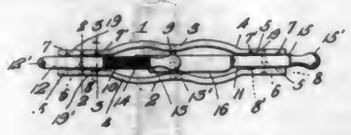
3. In combination with an alternating current motor, both members of which have polyphase main windings, an additional polyphase winding on one member of said motor for starting same, said additional polyphase winding having a smaller number of poles than said polyphase main windings, means for electrically connecting said additional polyphase winding to an alternating current source to start said motor when said polyphase main windings are open, and means for electrically connecting said polyphase main windings simultaneously to an alternating current source to operate said motor synchronously.

4. In combination with an alternating current motor, both members of which have polyphase main windings, an additional polyphase winding on the stationary member of said motor for starting same, said additional polyphase winding having a smaller number of poles than said polyphase main windings, means for connecting said motor to an alternating current source to electrically operate said additional polyphase winding for starting said motor, said main polyphase windings being open, and means for electrically connecting said polyphase main windings simultaneously to an alternating current source, thereby to synchronously operate said motor.

971,057. COMBINATION MANICURE ARTICLE. REGINALD M. LUCE, Denver, Colo. Filed Oct. 23, 1909, Serial No. 524,229. Renewed Aug. 9, 1910. Serial No. 576,390.

1. An implement of the character described comprising a handle formed of a pair of spring strips connected at a central point by a stationary bar or rod and having in-

wardly bowed intermediate portions and substantially straight and parallel end portions, the latter having shallow notches, pins uniting the end portions on a line between the notches so as to permit said ends to have relative spring actions, and tools pivoted upon said pins and having long and short arms provided with acting ends, said tools being formed adjacent their pivotal points with projections to engage said notches, and prevent movement further than a half circle upon the pins in a rotary direction substantially as described.



2. An implement of the character described comprising a handle formed of a pair of spring strips connected at a central point by a stationary bar or rod and having inwardly bowed intermediate portions and substantially straight and parallel end portions, said ends having their inner faces inclined in outwardly convergent relation and provided with shallow notches, pins uniting the ends of the handle sections on a line between the notches so as to permit said ends to have relative spring action, and tools pivoted upon said pins and having long and short arms provided with acting ends, said tools being formed adjacent their pivotal points with projections to engage said notches, and prevent movement further than a half circle upon the pins in a rotary direction substantially as described.

971,058. CRIB-HOOK. RICHARD LUKE, Chicago, Ill., assignor to The Seng Company, Chicago, Ill., a Corporation of Illinois. Filed May 6, 1910. Serial No. 559,798.



1. A crib hook having a pivot support at its upper end, an inclined foot having a hooked-heel on its lower end, and a cusp on the heel edge intermediate the hook and the pivot end.

2. A crib hook comprising two legs pivoted together at their upper ends, inwardly-hooked mutually-interlocking heels on their lower ends, and means for limiting the opening and closing of the legs.

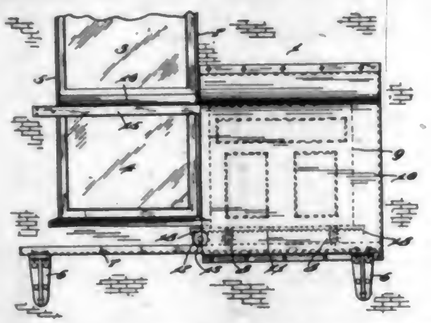
3. A crib hook comprising two legs pivoted together at their upper ends, inclined feet on their lower ends and having mutually interlocking hooked-heels forming recesses in the inner edges of the legs above the feet, and means for limiting the opening and closing of said legs.

4. A crib hook comprising two legs pivoted together at their upper ends, inclined feet on their lower ends and having mutually interlocking hooked-heels with a recess in the inner edge of each leg forming an aperture above the feet when the legs are closed.

5. A crib hook comprising two legs pivoted together at their upper ends, inclined feet on their lower ends and having mutually interlocking hooked-heels on their inner edges, with cusps on the inner edges intermediate the hooks and the pivot ends.

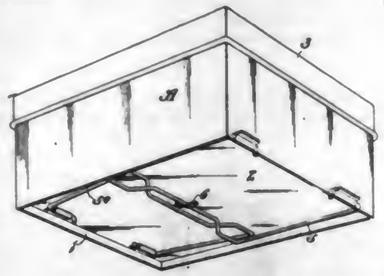
[Claims 6 to 11 not printed in the Gazette.]

971,059. REFRIGERATOR-MOUNTING. FREDERICK LUTZ, Philadelphia, Pa. Filed Feb. 2, 1910. Serial No. 541,465.



A device of the character described, comprising a track adapted to be secured to a wall outside a building and extend past a window, a wheeled refrigerator on the track, a horizontal bar secured to the wall and extending across the window opening, a horizontal bar secured to the refrigerator and having sliding tongue and groove engagement with the first mentioned bar, an inclined plate adapted to be secured in the window opening and extend downward from a point adjacent the meeting edges of the window sashes to a point above the first mentioned rail, and means for moving the refrigerator, substantially as described.

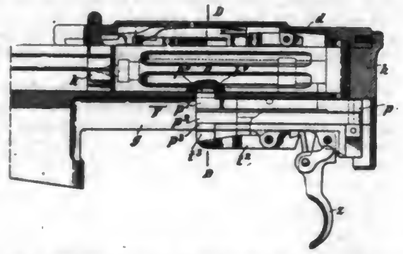
971,060. SHIPPING AND DISPLAY BOX FOR FOOD PRODUCTS. JOHN J. LYNCH, St. Louis, Mo., assignor to Loose-Wiles Biscuit Company, St. Louis, Mo., a Corporation of Missouri. Filed Dec. 13, 1909. Serial No. 532,805.



1. A device for the purpose described, consisting of a sheet metal box provided with a flange that projects downwardly below the bottom of the box, a plurality of standards pivotally connected to the bottom of the box and adapted to be folded against the bottom of the box inside of said flange one of said standards being so formed that it laps over the other standard when in its folded position, and a single fastening device on the bottom of the box that engages the top standard and thus locks both standards in an inoperative position.

2. A device for the purpose described, consisting of a rectangular-shaped sheet metal box provided at its lower end with a flange that projects downwardly below the bottom of the box, a plurality of U-shaped standards of different length pivotally connected to the bottom of the box and adapted to be folded against the bottom of the box inside of said flange, the cross-piece of one of said standards lapping over the lower end of the other standard when they are folded, and a device on the bottom of the box that is adapted to engage the cross-piece of one of said standards and thus lock both standards in an inoperative position.

971,061. RECOIL-LOADER WITH FIXED BARREL. PAUL MAUSER, Oberndorf-on-the-Neckar, Germany. Filed May 20, 1909. Serial No. 497,264.



1. In a recoil operated breech-loading firearm, the combination of a breech-block, locking levers for said breech-block, and a cam plate freely mounted upon the firearm and operating by inertia to actuate said locking-levers to unlock the breech-block upon recoil of the firearm.

2. In a recoil operated breech-loading firearm, the combination of a breech-block, locking levers for said breech-block, and a device engaging said locking-levers freely mounted upon the firearm and operating by inertia to actuate said locking-levers to unlock the breech-block upon recoil of the firearm.

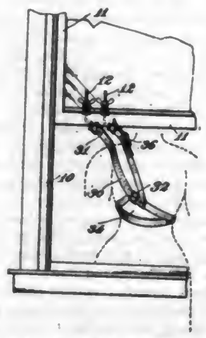
3. In a recoil operated breech-loading firearm, the combination of a breech-block, locking-levers pivoted at one end to the breech-casing and engaging said breech-block to lock the same, and means freely mounted on the firearm and operating by inertia to actuate said locking-levers to unlock the breech-block upon recoil of the firearm.

4. In a recoil operated breech-loading firearm, the combination of a breech-block, inwardly and outwardly oscillating pivoted locking-levers for said breech-block, and a cam plate freely mounted upon the firearm and operating by inertia to actuate said locking-levers to unlock the breech-block upon recoil of the firearm.

5. In a recoil operated breech-loading firearm, the combination of a breech-block, locking levers for said breech-block, and a cam plate freely mounted upon the firearm and operating by inertia to actuate said locking-levers to unlock the breech-block upon recoil of the firearm, and means for returning said slotted plate to its initial position to actuate said levers to lock the breech-bolt.

[Claims 6 to 13 not printed in the Gazette.]

971,062. SAFETY-BELT FOR WINDOWS. MAX MILLER, New York, N. Y. Filed Apr. 17, 1908, Serial No. 427,655. Renewed Aug. 11, 1910. Serial No. 576,695.



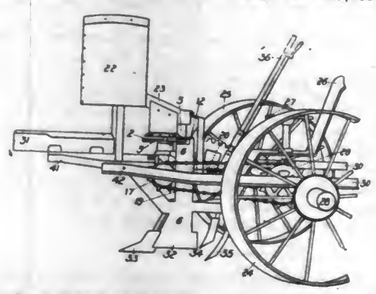
A safety belt for windows comprising a strap adapted to be passed about the body of a person, a buckle for adjusting the belt about the person, a pair of adjustable clamps each comprising a bent wire frame adapted to engage with three sides of the lower horizontal member of a window-sash, a clamping block arranged to engage with two sides of said sash member, and a nut for tightening the clamp onto the sash member; one end of the strap being affixed to one of the clamps and the other end of the strap being passed through a portion of the other clamp, and a buckle for adjusting the length of the strap.

971,063. HEATING ATTACHMENT FOR OPEN GRATES. CHARNOCK H. MCCALL, Atlanta, Ga. Filed Feb. 10, 1910. Serial No. 543,179.



The combination with an open grate fireplace and chimney, of an attachment removably mounted within the fireplace for changing the direction of movement of the products of combustion, said attachment comprising a hood mounted to intercept the normal path of the products, said hood being arranged entirely within the fire place opening and positioned to provide a permanently open space above the top plane of the grate basket, and an element carried wholly by the hood and providing a sinuous passage-way for such products, said element extending from said hood inwardly beyond the normal front plane of the fire-place and below the upper edge thereof, and having a return bend portion passing back through the fire place opening and thence upwardly into the chimney flue.

971,064. POTATO CUTTING AND PLANTING MACHINE. STEPHEN E. MCKNIGHT, Colorado Springs, Colo. Filed Apr. 12, 1909. Serial No. 489,489.



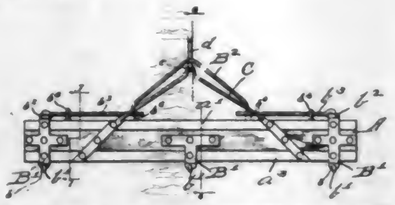
1. In a potato seed cutting and planting machine, the combination of a horizontally revolving disk and means for operating same from the driving gear connected with the drive wheels of the planter, the clutch connections 15 and 16, and means for separating them, a plurality of cutting blades 2, attached rigidly to said disk and extending radially and on the same plane from its edge and having a downwardly and backwardly, projecting lip 3, on the rear edge of each cutting blade, to engage a potato cutting, a receptacle for carrying potato seed, provided with an outlet in the bottom thereof, a downwardly projecting spout extending from said outlet to convey the potato seed to the holder tube 5, holder tube 5, above the path of the said blades, a table below said holder tube to check the drop of the potatoes from the holder tube, means for adjusting said table with respect to said blades, a well tube below said blades to receive the potato seed cutting, and a plow 33, to open a furrow in the soil, substantially as set forth.

2. In a potato seed cutting and planting machine, the combination of a horizontally revolving disk and means for operating same from the driving gear connected with the drive wheels of the planter, the clutch connection 15

and 16, and means for operating same, a plurality of cutting blades attached rigidly to said disk and extending radially and on the same plane from its edge and having a downwardly and backwardly projecting lip 3, on the rear edge of each of said cutting blades to engage a potato, a receptacle above said disk for carrying a supply of potato seed, an outlet in the bottom of said receptacle, a downwardly projecting tube extending from said outlet to convey the potato seed to the holder tube, a holder tube, above the path of said blades, a table below said holder tube to check the drop of the potatoes from the holder tube, a clip 39 integral with said table, provided with an elongated hole, a well tube below said blades at one side of the said holder tube, to receive the potato seed cutting immediately after it is forced from said table, a cleaning guard 10, projecting above the left side of the well tube 6, to prevent the passage of a potato seed cutting over the top of the said well tube 6, a plow 33, provided to open a furrow in the soil, a suitable carriage supported on two drive wheels detachably geared to and operating the said revolving disk, the covering shovels 34 and 35, suitable lever-operated tilting mechanism for raising or lowering said plow 33, and said shovels 34 and 35, all substantially as set forth.

3. A potato planter, comprising a horizontally revolving disk and means for operating same from the driving gear connected with the drive wheels of the planter, the clutch connection 15 and 16, between said disk and the drive wheels of the machine and means for operating same, a plurality of cutting blades 2, attached rigidly to said disk and extending radially and on the same plane from its edge, a downwardly and backwardly projecting lip 3, on the rear edge of each of said cutting blades, to engage a potato cutting, a receptacle for carrying a supply of potato seed, an outlet in the bottom of said receptacle, a downwardly projecting spout extending from said outlet to convey the potato seed to a removable holder tube, above the path of said blades, a table below said holder tube and provided with a downwardly projecting clip, having an elongated hole and a clamping bolt for adjusting said table relative to the said blades, a well tube below said blades at one side of the said removable holder tube, to receive the potato seed cutting immediately after it is forced from the said table, the cleaning guard 10, projecting above and on the left side of the well tube 6, to prevent the passage of a potato seed cutting over the top of the said well tube 6, a plow 33 to open a furrow in the soil, a suitable carriage supported on two drive wheels detachably geared to and operating the said revolving disk, the covering shovels 34 and 35, to fill the furrow opened by the said plow 33, a suitable lever-operated tilting mechanism for raising or lowering said plow 33, and said shovels 34 and 35, all substantially as set forth.

971,065. WIRE-STRETCHING CLAMP. OLE J. NEDERLOE, Mount Sterling, Wis. Filed Dec. 2, 1908. Serial No. 465,740.



1. The combination with a clamping bar of fingers or projections along the rear side thereof, a corresponding clamping bar having eyes arranged below the same adapted to receive the fingers on the other bar, a bail on each clamping bar, one of which is adapted to be sprung over the other in clamping relation, the actuating means being engaged in the inner bail.

2. Clamping bars each having inner or curved clamping faces adapted to increase surface friction, a quickly detachable hinge afforded by parts on said bars, a bail on each bar, one of which is stationary and the other of which is hinged, the hinged bail being positioned to engage over the other, and tension levers pivotally engaged near the ends of the bars and adapted to be actuated by one or both of the bails to afford together with the bails, uniform pressure for the entire length of the clamping bars.

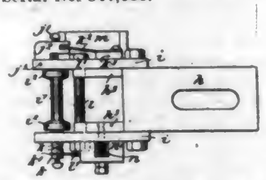
3. In a machine of the class described parallel clamping bars detachably hinged together, a fixed bail and a hinged bail on said clamping bars, one adapted to engage over the other, a hook or eye in the inner bail adapted to receive the hook of the stretching means, and tension levers engaged near the ends of the bars and with one of the bails and adapted to afford a pressure at the ends substantially uniform with the pressure at the middle of the clamping bars.

4. In a device of the class described a wire stretching clamp embracing two clamping bars detachably hinged together and each provided with a forwardly directed bail, one of which is of a length to extend over the other, and a hook adapted to engage the inner bail and to afford means for engaging the source of tension to the clamp.

5. A device embracing clamping bars having one rigid and one hinged bail, the latter adapted to swing over the former, a hook to engage in the inner bail and to use the outer as a fulcrum in closing the clamp and levers engaged at each end of one of the bars and engaged around a projection on the other, and of a length to project between the bails whereby the pressure exerted on one of the bails produces a corresponding pressure on the ends of the clamping bars.

[Claims 6 to 8 not printed in the Gazette.]

971,066. MACHINE FOR CUTTING FILES AND THE LIKE. JAMES NEILL, Sheffield, England. Filed Mar. 3, 1910. Serial No. 547,031.



1. In a file cutting machine means for indicating the lateral curvature of the blank, comprising a spring controlled roller having collars adapted to engage the sides of the blank, and a pointer actuated by the longitudinal movement of the said roller.

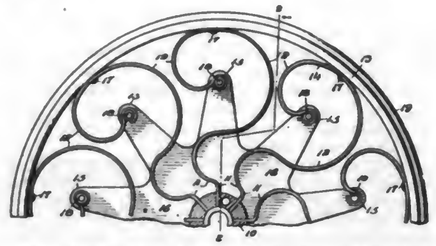
2. In a file cutting machine means for indicating the lateral curvature of the blank, comprising a roller having collars adapted to engage the sides of the blank, and having at one end a spring acting to press the roller inwardly a stop for limiting the action of the spring, a second weaker spring acting upon the opposite end of the roller, and opposed to the first spring and pointer, actuated by the longitudinal movement of the roller.

3. In a file cutting machine means for indicating the lateral curvature of the blank comprising a roller having collars thereon adapted to engage the sides of the blank a spring acting upon one end of the roller, to push the same inwardly a stop to limit the action of the spring, a pivotally mounted body carrying a stud bearing upon the opposite end of the roller a spring acting upon the body weaker than and opposed to the first spring and a pointer attached to the pivotally mounted body.

4. In a file cutting machine means for indicating the lateral curvature of the blank, comprising a roller mounted so as to be capable of longitudinal movement, a frame comprising two plates connected together by means of cross stays one of which forms a pivot whereby the frame is revolubly mounted upon the side plates formed upon an angle plate adapted to be secured to the body carrying the blank, a spring catch for maintaining the frame in the operative position, collars upon the roller engaging

the sides of the blank, a spring carrying a stud bearing upon one end of said roller to push the same inwardly a stop to limit the action of the spring, a pivotally mounted body carrying a stud bearing upon the opposite end of the roller, a spring acting upon said body weaker than and opposed to the first spring, and a pointer attached to said pivotally mounted body and moving over a scale.

971,067. SPRING-WHEEL. FREDERICK C. OLDHAM, Brooklyn, N. Y. Filed Nov. 8, 1907. Serial No. 401,303.



1. In a spring wheel, a rim, a hub, springs inserted in the hub and extending in curved lines toward and secured to the rim, and with extremities again curved toward the hub, plates upon opposite sides and pivotally connected to the extremities of the springs.

2. In a spring wheel, a rim, a hub, springs inserted within the hub and extending in curved lines toward and secured to the rim, and with the extremities again curved toward the hub, spider shaped plates upon opposite sides and with the extremities of the legs pivotally connected to the extremities of the springs.

3. In a spring wheel, a rim, a hub, substantially S-shaped springs secured at opposite curves to the hub and rim, and plates upon opposite sides of the springs pivotally secured to their outer extremities.

4. In a spring wheel, a rim, a hub, substantially S-shaped springs secured at opposite curves to the hub and rim, spider shaped plates upon opposite sides of the springs and with the extremities of the legs pivotally secured to the outer extremities of the springs.

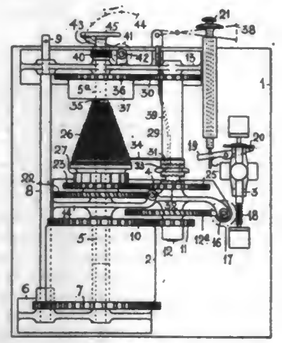
5. In a spring wheel, a rim, a hub centrally disposed relative to the rim, a plate disposed upon one side of the hub, a spring having one end rigidly secured to the hub and extending outwardly in curved lines to the rim and secured to the rim at the curvature and with its end continued in the curved line and secured pivotally to the plate.

971,068. SOUND RECORDING AND REPRODUCING MACHINE. GEORGE OULTON, CHARLES ABLETT, and WILLIAM EDWARD LIGHTFOOT, Liverpool, England. Filed July 19, 1909. Serial No. 508,519.

1. Driving mechanism for sound recording and reproducing machines comprising in combination, a record operating spindle, a motor, a constant speed shaft member, a revoluble body having convolutions of symmetrically increasing size for driving said spindle, and a flexible element trained about said body and shaft member whereby a symmetrically variable speed of a limited number of revolutions is imparted to said spindle.

2. Driving mechanism for sound recording and reproducing machines comprising in combination, a record carrying spindle, a motor, a constant speed shaft driven from said motor, a member having a gradually increasing peripheral surface geared to said spindle, and a flexible element trained about said member and constant speed shaft for imparting a limited number of revolutions to said spindle at a constantly varying speed.

3. Driving mechanism for sound recording and reproducing machines comprising in combination, a record carrying spindle, a motor, a constant speed shaft driven from said motor, a flexible element adapted to be wound and unwound on said shaft, and mechanisms operated by said element for imparting a limited number of revolutions to said spindle at a constantly varying speed.

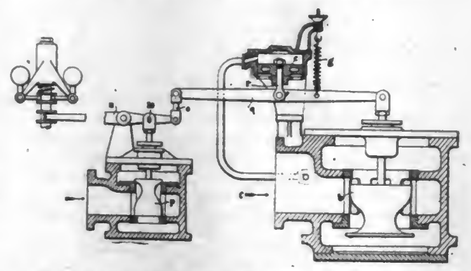


4. Driving mechanism for sound recording and reproducing machines comprising in combination, a record carrying spindle, a motor, a constant speed shaft driven from said motor, a flexible element adapted to be wound and unwound on said shaft, mechanisms operated by said element for imparting a limited number of revolutions to said spindle at a constantly varying speed, and means for connecting said spindle with said motor for operating the former at a constant speed.

5. Driving mechanism for sound recording and reproducing machines comprising in combination, a record carrying spindle, a motor, a constant speed shaft driven from said motor, a member having a gradually increasing peripheral surface geared to said spindle, a flexible element trained about said member and constant speed shaft for imparting a limited number of revolutions to said spindle at a constantly varying speed, and means for connecting said spindle with said motor for driving the former at a constant speed.

[Claims 6 to 12 not printed in the Gazette.]

971,069. CONTROLLING-VALVE FOR FLUID-OPERATED MOTORS. CHARLES ALGERNON PARSONS, GEORGE GERALD STONEY, ALFRED QUINTIN CARNEGIE, and ALBERT WILLIAM BOWERBANK, Newcastle-upon-Tyne, England; said Stoney, Carnegie, and Bowerbank assignors to said Parsons. Filed Mar. 6, 1909. Serial No. 481,632.



1. In an elastic fluid operated plant having a high pressure and a low pressure element, fluid delivery means to said low pressure element, closing means within said delivery means, a device comprising an element responsive to changes of pressure within said low pressure delivery means, said device being connected to said closing means and operating the same without affecting the high pressure element to prevent a reduction in pressure below a predetermined amount from occurring within said low pressure delivery means.

2. In an elastic fluid operated plant having a high pressure and a low pressure element, fluid delivery means to each of said elements, closing means within each of said

delivery means, a device comprising an element responsive to changes of pressure within said low pressure delivery means, said device being connected to operate only the low pressure closing means to prevent a reduction in pressure below a predetermined amount from occurring within said low pressure delivery means.

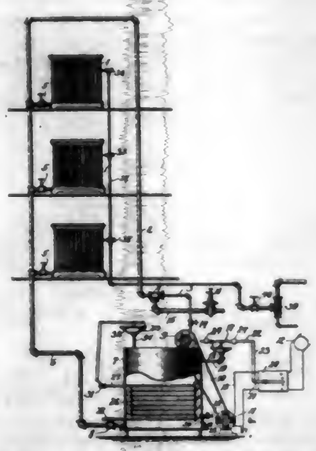
3. In combination in an elastic fluid operated plant having a low pressure element, fluid delivery means to said element, a relay controlled valve in said delivery means, a device subjected and responsive to changes of pressure in said delivery means, said device operating said valve independently of the relay device, whereby said low pressure valve is closed to prevent a reduction in pressure below a predetermined amount from occurring in said low pressure delivery means.

4. In combination in an elastic fluid operated plant having a high pressure and a low pressure element, fluid delivery means to each of said elements, a relay controlled valve in the low pressure delivery means, a device comprising a diaphragm subjected and responsive to changes of pressure within the low pressure delivery means, said device operating the low pressure valve independently of its relay device whereby only the low pressure valve is closed to prevent a reduction of pressure below a predetermined amount from occurring within said low pressure delivery means.

5. In combination in an elastic fluid operated plant having a low pressure element, fluid delivery means to said element, governing means to control the speed of said element, a relay controlled valve in said delivery means, a device subjected and responsive to changes of pressure in said delivery means, said device operating said valve independently of the relay device, whereby said low pressure valve is automatically closed independently of the governing means and without affecting the high pressure element to prevent a reduction in pressure below a predetermined amount from occurring within the low pressure delivery means.

[Claims 6 to 18 not printed in the Gazette.]

971,070. STEAM-HEATING SYSTEM. ANDREW G. PAUL, Boston, Mass. Filed Apr. 16, 1901. Serial No. 56,058.



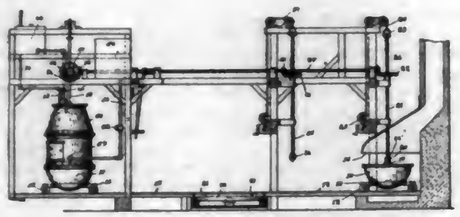
1. In a steam heating system the combination of a heater or radiator, a supply pipe, a return pipe, a re-heating device with which both the supply pipe and the return pipe are connected, a motor connected with the supply pipe between the re-heating device and the radiator, and adapted to draw steam from the re-heating device and force it through the supply pipe, and thus maintain any desired pressure in the supply pipe irrespective of the pressure in the reheater, the system being closed or sealed between the motor and the point of discharge from the radiator.

2. In a steam heating system the combination of a heater or radiator, a supply pipe, a return pipe, a re-heating device with which both the supply pipe and the return pipe are connected, a motor connected with the supply pipe between the re-heating device and the radiator, and adapted to draw steam from the re-heating device and force it through the supply pipe, and thus maintain any desired pressure in the supply pipe irrespective of the pressure in the reheater, and a supply main for supplying steam to the supply pipe from an outside source.

3. In a steam heating system, the combination of a heater or radiator, a supply pipe, a return pipe, the said pipes communicating with each other, a re-heating device connected with the said pipes, a motor connected with the supply pipe between the re-heating device and the radiator adapted to draw the steam from the re-heating device and force it through the supply pipe, and thus maintain any desired pressure therein, a supply main from an outside source, and a controlling device in said main adapted to supply additional steam when pressure falls below the predetermined point in the supply pipe.

4. In a steam heating system, the combination of a heater or radiator, a supply pipe, a return pipe, the said pipes communicating with each other, a re-heating device, a motor connected with the supply pipe between the re-heating device and the radiator, adapted to draw the steam from the re-heating device and force it through the supply pipe and thus maintain the pressure therein, a supply main from an outside source, and a reducing valve in said main adapted to supply additional steam when the pressure falls below the predetermined point.

971,071. APPARATUS FOR MANUFACTURING VARNISH FOR COATING LEATHER. GEORGE WESLEY PRIEST, Newton, Mass., assignor to The Riverside Japannery, Inc., Mansfield, Mass., a Corporation of Massachusetts. Filed Apr. 9, 1909. Serial No. 488,936.



1. In an apparatus of the kind described, a portable kettle, a stirring device for the contents of the kettle which is connected to and movable with the kettle, and a plurality of actuating-devices, any one of which is adapted to engage and operate said stirring-device, substantially as described.

2. In an apparatus of the kind described, a portable kettle adapted to be moved into and out of a furnace, a stirring-device for the contents of the kettle which is connected to and movable with the kettle, and actuating-devices arranged one within and the other outside of the furnace for engaging and operating said stirring-device, substantially as described.

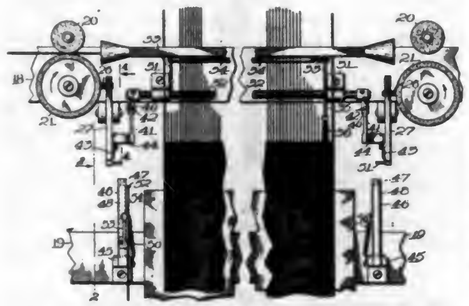
3. In an apparatus of the kind described, a portable kettle adapted to be moved into and out of a furnace, mechanical means having actuating-devices both inside and outside the furnace for continuously stirring the contents of the kettle when in either position, substantially as described.

4. In an apparatus of the kind described, a kettle adapted to be moved into and out of a furnace, a stirring-device contained in the kettle and two actuating-devices for said stirring-device, movable into and out of engagement with said stirring-device and arranged one within and the other outside of the furnace, separate means for moving said actuating-devices into and out of engagement with the stirring-device and for holding the actuating-devices in disengaged position, and means for operating said actuating-devices, substantially as described.

5. In an apparatus of the kind described, a kettle adapted to be moved into and out of a furnace, a stirring-device contained in the kettle having a clutch-member and two actuating-devices, each having a clutch-member adapted to engage the clutch-member on the stirring-device, one located within and the other outside of the furnace, substantially as described.

[Claims 6 to 12 not printed in the Gazette.]

971,072. LOOM FOR WEAVING SHORT-WEFT FABRIC. HENRY E. RATHBUN, Worcester, Mass. Filed Mar. 15, 1909. Serial No. 483,377.



1. In a loom for weaving short weft fabrics, the combination with means for forming a shed and means for inserting the weft, of means whereby when a pick is missed from one side, the weft introducing means will be prevented from inserting a weft strand from the other side so that the next pick on the other side will be missed also.

2. In a loom for weaving short weft fabrics, the combination with means for inserting weft strands in the shed alternately from the opposite sides, of means whereby when a pick is missed on either side, the weft introducing means will be prevented from inserting a weft strand from the other side so that the next weft strand will be introduced from the same side.

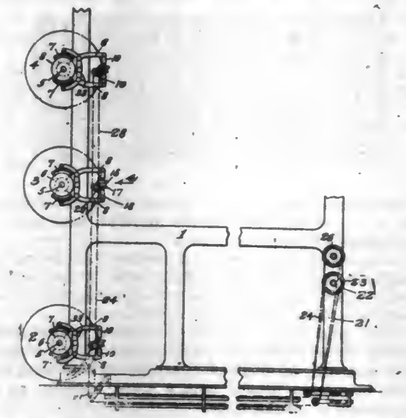
3. In a loom for weaving short weft fabrics, the combination with means for forming a shed, of means operated by the shed for causing the loom to miss the next succeeding pick, whenever a pick is missed on either side.

4. In a loom, the combination of a lathe, means for forming a shed, means for introducing weft strands alternately from opposite sides, a shaft extending across the loom, a bar connected with said shaft and adapted to engage the under side of the warp threads, and means connected with said shaft and controlled by the position in which the bar is placed by the warp threads for preventing the introducing means from operating on one side immediately after a pick has been missed on the other.

5. In a loom, the combination of a lathe, an oscillatory shaft extending therealong, a bar fixed to the shaft and adapted to engage the shed and to be moved thereby to oscillate the shaft, means for inserting weft strands alternately from opposite sides of the loom, means on each end of the shaft acting when the weft-introducing means fails to operate to introduce a weft on one side, to render the weft-introducing means on the other side inoperative, whereby two weft strands are prevented from being introduced into the shed in succession from the same side, and means on each end of the shaft whereby when a pick is missed on one side the next pick on the other side will also be missed so as to prevent two weft strands from being introduced into the shed in succession from the same side.

[Claims 6 to 29 not printed in the Gazette.]

971,073. WEB-ROLL-TENSION DEVICE. GEORGE F. READ, London, England, assignor, by mesne assignments, to R. Hoe and Co., New York, N. Y., a Corporation of New York. Filed Jan. 18, 1909. Serial No. 472,781.



1. In a printing machine, the combination with means for supporting a web roll, of a tension device therefor, mechanism for controlling the tension device, means for operating the controlling mechanism at the roll, means for operating the controlling mechanism at a distance from the roll, and means for throwing out of operation the distance operating means.

2. In a printing machine, the combination with means for supporting a plurality of web rolls, of tension devices for said rolls, mechanisms for controlling the operation of the tension devices, means for operating said controlling mechanisms at the rolls, means for operating said controlling mechanisms at a distance from the rolls, and means for throwing out of operation said distance operating mechanism.

3. In a printing machine, the combination with means for supporting a web roll, of a tension device therefor, mechanism for controlling the operation of said tension device, means for operating said tension controlling mechanism at the roll, means including a suitable gearing for operating said tension controlling mechanism at a distance from the roll, and means for interrupting the action of the gearing.

4. In a printing machine, the combination with means for supporting a plurality of web rolls, of tension devices for said rolls, mechanisms for controlling the operation of said tension devices, means for operating said controlling mechanisms at the rolls, and means operable from a common point for operating said tension controlling mechanisms at a distance from the rolls.

5. In a printing machine, the combination with means for supporting a plurality of web rolls, of tension devices for said rolls, mechanisms for controlling the operation of said tension devices, means for operating said controlling mechanisms at the rolls, means including suitable gearing for operating said tension controlling devices, said means being operable from a common point at a distance from the roll, and means for interrupting the action of the gearing.

[Claims 6 to 8 not printed in the Gazette.]

971,074. LOGOTYPE, TYPE-BAR, AND TYPOGRAPHIC FORM. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, to American Typographic Corporation, a Corporation of Arizona. Filed Oct. 28, 1901. Serial No. 80,223.

1. A logotype decreasing in width from its bottom portion toward its type face, whereby a wedge shaped spacer may be employed when such logotype is assembled with other matter in a form.

2. A logotype having one of its end faces extending substantially in line with the vertical axis of the logotype and its opposite end inclined relatively to said axis.



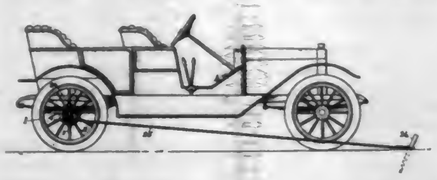
3. A logotype having one of its end faces inclined relatively to the vertical axis of the logotype, said end face being formed with a guide.

4. A logotype having one of its end faces extending substantially in line with the vertical axis of the logotype and its opposite end inclined relatively to said axis, said inclined face being formed with a guide.

5. A logotype having one of its end faces extending substantially in line with the vertical axis of the logotype and its opposite end inclined relatively to said axis, said inclined face being formed with a guide undercut at the upper portion of the logotype.

[Claims 6 to 49 not printed in the Gazette.]

971,075. DRAFT ATTACHMENT FOR MOTOR-VEHICLES. OTTO E. RITZMANN, Detroit, Mich., assignor to Peerless Auto Pull Co., Detroit, Mich., a Corporation of Michigan. Filed Apr. 29, 1910. Serial No. 558,327.



1. The combination with the hub and drive wheel of a motor vehicle, of a plurality of sector plates embracing said hub and coöperating therewith to form a segmental winding drum, means for attaching the inner ends of the sector plates to the wheel, and means for clamping the outer ends of said plates to the hub.

2. The combination with the drive wheel of a motor vehicle, of a plurality of sector plates embracing the hub of said wheel and coöperating therewith to form a winding drum, each of said plates having an arm adapted to lie parallel with a spoke of the wheel, means for clamping said arms to said spokes, and means for clamping said plates to the hub.

3. The combination with the drive wheel of a motor vehicle, of a segmental drum adapted to embrace the hub of said wheel and coöperate therewith to form a winding drum, each part of said drum having an arm hinged thereto adapted to lie parallel with a spoke of the wheel, means for clamping said arms to said spokes, and means for fastening the parts of said drum to the hub.

4. A segmental drum for the hub of a drive wheel, comprising a plurality of sector plates adapted to embrace said hub, each plate having means for attachment to the wheel, and a clamping yoke passing through said plates for clamping them upon the hub.

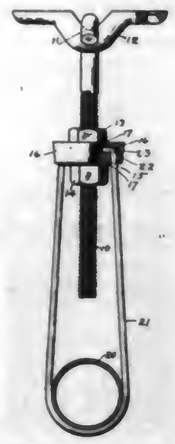
5. A winding drum for the hub of a drive wheel, comprising a plurality of sector plates, arms on said plates adapted for attachment to the spokes of the drive wheel, a clamping yoke passing through said plates for clamping them upon the hub, the end of said yoke projecting beyond the periphery of said plates to serve as a guard or flange for the rope which is wound on said drum.

[Claim 6 not printed in the Gazette.]

971,076. PROCESS OF RETTING FLAX. PEDRO RIVA, Buenos Ayres, Argentina. Filed Nov. 23, 1908. Serial No. 464,042.

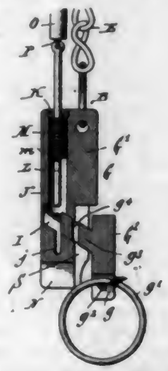
A process for retting flax, consisting in subjecting the flax to the action of sulfurous water, then drawing off the water, then subjecting the flax to a vacuum, and finally subjecting the flax to the action of steam under pressure.

971,077. PIPE-HANGER. ELMER H. ROBERTS, Norwalk, Conn. Filed Jan. 8, 1910. Serial No. 536,973.



A pipe hanger comprising a threaded shank, a supporting block provided with intersecting top and side recesses, a loop having its ends bent over to fit within said intersecting recesses, a cap having a depending flange fitting down over the side recesses in said block, said block and cap being free to slide on said shank, a nut on said shank for adjustably supporting said cap and block, and a second nut on said shank coöperating with the first nut to clamp the cap and block together.

971,078. HITCHING AND RELEASING DEVICE. JAMES ROBINSON, Buffalo, N. Y. Filed Aug. 16, 1909. Serial No. 513,095.

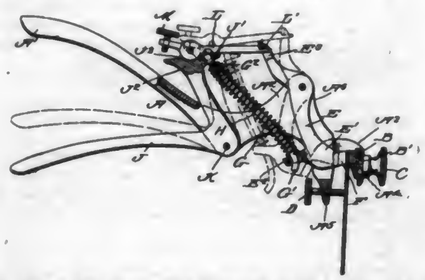


1. A hitching and releasing device for horses, comprising a release-head formed of a securing member and a halter-member having one end bifurcated, said securing-member having an obliquely-disposed socket and a longitudinal bore intersecting said socket and said halter-member having an obliquely-disposed stud adapted to enter said socket, said stud having a bore adapted to register with the longitudinal bore in said securing-member, a ring entered in the bifurcated end of said halter-member, a pin passing transversely through said bifurcated end and serving to retain said ring therein; a spring-retained lock-pin in said longitudinal bore adapted to extend through the bore in said stud, a flexible tie-member having one end secured to said securing-member and its other end releasably positioned, and a second tie-member somewhat longer than said first-mentioned tie-member and having one end connected to said lock-pin and its other end permanently fastened.

2. A hitching and releasing device comprising a release-head comprising a securing-member externally grooved through a portion of its length and provided with an obliquely-disposed socket and a longitudinal bore intersecting said socket and a halter-member fitting into said external groove and having an obliquely-disposed stud entering said socket and provided with a bore registering with that of said securing member, a lock-pin in said longitudinal bore passed through the bore in said stud, and two tie-members arranged and fastened so that one can be released to subject the other to strain, said last-mentioned tie-member being connected to said lock-pin to permit the disengagement of said halter-member from said securing-member.

3. A hitching and releasing-device comprising a release-head having two connected parts bifurcated at corresponding ends, a ring or loop secured to the bifurcated portion of one of said parts and extending into the bifurcated portion of the other part, means for retaining said parts in connected condition, a tie-member secured to said retaining-means and adapted to actuate the latter to permit disconnection of said parts, and a tie-member secured to the part of said release-head carrying said retaining-means.

971,079. SAW-SET. JESSE ROGERS, Provincetown, Mass. Filed Sept. 22, 1909. Serial No. 518,997.



1. A saw set comprising a handle frame provided with a U-shaped head, an anvil carried by said head, a spring actuated hammer mounted in said frame co-acting with said anvil, said hammer being provided with a slotted upper end, a pivoted lever mounted in said frame, and a sear member carried by said lever extending through the slot of said hammer having a shoulder adapted to engage said hammer for operating the same.

2. A saw setting implement comprising a handle frame provided with a head, carrying an anvil, a spring actuated hammer mounted in said frame, a lever mounted in said frame, a sear member carried by said lever adapted to engage said hammer and adjustable means carried by said sear member for throwing the sear out of engagement with the hammer when brought into engagement with the lever.

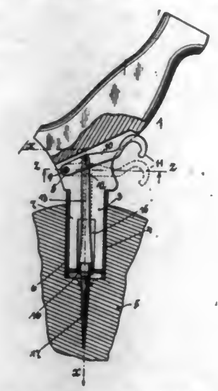
3. A saw setting implement comprising a handle frame provided with a substantially inverted U-shaped head member, an anvil adjustably mounted in said head member, a screw carried by said head member, for engaging the saw when arranged therein, a hammer pivotally mounted in said frame provided with a die, said hammer being provided with a slotted portion, a lever pivotally mounted in said frame, a sear member carried by said lever working through the slot of said hammer provided with a shoulder for engaging said hammer and a rod working loosely through said hammer and lever surrounded by a spring for operating the hammer.

4. A saw setting implement comprising a handle frame provided with a saw receiving head, an anvil adjustably mounted within said head, a screw for engaging the saw within the head, a hammer pivotally mounted in said frame provided with a slotted upper portion and a slotted lug, a lever pivotally mounted in said frame provided with a head having a slotted portion, a rod arranged within the slotted portion of the head, extending through the slotted lug of the hammer, a spring surrounding said rod between said lug and head, a sear pivotally mounted on the head of the lever working through the slot of the hammer and provided with a shoulder for engaging the same and a set screw carried by said sear member for engaging the head of the lever for throwing the shoulder of the sear out of engagement with the hammer.

5. A saw setting implement comprising a handle frame provided with a head for receiving the saw, a hammer mounted in said frame for engaging the tooth of the saw, a spring for forcing said hammer into engagement with the saw, a pivoted lever, and a sear member carried by said lever for moving said hammer against the tension of the spring and releasing the same automatically said sear member having adjustable means for releasing the hammer.

[Claim 6 not printed in the Gazette.]

971,080. GRIPPING DEVICE. WILLIAM DICKEY ROOP, Marion, Ind. Filed Dec. 29, 1909. Serial No. 535,464.



1. In a device of the class described, the combination of a handle; a shank projecting therefrom at an obtuse angle; longitudinally slidable arms in said shank; gripping jaws on the ends of said arms and projecting from said shank; means for forcing said jaws together upon retraction thereof; a lever pivoted in said handle and connected with said arms; and a finger piece on said lever located just under said handle, substantially as described.

2. In a device of the class described, the combination of a handle; a shank projecting therefrom at an obtuse angle; longitudinally slidable arms in said shank; gripping jaws on the ends of said arms and projecting from said shank; means for forcing said jaws together upon retraction thereof; a lever pivoted in said handle and connected with said arms; and a widened finger piece on said lever located just under said handle, substantially as described.

971,081. ADJUSTABLE DRAWING-TABLE. GEORG ADOLF SCHNORR, Ober-Esslingen, Germany, assignor to The Firm of Albert Martz, Stuttgart, Germany. Filed Apr. 26, 1910. Serial No. 557,801.

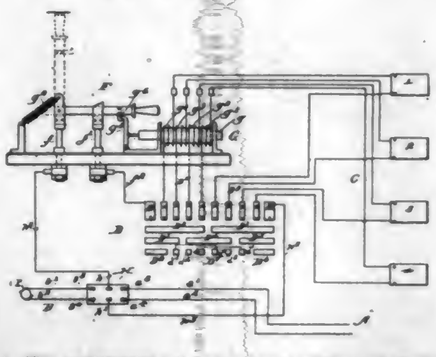
1. A drawing table composed of a frame and a drawing board adjustable vertically without changing its inclination, having in combination a shaft on which the board is rotatably mounted, a horizontal frame shaft, arms con-

necting the board shaft with the frame shaft and forming bearings for the board, wheels of equal radius on the frame shaft and the board shaft, and transmission means connecting the said wheels.



2. In a drawing table, a frame, a fixed horizontal shaft connecting the sides of the frame, a drawing board provided with a rotatable axis about which it is adjustable to any desired inclination, arms connecting the axis of the board with the frame shaft and serving as bearings upon which the board oscillates about the frame shaft, wheels of the same radius on the board axis and the frame shaft, and driving means connecting the frame shaft with the drawing board axis, adapted to raise or lower the board without changing its angle of inclination.

971,082. CIRCUIT-BREAKER. FRANK L. SESSIONS, Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Aug. 6, 1903. Serial No. 168,531. Renewed Sept. 14, 1905. Serial No. 278,483.



1. The combination of two or more sources of electric supply, a working circuit connected therewith and taking current therefrom, an electromagnetic circuit breaker, having a magnet coil in circuit with each of the said sources of electric supply, and means for connecting with said working circuit the said sources of electric supply in parallel or in series at will, substantially as set forth.

2. The combination of two or more sources of electric supply, a working circuit, means for connecting the said sources of electric supply with said working circuit either in parallel or in series, an electro-magnetic circuit breaker in the said circuit having several coil sections, respectively, in circuit with said sources of electric supply and means for connecting the said sources of supply with the working circuit through the said coils in parallel or in series at will, as described.

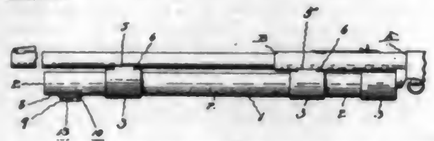
3. In a storage battery system, the combination of two or more cells or cell groups each having two terminal conductor sections, a working circuit, means for connecting the said terminal conductor sections with the main circuit with the said cells or cell groups in parallel or in series at will, a circuit breaker in the said circuit having an electro-magnet formed with a plurality of coil sections, each coil section being in one of the terminal conductor sections of one of the cells or cell groups, substantially as set forth.

4. In a storage battery system, the combination of a working circuit, two or more cells or cell groups, a controller for connecting the said cells or cell groups with the working circuit in parallel or in series, an electromagnet adapted to control or modify the working of the said circuit, and having a series of coil sections each interposed between the said controller and one of the cells or cell groups, substantially as set forth.

5. In a storage battery system, the combination of a working circuit, two or more cells or cell groups, means for connecting the said cells or cell groups with the working circuit in parallel or in series, an automatically movable conductor section in the circuit adapted to open and close it, and an electro-magnet having two or more coil sections, each permanently interposed between the said movable conductor section and one of the said cells or cell groups, substantially as set forth.

[Claims 6 to 11 not printed in the Gazette.]

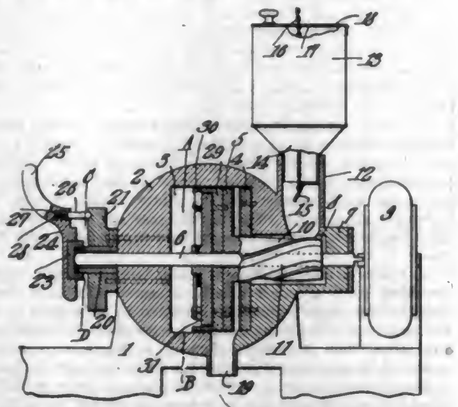
971,083. MUFFLER FOR FIREARMS. ANDY C. SHIPLEY, Speedwell, Tenn. Filed Oct. 2, 1909. Serial No. 520,735.



1. In combination with the barrel of a firearm, a tubular casing secured thereto and communicating with the bore thereof intermediate of the breech and muzzle, a block removably secured near the end of the casing, said block having a socket and a plurality of transverse holes communicating with the socket, and the casing provided with a slot in alinement with the socket in the block, substantially as shown and described.

2. In combination with the barrel of a firearm, a tubular casing removably secured thereto and communicating with the bore thereof intermediate between the breech and the muzzle, a block removably secured near the end of the casing and provided with a plurality of transverse holes communicating with the hole of the casing, and disks secured in the casing and spaced apart said disks being provided with unalined openings, substantially as shown and described.

971,084. COFFEE-MILL. JAMES W. SLIGAR, Weatherford, Tex. Filed May 3, 1909. Serial No. 493,617.

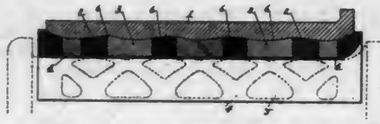


1. In a grinding mill, a fixed bur and a rotatable bur, a rotatable shaft carrying the rotatable bur, and a coupling between the shaft and bur thereon comprising a cam lever fixed to the shaft for rotation therewith, a spring tending to move the lever to the active position, a latch member in the path of movement of the lever against the action of the spring for holding the lever in the inactive position, and a coacting member fast to the rotatable bur and adapted to be normally engaged by the cam portion of the cam lever.

2. In a grinding mill, a fixed bur and a rotatable bur, a rotatable shaft carrying the rotatable bur, and a coupling between the shaft and bur thereon comprising a spring constrained cam lever fixed to the shaft for rotation therewith, said lever having a tooth formed on the end thereof remote from the cam, a spring blade also rotatable with the shaft and having its free end formed with engaging means in the path of the tooth of the cam lever, and a coacting member fast to the rotatable member and adapted to be normally engaged by the cam portion of the cam lever.

3. In a grinding mill, a fixed bur and a rotatable bur, a rotatable shaft carrying the rotatable bur, projecting members carried by the rotatable bur, a carrying member fast to the shaft and interior to the projecting members on the rotatable bur, a cam lever on the carrying member having a cam formed at one end and a tooth at the other, a spring fast at one end to the carrying member and at the other to the lever, and a spring blade on the carrying member having its free end formed with a series of engaging members for the tooth on the cam lever and in the path of the said tooth when the lever is moved in a direction against the normal action of the spring, the cam end of the cam lever being adapted to normally engage the projecting members on the bur.

971,085. JOURNAL-BRASS. HENRY JOHN SMALL, San Francisco, Cal. Filed Aug. 12, 1909. Serial No. 512,525.

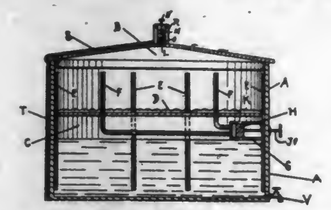


In a journal bearing, the combination of an outer backing of malleable iron and a journal bearing member comprising a grated brass member and a filling of softer metal, the said journal bearing member having a substantially continuous inner surface free from openings or protuberances, and the contiguous surfaces of said journal member and backing member having interengaging elevations and depressions curved in cross section and being straight, parallel and extending from edge to edge of said members, the inner surface of the journal bearing member having a plurality of separated longitudinal straight and parallel recesses curved in cross section and extending from end to end and said backing member being provided with complementary longitudinal beads or raised portions interfitting said recesses, and a lead lining of independent construction fitting over the continuous surface of the journal bearing and secured to the latter.

971,086. CLOTHES-BOILER. VICTOR A. SMITH, Mineral Wells, Tex. Filed Apr. 15, 1910. Serial No. 555,612.

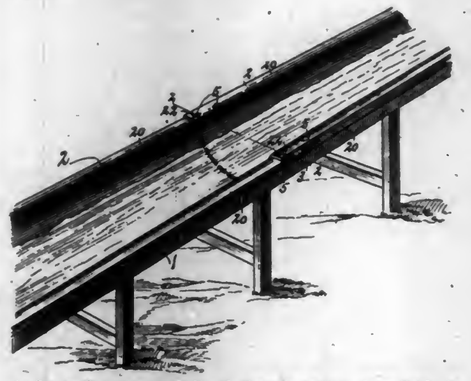
1. In a clothes boiler, the combination with a partition separating the boiler into an upper and a lower compartment, of a plurality of pipes establishing communication between the bottom of the lower compartment and the upper compartment, the upper portions of said pipes being perforated, pipes establishing communication between the upper portion of the lower compartment and the upper compartment, said last named pipes also being perforated in said upper compartment, means by which communication established through these latter pipes may be opened or closed manually, and a safety valve adapted to permit the escape of steam from the upper compartment at a certain pressure.

2. In a clothes boiler the combination of an arched partition separating the boiler into an upper and a lower compartment, of a screen horizontally positioned above said partition, vertical pipes extending through said partition the lower extremities of which open into the lower portion of the lower compartment, their upper extremities



being perforated, pipes adapted to establish communication between the upper portion of the lower compartment and the upper compartment, said last named pipes being perforated in the upper compartment, means controlling the communication established by the last named pipes, a removable lid, and a safety valve carried by said lid.

971,087. FLUME OR CONDUIT. WILLIAM JOHN SMITH, San Luis Obispo, Cal. Filed Dec. 20, 1909. Serial No. 534,136.



1. In a flue or conduit of the character described, in combination with the opposite side rails, of a plurality of metallic sections, whose adjacent ends overlap, the upper end of each section having a transverse groove, a compressible packing in said groove and means for clamping the overlapping portions of the sections together and securing them on the side rails.

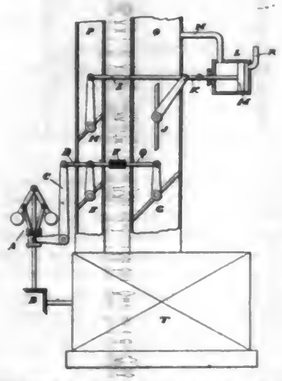
2. The combination with the opposite side sills; of a plurality of sheet metal sections of semi-circular shape whose opposite edges are bent out to form rest flanges, the adjacent ends of each pair of sections overlapping, a packing strip section held between the sections and extending the full transverse width thereof, the flanges of the sections being mounted on the side sills and provided with longitudinally elongated slots, and fastening bolts that pass through the said slots and the side sills.

3. The combination with the side sills, of the metallic trough sections, each section having a depressed portion that forms a pocket and extending its full width and side flanges, the sills having portions in which the depressed portions of the sections rest and other portions for receiving the side flanges of the sills, a packing held in the said pockets, and means that engage the flat ends of the side flanges and the sills for clamping the trough sections together and securing them on the sills.

4. The combination of a plurality of sheet metal trough sections having flat side flanges, each section being transversely depressed its full width near one end to form a pocket, a packing of compressible material held in said pocket, the adjacent ends of the several sections overlapping the side sills, said sills having rest portions for the

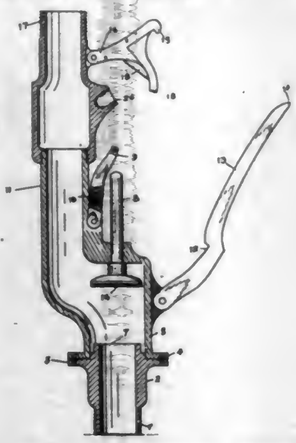
depressed pocket portions of the sections and other rest portions for the flat side flanges of the sections, said side flanges having registering elongated slots and the clamping bolts that pass through the slots and the sills.

971,088. REGULATING APPARATUS FOR ENGINES. CHARLES H. SMOOT, New York, N. Y. Filed Feb. 11, 1909. Serial No. 477,468.



In a power producing engine operated by steam from sources at different pressures, valves located in the high pressure steam channel and in the lower pressure steam channel and piston mechanism operated by steam supplied by the lower pressure source of steam and having a closing action on the lower pressure valve when the lower pressure steam source has a tendency to diminish and simultaneously an opening action on the high pressure valve and two valves located in the high and in the low pressure channel opening and closing together under the control of a speed governor.

971,089. AUTOMATIC FIRE-EXTINGUISHER SYSTEM. TADIUS J. STANKIEWICZ, Chicago Heights, Ill. Filed Oct. 31, 1908. Serial No. 460,534.



1. In an automatic fire extinguisher system, a valve casing having inlet and outlet openings and a passageway therethrough, a valve mounted in said casing and adapted to close said outlet opening and having a stem projecting through said casing, an arm pivoted on said casing and adapted to engage said valve stem, a lever pivoted on said casing and adapted to hold said arm in operative position, a socket in said casing, an explosive cartridge in said socket, fuses in contact with the explosive in said cartridge, a hook pivoted on said casing adapted to engage said lever, and to form a cover for said socket when the hook and lever are in operative position.

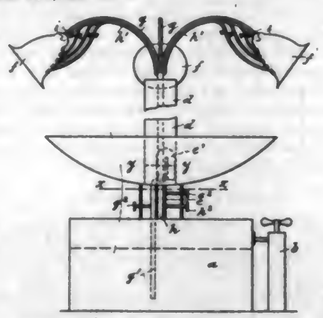
2. In an automatic fire extinguisher system, a valve casing having inlet and outlet openings and a passageway therethrough, a valve controlling said outlet opening, a stem on said valve projecting through said casing, an arm, pivoted on said casing, an adjusting screw in said arm adapted to engage said valve stem, a lever pivoted on said casing adapted to interlock with said arm, a socket in said casing, an explosive in said socket means in contact with the explosive for operating same, a hook pivoted to the casing and adapted to engage said lever when in operative position, a cup shaped member attached to said hook, and adapted to form a cover for said socket, an arm on said hook adapted to strike said lever when the explosive is ignited.

971,090. SEEDER. CARL J. STEIN, White Earth, N. D. Filed Feb. 25, 1910. Serial No. 546,011.



In a seeder, a frame, a rotating magazine having an internal circular groove and in one end a central opening, members with seed-carrying cups detachably and reversibly secured at equidistant points in the groove; each cup being made with a large and a small seed-carrying cavity arranged in opposite direction on the member holding the cup in place, a chute secured on the frame and extending into the opening in the end of the magazine for conveying therefrom the seeds dropped by the cups upon the upper and inner end of the chute, and means on said members and magazine for holding the small and the large seed cavity alternately in direction of the rotation of the magazine.

971,091. ADVERTISING OR AMUSEMENT DEVICE. WELLINGTON STOTT, London, England. Filed July 21, 1909, Serial No. 508,763. Renewed June 24, 1910. Serial No. 568,720.

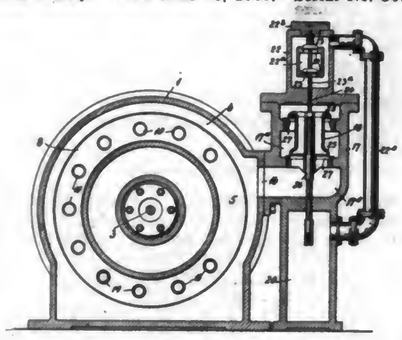


1. In a bubble fountain, the combination, with a flaring bulb, of a delivery pipe for air having a projecting lip at its lower side which is arranged inside the smaller end portion of the bulb, and a supply pipe for solution arranged to deliver the solution onto the said lip over the orifice of the air pipe.

2. In a bubble fountain, the combination, with a flaring bulb, of a delivery pipe for air having a projecting lip

at its lower side which is arranged inside the smaller end portion of the bulb, a series of branch air pipes connecting the main air pipe with the lower side of the bulb at different points of its length, and a supply pipe for solution arranged to deliver the solution onto the said lip over the orifice of the main air pipe.

971,092. ELASTIC-FLUID TURBINE. CARL RICHARD WALLER, Trenton, N. J., assignor to De Laval Steam Turbine Company, New York, N. Y., a Corporation of New Jersey. Filed June 10, 1909. Serial No. 501,298.



1. An elastic fluid turbine comprising a rotor, high-pressure-working-fluid supply means and lower-pressure-working-fluid supply means therefor, and governing means controlling the supply of both such working fluids and arranged to begin the supply of one such fluid after the supply of the other fluid is begun, and to discontinue the supply of one such fluid before the supply of the other fluid is discontinued, comprising separate high pressure and low pressure puppet valves in line with one another and arranged to be actuated one by the other, but disconnected one with respect to the other and arranged to seat independently, and a single governor and connecting devices connecting said governor to one of said valves, the valve so connected to the governor being arranged to be moved from its seat before it encounters the other valve and moves said latter valve from its seat in turn, the said latter valve being arranged to seat, during closing of the valves, before the seating of that valve which is connected to the governor.

2. An elastic fluid turbine comprising in combination a rotor, high pressure and low pressure nozzles for supplying working fluid thereto, and governing means controlling the supply of working fluids to such nozzles comprising separate high pressure and low pressure puppet valves in line with one another and arranged to be actuated one by the other, but disconnected one with respect to the other and arranged to seat independently, and a single governor and connecting devices connecting said governor to one of said valves, the valve so connected to the governor being arranged to be moved from its seat before it encounters the other valve and moves said latter valve from its seat in turn, the said latter valve being arranged to seat, during closing of the valves, before the seating of that valve which is connected to the governor.

3. An elastic fluid turbine comprising a rotor, high-pressure-working-fluid supply means and lower-pressure-working-fluid supply means therefor, a high pressure valve chamber and a lower pressure valve chamber and puppet valves therein for controlling flow of high pressure working fluid and low pressure working fluid respectively, said valves arranged in line with one another and one arranged to open the other when itself open, and after it has been opened somewhat, and a single governor arranged to actuate that valve which is arranged to open the other.

4. An elastic fluid turbine comprising a rotor, a high pressure valve chamber and a low pressure valve chamber, and high pressure and low pressure puppet valves located therein and in line with one another, the low pressure valve disconnected from the high pressure valve but arranged to lift the high pressure valve from its seat after said low pressure valve has been lifted from its seat, said valves arranged to seat independently, a centrifugal governor driven by the turbine and a pivoted lever actuated by said governor and connected to the stem of the low pressure valve and arranged to move said valve from and toward its seat.

5. An elastic fluid turbine comprising a turbine casing having in it a rotor chamber, a rotor therein having a series of buckets, a plurality of separate steam chests in said casing and expansion nozzles extending from said steam chests to the rotor chamber and arranged all to direct working fluid directly against the same series of buckets, the nozzles of certain of said steam chests of different expansion ratio than the nozzles of others of said steam chests, independent working-fluid-supply-means for the steam chests having expansion nozzles of different ratios, independent puppet supply valves for said independent working-fluid-supply-means, and a speed governor and means operated thereby for operating said valves arranged to open said valves successively and to permit same to close in reverse order to their order of opening.

971,093. FINGER-PROTECTOR. MARIE LOUISE BÜCHLER WARD, London, England. Filed Mar. 20, 1909. Serial No. 484,754.



1. A protector of the character described, consisting of a cover or stall substantially the full length of the finger, made of paper or like material of a somewhat stiff character, and having its inner end cut off at substantially a right angle to its axial line, the inner side of the stall being slitted from its inner end to a point beyond the second joint of the finger when the stall is in use, and a tab being provided, projecting from the rear side of the inner end opposite to the slit.

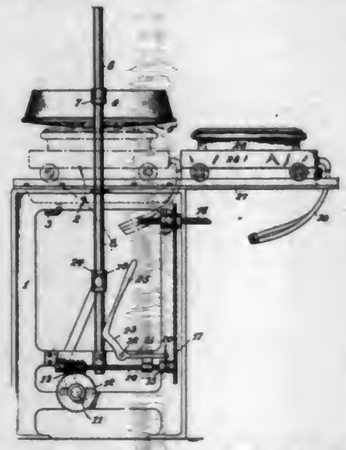
2. A protector of the character described, comprising a series of covers or stalls for the fingers, each having in the front inner edge thereof a V-shaped opening, and a tab, common to all of the covers, secured to the back inner edge thereof, substantially as described.

3. A protector of the character described, comprising a series of covers or stalls for the fingers, each having in the front inner edge thereof a V-shaped opening, and a tab, common to all of the covers, secured to the back inner edge thereof, said common tab taking the form of a protector for the back of the hand.

971,094. HAT-FLANGING MACHINE. ARTHUR B. WARING, New York, N. Y. Filed Apr. 25, 1908. Serial No. 429,144.

1. In a hat flanging machine, a heater carried by the machine frame and a vertically reciprocating presser

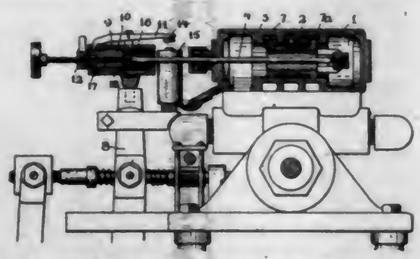
frame journaled to slide in said frame and carrying a presser bag or member adapted to rest on said heater, in combination with a pair of tracks secured at the side of the heater and extending laterally therefrom, a form-carrying truck provided with flexible means for conveying heat thereto, and adapted to be moved on the said tracks into and out of the space between said heater and presser member.



2. In a hat flanging machine, a heater and a vertically reciprocating moisture-absorbing presser member adapted to rest on said heater, a pair of tracks secured at the side of said heater and supporting a movable truck, extensible means for conducting heat to said truck and a metal flange form carried and heated by said truck and movable on said tracks to a position above said heater and under said reciprocating presser.

3. In a hat flanging machine, a reciprocating presser mechanism and means for operating the same comprising a clutch-driven shaft and a clutch-controlling hand lever, in combination with a part carried by said reciprocating mechanism adapted to engage and swing said lever on its fulcrum, said lever being adapted to be moved laterally to its plane of swinging movement for disengagement with the said part.

971,095. STOP FOR WATER-WHEELS. WILLIAM D. WHITE, Worcester, Mass., assignor to Holyoke Machine Company, Worcester, Mass., a Corporation of Massachusetts. Filed Feb. 18, 1907. Serial No. 357,889.



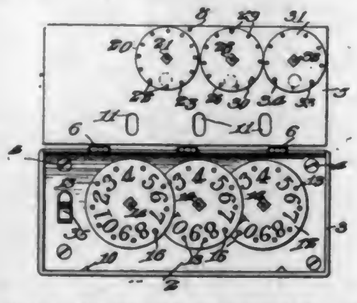
1. The combination of a power controlling valve, an integral valve stem for said valve, a governor for operating said valve stem, a shell connected with said governor surrounding said valve stem, open at one end, connecting means adjustably attached at said open end to said valve stem and detachably held in said shell, and a spring held in said shell arranged to move said valve stem out of said shell when said detachable means are released, thereby operating said valve independently of the operation of said governor.

2. In a governor of the class described, the combination with a power controlling valve, and a valve stem carrying said valve, of a spring having its tension applied to move said valve stem in one direction, a nut adjustably held on said valve stem, and a latch engaging said nut to hold the valve stem against the tension of said spring, and means for releasing said latch.

3. In a governor of the class described, the combination of a valve for controlling the application of power to the governor, a screw threaded valve stem carrying said valve, a nut engaging said valve stem, a spring pressing against said nut to move said valve stem in one direction, means for holding said nut from movement by the spring, and means for releasing said nut at will.

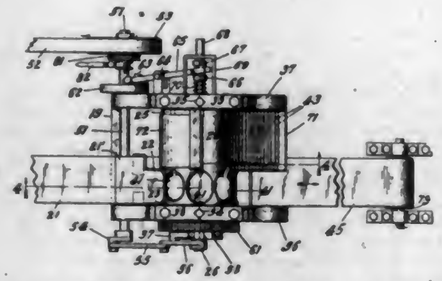
4. In a governor of the class described, the combination with the stem of a power controlling valve, of a nut held on said stem, a sleeve inclosing said nut, a spiral spring interposed between said sleeve and said nut, a latch held by said sleeve and engaging said nut, and means for releasing said latch at will.

971,096. INDICATOR. WILLIAM G. WOLFE, CHARLES E. BISSELL, and WILLIAM J. BRANSTETTER, Pittsburg, Kans. Filed Aug. 2, 1909. Serial No. 510,821.



The herein described indicator comprising a casing, a cover plate hinged to one of the walls of the casing and formed with sight openings, pivot studs having enlarged inner ends fixed in the bottom of the casing, their outer ends being screw threaded, retaining pins having enlarged inner ends fixed in the bottom of the casing, indicator disks adapted to be seen through the sight openings in the cover plate and each having a central opening to receive one of said pivot studs, and an annular series of openings to receive one of said retaining pins, and nuts screwed on the threaded ends of the pivot studs to clamp the indicator disks thereon.

971,097. CANDY-MACHINE. FRANK H. WOOLF, Indianapolis, Ind., assignor to Racine Engine & Machinery Co., Racine, Wis., a Corporation of Wisconsin. Filed Dec. 13, 1907. Serial No. 406,296.



1. The combination in a candy machine of a suitable frame, molding rolls mounted in said frame, one of said rolls being provided with mold cavities and a groove for each of said mold cavities, means for delivering sticks one by one into said grooves, means for advancing said rolls with a step by step movement, and means adapted to thrust the sticks into the material contained within the mold cavities.

2. The combination in a candy machine of a suitable frame, molding rolls mounted in said frame, one of said rolls being provided with mold cavities and a groove for each of said mold cavities, means for delivering sticks one by one into said grooves, means for advancing said rolls with a step by step movement, and means for thrusting the sticks into the material contained within the mold cavities, the mechanism being timed so that the rolls are at rest when the stick thrusting mechanism is operative.

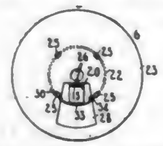
3. The combination in a candy machine of a suitable frame, rolls mounted in said frame, means for adjusting said rolls toward and from each other, means for driving said rolls with a step by step movement, one of said rolls being provided with grooves, means for introducing sticks into said grooves, and means driven from the same source of power for driving said sticks endwise between the rolls when the latter are at rest.

4. The combination in a candy machine of a suitable frame, molding rolls mounted thereon, gears connected to said rolls whereby they are caused to move synchronously, a ratchet wheel connected to one of said rolls, a movable arm provided with a pawl adapted to engage said ratchet wheel, means for moving said arm forward and back to engage said pawl with said ratchet wheel and to disengage it therefrom to give the rolls alternate periods of movement and rest, one of said rolls being provided with grooves, means for delivering sticks into the grooves, a plunger adapted to move the sticks severally endwise, and means for operating said plunger timed to operate during the at rest periods of the rolls.

5. The combination in a candy machine of molding rolls, one of said rolls being provided with grooves adapted to receive sticks, a plunger for moving said sticks endwise at the proper points, and means for actuating the plunger, said plunger having a cup-shaped operating end adapted to inclose the end of the stick operated upon.

[Claims 6 to 19 not printed in the Gazette.]

971,098. TYPE-WRITING MACHINE. CLIO B. YAW, Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed May 5, 1910. Serial No. 559,570.



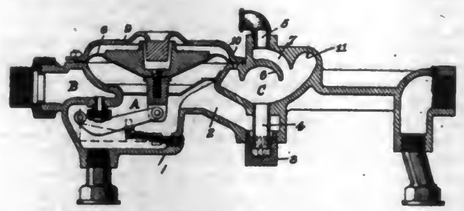
1. In a typewriting machine having ribbon feeding and reversing mechanism, the combination of a shaft, a reverser weight mounted on said shaft and constituting part of the reversing mechanism, a ribbon spool mounted on said shaft and having a hollow core in which said weight is situated, and said core having an opening through which said weight is arranged to fall when the ribbon is exhausted from the spool, and a pivoted bridge over said opening and arranged to drop open when the ribbon is exhausted from the spool.

2. In a typewriting machine having ribbon feeding and reversing mechanism, the combination of a shaft, a reverser weight mounted on said shaft and constituting part of the reversing mechanism, and a ribbon spool mounted on said shaft and having a hollow core in which said weight is situated, said core having an opening and said spool having flanges one of which is apertured to admit said weight and to allow it to drop when the ribbon is exhausted from the spool, a bridge arranged normally to bridge or close said opening in said core and to drop out of the way of said weight when the ribbon is exhausted from the spool, and means independent of said bridge for attaching a ribbon to the spool.

3. In a typewriting machine having ribbon feeding and reversing mechanism, the combination of a shaft, a ribbon spool detachably mounted on said shaft and having flanges and a hollow core, a reverser weight mounted on an arm which is pivoted to said shaft and constituting part of the reversing mechanism, said core having an opening through which said weight can drop when the ribbon is exhausted from the spool and one of said flanges having an opening through which said weight is thrust when the spool is placed upon the shaft, and a bridge over said opening in the core and arranged to drop away when the ribbon is exhausted from the spool.

4. In a typewriting machine having ribbon feeding and reversing mechanism, the combination of a shaft, a reverser weight mounted on said shaft and constituting part of the reversing mechanism, a ribbon spool having two flanges and a hollow core or drum in which said weight is situated, said drum having an opening therein through which said weight can drop, means for fastening said flanges to said drum, and a bridge hinged to said drum at one side of said opening and arranged to span said opening, said fastening means being so disposed that, by turning said drum over in the process of assembling, the bridge can be reversed, the hinge of the bridge being placed on one side of the opening for a right-hand spool or on the other side of the opening for a left-hand spool.

971,099. GAS-CONTROLLER. FRED ELLIOTT YOUNGS, Detroit, Mich., assignor to Equitable Meter Company, Pittsburg, Pa., a Corporation. Filed May 29, 1909. Serial No. 499,089.



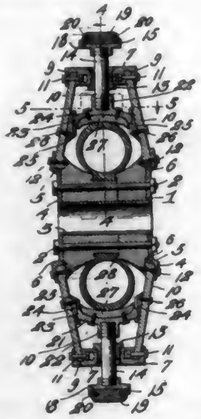
1. A regulator case or shell provided internally with a regulating chamber and a relief chamber, the regulator chamber extending beneath the relief chamber and separated therefrom by a transversely extending partition, in combination with a mercury cup arranged in the regulating chamber, and a tube extending from the relief chamber through said partition and into said cup, substantially as described.

2. A regulator case or shell provided internally with a regulating chamber, a relief chamber, and a diaphragm chamber, communication from said regulating chamber through a liquid seal to said relief chamber, the entrance to said relief chamber being centrally disposed in the bottom thereof, a baffle plate and two orifices arranged in the roof of said relief chamber, one of said orifices leading to the diaphragm chamber and the other to an escape, the said baffle plate arranged centrally between the two said orifices and protecting both from splashing liquid, substantially as described.

971,100. CUSHIONED VEHICLE-WHEEL. MAYNARD H. ALDRIDGE, Plattsburg, N. Y. Filed Jan. 13, 1910. Serial No. 537,869.

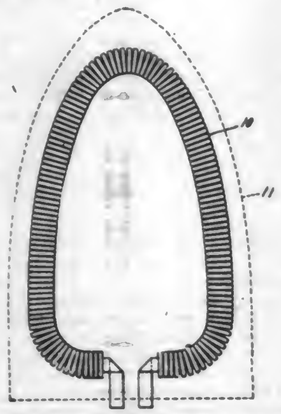
1. In a wheel of the character described, a hub, an inner stationary rim, a series of bracing spokes to secure said rim to the hub, guide rings secured to the inner sides of said spokes, said rings having formed therein oppositely disposed guide grooves, a series of cushion spokes slidably mounted in said inner stationary rim, an outer rim formed of a series of independent segmental sections each of which has a sliding interlocking engagement with the end of the next adjacent section, a tire arranged around said

sectional rim, a pneumatic cushion arranged around said hub, a series of segmental cushion seats secured to the inner ends of said cushion spokes, guide lugs formed on the opposite edges of said seats and adapted to engage the grooves in said guide rings, pads arranged on the inner sides of said cushion seats and adapted to engage said pneumatic cushion whereby the cushion spokes are yieldingly held in position on the wheel.



2. In a wheel of the character described, a hub divided transversely into two sections, clamping bolts to secure said sections together, annular plates arranged on the opposite ends of the hub and secured thereto by said clamping bolts, a bearing box arranged in the hub, an inner transversely divided stationary rim, said rim having formed therein a series of sockets, a series of bracing spokes secured at their outer ends in the sockets of said rim and at their inner ends between said plates and the ends of the hub, a series of cushion spokes slidably mounted in said inner rim, a sectional rim secured to the outer ends of said cushion spokes, a tire arranged in said rim, and a series of cushion seats secured to the inner ends of said cushion spokes and an annular pneumatic cushion arranged around said hub and adapted to be engaged by the cushion seats of said spokes whereby the latter are yieldingly held in position to form the wheel.

971,101. ELECTRIC HEATING UNIT. TYCHO VAN ALLEN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 23, 1908. Serial No. 444,908.



1. A resistance unit comprising a helical conductor coated with a thin refractory insulation and flattened onto itself.

2. A resistance unit comprising a resistance ribbon wound into a helix and flattened onto itself.

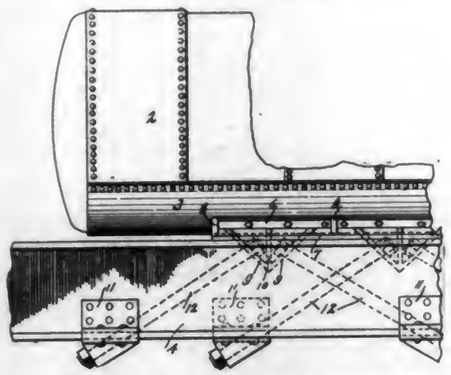
3. A resistance unit comprising a resistance ribbon wound into a closed helix and flattened onto itself.

4. A resistance unit comprising an insulated helical resistance ribbon flattened onto itself.

5. A resistance unit comprising an insulated resistance ribbon wound into a closed helix and flattened onto itself.

[Claims 6 and 7 not printed in the Gazette.]

971,102. TANK-CAR. LOUIS E. ALLYN, Pekin, Ill. Filed Jan. 22, 1910. Serial No. 539,481.



1. In a tank car, the combination with a tank and an underframe support, of means interposed between the underframe and the tank for the tank to rest upon in a relatively detached relation and means for anchoring the tank to the underframe, comprising a plate upon the tank provided with anchor attaching lugs, and a plurality of rods connecting said plate with the underframe, diverging angularly longitudinally and circumferentially with relation to the walls of the tank, whereby the tank is anchored upon the underframe and braced against longitudinal movement, rocking and circumferential turning.

2. In a tank car, an underframe, a tank, means interposed between the underframe and the tank for supporting the latter in a relatively detached relation upon the underframe, and means for anchoring the tank to the underframe comprising a plate upon the tank provided with anchor attaching lugs thereon, a plurality of anchor rods connecting said lugs with the underframe, diverging angularly longitudinally and circumferentially with relation to the walls of the tank, whereby the tank is anchored upon the underframe and braced against longitudinal movement, rocking and circumferential turning.

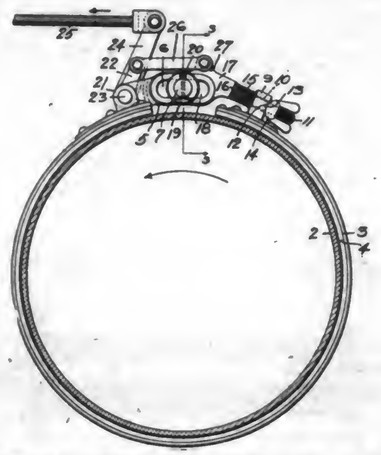
3. In a tank car, a tank provided with a plurality of depending anchor members, each diverging angularly longitudinally and circumferentially with relation to the walls of the tank, an underframe comprising a plurality of beams, and means for securing the said anchor members to the underframe, whereby the tank will be held against longitudinal movement, rocking and circumferential turning.

4. In a tank car, a pair of sills, a tank having a casting above said sills provided with anchor lugs thereon, a plurality of rods connected with said casting and diverging angularly longitudinally and circumferentially with relation to the side walls of the tank, and means for detachably connecting said anchor rods to the underframe, whereby the tank is held against longitudinal, rocking and circumferential movement.

5. In a tank car, an underframe, a tank, a plate on said tank overlying the underframe provided with anchor attaching lugs thereon, a plurality of anchor rods connected with the lugs arranged in pairs, each pair diverging therefrom and adapted to be connected with the underframe, and means for attaching said anchor rods to the underframe.

[Claims 6 to 18 not printed in the Gazette.]

971,103. BAND-BRAKE. BENJAMIN B. BACHMAN, Philadelphia, Pa., assignor to The Autocar Company, Ardmore, Pa., a Corporation of Pennsylvania. Filed Oct. 11, 1909. Serial No. 522,006.



1. In a band brake, the combination with a drum or like brake body of a band partially encircling same, of slotted clevis members secured to said band a pin engaging said members, one of said members being adjustable, and means for moving said clevis members with reference to each other to draw the ends of said band toward each other.

2. In a band brake, the combination with a drum or like brake body, of a band partially encircling same, slotted clevis members connected to said band a pin engaging said members, one of said clevis members being adjustably supported on said band, and means for operating said clevis members to draw the ends of said band toward each other.

3. In a band brake, the combination with a drum or like body, of a band partially encircling same, a slotted clevis member secured to one end of said band, a support on the other end of said band, a slotted clevis member passing through said support, an adjusting nut on said last named clevis engaging said support, a spring interposed between said support and the shoulder on the last named clevis member, a pin engaging said clevis members, and means for moving said clevis members to draw the ends of said band toward each other.

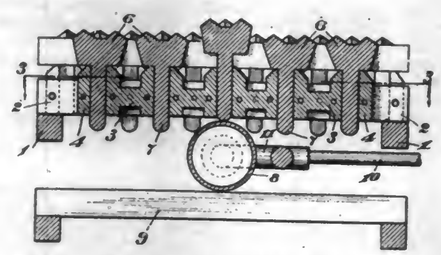
4. In a band brake, the combination with a drum or like body of a band partially encircling the same, a slotted clevis member secured to one end of said band, a support on the opposite end of said band, a slotted clevis member passing through said support, said support having a notch therein, an adjusting nut engaging said clevis member and said notch, a spring interposed between said support and the shoulder on said clevis member, the band engaging said clevis members, and means for operating said clevis members to draw the ends of said band toward each other.

971,104. FURNACE-GRATE. ALPHONSE BAILLOT and ANDRÉ MÉNAGER, Montreal, Quebec, Canada. Filed Oct. 14, 1909. Serial No. 522,571.

1. In combination, in a furnace grate, grate bars, provided with hollow supporting blocks, grate teeth removably and slidably mounted therein, and a longitudinally movable roller for operating said teeth.

2. In combination, in a grate, grate bars provided with hollow supporting blocks, grate teeth movably mounted in said supporting blocks, and longitudinally movable means for causing independent vertical reciprocation of said teeth.

3. In combination, in a grate, grate teeth provided with long integral stems, grate bars provided with means for receiving said stems, said teeth stems being mounted for free movement in said means and longitudinally movable means for reciprocating independently any grate tooth at any point of said grate.

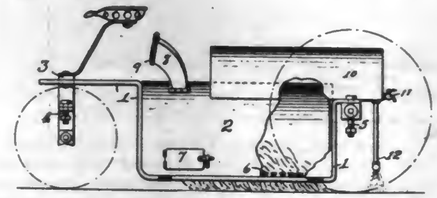


4. In combination, in a grate, grate teeth provided with long stems, grate bars having hollow supporting blocks riveted thereto, said teeth being slidably mounted in said blocks, a longitudinally movable lifting roller for reciprocating said teeth and means for supporting said roller in operative position throughout the length of said grate.

5. In combination, in a stationary grate, supporting bars, grate bars provided with hollow supporting blocks, grate teeth slidably mounted in, and removable from, said blocks and a lifting roller engaging a part of each tooth for reciprocating the same.

[Claims 6 to 8 not printed in the Gazette.]

971,105. PORTABLE THAWING-FURNACE. THOMAS D. BAUSHER, Reading, Pa. Filed Jan. 31, 1910. Serial No. 541,001.



1. In a portable thawing furnace, a pair of axles mounted on suitable wheels, a frame comprising a pair of bars bent to form a depending receptacle and having vertically movable connection with the axles; a furnace located in the depending portion of the bars, said furnace having an open grated bottom, doors through which the fuel may be entered, air inlets at the forward end in the top, closures for said inlets and a water tank located on the top of the furnace to the rear of the air inlets.

2. In a combined portable furnace and sprinkler, a truck comprising a set of wheels and axles, a frame comprising a pair of bars mounted on the truck, a furnace located on the frame, the frame and furnace being capable of vertical movement on the truck, said furnace having an open grated bottom, doors on the side to admit fuel, air inlets at the top, closure plates for said inlets and a water tank located on top of the furnace and projecting beyond the rear end thereof and a depending perforated pipe leading from said tank to a point near the road surface.

971,106. BILL. JOHN C. BELL, Cleveland, Ohio. Filed July 29, 1908. Serial No. 445,917.

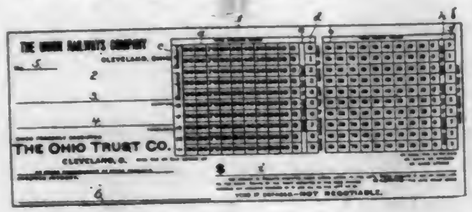
1. A bill of the character described, comprising a body portion suitably designated to indicate the name of a customer, said bill having at each side of its body portion, two blocks of figures, the figures of one column of each block suitably designated to indicate the amount of fluid consumed and another column of each block suitably designated to indicate the charge for the fluid consumed, said bill suitably designated at one end to form an auditor's stub and said bill suitably designated at the other end to

form a cashier's stub severable with portions of said blocks of figures, and the remaining portions of said columns of figures forming parts of the body of the bill.



2. A bill of the character described, comprising a body portion suitably designated to indicate the name of a customer and also designated to contain meter readings, said bill provided at its respective ends with stubs suitably designated as auditor's and cashier's stubs, said bill having at each side of the body portion and between the latter and said stub portions, a plurality of blocks of figures arranged in columns, the figures of the columns of certain of said blocks suitably designated to indicate successively, "feet," "gross," amount of bill, amount of "discount" and "net" amount of bill, and the figures of the columns of the other blocks suitably designated to indicate "feet" and the "gross" amount of the bill.

971,107. CHECK. JOHN C. BELL, Cleveland, Ohio. Filed Aug. 17, 1908. Serial No. 448,987.



1. A check having thereon a series of blocks of numerals, the numerals of each block arranged in columns, all the numerals of each column being duplicates, the numerals of one block so designated that they represent tens of dollars, and the numerals of another block so designated that they represent tens of cents, each block having one column containing ciphers.

2. A check having thereon a series of blocks of numerals, the numerals of each block arranged in columns, all the numerals of each column being duplicates, the numerals of one block so designated that they represent tens of dollars, and the numerals of another block so designated that they represent tens of cents, each block having one column containing ciphers, and a column at one side of one of said blocks of numerals and having designations of hundreds of dollars and adapted to be read with designated numerals in the said blocks of numerals.

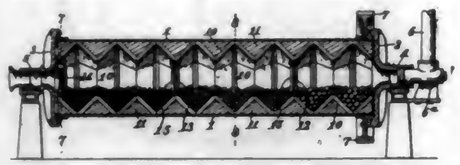
3. A check having thereon a series of blocks of numerals, the numerals of each block arranged in columns, all the numerals of each column being duplicates, the numerals of one block so designated that they represent tens of dollars, and the numerals of the other block so designated that they represent tens of cents, each block having one column containing ciphers, and a column at one side of one of said blocks of numerals and having designations of hundreds of dollars and adapted to be read with designated numerals in the said blocks of numerals, and a column at one side of another of said blocks and having units from 0 to 9 therein and designating cents.

4. A check having thereon a series of blocks of numerals, the numerals of each block arranged in columns, all the numerals of each column being duplicates, the numerals of one block so designated that they represent tens of dollars, and the numerals of the other block so designated that they represent tens of cents, each block having one column containing ciphers, a column at one side of one of said blocks having digits therein designating units dollars and readable with designated numerals of said block.

5. A check having thereon a series of blocks of numerals, the numerals of each block arranged in columns, all the numerals of each column being duplicates, the numerals of one block so designated that they represent tens of dollars, and the numerals of the other block so designated that they represent tens of cents, each block having one column containing ciphers, columns at each side of one of said blocks, one of said columns having digits designating hundreds of dollars, and the other column having digits designating units of dollars, digits of both columns readable with designated numerals of the blocks of numerals.

[Claim 6 not printed in the Gazette.]

971,108. GRINDING-MACHINE. WILLARD J. BELL, Newaygo, Mich. Filed Feb. 11, 1909. Serial No. 477,399. Renewed Mar. 5, 1910. Serial No. 547,559.



1. In a mill of the class described, a cylinder, a lining therefor comprising a plurality of sections, each section being composed of a plurality of division plates, each section having an inclined member and a member at the extremity of said inclined member which latter is parallel with the surface of the cylinder, lies against the inner surface thereof, and abuts against the like member of the adjacent section.

2. A ball and drum mill, comprising a drum having a series of communicating chambers, perforated diaphragms between the respective chambers, said diaphragms having openings large enough to permit the balls to pass successively therethrough when the balls have been reduced by wear in each chamber, means for rotating the drum, and means for supplying balls to the first chamber of the drum.

3. A ball and drum mill, comprising a drum having a series of chambers communicating by means of axial openings of less diameter than the chambers, diaphragms at intervals in the drum and having progressively reduced openings therein large enough to permit balls of the sizes commonly used to pass successively therethrough after said balls have been reduced in size by use, means for rotating the drum, and means for supplying balls and material to said drum.

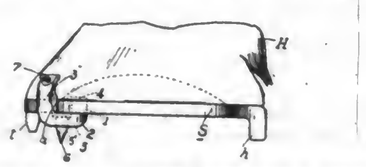
4. A ball and drum mill, comprising a drum, and a lining for the drum consisting of separate truncated conical sections arranged end to end, each section having its small end abutting against the small end of the adjacent section, and its large end abutting against the large end of the adjacent section, and means for securing the end sections of the series in place.

5. A ball and drum mill, comprising a drum, a lining for the drum consisting of alternately disposed truncated conical portions, said portions engaging end to end, a filling between the lining and drum, and held in place thereby, means for rotating the drum, and means for supplying balls and material to the drum.

[Claims 6 to 10 not printed in the Gazette.]

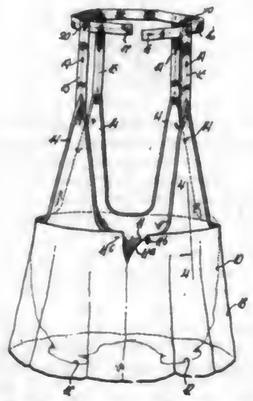
971,109. HORSESHOE ATTACHMENT. NICHOLAS A. BENDER, Clayton, Mo., assignor of one-half to Thomas A. Quinn, Clayton, Mo. Filed Jan. 31, 1910. Serial No. 541,077.

1. A horse-shoe calk attachment comprising a member mounted across the base of the inner curved edge of the shoe and having lips overhanging the upper face of the shoe, brackets extending outwardly from said member and engaging the bottom of the shoe, vertically adjustable calks on said brackets and bearing against the shoe and forcing the same into close contact with the lips aforesaid, terminal upwardly extending arms at the ends of the brackets provided with basal wall formations for engaging the outer curved edge of the shoe at points opposite the lips aforesaid, and means on the arms for engaging the hoof.



2. A horse-shoe calk attachment comprising a member mounted across the base of the inner curved edge of the shoe and having lips overhanging the upper face of the shoe, brackets extending outwardly from said member and engaging the bottom of the shoe, calks carried by said brackets and adapted to maintain the shoe in close contact with the lips, terminal upwardly extending arms at the ends of the brackets provided with basal wall formations for engaging the outer curved edge of the shoe at points opposite the lips aforesaid, and set-screws mounted at the free ends of the arms and at an incline thereto for engaging the hoof.

971,110. STORM-GARMENT. IDA V. BENOIT, New York, N. Y. Filed Jan. 2, 1909. Serial No. 470,445.



In a storm garment, a skirt having a portion thereof designed to extend from the waist to about the knees of the wearer in skeleton formation and having the lower portion thereof of the configuration of an ordinary skirt, bloomers encircled by the lower portion of the skirt, the said bloomers being suspended from the skirt at the upper edge of the lower portion thereof, the leg portions of the said bloomers being free of the lower portion of the skirt and reaching approximately to the lower edge of the skirt, and means for causing frictional engagement of the lower ends of the leg sections of the bloomers with the wearer.

971,111. TRISAZO DYE. AUGUST BLANK and WILHELM BERGDOLT, Leverkusen, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Mar. 14, 1910. Serial No. 549,184.

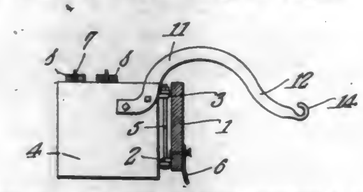
1. The herein described new trisazo dyestuffs which are after being dried and pulverized dark powders soluble in water generally with a brown color, dyeing cotton brown shades fast to washing after being developed with diazotized para-nitraniliin, substantially as described.

2. The herein described new trisazo dyestuff obtainable from formyl metaphenylenediamin, 2-amino-8-naphthol-6-sulfonic acid and meta-toluylenediamin, which is after being dried and pulverized a dark powder soluble in water with a brown color, dyeing cotton brown shades fast to washing after being developed with diazotized para-nitraniliin, and yielding upon reduction with stannous chlorid and hydrochloric acid meta-phenylenediamin, amino-meta-toluylenediamin and 2.7-diamino-8-naphthol-6-sulfonic acid, substantially as described.

971,112. TRISAZO DYE. AUGUST BLANK and WILHELM BERGDOLT, Leverkusen, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Mar. 14, 1910. Serial No. 549,185.

The herein described new trisazo dyestuff obtainable from formyl meta-phenylenediamin, 2-amino-8-naphthol-6-sulfonic acid, meta-phenylenediamin and the glycin of this compound, which is after being dried and pulverized a dark powder soluble in water with a violet-brown color, dyeing cotton brown shades fast to washing after being developed with diazotized para-nitraniliin, and yielding upon reduction with stannous chlorid and hydrochloric acid meta-phenylenediamin, triaminobenzene, diaminophenylglycin and 2.7-diamino-8-naphthol-6-sulfonic acid, substantially as described.

971,113. ROAD-DRAG. FRANK BOECKMANN, Bartelso, Ill. Filed July 8, 1909. Serial No. 506,593.



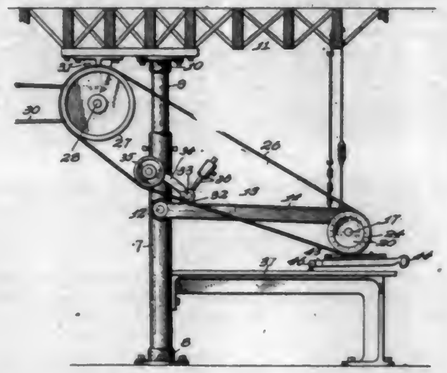
A device of the class described including a board arranged to serve as a scraper; upright runners; means for individually pivoting the runners at one end to the board; a brace resting terminally upon the runners; there being a pin and slot connection between the brace and the runners, whereby the runners may have limited movement at their free ends, in opposite directions; the brace being arranged to be freely lifted from the runners; and a goose neck connected to each runner and extended to the front of the board, out of contact with the board.

971,114. SANDPAPERING-MACHINE. LOUIS H. BRECKENKAMP, St. Louis, Mo., assignor of one-half to Joseph C. Miller, St. Louis, Mo. Filed Dec. 30, 1909. Serial No. 535,690.

1. A sanding machine comprising a pair of vertical adjustable columns, a table secured to said columns, a frame pivotally mounted to each of said columns, a shaft supported on the free end of said frame, a pair of resilient pulleys supported on the projecting ends of said shaft, driving pulleys, and endless abrasive belts operating over the resilient pulleys in combination with a carriage operating on the table and on which the material to be sanded is supported and brought in contact with the abrasive belt face up, substantially as specified.

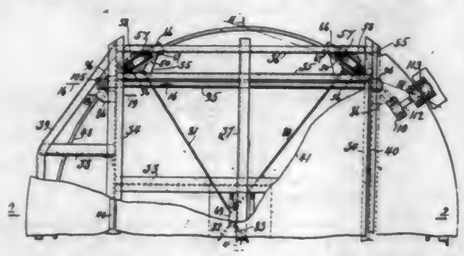
2. A sanding machine comprising a pair of vertical columns, each column adjustably mounted so as to be supported to the floor and ceiling at various heights, a table connected to the columns, a frame pivotally connected to each of said columns, a shaft revolubly mounted on the free end of the frame, a resilient pulley mounted on each projecting end of the shaft, driving pulleys mount-

ed in hangers and supported to the ceiling, an endless abrasive belt operating over the driving pulleys and resilient pulleys, idlers mounted on the frame and contacting with the abrasive belts for keeping the same in



taut position in combination with a carriage supporting the material to be sanded mounted upon the table and brought in contact with the abrasive belts, substantially as specified.

971,115. TURN-TABLE. GASTON A. BRONDER, Brooklyn, N. Y. Filed Feb. 4, 1908. Serial No. 414,267.



1. In a turntable the combination of a center bearing bracket, a center pin extending from the bracket, a lower center bearing bracket below the said pin, a bearing disk in the latter bracket for the end of the pin to bear against, a longitudinal channel in the pin, with a cross channel extending therefrom to lubricate the pin and the bearing disk.

2. In a turntable the combination of framing therefor, an oil reservoir connected to said framing, a center bearing bracket extending from the framing, a center pin supported in the bearing, a center bearing bracket below the center pin, a bearing disk in the latter bracket, a dust ring between the bearing bracket surrounding the center pin, a vertical channel in the center pin, a cross channel in the said pin connecting with the vertical channel, and piping extending from the oil reservoir to the said vertical channel.

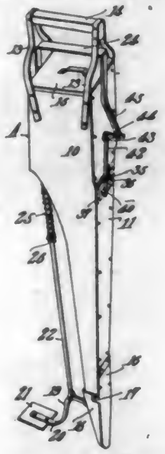
3. The combination of a turntable, a frame therefor, a center pin connected with said frame, a supporting frame below the turntable, a center bearing bracket on the latter frame for the center pin, wheels journaled in the turntable, journal pins for each wheel, a track on the supporting frame for said wheels, a cleaning brush secured to the turntable for each wheel thereof, an oil reservoir connected to the turntable, and piping leading from the reservoir to each journal pin to lubricate the latter.

4. The combination of a turntable, a center bearing pin therefor, a center bearing bracket below the said pin to support the same, wheels journaled with the turntable, journal boxes on the turntable, journal pins supported in the said boxes for the wheels, dust rings joining the hubs of the wheels and the said journal boxes.

5. The combination of a turntable, a center bearing pin therefor, a bracket below the said pin to support the same, wheels journaled with the turntable, a journal box connected to the table for each wheel, a journal pin supported in each box, a lug extending from each box bearing on a flattened portion of the pin to prevent the latter turning, hubs for each wheel, shoulders in the journal boxes opposite said hubs, dust rings of pliable material on the said hubs and bearing on the shoulders of the journal boxes.

[Claims 6 and 7 not printed in the Gazette.]

971,116. CORN-PLANTER. HENRY F. CARTER, Braden, Okla. Filed Sept. 20, 1909. Serial No. 518,536.

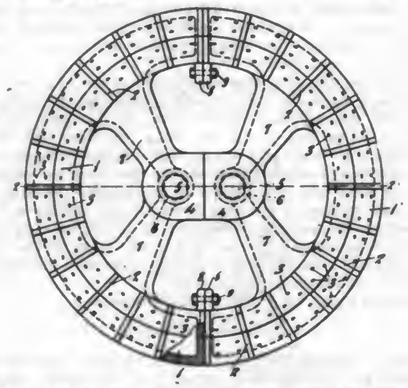


In a planter, a tubular body, a partition in said body formed with an aperture, a swinging closure for the lower end of the body, an apertured slide mounted beneath the partition, an apertured slide mounted above the partition, the apertures of the two slides being at all times out of vertical alinement, a spring tongue bearing upon the upper slide and adapted to spring into the aperture in the upper slide when the slide is moved in one direction, a plate pivoted to overlie the said spring tongue and having its free edge overturned and resting upon the said upper slide, a leaf spring secured above the plate and bearing thereon to hold the plate with its said edge in such engagement with the slide, the apertures in the said slides being arranged to be brought successively into registration with the aperture in the partition, an angle lever mounted upon the body and having a depending arm, the lower slide being formed with an opening and the upper slide being formed with a bifurcation, a pin extending across the bifurcation, the lower end of the said arm of the angle lever projecting through the bifurcation and opening and being confined in the said bifurcation by the said pin, a slidable hand operated member having connection with the other end of the angle lever, and connection between the said hand member and the swinging closure for the lower end of the body.

971,117. GAS-BURNER. JOHN H. CARVER, Cincinnati, Ohio. Filed Dec. 20, 1909. Serial No. 534,160.

1. A gas burner of the character described comprising a hollow circular sectional rim provided with a tapered top having transverse ribs thereon and perforations between said ribs, hollow hub portions, each having an inlet, a hollow arm connecting each hollow hub portion to its hollow rim, and means for connecting said sections together, substantially as and for the purposes set forth.

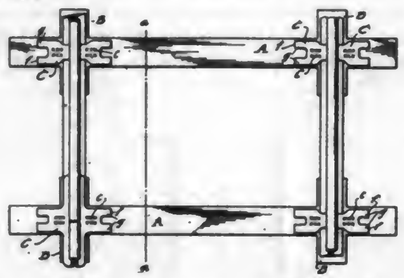
2. A gas burner of the character described made in halves, means for fastening said halves together, each half being a separate gas burner in itself, each half having a hub portion provided with an inlet, a plurality of hollow arms extending from said hub portion to a hollow rim portion, said hollow rim portion having a tapered, perforated top, and means for preventing the obstruction of the perforations in the top of said hollow rim portion when heat retaining members are placed upon the top of the burners, substantially as set forth and for the purposes specified.



3. A gas burner of the character described made in sections and comprising a hollow rim portion, the top of which is raised in the center and having holes therein, means for preventing the obstruction of the holes in said top, when heat retaining members are placed thereon, a hub portion, hollow arms connecting said hollow rim portion to said hub portion provided with inlets, and means for connecting the sections of the burner to each other, substantially as and for the purposes set forth.

4. A gas burner of the character described made in sections, each section being a complete burner in itself, and having an inlet chamber, a hollow rim portion provided with openings, hollow arms connecting the rim portion with the inlet chamber, and means for preventing the obstruction of the openings in said hollow rim portion when heat retaining members are placed on the top of the burner, substantially as set forth.

971,118. RAIL-TIE AND RAIL-FASTENER. IRA C. CATTON, Brimfield, Ill. Filed Mar. 5, 1910. Serial No. 547,392.



1. In a railway tie and rail fastener, the combination with a tie provided with lateral projections therefrom and with perforated seats for parts of a rail fastener, of a rail fastener plate provided with an upwardly projecting portion adapted to bear against the rail, with a hook like lug at the rear portion thereof adapted to enter and be supported in an opening in the tie and with a downwardly projecting locking lug adapted to be seated in a perforation in the tie and in abutting relation with the lower flange of the rail and suitable means for fastening the locking lug to hold the rail fastening plate in place.

2. In a device of the class described, the combination with a tie provided with laterally extending projections to form a bearing support in connection with the main body of the tie for a rail, a rail fastener provided with a plate having an upwardly turned forward end adapted to engage the rail and with downwardly and outwardly bent rearward extremities adapted to engage openings in the tie and fastening lugs depending from the under face of the plate and adapted to be seated within openings in the tie and a suitable bolt or key for securing the plate in position to fasten the rail upon the tie.

3. In a device of the class described, the combination with a metal tie having a central rib and laterally extended flange projections therefrom and laterally extended portions adapted to form, in conjunction with the main tie, a support for the rail, of a rail fastener formed of a plate provided with an upwardly turned portion adapted to engage the rail and with a rearwardly extended portion adapted to engage perforated seats in the tie and with fastening lugs depending from the lower portion of the plate adapted to be seated within openings in the tie and in position to abut against the lower flange of the rail, and provided with a key seat therethrough and a key adapted to fit within the key seats in the fasteners, substantially as described.

4. In a device of the class described, the combination with a railway tie, of a fastener formed of a plate having an upwardly turned portion adapted to engage a rail, and having downwardly and rearwardly extending portions adapted to hook within openings in the tie and with abutting and fastening lugs extending downwardly from the lower face thereof adapted to be seated within openings in the tie and to abut against the lower flange of the rail, and suitable means for securing the fastening and abutting lugs in position to securely hold the rail upon the tie.

5. A railway tie and rail fastener comprising a tie substantially in I-beam form provided with lateral projections therefrom in substantially the same form as the tie and provided with openings in the upper face thereof adapted for seating lugs, a rail fastener formed of a plate provided with an upwardly turned portion adapted to engage the rail, with downwardly and rearwardly extending portions adapted to be seated within perforations in the tie and with abutting and fastening lugs depending from the lower portion thereof adapted to be seated within openings in the tie and provided with a key seat therein, and a suitable key for securing the fastening lugs in connection with the tie, substantially as shown.

[Claim 6 not printed in the Gazette.]

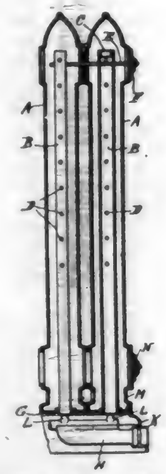
971,119. RADIATOR OR OTHER HEATING-STOVE HEATED BY GASEOUS FUEL. HAROLD NEWSOM DAVIS, Luton Beds, and WALTER RATLEDGE TWIGG, West Dulwich, England. Filed July 12, 1909. Serial No. 507,121.

1. A radiator section comprising in combination, an outer shell closed at its upper portion and provided with an outlet near its base, a tube having openings arranged lengthwise thereof and disposed in said shell and extending substantially throughout the length thereof, and a burner delivering products of combustion to the bottom of said tube.

2. A radiator section comprising in combination, an outer shell provided with an outlet near its base, a tube having openings arranged lengthwise thereof and disposed in said shell and extending substantially throughout the length thereof and having its lower end extending through said shell and a burner delivering the products of combustion to the bottom of said tube.

3. A radiator section comprising in combination, an outer shell provided with an outlet near its base, a tube having openings arranged lengthwise thereof and disposed in said shell and extending throughout the length thereof and having its lower end extending through said shell, means at the upper end of said shell for suspending the tubes therein, and a burner delivering the products of combustion to the bottom of said tube.

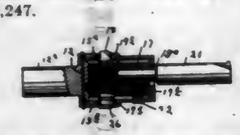
4. A radiator comprising in combination, a plurality of distinct units communicating with each other at their lower ends and comprising a shell provided with an outlet near its base, a tube having openings arranged lengthwise thereof and disposed in each of said shells and extending substantially throughout the length of said shells, and a burner delivering the products of combustion to the bottom of said tube.



5. A radiator comprising a plurality of distinct units communicating with each other at their lower end each unit comprising a shell provided with an outlet near its base and closed at its upper portion, a tube in each shell provided with openings arranged lengthwise thereof and delivering to such shell, said tubes extending substantially throughout the length of said shells, the upper ends of each tube being closed, a wall portion closing the lower end of said shells, and a burner projecting through the bottom wall portion and delivering the products of combustion to said tubes.

[Claims 6 and 7 not printed in the Gazette.]

971,120. BORING-TOOL HOLDER. CHARLES E. DAY, Mohawk, N. Y., assignor to James J. O'Hanlon and Regis Rousseau, Ilion, N. Y. Filed Apr. 1, 1909. Serial No. 487,247.



1. The combination in a boring tool holder of a head having a transverse slot parallel to the axial line of the head, a slide block having a tool holding socket and mounted in the slot in the head for movement transversely of the axis of the head, and a screw for adjusting the block substantially as set forth.

2. The combination in a boring tool holder of a head, a slide block having a tool holding socket and mounted in the head for movement transversely of the axis of the head, a screw for adjusting the block, a collar encircling the head at its shank end, and a cap covering the face end of the head and block and extending back to the collar, said cap and collar limiting the transverse movement of the block and affording bearings for the adjusting screw, substantially as set forth.

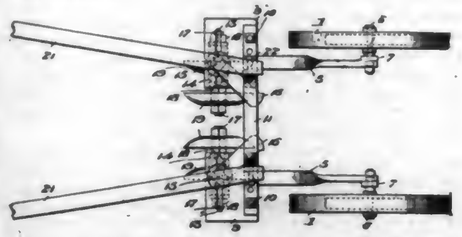
3. The combination in a boring tool holder of a head, a slide block having a tool holding socket and mounted in the head for movement transversely of the axis of the head, a screw for adjusting the block, a collar encircling the head at its shank end and a cap covering the face end of the head and block and extending back to the collar, said cap and collar each provided with half-bearings forming bearings for the adjusting screw, substantially as set forth.

4. The combination in a boring tool holder of a head, a slide block having a tool holding socket and mounted in the head for movement transversely of the axis of the head, a collar and a cap encircling the head and each provided with two half bearings and together forming two full bearings, a screw threaded into the block for adjusting the same and provided with unthreaded portions at each end resting in the said bearings and collars on said screw adjacent to opposite sides of the said bearings and holding the screw from transverse movement therein, substantially as set forth.

5. The combination in a boring tool holder of a head, a slide block having a tool holding socket and mounted in the head for movement transversely of the axis of the head, a collar and a cap encircling the head and each provided with two half bearings and together forming two full bearings, a screw threaded into the block for adjusting the same and provided with unthreaded portions at each end resting in the said bearings and having a dial indicating the extent of rotation of the screw and collars on said screw adjacent to opposite sides of the said bearings and holding the screw from transverse movement therein, substantially as set forth.

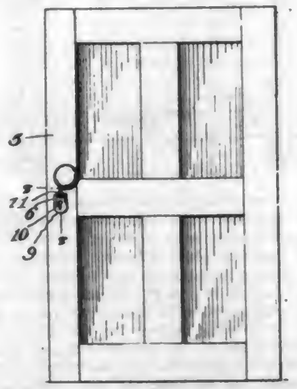
[Claims 6 and 7 not printed in the Gazette.]

971,121. WHEELED HAND-CULTIVATOR. ROBERT H. DUBOURG, Shively, Ky. Filed Aug. 16, 1909. Serial No. 513,182.



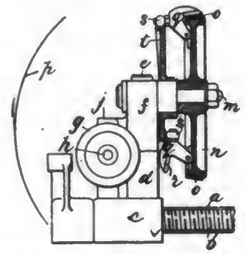
In a wheeled hand cultivator, the combination with a frame, and wheels therefor, of cultivator disk frames, cultivator disks carried by said frames, bolts adjustably connecting the frames to the main frame whereby the cultivator disk frames may be adjusted angularly, and fenders adjustably fastened in position by said bolts.

971,122. KEYHOLE-GUARD. GEORGE M. DUNLEVY, New Cumberland, W. Va. Filed Nov. 23, 1909. Serial No. 529,598.



A device of the character described comprising a rectangular bar disposed transversely through a door above the keyhole, said bar having a cylindrical bearing portion adjacent to each end, a plate disposed upon each end of said bar, one end of the bar having a flange thereon bearing upon the plate, a screw threaded in the other end of said bar provided with a head of greater diameter than the area of the bar adapted to secure the other of the plates thereon, said plates being disposed over the keyhole, the plate on the inner end of said bar having an opening registering with the keyhole to receive the key, the positioning of the key in the lock being adapted to prevent the rotation of the bar and plates.

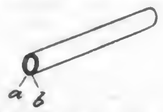
971,123. CLOTH-STRETCHING MACHINE. GEORGE DURRANT, Manchester, England. Filed May 27, 1910. Serial No. 563,743.



1. In a cloth-stretching machine, the combination, with two similar supporting frames provided with vertical pins at their upper parts and having also laterally projecting bearings, of brackets mounted on the said pins, revoluble clamping disks carried by the said brackets, cams secured to the said brackets, bell-crank levers pivoted to the said disks and provided with jaws for clamping the material to the disks during a portion of each revolution of the disks, said levers having also projections for engaging with the said cams, nuts pivoted to the said brackets, and screws journaled in the said bearings and engaging with the said nuts and affording a means for adjusting the angular positions of the clamping disks without stopping the machine.

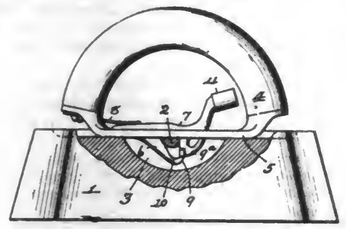
2. In a cloth-stretching machine, the combination, with two similar supporting frames provided with vertical pins at their upper parts and having also laterally projecting bearings, of brackets pivoted on the said vertical pins, horizontal pins projecting from the said brackets, revoluble clamping disks carried by the said horizontal pins, cams secured to the said brackets, bell-crank levers pivoted to the said disks and provided with jaws for clamping the material to the disks during a portion of each revolution of the disks, said levers having also projections for engaging with the said cams, nuts pivoted to the said brackets, and screws journaled in the said bearings and engaging with the said nuts and affording a means for adjusting the angular positions of the clamping disks without stopping the machine.

971,124. PROTECTIVE SCREEN FOR APPARATUS WHICH ARE EXPOSED TO HIGH TEMPERATURES. GEORG EGLY, Treptow, near Berlin, Germany, assignor to Gebrueder Siemens & Co., Lichtenberg, near Berlin, Germany. Filed Feb. 24, 1910. Serial No. 545,709.



As a new article of manufacture, a protective screen, for apparatus subjected to high temperatures, composed of silicon, carbon and nitrogen.

971,125. SAD-IRON. JOHN L. ENNIS, Reading, Pa., assignor to The Reading Saddle and Mf'g. Co., Reading, Pa., a Corporation of Pennsylvania. Filed Apr. 23, 1910. Serial No. 557,164.

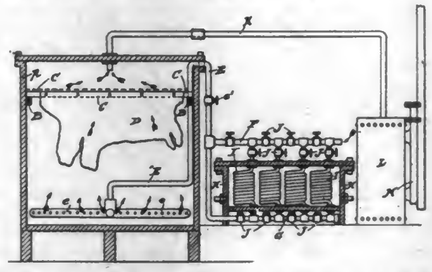


1. A device of the character described, comprising a handle, a lever thereon, a lug depending from the lever, a stem depending from the handle and having an upturned free end, the lug and stem when the handle is in normal position on a flat iron being adapted to engage only the opposite side faces of the lifting bar thereof, the said upturned end of the stem when in its normal position being spaced beneath the lifting bar in a position to receive the same in case of the said stem and lug failing to properly coöperate.

2. A device of the character described for use with a sad iron having a lifting bar, comprising a handle having a base plate, a stem extending downwardly therefrom, a pivoted lever having a lug depending therefrom, the inner face of the stem inclining downwardly from the plate toward the lower end of the lug, the lower end of the stem being upturned forming a pocket or recess at the lower end of said inclined inner face, said lifting bar being adapted to be normally engaged by said lug and stem between the upper portions only of their inner faces and received by the recess or pocket at the lower end of said inclined inner face of the stem when the stem and lug fail to properly coöperate.

3. A device of the character described, comprising a handle, a lever thereon, a lug depending therefrom, a stem extending downwardly from the handle and being inclined toward the lower end of the lug thereby providing a substantially V-shaped space between the stem and lug, the upper portion only of said apace being sufficient to normally accommodate the lifting bar of a sad iron, the lower portion of the stem at the base of said V-shaped apace being provided in its inner face with a pocket or recess adapted to receive the said lifting bar when the stem and lug fail to properly coöperate.

971,126. APPARATUS FOR TREATING, DEHAIRING, SWELLING, AND TANNING HIDES. ALPHEUS FAY, Louisville, Ky., assignor of four-fifths to George F. Seiser and one-fifth to William J. Cogle, Louisville, Ky. Filed Sept. 15, 1909. Serial No. 517,947.



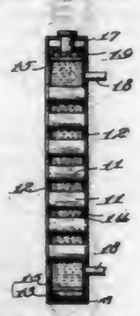
1. In apparatus for treating hides, the combination of a closed vessel adapted to receive the hides and liquor for treating them; means for exhausting air from said vessel; and means for admitting a limited quantity of heated air at a temperature above the temperature of the liquor to

said vessel below the surface of the liquor, substantially as specified.

2. In apparatus for treating hides, the combination of closed tank A; means for suspending hides therein; inlet pipe E and perforated cross head *e*; branch pipes F and G; steam chest H containing coils I connected with pipes F and G; stop cocks J for regulating the flow through coils L; and exhaust pipe K connected with pump M, substantially as specified.

3. In apparatus for treating hides, the combination of closed tank A; means for suspending hides therein; inlet pipe E and perforated cross head *e*; stop cock *e'* for regulating the entry of air through pipe E; branch pipes F and G; steam chest H containing coils L connected with pipes F and G; stop cocks J for regulating the flow through coils I; and exhaust pipe K connected with pump M, substantially as specified.

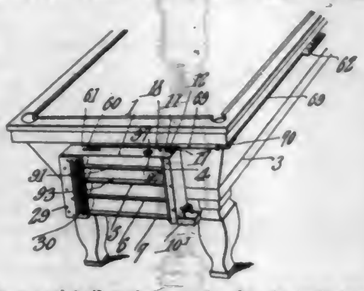
971,127. AUTOMOBILE-RADIATOR. FERNANDO G. GARRISON, Fort Worth, Tex. Filed Nov. 29, 1909. Serial No. 530,462.



1. In an automobile radiator, the combination of a body comprising a pair of plates riveted adjacent their edges and having integral flanges, the flanges of one plate overlapping those of the other, calking disposed between said flanges, and a solid jacket cast directly about the edges.

2. In an automobile radiator, the combination of a pair of body plates having integral flanges, the flanges of one plate overlapping those of the other, rivets connecting the body portions of said plates and extending in a series adjacent, and parallel with, the inner longitudinal edges of said flanges whereby to provide the outer edges of the flanges free to receive calking, and a jacket cast directly about the flanged edges of said plates, the inner edges of said jacket extending inwardly and covering the rivets.

971,128. POOL-BALL RACK. GEORGE FRANK GOSS, Wallaceton, Pa. Filed Nov. 22, 1909. Serial No. 529,371.



1. In a pool ball rack, a carrier for the balls having a pivoted angle member thereon engaged by the balls and provided with means for normally preventing the movement of a ball from said carrier.

2. In a pool ball rack, a carrier for receiving the balls provided with a pivoted angle member, both ends of which are movable above the plane of the ball receiving surface of the carrier.

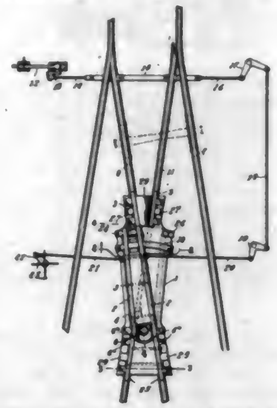
3. A pool ball rack provided with a carrier movable under the weight of the balls, said carrier being provided with a pivoted angle member having an extension beyond the rear of the carrier, and means movable at will into the path of said extension to move the angle member about its pivot and to arrest the movement of the carrier under the action of the weight of the balls.

4. In a pool ball rack, a plurality of ball receiving runways, a single ball carrier movable into operative relation to any one of the runways, and a pivoted angle member on the carrier engaged by the ball and movable in one direction about its pivot to hold the ball against movement from said carrier and in the other direction to impel the ball from said carrier.

5. In a pool ball rack, a ball carrier movable under the weight of a ball, a series of stops for the carrier and a single actuating means for the stop acting thereon in sequence, said actuating means comprising a slide engaging all the stops and impelling them in successive order, a lever for moving the slide in one direction or the other, and accessible means for moving the lever.

[Claims 6 to 12 not printed in the Gazette.]

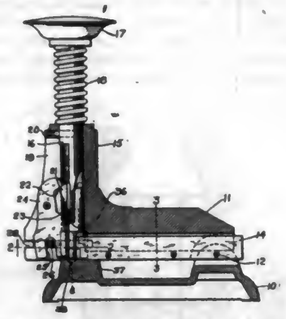
971,129. RAILWAY-FROG. ANDREW HOLLINGER, Canton, Ohio. Filed Jan. 12, 1910. Serial No. 537,614.



In a railway frog of the class described, a base plate, said base plate provided with stop blocks, and rail anti-creeping blocks, stock rails provided with notched flanges, said stock rails located at the opposite ends of the base plate and the anti-creeping blocks located in the notches of said flanges, tapered blocks located between the stock rails and secured thereto, tongue rails held in fixed position and located intermediate the stock rails, said tongue rails pivotally connected to the base plate, clip plates adapted to assist in holding the tongue rails in position with reference to their pivotal point, said tongue rails provided with slots in their webs, a curved bar secured to and held in spaced relationship with reference to the base plate and said curved bar located through the slots in the tongue rails, all arranged, substantially as and for the purpose specified.

971,130. STAPLING-MACHINE. WILLIAM C. JESSUP, Norwalk, and JOHN MUTH, Westport, Conn., assignors to The E. H. Hotchkiss Co., Norwalk, Conn., a Corporation of Connecticut. Filed July 23, 1910. Serial No. 573,456.

1. In a machine of the character described the combination with toothed feed wheels adapted to engage a staple strip, of a slide, pawls carried thereby and engaging the feed wheels, a lever engaging the slide and a plunger having a cam adapted to swing the lever and move the slide in one direction on the downward movement and drag the pawls over the feed wheels and to swing the lever and move the slide in the opposite direction on the upward movement and cause the pawls to actuate the feed wheels and feed the staple strip.



2. In combination toothed feed wheels adapted to engage a staple strip, pawls engaging the feed wheels, a slide by which the pawls are carried, a lever engaging the slide and having lower and upper contact walls and a plunger having a cam adapted to engage the lower wall on the downward movement and the upper wall on the upward movement, for the purpose set forth.

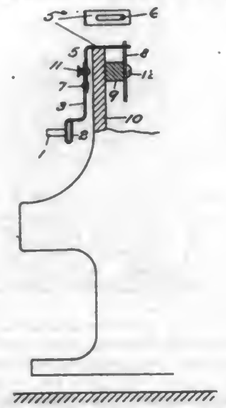
3. In combination toothed feed wheels adapted to engage a staple strip, pawls engaging the feed wheels, a slide by which the pawls are carried, a lever engaging the slide and having lower and upper contact walls and a plunger having a cam adapted to engage the lower wall on the downward movement and the upper wall on the upward movement, and a driver which engages and locks the feed wheels on the downward movement.

4. In combination toothed feed wheels adapted to engage a staple strip, pawls engaging the feed wheels, a slide by which the pawls are carried, and which is provided with a cross piece, a lever having a slot which receives the cross piece and upper and lower contact walls and a plunger having a cam adapted to engage said walls respectively on the downward and upward movements and a driver which engages and locks the feed wheels on the downward movement.

5. In combination toothed feed wheels adapted to engage a staple strip, spring controlled pawls engaging the feed wheels for the purpose set forth, a slide by which the pawls are carried, a lever engaging the slide and a plunger which swings the lever in opposite directions on the downward and upward movements.

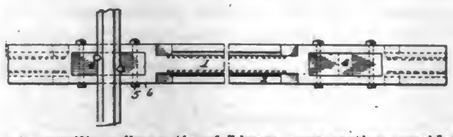
[Claims 6 to 8 not printed in the Gazette.]

971,131. LAMP-HOLDER. OTTO KRUG, Magdeburg, Germany. Filed Aug. 20, 1909. Serial No. 513,728.



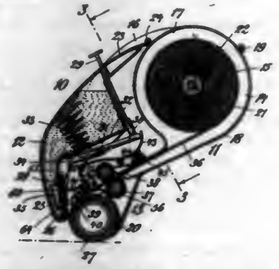
In combination with a piano, a lamp bracket consisting of an angle-piece, one member of said angle-piece being provided with a slot, a bar vertically adjustable upon the other member of said angle-piece, a socket carried by said bar adapted to retain a lamp, a plate permanently secured to the inner surface of the front wall of said piano and adjacent the top thereof, said plate being provided with an opening adapted to receive the slotted member of said angle-piece, and a lug carried by said plate adapted to engage the slot in said angle-piece.

971,132. RAILWAY-TIE. CALVIN LIVINGOOD, Hamburg, Pa. Filed Sept. 24, 1909, Serial No. 519,418. Renewed Aug. 8, 1910. Serial No. 576,081.



A metallic railway tie of I-beam cross-section provided with an oblong pocket adjacent to each end, the web of the tie being cut away at these points, vertical side walls formed where the rails cross the tie, the top of the tie being considerably narrower at its middle portion than at either end while the tread or base is of uniform width the entire length of the tie, anti-slipping lugs formed on the under surface of the tie immediately beneath the pockets, rail supporting blocks of wood removably secured in said pockets and bolts passing through said walls and blocks for securing the blocks in the pockets in easily removable position.

971,133. MACHINE FOR APPLYING LABELS. HYLA F. MAYNES, Gaines, Pa. Filed May 20, 1910. Serial No. 562,364.



1. A label applying machine comprising a freely mounted roller for engagement with the surface to which the label is to be applied, a feed roller for feeding a label to the first said roller, means for connecting the two said rollers in rotative engagement, whereby the first said roller may constitute an operating element for the said feed roller, and releasing means for disconnecting the rollers from such rotative engagement, whereby at such times the first said roller may rotate freely.

2. A label applying machine comprising a freely mounted roller for engagement with the surface to which the label is to be applied, a feed roller for feeding a label to the first said roller, gearing for connecting the two said rollers in rotative engagement, whereby the first said roller may constitute an operating element for the said feed roller, and tripping means for disengaging the gearing, whereby at such times the first said roller may rotate freely.

3. A label applying machine comprising a roller for engagement with the surface to which the label is to be applied, a feed roller for feeding a label to the first said roller, means for connecting the two said rollers in rotative engagement, and releasing means automatically operated by the movement of the label for disconnecting the rollers from such rotative engagement.

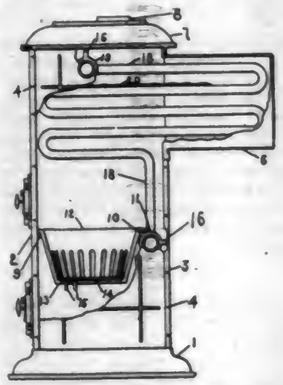
4. A label applying machine comprising a roller for engagement with the surface to which the label is to be ap-

plied, a feed roller for feeding a label to the first said roller, gearing for connecting the two said rollers in rotative engagement, and tripping means automatically operated by the movement of the label for disengaging the gearing.

5. A machine for applying labels from a continuous strip, comprising a roller for engagement with the surface to which the label is to be applied, a feed roller for feeding the label strip, means for connecting the two said rollers in rotative engagement, a tripping piece for engagement with the said label strip, and means operated by the movement of the tripping piece when so engaged by the label strip, for disconnecting the said rollers from their rotative engagement.

[Claims 6 to 18 not printed in the Gazette.]

971,134. HEATER. ALFRED H. MERRILL, Toledo, Ohio. Filed Sept. 4, 1909. Serial No. 516,218.



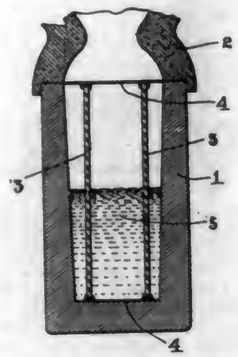
1. The combination in a water tube coil heater of a lower horizontally disposed manifold having its lateral openings upwardly and provided with a firepot sustaining ledge, vertical parallel coils rising from said openings, an upper manifold to which said coils deliver, a pair of one-piece opposing side walls, each having a pair of openings for receiving one end of each manifold, said manifolds being provided with shoulders to abut said walls and maintain the separate walls spaced, and a second pair of walls for holding said side walls in position against the manifolds.

2. The combination in a water tube coil heater having a housing provided with a fuel burner in the lower part thereof, a smoke outlet at the top, and an extension at one side above the fuel burner, of a baffle in said housing adapted to deflect the products of combustion into said extension, a lower horizontally disposed manifold forming a support for said fuel burner and having its lateral openings upwardly, vertical parallel coils rising from said openings and extending into said extension, an upper manifold to which said coils deliver, said manifolds being provided with shoulders to abut the side walls of said housing and adapted to maintain said walls in spaced relation.

971,135. PROCESS OF PRODUCING COMPOUND METAL BODIES. JOHN F. MONNOT, New York, N. Y., assignor to Monnot Metallurgical Company, New York, N. Y., a Corporation of New York. Filed July 13, 1908. Serial No. 443,299.

1. The process of producing compound metal ingots which comprises placing a metal article within a suitable mold and there contacting with it a deep layer of molten wiping material, and flowing molten metal down through said deep layer of molten wiping material into said mold and causing the molten metal to displace molten wiping material in such manner as to cause it to contact progressively with fresh surfaces of said article.

2. The process of producing compound metal ingots which comprises placing a metal article within a suitable mold and there contacting it with a deep layer of molten wiping material having solvent power for oxids, and flowing molten metal down through said deep layer of molten wiping material into said mold and causing said molten metal to displace the molten wiping material in such manner as to cause it to progressively contact with and cleanse fresh surfaces of said article.



3. The process of producing compound metal ingots which consists in placing a metal article in a suitable mold and there contacting with it a deep layer of molten wiping material, and flowing molten metal down through such wiping material into said mold and causing such molten metal to displace the molten wiping material and to contact progressively with fresh surfaces of said article.

4. The process of producing compound metal ingots which consists in placing a metal article in a suitable mold and there contacting with it a deep layer of molten wiping material having solvent power for oxid, and flowing molten metal down through such wiping material into said mold and causing such molten metal to displace the molten wiping material and to contact with a surface of said object, the molten wiping material so displaced progressively cleansing the surface of said article.

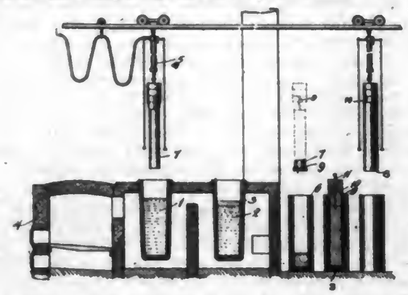
5. The process of producing compound metal ingots which comprises contacting a deep layer of molten oxid-dissolving material with a solid body of metal contained within a suitable mold, flowing a body of molten like metal into said mold and causing it to displace upward progressively the said oxid-dissolving material and so to contact with said solid body of metal and progressively cleaning the surface of such solid metal by the action of said body of molten oxid-dissolving material as the same is raised progressively by the molten metal.

[Claim 6 not printed in the Gazette.]

971,136. PROCESS OF PRODUCING COMPOUND METAL BODIES. JOHN FERABOL MONNOT, New York, N. Y., assignor to Duplex Metals Company, New York, N. Y., a Corporation of New York. Filed Oct. 6, 1905, Serial No. 281,680. Renewed Feb. 24, 1910. Serial No. 545,712.

1. The process of producing compound bodies of unlike high-melting metals welded together, which consists in contacting a clean surface of a body of one such metal with coating metal maintained in the herein described supermolten condition, and thereby forming a film covering, withdrawing the object with such film covering thereon and contacting such film covering with a body of molten coating metal maintained near its point of solidification, and then withdrawing said object with the adhering mass of metal and permitting the coating so formed to solidify.

2. The process of producing compound bodies of unlike high-melting metals welded together, which consists in contacting a clean surface of a body of one such metal with coating metal maintained in the herein described supermolten condition, and thereby forming a film covering, withdrawing the object with such film covering thereon and contacting such film covering with a body of molten coating metal maintained near its point of solidification, and then withdrawing said object with the adhering mass of metal and compacting the coating so formed.



3. The process of producing compound bodies of unlike high-melting metals welded together, which consists in contacting a clean surface of a body of one such metal with coating metal maintained in the herein described supermolten condition, and thereby forming a film covering, withdrawing the object with such film covering thereon and contacting such film covering with a body of molten coating metal maintained near its point of solidification, and then withdrawing said object with the adhering mass of metal through a gage by which surplus metal is removed and permitting the coating so formed to solidify.

4. The process of producing compound bodies of unlike high-melting metals welded together, which consists in contacting a clean surface of a body of one such metal with coating metal maintained in the herein described supermolten condition, and thereby forming a film covering, withdrawing the object with such film covering thereon and contacting such film covering with a body of molten coating metal maintained near its point of solidification, and then withdrawing said object with the adhering mass of metal through a gage by which surplus metal is removed and compacting the coating so formed.

971,137. COKE-FURNACE. WILHELM MUELLER, Dusseldorf, Germany. Filed Feb. 3, 1910. Serial No. 541,754.



1. The combination, in a coke-furnace, of a plurality of rows of vertical heating flues forming the sides of coking chambers, each of said flues having an outlet and gas-ducts and air-ducts for supplying gas and air separately into the same, superposed interconnected channels above said heating flues and adapted to be connected therewith in sets, superposed, interconnected, main distributing and regulating gas-supply channels connected with said gas-ducts, and superposed, interconnected, main distributing and regulating air-supply channels connected with said air-ducts.

2. The combination, in a coke-furnace, of a plurality of rows of vertical heating flues forming the sides of coking chambers, each of said flues having an outlet and gas-ducts and air-ducts for supplying gas and air separately into the same, superposed, interconnected channels above said heating flues and adapted to be connected therewith in sets, superposed, interconnected, main distributing and regulating gas-supply channels connected with said gas-ducts, superposed, interconnected, main distributing and regulating air-supply channels connected with said air-ducts, dampers at the admission ends of said gas-supply and said air-supply channels, dampers at the discharge ends of said former channels, and means for supplying gas to said former channels.

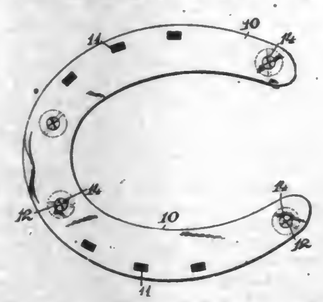
3. The combination, in a coke-furnace, of a plurality of inclined rows of vertical heating flues forming the sides of coking chambers, each of said flues having an outlet and gas-ducts and air-ducts for supplying gas and air separately into the same, superposed, interconnected channels above said heating flues and adapted to be connected therewith in sets, superposed, interconnected, regulatable, main distributing and regulating gas-supply channels connected with said gas-ducts in sets, and superposed, interconnected, regulatable, main distributing and regulating air-supply channels connected with said air-ducts in sets.

4. The combination, in a coke-furnace, of a plurality of rows of vertical heating flues forming the sides of coking chambers, each of said flues having an outlet and gas-ducts and air-ducts for supplying gas and air separately into the same small division walls (x) in the upper channel (k) to form short sets of flues, superposed, interconnected channels above said heating flues adapted to be connected therewith in sets, the upper of said superposed channels having walls dividing the same into sets of flues, superposed, interconnected, main distributing and regulating gas-supply channels connected alternately with said gas-ducts, and superposed, interconnected, main distributing and regulating air-supply channels connected alternately with said air-ducts.

5. The combination, in a coke-furnace, of a plurality of rows of vertical heating flues forming the sides of coking chambers, said flues having inlets and outlets alternately at the bottom thereof and orifices at the top thereof, superposed supply and distribution channels above said flues and adapted to be connected with said orifices in sets, regulatable, superposed, interconnected gas-supply channels below, and connected with the inlets at the bottom of said flues, regulatable, superposed, interconnected air-supply channels below, and connected with the inlets at the bottom of said flues, and ducts connecting said air-supply channels with the upper portions of the heating flues having inlets in the top thereof.

[Claims 6 and 7 not printed in the Gazette.]

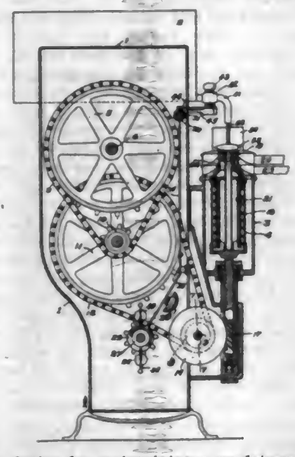
971,138. HORSESHOE. HENRY D. MCCORMICK, Newark, N. J. Filed Jan. 29, 1909. Serial No. 474,950.



A horse-shoe comprising a body portion, a wearing plate, the wearing plate being provided with countersunk per-

forations, a plate of resilient material placed between the body portion and the wearing plate, the body portion having screw-threaded perforations adapted to be in register with the perforations in the wearing plate, and screws, each screw having a head to fit a countersunk perforation of the wearing plate and also having a screw-threaded stem to enter a perforation in the body portion, each screw having a slot extending from the face of the head to a point far enough beyond the wearing plate to permit the slot being used until the screw is worn away flush with the body portion, the slot terminating short of the end of the screw-threaded stem opposite the head.

971,139. COMBINED SPEED-INDICATOR AND FAUCET CONTROL. KENNETH K. MCLEOD, White Bear, Minn. Filed Mar. 14, 1910. Serial No. 549,183.



1. In a device for maintaining a predetermined quantitative relation between the flow of whole milk and the operating speed of a cream separator mechanically acting upon same, the combination with a controlling means constructed to be rendered operative by variations in the speed conditions of said cream separator, of a valve for controlling the flow of milk to said cream separator, and operative connection between said controlling means and one member of said valve, the members of said valve being so shaped with relation to their relative movement that the flow of whole milk varies in practically the same degree and in substantial unison with the variations in the speed conditions of said cream separator, substantially for the purposes set forth.

2. In a device for maintaining a predetermined quantitative relation between the flow of a fluid and the operating speed of a centrifugal separator mechanically acting upon said fluid, the combination with a controlling means constructed to be rendered operative by variations in the speed conditions of said separator, of a valve for controlling the flow of said fluid, and operative connection between said controlling means and one member of said valve, the members of said valve being so shaped with relation to their relative movements that during a predetermined range of speed conditions the flow of fluid varies in practically the same degree and in substantial unison with the variations in the speed condition of said separator, substantially for purposes set forth.

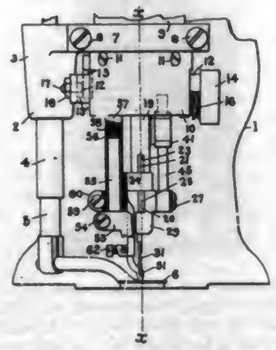
3. In a device for maintaining a predetermined quantitative relation between the flow of whole milk and the speed condition of a cream separator acting upon said fluid, the combination with a conduit for conveying said whole milk to said cream separator and a restricted passage provided in said conduit, of a centrifugal controlling means having connection with the operating mechanism of said separator and rendered operative by variations of speed conditions in said mechanism, a valve adapted to vary the size of the restricted passage, and means connecting said valve to said controlling means whereby the operative movement of said controlling means will impart a corresponding movement to one member of said valve, said valve being so shaped and proportioned as to maintain a predetermined quantitative relation between the flow of the whole milk and the speed condition of said cream separator, substantially for the purposes set forth.

4. In a device for maintaining a predetermined quantitative relation between the flow of whole milk and the speed condition of a separating mechanism adapted to separate certain components of said fluid and subject to certain variations in speed which create corresponding variations in demand for delivery of said whole milk thereto, the combination with a conduit provided with a restricted passage and adapted to convey said whole milk to said separating mechanism, of a centrifugal controlling means arranged in operative relation with said separating mechanism, a spring arranged to oppose the centrifugal force to said controlling means and provided with means for adjustment, a valve rendered operative by said controlling means for varying the size of said restricted passage, said valve being so proportioned with relation to the relative movements of its members as to maintain a predetermined quantitative relation between the flow of said whole milk and the speed condition in said separating mechanism, substantially for purposes set forth.

5. In a device for maintaining a predetermined quantitative relation between the flow of a fluid and the speed condition of a mechanical agent adapted to separate certain components of said fluid, and subject to certain variations in speed which create corresponding variations in demand for the delivery of said fluid thereto, the combination with a conduit adapted to convey said fluid and provided with a restricted passage, of a centrifugal controlling means arranged in operative relation with said mechanical agent, a spring arranged to oppose the centrifugal force of said controlling means and provided with means for adjustment, an indicating member rendered operative by said controlling means and adapted to indicate the comparative relation between the existing speed condition of said mechanical agent and a predetermined speed condition thereof, a valve rendered operative by said controlling means for varying the size of the restricted passage, said valve being so proportioned with relation to the relative movements of its integral members as to maintain a predetermined quantitative relation between the flow of the fluid and the speed condition in said mechanical agent, substantially for purposes set forth.

[Claims 6 to 22 not printed in the Gazette.]

971,140. CRANK HEMSTITCH EMBROIDERING MACHINE. DONALD NOBLE, Bridgeport, Conn., assignor to The Singer Manufacturing Company, Elizabethport, N. J., a Corporation of New Jersey. Filed Nov. 19, 1908. Serial No. 463,346.

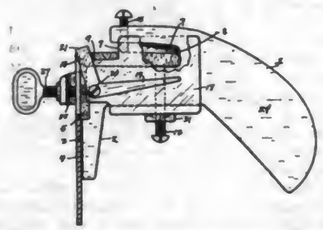


1. In a crank-hemstitch embroidering machine, a rotary cylinder mounted in the overhanging arm, a needle-bar mounted in said cylinder and movable vertically therein and rotatable therewith, and laterally movable holders carried by said needle-bar and provided with needles arranged in a line transverse to and offset from the axis of rotation of said cylinder.

2. In a crank-hemstitch embroidering machine, a vertically reciprocating needle-bar mounted for rotary movement, needle-holders mounted for oscillatory movement upon said needle-bar and provided with needles arranged in a line transverse to and offset from the axis of rotary movement of said needle-bar, and a piercer-bar provided with a piercer arranged intermediate to and in line with said needles.

3. In a twin-needle crank-hemstitch embroidering machine, a rotary cylinder mounted in the overhanging arm, a needle-bar mounted in said cylinder and movable vertically therein and rotatable therewith, pivotally mounted needle-holders carried by said needle-bar and provided with needles arranged in a line transverse to and offset from the axis of rotation of said cylinder, and a vertically movable piercer-bar carried by said cylinder and provided with a piercer arranged intermediate to and in line with said needles.

971,141. SAW-SET. LEMUEL W. PARKHURST, Elma, Wash. Filed May 1, 1908. Serial No. 430,262.



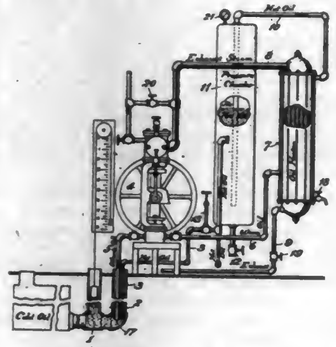
1. A saw set comprising a body portion faced off at one end to fit against the side of a saw blade and provided with a socket, extending inwardly from said end near the upper margin of the body; an adjustable member loosely fitting said socket and provided with an outer end, coinciding with the end of the body and extending upwardly and inwardly therefrom, a retaining casing member inclosing said socket at the sides and adapted to hold the adjustable member against lateral movements and means for clamping said device to the saw blade.

2. A saw set comprising a body portion faced off at one end to fit against the side of a saw blade and provided with a recess extending inwardly from said end near the upper margin of the body, a retaining casing member U-shaped in cross section and arranged to embrace the under surface and sides of said body and to form side walls for said recess, an adjustable member loosely fitting said recess and provided with a beveled outer end, co-inciding with the end of the body and extending upwardly and inwardly therefrom, a set screw extending upwardly through said casing member and arranged to bear upon the rear portion of said adjustable member, and another set screw extending downwardly through the body and arranged to bear on the upper surface of said adjustable member between the first mentioned set screw and said beveled end.

3. The combination with a body socketed at one end near its upper margin and provided with a downwardly extending arm, having one face forming part of the saw receiving body, a casing partially inclosing the body and forming the side walls of said socket, a bar loosely mounted in said socket with the front end of its under surface coinciding with the end of the body above said arm and having a beveled end, extending upwardly and inwardly from the end of the body, a set screw extending upwardly through the body and adapted to bear upon said bar near its inner end, another set screw extending downwardly through the body and adapted to bear upon said bar between the first mentioned set screw and the outer end of the bar, and a clamping device supported from the casing by an arm adapted to pass between the saw teeth and adapted to bind the body against a saw blade with the point of a tooth opposite the beveled end of said bar.

4. The combination with a body, socketed at one end near its upper margin and provided with a downwardly extending arm, having one face forming part of the saw receiving body, a casing partially inclosing the body and forming the side walls of said socket, a bar loosely mounted in said socket, with the front end of its under surface coinciding with the end of the body above said arm and having a beveled end, extending upwardly and inwardly from the end of the body, a set screw extending upwardly through the body and adapted to bear upon said bar near its inner end, another set screw extending downwardly through the body and adapted to bear upon said bar between the first mentioned set screw and the outer end of the bar, and a clamping device, adapted to bind the body against a saw blade with the point of a tooth opposite the beveled end of said bar.

971,142. METHOD OF TREATING OILS FOR COMBUSTION PURPOSES. FRANK RADEMACHER, Los Angeles, Cal., assignor of one-half to Joseph Maier and George Zobelein, Los Angeles, Cal. Filed Feb. 3, 1903. Serial No. 141,754.



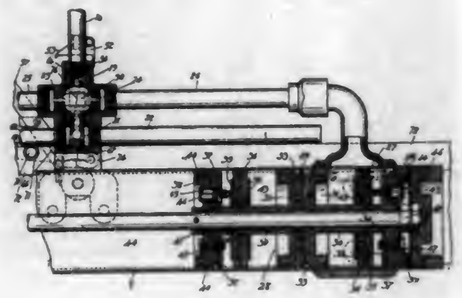
The method of treating oil for combustion purposes which consists in providing a main body of cold oil in a suitable reservoir, isolating a small portion of it in an open stand-pipe constituting an auxiliary reservoir, pumping the oil therefrom and injecting it into a steam-heating chamber, heating it therein to a high temperature under pressure, leading a portion of the super-heated oil to the point of consumption, and returning the balance by means of a by-pass or return-pipe to the auxiliary reservoir for the purpose of heating the oil in said reservoir and setting up a circulation of oil.

971,143. CONTROLLING MECHANISM FOR WORKING CYLINDERS. HORATIO C. RANDALL, San Francisco, Cal. Filed Apr. 17, 1907, Serial No. 368,617. Renewed Mar. 10, 1910. Serial No. 548,494.

1. In an apparatus of the character described, the combination of a cylinder, a piston sliding therein, a piston rod therefor, cushion heads carried by said rod and adapted to form at the end of the cylinder fluid cushions for the piston; each cushion head having a vent therethrough, means for variably obstructing said vent, and means for admitting pressure fluid alternately to opposite sides of the piston, substantially as described.

2. In an apparatus of the character described, the combination of a cylinder, a piston sliding therein and having a piston rod, cushion heads carried by said piston rod, said heads being spaced from the piston and adapted to form at the ends of cylinder fluid cushions for the piston, each cushion head having a check valve opening away from the piston, and means for admitting pressure

fluid alternately at opposite sides of the piston, substantially as described.



3. In an apparatus of the character described, the combination of a cylinder, a piston reciprocating therein, a valve casing, a pipe leading thereto from a source of supply of pressure fluid, an exhaust in said casing, means for adjusting the rapidity of exhaust, a pipe leading from said casing to each end of the cylinder, and a four-way valve in said casing connecting said pipe and exhaust alternately in pairs, substantially as described.

4. In combination, a cylinder, a piston sliding therein, a device movable with the piston, a lock automatically engaging said device at one end of its movement to lock the same, means for admitting pressure fluid to the cylinder to reciprocate the piston, and means for automatically removing said lock with the admission of said fluid, substantially as described.

5. In combination, a pressure fluid cylinder, conduits for conducting the fluid to either end thereof, a valve for controlling said conduits, means, adapted to be actuated by an operator, for turning the valve to admit said fluid to one end of the cylinder, and mechanism, operating automatically on the cessation of said actuation, to first admit the pressure fluid to the other end of the cylinder, and then to shut it off from both ends, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

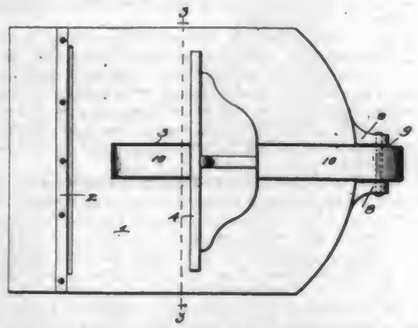
971,144. PREPARING CAUSTIC SODA. HEINRICH REITZ, Griesheim-on-the-Main, Germany, assignor to Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main, Germany, a Corporation of Germany. Filed Dec. 20, 1909. Serial No. 534,121.

In the manufacture of anhydrous caustic soda, concentrating ordinary caustic soda lye until a copious production of anhydrous caustic soda crystals is obtained, allowing the mother lye to form a thick pulp while being stirred, adding to this slowly while stirring a caustic soda lye of lower percentage, and separating the solid from the liquid at a temperature at which the added lye is still fluid.

971,145. PREPARING CAUSTIC POTASH. HEINRICH REITZ, Griesheim-on-the-Main, Germany, assignor to Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main, Germany, a Corporation of Germany. Filed Dec. 22, 1909. Serial No. 534,532.

In the manufacture of anhydrous caustic potash, concentrating caustic potash lye to a degree sufficient that on cooling, while being stirred, a copious formation of anhydrous crystals of caustic potash takes place, then mixing with the thick pulp thus formed, and while stirring, a caustic potash lye of lower percentage, and separating the solid from the liquid at a temperature above that at which the second lye melts and at which temperature no separation of caustic potash containing water takes place.

971,146. SLOT-GUARD FOR PAPER-TRIMMING MACHINES. MARION REPP, Otsego, Mich. Filed Jan. 3, 1910. Serial No. 535,926.



1. In a paper trimming machine, a table having formed therein a guide slot, a follower or stop plate slidably mounted on said table and in said slot, and means to close the slot.

2. In a paper trimming machine, a table having formed therein a longitudinal guide slot, a follower or stop plate slidably mounted on said table and in said slot, a slot closing strap secured to and adapted to be operated by said stop plate, and means to support said strap in operative position.

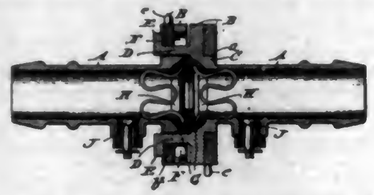
3. In a paper trimming machine, a table having a guide slot therein, a follower slidably mounted on said table and in said slot, and means operable by said follower to keep said slot continuously closed during the back and forward movement of said follower.

4. In a paper trimming machine, a table having a longitudinal guide slot therein, a follower slidably mounted on said table and in said slot, a slot closing strap secured to and adapted to be operated by said follower for keeping said slot closed during the movement of said follower.

5. In a paper trimming machine, a table having formed therein a guide slot, a stop or follower plate slidably mounted on said table and in said slot, a slot closing strap connected at its opposite ends to said stop plate, and revolubly mounted rollers adapted to support said strap in operative position in said slot.

[Claim 6 not printed in the Gazette.]

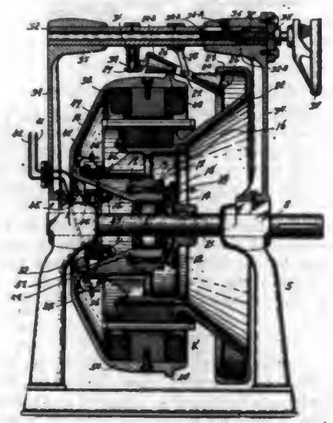
971,147. TRAIN-PIPE COUPLING. THOMAS REYNOLDS, Baraboo, Wis. Filed Mar. 24, 1910. Serial No. 551,357.



In a train-pipe coupling, the combination of opposed members, each comprising a body having a nipple and a head at the outer end thereof and also having a circular shoulder back of the head and diametrically opposite openings in said head and diametrically opposite arms reaching forward from the head and terminating in angularly-disposed outwardly-extending projections, an annular revoluble disk mounted on the shoulder of the body back of the head and having in its inner edge diametrically-opposite radially disposed openings and slots which extend circularly in opposite directions from said openings, and also having between the closed ends of the slots and the adjacent radially disposed openings edge portions

which bear on the circular shoulder of the body, and further having cams extending circularly in opposite directions from the openings, and means in the forward end of the body for coöperating with the other member to render the joint tight.

971,148. DIFFERENTIAL-SPEED MOTOR. HARRY A. RHODES, Denver, Colo., assignor to The Universal Motor Company, Denver, Colo., a Corporation of Arizona. Filed July 20, 1909. Serial No. 508,655.



1. A motor having its two members mounted and connected to rotate in reverse directions, the two motor members being equipped with centrally located annularly arranged bearing rings, a third member connected in operative relation with the bearing rings to utilize the differential speed of the two motor members, and a shaft upon which the third member is mounted for the purpose set forth.

2. An electrical motor whose field and armature members are adapted to rotate in reverse directions, means for regulating the speed of the two members to produce any desired differential speed, the motor members being equipped with annularly arranged parts, centrally located within the motor casing, and a third member also centrally located and connected with the said parts of the motor members, to utilize the differential speed of the said members.

3. A motor whose field and armature members are mounted to rotate in reverse directions, the said members having circumferential bearing parts, and an exteriorly located speed regulation device consisting of a spindle, and two cones fast on the spindle, the said cones engaging said bearing parts, and adjustable to produce any desired differential speed, and a third member connected in operative relation with the two motor members for utilizing the aforesaid differential speed.

4. An electrical motor whose field and armature members are mounted and connected to rotate in reverse directions, the two members having exteriorly located parts, of approximately equal circumferences, a speed regulating device consisting of a spindle and two cones fast on the spindle, a bracket in which the spindle is journaled, a support for the bracket, and means for shifting the bracket support, whereby the speed regulating device may be adjusted to produce any desired differential speed, between the two motor members, the latter being equipped with centrally located annularly arranged bearing parts, and a third member connected in operative relation with the said bearing parts, for utilizing the differential speed of the two motor members, substantially as described.

5. A motor whose field and armature members are constructed and connected to rotate in opposite directions, a centrally located shaft, one of the motor members having a bearing ring journaled on the shaft, the other motor member having an opposing bearing ring, surrounding the bearing ring of the other member, a third member fast on the shaft and connected in operative relation with the two bearing rings, and a speed regulating device connected in operative relation with the two motor members and adjustable to produce any desired differential speed, the latter being communicated to the third part through the instrumentality of the aforesaid bearing rings, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

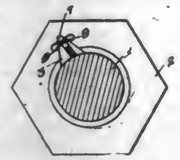
971,149. CATALYTIC BODY AND METHOD OF MAKING SAME. KARL SCHICK, Griesheim-on-the-Main, Germany, assignor to Chemische Fabrik Griesheim Electron, Frankfort-on-the-Main, Germany. Filed June 27, 1907. Serial No. 381,170.

1. The herein described method of manufacturing a platinum contact body for use in manufacturing nitric acid, consisting in coating a suitable carrier with a thin layer of platinum and then heating the coated carrier to a temperature at which the platinum will be softened and caused to unite with the carrier, as and for the purpose described.

2. The herein described method of manufacturing a platinum contact body for use in manufacturing nitric acid, consisting in first coating a suitable carrier with a glaze which can be readily softened, then applying to said glazed body a thin layer of platinum, and heating the body coated as aforesaid to a temperature at which the platinum will be softened and caused to unite with the carrier, as and for the purpose set forth.

3. As an article of manufacture, a platinum contact body for use in manufacturing nitric acid, comprising a suitable carrier coated with a readily softening glaze and having a platinum layer applied thereto in the manner described, as and for the purpose set forth.

971,150. NUT-LOCK. ERNEST SCHNELLE, Rochester, N. Y., assignor of one-half to Alexander Ross, Rochester, N. Y. Filed June 13, 1910. Serial No. 566,621.



1. The combination with a nut and a bolt, one of which is provided with a chamber, of a rigid securing device mounted in the chamber to frictionally engage the other part, the chamber in which the securing device is located having releasing space on opposite sides of the securing position of the device, permitting the latter to move in either direction from engaging position.

2. A nut provided with a chamber communicating with its threaded bore and a rigid securing device movable in the chamber to frictionally engage a threaded member within the threaded bore, the chamber in which said device is mounted providing releasing space on opposite sides of said device when the latter is in securing position; so that the said device may move in either direction from engaging position.

3. The combination with a nut and a bolt, one of which is provided with a chamber, of a rigid securing device pivoted in the chamber to frictionally engage the other part, the chamber in which the securing device is pivoted having releasing space on opposite sides of the securing position of the device permitting the latter to move in either direction from engaging position.

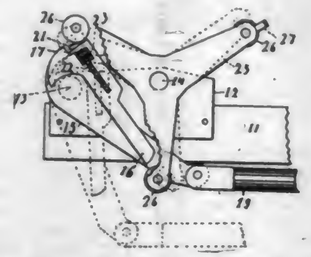
4. A nut having a chamber therein communicating with its threaded bore, and a rigid securing device pivotally mounted in the chamber, said chamber providing releasing space on opposite sides of the securing device when the

latter is in securing position permitting said device to move in either direction from such position.

5. A nut provided with a V-shaped recess communicating with the threaded bore and a rigid securing device pivoted at the apex of said recess, the length of the securing device being such that when it engages either wall of the recess it does not engage a threaded member on which the nut is fitted but when in an intermediate position it frictionally engages such threaded member.

[Claims 6 and 7 not printed in the Gazette.]

971,151. SPRING AND POWER PULL-BACK FOR HAY-BALERS. GEORGE SCHUBERT, Fort Worth, Tex. Filed May 5, 1909. Serial No. 494,010.



1. In a baling press of the kind described, an extension beam, a seat having pivots or perforations and secured on said extension beam, a power-head journaled on the seat, an arm journaled on the seat and having pivoted to its swinging end the end of the plunger bar, cams on said arm, a spring carried by said arm and engaged by the arms of the power-head to compress said spring.

2. In a baling press of the kind described, a power-head having arms, rollers on said arms, an arm pivoted within the field of the rollers and having pivoted to its swinging end the end of the plunger bar, a main cam on said arm to be engaged by a roller of one of the arms of the power-head, a spring carried by said arm to be compressed by another roller of said power-head during the time the first said roller is passing the end of the main cam to absorb the forward swing of the power-head or sweep.

3. In a baling press of the kind described, a power-head, an arm pivoted within the field of the power-head, and having pivoted to its swinging end the plunger bar, a main cam on said arm to be engaged by the power-head, a spring carried by said arm to be compressed by the power-head to shift the plunger bar back.

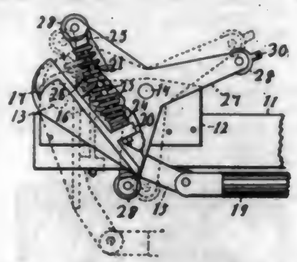
4. In a baling press of the kind described, a power-head, an arm pivoted within the field of the power-head and having pivoted to its swinging end the end of the plunger bar, a main cam on said arm to be engaged by the power-head, a spring carried by said arm, said spring to be compressed at a time that the load on the power-head on the main cam is decreasing.

5. In a baling press of the kind described, a power-head, rollers on said power-head, an arm pivoted within the field of the power-head and having pivoted to its swinging end the end of the plunger bar, a main cam on said arm to be engaged by a roller of the power-head to shift the plunger bar inwardly, a spring carried by said arm to be engaged by a second roller of the power-head and a second cam on said arm to be engaged by said second roller to move the plunger bar outwardly.

[Claims 6 to 8 not printed in the Gazette.]

971,152. SPRING AND POWER PULL-BACK FOR BALING-PRESSES. GEORGE SCHUBERT, Fort Worth, Tex. Filed Oct. 7, 1909. Serial No. 521,587.

1. In a baling press of the kind described, an extension beam, a power-head pivoted thereon, rollers on said power-head, an arm having cams and pivoted within the field of the power-head, lugs on said arm, a spring supported by said lugs, and compressed by the power-head to shift the plunger-bar outwardly.

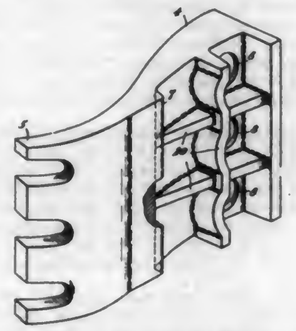


2. In a baling press of the kind described, an extension beam, a power-head pivoted thereon, an arm having a main cam and pivoted within the field of the power-head, a lug on said arm, a spring supported by said lug, and compressed by the power-head to shift the plunger-bar outwardly.

3. In a baling press of the kind described, an extension beam, a power-head pivoted thereon, rollers on said power-head, an arm having cams and pivoted within the field of the power-head, a lug on said arm located on a specified angle, a spring on said lugs to project into the path of the rollers.

971,153. BALL-MILL PLATE. JOHN M. SHEARARD, Easton, Pa. Filed July 22, 1909. Serial No. 508,891.

1. A lining plate having a toe and heel and between said toe and heel a shoulder projecting from its non-working side.



2. A lining plate having a toe and heel and between said toe and heel a transversely extending shoulder projecting from its non-working side and extending from side to side of the plate.

3. A lining plate having a slotted heel, a chambered and rib reinforced toe, and provided with a curved working face and having between its heel and toe a transversely extending shoulder projecting from its non-working side.

4. A lining plate having a chambered and reinforced toe end and a slotted heel end, and between such ends a transversely extending integral shoulder projecting from its non-working side.

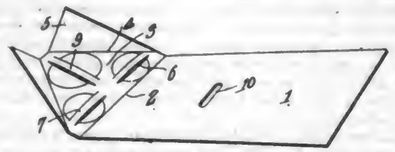
5. In a ball mill, the combination of a shell having a transversely extending rib, and a lining plate bolted to said shell and having a shoulder projecting from its non-working side for engaging said rib.

[Claims 6 to 14 not printed in the Gazette.]

971,154. COIN-HOLDER. FRANK G. SHUMAN, Chicago, Ill. Filed Apr. 8, 1909. Serial No. 488,587.

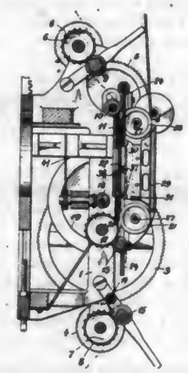
A coin holder consisting of a rectangular card folded obliquely across two adjacent corners to produce two wings and folded together across its body near the inner

end of said wings to produce a triangular flap between them, said flap being slit to form three coin-receiving



strips, each directed substantially toward one of its angles and having two fold lines extending past its sides.

971,155. MOVING-PICTURE MACHINE. ALBERT E. SMITH, New York, N. Y., assignor to The Vitagraph Company of America, New York, N. Y., a Corporation of New York. Filed Oct. 11, 1909. Serial No. 521,975.



1. In a moving-picture machine, the combination of a member having an opening therein through which the beam of light is projected, means for moving a film intermittently, rollers for guiding the film over said opening when so moved, a shutter for obstructing the light when the film is moved, and a movable guiding device for the film independent of said film-moving means and movable with the film in the direction of the length thereof and in coaction with the edges of the film to guide the latter over said opening, substantially as set forth.

2. In a moving-picture machine, the combination of a member having an opening therein through which the beam of light is projected, means for moving a film intermittently, rollers for guiding the film over said opening when so moved, a shutter for obstructing the light when the film is moved, shafts mounted on opposite sides of said opening, two rollers on each of said shafts, and belts running on corresponding rollers on said shafts and coacting with the edges of said film to guide the latter in its movement over said opening, said belts being independent of and additional to said means for moving the film intermittently, substantially as set forth.

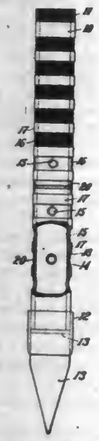
3. In a moving-picture machine, the combination of a member having an opening therein through which the beam of light is projected, rollers for guiding the film over said opening, shafts mounted on opposite sides of said opening, two rollers on each of said shafts, belts running on corresponding rollers on said shafts and coacting with the edges of said film to guide the latter in its movement over said opening, means independent of said belts for moving the film intermittently, a shutter for obstructing the light when the film is moved, and a single means for operating the shutter and said film-moving means, said belts being moved solely by their coaction with the film when the latter is moved, substantially as set forth.

4. In a moving-picture machine, the combination of a plate having an opening therein through which the beam of light is projected, metallic strips on said plate parallel to each other and on opposite sides of said opening, means for moving a film intermittently, rollers for guiding the film over said opening when so moved, a shutter for obstructing the light when the film is moved, two shafts, rollers thereon, and belts running on corresponding rollers on said shafts in alinement with said strips and holding the edges of the film between them and the strips, substantially as set forth.

5. In a moving-picture machine, the combination of a member having an opening therein through which the beam of light is projected, means for moving a film intermittently, rollers for guiding the film over said opening when so moved, a shutter for obstructing the light when the film is moved, movable belts coacting with the edges of said film and guiding the latter in its movement over said opening, and means for exerting a yielding pressure on said belts to press them against said film, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

971,156. STRAINER FOR DRIVEN WELLS. CHARLES G. SMITH, Somerville, Mass. Filed July 20, 1908. Serial No. 444,312.



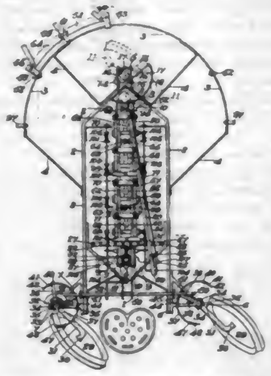
In apparatus of the sort described, the combination of a well pipe having an exterior surface formed in annular ribs arranged relatively near together, with grooves intervening and openings through the pipe from the grooves to the interior; and annular screens seated in the grooves; the exterior of the whole having a substantially uniform diameter, with the rib and screen faces parallel to the axis; the shoulders at the edges of the ribs projecting abruptly and to a diameter but little exceeding that of the adjacent screen.

971,157. REVERSIBLE MULTIFURROW DISK PLOW. DONALD HERMAN SMITH, near Curlewis, New South Wales, Australia. Filed July 31, 1908. Serial No. 446,343.

1. In an improved reversible multi-furrow disk plow, a framework having a semicircular draw frame supported by extensions, a steering wheel stem journal near the front of said framework, a right and a left furrow wheel stem journal bracket at the rear of said framework, a front guide bracket and a rear guide bracket, said front and rear guide brackets supporting vertical guide bars.

2. In a reversible multi-furrow disk plow, a steering wheel stem, an axle attached thereto, a wheel rotating on the stem axle, trunnion pieces bolted to said stem, a bracket pivoted to the trunnion pieces and provided with a perforated segment piece, a lever attached to the top of the stem, a guide located beneath the lever and connected therewith, a draw-bolt attached to the guide and engaging with its forward end the perforations in the segment, a

spring controlling the draw-bolt, and means for operating the draw-bolt, substantially as described.



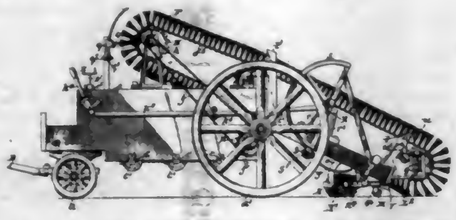
3. In a reversible multi-furrow disk plow, the combination of a steering stem having at its lower out-turned end an axle, a wheel turning thereon, trunnion-pieces bolted to said stem, said stem having pivoted thereto a fork provided with a projecting arm, a contact piece located beneath said arm, and an underlying pathway for the arm provided with limit stops, substantially as set forth.

4. In a reversible multi-furrow disk plow, a pair of furrow wheel stems provided with outwardly extending arms, contact pieces attached thereto, in combination with a spring cross-bar provided with guides and having its outer ends resting beneath said contact pieces, substantially as set forth.

5. In an improved reversible multi-furrow disk plow, a semicircular draw frame upon which are inner and outer stops, slides on said radius bar, a tie piece between said slides, draft bars attached to said tie pieces, a pivot pin near the front of said draft bars to which is intermediately pivoted a lever having a draft hook on its front end, a pivot pin on its rear end pivoted to a locking bar, said locking bar passing through a guide and having a lip upon its rear end.

[Claims 6 to 12 not printed in the Gazette.]

971,158. SWEEPING-MACHINE. LOUIS SOOS, Buffalo, N. Y. Filed Jan. 5, 1910. Serial No. 536,495.



1. A sweeping machine comprising a box, an endless sweeping brush extending forwardly and upwardly over said box, and means for folding the rear part of said brush forwardly over the front part thereof.

2. A sweeping machine comprising a box, an inclined runway extending to the rear end of said box and having a stationary front part and vertically swinging rear part, an endless sweeping brush extending over said runway and box, front supporting wheels mounted on the box and supporting the front end of the endless brush, and rear supporting wheels mounted on the rear section of the runway and supporting the rear end of the endless brush.

3. A sweeping machine comprising a box, an inclined runway extending to the rear end of said box and having a stationary front part and vertically swinging rear part, an endless sweeping brush extending over said runway and box, front supporting wheels mounted on the box and supporting the front end of the endless brush, rear supporting wheels mounted on the rear section of the runway and supporting the rear end of the endless brush, and means for turning the rear runway section together with the parts carried thereby comprising a gear segment connected with the rear runway section and a rotatable pinion mounted on the front runway section and meshing with said segment.

4. A sweeping machine comprising a box, an inclined runway arranged at the rear end of said box and having a vertically swinging rear section, an endless sweeping brush movable forwardly over said runway means for folding the rear part of said brush over the front part thereof, and a lock for holding said brush against backward movement, while in its folded condition.

5. A sweeping machine comprising a box, an inclined runway arranged at the rear end of said box and having a vertically swinging rear section, an endless sweeping brush movable forwardly over said runway, and an automatic lock mounted on the rear runway section and adapted to hold said brush against lengthwise movement in the elevated position of said rear runway section and to release said brush in the depressed position of the rear runway section.

[Claims 6 and 7 not printed in the Gazette.]

971,159. BRICK WALL AND THE LIKE. WILLIAM STANWAY, London, England, assignor to George Middlebrook and Albert Edward Hill, London, England. Filed Apr. 23, 1909. Serial No. 491,858.



1. A building block having a beveled side forming upper and lower faces of different lengths, and a transverse groove located in the longer face adjacent to the beveled side, said groove being disposed outside the vertical plane passing through the edge formed by the juncture of the shorter face with the beveled side.

2. A wall including a series of facing blocks having upwardly and rearwardly beveled outer sides, the under face of one block projecting beyond the upper face of the block beneath it and having two transverse grooves therein, the outer of which is exposed and the inner being covered by the under block.

971,160. COMBINED TILE AND SAGGAR. GEORGE E. VANCE, Springfield, Ohio. Filed Oct. 29, 1909. Serial No. 525,262.



1. A combined saggar and tile for the purpose described, in the form of a box open at one end and formed of sections, each comprising a side wall portion and an end wall portion of the box.

2. A combined saggar and tile for the purpose described, in the form of a box open at one end and formed of sections, each comprising a side wall portion and an end wall portion of the box, said section being formed with registering projections and recesses in their adjacent edges.

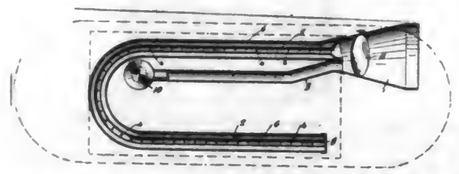
3. A combined saggar and tile for the purpose described in the form of a cylindrical box open at one end and formed of sections, each comprising a portion of the cylindrical wall and a sector shaped portion of the end wall of the box.

4. A combined saggar and tile for the purpose described, in the form of a cylindrical box open at one end and formed of sections, each comprising a portion of the cylindrical wall and a sector shaped portion of the end wall of the box, said sector shaped end portions being concaved at their inner ends, the concavities uniting to form an opening through the end wall of the structure.

5. A combined saggar and tile for the purpose described, in the form of a cylindrical box open at one end and formed of sections, each comprising a portion of the cylindrical wall and a sector shaped portion of the end wall of the box, said sector shaped end portions being concaved at their inner ends, the concavities uniting to form an opening through the end wall of the structure for the body of a headed plug, and a recess for the head of said plug, and a headed plug filling said opening and recess.

[Claims 6 and 7 not printed in the Gazette.]

971,161. VENTILATING SYSTEM. AMELIA LOUISE WERNER, Cincinnati, Ohio. Filed July 23, 1910. Serial No. 573,469.



1. A ventilating system comprising a fresh air duct, a tube leading from said duct, said tube having a series of openings at suitable intervals along one of its sides, and a series of air deflectors in said tube opposed to said openings, each of said deflectors being in a relation of increased depression to those preceding it in sequence from said fresh air duct.

2. A ventilating system comprising a fresh air duct, a fresh air tube leading from said duct, said tube having a series of openings at suitable intervals along one of its sides, and an enveloping tube adapted to create an air chamber around said fresh air tube and to deflect the currents of air received therefrom, said enveloping tube having a series of openings through which the fresh air is released into the body of the car after having been so deflected, and said fresh air tube and said enveloping tube having their ends farthest from said fresh air duct closed.

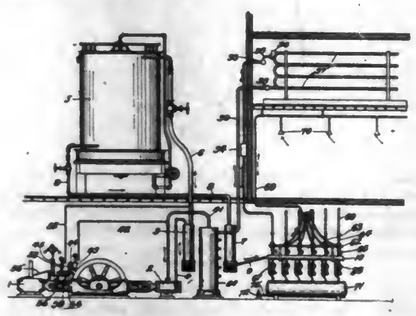
3. A ventilating system comprising a fresh air duct, a fresh air tube leading from said duct, said tube having a series of openings at suitable intervals along one of its sides, a series of air deflectors in said fresh air tube opposed to said openings, each of said deflectors being in a relation of increased depression to those preceding it in sequence from said fresh air duct, and an enveloping tube adapted to create an air chamber around said fresh air tube and to deflect the currents of air received therefrom, said enveloping tube having a series of openings through which the fresh air is released into the body of the car after having been so deflected, and said fresh air tube and said enveloping tube having their ends farthest from said fresh air duct closed.

4. A ventilating system comprising a fresh air duct, a tube leading from said duct, said tube having a series of openings at suitable intervals along one of its sides, and a series of air deflectors in said tube opposed to said openings, each of said deflectors being in a relation of increased depression to those preceding it in sequence from said fresh air duct, a pipe adapted to remove the foul air, and a tube leading from said fresh air duct to said pipe to produce a suction therein.

5. A ventilating system comprising a fresh air duct, a fresh air tube leading from said duct, said tube having a series of openings at suitable intervals along one of its sides, an enveloping tube adapted to create an air chamber around said fresh air tube and to deflect the currents of air received therefrom, said enveloping tube having a series of openings through which the fresh air is released into the body of the car after having been so deflected, and said fresh air tube and said enveloping tube having their ends farthest from said fresh air duct closed, a pipe adapted to remove the foul air, and a tube leading from said fresh air duct to said pipe to produce a suction therein.

[Claim 6 not printed in the Gazette.]

971,162. REFRIGERATING SYSTEM. EHREGOTT T. WINKLER, Kansas City, Mo., assignor of one-half to J. W. Roberts, Kansas City, Mo. Filed Oct. 25, 1909. Serial No. 524,335.



1. In a system of the character described, the combination with a liquid supply, of a set of cooling coils, a feeding cup carried by one of the pipes of each coil, and inlet pipes connected with the liquid supply and opening into the feeding cups below the coil pipe openings.

2. In a system of the character described, the combination with a liquid supply, of a series of cooling coil sets, a feeding cup carried by one of the coils in each coil set, a manifold for each coil set, and pipes opening from said manifold into said cup below the coil pipe port substantially as set forth.

3. In a refrigerating system, the combination of a manifold located in a cooling chamber, a supply pipe to the manifold, a series of branch pipes connected to the manifold, a feeding chamber cup connected to each branch pipe, and a tortuous pipe connected to each feeding chamber.

4. In a refrigerating system, the combination of a supply pipe, a manifold connected thereto, a series of feeding chamber cups, a series of pipes connecting the lower parts of said chambers with the manifold, and a series of tortuous pipes connected to the upper parts of said chambers.

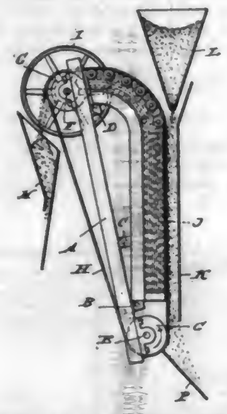
5. In a refrigerating system, a cooling chamber, a pipe having an inlet within said chamber and leading to a point exterior to the chamber, an exhaust, a pipe connected thereto, a union connecting said pipes and provided with a cock, and a thermometer supported by said union and extending into the interior thereof.

[Claim 6 not printed in the Gazette.]

971,163. MAGNETIC SEPARATOR. BERTRAM E. WOOD, Colorado Springs, Colo. Filed Dec. 27, 1909. Serial No. 535,104.

In a magnetic separator, the combination of a suitably supported inclined frame having lower and upper cross-bars, an electro-magnet having a body made up of a lower upright portion that bears on the lower cross-bar and an upper rearwardly-curved portion that rests at its end on the upper cross-bar; said electro-magnet also having recesses in the faces of its upright and rearwardly curved portions and further having coils in said recesses and anti-friction wheels in the face of the upper rearwardly curved portion and also in the curved portions of the coils, a suitably supported roll disposed in rear of the upper rearwardly curved portion of the magnet body, a suitably supported roll disposed below the lower end of the magnet

body, an endless non-magnetic apron arranged on the rolls and in front and rear of the electro-magnet, and an



upright wall spaced from the front stretch of the apron and forming with the same an upright conduit.

971,164. WHEEL FOR ROLLER-SKATES AND THE LIKE. HENRY SMALLWOOD YOXALL and JOSEPH EASTHOPE, Birmingham, England. Filed Feb. 9, 1909. Serial No. 476,938.

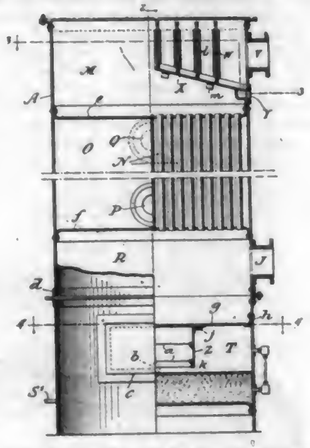


In a wheel for roller skates made from sheet metal, the combination of a wheel side, a flange integral with said wheel side and forming of itself the tread of the wheel, a recess inside said flange, an annular recess on the outer face of the wheel side forming an integral ball race bearing part, a second wheel side an annular flange on said wheel side corresponding with the aforementioned recess, a shoulder at the bottom of said recess forming an abutment for limiting the extent to which the inner flange may be introduced into the recess, and an annular recess on the outer face of the second wheel side forming a ball race bearing part, substantially as described.

971,165. HEATING APPARATUS. JUAN A. ALMIRALL, New York, N. Y., assignor to Evans, Almirall & Co., New York, N. Y., a Firm. Filed Oct. 21, 1909. Serial No. 523,877.

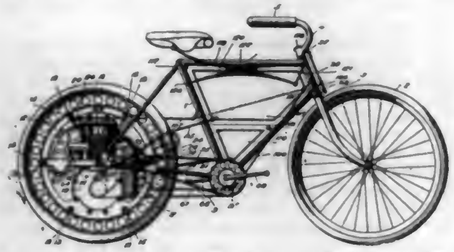
1. A heater comprising a shell having a chamber at the top into which exhaust steam is admitted, means for separating oil out of said steam, an intermediate chamber through which the steam passes from said steam chamber in tubes, said intermediate chamber being adapted for circulation of water about said tubes to heat the water, a bottom chamber in which the steam condensed by its passage through said tubes is collected and made available for feeding to the boiler, and a filter between said tubes and said water collecting chamber, above the level of the water in the latter and serving to extract oil or grease from the condensed steam.

2. A heater comprising a tubular shell having a steam chamber M at the top, filter screens W therein and in the path of steam entering said chamber, a water heating chamber O below the chamber M and through which the steam passes, a chamber R below the chamber O and into which the steam and water of condensation pass from said water heating chamber, a water chamber T below the chamber R and constituting a reservoir for the water formed by condensation of the steam and from which the



water may be returned to the boiler and a filter Z between the chambers R and T above the level of the water in the latter and serving for extracting oil or grease from the water of condensation.

971,166. MOTOR-CYCLE. FLOYD FITZ-TARA BINGHAM, San Jose, Cal. Filed Mar. 18, 1908. Serial No. 421,780.



1. In a motor cycle, a wheel-supported frame, a motor, the traction wheel, a friction drum, a band around the drum provided with means for engaging with said wheel, and friction means connected with the motor and engaging the drum.

2. In a motor cycle, a wheel supported frame, a motor, the traction-wheel, a spurred-band, rotating friction members, a sprocket-wheel for driving the rotating members, means for engaging the traction wheel with the spurred-band, means for engaging the spurred band with the rotating members, and means for driving said rotating friction members by foot or by motor power.

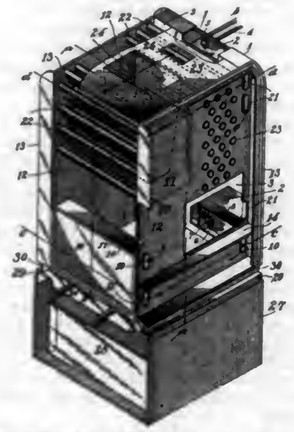
3. In a motor cycle, a frame, wheels therefor one of which is provided with an internal annular perforated flange, a motor in said wheel, a driving-roller connected with said motor and provided with an annular band, spurs seated in said band and adapted for engaging with the perforations of said flange.

4. In a motor cycle, a frame, wheels therefor one of which is annular and provided with an internal annular perforated flange, a seating perforated band or strip of fiber for said flange, a motor in said wheel, and a driving-roller connected with the motor and provided with spurs projecting through the perforations of the band and the flange.

5. In a motor cycle, a frame, wheels therefor one of which is annular and provided with an internal annular perforated flange, a perforated band of fiber for said flange, a motor in said wheel, a driving-roller comprising a shouldered circumferential band and an annular shouldered shell in positive engagement therewith, and driving-means connected with the motor and engaging with said shell by frictional contact only, said driving-roller having spurs which project through the perforations of the band and flange.

[Claims 6 to 60 not printed in the Gazette.]

971,167. WATER-HEATER. WILLIAM L. BLACKWELL, Dayton, Ohio. Filed June 15, 1910. Serial No. 566,938.



A hot water heater the walls of which consist of inner and outer steel plates, the edges of which extend at right angles and are united to provide between them, back and side water legs extending approximately the entire length of the heater, and a front water leg extending a portion of the length of the heater, the inner plates of said water legs being provided with telescopic flanged openings united and providing for water circulation between said legs at their upper and lower portions, the inner plates of the two side water legs having alined flanged openings in the upper portions thereof for a series of circulating tubes secured within said openings and through which a circulation of water is maintained, the rear water leg having an outlet pipe at the top and an inlet pipe at the bottom, a division plate in the back water leg which divides the water incoming through said inlet pipe to opposite sides, and division plates in the side water legs through which is directed the water through the lower portions of said side water legs to the front water leg, substantially as shown and described.

971,168. FRICTION DISK CLUTCH. GEORGE F. BOWDLE, Piqua, Ohio. Filed Sept. 20, 1909. Serial No. 518,621.

1. In a friction clutch, a plurality of friction disks, a pressure plate adapted to compress said disks, and resilient means actuated by the driving shaft for actuating said pressure plate.

2. In a friction clutch, a plurality of friction disks, means adapted to compress said disks, and a resilient threaded sleeve actuated by the driving shaft and adapted to actuate said disk-compressing means.

3. In a friction clutch, a plurality of friction disks, means adapted to compress said disks, threaded members adapted to actuate said disk-compressing means, and resilient means actuated by the driving shaft for actuating said threaded members to actuate the said disk-compressing means.

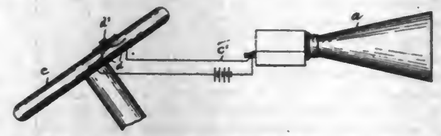
4. In a friction clutch, a plurality of friction disks, means for compressing said disks, threaded members actuating said compressing means, a resilient actuating member adapted to actuate said threaded members, and a cam member adapted to place said threaded members in operative relation with said actuating member.



5. In a friction clutch, a plurality of friction disks, a pressure plate adapted to compress said friction disks, split nut members mounted on said pressure plate, a resilient threaded sleeve adapted to be engaged by said split nut portions, and means for placing said split nut portions in engagement with said threaded sleeve.

[Claims 6 to 9 not printed in the Gazette.]

971,169. AUTOMOBILE-HORN. LEONARD B. BUCHANAN, Woburn, Mass., assignor to Stone and Webster, Boston, Mass., a Firm. Filed Dec. 20, 1909. Serial No. 534,115.



1. The combination with a resonator, of a vibratory snapper-plate arranged in conjunction therewith, and a vibratory actuating-lever for said snapper-plate, substantially as described.

2. The combination with a resonator, of a vibratory snapper-plate arranged in conjunction therewith, a vibratory actuating-lever, and means for operating said actuating lever, substantially as described.

3. The combination with a resonator, of a vibratory snapper-plate arranged in conjunction therewith, a vibratory actuating-lever, and means for operating said actuating-lever, and an operating-device for said actuating-means, substantially as described.

4. The combination with a resonator, of a vibratory snapper-plate arranged in conjunction therewith, a vibratory actuating-lever, means for operating said actuating-lever, an operating-device for said actuating-means disposed at a distance therefrom and connected therewith, substantially as described.

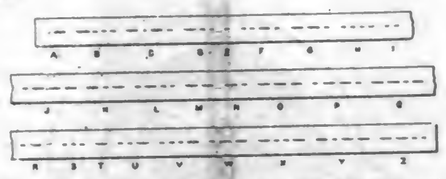
5. The combination with a resonator, of a vibratory snapper-plate arranged in conjunction therewith, a vibratory actuating-lever, and means for operating said actuating-lever from a distant point, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

971,170. TELEGRAPHY. CHARLES G. BURKE, New York, N. Y., assignor of one-half to John Q. A. Whittemore, Newton, Mass. Filed Aug. 14, 1908. Serial No. 448,527.

1. For telegraphic use a book whose pages and the lines of whose pages are enumerated by permutations of the numerals 1, 2, 3, 4; each of said lines having a word,

the letters forming such words being so arranged that the units of the symbols indicating such letters when taken in twos will signify the symbols selected to represent the figures by which said pages and lines are enumerated.



2. For telegraphic purposes a book consisting of words composed of letters agreeing or differing in the number of electric units constituting their individual telegraphic symbols, but the aggregate of whose units are divisible and convertible into number symbols all of which have a like number of units.

3. An improved book having artificial words for telegraphic purposes, consisting of letters derived from the aggregated units of the Continental telegraph code arranged to represent the figures of a numerical combination, each figure being represented by a uniform number of such units, the sequence, character and number of the units forming the letters of such word agreeing with the sequence, character and number of the units representing the figures of such numerical combination.

4. For telegraphic purposes a book, the pages and lines of whose pages are numbered, artificial words arranged in such pages and on such lines, such artificial words being formed from letters whose telegraphic symbols are in accordance with a telegraphic code, the elemental units forming such symbols being derived from symbols previously and arbitrarily arranged to represent and signify numerals, the said word in addition to any meaning or meanings associated with them in such book, also indicating and meaning by the numerical signification attaching to them from the numerals originally represented by the elemental units forming the symbols of their letters, the position of such words in such book.

5. For telegraphic purposes a book having lines, artificial words to which desired meanings may be attached located in the said lines, such words being formed of the letters of the alphabet whose telegraphic symbols are derived from and formed out of sequential permutations of elemental units by taking the said elemental units any number at a time and in accordance with the Morse-Continental code, the said permutations being formed by permutating the elemental units previously and arbitrarily selected to represent numerals, the said lines being designated by the said numerals.

[Claim 6 not printed in the Gazette.]

971,171. CURRYCOMB. JAMES S. CAMPBELL, Camden, Ill. Filed Jan. 10, 1910. Serial No. 537,253.



1. A curry-comb comprising a body, a plurality of channel members secured to said body, a currying member disposed between the flanges of each of said channel members, each of said currying members being formed with parallel longitudinal rows of teeth, a rib centrally formed between the rows of teeth, and means for rigidly securing the currying members in the channel members, substantially as and for the purpose set forth.

2. A curry-comb comprising a body, a plurality of channel members secured to the body, the longitudinal edges of the channel members being serrated, a currying member removably arranged between the flanges of each of the channel members, said currying members being formed with longitudinal rows of teeth, and an intermediate V-shaped rib, the points of said rib and the points of the teeth being disposed in the same plane, and means for rigidly securing the currying members in the channel members, substantially as and for the purpose set forth.

3. A curry-comb comprising transverse channel members arranged in opposed relation upon suitable spaced body plates, the flanges of said members having convex serrated longitudinal scraping edges, a handle extending between the opposed channel members, a resilient, currying member removably positioned in each of the channel members on one side of the body plates, said members having their opposite outer edges serrated and a V-shaped rib formed therein between the serrated edges, a wire extending over said removable members adjacent to their opposite ends, and means for tightening the wires thereon to secure the members in position, substantially as and for the purpose set forth.

4. A curry-comb comprising a plurality of transverse channel members secured to spaced body plates at their opposite ends, a resilient currying member positioned in each of the channel members on one side of said body plates, the intermediate resilient member being disposed out of the same horizontal plane as the other of said members, a flexible wire extending over said members adjacent to their ends and through alined openings in one end of each of the body plates, a draw head longitudinally movable between the ends of said plates, an adjusting screw disposed through said draw head and extending through the other ends of the body plates, a plate having an opening therein disposed about the adjusting screw, said plate having a hook on one end to receive an eye on one end of the flexible wire, the other end of said wire being secured to the draw head, and means for supporting said draw head.

5. A curry-comb comprising spaced channel members secured upon longitudinal body plates arranged in spaced relation and having their ends angularly extended and secured to each other, resilient currying members positioned in the channel members on one side of said plates, a securing wire extending over said removable members adjacent to their ends, guide rods secured in the ends of said body plates, said rods being formed from a single length of material bent between its ends to form a U-shaped portion disposed against the outer face of one of the ends of said body plates, said end having rectangular openings therein to receive said wires, a draw head longitudinally movable upon said guide rods, an adjusting screw extending through the opposite ends of said body plates disposed through said draw head and having threaded engagement in a block carried thereby, said draw head carrying a hook to receive an eye on one end of the securing wire, a finger piece on the outer end of the adjusting rod, and hooks disposed about said rods adapted to be positioned through eyes on the other ends of the securing wires, substantially as and for the purpose set forth.

[Claim 6 not printed in the Gazette.]

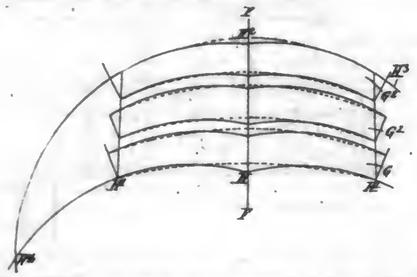
971,172. KEYBOARD. FREDERICK CLUTSAM, St. Kilda, Victoria, Australia. Filed July 19, 1907. Serial No. 384,626.

1. A manual keyboard for a pianoforte, organ or like musical instrument having the heads of the white digitals near the central portion of the board longer than those near the ends of the board.

2. A manual keyboard for a pianoforte, organ or like musical instrument having the heads of the white digitals near the central portion of the board longer than those near the ends of the board, such digitals near the ends being of normal length.

3. A manual keyboard for a pianoforte, organ or like musical instrument so made that the ends of the black and white digitals lie on curved lines and having the heads of the white digitals near the central portion of the board of greater length than those near the ends of the board.

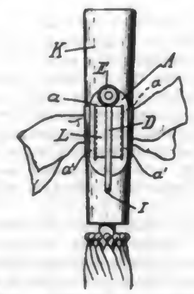
4. A manual curved keyboard for a pianoforte, organ or like musical instrument having the ends of the black and white digitals so disposed that at the central portion of the board the length of the heads of the white digitals is greater than the corresponding length in a normal straight keyboard, and greater than the corresponding length near the ends of the curved keyboard.



5. A manual keyboard for a pianoforte, organ or like musical instrument having the ends of the black and white digitals lying on curved lines the curve of the white digitals being flatter than that of the black ones.

[Claims 6 to 12 not printed in the Gazette.]

971,173. UMBRELLA ATTACHMENT. GEORGE D. COREY, Providence, R. I. Filed Aug. 21, 1909. Serial No. 514,071.

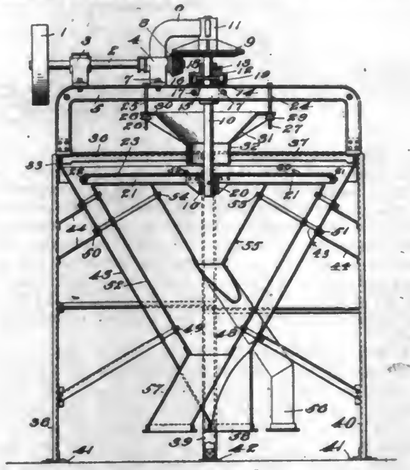


An attachment for umbrellas, comprising, in combination, a bearing plate, a pair of spaced lugs projected outwardly from the upper end of said bearing plate, and an arm pivoted at one end between said lugs, said bearing plate having an arcuate formation and being provided with marginal slots, the vertical strips freed by said slots being formed to stand up from the curve of said plate to permit a flexible strip to be passed without interruption through said slots and around the umbrella handle, and said arm consisting of a downwardly tapered member having a bevel on its upper end adapted to bear against said plate above said lugs, and a friction pad clamped between the edges of said arm at its lower end.

971,174. CENTRIFUGAL SCREEN. WILLIAM R. CUNNINGHAM, Bucyrus, Ohio, assignor to The American Clay Machinery Company, Bucyrus, Ohio, a Corporation. Filed May 10, 1909. Serial No. 495,094.

1. A centrifugal screen comprising a main frame; a horizontally disposed screen; a cross frame surmounting the main frame; a feed hopper adjustably suspended from the cross frame, having a delivery end piercing the top of the main frame and positioned above the screen so as to discharge the material upon the central portion thereof in substantially a state of rest; and means for revolving the screen to cause the said material to roll over the screen toward the periphery thereof.

2. A centrifugal screen comprising a main frame; a horizontally-disposed screen having inner and outer screen plates with perforations in the inner plates made finer than those in the outer plates; a cross frame surmounting the main frame; a feed hopper adjustably supported from the cross frame, having a delivery end positioned above the screen so as to discharge the material upon the central portion thereof in substantially a state of rest; means carried by the cross frame for revolving the screen to cause the said material to roll over the screen plates toward the periphery thereof; and an independent hopper underlying the inner and outer screen plates and receiving screened material therefrom.



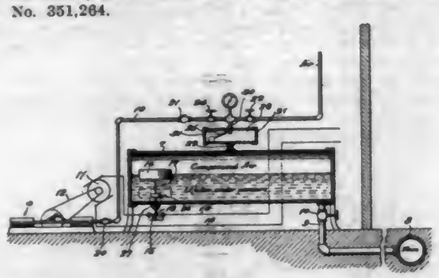
3. A centrifugal screen comprising a main frame; a horizontally-disposed screen having inner and outer screen plates with perforations in the inner plates made finer than those in the outer plates; a cross frame surmounting the main frame; a feed hopper adjustably supported from the cross frame, having a delivery end positioned above the screen so as to discharge the material upon the central portion thereof in substantially a state of rest; means carried by the cross frame for revolving the screen to cause the said material to roll over the screen plates toward the periphery thereof; an independent hopper underlying the inner and outer screen plates and receiving screened material therefrom; and an inclosure for said hoppers and screen having a cover pierced with a central opening for the admission of the lower end of the feed-hopper.

4. In a centrifugal screen, the combination with an inclosed screening chamber and a horizontal revoluble screen therein, of a support surmounting the screening chamber, a feed hopper having its lower end entering the screening chamber and positioned over the center of the screen whereby the material is delivered upon the central part of the screen in substantially a quiescent state, and manually-operated means outside the screening chamber for adjusting the delivery end of the hopper relatively to the surface of the screen.

5. In a machine of the character described, the combination of an inclosed screening chamber, a horizontal revoluble screen within said chamber having perforations in the central portion of smaller size than those in the outer portion, a feed hopper entering the screening chamber, means exterior to the screening chamber, and manually-controlled for raising and lowering the hopper relatively to the screen, a hopper underlying the portion of the screen having the smaller openings and adapted to receive the fine material passing therethrough, a second hopper concentric with the first hopper and disposed below the portion of the screen having the other openings and adapted to receive the material passing therethrough, and a third hopper surrounding the second hopper and spaced therefrom and extending above the screen, and adapted to receive material discharged over the outer edge of said screen.

[Claims 6 to 8 not printed in the Gazette.]

971,175. AIR-COMPRESSING APPARATUS. LYMAN B. DE CAMP, Berkeley, Cal. Filed Jan. 7, 1907. Serial No. 351,264.



1. The combination, of an air compressor, a pressure tank connected with the main of a water system, such main, a motor connected to drive the air compressor, a source of power to operate the motor, power-controlling means to turn power on and off the motor, a float in the tank connected to operate said power-controlling means and means to turn on and off the power as the water rises and falls in the pressure tank, an air pipe connecting the air compressor, and air tank, air check means between the compressor and air tank, and a valved outlet from the tank.

2. The combination, of an air pipe, a tank connected with the air pipe, means for supplying air under high pressure to said air tank, hydraulic means for counterbalancing said pressure, a switch, a rod for controlling said switch, a float carried by the hydraulic pressure for operating the rod, to close the switch when the float is elevated and to open the switch when the float is depressed, and means for holding the rod normally stationary.

3. An air-compressing apparatus comprising a pressure-tank adapted to be connected with a source of water-pressure, an air-compressor discharging into the pressure-tank, an electric-motor for operating the air-compressor, a switch-rod slidingly mounted through a bottom of the pressure-tank, electric connections so that the switch-rod opens and closes the circuit, and a float in the pressure-tank for operating the switch-rod.

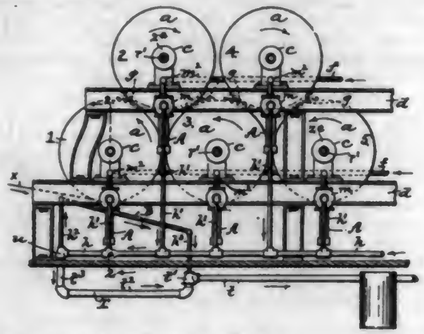
4. An air-compressing apparatus comprising an air-pipe, a pressure-tank connected to the air-pipe, means for producing hydraulic pressure in the tank, an air-compressor discharging into the tank, an electric-motor for operating the air-compressor, a switch-rod slidingly mounted in a bottom of the tank to open and close the electric circuit, and a float in the tank for operating the switch-rod.

5. In an air-compressor, a pressure-tank, means for producing hydraulic pressure in the tank, an air-compressor discharging into the tank, an electric-motor for controlling the air-compressor, a switch-rod slidingly mounted through the bottom of the tank to make and break the electric circuit, a float for elevating the switch-rod to close the electric circuit, an air-pipe leading from the pressure-tank, and a float-valve for controlling the air-pipe.

[Claims 6 and 7 not printed in the Gazette.]

971,176. DRYING-MACHINE. THOMAS F. DEXTER, Providence, R. I. Filed Feb. 17, 1910. Serial No. 544,417.

1. In a drying-machine of the character described, provided with revolubly mounted hollow heating cans or cylinders, constructed and adapted for the admission and discharge of steam, the combination therewith of an exhaust-main, a combined steam and water-trap interposed between the discharge end portion of each cylinder and the exhaust-main and communicating with both, a return-main proper, and a barometric-condenser element, located with relation to the cylinders and connected with both the said mains, adapted and arranged to receive uncondensed steam or vapor from the exhaust-main for the purpose hereinbefore set forth.

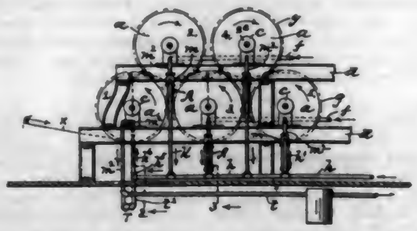


2. In a drying-machine having a plurality of revolubly mounted intergearing cans or cylinders arranged to be steam-heated, the combination of an exhaust-main located below the cylinders, adapted to receive the water of condensation from the latter by gravity, a heating and condensing element, constituting auxiliary heating means, connected with and adapted to receive and condense therein steam and vapor from the exhaust-main, a return-main connected with the lower or discharge end of said condensing element, and a water-seal device communicating with the latter and with the said exhaust and return-mains.

3. In a drying-machine of the character described, provided with revoluble cans adapted to be steam-heated, the combination therewith of a suitably located auxiliary heating device, a main for receiving steam or vapor and water of condensation from the cans, means for introducing said steam or vapor, and also any vapor reëvaporated from the water, into the heating device, and a return-main adapted to receive the water separated from the steam or vapor in the first-named main and also the water condensed from the steam and vapor in the said heating device.

4. In a drying-machine of the character described, a revoluble can or drying-cylinder adapted to be steam-heated and provided with a discharge-outlet, in combination with an exhaust-main and a valveless trap or seal connected with said discharge-outlet and exhaust-main, arranged whereby steam or vapor having a relatively low pressure is prevented from escaping into the exhaust-main.

971,177. DRYING-MACHINE. THOMAS F. DEXTER, Providence, R. I. Filed Feb. 19, 1910. Serial No. 544,765.



1. In a drying-machine of the character described, provided with revolubly mounted hollow heating cans or cylinders arranged for the admission of steam, the combination therewith of a suitably disposed exhaust-main communicating with the discharge end of the cylinders and adapted to receive from the latter exhaust steam or vapor and water of condensation, a revolubly mounted auxiliary heating-cylinder, arranged and adapted to cooperate with the other cylinders and being in communication with said exhaust-main for receiving therein said steam and vapor, as well as vapor reëvaporated from the water of condensation, and a return-main located below the exhaust-main and being trap-connected with it and with the discharge end of the auxiliary cylinder, constructed and arranged for utilizing the direct and latent heat from the steam and vapor introduced into the last-named cylinder, substantially as described and for the purpose set forth.

2. In a drying-machine of the character described, the combination with a plurality of hollow drying-cylinders mounted for rotation, and means adapted for admitting steam into and exhausting it from the cylinders, of a revoluble coöperating or auxiliary drying-cylinder, means for introducing into the latter steam and vapor exhausted from the other cylinders, and a return-main connected with said auxiliary cylinder for receiving the water of condensation produced therein.

3. In a drying-machine of the character described, the combination of a plurality of revoluble drying-cylinders, a main communicating with the cylinders for admitting live or initial steam therein, a main connected with and common to all the cylinders for receiving steam, vapor and water exhausted therefrom, a revoluble auxiliary heating cylinder having its inlet end communicating with said exhaust-main, so as to receive from the latter the said steam and vapor exhausted from the other cylinders, and a return-main communicating with the said exhaust-main and with the discharge end of the auxiliary cylinder for conducting away the water of condensation from all the cylinders.

4. In a drying-machine of the character described, the combination of a plurality of revoluble drying-cylinders, a steam-main communicating with the inlet end of all the said cylinders, an exhaust-main common to all the said cylinders, a trapped connection interposed between and uniting the discharge end of each of said cylinders with the said exhaust-main, thereby preventing back-flow or exhaust intercommunication between the cylinders, a revoluble auxiliary heating cylinder having its inlet end communicating with the exhaust-main so as to receive therein steam and vapor discharged from the other cylinders, and a return-main trap-connected with said exhaust-main and also connected with the discharge end of the auxiliary cylinder, arranged for conducting away the water of condensation from all the cylinders.

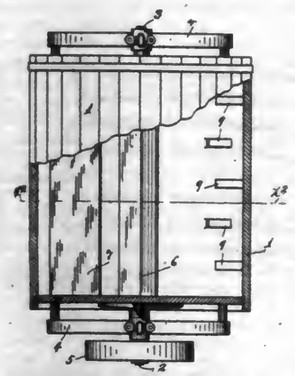
5. In a machine of the character described, having revolubly mounted drying-cylinders or cans, means adapted for introducing steam into the same, and means connected with the discharge end of the cans for receiving steam, vapor, gases and water of condensation exhausted therefrom, the combination therewith of a revolubly mounted auxiliary heating cylinder disposed with relation to the others, means for introducing into the auxiliary cylinder steam and vapor discharged from the first-named cans, and means connected with the exhaust end of the auxiliary cylinder for receiving the water of condensation produced in the last-named cylinder.

971,178. COMBINED CHURN AND BUTTER-WORKER. LEVI A. DISBROW, Owatonna, Minn. Filed Dec. 23, 1909. Serial No. 534,591.

1. In a machine of the kind described, a rotary drum provided with longitudinally extended divider bars in the vicinity of its axis, and a lifting shelf extending inward from the shell of the drum, for raising the butter onto said divider bars, substantially as described.

2. In a machine of the kind described, a horizontal rotary drum provided within with a multiplicity of divider bars located in the vicinity of the axis thereof, with their ends rigidly secured to the heads of the drum, and a lifting shelf extending inward from the shell of the drum and operative to raise the butter onto the divider bars, substantially as described.

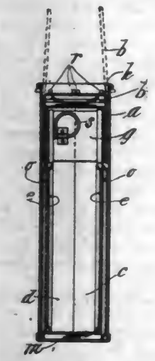
3. In a machine of the kind described, a horizontally disposed rotary drum provided within with a multiplicity of laterally spaced sharp edged divider bars located in the vicinity of the axis of said drum, and a lifting shelf extending inward from the shell of the drum approximately in line with the adjacent divider bar that is located eccentric to the axis of the drum, substantially as described.



4. In a machine of the kind described, a horizontal rotary drum provided within with a multiplicity of laterally spaced divider bars located in the vicinity of the axis of the drum and rigidly secured to the heads of the drum, the said divider bars being approximately diamond-shaped in cross section, the said drum having a lifting shelf extending inward from its shell and adapted to raise the butter onto said divider bars, substantially as described.

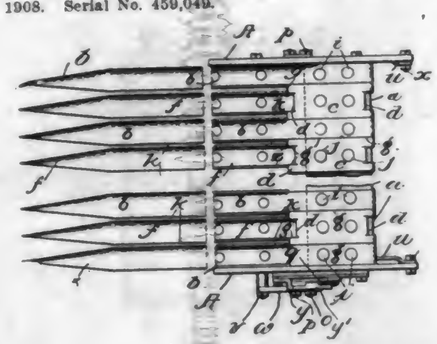
5. In a machine of the kind described, an approximately horizontal rotary drum provided within with a multiplicity of divider bars located in the vicinity of the axis thereof and rigidly secured to the heads of the drum, a lifting shelf extending inward from the shell of the drum for lifting the butter onto said divider bars, and a multiplicity of punching fingers projecting inward from the shell of the drum and onto which the butter, passed between said divider bars, is adapted to fall, substantially as described.

971,179. MESS-KIT. CHARLES A. DODGE, Springfield, Mass. Filed June 21, 1909. Serial No. 503,376.



A mess-kit consisting of a kettle constituting the container for the other parts of the kit, two frying-pans arranged face to face constituting an inclosure for food, cups in said space, and plates arranged therein to hold the cups in position, another cup adapted to fit over the ends of the pans to hold them in assembled relation, said pans and retaining cup being contained in said kettle, together with handles for said kettle and frying-pan located between the wall of the container and the contents of the latter to serve as a retaining wedge to hold the contents in the container.

971,180. STRIPPER-HARVESTER AND OTHER COMB-MACHINE. ROBERT BRUMMER DOUGLAS, Laanecoorie, Victoria, Australia, assignor of one-fourth to George Frederick Martin, Newbridge, Australia. Filed Oct. 22, 1908. Serial No. 459,040.



1. In a harvesting machine, the combination of a comb comprising a plurality of alternating fixed and pivotally supported teeth having spaces between their adjacent edges, said edges being straight, and means for swinging said pivotally supported teeth about their pivots to relieve choking by the grain heads, substantially as described.

2. In a harvesting machine, the combination of a plurality of fixed teeth, a tooth plate pivotally supported by said machine and disposed adjacent said fixed teeth, a plurality of movable teeth carried by said pivoted tooth plate and alternating with said fixed teeth, with spaces between the adjacent edges thereof, said movable teeth being held against longitudinal displacement by said pivoted tooth plate, and means for swinging said tooth plate on its axis, substantially as described.

3. In a harvester comb, the combination of alternating fixed and movable teeth having spaces between their adjacent edges, and longitudinal disposed plates at the rear of said teeth extending across said spaces and forming rear edges therefor, substantially as described.

4. In a harvester comb, the combination of alternating fixed and movable teeth having spaces between their adjacent longitudinal edges, and distance plates located between each pair of fixed teeth, each plate being cut away at its forward end providing side projecting tongues adapted to aline with said spaces also providing a centrally recessed edge disposed adjacent to and coöperating with the rear edges of said movable teeth to form a broken joint therewith, substantially as described.

5. In a harvester comb, the combination of alternating fixed and movable teeth with spaces between their adjacent longitudinal edges, distance plates disposed between each pair of fixed teeth and cut away centrally at both ends to form side tongues and a recessed central edge, whereby said tongues project in alinement with said spaces and form rear edges therefor, and whereby said plates may be reversed to compensate for wear, substantially as described.

[Claims 6 to 15 not printed in the Gazette.]

971,181. MOUNTING. GEORGE W. DOVER, Cranston, R. I. Filed June 2, 1909. Serial No. 499,747.



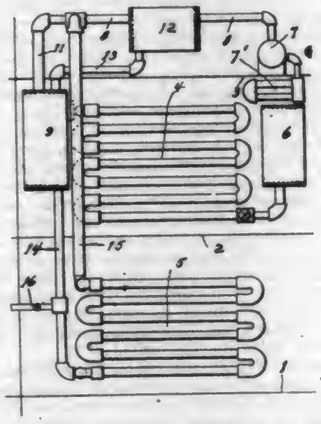
1. As a new article of manufacture, a mounting for jewelry comprising a body portion consisting of wire gauze covering, a pliable backing within the covering, said covering and backing being folded back upon themselves, and a back plate fixed to the body portion.

2. As a new article of manufacture, a mounting for jewelry comprising a body portion formed of wire mesh folded upon itself forming inwardly converging folds, and a jewel setting confined and secured within said folds.

3. As a new article of manufacture, a mounting for jewelry comprising a body portion formed of wire mesh folded upon itself forming inwardly converging folds, a jewel setting confined within said folds, and a back plate secured to the back of said body portion.

4. As a new article of manufacture, a mounting for jewelry, comprising a body portion formed of wire mesh folded upon itself forming inwardly converging folds extending toward the center of said body, a setting confined and secured within and held by a plurality of such folds, said setting designed to contain an ornament, a back plate secured to the opposite face of the folded body portion, and a securing device fixed to said back plate.

971,182. REFRIGERATING SYSTEM. ARTHUR FAGET, San Francisco, Cal. Filed Dec. 10, 1909. Serial No. 532,513.



1. In a refrigeration system, a series of coils, a condenser connected with said coils, a compressor discharging into said condenser and drawing from said coils, a liquid separator adapted to prevent liquids from passing from the coils into the compressor, a secondary set of coils so connected with said separator that it will receive any liquid deposited therein, a secondary separator interposed in the pipe line between the first separator and the compressor, and a pipe leading from the bottom of the secondary separator into the first-named separator, substantially as set forth.

2. In a refrigeration system, a series of coils, a condenser connected with said coils, a liquid ammonia supply tank connected with said coils, a separator into which said coils discharge, a secondary set of coils so connected with said separator that it will receive any liquid deposited therein, a secondary liquid separator with which said secondary coils are connected, and a pipe connecting said secondary separator with a compressor, as set forth.

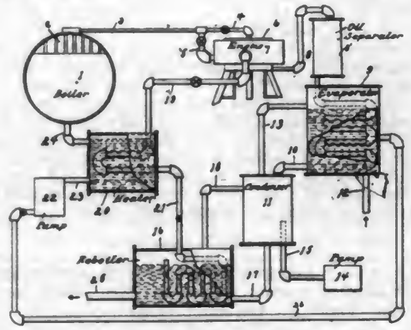
3. In a refrigeration syatem, a series of coils, a condenser, a compressor discharging into said condenser, a liquid ammonia supply tank connected with said coils, a separator into which said coils discharge, a secondary set of coils so connected with said separator that it will receive any liquid deposited therein, pipes connecting each of said sets of coils with the compressor, and a liquid separator in the pipe leading to the compressor, substantially as described.

4. In a refrigeration system, a series of coils, a condenser, a compressor discharging into said condenser, a liquid ammonia supply tank connected with said coils and with said condenser, a separator into which said coils discharge, a secondary set of coils so connected with said separator that it will receive any liquid deposited therein, pipes connecting each of said sets of coils with a compressor, a liquid separator in the pipe leading to the compressor, and a pipe leading from the bottom of the last-mentioned separator into the first mentioned separator, as set forth.

5. In a refrigeration system, a series of coils, a condenser, a compressor discharging into said condenser, a liquid ammonia supply tank connected with said coils, a separator into which said coils discharge, a secondary set of coils so connected with said separator that it will receive any liquid deposited therein, pipes connecting each of said sets of coils with the compressor, and a pipe leading from the bottom of the last-mentioned separator into the first mentioned separator, and means to regulate the quantity of the refrigerant supplied to the coils, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

971,183. WATER-DISTILLATION SYSTEM. ARTHUR FAGET, San Francisco, Cal. Filed Jan. 17, 1910. Serial No. 538,511.



1. In a water distillation system, a boiler, a steam engine, connections between the steam engine and boiler whereby the engine is supplied with steam, a water evaporator, means whereby the exhaust steam heats the water in the evaporator, a condenser chamber connected with the evaporator, means for maintaining a vacuum in said condenser chamber, a vacuum reboiler, a steam jacket surrounding the engine cylinder, steam connections with said jacket whereby live steam is supplied thereto, piping whereby the water in the vacuum reboiler may be heated by the steam passing from said steam jacket, as set forth.

2. In a water distillation system, a boiler, a steam engine, connections between the steam engine and boiler whereby the engine is supplied with steam, a water evaporator, means whereby the exhaust steam heats the water in the evaporator, a condenser chamber connected with the evaporator, means for maintaining a vacuum in said condenser chamber, a vacuum reboiler, a steam jacket surrounding the engine cylinder, steam connections with said jacket whereby live steam is supplied thereto, a feed water heater, and a pipe whereby the feed water and the water in the vacuum reboiler may be heated by the steam passing through the engine steam jacket, as set forth.

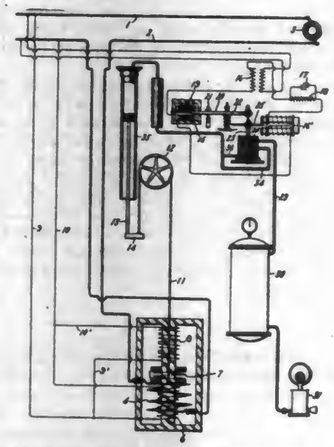
3. In a water distillation system, a boiler, a superheater connected therewith, a steam engine, connections between the steam engine and superheater whereby the engine is supplied with steam, a water evaporator, means whereby the exhaust steam heats the water in the evaporator, a condenser chamber connected with the evaporator, means for maintaining a vacuum in said condenser chamber, a vacuum reboiler, a steam jacket surrounding the engine cylinder, steam connections with said jacket whereby live steam is supplied thereto, piping whereby the water in the vacuum reboiler may be heated by the steam passing from said steam jacket, as set forth.

4. In a water distillation system, a boiler, a superheater connected therewith, a steam engine, connections between the steam engine and superheater whereby the engine is supplied with steam, a water evaporator, means whereby the exhaust steam heats the water in the evaporator, a condenser chamber connected with the evaporator, means for maintaining a vacuum in said condenser chamber, a vacuum reboiler, a steam jacket surrounding the engine cylinder, steam connections with said jacket whereby live steam is supplied thereto, a feed water heater, and a pipe whereby the feed water and the water in the vacuum reboiler may be heated by the steam passing through the engine steam jacket, as set forth.

5. In a water distillation system, a boiler, a steam engine, connections between the steam engine and boiler whereby the engine is supplied with steam, a water evaporator, means whereby the exhaust steam heats the water in the evaporator, a condenser chamber connected with the evaporator, means for maintaining a vacuum in said condenser chamber, a vacuum reboiler, piping whereby the reboiler is connected with the condenser chamber, a steam jacket surrounding the engine cylinder, steam connections with said jacket whereby live steam is supplied thereto, piping whereby the water in the vacuum reboiler may be heated by the steam passing from said steam jacket, as set forth.

[Claims 6 to 12 not printed in the Gazette.]

971,184. VOLTAGE-REGULATOR. RICHARD FLEMING, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed July 23, 1908. Serial No. 444,883.



1. A regulator for an alternating current system and a controller therefor in a circuit charged from the line, in combination with means for rendering said circuit substantially neutral to variations of line frequency.

2. A regulator for an alternating current system and a controller therefor in a circuit charged from the line, in combination with means for rendering the current received in said circuit substantially independent of the line frequency.

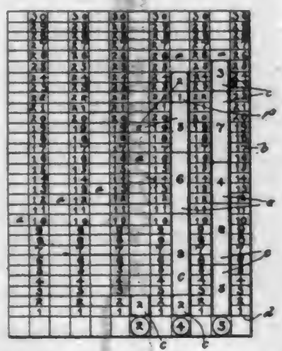
3. A regulator for an alternating current system and a controller therefor in a circuit charged from the line, in combination with means for rendering the circuit resonant to the normal frequency, and means for damping said circuit.

4. A regulator for an alternating current system and a controller therefor in a circuit charged from the line,

in combination with a condenser in said circuit for neutralizing the inductance reactance in the circuit for the normal frequency and a non-inductive resistance for damping the electrical oscillations in said circuit.

5. The combination of a line carrying an alternating current, a regulating device, and means for making said regulating device substantially unaffected by changes of frequency of the current carried by the line.

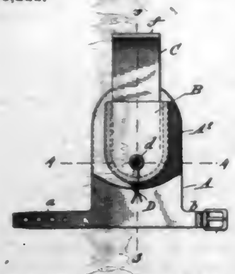
971,185. EDUCATIONAL APPLIANCE. LABAN TAYLOR FREEMAN, Sr., Brookville, Miss. Filed July 23, 1909. Serial No. 509,230.



1. In combination, a device having a series of divisions arranged in parallel columns, the divisions being consecutively numbered from the bottom division to the top division and being of equal area, and a series of adding blocks adapted to coöperate with the numbered divisions, said blocks being of different lengths, representing combined heights of the divisions and each being provided with a numeral corresponding to the sum of the divisions having the same length.

2. In combination, a device having a series of numbered divisions arranged in parallel rows or columns, the numbering beginning with the numeral 1, at the bottom of the columns and continuing consecutively to the top of the columns, and the divisions being of equal height, a series of blocks of varying lengths having numerals thereon adapted to coöperate with the divisions of the device, said blocks having lengths corresponding to the distance between various numbered divisions and the bottom of the divisions, whereby different sums can be added by placing the blocks above one another over the numbered divisions.

971,186. PICKER FOR GRAPES, &c. CHARLES A. FREITAG, St. Joseph, Mich. Filed Dec. 15, 1909. Serial No. 533,211.



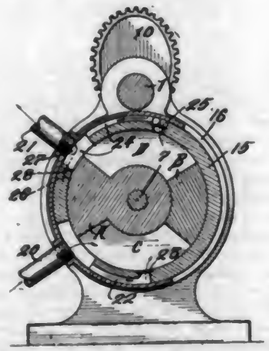
A picker for grapes, etc., comprising a body adapted to rest at the inner side of the thumb and provided with straps and a buckle for securing it on the thumb, an apertured wall carried by the body and serving with the same to form a thumb-socket, a pocket carried by said wall and having its forward end open and also having an aperture registered with that in the wall, a blade removably arranged in and projecting from the pocket and having an aperture registered with the apertures in the wall and pocket, and a string secured in said apertures and fastening the blade in the pocket.

971,187. SHUTTLE. JOSEPH GAONON, Fall River, Mass. Filed June 3, 1909. Serial No. 499,871.



A shuttle provided with a central slot, a bobbin spindle pivoted at one end of the slot, a spring resting on the bobbin spindle and tending to hold the same in horizontal or vertical position, a bobbin catch adapted to engage a peripheral groove in the bobbin to hold the bobbin in axial position on the spindle when the latter is in its horizontal position and parallel to the axis of the shuttle, the opposite end of the slot in the shuttle to that at which the bobbin spindle is pivoted having its side walls extended over the slot so as to form overhangs separated by a central axial opening, which opening decreases in size toward the end of the slot, and having a thread guide mounted transversely of the shuttle with its opening in line with the opening between the overhanging walls, the space separating the walls being less than the thickness of the end of the bobbin, said overhanging walls extending from the front of the slot toward the rear such a distance as to permit the end of the bobbin to just clear the rear edges of the overhanging walls when the bobbin is properly positioned on the spindle and the spindle is raised but to catch the end of the bobbin if it has moved forward on the spindle and prevent the bobbin and spindle being raised.

971,188. ROTARY PUMP OR AIR-COMPRESSOR. CHARLES R. GETHER, Milwaukee, Wis. Filed June 6, 1910. Serial No. 565,182.



1. In a pump, the combination with a cylinder, of two pistons extending from its axis to its circumference and from end to end and having substantially equal circumferential width mounted therein, and adapted to rotate about said axis, means for continuously rotating the pistons in the same direction at alternately faster and slower speeds so that each shall move faster while the other moves slower, with such amplitudes of the movements of each kind that adjacent faces of the pistons will alternately approach each other until they are close together and recede from each other until the opposite faces are close together; the cylinder having inlet and outlet ports which are controlled by the pistons and lie

close to and on opposite sides of the space within which the piston faces come close together and within the space bounded by the more remote faces of the pistons, when the pistons are nearest to each other, whereby the inlet port is opened between the receding faces of the pistons at practically the beginning of the receding movement and constantly closed to the approaching faces and the outlet port is opened between the approaching faces of the pistons until the end of the approaching movement and is constantly closed to the receding faces, the ports being separated by a considerable space on the interior surface of the cylinder which is covered by the pistons when they come close together.

2. In a pump, the combination with a cylinder, of two pistons extending from its axis to its circumference and from end to end and having substantially equal circumferential width mounted therein, and adapted to rotate about said axis, means for continuously rotating the pistons in the same direction at alternately faster and slower speeds so that each shall move faster while the other moves slower, with such amplitudes of the movements of each kind that adjacent faces of the pistons will alternately approach each other until they are close together and recede from each other until the opposite faces are close together, inlet and outlet ports communicating with said cylinder adapted to be alternately opened and closed by said pistons as the latter revolve in front of them, an additional outlet port located at a point slightly in advance of and overlapping said main outlet port at and before the junctional point of said pistons, a check valve located in said port and a by pass leading from said advanced port back to said main outlet port adapted to permit the fluid which would otherwise be trapped between said pistons to escape after said main outlet port is closed by the fast moving piston.

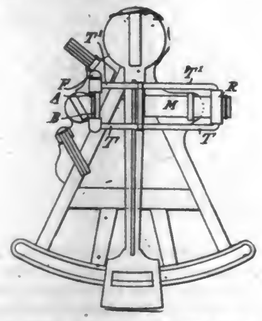
3. In a pump, the combination with a cylinder, of two pistons extending from its axis to its circumference and from end to end and having substantially equal circumferential width mounted therein, and adapted to rotate about said axis, means for continuously rotating the pistons in the same direction at alternately faster and slower speeds so that each shall move faster while the other moves slower, with such amplitudes of the movements of each kind that adjacent faces of the pistons will alternately approach each other until they are close together and recede from each other until the opposite faces are close together, an auxiliary inlet port adapted to admit fluid between said pistons after the main inlet port is partially closed by the slowly moving piston and a check valve located in said auxiliary inlet port.

4. In a pump, the combination with a cylinder, of two pistons extending from its axis to its circumference and from end to end and having substantially equal circumferential width mounted therein, and adapted to rotate about said axis, means for continuously rotating the pistons in the same direction at alternately faster and slower speeds so that each shall move faster while the other moves slower, with such amplitudes of the movements of each kind that adjacent faces of the pistons will alternately approach each other until they are close together and recede from each other until the opposite faces are close together, an outlet port and by pass adapted to permit of the escape of fluid from between said pistons before the main outlet port has been fully opened by the passage of the slowly moving piston and a check valve adapted to close said outlet port.

5. In a pump, the combination with a cylinder, of two pistons extending from its axis to its circumference and from end to end and having substantially equal circumferential width mounted therein, and adapted to rotate about said axis, means for continuously rotating the pistons in the same direction at alternately faster and slower speeds so that each shall move faster while the other moves slower, with such amplitudes of the movements of each kind that adjacent faces of the pistons will alternately approach each other until they are close together and recede from each other until the opposite faces are close together, inlet and outlet ports communicating with said cylinder adapted to be alternately opened and closed by said pistons as the latter revolve in front of them, an auxiliary inlet port, a check valve located in said inlet port adapted to admit fluid between said pistons after the main inlet port is practically closed by the slowly moving piston, an outlet port and by pass, a check valve located in said outlet port adapted to permit of the escape of fluid before the main outlet port is fully opened, and an additional outlet port located at a point slightly in advance of and overlapping said main outlet port at and just before the junctional point of said pistons a check valve located in said additional port and a by pass leading from said additional port back to said main outlet port and adapted to permit the fluid which is trapped between said pistons to escape after said main outlet port is closed by the fast moving piston.

[Claim 6 not printed in the Gazette.]

971,189. ARTIFICIAL HORIZON. JOHN WILSON GILLIE, North Shields, England. Filed Oct. 30, 1908. Serial No. 460,278.



1. The combination with a telescope of an artificial horizon comprising a U-tube having two limbs containing liquid, only one of which limbs is visible in the field of view of the telescope.

2. The combination with a telescope of an artificial horizon comprising a U-tube containing a liquid, one of the limbs of said U-tube having a tapered bore in the region where the upper surface of the liquid is situated, said tapered bore being in the field of view.

3. The combination with a telescope of an artificial horizon comprising a U-tube containing a liquid, one of the limbs of said U-tube having a tapered bore in the region where the upper surface of the liquid is situated, said tapered bore being in the field of view and the other limb being in the form of an annular chamber surrounding the telescope, and a tube interconnecting the upper portions of said two limbs.

4. The combination with a telescope of an artificial horizon comprising a U-tube having two limbs containing a liquid, one of the limbs of said U-tube being in the field of view and the other limb being in the form of an annular chamber surrounding the telescope, and a tube interconnecting the upper portions of said two limbs.

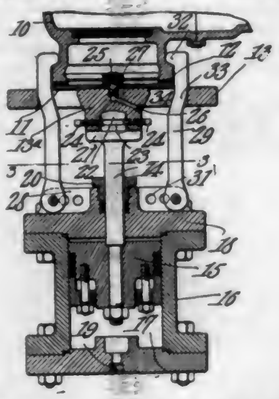
971,190. PENCIL-CLIP. WILLIAM B. GOODE, Philadelphia, Pa. Filed May 25, 1909. Serial No. 498,211.



As a new article of manufacture, the herein described clip consisting of a single piece of wire bent to form

longitudinal bars and connecting end bars, one end of the wire being bent transversely intermediate of the ends of the longitudinal bars and looped around one of them, the other extremity of the wire constituting a portion of the other bar, and looped around the intermediate cross bar, the normal position of the loop of the last named extremity in the unflexed condition of the same being at a point between the ends of the transversely bent intermediate portion of wire, as and for the purpose set forth.

971,191. TESTING-CLAMP. MICHAEL J. GRAY, Burlington, N. J. Filed Mar. 22, 1910. Serial No. 550,990.



1. The combination with a fluid-pressure cylinder, of pivoted gripping arms carried by said cylinder, a plunger working in the cylinder, a rod connected to the plunger, means carried by the rod for moving the gripping arms into operative position, and a closure for the part to be gripped carried by the rod.

2. The combination with a fluid-pressure cylinder, of pivoted gripping arms carried by said cylinder, the pivotal connection of said arms being adjustable with respect to the axis of the cylinder to set the arms for work of different sizes, a plunger working in the cylinder, a rod connected to the plunger, and means carried by the rod for moving the gripping arms into operative position.

3. The combination with a fluid-pressure cylinder, of radially extending ribs on one of the cylinder heads, said ribs being arranged in pairs, and having a series of registering openings, gripping arms mounted between the ribs, pins passing through said arms and the openings for pivotally connecting the said arms to the ribs, a plunger working in the cylinder, a rod connected to the plunger, and means carried by the rod for moving the gripping arms into operative position.

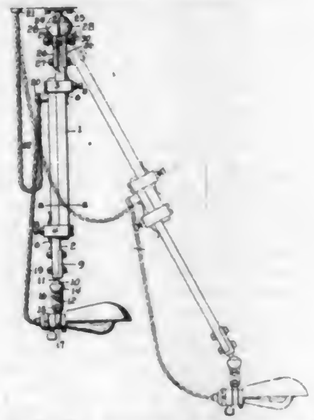
4. The combination with a fluid-pressure cylinder, of pivoted gripping arms carried thereby, a pivoted finger carried by the free ends of said gripping arms, said finger being engageable with the part to be held, a plunger working in the cylinder, a rod connected to the plunger, and means carried by the rod for moving the arms into operative position.

5. The combination with a fluid-pressure cylinder, of pivoted gripping arms carried thereby, a plunger working in the cylinder, a rod connected to the plunger, a cross head carried by the rod, and having means for moving the gripping arms into operative position, a pivoted finger carried by the free ends of the arms, and engageable at one end with the part to be clamped, and a set screw threaded through the other end of the finger, and engaging the cross head.

[Claims 6 and 7 not printed in the Gazette.]

971,192. ELECTRIC-LIGHT SUPPORT. THOMAS GRAY, Buffalo, N. Y. Filed Oct. 1, 1906. Serial No. 336,944.

1. A light support comprising a bracket formed with an upper ball member, a socket member consisting of a pair of half portions each formed with an enlarged dished part providing a socket embracing the ball, an upper bar having its upper end seated between the half portions, means securing the socket member fixedly to the upper bar beneath its upper end, a spring bolt securing the half portions yieldingly together between the dished parts and its upper end, a lower bar, an upper strap embracing the upper and lower bars and secured to the upper end of the lower bar, a lower strap embracing the upper and lower bars and secured to the lower end of the upper bar, a plate formed with a lower ball member and secured to the lower end of the lower bar, a holding clamp consisting of two halves each formed with an enlarged dished end providing a socket embracing the lower ball member and a curved jaw providing a clamp, means securing the two halves fixedly together at the jaws and a spring bolt securing the two halves yieldingly together.



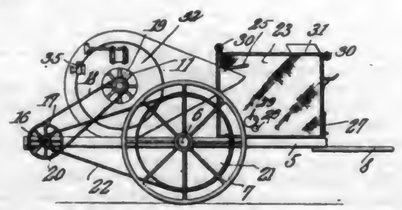
2. A light support comprising a bracket formed with an upper ball member, a socket member consisting of a pair of channeled half portions, each formed with an enlarged, dished part providing a socket embracing the ball, an upper bar having its upper end seated between the half portions, a bolt securing the socket member fixedly to the upper bar beneath its upper end, a spring bolt securing the half portions yieldably together between the dished parts and the upper end, a lower bar having an insulated stud, a rectangular strap embracing the upper and lower bars and securing the upper end of the lower bar, a rectangular strap embracing the upper and lower bars and secured to the lower end of the upper bar, a curved lower spring located between the lower strap and the lower bar, and formed with notches receiving the sides of the lower strap, an L-shaped channeled plate receiving the lower end of the lower bar and formed with a lower ball member, bolts securing the channeled plate to the lower bar, a holding clamp consisting of two halves each formed with an enlarged dished end providing a socket embracing the lower ball member and a curved jaw providing a clamp, a bolt securing the two halves fixedly together at the jaws, a spring bolt securing the two halves yieldably together at the upper dished ends, a connection plug, a light socket and a wire having means for supporting it upon the insulated stud and leading from the connection plug to the light socket.

3. A light support comprising a bracket formed with an upper ball member, a socket member consisting of a pair of channeled half portions each formed with an enlarged dished part providing a socket embracing the ball, an upper bar having a tapered upper end seated between the half portions, a bolt securing the socket member fixedly to the upper bar beneath the tapered end, a spring bolt securing the half portions yieldingly together between the dished parts and the tapered upper end, a lower bar having an insulated stud, a rectangular upper strap embracing the upper and lower bars and secured to the upper end of the lower bar, a curved upper spring located between

the upper strap and the upper bar, and formed with notches receiving the sides of the strap, a set screw in the top of the upper strap and taking up the wear of the upper spring, a rectangular lower strap embracing the upper and lower bars and secured to the lower end of the upper bar, a curved lower spring located between the lower strap and the lower bar, and formed with notches receiving the sides of the lower strap, a set screw in the top of the lower strap and taking up the wear of the lower spring, an L-shaped channeled plate receiving the lower end of the lower bar and formed with a lower ball member, bolts securing the channeled plate to the lower bar, a holding clamp consisting of two halves each formed with an enlarged dished end providing a socket embracing the lower ball member and a curved jaw providing a clamp, a bolt securing the two halves fixedly together at the jaws, and a spring bolt securing the two halves yieldingly together at the upper dished ends.

4. A light support comprising a bracket formed with an upper ball member, a socket member consisting of a pair of channeled half portions each formed with an enlarged dished part providing a socket embracing the ball, an upper bar having a tapered upper end seated between the half portions, a bolt securing the socket member fixedly to the upper bar beneath the tapered end, a spring bolt securing the half portions yieldingly together between the dished parts and the tapered upper end, a lower bar having an insulated stud, a rectangular upper strap embracing the upper and lower bars and secured to the upper end of the lower bar, a curved upper spring located between the upper strap and the upper bar, and formed with notches receiving the sides of the strap, a set screw in the top of the upper strap, and taking up the wear of the upper spring, a rectangular lower strap embracing the upper and lower bars and secured to the lower end of the upper bar, a curved lower spring located between the lower strap and the lower bar, and formed with notches receiving the sides of the lower strap, a set screw in the top of the lower strap and taking up the wear of the lower spring, an L-shaped channeled plate receiving the lower end of the lower bar and formed with a lower ball member, bolts securing the channeled plate to the lower bar, a holding clamp consisting of two halves each formed with an enlarged dished end providing a socket embracing the lower ball member and a curved jaw providing a clamp, a bolt securing the two halves fixedly together at the jaws, a spring bolt securing the two halves yieldingly together at the upper dished ends, a connection plug, a light socket and a wire having means for supporting it upon the insulated stud and leading from the connection plug to the light socket.

971,193. INSECT COLLECTOR AND DESTROYER. WILLIAM J. GREER, Goldthwaite, Tex. Filed Aug. 16, 1909. Serial No. 513,073.



In a device of the class described, an insect receiving compartment, the said compartment having walls of mesh material, a fan casing opening into the compartment through one wall thereof, a rotary fan mounted in said casing, means for rotating said fan, one of the walls of said compartment being formed with an opening, a flap swiveled upon the wall and movable to position to close or to expose the said opening, and a flexible imperforate curtain suspended from the upper end of each mesh wall of the compartment.

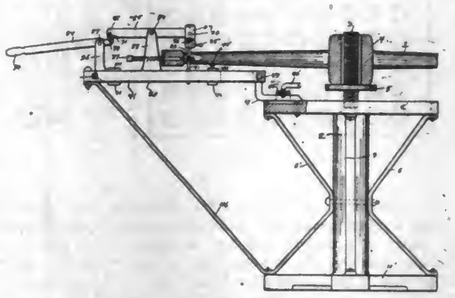
971,194. WOOD-PRESERVING SOLUTION. FRITZ HASSELMANN, Munich, Germany. Filed May 11, 1909. Serial No. 495,212.

1. A solution for preserving wood, said solution containing iron chlorid, ammonium alum and magnesium chlorid in substantially the proportions specified.

2. A solution for preserving wood, said solution containing approximately 1.5% of iron chlorid, 2% of ammonium alum and from 1.5 to 2% of magnesium chlorid.

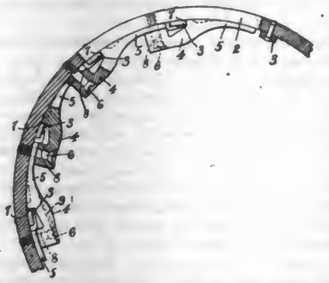
3. A solution for preserving wood, said solution being composed of a solution in which iron chlorid, ammonium alum, and magnesium chlorid have a concentration of approximately 5% to 5.5%.

971,195. TIRE-BOLT CUTTER AND NUT TURNER AND SPLITTER. GEORGE HELLER, Milwaukee, Wis. Filed Mar. 1, 1909. Serial No. 480,581.



In a device of the described class, the combination of a bench for revolubly supporting a vehicle wheel, a vertical shaft centrally supported from said bench, means for adjustably supporting said wheel on said shaft, a pair of compound levers, cutting tools connected with said levers for both splitting the nuts and cutting the tire retaining bolts of said wheel, a crank operative device for turning the nuts on said bolts, said bolt cutting and bolt turning tools being adapted to be adjusted to conform to vehicle wheels of different diameters.

971,196. BALL-MILL OR COMMINUTER PLATE. HENRY D. HIBBARD, Plainfield, N. J. Filed Mar. 18, 1910. Serial No. 550,112.



1. A one-piece lining plate having means therein comprising a groove or grooves for preventing the bending or bowing of the plate.

2. A one-piece lining plate having means therein for preventing the bending or bowing of the plate comprising one or more lengthwise extending grooves.

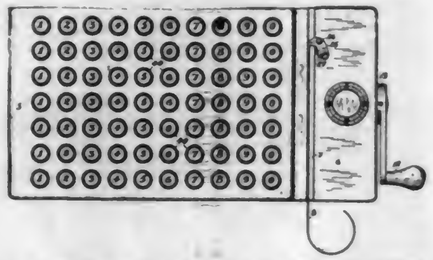
3. A one-piece lining plate having in its working face a groove or grooves for preventing the bowing or stretching of the plate and having on its non-working side one or more reinforcing ribs opposite said groove or grooves, the groove or grooves terminating in relatively wide working surfaces at each side thereof.

4. A one-piece lining plate having in its working face means for preventing the bending or bowing of the plate and comprising one or more grooves extending partway through the plate.

5. A lining plate having a toe and a heel and provided with one or more grooves extending partway through the plate for preventing the bending or bowing of the plate, said grooves terminating at the toe.

[Claims 6 to 12 not printed in the Gazette.]

971,197. CHECK-IDENTIFYING MACHINE. FRED HOFFMAN, San Quentin, Cal., assignor to National Cash Protector Company, San Francisco, Cal., a Corporation of Arizona. Filed Sept. 2, 1909. Serial No. 515,901.



1. A machine of the character described, comprising a frame having means for retaining a check or other sheet of paper in a desired position, a series of rows of keys having numbers marked thereon, a corresponding series of rows of punches for punching holes in the paper, each key of any one row being operatively related to one only of the corresponding row of punches, said punches being normally inoperative to punch said paper, means whereby the operation of each key renders the corresponding punch operative, and means for punching paper by the punches thus rendered operative, substantially as described.

2. A machine of the character described, comprising a frame provided with means for retaining a check or other sheet of paper in a desired position, a series of rows of keys, a corresponding series of rows of punches for punching holes in the paper, the keys of each row being operatively connected severally, but fortuitously, with all the punches of the corresponding row, said punches being normally inoperative to punch said paper, means whereby the operation of each key renders the corresponding punch operative, and means for punching paper by the punches thus rendered operative, substantially as described.

3. A machine of the character described comprising a frame having a slot adapted to receive a check or paper to be perforated, means for clamping said check or paper to be perforated, a series of rows of keys having numbers marked thereon, a corresponding series of rows of punches for punching holes in the paper, each key of any one row being operatively related to one only of the corresponding row of punches, said punches being normally inoperative to punch said paper, means whereby the operation of each key renders the corresponding punch operative, and means for punching paper by the punches thus rendered operative, substantially as described.

4. A machine of the character described, comprising a frame having a slot closed at one side to receive a check or paper to be perforated and to guide the same into position and a series of rows of keys having numbers marked thereon, a corresponding series of rows of punches for punching holes in the paper, each key of any one row being operatively related to one only of the corresponding row of punches, said punches being normally inoperative to punch said paper, means whereby the operation of each key renders the corresponding punch operative, and means for punching paper by the punches thus rendered operative, substantially as described.

5. A machine of the character described, comprising a frame having a slot closed at two sides to receive a check or paper to be perforated and to guide the same into position and a series of rows of keys having numbers marked thereon, a corresponding series of rows of punches for punching holes in the paper, each key of any one row being operatively related to one only of the corresponding row of punches, said punches being normally inoperative to punch said paper, means whereby the operation of each key renders the corresponding punch operative, and means for punching paper by the punches thus rendered operative, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

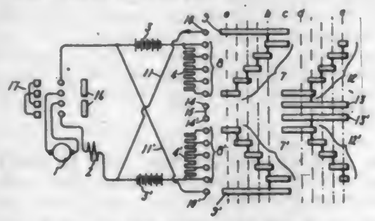
971,198. PROCESS FOR THE MANUFACTURE OF METALLIC SODIUM. PAUL LÉON HULIN, Grenoble, France, assignor to Société d'Electro-Chimie, Paris, France, and Paul Leon Hulin, Grenoble, France. Original application filed Oct. 27, 1908, Serial No. 459,728. Divided and this application filed June 2, 1909. Serial No. 499,737.

1. The herein described process for the manufacture of metallic sodium, which consists in subjecting fused caustic soda to electrolysis, withdrawing the cathode periodically, bringing it into contact with a restorative liquid, and then replacing it for continuing the electrolytic operation.

2. The herein described process for the manufacture of metallic sodium, which consists in subjecting fused caustic soda to electrolysis, withdrawing the cathode perodically, bringing it into contact with water to restore its efficiency, and then replacing it for continuing the electrolytic operation.

3. The herein described process for the manufacture of metallic sodium, which consists in subjecting fused caustic soda to electrolysis, withdrawing the cathode when its efficiency becomes materially diminished, and continuing the electrolytic operation with a cathode of greater efficiency.

971,199. SYSTEM OF MOTOR CONTROL. LEOPOLD JANISCH, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Sept. 1, 1909. Serial No. 515,639.



1. In a series-parallel system of control for an electric motor, the combination with two sources of current, of two starting resistances, one connecting the positive poles and the other the negative poles of said sources.

2. In a series-parallel system of control for an electric motor, the combination with two sources of current, of two starting resistances, respectively connecting like poles of said sources, and means for simultaneously cutting out said resistances step by step.

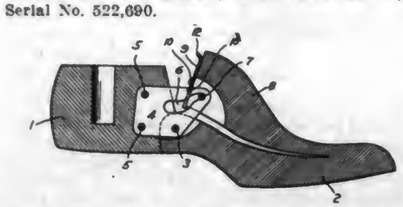
3. The combination with a motor, of two sources of current having unlike poles connected to the terminals of said motor, two resistances respectively connected at one end to the other poles of said sources, means for connecting the free end of each resistance with that pole of the other source corresponding with that of the source to which the fixed end of said resistance is connected, and means for simultaneously shifting said connections from the free ends to the fixed ends of said resistances.

4. The combination with a motor, of two sources of current having unlike poles connected to the terminals of said motor, two resistances respectively connected at one end to the other poles of said sources, means for connecting the free end of each resistance with that pole of the other source corresponding with that of the source to which the fixed end of said resistance is connected, means for simultaneously shifting said connections from the free ends to the fixed ends of said resistances, and means for directly connecting the free ends of said resistances just before finally breaking the shifting connections.

5. The combination with a motor, of two sources of current having unlike poles connected to the terminals of said motor, two resistances respectively connected at one end to the other poles of said sources, means for connecting the free end of each resistance with that pole of the other source corresponding with that of the source to which the fixed end of said resistance is connected, means for simultaneously shifting said connections from the free ends to the fixed ends of said resistances, means for directly connecting the free ends of said resistances just before finally breaking the shifting connections, and means for simultaneously changing the direct connection from the free ends to the fixed ends of said resistances.

[Claims 6 to 10 not printed in the Gazette.]

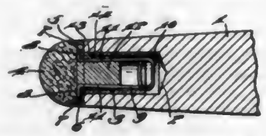
971,200. LATCH FOR HINGED LASTS. FREDERICK W. KITTLINGER, Rochester, N. Y. Filed Oct. 14, 1909. Serial No. 522,690.



1. In a last, a heel-part and a toe-part hinged together, the toe part being provided with a vertical groove; a vertical plate attached to the heel-part; and a spring-controlled, sliding latch, movable on the toe-part in a direction parallel with the vertical plate to engage and lock it and having two downwardly-extending portions embracing the plate; substantially as shown and described.

2. In a last, a heel-part and a toe-part hinged together, the toe-part being provided with a vertical groove; a vertical plate attached to the heel-part; a sliding latch, movable on the toe-part in a direction parallel with the vertical plate to engage and lock it, and having a spring-supporting lug on each side of said vertical plate; and compressible springs located, respectively, between said lugs and shoulders on said toe-part; substantially as shown and described.

971,201. CUE-TIP. EMIL LAMPRECHT, Philadelphia, Pa. Filed Dec. 6, 1909. Serial No. 531,668.



1. A cue tip comprising a ball engaging member, a spring wire coiled between its ends and having its ends secured to said ball engaging member, and a shank molded around the end portions of said wire, and forming a cylindrical portion to be forced into a cue.

2. A cue tip, comprising a ball engaging member having a slot therein; a spring wire coiled between its ends and secured at its ends in said slot, and said coiled portion of the wire flared apart, forming spring jaws adapted to engage over an internal shoulder in the bore of a cue.

3. A cue tip comprising a ball engaging member having a slot therein, a spring wire coiled between its ends and bent outward at its ends and positioned at its ends in said slot, a shank molded around said spring wire and said coiled portion of said spring wire bent apart, forming spring jaws adapted to engage behind an internal shoulder in the bore of a cue.

4. The combination with a cue having a longitudinal bore in its end, and a sleeve or bushing fixed in said bore and terminating short of the inner end of the bore, of a tip, and spring jaws on said tip adapted to be moved through said sleeve or bushing and spring outward in engagement with the inner end of said sleeve or bushing.

5. The combination with a cue having a longitudinal bore in its end and a sleeve or bushing fixed in said bore and terminating short of the inner end of the bore, a tip adapted to be positioned against the end of the cue, a shank on said tip adapted to be positioned in said sleeve, and means on said shank adapted to engage over the inner end of said sleeve.

[Claims 6 to 8 not printed in the Gazette.]

971,202. LOOSE-LEAF BINDER. JACOB N. LARSEN, Preston, Idaho, assignor to Western Book and Manufacturing Company, Logan, Utah, a Corporation of Utah. Filed Feb. 10, 1910. Serial No. 543,006.



1. In a loose leaf binder, a binder-plate, a locking slide, locking mechanism coöperating with the slide, a key for releasing said locking mechanism, and means for retaining said key against removal while the locking slide is in its unlocked position.

2. In a loose leaf binder, a binder-plate, a locking slide, locking mechanism coöperating with the slide, and a key coöperating with the binder-plate and the locking mechanism, said key being held by the binder-plate against removal while the locking slide is in an unlocked position.

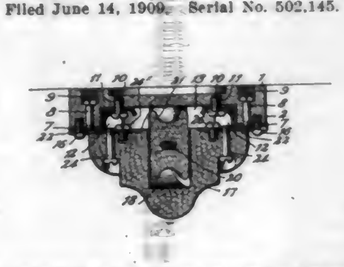
3. In a loose leaf binder, a binder-plate provided with a locking-key keeper, a locking slide, locking mechanism, and a key coöperating with said locking mechanism and the key keeper so that when the locking slide is in its released position the key is held in said keeper against releasement, but is releasable when the locking slide is in its locking position.

4. In a loose leaf binder, a binder-plate provided with a locking-key keeper, a post-locking slide on said binder-plate, and key-operated locking mechanism in coöperative relation to said keeper and to said slide, the arrangement being such that upon the movement of the slide to an inoperative position the locking-key will be retained in said keeper by said locking mechanism.

5. In a loose leaf binder, a binder-plate provided with a locking-key keeper, a post-locking slide on said binder-plate, said slide being provided with shoulders and notches, and key-operated locking mechanism carried by the binder-plate and positioned in coöperative relation to said keeper and said slide, said locking mechanism including a plurality of bolts so connected and operated that the slide is locked in its operative position and the locking key is retained in the keeper upon the movement of the slide to an inoperative position.

[Claims 6 and 7 not printed in the Gazette.]

971,203. FIXTURE FOR ADJUSTABLE ELECTRIC DROP-LIGHTS. HARRY WALLACE LAWRENCE, Denver, Colo. Filed June 14, 1909. Serial No. 502,145.



1. In a fixture of the character specified, a non-conducting plate having circuit feed wire terminals; a non-conducting block having lamp wire terminals, said block having a semi-circular groove, the ends of which terminate adjacent to said terminals, and also a hole extending from said groove through the block, and a chamber having apertures at opposite points extending through the block; a grooved roller in said chamber, and means for securing the block to the plate so that the terminals of said block and plate contact.

2. In a fixture of the character specified, the combination with a non-conducting plate, having circuit feed wire openings and terminals adjacent to the openings having binding screws, of a non-conducting block having therein a centrally disposed semi-circular chamber with bearing recesses in its side walls, a semi-circular groove in the face of said block, a hole extending from said groove through the block and a hole through each end of the chamber; a pin in the bearing recesses of the chamber, a non-conducting grooved roller in said chamber mounted on the pin; lamp wire terminals upon the block having binding screws in line with and adjacent to the ends of the semi-circular groove, said terminals being extended beyond the sides of the block and provided with slots in their ends; and screws which pass through the said slots and into threaded holes in the feed wire terminals to clamp the block to the plate and cause the feed wire and lamp wire terminals to contact.

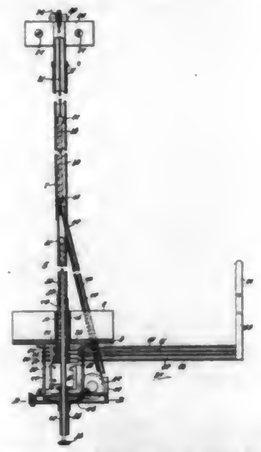
3. In a fixture of the character specified, the combination with a non-conducting plate having terminals adapted to be connected to circuit feed wires, of a block having terminals adapted to be connected to lamp circuit wires, and means for connecting the lamp wire terminals in contact with the feed wire terminals; a non-conducting grooved roller mounted in a chamber in the block, said chamber having holes in line with the grooved face of the roller, a semi-circular groove being formed in the face of the block connecting the terminals, said block having a hole therethrough which intersects the groove.

4. In a fixture of the character specified, the combination with a non-conducting ceiling plate having terminals adapted to be connected with circuit feed wires; of a removable block provided with lamp wire terminals in contact with the feed wire terminals, and having a semi-circular groove in its face extending from one terminal to the other, said block having also a hole therethrough which intersects the groove; a grooved, non-conducting roller in a chamber in said block, the chamber having oppositely disposed apertures in line with the grooved face of the roller; and screws for connecting the lamp wire and feed wire terminals.

5. The combination with a lamp and a counter-balancing weight; having a grooved roller, of a non-conducting ceiling plate having terminals adapted to be connected with circuit feed wires; a non-conducting block secured to the plate having terminals in contact with the feed wire terminals; a non-conducting grooved roller mounted in the block; and circuit wires connected to the lamp, which extend through the weight and around the roller in the block, thence around the weight roller to the terminals upon the block.

[Claim 6 not printed in the Gazette.]

971,204. APPARATUS FOR TURNING THE LEAVES OF MUSIC AND THE LIKE. WESTCOTE RAYMOND LYTTLETON, Rakaia, New Zealand. Filed Nov. 25, 1908. Serial No. 464,470.



1. In a leaf-turning mechanism, a plurality of pivoted arms having projections on their undersides, and integral disks provided with an open space in their periphery, a driver adapted to rise through the open space and engage successively the underside projections, in combination with means for operating the driver, substantially as set forth.

2. In a leaf-turning mechanism, a plurality of pivoted arms having projections on their underside and integral disks provided with gaps on their periphery, a cylindrical box provided with arm guides, a slotted bracket supporting the arms, in combination with a driver and means for operating the driver, substantially as set forth.

3. In a leaf-turning mechanism, a plurality of pivoted arms having integral disks, and provided on their undersides with projections, said disks having a gap in their periphery, a driver adapted to be projected upward through said gap and engage successively the projections, in combination with means for raising, rotating and returning to its original position the driver, substantially as set forth.

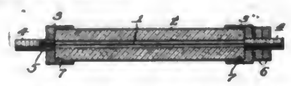
4. In a leaf-turning mechanism, a plurality of pivoted arms having integral disks and projections on their under sides, said disks having a gap in their periphery adapted to form a passage for the driver, a driver adapted to be projected upward through said gap and engage successively the projections, means for raising and rotating the driver in combination with mechanism for controlling the motion of the driver by the operator, substantially as set forth.

5. In a leaf-turning mechanism, a plurality of arms having projections on their under sides and provided with integral disks slotted in their peripheries, a slotted bracket pivoting said arms and provided with a shoulder, and a driver engaging in said shoulder in combination with means for releasing and operating the driver, substantially as set forth.

[Claims 6 and 7 not printed in the Gazette.]

971,205. FUSE-MOUNTING. WILLIAM MERZ, New York, N. Y., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 28, 1907. Serial No. 399,417.

1. In a fuse mounting the combination with a tubular shell, a terminal bolt at the end of said shell adjacent the opening therethrough, a fuse wire passing through said shell and having its end electrically connected to said bolt, and a molded metal cap upon the end of said shell securing said bolt thereto.



2. In a fuse mounting the combination with a tubular shell, of a molded metal cap about the end of said shell, a terminal bolt embedded in said cap, and a fuse wire passing through said shell and electrically connected to said bolt.

3. In a fuse mounting the combination with a tubular shell, of a molded metal cap about the end of said shell, a terminal bolt embedded in said cap, said bolt having a hole therein, and a fuse wire passing through said shell and having its end secured in the hole in said bolt.

4. In a fuse mounting the combination with a tubular shell, of a terminal bolt at the end of said shell adjacent the opening therethrough, said bolt having an opening in alinement with the opening through said shell, a fuse wire passing through said shell into the opening in said bolt and connected to said bolt, and a molded metal cap upon the end of said shell securing said bolt thereto.

5. In a fuse mounting the combination with a tubular porcelain shell, of a fuse wire passing through said shell, a terminal bolt at the end of said shell to which said fuse wire is connected, and a molded metal cap about the end of said shell, said bolt being embedded in said cap.

[Claim 6 not printed in the Gazette.]

971,206. PROCESS OF PRODUCING HYDROGEN. ANTON MESSERSCHMITT, Frankfort-on-the-Main, Germany, assignor, by mesne assignments, to Corporation Internationale "Wasserstoff" Aktiengeselischaft, Frankfort-on-the-Main, Germany. Filed Dec. 2, 1908. Serial No. 465,686.

1. In a process for producing hydrogen by the alternate reduction of iron oxid by means of reducing gases and oxidation of the iron oxid, the improvement which consists in employing steam in the reduction phase in such quantity that its volume is, at the highest, half that of the combined volumes of the carbon monoxid and the hydrocarbons contained in the gas, substantially as described.

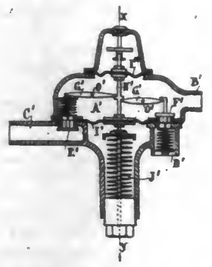
2. A process for producing hydrogen, which comprises a reduction of the metallic oxid by means of gases including carbon monoxid and different hydrocarbons, and the introduction of steam into such gases in such an amount that a reducing gas of the composition $CO + H_2 + CO_2$ is obtained, of which the CO will be decomposed by the steam resulting from the reaction of the hydrogen on the metallic oxid; substantially as described.

3. In a process for producing hydrogen by the alternate reduction of iron oxid and oxidation of the iron, the improvement which consists in carrying out the reduction phase in such a manner that the ferric oxid in all parts of the reduction-furnace is only partly reduced in order to reduce the amount of reducing gases necessary for one volume of hydrogen produced and to prevent the absorption of carbon, substantially as described.

4. In a process for producing hydrogen by the alternate reduction of iron oxid and oxidation of the iron, the improvement which consists in carrying out the reduction phase in such manner that the ferric oxid in all parts of the reduction furnace is not more than half reduced, in order to reduce the amount of reducing gases necessary for one volume of hydrogen produced and to prevent the absorption of carbon, substantially as described.

971,207. PRESSURE-REGULATOR FOR AUTOMATIC BRAKES. JOSEPH EDOUARD ALEXANDRE MICHEL, Paris, France. Filed Apr. 6, 1908. Serial No. 425,479.

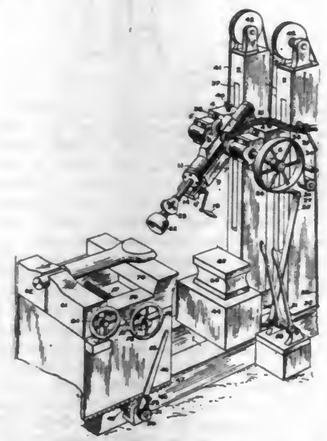
1. In an apparatus of the character described the combination with a chamber in which the desired pressure is created, two valves one of which opens from said chamber toward the source of pressure, and the other from the atmosphere toward that chamber, levers connecting said valves, diaphragms arranged in said chamber as described and having surfaces of unequal area, an elastic device adapted to have its tension regulated and adapted to act upon said diaphragms as set forth.



2. In an apparatus of the character described, the combination with a chamber, of valves E', F', arranged as described, the diaphragms I' I'', the pivoted levers G' adapted to engage with said valves, a movable rod H' adapted to engage said levers, and a spring J' arranged to exert its tension upon the diaphragms.

3. In an apparatus of the character described, the combination with a chamber, of valves E', F', arranged as described, the diaphragms I', I'', the pivoted levers G' adapted to engage with said valves, a movable rod H' adapted to engage said levers, and a spring J' arranged to exert its tension upon the diaphragms, a lever V engaging the rod H', and a spring arranged to act upon the lever V.

971,208. MACHINE FOR SHAPING HEAVY TOOLS. EDWARD N. MILLS, San Francisco, Cal., assignor of one-third to C. E. Hallstone and one-third to F. M. Graham, San Francisco, Cal. Filed Aug. 30, 1909. Serial No. 515,191.



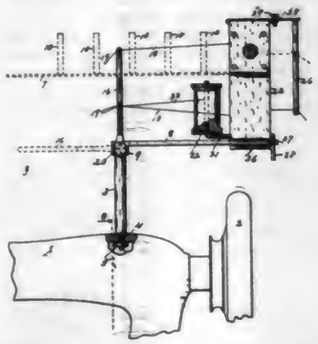
1. The combination of a cylinder provided with means for supplying pressure fluid thereto, a piston in said cylinder, a hammer secured upon the end of the piston, trunnions secured to said cylinder, a frame in which said trunnions are pivotally mounted, a brake wheel upon one of the trunnions, a brake band on said wheel, one end of the brake band being fixedly secured, a roller upon which the other terminal portion is rolled, and means for controlling the pressure of said band on said wheel, substantially as described.

2. The combination of a cylinder, means for admitting pressure fluid thereto, a piston in said cylinder, a ham-

mer connected to said piston, a support for said cylinder, means for longitudinally moving said cylinder on said support, a shaft secured to said support, a bearing for said shaft, a brake wheel on said shaft, a brake band around said brake wheel, a lever for adjusting said brake band, an anvil for supporting an instrument to be operated upon, and means for adjustably moving said anvil to and from the vertical plane through said shaft, substantially as described.

3. The combination of a cylinder, means for admitting pressure fluid thereto, a piston in said cylinder, a hammer connected to said piston, a support for said cylinder, means for longitudinally moving said cylinder on said support, a shaft secured to said support, a bearing for said shaft, a brake wheel on said shaft, a brake band around said brake wheel, a lever for adjusting said brake band, an anvil for supporting an instrument to be operated upon, means for adjustably moving said anvil to and from the vertical plane through said shaft, a part adjustable transversely on said anvil and provided with clamping devices, and means for clamping thereby the instrument to be operated upon, substantially as described.

971,209. HOLDER FOR SPOOLS. ALBERT MUSK, Rochester, N. Y. Filed Feb. 24, 1910. Serial No. 545,658.



1. In a device of the character stated, a frame, spool holding rods thereon, a horizontally swinging member having spool holding rods, the rods of said frame and member being disposed one above the other a pivotally mounted member with a plurality of series of thread guiding openings, one series for each set of spool holding rods, and means for locking said movably mounted member within the frame above the first-mentioned rods.

2. In a device of the character stated, a frame, a shelf movably mounted to be closed therein, a pivotally mounted member with a plurality of thread guiding openings means for locking the shelf in closed position, a plurality of spool-holding rods upon the bottom of the frame, and a plurality of spool-holding rods upon said shelf.

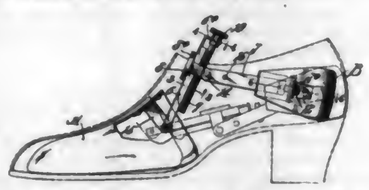
3. In a device of the character stated, a frame, a plurality of spool holding rods carried thereby, a shelf pivotally mounted above said spool holding rods and carrying a plurality of spool-holding devices, said shelf having at one end a transverse kerf to engage the side of the frame means for locking the shelf in closed position to prevent removal of the spools, and a thread-guiding device, said thread-guiding device being pivotally mounted.

4. In a device of the character stated, a frame, a member pivotally mounted thereon, spool-holding devices, means for locking said member in closed position a pivotally mounted thread-guide having a plurality of openings and a thread-guiding member adjustable along said frame.

5. In a device of the character stated, a frame, a member pivotally mounted thereon, spool-holding devices, a pivotally mounted thread guide having a plurality of openings means for locking said member in closed position, and a thread-guiding member adjustable along said frame and having upper and lower thread-guiding means.

[Claims 6 to 8 not printed in the Gazette.]

971,210. SHOE-TREE. JOHN G. MCNAIR, St. Louis, Mo. Filed June 29, 1910. Serial No. 569,590.



1. A shoe tree, comprising a toe portion, a heel portion formed of sheet metal and provided with side wings whose inner ends are connected together by a cross web, inwardly projecting wings on the sides of said heel portion which coöperate with said cross web to prevent the heel portion from bending inwardly, said cross web being provided with an opening, and a toggle connected to said toe portion and having a shank that passes loosely through the opening in said cross web.

2. A shoe tree, comprising a toe portion, a heel portion formed of a single piece of sheet metal bent to produce double side wings which are provided with overlapping extensions, portions on one of said extensions that lap over the other extension and thus connect the inner ends of said wings together, and a toggle connected to the toe portion and to the overlapping extensions of said wings.

3. A shoe tree, comprising a toe portion, a heel portion formed of a single piece of sheet metal bent to produce double side wings which are provided with overlapping extensions, portions on one of said extensions that lap over the other extension and thus connect the inner ends of said wings together, a toggle connected to the toe portion and to the overlapping extensions of said wings, and integral arms on the sides of said heel portions which project inwardly so that they will be embraced by the portions on said extension which lap over the extension.

4. A shoe tree comprising a toe portion, a heel portion formed of a single piece of sheet metal bent to produce doubled side wings and a transversely extending cross web composed of a plurality of thicknesses of metal, a toggle arranged between said toe and heel portions and comprising a front member of approximately channel-shape in cross section and a yoke-shaped rear member provided with a shank which passes through an opening in the cross web, an adjustable block slidingly mounted on the front member of the toggel and having the yoke-shaped member of the toggle pivotally connected thereto, and a stop on said yoke-shaped member for limiting the downward movement of the front member of the toggle during the operation of placing the tree in a shoe.

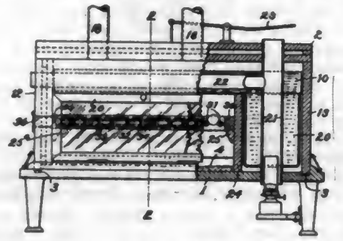
971,211. TRINITROTOLUENE MIXTURE FOR EXPLOSIVES. JALMAR G. NATHURST, Kingston, N. Y. Original application filed Dec. 7, 1909, Serial No. 531,901. Divided and this application filed Feb. 8, 1910. Serial No. 542,812.

1. The process of producing a compound for use in high explosives which consists in subjecting commercial liquid dinitrotoluene to the action of concentrated nitric and sulfuric acids while stirring the same; preventing the temperature from rising above 90° F.; in suitably separating the product thus obtained from the said acids, and in finally suitably washing the same, substantially as described.

2. The herein described compound comprising an isomer of trinitrotoluene, having a brick red color, a specific gravity of 1.50 at 60° F., melting below 50° F., and being non-volatile and substantially odorless, substantially as described.

3. The herein described product consisting of an isomer of tri-nitrotoluene mixed with dinitrotoluene, having a brick red color, a specific gravity of about 1.50 at 60° F. and being a liquid below 50° F., non-volatile and substantially odorless, substantially as described.

971,212. INCUBATOR. HENRY R. PARKER, Trappe borough, Pa., assignor of one-half to Robert F. Parks, Trappe, Pa. Filed May 16, 1910. Serial No. 561,532.



1. An incubator box, heat-radiating means in the upper portion thereof, and an egg tray located between said heat-radiating means and the bottom of the box, said box having top air inlet and air outlet openings and connecting passage-ways whereby the inflowing air is circulated upwardly through the tray substantially as set forth.

2. An incubator box having top air inlet and air outlet openings, a hot water pan therein provided with a depending rear-end deflector plate and a rising front-end partition plate spaced-apart respectively from the rear and front walls of the box to form a ventilated chamber below said pan, and an egg-tray removably supported in said chamber, substantially as set forth.

3. An incubator box having top air inlet and air outlet openings, a hot water pan therein having an end wall forming a partition between said openings, and an egg tray removably supported between said pan and the bottom of the box, said box having connecting passage-ways between said air inlet and outlet openings extending above said pan and below said egg tray.

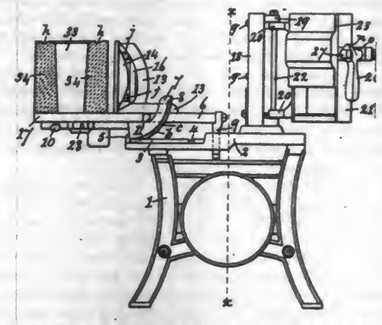
4. An incubator box provided with an upper hot-water pan, a bottom brooding chamber, an intermediately disposed grated egg tray forming a support only for the unbroken eggs, and air inlet and outlet openings with connecting passage-ways whereby inflowing air is circulated over said pan to the said brooding chamber and upwardly through said egg tray substantially as set forth.

5. An incubator comprising a separate brooder-floor bed plate having a heater opening therein, and an inverted incubator box removably seated on said bed plate and provided with a hot water pan having a chimney tube in alinement with said opening substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

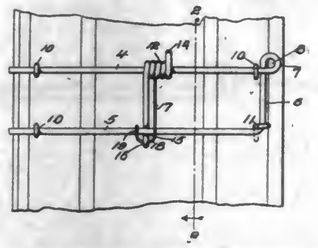
971,213. BUILDING-BLOCK MACHINE. HENRY POCOCK, London, Ontario, Canada. Filed Oct. 2, 1908. Serial No. 455,928.

1. A machine for molding blocks embodying a support, a frame mounted upon said support and having the forward portion thereof provided with means to constitute a pair of tracks, each of said stationary tracks having a socket at one end and a shoulder at the other end, a vertically disposed plate fixedly secured to said frame, and constituting the back wall of a mold, a plate hinged to each end of said back plate and constituting the ends of a mold, a rolling frame provided with a pair of segments traveling upon said tracks said segments provided with tongues adapted to engage in said sockets when the rolling frame is in one position and said segments adapted to abut against said shoulders when the rolling frame is in the other position, a bracket fixedly secured to said rolling frame and forming in connection with said frame a pocket, a plate connected to said bracket and constituting the bottom of the mold, a removable pallet mounted in said pocket and constituting the front of the mold, and means carried by the hinged plates and engaging the pallet coupling the front and ends of the mold together.



2. A machine for molding blocks embodying a support, a frame mounted thereon and provided with means to constitute a pair of tracks, a vertically-disposed plate secured to said frame and constituting the back wall of a mold, a pair of plates connected to said back plate and constituting the ends of a mold, a rolling frame provided with a pair of segments traveling upon said track, said segments and said tracks provided with means associating with each other for limiting the movement in either direction of said frame, a member connected to said rolling frame and in connection therewith forming a pocket, a plate connected to said member and constituting the bottom of the mold, a removable pallet mounted in said pocket and constituting the front of the mold, and means for coupling the front and ends of the mold together.

971,214. SHADE-BRACKET. PETER RABIDEAU, Plattsburg, N. Y. Filed Jan. 31, 1910. Serial No. 541,066.



1. In a shade fixture, a bracket mounting comprising bars, a bracket slidable longitudinally of the bars, and a tension device for holding the bracket in different positions of adjustment, said tension device being looped at its lower end and engaging with the corresponding end of said bracket and hooked over one of said bars.

2. In a shade fixture, a bracket mounting comprising a frame having parallel members, and a portion connecting said members, a bracket having a coiled section slidable on one of the members and an extension in slidable engagement with the other member, means for frictionally holding the extension in slidable engagement therewith, and a bracket arm forming a portion of said coil, said frictional holding means including a member having a looped lower end engaging the corresponding end of said bracket and hooked over one of said members.

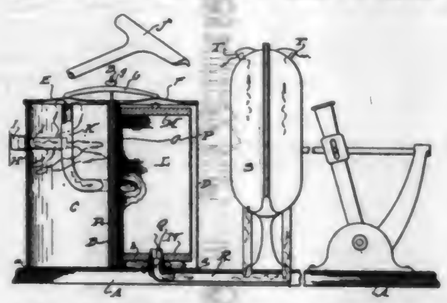
3. In a shade bracket, a bracket mounting comprising parallel bars and an end connection therefor, a bracket comprising a length of wire coiled intermediate its length to receive one of the bars and having one of its ends producing an arm and bearing and the opposite end thereof in engagement with the other bar of the mounting,

means for holding the said mounting and bracket in frictional engagement, the said opposite end having a seat to receive the bar, and a tension device for frictionally coupling the bar and one end of the bracket.

4. In a shade fixture, a bracket mounting comprising parallel bars and an end connection therefor, a bracket comprising a length of wire coiled intermediate its length to receive one of the bars and having one of its ends producing an arm and bearing and the opposite end thereof in engagement with the other bar of the mounting, means for holding the said mounting and bracket in frictional engagement, the said opposite end having a seat to receive the bar, a tension device having loops for embracing a bar and the end of the bracket for retaining the same in frictional engagement.

5. In a shade fixture, a bracket mounting comprising parallel bars and an end connection therefor, a bracket comprising a length of wire coiled intermediate its length to receive one of the bars and having one of its ends producing an arm and bearing, and the opposite end thereof in engagement with the other bar of the mounting, means for holding the said mounting and bracket in frictional engagement, the said opposite end having a seat to receive the bar, and a tension device comprising an arm lying in engagement with a coil of the bracket and having double loops near its end for engaging the end of the bracket and the bar.

971,215. VACUUM-CLEANER. WILLIAM H. RAKESTRAW, Bloomington, Ill. Original application filed Jan. 21, 1909, Serial No. 473,487. Divided and this application filed Mar. 31, 1910. Serial No. 552,733.



1. In a device of the class described, the combination of a dust collecting receptacle provided with an opening in the bottom thereof, an inlet duct opening into said receptacle tangentially with relation to the interior surface thereof, a cylindrical screened body supported within the receptacle in a relation to provide an air circulating space entirely around and between the vertical walls of the receptacle and the screened body and provided with an opening in the bottom thereof, an outlet duct extending upwardly through the openings in the bottom of the receptacle and the screened body, and supporting the latter in a detachable relation, and a vacuum pump communicating with the outlet duct.

2. In a device of the class described, the combination of a vertically disposed, cylindrical dust collecting receptacle provided with an opening in the bottom thereof, an inlet duct opening into said receptacle at about the center of its vertical wall and in a direction tangential with relation to the interior surface thereof, a cylindrical screened body within said receptacle having an opening in the bottom thereof, an outlet duct extending upwardly through the openings in the bottom of the receptacle and the screened body and supporting the latter in a detachable relation, and a vacuum pump communicating with the outlet duct.

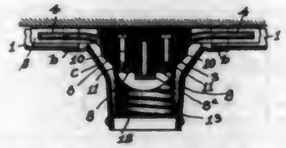
3. In a device of the class described, the combination of a vertically disposed, cylindrical dust collecting receptacle provided with an opening in the bottom thereof, an inlet duct opening into said receptacle at about the center of its vertical wall and tangentially with relation to the interior surface thereof, a cylindrical screened body within said receptacle provided with an opening in the bottom thereof, an outlet duct extending upwardly through the openings in the bottom of the receptacle and the screened body provided with an offset thereon, a gasket or washer upon said offset adapted to form a seat for the screened body.

4. In a device of the class described, the combination of a vertically disposed, cylindrical dust collecting receptacle provided with an outlet duct extending upwardly through the bottom thereof, an inlet duct opening into said receptacle at about the center of its vertical wall and in a tangential relation with the interior walls thereof, a cylindrical screened body within said receptacle supported in relation to provide air circulating space between the vertical walls of the receptacle and the screened body and supported upon the outlet duct in a detachable relation, and a vacuum pump operatively connected with the outlet stud.

5. A dust collector including an upright receptacle, a suction pipe extending vertically in the receptacle provided with an offset to form a shoulder thereon, a closed screened body sleeved upon the suction pipe, a removable strainer extended about the screened body and an inlet pipe opening into the receptacle, at about its vertical center and tangentially with reference to the interior surface thereof.

[Claims 6 and 7 not printed in the Gazette.]

971,216. FITTING FOR ELECTRIC CONDUITS. WILLIAM C. ROBINSON, Pittsburg, Pa. Filed May 29, 1909. Serial No. 499,225.



1. As a means for connecting branch lines to conductors inclosed in conduits, the combination of a block placed within a conduit, terminals for the conductors carried by the block but insulated from each other, and a cap provided with an opening for the reception of the branch conductors and having means for clamping the conduit inclosing the main conductors.

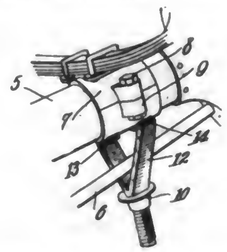
2. As a means for connecting branch lines to conductors inclosed in conduits, the combination of a block placed within a conduit, terminals for the conductors carried by the block but insulated from each other, and means carried by the block for securing the block within the conduit.

3. As a means for connecting lamps to conductors inclosed in conduits, the combination of a block placed within a conduit, a lamp-socket carried by the block, a terminal connecting the socket to one of the conductors, a second terminal for the other conductor in position to contact with the inner terminal of the lamp, said terminals being insulated from each other, and a cap provided with a tubular portion to inclose the socket and having means for clamping the conduit on opposite sides of the point of connection of the branch to the main conductors.

4. A metallic cap for inclosing the junction of branch conductors with conductors inclosed in a conduit, provided with resilient gripping portions to clamp the conduit on opposite sides of the junction point, an opening in the cap for the branch conductors, and a lining of insulating material fitted within the cap at and adjacent to the junction point.

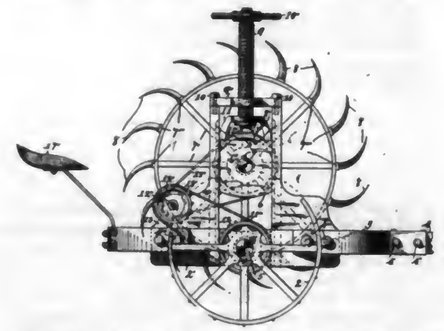
5. A cap for inclosing the junction of branch conductors with conductors inclosed in a conduit, consisting of a tubular portion and with resilient gripping portions on opposite sides of the tubular portion to clamp the cap in position on the conduit.

971,217. APPLIANCE FOR LIFTING-JACKS. ANTON W. SALLANDER, Fort Madison, Iowa. Filed June 22, 1910. Serial No. 568,329.



An appliance for lifting jacks comprising a substantially V-shaped member having supporting portions at the upper ends of its arms, the said portions projecting in opposite directions and being relatively off-set and spaced.

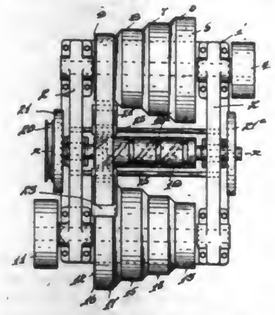
971,218. ROTARY HARROW. SIGMUND SCHILLER, Haddam, Conn. Filed Sept. 24, 1909. Serial No. 519,317.



1. A rotary harrow comprising a frame having carrying-wheels arranged at its opposite sides, said carrying-wheels having, each a fixed axis of rotation; a skeleton, rotatable cylinder, supported by said frame and adjustable upwardly and downwardly along a vertical plane intersecting and extending above and below the axes of said carrying-wheels, between the same, said cylinder comprising suitable end-members, connected circumferentially by a plurality of separated cross-bars; teeth distributed along more or less of said cross-bars, said teeth conforming, each wholly to an irregular curve, turned rearwardly of the direction of movement of said cylinder, when the implement as a whole is moved forwardly along, and provided with a fair knife-edge for an initial cutting action in the ground; means for controlling said cylinder in its upward and downward movements along the vertical plane aforenamed; and retarding transmission mechanism, the latter disposed between and connecting one of said carrying-wheels and said cylinder.

2. A rotary harrow comprising a frame having carrying-wheels arranged at the opposite sides thereof, said carrying-wheels having, each a fixed axis of rotation; vertical guides arranged at the opposite sides of said frame, between said carrying-wheels, and intersecting and extending above and below the axes thereof; heads adjustable upwardly and downwardly along said guides, respectively; a shaft fixedly engaging, at its opposite ends, said heads and adjustable therewith; a skeleton cylinder, mounted to rotate on, and independently of, said shaft, said cylinder comprising suitable end-members, connected circumferentially by a plurality of separate cross-bars; teeth detachably distributed along more or less of said cross-bars, said teeth conforming, each wholly to an irregular curve, turned rearwardly of the direction of movement of said cylinder, when the implement as a whole is moved forwardly along; means for preventing undue displacement of said cylinder along said shaft; means for controlling said heads in the upward and downward movements thereof along said guides, respectively; and retarding transmission mechanism, the latter disposed between and connecting one of said carrying-wheels and said cylinder.

971,219. VARIABLE-SPEED MECHANISM. HERMAN W. SCHATZ, Cincinnati, Ohio, assignor to The American Tool Works Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Sept. 11, 1909. Serial No. 517,314.



1. In a variable speed device a pair of shafts, a step-pulley fixed to each shaft, a belt for transmitting motion between such pulleys, a pair of belt-shifters slidably mounted for shifting the belt laterally, a rotatable cylindrical cam having a groove partly annular and partly helical, means carried by said shifters engaging into said groove, a belt tightening roller intermediate of said pulleys, and means for moving said roller to and from the belt during a belt-shifting operation, in driven connection with said cam.

2. A variable speed device, having a pair of step-pulleys and transmitting belt, a pair of belt-shifters, one adjacent to each step-pulley, means for shifting said shifters one in advance of the other, and means in connection with said belt-shifting means for releasing and tightening the tension of the belt.

3. A variable speed device, having a pair of step pulleys and transmitting belt, means for shifting the belt from one step to another, and means for governing the tension of said belt in connection with said belt shifting means to release the tension prior to a belt shifting operation and again apply the tension thereafter.

4. A variable speed device, having a pair of step pulleys and transmitting belt, a belt shifter for each pulley, means for actuating said belt shifters one in advance of the other, an elongated belt tightener roller intermediate of said pulleys in connection with said belt actuating means for shifting said roller to release and tighten the tension of the belt.

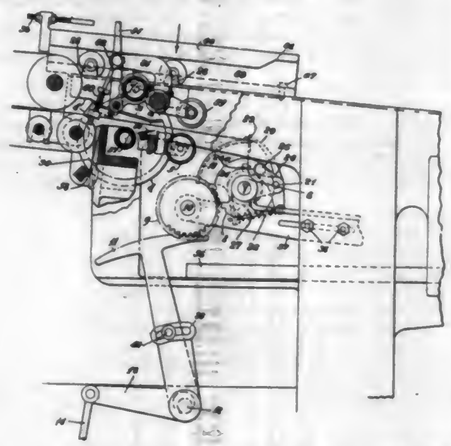
5. A variable speed device, having a pair of step pulleys, and transmitting belt, a pair of belt shifters, means for actuating one shifter in advance of the second, and means actuated by said belt shifting means for releasing and tightening the tension of the belt relatively during a belt shifting operation.

[Claims 6 to 8 not printed in the Gazette.]

971,220. DELIVERY MECHANISM. WALTER SCOTT, Plainfield, N. J.; Isabella Scott and David John Scott executors of Walter Scott, deceased. Filed May 23, 1904. Serial No. 209,148.

1. In a printing or other machine, the combination with a reciprocating carriage, of an oscillating gripping mechanism located extraneously of the said carriage and adapted to receive the sheet and turn over the leading

edge of the same, and a sheet turning means on the carriage adapted to act against the underside of the sheet so as to turn over the body of the same.



2. In a printing or other machine, the combination with a reciprocating carriage, of means for delivering the sheet with the printed side up, means for delivering the sheet with the printed side down, comprising, a sheet turning means carried by the reciprocating carriage, and an oscillating gripping mechanism located extraneously of the reciprocating carriage for turning the leading edge of the sheet, the means for delivering the sheet with the printed side up, and means for delivering the sheet with the printed side down being interchangeable.

3. In a printing or other machine, the combination with a reciprocating carriage, of an oscillating gripping mechanism located extraneously of the said carriage and adapted to receive the sheet and turn over the leading edge of the same, a sheet turning means on the carriage adapted to act against the underside of the sheet so as to turn over the body of the same, and means whereby the reciprocating carriage will deliver the sheets with the printed side up at will.

4. In a printing or other machine, the combination with a reciprocating carriage, of an oscillating gripping mechanism located extraneously of the said carriage and adapted to receive the sheet and turn over the leading edge of the same, a sheet turning means on the carriage adapted to act against the underside of the sheet so as to turn over the body of the same, and grippers on the reciprocating carriage adapted to be used in place of the gripping mechanism and sheet turning means whereby the sheet can be delivered with the printed side up.

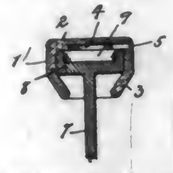
5. In a printing or other machine, the combination of a reciprocating carriage, an oscillating sheet turning means located underneath the plane in which the carriage travels but adapted to project into the plane thereof to seize the sheet and turn the leading edge of the same, and means moving with the reciprocating carriage passing under the body of the sheet to turn over the same.

[Claims 6 to 19 not printed in the Gazette.]

971,221. CUSHION-CAP FOR THE KEYS OF WRITING-MACHINES. HARRY H. SHEPARD, Providence, R. I. Filed May 28, 1910. Serial No. 563,915.

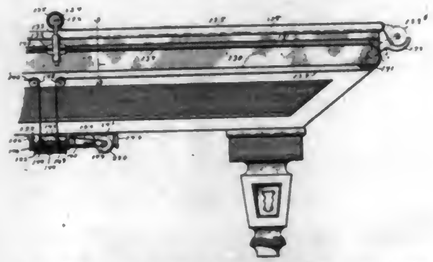
1. A cap for the heads of finger operated keys consisting of a single piece of resilient material provided with a body portion adapted to surround the head of the key when the cap is mounted in position, an extension depending from the body portion whereby the cap is maintained in position, a crown formed integral with the body portion, and means to provide an air vent, said crown having its inner face cut away to provide a recess.

2. A cap for the heads of finger operated keys formed of a single piece of resilient material and comprising a body portion, an extension depending therefrom, a crown



integral with the body portion and having its inner face recessed and grooved, the wall of said grooves in connection with the body portion forming an air vent.

971,222. COIN-CONTROLLED GAME-TABLE COVER. JAKE M. STIVERS, Oklahoma, Okla., assignor to The Stivers Automatic Cover Company, a Corporation of Colorado. Filed Sept. 25, 1907. Serial No. 394,495.



1. An automatic cover for game tables, comprising, in combination with a table, a cover, a carrier movable over said table to support said cover, and means to spread and remove said cover, said spreading and removing means comprising motor actuated drums below said table having operative connections with said carrier.

2. An automatic cover for game tables, comprising, in combination with a table, a cover, a carrier movable over said table to support said cover, and means to spread and remove said cover, said spreading and removing means comprising oppositely wound drums having endless connections with said carrier and adapted to automatic actuation.

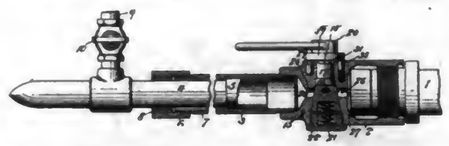
3. An automatic cover for game tables, comprising, in combination with a table, a cover, a carrier movable over said table to support said cover, and means to spread and remove said cover, said spreading and removing means comprising oppositely wound drums having cables extending transversely across the latter to its edges and thence longitudinally to its ends and to said movable carriers, and a motor adapted to drive said drums.

4. An automatic cover for game tables, comprising, in combination with a table, a cover, a traveling roller adapted to spread or remove said cover, means for causing said roller to travel from end to end of said table transversely thereof, said means comprising a series of cables in connection with said roller, drums located below said table, and having cables directed thereto from opposite sides of the table and wound thereon, motive power for said drums, and means for starting and stopping said motive power.

5. An automatic cover for game tables, comprising, in combination with a table, a cover, a mechanism for rolling and unrolling said cover over said table, said mechanism consisting of a traveling roller for said cover disposed transversely of said table, movable carrying means for said roller, winding drums located below said table, flexible connections wound on said drums, and connected to said roller carrying means, and driving means for said drums.

[Claims 6 to 8 not printed in the Gazette.]

971,223. HAMMER-DRILL. ALBERT H. TAYLOR, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 1, 1907. Serial No. 395,339.



In an air feed hammer drill, a head block, an air feed cylinder attached directly thereto, a hollow piston located in the said cylinder having its rod extended rearwardly to form a rear support for the drill, an air supply pipe leading to said hollow piston and a manually operated valve in the head block for controlling the communication between the air feed cylinder and hammer.

971,224. BLUISH-GRAY VAT DYE. PAUL THOMASCHEWSKI and HEINRICH RAEDER, Vohwinkel, and WALTER MIEG and PAUL FISCHER, Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Original application filed Feb. 12, 1910, Serial No. 543,493. Divided and this application filed Apr. 21, 1910. Serial No. 556,653.

The herein described new vat dyestuff of the anthracene series which can be obtained from 1-benzoylamino-4-chloroanthraquinone and 1-benzoylamino-4-aminoanthraquinone, which dyestuff is, after being dried and pulverized, a dark powder having a metallic luster, which is soluble in concentrated sulfuric acid with a green color soon turning brown; yielding a vat with hydrosulfite and caustic soda lye, which vat dyes cotton bluish-gray shades, substantially as described.

971,225. BROWN VAT DYE. PAUL THOMASCHEWSKI and HEINRICH RAEDER, Vohwinkel, and WALTER MIEG and PAUL FISCHER, Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Original application filed Feb. 12, 1910, Serial No. 543,493. Divided and this application filed Apr. 21, 1910. Serial No. 556,655.

The herein described new vat dyestuff of the anthracene series which can be obtained by first condensing 1-amino-4-benzoylaminoanthraquinone with 1-benzoylamino-5-chloroanthraquinone and then treating the resulting product with cencentrated sulfuric acid, which dyestuff is, after being dried and pulverized, a brown-black powder, which is soluble in cold concentrated sulfuric acid with a brown color; yielding a vat with hydrosulfite and caustic soda lye, which vat dyes cotton brown shades, substantially as described.

971,226. ELECTROLIER. JOSEPH W. TURNER, Des Moines, Iowa. Filed Aug. 4, 1909. Serial No. 511,228.

1. In a device of the class described, the combination of a post having a number of openings near its upper end, an arm detachably connected with the post to cover one of said openings, and a plate detachably connected with the post to cover another of said openings.

2. In a device of the class described, the combination of a post having a number of openings near its upper end, an arm detachably connected with the post to cover one of said openings, and a plate detachably connected with the post to cover another of said openings, said arm and plate being interchangeable and capable of being secured over any of said openings.

3. In a device of the class described, the combination of a hollow post body portion having at its upper end a number of lugs at the sides thereof, said lugs being widest at their lower ends, and the sides thereof being tapered on divergent lines away from the post, each of said lugs being provided with an opening extending through the lug and through the post, an arm designed to support a lamp at its outer end and having its inner end provided with side pieces spaced apart and tapered to fit the sides of said lug, and a plate having its inner surface designed to fit one of said lugs, and its outer surface substantially flat, for the purposes stated.



4. In a device of the class described, the combination of a post body having a flat face on one side of its upper end, a lug at the central portion of said flat face, said lug being tapered toward its upper end, and the sides of said lug being arranged on divergent lines away from the post, and said lug being provided with an opening extending through it to the interior of the post, and a lateral arm having means at its outer end for supporting a lamp and having, at its inner end, sides spaced apart from each other and inclined toward each other at their upper ends, said sides being also beveled to fit against the sides of said lug.

5. In a device of the class described, the combination of a post body having a flat face on one side of its upper end, a lug at the central portion of said flat face, said lug being tapered toward its upper end, and the sides of said lug being arranged on divergent lines away from the post, and said lug being provided with an opening extending through it to the interior of the post, and a lateral arm having means at its outer end for supporting a lamp and having, at its inner end, sides spaced apart from each other and inclined toward each other at their upper ends, said sides being also beveled to fit against the sides of said lug, the top of said lug and the top portion of said sides being both inclined outwardly and upwardly away from the post, for the purposes stated.

[Claim 6 not printed in the Gazette.]

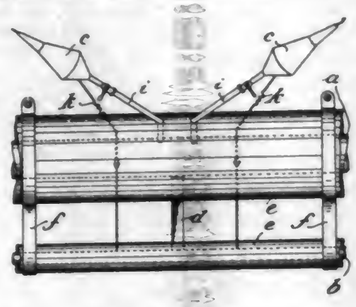
971,227. DEVICE FOR DAMPING THE AIR IN CLOSED ROOMS. KARL ULRICH, Zweibrücken, Germany. Filed June 28, 1909. Serial No. 504,895.

1. A device of the class described comprising a steam supply chamber, a spray nozzle communicating therewith, perforated partition walls within said nozzles forming a plurality of steam chambers, a spray tube projecting into the final steam receiving chamber and constructed and arranged to convey the steam, free from the particles of condensation, into the atmosphere.

2. A device of the character described comprising a spray-nozzle having a plurality of communicating steam chambers, said chambers having outlet ports whereby the water of condensation formed in said chambers will readily flow therefrom.

3. In a device of the class described, the combination with a steam supply chamber, of a plurality of nozzles

communicating therewith, a common conduit adjacent to and outside of said steam chamber, and tubes communicating with the lower end of said nozzle and with said conduit for conducting the water of condensation formed in said nozzles into the common conduit.

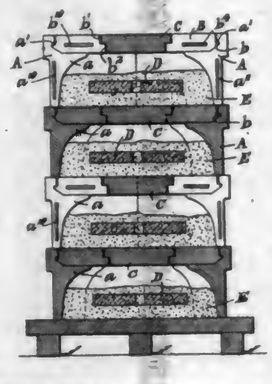


4. In a device of the character described, comprising a steam chamber, spray nozzles connected therewith, and means constructed and arranged in said nozzles for freeing the steam of particles of condensation.

5. In a device of the character described, comprising a steam chamber, spray nozzles connected therewith, and means constructed and arranged in said nozzles for freeing the steam of particles of condensation, and pipes in communication with said spray nozzles for removing the water of condensation therefrom.

[Claims 6 to 18 not printed in the Gazette.]

971,228. COMBINED TILE AND SAGGAR. GEORGE E. VANCE, Springfield, Ohio. Filed Mar. 2, 1910. Serial No. 546,884.



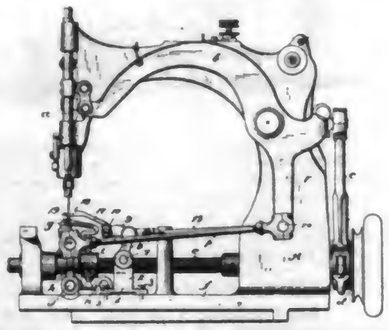
1. A combined saggar and sectional tile structure for the purpose specified, comprising in combination with the saggar portion, tile sections detachably interlocked therewith.

2. A combined saggar and sectional tile structure for the purpose specified, comprising in combination with the saggar portion, sector like tile sections detachably interlocked therewith.

3. A combined saggar and sectional tile structure for the purpose specified, comprising in combination a saggar portion, and detachable tile sections, said sections and saggar portion being formed with interlocking ribs and grooves.

4. A combined saggar and sectional tile structure for the purpose specified, comprising a saggar portion formed in segments and a tile portion formed in sector like sections, each saggar segment and a corresponding tile section being formed with interlocking ribs and grooves.

971,229. STITCH-FORMING MECHANISM FOR SEWING-MACHINES. JOHN P. WEIS, Brooklyn, N. Y., assignor, by mesne assignments, to Metropolitan Sewing Machine Company, a Corporation of New York. Filed Aug. 23, 1902. Serial No. 120,780.



1. A sewing machine having in combination a needle and coöperating looper, means for actuating the same, and a spreader coöperating with the needle and looper, said spreader having a carrier, a stationary bracket pivotally supporting said carrier, means for adjusting said bracket so as to incline the spreader laterally to any desired degree relatively to the looper to position the spreader properly relatively to the looper and needle, and means for actuating said carrier.

2. A sewing machine having in combination a needle and looper, means for actuating the same, a spreader for coöperating with the needle and looper, means for adjusting the spreader bodily to any desired degree at an inclination relatively to the needle and looper so as to position the same properly for the purposes stated, and means for actuating said spreader.

3. A sewing machine having in combination a needle and looper, means for actuating the same, a spreader coöperating with said needle and looper, a spreader-carrier pivotally supporting said spreader, means for laterally adjusting said spreader, and means for actuating said spreader-carrier including means for adjusting the same in the direction of its length, so as to regulate the extent to which the spreader may be projected over the cloth-plate and relatively to the path of movement of the needle.

4. A spreader mechanism for sewing machines comprising a stationary bracket, means for adjusting the bracket by tilting the same laterally, a carrier pivotally supported on said bracket, a spreader supported by said carrier, and means for actuating said carrier; whereby the spreader may be adjusted bodily laterally of its length so as to be supported in an oblique position relatively to the needle and looper.

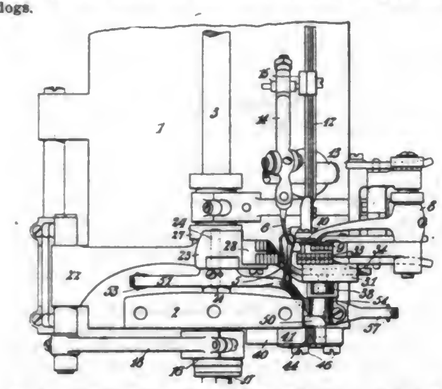
5. In combination, a vertically reciprocating needle, a thread-carrying looper, a spreader, a throat-plate having a tongue, means for laterally adjusting the said tongue, and means for adjusting the projection of said spreader over said tongue.

[Claims 6 to 10 not printed in the Gazette.]

971,230. DIFFERENTIAL FEEDING MECHANISM FOR SEWING-MACHINES. JOHN P. WEIS, Nyack, N. Y., assignor to Metropolitan Sewing Machine Company, Nyack, N. Y., a Corporation of New York. Filed May 29, 1905. Serial No. 262,811.

1. In combination, a stitch-forming mechanism, and a feeding mechanism, the latter including a bar the forward end of which is provided with an opening and two spaced parts, a feed-dog fixed to one of said parts, a feed-dog movable on the other of said parts and arranged in advance of the fixed feed dog, and the looper of the stitch-forming mechanism being supported so as to operate with

in the opening of the feed-bar and below the said two feed-dogs, and means for differentially actuating said feed-dogs.



2. In combination, overedge stitch-forming mechanism, a trimming mechanism, a differential feeding mechanism, and means for regulating the action of the feeding mechanism during the operation of the machine whereby to control the character of the work, said means including a lever pivotally supported on a portion of said feeding mechanism and extending toward the front of the machine so as to be accessibly presented to the operator.

3. A differential feeding mechanism comprising a single feed-bar carrying two independent feed-dogs, means for actuating the bar to impart the essential movements, and means for actuating one of the dogs independently of the other, including a device carried by said bar and under control of the operator whereby, during the operation of the machine, movements of varying degree may be imparted to said dog.

4. A differential feeding mechanism including a feed-bar carrying two independent dogs, means for actuating said bar to impart its essential movements, and means carried by said bar for actuating one of the dogs independently of the other including a device whereby, during the operation of the machine, two extremes of adjustment of said dog may be obtained.

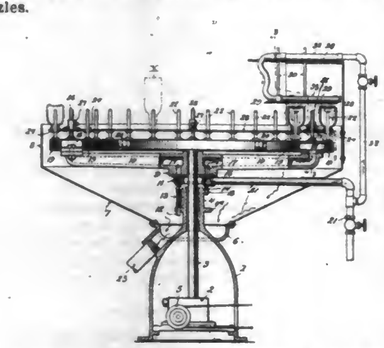
5. In combination, a stitch-forming mechanism including a needle and a looper, a feeding mechanism consisting of a single bar carrying two independent dogs, one arranged in advance of and the other behind the needle, and means including a device carried by and movable relatively to said bar whereby the dog in advance of the needle may be given, during the operation of the machine, varying degrees of movement in order to control the condition of the work in front of the stitching point.

[Claims 6 to 15 not printed in the Gazette.]

971,231. BOTTLE-RINSING MACHINE. LEOPOLD WEISCOPF, New York, N. Y. Filed Oct. 25, 1909. Serial No. 524,356.

1. A bottle-rinsing machine comprising a standard-supported basin, a rotatory hollow sectional reel mounted within the basin, the reel being provided with a hub having its bottom face provided with a series of horizontally disposed water-inlet apertures, a non-rotatory water-supply ring having a horizontally disposed single aperture therein adapted to register with the reel apertures, a series of vertically disposed spray-nozzles in connection with each sector of the hollow reel, posts extending from the reel, a unitary apertured bottle-supporting ring fitted over all of the spray-nozzles and independent thereof, collars extending from the bottle-supporting ring for connection with the posts, and means in connection with the collars for securing said bottle-supporting ring in a fixed adjusted position upon the posts.

2. A bottle-rinsing machine comprising a standard-supported basin, a rotating sectional hollow reel mounted within the basin, the reel being provided with a series of water-inlet apertures, a non-rotatory water-supply ring having a single aperture therein, adapted to register with the reel-apertures, vertically disposed spray-nozzles in connection with the hollow reel, an adjustable apertured bottle-supporting ring fitted over the spray-nozzles, and an adjustable bottle-shield disposed above said spray-nozzles.



3. A bottle-rinsing machine comprising a standard-supported basin, a rotatory sectional hollow reel mounted within the basin, the reel being provided with a series of water-inlet apertures, a non-rotatory water-supply ring having a single aperture therein, adapted to register with the reel apertures, means for holding the ring in yielding-connection with the reel, vertically disposed spray-nozzles in connection with the hollow reel, an adjustable apertured bottle-supporting ring carried by the reel, the apertures in the bottle-supporting ring being fitted over the spray-nozzles, a hood in connection with the basin, an adjustable bottle-shield carried by the hood and disposed above said spray-nozzles, a perforated pipe-section in connection with the shield, and a water-supply pipe in connection with the perforated pipe-section and non-rotatory water-supply ring.

4. A bottle-rinsing machine comprising a standard, a basin secured to the standard, a rotatory spindle, and a reel mounted upon the spindle, the reel comprising a hub secured to the spindle having hollow spokes, a series of hollow spokes connected with a series of hollow sectors independent of each other, vertical spray-nozzles extending from the hollow sectors, openings in the reel-hub in connection with each spoke, a non-rotatory water-supply ring having a single aperture therein adapted to register with the reel hub openings, means in connection with the standard holding the non-rotatory ring in yielding engagement with the reel-hub, and a water-supply pipe in connection with said ring.

5. A bottle-rinsing machine comprising a hollow standard, a spindle revolubly mounted within the standard, an apertured, channeled ring secured to the standard, a hollow spoke-reel secured to the spindle having its hub-portion adapted to engage the upper face of the channeled ring, the hub-portion being provided with apertures adapted to register with the ring aperture, springs interposed between the standard and ring whereby the latter is held in yielding engagement with said hub-portion of the reel, non-communicating hollow sectors carried by the reel-spokes, each sector being in communication with one of said reel-spokes, spray-nozzles extending from the hollow sectors, a drip-pan connecting the standard and surrounding the reel sectors, a hood extending upwardly from the drip-pan and partially surrounding the same, and a spray-pipe extending within the hood, the spray-pipe being disposed above the plane of the spray-nozzles.

[Claim 6 not printed in the Gazette.]

971,232. CLOTHES-WASHER. JOHN W. WHITELY, Danbury, Conn. Filed June 7, 1910. Serial No. 565,631.

1. A roller of the character described comprising heads having bosses on their inner faces, rubbing strips having

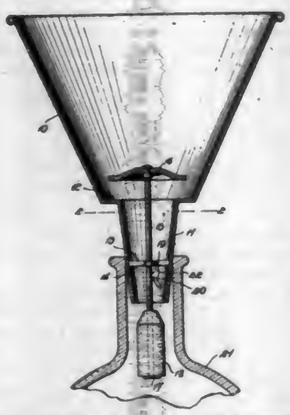
grooves to receive the bosses and tie rods by which the heads and rubbing strips are secured together.



2. A roller of the character described comprising heads having bosses on their inner faces, and countersunk recesses in their outer faces, rubbing strips having grooves to receive the bosses, and tie rods having threaded ends engaged by nuts lying in the recesses.

3. A roller of the character described comprising heads having bosses on their inner faces, strips having rubbing planes lying at an obtuse angle to each other and grooves to receive the bosses and tie rods by which the heads and rubbing strips are secured together.

971,233. FUNNEL. CHARLEY J. WILSON, Roger, N. D. Filed Mar. 28, 1910. Serial No. 551,928.



1. The combination with a funnel having a stem extending through its nozzle, said stem having an intermediate notch, a valve upon the upper end of the stem, a trip movably connected within said nozzle and engaging the notch of the stem and operating to maintain the same in elevated position and the valve open, and a float slidable upon the stem and adapted to release the trip when elevated.

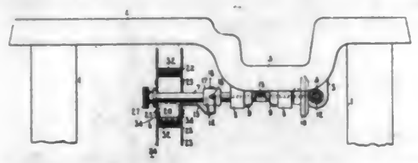
2. The combination with a funnel having an intermediate valve seat and a discharge nozzle, a guide bar extending transversely of the nozzle, a stem slidable through said guide bar and provided with a notch, a valve carried by said stem for engaging upon said seat, a trip swinging from said bar and engaging said notch, and a float slidable upon the stem and adapted to release the trip when elevated.

971,234. TYPE-WRITING MACHINE. OSCAR WOODWARD, Montclair, N. J., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed May 5, 1910. Serial No. 559,564.

1. A bridge for a ribbon spool, consisting of a wire with its ends in line with each other to form round pivots and its intermediate part bent into zig-zag form and flattened.

2. A bridge for a ribbon spool, consisting of a wire bent into M-shape and with its ends bent off into line with each other to form pivots.

3. A bridge for a ribbon spool, consisting of a wire bent into M-shape and with its ends bent off into line with each other to form pivots and the M-shaped part bent into a curve or arch.

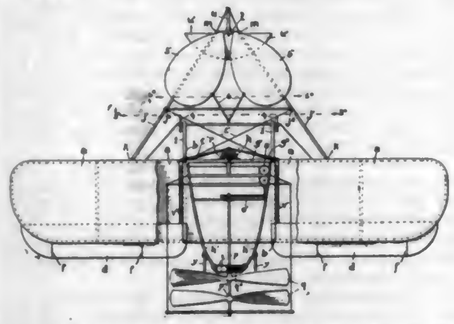


4. In a ribbon spool, the combination of two flanges, a core having an opening therein, and a bridge for said opening pivoted to said flanges, each flange having two pivot-holes, one at each side of said opening so that the bridge can be pivoted in one pair of holes for a left hand spool and in the other pair of holes for a right hand spool.

5. In a ribbon spool, the combination of two flanges, a core having an opening therein, and a bridge for said opening, said bridge made of wire bent into suitable shape and reversible so that it can be hinged at one side of said opening for a right-hand spool or at the other side of said opening for a left-hand spool.

[Claims 6 to 12 not printed in the Gazette.]

971,235. FLYING-MACHINE. MAURICE ACKERMAN, Washington, D. C. Filed Sept. 21, 1909. Serial No. 518,859.



1. In a flying machine, upper and lower parallel aeroplanes, upright brace rods having a horizontal pivot joint connection with said aeroplanes, a rearward extending cage having upper and lower universal joint connections with said aeroplanes and a forward extending frame having also upper and lower universal joint connections with the aeroplanes.

2. In a flying machine, upper and lower parallel aeroplanes capable of a parallel movement with respect to each other, rearward extending balancing means carrying the motor and propeller mechanism, and forward extending balancing means carrying rudder mechanism.

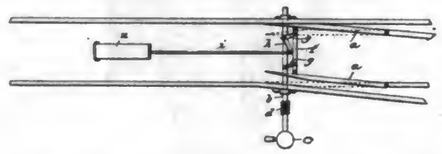
3. In a flying machine, upper and lower parallel aeroplanes capable of a parallel movement with respect to each other, rearward extending balancing means carrying the motor and propeller mechanism, forward extending balancing means carrying rudder mechanism, said forward and rearward extending balancing means having separate universal joint connection with the aeroplanes and being capable of automatically assuming an inclined position for upward or downward flight with the parallel movement of the aeroplanes.

4. In a flying machine, upper and lower parallel aeroplanes capable of parallel movement with respect to each other, rearward extending balancing means carrying the motor and propeller mechanism, forward extending balancing means carrying rudder mechanism, and means for turning said rudder mechanism horizontally and simultaneously turning the propeller mechanism horizontally in opposite directions.

5. In a flying machine, upper and lower parallel aeroplanes capable of a parallel movement with respect to each other, a rearward extending cage having upper and lower universal joint connection with the aeroplanes and carrying the motor and propeller mechanism, a forward extending frame carrying rudder mechanism and having also upper and lower universal joint connection with the aeroplanes, and means for turning said cage and propeller mechanism horizontally and simultaneously turning said forward extending frame and rudder mechanism horizontally in opposite directions.

[Claims 6 to 13 not printed in the Gazette.]

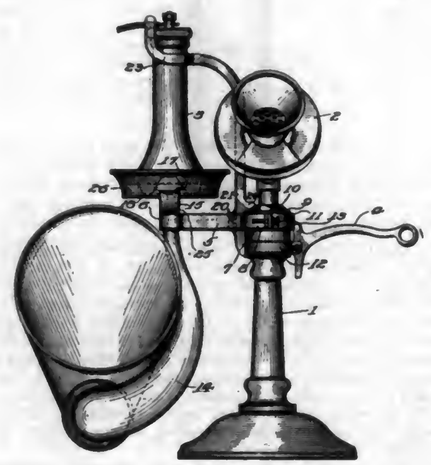
971,236. RAILWAY-SWITCH. FRANK P. AHMAN, Norfolk, Va. Filed July 2, 1910. Serial No. 570,169.



1. In a railway switch, the combination of a manually operable shifting rod extending across the road bed, a bar connecting the switching rails, a pair of pivotal links connecting said bar to the aforesaid rod, and automatic means on the road bed connected to the said links for automatically shifting the rails independently of the aforesaid shifting rod.

2. In a railway switch, the combination of a manually operable shifting rod extending across the road bed, a bar connecting the switch rails, links connecting said bar to the shifting rod, a flexible rod connected to one of said links and extending forwardly along the road bed, spring means for exerting a pull upon said rod, and latching means for holding said spring compressed, for the purpose set forth.

971,237. TELEPHONE. JOSHUA W. ATLEE, Riverton, N. J. Filed June 4, 1908. Serial No. 436,557.



1. The combination with a stand, of a bracket rigidly secured thereto, an amplifier supported by said bracket, and means carried by said bracket to hold a telephone receiver in position to communicate with said amplifier.

2. A holder for a telephone receiver comprising a stand, a bracket rigidly secured thereto, an amplifier supported by said bracket, and means carried by said bracket to removably hold a receiver in position to communicate with said amplifier.

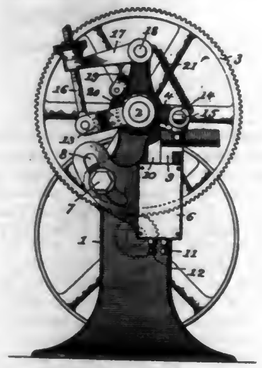
3. A holder for a telephone receiver comprising a fixed bracket, an amplifier carried thereby, means upon said amplifier forming a yielding seat, and means carried by said bracket to hold a receiver upon said seat to communicate with said amplifier.

4. A holder for a telephone receiver comprising an amplifier, a support for said amplifier, means to hold a receiver in communication with said amplifier, and means to guide said receiver toward said amplifier and into said position.

5. A holder for a telephone receiver comprising an amplifier, a support for said amplifier, means to hold said receiver in communication with said amplifier, and substantially conical means for guiding said receiver toward said amplifier and into communication with said amplifier.

[Claims 6 to 21 not printed in the Gazette.]

971,238. MACHINE FOR FORMING LOOPS ON COIL-SPRINGS. CHARLES R. BARRETT, Chicago, Ill. Filed Feb. 13, 1909. Serial No. 477,755.



1. Mechanism for forming loops on coil springs, comprising a bending jaw having continuous movement in a circular path, and an anvil and a rest arranged in adjacent tangential relation to the circular path of said bending jaw, substantially as set forth.

2. Mechanism for forming loops on coil springs, comprising a rotary bending jaw the point of which moves in a circular path, an anvil and a rest arranged in adjacent tangential relation to the circular path of the bending jaw, a holding jaw adapted to hold a coil spring on said rest, and means for moving said holding jaw into and out of engagement with said coil spring, substantially as set forth.

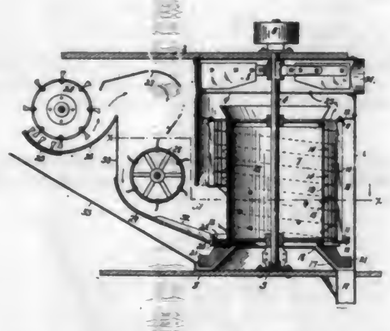
3. Mechanism for forming loops on coil springs, comprising a rotary bending jaw the point of which moves in a circular path, an anvil and a rest arranged in adjacent tangential relation to the circular path of the bending jaw, and means for adjusting the tangential relation of said anvil and rest, substantially as set forth.

4. Mechanism for forming loops on coil springs, comprising a rotary bending jaw the point of which moves in a circular path, an anvil and a rest arranged in adjacent tangential relation to the circular path of the bending jaw, a holding jaw adapted to hold a coil spring on said rest, means for moving said holding jaw into and out of engagement with said coil spring, and means for adjusting the tangential relation of said anvil and rest, substantially as set forth.

5. In a mechanism for forming loops on coil springs, the combination of a supporting frame, an arbor journaled in said frame, a bending jaw rotating with said arbor with its point moving in a circular path, a head secured to the supporting frame, a rest bar and an anvil bar secured in adjacent relation on said head and in tangential relation to the circular path of the bending jaw, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

971,239. THRESHING-MACHINE. CHARLES L. BEAN, Toledo, Ohio, assignor of one-half to Fred C. Kline, Toledo, Ohio. Filed June 11, 1909. Serial No. 501,562.



1. In an apparatus of the class described, the combination of a rotary drum having a vertical axis, and its circumference provided with protuberant portions, a plurality of laterally spaced vertically disposed bars arranged around the drum and adapted to coöperate therewith to separate grain and straw fed therebetween, and a flange spirally secured to the inner side of said bars around the drum, substantially as described.

2. In an apparatus of the class described, the combination of a rotary drum having a vertical axis, a plurality of spikes carried by the lower circumferential portion of said drum, a plurality of spirally arranged fins carried by the upper circumferential portion of said drum, and a plurality of laterally-spaced vertically-disposed bars arranged around said drum and adapted to coöperate therewith to separate grain and straw fed therebetween.

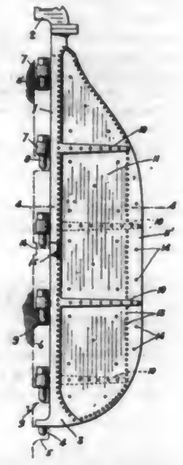
3. In an apparatus of the class described, the combination of a rotary drum having a vertical axis, said drum having its circumference provided with a plurality of spikes and spirally arranged fins, which fins broaden from their forward ends rearwardly, and means arranged around the drum and adapted to coöperate with said spikes and fins to separate grain from straw fed therebetween and having spaces for the escape of grain.

4. In an apparatus of the class described, the combination of a rotary drum having a vertical axis, a plurality of spikes and spirally arranged fins carried circumferentially by said drum, a separator screen arranged around the drum to coöperate with said spikes and fins to separate grain from straw fed between such drum and screen, and a spiral flange secured to the inner side of the screen and adapted to coöperate with said spikes and fins to effect an elevation of said straw.

5. In an apparatus of the class described, the combination of a casing having an annular trough therein provided with an outlet, a drum disposed within said casing and having a vertical axis, and means arranged around the drum within the casing for coöperating therewith to separate grain and straw fed therebetween and adapted to permit separated grain to pass therethrough whereby it may drop without such means into said trough.

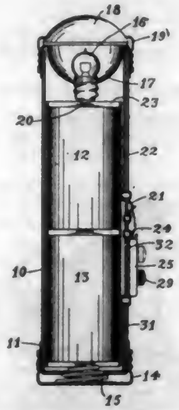
[Claims 6 to 11 not printed in the Gazette.]

971,240. RUDDER. WILLIAM R. BENNETT, St. John, New Brunswick, Canada. Filed May 21, 1910. Serial No. 562,581.



A rudder comprising a post having braces and pintle knuckles integrally formed therewith, in combination with plates having their rear sections deflected outwardly, said plates being secured to said post by said braces.

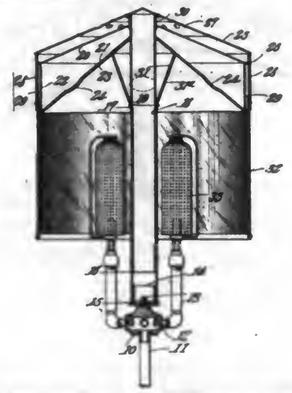
971,241. PORTABLE ELECTRIC LIGHT. JOSEPH BLOCK, New York, N. Y. Filed Feb. 21, 1910. Serial No. 545,209.



1. In a portable electric lamp comprising an exterior casing, a battery within the same and an incandescent lamp bulb; in combination with a two part circuit closer, comprising a fixed plate having an upwardly bulged portion fixed to the exterior of the said casing, a two part box also fixed to the exterior of the said casing and provided with a slot, a spring tongue sliding within the said box and adapted to be brought into contact with said bulged plate, a button for imparting motion to said tongue and a pin extending over said button through the slot in the said box and fixed to said spring, substantially as described.

2. In a portable electric lamp, a circuit closer comprising a fixed plate; in combination with a two part box comprising a second fixed plate and an upper slotted section having tangs for securing the same to said second named plate, a slotted spring tongue within said two part box, a threaded pin passing through the slot in the upper section of said box secured to the said spring tongue and a button above the slot in said box fixed to said pin, substantially as described.

971,242. HEATER ATTACHMENT FOR GAS-LAMPS. HARRY F. BLOOM, Sandusky, Ohio. Filed May 11, 1909. Serial No. 495,266.

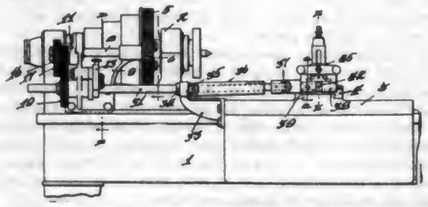


1. The combination with a burner, of a support rising therefrom, said support being formed with a bead, a drum located above the burner, and having a central opening through which the support extends, an inverted conical sleeve surrounding the support and engageable at one end with the bead, and at the opposite end with the bottom wall of the drum, and a dome supported by the upper end of the support, and inclosing the drum.

2. The combination with a burner, of a support rising therefrom, a drum carried by the support, said drum being located above the burner, and having a conical bottom wall provided with openings, and an inverted conical deflector beneath the drum extending to said bottom wall above the openings.

3. The combination with a burner, of a tubular support rising therefrom, said support being formed with a bead, the drum located above the burner, and having a central opening through which the support extends, and from which it rises, an inverted conical sleeve surrounding the support, and engageable at one end with the bead and at the opposite end with the bottom wall of the drum, whereby the drum is removably mounted on the support, and a dome removably mounted on the upper end of the support, and inclosing the drum.

971,243. RELIEVING ATTACHMENT FOR LATHES. EDWARD W. BLUM, WILLIAM T. S. JOHNSON, and FREDERICK KROPF, Cincinnati, Ohio, assignors to The Bradford Machine Tool Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Jan. 3, 1910. Serial No. 536,078.



1. A device of the class described, in combination with a lathe spindle, drive therefor and carriage, of a rotating cam, a system of gearing between the cam and spindle drive, interchangeable for varying the relative ratio of speed between the spindle and cam, a tool holding slide upon the lathe carriage, a rock shaft in connection with said tool slide, and intermediate connections between said shaft and cam for reciprocating said shaft.

2. A lathe attachment for reciprocating the tool slide thereof, of a rotating cam, means for rotating said cam, a pivoted frame engaging the periphery of said cam for oscillating said frame, a tool slide, a rock shaft in connection with said tool slide, and means in connection with said rock shaft and oscillating frame adapted to be adjusted to and from the axis of said oscillating frame for changing the length of oscillating stroke to said rock shaft.

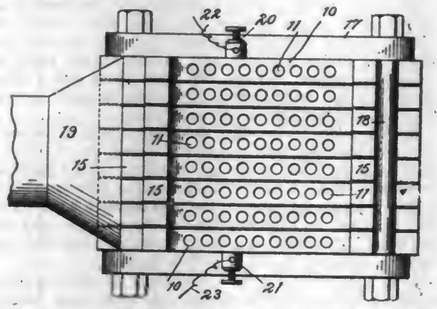
3. In a device of the class described, in combination with a lathe spindle, driving mechanism therefor and carriage, of a rotating cam, means in connection with said driving mechanism and cam for rotating the same, a tool slide on the carriage, oscillating mechanism interposed between said tool slide and cam actuated by said cam, and means for changing the length of oscillating stroke to said oscillating mechanism.

4. In a device of the class described, in combination with a lathe spindle, driving mechanism therefor and carriage, of a rotating cam, means in connection with said driving mechanism and cam for rotating the same, means for interchangeably varying the relative rotation between cam and driving mechanism, a tool slide on the carriage, oscillating mechanism interposed between said tool slide and cam, and means for changing the length of oscillating stroke to said oscillating mechanism.

5. A device of the class described, in combination with a lathe spindle, drive therefor and carriage, of a rotating cam, means in connection with said spindle drive for rotating the cam, oscillating mechanism actuated by said cam, a shaft movable with the carriage, means in connection with said oscillating mechanism and shaft for conveying oscillating motion to said shaft, means for changing the oscillating movement, to said oscillating mechanism, a tool holding slide upon the lathe carriage and intermediate flexible connections between said slide and shaft for reciprocating said slide.

[Claims 6 to 8 not printed in the Gazette.]

971,244. APPARATUS FOR OZONIFYING. CHARLES S. BRADLEY, New York, N. Y. Filed Oct. 29, 1906. Serial No. 341,120.



1. An ozonifier comprising a plurality of electrodes and dielectrics spaced between them, said dielectrics being twice as thick as the width of the spaces between them and the electrodes.

2. An ozonifier comprising a plurality of electrodes, dielectrics spaced between them, said dielectrics being as thick as or thicker than the width of the space between them and the electrodes, and means for maintaining the pressure in the space below atmospheric pressure.

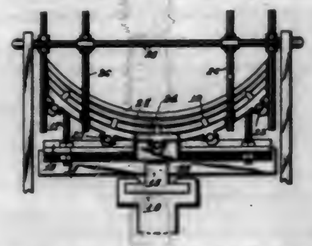
3. An ozonifier comprising a plurality of electrodes, dielectrics between said electrodes, means for maintaining spaces between said dielectrics and electrodes as small as or smaller than the thickness of said dielectrics and means for maintaining the pressure in said spaces below atmospheric pressure.

4. An ozonifier, comprising a plurality of electrodes, dielectrics spaced between them, said dielectrics being twice as thick as the space between them and the electrodes, and means for maintaining the pressure in said spaces below atmospheric pressure.

5. In an ozonifier, the combination with electrodes, dielectrics and spacing means; of a pair of clamping plates, means for causing the clamping plates to approach each other and thus clamp between them the electrodes, dielectrics and spacing means, and means for maintaining the pressure in the spaces formed between the dielectrics and electrodes below atmospheric pressure.

[Claims 6 to 27 not printed in the Gazette.]

971,245. FEEDER FOR PRINTING-PRESSES. ELTON G. BREWER and CAREY A. CHESHIRE, Des Moines, Iowa. Filed Dec. 2, 1909. Serial No. 530,992.



1. In a device of the class described, the combination of a reciprocating base plate having its top surface arranged with its sides higher than its central portion so that articles to be printed resting thereon will lie in curved positions with their side edges elevated and so that the lower one of said articles will have its longitudinal central portion spaced apart from the article above it, a stationary hopper device, and a finger carried by the base plate and designed to enter between the two lower articles at the point where said articles are spaced apart at their longitudinal centers.

2. In a device of the class described, the combination of a reciprocating base plate having its top surface curved transversely of its path of travel, to thereby support articles to be printed in such a manner that the longitudinal centers of the lower articles will stand spaced apart, stationary hopper members designed to hold books or pamphlets on the base plates and to permit the lower one thereof to project beyond the base plate, and a finger carried by the reciprocating base plate to enter between the two lower articles on the base plate.

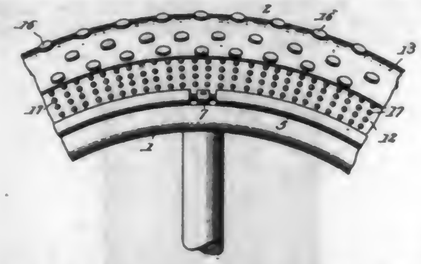
3. In a device of the class described, the combination of two reciprocating base members curved transversely of their path of travel, means for adjusting them toward and from each other, a central reciprocating base member detachably supported between them, stationary hopper members designed to hold articles on the reciprocating base members, and means carried by said reciprocating members for engaging the lower article thereon.

4. In a device of the class described, the combination of a reciprocating support member, a cross head thereon, two segmental base plates adjustably fixed to said cross head, and feeder fingers at one end of said base plates.

5. In a device of the class described, the combination of a base member, a feeder finger mounted therein and capable of up and down movement, and having an inclined lower end, a contractible spring arranged to hold the yielding feeder finger downwardly, and a set screw designed to engage the inclined end, for the purposes stated.

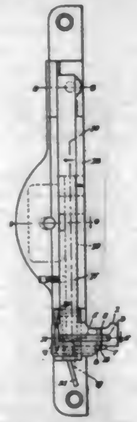
971,246. PROTECTOR FOR PNEUMATIC TIRES. OLE A. BRICTSON, Brookings, S. D. Filed Apr. 11, 1907. Serial No. 367,637.

A pneumatic tire having an outer protecting covering composed of layers of material, annular rows of rivets connecting the tread portion of the layers and arranged in staggered relation, said rivets having outer enlarged flattened heads disposed out of transverse alinement and on lines between each other, an annular series of rivets connecting the layers at each side of the tire and between the tread portion of the tire and rim of the wheel, said



rivets having outer rounded heads of smaller diameter than the heads of the tread rivets, said round headed rivets being arranged in alined longitudinal and transverse rows in close relation to each other so as to form clusters of projections to protect the sides of the tire and layers from wear.

971,247. WIRE-CUTTER. THOMAS A. BRIGGS, East Greenwich, R. I., assignor to Boston Wire Stitcher Company, East Greenwich, R. I., a Corporation of Maine. Original application filed May 25, 1908, Serial No. 435,174. Divided and this application filed June 12, 1909. Serial No. 501,749.



1. A wire-cutting mechanism comprising a knife-holder, having a knife groove in one face thereof, two knives mounted in said groove, one being secured immovably to one wall of the groove, and the other being guided to move beside said first knife between the latter and the other wall of the groove.

2. A wire-cutting mechanism comprising a knife holder, a stationary knife secured to said holder and having a recess of uniform width in a side thereof, in which the wire to be cut is placed, the intersection of the side wall of such recess with a side of the knife forming a cutting edge, and a second knife held movably by said holder and constrained to travel so that its cutting edge is caused to travel past that of said first knife to coöperate with the latter in shearing the wire.

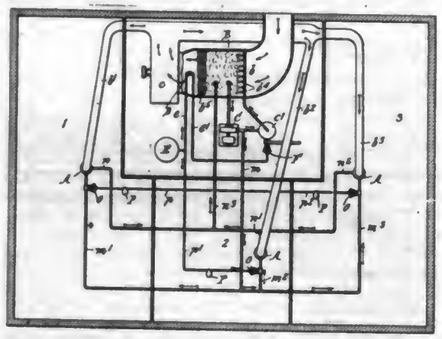
3. A wire cutter comprising a pair of interchangeable knives arranged side by side and relatively movable, one of said knives having an operative cutting edge intermediate its ends and a reserve cutting edge at its end, and the other having an operative cutting edge at its end, with a reserve cutting edge between its ends.

4. A wire cutter comprising a pair of knives of equal cross-sectional outline and area, arranged side by side and relatively movable in the direction of their length, one of said knives having a cutting edge intermediate its ends and transverse to its length, and the other having a cutting edge at its end.

5. A wire cutter comprising a stationary reversible bar-like knife having a transverse groove or passage in one face near each end for the wire, the intersection of the wall of which groove with the side of the knife forms a cutting edge, and a complemental reversible knife having an edge at each end movable past and beside the cutting edge of said first knife.

[Claims 6 to 17 not printed in the Gazette.]

971,248. HUMIDIFYING APPARATUS. WILLIS H. CARRIER, Buffalo, N. Y., assignor to Buffalo Forge Company, Buffalo, N. Y. Filed Dec. 31, 1909. Serial No. 535,739.



1. The combination of a humidifier, an auxiliary humidifier which is supplied with humidified air from said first humidifier and is provided with additional humdifying means, and means controlled automatically by the humidity of the air in the vicinity of said auxiliary humidifier for regulating the action of its humidifying means, substantially as set forth.

2. The combination of a plurality of auxiliary humidifiers each having means for humidifying air, a humidifier common to the several auxiliary humidifiers for supplying humidified air thereto, and means controlled automatically by the humidity of the air in the vicinity of each auxiliary humidifier for regulating the action of its humidifying means, substantially as set forth.

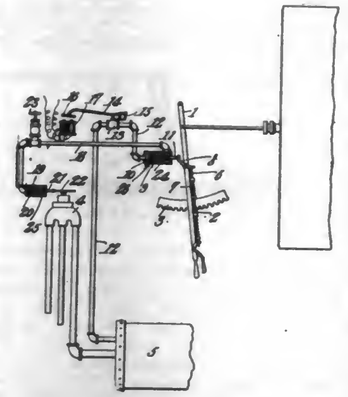
3. The combination of a humidifier, a plurality of auxiliary humidifiers which are supplied with humidified air by said first humidifier and are provided with air moistening means, and means controlled by the humidity of the air in the vicinity of the auxiliary humidifiers for independently governing the action of the moistening means of the several auxiliary humidifiers, substantially as set forth.

4. The combination of a humidifier provided with means for saturating air at a predetermined temperature, a plurality of auxiliary humidifiers which are supplied with the saturated air from said first humidifier and are provided with air moistening means, and means controlled by the humidity of the air in the vicinity of the auxiliary humidifiers for independently governing the action of the moistening means of the several auxiliary humidifiers, substantially as set forth.

5. The combination of a humidifier provided with means for saturating air at a predetermined temperature, a plurality of auxiliary humidifiers which are supplied with the saturated air from said first humidifier and are provided with means for moistening the air of the rooms in which said auxiliary humidifiers are located, and means controlled by the humidity of the air in the rooms in which said auxiliary humidifiers are located for independently governing the action of the moistening means of the several auxiliary humidifiers, substantially as set forth.

[Claims 6 to 10 not printed in the Gazette.]

971,249. ELECTRIC RAILWAY SAFETY SYSTEM. ANTONIO CASALE, Scranton, Pa. Filed June 18, 1909. Serial No. 502,976.



1. In a railway safety system, a throttle lever actuating means responsive to air pressure and unconnected with the throttle lever, an engineer's brake valve operating means responsive to air pressure and unconnected with the brake valve, means for admitting compressed air to the throttle lever actuating means, and connections from the throttle lever actuating means to the means for operating the brake valve for admitting air to the said brake valve operating means subsequent to the action of the throttle lever actuating means.

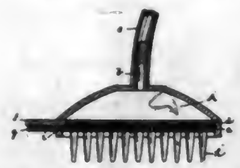
2. In a railway safety system, a throttle lever actuating means comprising a cylinder, a piston therein, a piston rod controlled by the piston, a throttle lever in the path of but not connected with the piston rod, means for admitting compressed air into the cylinder under predetermined conditions, another cylinder, an air connection between the first named cylinder at the end thereof near the termination of the power stroke of its piston and the second cylinder, a piston in the second cylinder, and a piston rod controlled by the last named piston and adapted to engage and actuate the engineer's air brake controlling valve when the piston is moved actively, but not connected with said valve.

3. In a railway safety system, a throttle lever, actuating means comprising a cylinder, a piston therein, a piston rod controlled by the piston, a lever mounted on the throttle lever with one end in the path of but not connected with the piston rod, a movable member controlled by said lever for moving the throttle lever latch to inactive position, a connection between the cylinder and the source of compressed air, and means for admitting compressed air to the cylinder under predetermined conditions.

4. In a railway safety system, a throttle lever, actuating means therefor comprising a cylinder, a piston therein, a piston rod controlled by the piston, a lever mounted on the throttle lever in the path of but not connected with the piston rod, a movable member controlled by said lever in operative relation to the throttle lever latch for moving the latter to inactive position, manually operable means on the throttle lever for controlling the throttle lever latch, a connection between the cylinder and a source of compressed air and means for admitting compressed air to the cylinder under predetermined conditions.

5. In a railway safety system, a throttle lever actuating means responsive to air pressure, connections between said actuating means and the main reservoir of an air brake system, an engineer's brake valve operating means also responsive to air pressure, means controlled by the throttle lever actuating means for causing admission of air to the brake valve operating means subsequent to the operation of the former, and means for regulating the action of compressed air on the brake valve operating means at will.

971,250. FOUNTAIN-COMB. GEORGE M. CHARLES, Washington, D. C. Filed Apr. 9, 1910. Serial No. 554,897.



1. A fountain comb, comprising a liquid receptacle having a supply and discharge openings, and perforated plates slidable in grooves in the inner side walls of the liquid receptacle, said plates being provided with perforations arranged to register with each other, one of said plates being provided with outwardly projecting teeth arranged in rear of the perforations therein.

2. A fountain comb, comprising a liquid receptacle having a supply-pipe, a discharge-opening, grooves in its inner side walls, and upper and lower perforated plates slidable in said grooves, with plates adapted to regulate or cut off the flow of liquid, said lower plate being provided with a row of projecting teeth, so arranged, with respect to the perforations in said plate, that a perforation will be in front of each tooth and a perforation midway between each of said perforations.

971,251. TREATMENT OF ORES BEARING PRECIOUS METALS. JOHN COLLINS CLANCY, New York, N. Y. Filed Feb. 2, 1909. Serial No. 475,664.

1. The process of treating pulverized ore containing precious metals which consists in subjecting the ore to the action of a cyanid solution, a soluble iodid and nitrogen oxid.

2. The process of treating pulverized ore containing precious metals which consists in subjecting the ore to the action of a cyanid solution, a soluble iodid and nitrogen peroxid.

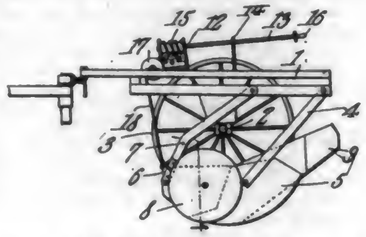
971,252. TREATMENT OF ORES BEARING PRECIOUS METALS. JOHN COLLINS CLANCY, New York, N. Y. Filed Mar. 13, 1909. Serial No. 483,331.

The method of treating pulverized ore containing gold, which consists in subjecting said ore to the action of a solution containing a soluble iodid and a substance capable of yielding nascent oxygen in the presence of said solution.

971,253. BEET-DIGGER. ARNOLD CLARK, Latty, Ohio. Filed Mar. 22, 1910. Serial No. 550,967.

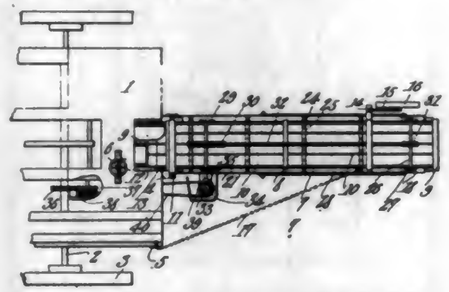
1. A digger comprising a wheel mounted frame, two sets of arms pivoted at their upper ends to the frame, a digger proper pivoted to the lower ends of both sets of arms, disks journaled at the sides of the digger and adapted to cut incisions at the opposite sides of a row and means for raising and lowering the digger.

2. A digger comprising a wheel mounted frame, two sets of arms pivoted at their upper ends to said frame, side pieces pivoted to the lower ends of the hindmost set of arms, a yoke connecting the side pieces together, the foremost set of arms being pivotally connected with said yoke, means for raising and lowering the yoke, digging shares mounted upon the inner sides of said side pieces and disks journaled upon the outer sides of the



side pieces and adapted to cut incisions in the soil at the opposite sides of the row.

971,254. WINDROW ATTACHMENT FOR BEET-HARVESTERS. ARNOLD CLARK, Latty, Ohio. Filed Mar. 22, 1910. Serial No. 550,968.



1. In combination with a harvester, a windrow attachment pivotally connected at its forward end with the harvester frame, a wheel supporting the rear portion of the windrow attachment in an inclined position, and means for swinging the attachment laterally and securing the same with respect to the harvester.

2. In combination with a harvester, a windrow attachment pivotally connected at its forward end with the frame of the harvester, means for raising and lowering the forward end of the windrow attachment, a wheel supporting the rear end of the attachment and maintained in an inclined position, and means for swinging the attachment laterally and securing the same at an angle with respect to the harvester frame.

3. In combination with a harvester, a windrow attachment comprising a frame pivotally connected with the harvester, said attachment having spaced bars, side bars mounted for orbital movement adjacent the sides of the attachment, cross bars carried by the side bars, fingers mounted upon the cross bars and adapted to project through the intervals between the spaced bars, and means for operating the side bars from the harvester.

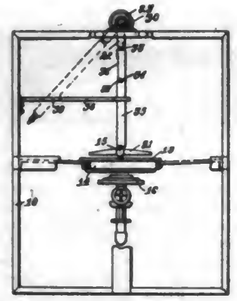
4. In combination with a harvester, a windrow attachment comprising a frame attached to the harvester, spaced bars extending longitudinally of the attached frame, side bars movably mounted adjacent the sides of the attached frame, guides located upon said frame, pawls pivotally mounted above said guides, pins carried by the side bars and adapted to operate along the guides and over the pawls, and means for moving the side bars from the harvester.

5. In combination with a harvester, a windrow attachment comprising a frame connected at its forward end with the harvester, spaced bars located in the attached frame, side bars movably mounted at the sides of the attached frame, guides located upon the attached frame, pawls located upon the attached frame above said guides, inwardly disposed pins carried by the side bars and adapted to operate over the guides and the said pawls, a shaft

journaled for rotation upon the attached frame and having crank extremities, connecting rods pivoted at their ends to the cranks of said shaft and the said side bars, and means for rotating said shaft from the harvester.

[Claim 6 not printed in the Gazette.]

971,255. CORN-POPPER. ARTHUR DANISON, Blue Earth, Minn. Filed Oct. 25, 1909. Serial No. 524,393.



1. A device of the class described, comprising a pan-supporting means, a power shaft above it, a hanger on the power shaft, a shaft section, a second shaft section slidingly connected with the first, a stirring cross piece attached to the second shaft section, and means for raising and lowering the lower shaft section and for supporting it in either position of its adjustment.

2. A device of the class described, comprising a pan-supporting means, a power shaft above it, a hanger on the power shaft, a shaft section, a second shaft section slidingly connected with the first, a stirring cross piece attached to the second shaft section, and means for raising and lowering the lower shaft section and for supporting it in either position of its adjustment, said means comprising a sleeve fixed to the hanger and encircling said shaft sections, a second sleeve slidingly mounted on the first, means connected with the lower shaft section and the latter sleeve whereby an elevation of the latter sleeve will raise the lower shaft section, and means for supporting the latter sleeve in an elevated position.

3. A device of the class described, comprising a pan support, a power shaft, a hanger on the power shaft, a shaft section rotatably mounted in the hanger, a gearing device connecting the power shaft and the shaft section, a tube fixed to the lower end of said shaft section and having a vertical slot, a second shaft section, a stirring cross piece fixed to the lower end thereof, a pin fixed to the upper end thereof and mounted in said slot, a bearing block fixed to the lower end portion of the latter shaft section, a sleeve fixed to the hanger and having a pin, a second sleeve slidingly mounted on the first and having a vertical slot with a lateral extension therein to receive said pin, and also having a lower end through which the lower shaft section is extended, said lower end being designed to engage said bearing block, substantially as and for the purposes stated.

4. A device of the class described, comprising a pan support, a horizontally arranged power shaft, two bearings thereon, a sleeve fixed to each bearing to encircle the power shaft and extended beyond the bearing, a hanger rotatably mounted on said sleeves, a stirring shaft rotatably mounted in the hanger, beveled gear wheels in mesh with each other and fixed to said shafts, and a stirring cross piece operatively connected with the shaft in the hanger, said parts being so arranged that the rotation of the power shaft will not affect the swinging movements of the hanger.

5. In a device of the class described, the combination of a frame, a pan support therein, a power shaft at the top of the frame, a hanger thereon, a rotatable shaft mounted in the hanger, a stirring cross piece connected therewith, gearing devices connecting the power shaft and the shaft in the hanger, and two spring bars spaced apart from each other to receive the shaft of the stirrer and having outwardly bowed portions therein to hold the stirrer shaft in position inclined away from the said pan support, for the purposes stated.

971,256. RAILWAY-TIE. JULIAN DEMATTEIS, Batavia, Iowa. Filed May 18, 1910. Serial No. 562,010.



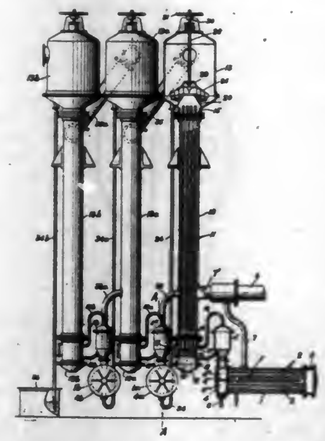
A triangular railway tie formed from a blank of metal bent longitudinally upon itself and the side portions thence bent toward each other and their meeting edges secured together, said tie being slit adjacent its apex to form tabs and an angular projection, said tabs being bent to horizontal position and underlying said angular projection, and a plastic material filling element within the tie.

971,257. RAZOR-BLADE HOLDER. JOSEPH EDMOND DUBÉ, Quebec, Quebec, Canada. Filed May 17, 1909. Serial No. 496,667.



A device of the character described, comprising a tubular handle, and reversible coöperating clamping plates adapted to be forced into said handle, each of said plates being provided with a longitudinal groove in the inner face of one end and one of said plates being provided at its opposite end with pins adapted to be seated in holes or openings in the adjacent end of the coöperating plate.

971,258. EVAPORATOR. JOSEPH E. DUNN, Philadelphia, Pa., assignor to American Evaporator Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Mar. 16, 1910. Serial No. 549,663.



1. An evaporating element having a pressure chamber and vertical tubes extending into said chamber, in combination with means for separating vapor from liquid and delivering it to said pressure chamber above the inlets

to said tubes, and means for conveying liquid from which said vapor is separated to said pressure chamber below the inlets to said tubes.

2. An evaporating element having a pressure chamber, a perforated diaphragm in said chamber, and vertical tubes having ends extending into said chamber, said tubes having inlets above said diaphragm, in combination with means for heating a liquid, means for separating vapor from the heated liquid and delivering it to said chamber above said diaphragm, and means for delivering said heated liquid to said chamber beneath said diaphragm.

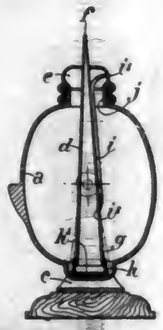
3. An evaporating element comprising a set of substantially vertical tubes, a heating chamber through which said tubes pass, a pressure chamber with which said tubes communicate, a separating chamber with which said tubes communicate, and adjustable mechanism in said separating chamber adapted for regulating the flow through said tubes of liquid and vapor from said pressure chamber.

4. An evaporating element comprising a heating chamber, a set of substantially vertical tubes extending through said heating chamber, a pressure chamber communicating with the lower ends of said tubes, a separating chamber with which the upper ends of said tubes communicate, and mechanism in said separating chamber for dividing and imparting a rotary movement to liquid and vapor delivered by said tubes, said mechanism comprising channels and means whereby the cross sectional areas of said channels can be varied.

5. An evaporating element comprising a heating chamber, a set of substantially vertical tubes extending through said heating chamber, a pressure chamber communicating with the lower ends of said tubes, a separating chamber with which the upper ends of said tubes communicate, and adjustable mechanism in said separating chamber which divides and gives a rotary motion to liquid and vapor delivered from said tubes, said mechanism comprising a set of spiral blades and a sealing chamber having a sheet containing spiral slots through which said blades are movable.

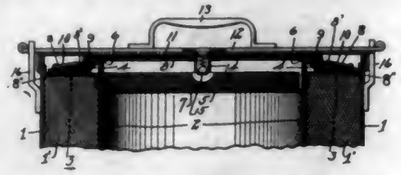
[Claims 6 to 8 not printed in the Gazette.]

971,259. APPARATUS FOR DISTRIBUTING LIQUIDS IN MEASURED QUANTITIES. STANISLAS EFFANTIN, St. Cloud, France. Filed Nov. 20, 1909. Serial No. 529,093.



An apparatus for distributing liquid in measured quantities comprising in combination a vessel of convenient shape and material, a support in which said vessel is pivoted so that it can be turned upside down, a screw stopper for closing the upper end of said vessel, the conical distributing tube fixed with its small end in said stopper so that its open pointed end projects from said stopper, the large bottom end reaching down nearly to the bottom of said vessel, said tube having at some distance above the bottom a small inlet hole, an adjustable cap for closing the bottom end of said conical distributing tube and an air tube fixed with one open end in said conical distributing tube at some distance above the inlet of the same and with the other end in the stopper of the vessel so that it communicates with the atmosphere, substantially as described and shown and for the purpose set forth.

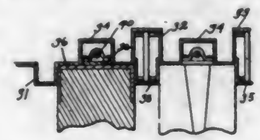
971,260. FIRELESS COOKER. JOHN W. FLORY, Dayton, Ohio. Filed Mar. 23, 1910. Serial No. 551,120.



1. In a fireless cooker, an inner and outer casing inclosing between them heat-insulating material, said inner and outer casings being joined near their upper ends with a horizontal wall, and the inner casing being extended upwardly and terminating in an outward inclined seat which joins said horizontal wall, and a cover consisting of two metallic portions inclosing heat-insulating material, the inner portion of said cover having a tapered seat with a horizontal extension therefrom, said tapered seat and horizontal extension being adapted to engage the tapered seat extending from the inner casing, and the horizontal wall joining said inner and outer casings, substantially as specified.

2. In a fireless cooker, an inner and outer casing joined at their upper ends by a horizontal wall, the inner casing being extended upwardly and terminating in an inclined seat which joins said horizontal wall, and a cover having an inclined seating portion and a horizontal seating portion adapted to engage the inclined seating portion extending from the inner casing, and the horizontal wall joining the inner and outer casings, and means for holding said cover on the seats so provided.

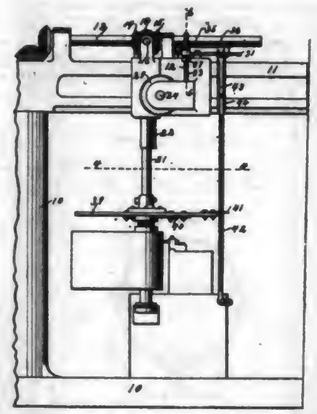
971,261. WINDOW-FRAME. FRANK E. FRISBEE, Des Moines, Iowa. Filed Mar. 29, 1909. Serial No. 486,332.



1. In a window frame, a sheet metal casing, formed with stop receiving members extended outwardly from the casing, flat portions to engage window sashes, sash cord receiving members extending outwardly from the centers of said flat portions, and an inwardly extending member forming a stationary stop for window sashes, sheet metal stops to enter the stop receiving members, and links for pivotally mounting said stops in the stop receiving members designed to swing them to a position inside the face of the casing as they are moved upwardly.

2. In a window frame, a sheet metal casing, formed with stop receiving members extended outwardly from the casing, flat portions to engage window sashes, sash cord receiving members extending outwardly from the center of said flat portions, and an inwardly extending member forming a stationary stop for window sashes, sheet metal stops to enter the stop receiving members, links for pivotally mounting said stops in the stop receiving members designed to swing them to a position inside the face of the casing as they are moved upwardly, a spring arm fixed at one end to each of the stops extending upwardly and inwardly over the top thereof to a position in engagement with the stops in the top of the frame for preventing an upward movement of said sheet metal stops, and a handle slidingly mounted on each of said stops for releasing the spring arms from engagement with the stationary stop and for moving said pivotally mounted stops to a position inside the face of the casing.

971,262. ADJUSTABLE REVERSING ATTACHMENT AND FEED FOR CUTTING-TOOLS. JOHN H. GEBHARDT, Des Moines, Iowa. Filed Nov. 1, 1909. Serial No. 525,773.

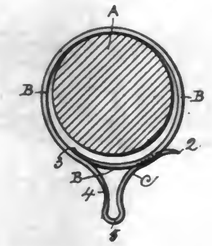


1. A lathe for cutting tools comprising, in combination, a vertical lathe shaft mounted for rotary movement and for a limited upward and downward movement; a rack on said shaft to control its upward and downward movement; gearing to operate said rack, being itself operated by a combination of levers; a circular disk on said shaft; a lug on said disk; an arm on said disk; means whereby the arm and lug on the disk will, during the revolution of the shaft, operate the combination of levers which control the movement of the rack; and means to reverse the rotary movement of the lathe shaft each time the lug or arm operate the aforesaid combination of levers, substantially as shown and described.

2. A lathe for cutting tools comprising in combination a vertical lathe shaft mounted for rotary movement and for a limited upward and downward movement and means to drive said shaft; a circular disk on said shaft; an arm on said disk; a lug on said disk; a vertical rod extending from the lower frame of the lathe to a point near the upper frame thereof, said rod being in the line of movement of the lug and arm; a lever fulcrumed in the upper frame of the lathe, its lower end being loosely connected to the aforesaid vertical rod; and means whereby the moving of said lever in one direction will throw into gear a gear wheel which moves the lathe shaft in one direction and when said lever is moved in the opposite direction it will throw into gear a gear wheel which will move the lathe shaft in a reverse direction, substantially as shown and described.

3. A lathe for cutting tools comprising in combination, with a vertical lathe shaft provided with means for reversing the movement thereof, a lathe shaft mounted for a limited upward and downward movement; a rack on said shaft; a gear wheel, secured to a shaft mounted in the frame of the lathe, adapted to operate said rack; a second gear wheel on said shaft; a stub shaft secured in the upper frame work; a worm gear on said stub shaft, designed to engage and operate the said second gear wheel; a ratchet wheel on said stub shaft; a spring actuated ratchet lever secured in a ratchet arm loosely mounted on said stub shaft; and means, connected with the reversing means for the lathe shaft, for moving said ratchet arm forward or backward with each reversal of movement of the lathe shaft, substantially as shown and described.

971,263. CURTAIN-RING. EVA GILMORE, Hamilton, Ontario, Canada. Filed July 9, 1909. Serial No. 506,672.



A curtain ring having an annular groove, the lower body part of the ring extending downward and then curving upward to form a dependent and resilient loop adapted to receive and to allow a curtain to suspend therefrom, said curved parts extending upward in said groove and contacting therewith in the body part of the ring, and then diverging a distance outwardly, and away from the ring, to form a projecting resilient pin adapted to be moved away from and out of said groove to allow the insertion of a curtain between the pin and the ring, and the curtain to hang in the loop, the opposite end part of the ring extending beyond said loop, and rigidly secured to the inner body part of the ring, and thereby confining the loop.

971,264. BLASTING-PLUG. FRANK A. GOODROW and EDWARD F. GOODING, Elgin, Ill. Filed June 6, 1910. Serial No. 565,206.

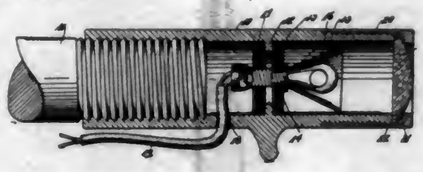


1. In a device of the class described, a tapered body plug, and a plurality of segmental sections of equal width and of a form to encircle the tapered body portion, and together present a substantially circular periphery, the tapered body portion being provided with a longitudinal fuse hole, and being further provided with end flanges, and means for retaining the segmental sections in position around the tapered body portion, substantially as described.

2. In a device of the class described, a body portion comprising a tapered plug provided with substantially circular forward and rear end flanges, and provided with a longitudinal fuse hole, and a plurality of segmental sections of a form to contact the wedge-shaped body portion and together present a substantially circular periphery, the diameter of the forward and rear end flanges being substantially less than the diameter of the segmental sections when at the smaller end of the tapered plug portion, whereby when the device is placed in a hole with the segmental sections at the smaller end of the body portion the end flanges may not contact the lower wall of the hole, substantially as described.

3. In a device of the class described, a body portion comprising a tapered conical plug provided with a longitudinal fuse hole and with forward and rear end flanges of substantially circular cross section, and a plurality of segmental sections of equal width adapted to encircle the tapered plug and together present a substantially circular peripheral surface substantially parallel to the axis of the body portion, and means for retaining said segmental sections in position around the tapered plug portion, substantially as described.

971,265. HEADLIGHT FOR VEHICLES. BOWEN R. GOVER, Newton, Iowa. Filed June 20, 1910. Serial No. 567,878.

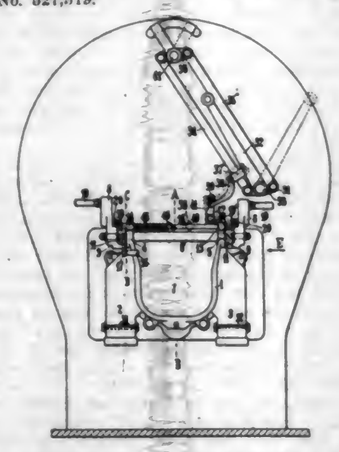


1. In a device of the kind described, a cylindrical casing adapted to engage the end of a vehicle shaft or pole, an annular flange extending around the inside of said casing intermediate its ends, an elastic washer held against said flange and having a centrally disposed opening spaced from said flange, a reflector having a lamp socket attached to one end, said socket being screwed into the opening in the washer, and transparent means to close the end of said casing.

2. In a device of the kind described, a cylindrical casing adapted to engage the end of a vehicle shaft or pole, an annular flange extending around the inside of said casing intermediate its ends, an elastic washer held against said flange and having a centrally disposed opening spaced from said flange, a reflector having a lamp socket attached to one end, said socket being screwed into the opening in the washer, a lens closing the end of said casing, and a lens ring screwed on said casing to hold said lens in position.

3. In a device of the kind described, a cylindrical casing adapted to engage the end of a vehicle shaft or pole, an annular flange extending around the inside of said casing intermediate its ends, an elastic washer held against said flange and having a centrally disposed opening spaced from said flange, a reflector having a lamp socket attached to one end, said socket being screwed into the opening in the washer, a lens closing the end of said casing, a lens ring screwed on said casing to hold said lens in position, and an incandescent lamp held in said socket.

971,266. FURNACE-DOOR. GUSTAV DE GRAHL, Zehlendorf, near Berlin, Germany. Filed Nov. 11, 1909. Serial No. 527,519.

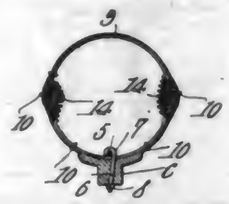


1. In means for admitting overgrate blast to furnaces in locomotives the combination with the regulating lever of an inwardly opening pivoted furnace door, means for locking the door in its closed position, a spring tending to open the door, means for releasing said locking means and adapted to be actuated by said regulating lever, when the same is moved over into the position, in which the steam is shut off from the steam cylinder and the blast pipe.

2. In means for admitting overgrate blast to furnaces, the combination, with the door-frame, a shaft, carrying an inwardly-opening door, pivoted thereon, a segment having recesses, and a projection fixed on said shaft, and spring-pressed locking means adapted to engage with said segment, of a spring on said frame normally coacting with said projection and tending to open said door, and a pivoted lever adapted to release said locking means from said segment.

3. In means for admitting overgrate blast to furnaces, the combination, with the door frame, a shaft, carrying an inwardly-opening door, pivoted thereon, and a segment having recesses and a projection fixed on said shaft, of a spring mounted on said frame and normally coacting with said projection and tending to open said door, substantially as shown.

971,267. WHEEL-TIRE. SAMUEL GRUNEWALD, Van Wert, Ohio. Filed Mar. 3, 1910. Serial No. 547,092.

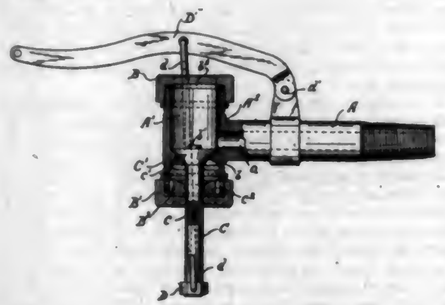


1. A tire consisting of a coiled spring having supplemental coils integral with diametrically opposed portions of each convolution, a flexible cover inclosing the coils and normally stretched thereby, and means laced through the cover for securing the same to said supplemental coils.

2. A tire consisting of a main coiled spring having supplemental coils integral with diametrically opposed portions of each convolution of the main spring, the convolutions of the supplemental coils extending about axes constituting continuations of the curves of the convolutions of the main spring.

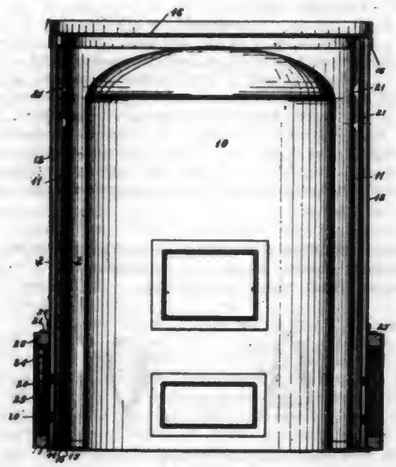
3. A tire consisting of a main coiled spring having each convolution provided at diametrically opposed points with supplemental coils extending around axes following the curvature of the convolution of the main spring, and a flexible cover inclosing the coil and secured to a supplemental coil at each side of the main spring.

971,268. STEAM AND WATER GAGE. EDWARD HALLEY, Chicago, Ill., assignor of one-half to R. J. McDonell, Victoria, British Columbia, Canada. Filed Aug. 24, 1908. Serial No. 450,099.



In a steam or water gage, the combination of a casing having communication with the interior of a boiler, a valve stem carrying a valve upon one end and having an elongated opening through the lower part thereof, said valve seating in the aforesaid chamber, a projection extending upwardly from the valve, a stuffing box surrounding said stem, packing between the stem and stuffing box, and means for operating the valve, substantially as described.

971,269. FURNACE-CASING. WILLIAM F. HANSEN, Des Moines, Iowa. Filed Mar. 29, 1910. Serial No. 552,260.

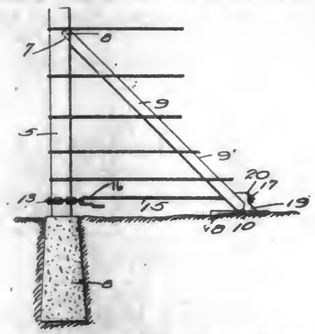


1. An improved furnace casing, comprising an inner and an outer wall both being corrugated vertically from end to end, the outer wall being provided with air passages near its bottom and the inner wall being provided with air passages near its upper end, a sheet metal strip at the top and bottom of the casing, each strip having its edges extended to position for overlapping the ends of the walls and also having a central rib extending between the walls to thereby hold the walls spaced apart and to connect them with each other, a metal T-bar having its rib projecting upwardly into the rib in the lower spacing strip, a sheet metal covering, and a screen device to prevent dust from entering the air passages in the outer wall.

2. An improved furnace casing, comprising an inner and an outer corrugated metal wall, the outer wall being provided with air passages near its bottom and the inner wall being provided with air passages near its upper end, two wooden strips extending around the casing, one above and one below the air passages therein, a screen to cover said air passages and connected with the wooden strips, a wire netting connected with the outer edges of said wooden strips, and a dust proof strip on top of the upper wooden strip extending around the furnace wall and designed to fit into the corrugations thereof, the parts of said dust proof strip that extend into the grooves of the outer wall being shaped to fit tightly into said grooves and the parts of said strip that engage the ribs of the outer wall being inclined upwardly, substantially as and for the purposes stated.

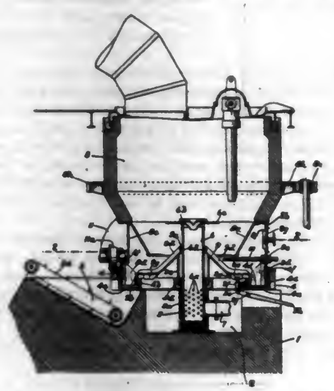
971,270. FENCE-POST. WILLIAM HOOPER, Warner, Kans. Filed Oct. 6, 1909. Serial No. 521,208.

The combination with a post, having a recess therein adjacent its upper end, of a chain collar surrounding the lower end of said post and comprising a plurality of links, a portion of which are open links whereby said collar may be detached from the post, a brace member disposed in said recess at the upper end of the post, said brace member having its lower end rounded in contour and provided with a slot extending diagonally therethrough, an engaging member having a diagonal rear face adapted to form a resisting member, said diagonal face of the engaging member terminating in a concaved lower portion and with which the rounded end of the post is snugly engaged, said engaging member having an aperture therethrough adjacent the diagonal portion and disposed in alinement with the said slot, a tension rod having



a hooked end engaged in one of the open links of the collar and having its opposite end screw threaded and disposed through the alined slots aforesaid, said engaging member having a portion of its outer face extending vertically adjacent to the slot therein and a nut mounted upon the screw threaded end of said rod in engagement with said face.

971,271. GAS-PRODUCER. WILLIAM B. HUGHES, Cleveland, Ohio. Filed Nov. 9, 1909. Serial No. 526,944.



1. A gas producer having a revolving body, in combination with a revoluble bottom member adapted for receiving and discharging ashes, a stationary channel to which said member discharges, and means for moving ashes in said channel.

2. A gas producer having a revoluble body, a revoluble bottom member which receives ashes from said body, said body being revoluble independently of said member, a channel to which ashes are discharged from said member, and means movable in said channel for collecting ashes therein.

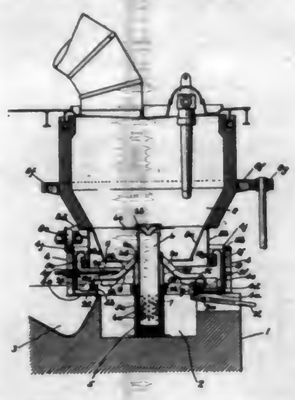
3. A gas producer having a body, a revoluble member beneath said body, said member having blades adapted for giving an outward movement to ashes deposited thereon, a stationary channel for receiving said ashes, and means for moving the ashes in said channel.

4. A gas producer having a revoluble body, and an independently revoluble member adapted for receiving ashes discharged from said body, said member having means fixed thereto for moving ashes thereon outwardly from its center.

5. A gas producer having a revoluble body, a revoluble bottom member beneath said body, and one or more scrapers revoluble about said bottom member.

[Claims 6 to 21 not printed in the Gazette.]

971,272. GAS-PRODUCER. WILLIAM B. HUGHES, Cleveland, Ohio. Filed Nov. 9, 1909. Serial No. 526,945.



1. A gas producer having a revoluble bottom with scrapers thereon, in combination with a body revoluble independently of said bottom.

2. A gas producer having a channel, a revoluble body, means depending into said channel for sealing the bottom of said body, a revoluble bottom member having sealing means depending into said channel, and one or more scrapers carried by said bottom member and acting in said channel.

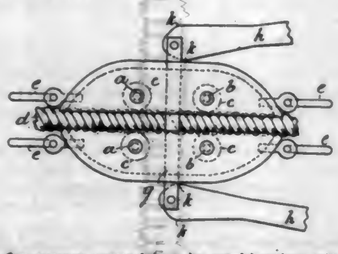
3. A gas producer having a circular channel, a revoluble bottom having scrapers thereon movable in said channel, and a revoluble body above said bottom.

4. A gas producer having a revoluble body, an apron, sealing means connecting said body and apron, a stationary channel into which said apron depends, a revoluble bottom member adapted for discharging into said channel, and revoluble scrapers carried by said bottom member and acting in said channel.

5. A gas producer having a stationary channel, a revoluble body having a depending apron, means connected with said channel and apron for sealing the bottom of said body, a revoluble bottom member having an apron depending into said channel, and one or more scrapers fixed to said member and acting in said channel.

[Claims 6 and 7 not printed in the Gazette.]

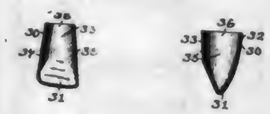
971,273. LIFE-SAVING APPARATUS. JAKOB ADSER JAKOBSEN, Esbjerg, Denmark. Filed Apr. 29, 1908. Serial No. 429,932.



1. A fire-escape comprising, in combination with a rope, a block consisting of two cup-shaped members, suspending means for said block arranged at one end thereof and means at the opposite end of the block for securement to the person to be lowered, a pair of transverse shafts carried in spaced relation by each of said members, a pair of balls carried by one shaft of each member and disposed in close proximity to each other, a ball carried by the other shaft of each member and arranged to aline with the space between said pair of balls, the balls of the two members engaging on opposite sides of the rope, means projected through each of the members, and other means pivoted to the projecting ends of said last named means and having portions to engage the backs of the members to move the latter toward the rope.

2. A fire-escape, comprising, in combination with a rope, a block consisting of two opposed members, two sets of rollers in each member engaging opposite sides of the rope, an element projected through said members, an arm pivoted to each end of said element, porjections formed on each arm to bear against the backs of the members, said arms being reversible so as to be capable of operation from either end of the block, and suspending means carried at each end of the block, said block being reversible so as to be capable of having its ends interchangeably used.

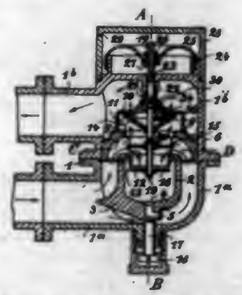
971,274. MEANS FOR FORMING TOOTH-CROWNS. FERNANDO OSCAR JAQUES, Jr., Cranston, R. I. Filed Jan. 12, 1910. Serial No. 537,905.



1. A permanent non-fusible tooth crown former having a tooth shape end and an adjacent body portion oval in cross section with straight front, back and sides merging into the tooth shape end and a shank on the former, all formed integral, said oval body portion having a circumference equaling at the gum line the circumference of the tooth to be crowned, for the purpose as described.

2. A permanent non-fusible tooth crown former having a flat tooth shape end, the width of which equals the width of the end of an incisor tooth to be crowned and an adjacent oval body portion with straight front, back and side and a shank on the former, all formed integral, said oval body portion having a circumference equaling at the gum line, the circumference of the incisor tooth to be crowned, whereby the crown is easily removed from the former, without destroying the former, and by compressing the crown on the longer axis of the oval the required taper is given to the sides of the crown without increasing or diminishing the circumference of the open end of the crown, as described.

971,275. FLUID-PRESSURE REGULATOR. MAX JASPERSEN, Hamburg, Germany. Filed Feb. 2, 1909. Serial No. 475,639.



1. In a device for regulating gas pressures, the combination with a gas main, of a partition provided with valve means, and a receptacle adapted to catch the water of condensation which gathers on and drips from said partition, said receptacle provided with an outlet, and valve means normally closing said outlet, but constructed to open when the water in said receptacle attains a predetermined point.

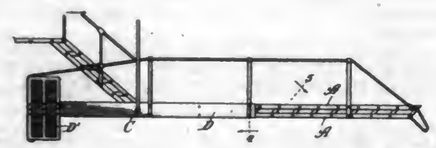
2. In a fluid pressure regulator, a partition, valve means positioned therein, an independent hollow body located below said partition, a flange secured to said body and projecting into the path of the fluid, whereby the direct current of fluid will be diverted and prevented from coming in contact with the said valve means.

3. In a device for regulating gas pressures, the combination with a gas main, of a partition provided with valve means, a hollow body located below said partition and in abutment therewith to receive and hold the water of condensation which drips from said partition, and adjusting means engaging said hollow body whereby the partition and hollow body will be held in operative position.

4. In a device for regulating gas pressures, the combination with a gas main, of a partition provided with valve means, a hollow body located below said partition and in abutment therewith to receive and hold the water of condensation which drips from said partition, and means engaging said hollow body comprising an adjustable bolt journaled in the gas main, the inner end of said bolt adapted to engage the said hollow body, whereby it will be held in adjusted position.

5. In a device for regulating gas pressures, the combination with a gas main, of a partition provided with valve means, a hollow body located below said partition and in abutment therewith to receive and hold the water of condensation which drips from said partition, means engaging said hollow body, the outer end of said means projecting through the wall of the gas main, and a cover to inclose outwardly extending portion of said means, and thereby protect said means from accidental adjustment.

971,276. FIRE-ESCAPE. GEORGE H. JOHNSON, Chicago, Ill. Filed Apr. 1, 1910. Serial No. 552,790.



1. A fire escape, comprising a pivoted stair-section, a counterweight thereon, and a twisted member secured to the counterweighted side of said stair-section, the twist being in a direction to tend to elevate the opposite side of the stair.

2. In combination a pivoted stair-section, a twisted member secured to one side thereof, the twist being in a direction to tend to elevate the opposite side of the stair, said member extending beyond the pivot of the stair and carrying a counterweight at its end.

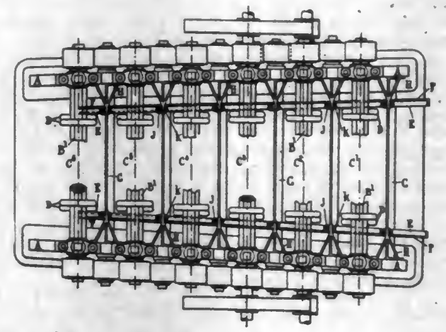
3. In combination a pivoted stair-section, a member secured to one side of the stair and extending beyond the pivot thereof, a counterweight carried by the free-end of said member, said member being twisted prior to this application to the stair for the purpose set forth.

4. In combination a pivoted stair-section, a channel-bar bolted to the side of the stair-section, and having its upper edge initially twisted away from the stair-section and a counterweight secured to the end of the channel-bar which extends beyond the pivot of the stair-section.

5. In combination, side plates and treads forming a pivoted stair-section, an initially twisted member secured to one side of the stair-section and having a counterweight beyond the pivot of the stair-section, and braces connecting the said bars of the stair-section for rendering the stair-section transversely rigid.

[Claim 6 not printed in the Gazette.]

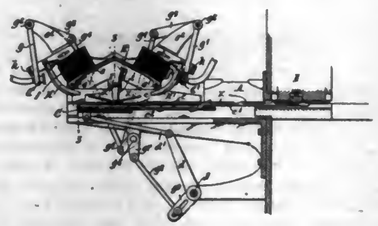
971,277. APPARATUS FOR PRODUCING CORRUGATED METAL SHEETS. GODFREY B. JOHNSON, London, England. Filed Jan. 26, 1910. Serial No. 540,168.



1. In a machine of the kind specified for producing a plurality of parallel corrugations in a metal sheet by a continuous rolling process, means for forming a marginal corrugation on the sheet, consisting in the combination with a stationary mandrel which extends transversely of the several pairs of corrugating rolls throughout the length of the machine and which has a convex operative surface uniformly curved to correspond with the finished form of the marginal corrugation to be produced, of a stationary forming-die extending alongside of said mandrel and presenting toward the operative surface thereof a surface which at the entering end of the machine is flat and which thereafter assumes a concave form with a progressively diminishing radius, substantially as and for the purpose set forth.

2. In a machine of the kind specified for producing a plurality of parallel corrugations in a metal sheet by a continuous rolling process, means for forming a marginal corrugation on the sheet, consisting in the combination with a mandrel constituted by a metal bar of approximately half-round cross-sectional form so fixed as to extend transversely of the several pairs of corrugating rolls throughout the length of the machine, of a forming-die made from a bar of metal of rectangular form in cross-section and so fixed as to extend alongside of the mandrel, the bar constituting said forming-die being flat at the entering end of the machine and thereafter assuming a curved form in cross-section, the radius of curvature progressively diminishing so that the operative surface of the forming-die becomes in effect gradually lapped about the outer side of the convex operative surface of the mandrel, substantially as specified.

971,278. CAN-BODY-MAKING MACHINE. OLIVER J. JOHNSON, Wheeling, W. Va. Filed May 21, 1907. Serial No. 374,910.



1. In a can-body making machine, the combination of a movable conveyer for the body blanks, mechanism for feeding a plurality of blanks to said conveyer one in ad-

vance of the other with respect to the direction of movement of said conveyer, and means for operating said conveyer to carry the blanks together to a body-forming mechanism, which is of sufficient length in the direction of movement of said conveyer to operate simultaneously on the plurality of blanks, and to carry the blanks together away from said mechanism, substantially as set forth.

2. In a can-body making machine, the combination of a movable conveyer for the body blanks, mechanism for feeding a plurality of blanks to said conveyer one in advance of the other with respect to the direction of movement of said conveyer, and means for operating said conveyer to carry the blanks together to one after another of mechanisms which perform successive operations on the blanks and which are arranged in relatively fixed position one in advance of the other with respect to the direction of movement of the conveyer and each of which is of sufficient length in the direction of movement of said conveyer to operate simultaneously on the plurality of blanks, substantially as set forth.

3. In a can-body making machine, the combination of a movable conveyer for the body blanks, mechanism for feeding a plurality of blanks to said conveyer one in advance of the other with respect to the direction of movement of said conveyer, and means for operating said conveyer to carry the blanks simultaneously first to an edging mechanism and then to a body-forming mechanism, which mechanisms are arranged in relatively fixed position one in advance of the other with respect to the direction of movement of said conveyer and each of which is of sufficient length in the direction of movement of said conveyer to operate simultaneously on the plurality of blanks, substantially as set forth.

4. The combination of a movable conveyer for the blanks, a holder above said conveyer in which the blanks stand in planes transversely to the plane of movement of said conveyer, and means for feeding two blanks at the same time one from each end of said holder onto said conveyer, one in advance of the other, substantially as set forth.

5. The combination of a conveyer for flat blanks, means for holding the blanks in two stacks above said conveyer one in advance of the other relative to the direction of movement of said conveyer with the blanks standing on edge in planes transverse to the direction of movement of said conveyer, and means for feeding two blanks at the same time one from each stack downwardly toward each other onto said conveyer one in advance of the other, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

971,279. FOLDING BOX AND CRATE. HOWARD M. JOHNSTON and ADAM K. BOWMAN, Greensburg, Pa. Filed Nov. 20, 1909. Serial No. 529,145.



1. A folding box or crate, embodying a bottom plate, side walls hinged to the bottom plate and formed of an upper and lower section hinged together and adapted to fold inwardly upon said bottom plate, a lid supporting frame hinged to the upper section of each of said side walls, end walls hinged to the ends of said frame and adapted to swing inwardly and against said frame, clasps carried by said bottom plate and adapted to engage the ends of said frame and retain said box in a "knocked-down" position, and means carried by the lower edges of said end walls and adapted to extend through said clasps and into the bottom plate for holding the walls upright whereby the box is maintained in a set-up position.

2. A folding box or crate, embodying a bottom plate, side walls hinged to the bottom plate and formed of an upper and lower section hinged together and adapted to fold inwardly upon said bottom plate, a lid supporting frame hinged to the upper section of each of said side walls, end walls hinged to the ends of said frame and adapted to swing inwardly and against said frame, clasps carried by said bottom plate and adapted to engage the ends by said frame and retain said box in a "knocked-down" position, means carried by the lower edges of said end walls and adapted to extend through said clasps and into the bottom plate for holding the walls upright whereby the box is maintained in a set-up position, said means including a resilient arm and a pin carried by said arm and extending through the lower edge of an end wall.

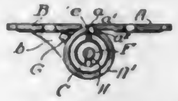
3. A folding box, embodying a bottom plate, side walls each formed of an upper and lower section, said lower section hinged to the bottom plate and said walls adapted to fold inwardly upon said bottom plate, a frame having the upper edges of the upper sections of said side walls hinged thereto, a lid hinged to said frame, end walls hinged to the ends of said frame and adapted to swing inwardly and against said frame, clasps carried by said bottom plate, pins carried by the ends of said frame and adapted to be engaged by said clasps to retain said box in a "knocked-down" position, hook-shaped members carried by the ends of said side walls and adapted to engage said end walls and prevent said side walls from bulging, and movable pins arranged at the lower edges of said end walls and adapted to engage said clasps and said bottom plate to retain said end walls in a vertical position with said box in a set-up position.

971,280. INK FOR CERAMIC TRANSFER-PICTURES. JOHANN KASSEKER, Altwasser, Germany, assignor to Messrs. Schmidt, Kasseker & Co., Altwasser, Germany. Filed Nov. 1, 1909. Serial No. 525,709.

1. An ink for ceramic transfer pictures, comprising a non-drying thinning liquid, a pigment, and linseed oil substantially saturated with an equal quantity of a lead compound.

2. An ink for ceramic transfer pictures, comprising a non-drying thinning liquid, a pigment, and linseed oil substantially saturated with an equal quantity of minium.

971,281. SPRING-HINGE. WILLIAM JAMES KEENE and GEORGE W. SCHUSTER, Chicago, Ill., assignors to Chicago Spring Butt Company, Chicago, Ill., a Corporation. Filed June 7, 1909. Serial No. 500,717.



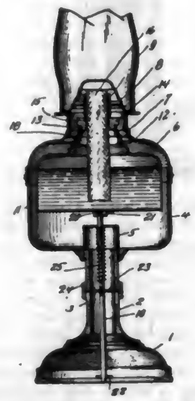
1. A spring hinge of the character described, comprising hinge leaves pivotally connected together, one of said leaves having a portion of the metal, whereof it is formed, coiled back upon itself to form a complete tubular spring barrel, the inner edge of the metal being introverted and terminating at a point opposite the point of union of the barrel with the body of the leaf.

2. A spring hinge of the character described comprising hinge leaves pivotally connected together, one of said leaves having a portion of a metal whereof it is formed coiled to form a complete tubular spring barrel, and means for interlocking the inner edge of the metal forming said barrel with the body of the hinge-leaf at a point opposite the barrel.

3. A spring hinge of the character described comprising hinge leaves pivotally connected together, one of said leaves having a portion of the metal whereof it is formed coiled to form a complete tubular spring barrel, the inner edge of the metal forming said barrel being provided with a lug passing through a hole in the body of the hinge leaf.

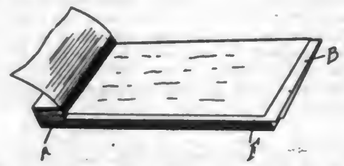
4. A spring hinge of the character described comprising hinge leaves pivotally connected together, one of said leaves having a portion of the metal whereof it is formed coiled to form a complete tubular spring barrel, means for securing the inner edge of the metal forming the barrel to the body of the hinge leaf, plugs in the ends of said barrel provided with offsets to engage the edge of the metal that forms the barrel, a coiled spring within said barrel and a pintle passing through said coiled spring and serving to pivotally connect together the hinge leaves.

971,282. EXTINGUISHER FOR LAMPS AND LANTERNS. BLASIUS KOVACIC, East Pittsburg, Pa. Filed June 25, 1909. Serial No. 504,318.



A lamp, comprising a base, a pedestal carried by said base, a lamp casing carried by said pedestal and providing a burner support, a burner carried by said support and having a wick casing, a spring pressed rod extending upwardly through said base and pedestal extending into said lamp casing, an oil receptacle supported by the upper end of said rod, a wick holder connected to said oil receptacle and extending into said wick casing and adapted to support a wick in the burner of said lamp, and means in connection with said rod and said pedestal for limiting the movement of said rod within said pedestal.

971,283. TRIPLICATE MANIFOLDING BOOK OR PAD. FREDERICK J. KRUEGER, Detroit, Mich. Filed Oct. 1, 1909. Serial No. 520,479.



1. The combination with a book or pad, of an unbound folded carbon sheet adapted to embrace a leaf with the fold adjacent to the edge thereof, and a marginal portion projecting beyond the opposite edge of the leaf, the two portions of said carbon sheet having their carbonized surfaces facing in the same direction.

2. A manifolding book or pad comprising a plurality of leaves bound together at one edge and having their remaining edges free, and an unbound carbon sheet folded to embrace a leaf intermediate two other leaves, and having portions upon opposite sides of the embraced leaf provided with carbonized surfaces facing downward whereby a copy is formed on the embraced leaf, and the leaf beneath the same, an edge of one portion of the carbon sheet projecting beyond the corresponding edge of the other portion and beyond the edge of the leaves of the pad.

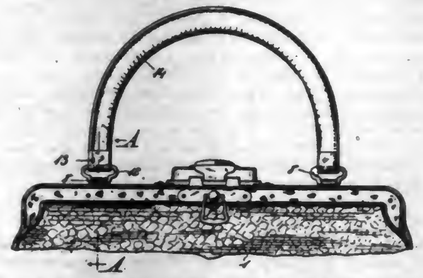
3. The combination of a book or pad comprising a plurality of leaves bound together at one edge, the remaining edges being free, and an unbound carbon sheet folded to embrace a leaf intermediate two other leaves, and having portions upon opposite sides of the embraced leaf provided with carbonized surfaces facing downward, whereby a copy is formed upon the embraced leaf and the leaf beneath the same.

4. A manifolding book or pad, comprising a plurality of leaves arranged in series of three and bound together at one edge, the remaining edges of said leaves being free, and a removable carbon sheet folded to form parallel leaves adapted to be positioned upon opposite sides of the intermediate leaf of the series, said parallel leaves being carbonized on one side only and facing in the same direction, and one of said carbon leaves having a marginal portion projecting beyond the other, and beyond the corresponding marginal portion of the leaves of the book.

5. The combination with a book or pad, comprising a plurality of leaves of substantially the same size bound together at one edge and having their remaining edges free, of a folded carbon sheet adapted to embrace one of the leaves of the pad and having portions upon opposite sides of said leaf with carbonized surfaces facing in the same direction whereby a copy is formed on the embraced leaf and also the leaf beneath the same, one of the portions of the carbon sheet being of substantially the same size as the leaves of the pad and the other portion of the carbon sheet being of slightly greater width than the leaves.

[Claim 6 not printed in the Gazette.]

971,284. BAG. OTTO A. LEHMAN, Hoboken, N. J. Filed Feb. 2, 1909. Serial No. 475,675.

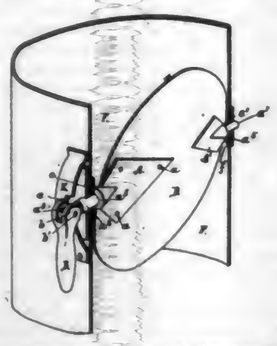


A bag provided with a jaw L-shaped in cross section, a strip of metal extending along the inner face of the upright portion of the jaw for securing the upper edge of the bag to the jaw, a handle and a hinge for securing an end of the handle to the jaw, the said hinge comprising a stationary part consisting of a flat strip of metal passing through a slot extending lengthwise of the jaw in the horizontal portion of the jaw, the said strip being developed into an eye exterior to the jaw and having a shoulder extending underneath the horizontal portion of the jaw and a tang projecting between the inner face of the upright portion of the jaw and the metallic holding strip whereby the stationary part is held in position in the jaw without riveting and a loop secured in the eye of said stationary part.

971,285. AIR-PIPE DAMPER. WILLIAM LEO and JOSEPH C. BAYER, Portland, Oreg. Filed Sept. 8, 1909. Serial No. 516,760.

1. As an improvement in air pipe dampers, the combination with a pipe section having a pair of diametrically opposite openings, and a combined reinforcing block, and bearing in each of said openings, said blocks projecting on

the inside of the pipe; of the damper, a pair of oppositely disposed clip members secured to the damper, each of which has a trunnion, one of said trunnions engaging the bearing at one side, the other trunnion being extended through the other bearing or block, said trunnions each having a shoulder for abutting the bearing at their respective sides, the extended trunnion having its outer end apertured, a flat spring plate secured at one end to the pipe and having an elongated slot through which the long trunnion passes, a lever handle comprising a forked cam head eccentrically and pivotally mounted on the outer end of the extended journal, said cam head engaging said spring plate adjacent to its slot, said spring plate being held between said lever and the adjacent part of the pipe section.

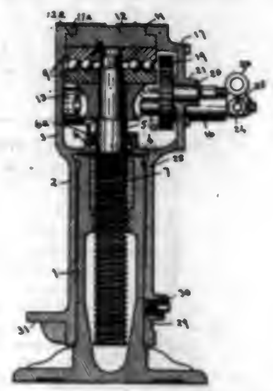


2. As an improvement in air pipe dampers, the combination with a pipe section with a pair of relatively large and diametrically opposite openings, a damper having a clip member on the opposite ends, each having an outwardly extended journal adapted to be extended into and through the pipe openings, a combined reinforcing and abutment block mounted on each of the said openings, and each having an aperture to receive the journals of the damper clip, the outer end of one of the damper journals being squared, a handle having a bifurcated cam faced end pivotally mounted on the square section and said spring having an elongated slot through which the squared end of said square ended journal is projected, said spring being located between said lever and the pipe section and held to be engaged by said lever, all being arranged substantially as shown and for the purposes described.

971,286. LIFTING-JACK. CHRISTIAN E. LOETZER and WILLIAM T. GOODNOW, Sayre, Pa.; said Loetzer assignor to said Goodnow. Filed July 22, 1909. Serial No. 508,997.

1. A lifting jack comprising a stand, a screw mounted in a fixed nut carried by the stand, an open topped sleeve telescoping on the stand, said sleeve being provided with an inwardly extending flange at the top thereof, a diaphragm in the sleeve above the top of the stand through which the screw passes with an oil tight joint, an oil containing chamber in the sleeve above the diaphragm, a cap arranged to close the top opening and provided with a shoulder extending under said flange, a thrust bearing between the screw and said cap, and means within the oil chamber for turning the screw, said means being operable from outside the sleeve.

2. A lifting jack comprising a stand, a screw mounted in a fixed nut carried by the stand, an open topped sleeve telescoping on the stand, said sleeve being provided with an inwardly extending flange at the top thereof and a lateral opening adjacent the top, a diaphragm in the sleeve above the top of the stand through which the screw passes with an oil tight joint, an oil containing chamber in the sleeve above the diaphragm, a worm wheel on the upper end of the screw adapted to pass through the top opening, a cap arranged to close said opening and provided with a shoulder extending under said flange, said cap being adapted to be inserted through the side opening, a thrust bearing between the screw and the cap, a worm and shaft mounted in the oil chamber in mesh with the worm wheel, means outside the chamber for operating the shaft, and a cover-plate for the side opening.

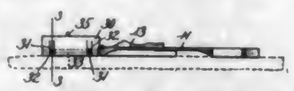


3. A lifting jack comprising a stand, a screw mounted in a fixed nut carried by the stand, an open topped sleeve telescoping on the stand, said sleeve being provided with an inwardly extending flange at the top thereof and a lateral opening adjacent the top, a worm wheel on the upper end of the screw adapted to pass through the top opening, a cap arranged to close said opening and provided with a shoulder extending under the flange thereof inside the sleeve, said cap being adapted to be inserted through the side opening, a thrust bearing between the screw and the cap, a worm and shaft mounted in the sleeve in mesh with the worm wheel, means outside the sleeve for operating the shaft, and a cover-plate for the side opening.

4. A lifting jack comprising a stand, a screw mounted in a nut carried by the stand, an open topped sleeve telescoping on the stand, said sleeve being provided with an inwardly extending flange at the top thereof, a cap arranged to close said opening and provided with a shoulder extending under the flange thereof inside the sleeve, a thrust bearing between the screw and the cap, and means inside the sleeve for turning the screw, said means being operable from outside the sleeve.

5. A lifting jack comprising a stand, a screw mounted in a nut carried by the stand, an open topped sleeve telescoping on the stand, said sleeve being provided with an inwardly extending flange at the top thereof and with a side opening adjacent thereto, a cap arranged to close the top opening and provided with a shoulder extending under the flange thereof inside the sleeve, said cap being adapted to be inserted through the side opening, a gear wheel on the screw adapted to be passed through the top opening, a thrust bearing between the screw and the cap, and means operable from outside the sleeve for turning said gear wheel.

971,287. SIGHT FOR FIREARMS. HENRY L. LOVEJOY, Melrose, Mass. Filed Jan. 10, 1910. Serial No. 537,108.



1. A device of the class described having, in combination, a support, a peep-sight leaf, a pin-hole sight leaf, and a notched sight leaf, two of said leaves being pivoted on a common axis and the third leaf being pivoted on a distinct individual axis.

2. A device of the class described having, in combination, a support; a peep-sight leaf and a pin-hole sight leaf pivoted on a common axis on said support; and a notched sight leaf pivoted on said support on a distinct individual axis.

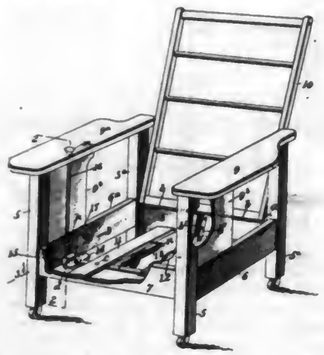
3. A device of the class described having, in combination, a support; a peep-sight leaf and a pin-hole sight leaf pivoted on a common axis on said support; a notched sight leaf pivoted on said support on a distinct individual axis; and yielding means acting to hold said leaves in raised position for use.

4. A device of the class described having, in combination, a support; a peep-sight leaf and a pin-hole sight leaf pivoted on a common axis on said support; a notched sight leaf pivoted on said support on a distinct individual axis; and yielding means acting to hold said leaves in either raised or lowered position.

5. A device of the class described having, in combination, a support; a peep-sight leaf and a pin-hole sight leaf pivoted on a common axis on said support; a notched sight leaf pivoted on said support on a distinct individual axis; and a spring engaging said leaves and acting to hold the same in raised position for use.

[Claims 6 to 11 not printed in the Gazette.]

971,288. ADJUSTABLE RECLINING-CHAIR. ARTHUR DEIDRICH LUEDDERS, Sturgis, Mich. Filed Oct. 23, 1909. Serial No. 524,123.

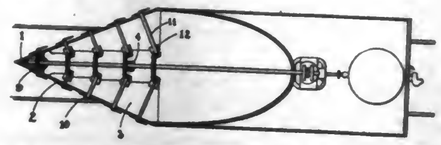


1. The combination with a chair frame, embodying a horizontal frame member, and a chair back pivoted between and upon rear legs of the frame, of a lever pivoted between its ends on the horizontal frame member, a connecting rod between an end of the lever and the lower portion of the chair back, a spring adapted for pulling the lever rearward near the connecting rod, a sector plate on the other end of the lever, having a plurality of perforations therein disposed concentric to the pivot of said lever, and a vertically adjustable detent rod, having an upturned limb thereon, adapted for engaging within either of the perforations in the sector bar and thus retaining the chair back rocked at a desired inclination.

2. The combination with a chair frame, embodying a horizontal frame member, a chair back pivoted between the rear legs of the chair frame near its lower end, and reinforcing straps on the lower end of the chair back having spaced arms projected therefrom, of a lever pivoted between its ends on the horizontal frame member, a connecting rod pivoted at its rear end between the arms that project from the chair back, a coiled spring connected at its ends respectively on the lever near the connecting rod and upon a pin on the horizontal frame member, a sector plate on the remaining end of the lever, having a plurality of perforations therein disposed concentric with the pivot for the lever, a bracket block on the frame adapted for supporting the sector plate, a detent rod arranged vertically, having a looped formation between its ends, a spring on the frame engaging said looped formation, and a looped formation on the lower end of the detent rod, having an upturned limb that may enter any of the perforations in the sector plate in accord with the rocking adjustment of the chair back.

3. In a chair of the character specified, the combination with the seat and the back hinged thereto, of arms depending below the back, a lever pivoted to the under face of the seat intermediate its ends, a rod pivoted to one of the ends of the lever and to the arms, a spring connected with the lever and acting to retain the back in upright position, and means engaging the other end of the lever for retaining the back in adjusted position, said means comprising a vertically slidable rod, having an angular portion, the lever having a sector provided with openings for engagement by the angular portion, and a spring normally pressing the rod into engagement with the sector.

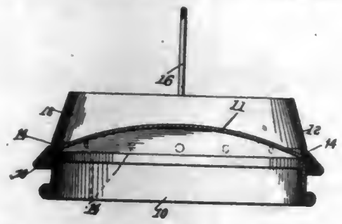
971,289. ROTARY SNOW-PLOW. CHARLES B. MANN, San Diego, Cal. Filed Nov. 29, 1909. Serial No. 530,459.



1. A rotary snow plow, comprising a V-shaped casing, in combination with a driving shaft, a plurality of snow cutting fans, arranged in tiers at the V-shaped end of the casing, gears and auxiliary driving shafts having suitably braced bearings, and an adjustable delivery pipe, substantially as shown.

2. A rotary snow plow, comprising a casing V-shaped at one end and tapered at the other, in combination with a driving shaft, a plurality of snow cutting fans, auxiliary shafts and gears for driving the fans, substantially as shown.

971,290. ICE-CREAM-CAN COVER. MASSOUD MANSOR, Orrville, Ohio. Filed Mar. 31, 1910. Serial No. 552,646.



In a can cover, a flange adapted to fit over the mouth of a can, an upwardly concaved closure covering the space surrounded by said flange, an inwardly inclined flange extending upwardly around the periphery of said closure to form a frusto-conical receptacle having a convex bottom, said second flange being provided with a series of perforations around the lower edge thereof, an annular trough extending around the outside of the first mentioned flange immediately below the perforations in the second flange, and a bail pivoted on said cover.

971,291. SIGNAL-BELL-CORD HANGER FOR CARS. ALDIS H. MARDEN, West Somerville, Mass. Filed Nov. 27, 1909. Serial No. 530,180.

1. The combination with a bell-cord of a hanger having a support by which said bell-cord is suspended, and a base adapted to be secured to the ceiling of a car and connected to said support by a yielding offset extending longitudinally of said cord.

2. A signal bell-cord hanger for cars consisting of a base having a laterally yieldable resilient portion and a laterally yieldable resilient support depending therefrom and having provision to receive a bell-cord.

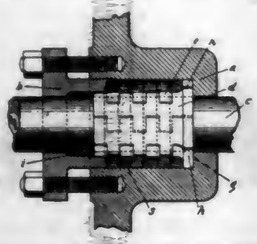


3. A signal bell-cord hanger for cars consisting of a base, a reverse curved resilient offset connected thereto, and a laterally yieldable resilient support depending from said offset and having provision to receive a cord.

4. A signal bell-cord hanger for cars consisting of a base, an arm extending downwardly therefrom and connected thereto by a reverse curved spring portion, said base having provision to secure the same to the ceiling of a car and said arm having provision to receive said cord.

5. A signal bell-cord hanger for cars formed of a piece of flat spring metal bent to form a base, an arm extending substantially at right angles to said base and connected thereto by a reverse curved offset, said base having provision to secure the same to the ceiling of a car and said support having provision to receive a cord.

971,292. PISTON-ROD PACKING. FRANK N. MASON, Pittsburg, Pa. Filed June 27, 1910. Serial No. 569,227.

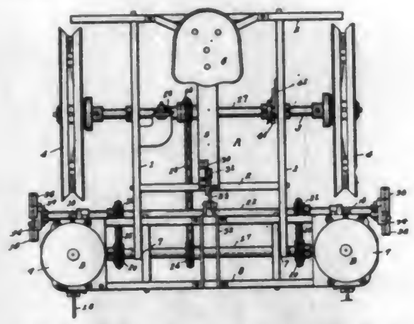


1. In a piston-rod packing the combination with the stuffing-box, gland, and piston-rod, of a segmentally constructed metallic sleeve within the stuffing-box and around said piston-rod, involving at least three interlocking, independently acting elements, having a plurality of alternating circumferentially-disposed lugs and spaces, and a solid inner flange, said elements being tapered longitudinally in their circumferential faces; and a soft packing interposed between the said sleeve and wall of the stuffing-box, and kept under an adjustable compression.

2. In a piston-rod packing the combination with the stuffing-box, gland, and piston-rod, of a segmentally constructed metallic sleeve within the stuffing-box and around the piston-rod, involving at least three interlocking and independently acting elements, each element having a plurality of alternating circumferentially-disposed lugs and spaces, and a solid inner flange, said elements being tapered longitudinally of their circumferential faces, and also provided with a plurality of lubricant receiving grooves on their inner faces; a soft packing interposed between the said sleeve and wall of the stuffing-box; and means for taking up any slack due to wear and tear on the said sleeve or soft packing.

3. In a piston-rod packing the combination with the stuffing-box and piston-rod, of a segmentally constructed metallic sleeve within the stuffing-box and around said piston-rod involving at least three interlocking elements adapted for independent lateral movement, each segment having a plurality of alternating circumferentially-disposed lugs and spaces, and a solid inner flange, said elements being tapered longitudinally in their circumferential faces, and also provided with a plurality of lubricant receiving grooves on their inner faces; a soft packing interposed between the said sleeve and wall of the stuffing-box; and an adjustable gland provided with an enlarged central aperture for receiving one end of said sleeve and adapted to take up any slack due to wear and tear on the said sleeve or soft packing.

971,293. CORN-PLANTER. MATHEW MAUGER, Chillicothe, and CHARLES SCHRAW, Leesburg, Ohio. Filed June 23, 1910. Serial No. 568,538.

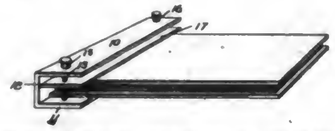


1. The combination with the main frame, the ground wheels therefor, an axle connecting said ground wheels, a supplemental frame, means for raising and lowering the supplemental frame, a corn dropping mechanism carried by said supplemental frame, a shaft carried by the main frame adjacent to the corn dropping mechanism, blocks at the end of said shaft, a plurality of angular laterally yielding shoe carrying arms carried by said blocks, means for driving the shaft from the axle, and clutch mechanism for throwing said shaft into and out of driving engagement with the axle.

2. The combination with the main frame, the ground wheels therefor having an axle connecting the same, a supplemental frame pivoted to the front of the main frame, corn planting mechanism carried by said supplemental frame, spring tensioned shoe carrying marking arms arranged adjacent to said planting mechanism, means for permitting said arms to oscillate laterally, driving mechanism whereby the planting mechanism and the marking devices are operated in unison, and a lever for adjusting the marking devices relative to the ground independently of the actuation of the planting mechanism.

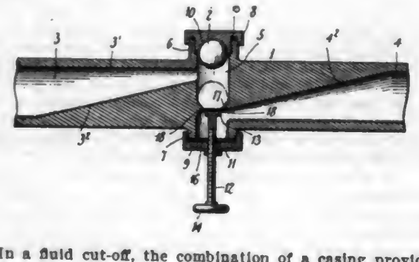
3. The combination with the main frame, the ground wheels therefor, an axle connecting said wheels, a supplemental frame carried by the main frame, corn dropping mechanism carried by said supplemental frame, a shaft arranged adjacent to the dropping mechanism, slotted blocks at the ends of said shaft, marking devices comprising a plurality of angular shoe carrying arms carried by said blocks and capable of lateral movement relative thereto, means for operating the marking mechanism simultaneous with the operation of the dropping mechanism, and means for operating said marking mechanism independently of the operation of the planting mechanism.

971,294. TEMPORARY BOOKBINDING. CHARLES F. MCBEE, Athens, Ohio. Filed Mar. 5, 1909. Serial No. 481,456.



A temporary binder comprising in combination, a U-shaped frame consisting of upper and lower horizontal plates and a rear vertical evener-plate joining said upper and lower plates, threaded shafts loosely and vertically mounted to project through said upper and lower plates near the ends of the latter and parallel to said evener-plate, a traveling follower plate threaded on said shafts and movable thereby, and flexible covers receivable between said shafts and between said upper and lower plates, whereby said evener-plate may serve to straighten said covers and interposed pages and said follower-plate may be clamped upon said covers and interposed pages.

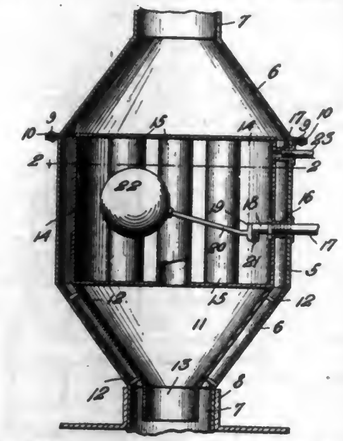
971,295. CUT-OFF VALVE. MORGAN D. MENEAR and CHARLES O. SHAY, Independence, W. Va. Filed Apr. 6, 1909. Serial No. 488,219.



In a fluid cut-off, the combination of a casing provided with a transversely arranged cylindrical valve passage having upper and lower concave valve seats at its terminals, the lowest seat having an open bottom, a spherical valve arranged for movement in said passage and having a less diameter than same, so that its side limitations will be spaced away from the interior wall of the passage during the movement of the valve from the top to bottom thereof, said casing being further provided with longitudinal inlet and outlet passages converging toward said valve passage and communicating therewith, so that the entrance of the inlet passage to the valve passage will be below the spherical valve when located in its upper seat; and a member movable endwise through the lower wall of the casing and through the open bottom of the lower seat for raising the valve from said lower seat into said upper seat, the upper end of said member being concaved to form a seat for said valve during the raising thereof by said member.

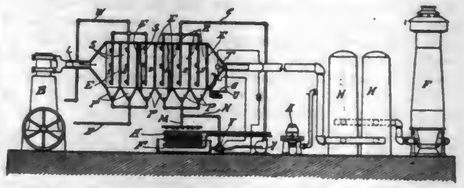
971,296. BOILER. FERDINAND W. MEYER, Kansas City, Mo. Filed Nov. 1, 1909. Serial No. 525,736.

In a device of the character described, the combination with a cylindrical casing having a lower conically formed end, the extremity of said end being longitudinally extended and adapted to be disposed within the flue opening of a stove, the upper end of said casing having an annular flange, a conical top for said casing having an annular flange adapted to be seated on the flange of said casing and secured thereto, the upper end of said top being longitudinally extended and adapted to be disposed within the flue pipe, of a boiler shell concentrically arranged in said casing, a conical shell arranged in concentric spaced relation to the lower conical end of said casing and adapted to support the boiler shell, braces between the conical shell and the casing, the lower end of said shell being extended into the extended extremity of the conical lower end of the casing disposed in concentric relation thereto, connections between said boiler shell and the casing, an inlet pipe extending into said shell, a steam pipe communicating with said shell adjacent to its upper end, a plurality of heat conducting tubes extending vertically



through said boiler shell open at each end, the heat exhausted from the stove being adapted to pass upwardly between the conical shell and the casing and around the boiler shell, the greater portion thereof passing through the conical supporting shell and the boiler tubes, substantially as and for the purpose set forth.

971,297. ART OF TREATING AIR FOR USE IN METALLURGICAL PROCESSES. JOHN B. MILES, St. Davids, Pa. Filed Feb. 12, 1910. Serial No. 543,457.



1. In the art of treating air, compressing the air, and cooling the air to a temperature varying as the pressure of the compressed air varies so that the amount of moisture in a pound of air remains constant.

2. In the art of treating air for use in apparatus requiring air at varying pressures, compressing the air to a pressure varying with the requirements of the apparatus, varying the temperature of the air in such relation to the pressure that the amount of moisture in a pound of air remains constant, and feeding the air to the apparatus in which it is to be used.

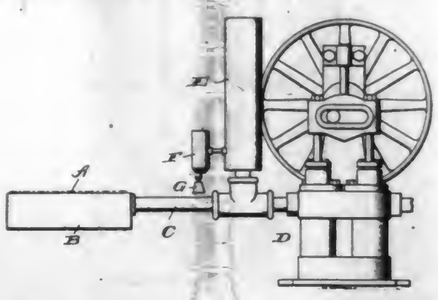
3. In the art of treating air for use in metallurgical apparatus, compressing the air to a pressure varying with the pressure necessary to force it through the furnace charge, varying the temperature of the air in such relation to the pressure that the amount of moisture in a pound of air remains constant, and feeding the air to metallurgical apparatus.

4. In the art of treating air, compressing the air, reducing its temperature by a natural cooling medium, bringing it into intimate free contact with water whereby it is saturated and brought to approximately the temperature of the water, varying the water temperature as the pressure of the compressed air varies, so that the treated air will contain always the same amount of moisture per pound irrespective of its pressure, and removing water held in suspendsion.

5. In the art of treating air, compressing the air, passing the air through water, and maintaining the air at a temperature varying as the pressure of the compressed air varies so that the amount of moisture in a pound of air remains constant.

[Claim 6 not printed in the Gazette.]

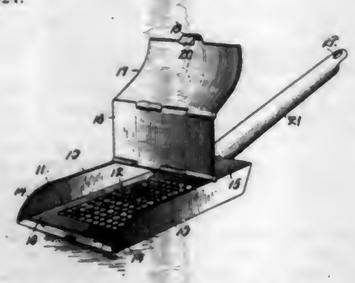
971,298. SUCTION-BOX VACUUM-REGULATOR FOR PAPER-MACHINES. WILLIAM H. MILLSPAUGH, Sandusky, Ohio, assignor to The Sandusky Foundry & Machine Company, Sandusky, Ohio, a Corporation of Ohio. Filed Oct. 27, 1905. Serial No. 284,655.



1. The combination, with the suction-box of a paper-machine, and its vacuum-pump connected therewith, of a closed tank or reservoir in constant communication with the suction line or conduit between the suction-box and pump, said tank having an opening and an inwardly-opening regulating valve held to close the same by the pressure in said tank together with an additional pressure less than that of the atmosphere.

2. A suction-box vacuum-regulator comprising a closed tank having means for connection to the suction-line of a suction-box of a paper-machine and having a valve-controlled opening with a weighted or equivalently-actuated valve held seated against the same and adapted for inwardly-opening under atmospheric pressure when the vacuum in said tank exceeds a predetermined amount.

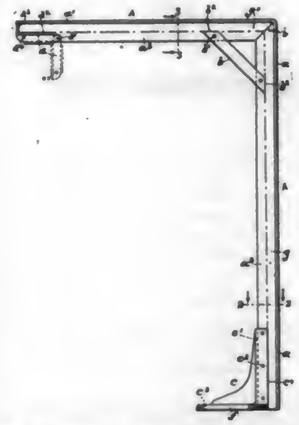
971,299. SIFTING-SHOVEL. JOSEPHINE MOLLER, East Somerville, Mass. Filed Dec. 13, 1909. Serial No. 532,924.



1. In a device of the kind described, a shovel, a cover leaf hinged thereto, a second cover leaf hinged to the free edge of the first mentioned cover leaf, and a single catch to hold said cover leaves in open or closed positions.

2. In a device of the kind described, a shovel, a cover leaf hinged thereto, a second cover leaf hinged to the free edge of the first mentioned cover leaf, a catch on the free edge of the last mentioned cover leaf adapted to engage the forward edge of the shovel to hold the same in closed position, and a hinge of the first mentioned cover leaf to hold the cover in open position.

971,300. COUNTER-GUARD BRACKET. JOSEPH B. MONETTE, Providence, R. I. Filed June 13, 1910. Serial No. 566,475.

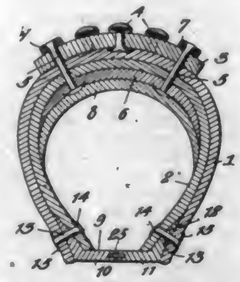


1. As an improved article of manufacture, a counter guard bracket consisting of a length of roll-forged T-iron bent to form standard and top members disposed at an angle to each other, a base or foot element, means secured to and coöperating with the said standard and top members adapted to receive and support the adjacent end portions of side and top glass plates, and means mounted at the rear end of the top member of the bracket adapted when in use to maintain the top glass plate in the normal position and prevent it from moving rearwardly.

2. In a bracket provided with standard and top members disposed at an angle to each other and arranged to receive and hold the ends of glass plates, the combination therewith of a movable clip attached to the rear end of said top member, provided with lateral and end lips or flanges constructed and adapted both to support a glass plate and at the same time prevent it from moving rearwardly, and means for locking the clip in the normal position.

3. In a counter-guard bracket provided with a top member having a T-shape cross-sectionally, forming a flange and central web, the combination therewith of a swinging clip jointed to the free end portion of said web having lateral wings disposed at right angles to the web adapted to support glass plates, the rear end of the said wings being extended and bent upward therefrom to form a stop, and means for locking the clip in the normal operative position.

971,301. TIRE-CASING. JOHN W. MOORE, Huntsville, Ala. Filed Jan. 31, 1910. Serial No. 541,148.

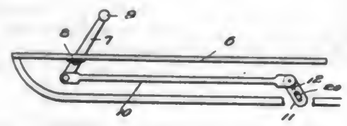


1. A tire casing comprising a flexible body to inclose an inner tube, a base ring to close the tire casing, and composed of two annular metallic sections of angular shape in cross section, said sections having inturned abutting flanges, and upwardly projecting flanges united to the edges of the body of the casing, and means detachably uniting the inturned abutting flanges of the two annular sections.

2. A tire casing comprising a flexible body to inclose an inner tube, and having at its edges two layers of material, a channeled base member to close the tire casing and composed of two annular metallic sections of angular shape in cross section, said sections having inturned abutting flanges, and outwardly projecting flanges tapering outwardly and arranged between the layers of material at the side edges of the body of the casing, rivets passed through said layers of material and said outwardly projecting flanges to unite the two metallic base sections to the edges of the body of the casing, and detachable fastening devices uniting the inturned abutting flanges of the two annular sections of the base ring.

3. A tire casing comprising a body to inclose an inner tube, an annular base ring to close the tire casing and consisting of separable sections united to the edges of said body, one of said sections being formed in its inner edge with a circular pivot opening, and the other section having in its opposing inner edge an angular shouldered opening, a catch having a grooved circular pivot portion rotatable in said pivot opening, and an angular hook-shaped arm to swing in said angular shouldered opening, pins in one of said sections to engage the groove in the pivot portion of the catch and retain the latter in position, and a spring in said angular shouldered opening to engage the hook-shaped end of the catch and retain the latter in locking position.

971,302. SLED-PROPELLER. WILLIAM R. MURPHY, Chicago, Ill. Filed May 19, 1910. Serial No. 562,180.



1. A pusher for vehicles, comprising a lever, a road engaging device carried at the lower end of said lever and slidable up and down thereon, means to lock said device in lowest position during the back stroke of the lever, and means to release said device, to allow it to lift, during the forward stroke of the lever.

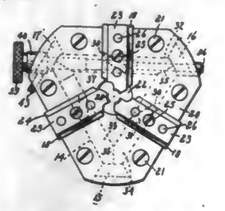
2. A pusher for vehicles, comprising a lever, a road wheel mounted to slide up and down at the lower end of the lever, and automatic means to hold said wheel in lowest position during the back stroke of the lever and to release the wheel and allow it to lift during the forward stroke of the lever.

3. A pusher for vehicles, comprising a lever slotted at its lower end, a road wheel the spindle of which is slidable up and down in said slots, and means to automatically engage the spindle and hold the same at the lower end of the slot during the back stroke of the lever and to release the spindle and allow the wheel to lift during the forward stroke of the lever.

4. A pusher for vehicles, comprising a lever with a slotted fork at its lower end, a road wheel located in the fork and having a spindle projecting into said slots, and latches pivoted to the lever above said slots and engageable with the spindle to hold the same in the lower end of the slots during the back stroke of the lever, the latches being automatically disengaged by turning of the spindles during the forward stroke of the lever, to allow the wheel to lift.

5. A pusher for vehicles, comprising a lever with a slotted fork at its lower end, a road wheel located in the fork and having a spindle projecting into said slots, and latches pivoted to the lever above said slots, and having recessed lower ends which engage the spindle and lock the same in the lower ends of the slots during the back stroke of the lever, and are swung forwardly and disengaged by the friction of the spindle as the wheel rotates during the forward stroke of the lever.

971,303. SCREW-CUTTING-DIE HEAD. WILHELM NEUMANN, New York, N. Y. Filed May 10, 1910. Serial No. 560,446.



1. In a screw cutting die head, the combination with a die stock having an axial bore and a triangular groove around said bore, of a plurality of chaser holders arranged upon said die stock, coöperating adjusting-blocks arranged in said triangular groove and engaging said chaser holders, and means engaging one of said blocks for simultaneously shifting all of the same around said axial bore.

2. In a screw cutting die head, the combination with a die stock having an axial bore and a triangular groove around said bore, of a plurality of chaser holders arranged upon said die stock, contacting adjusting-blocks arranged in said triangular groove and engaging said chaser holders, and means engaging one of said blocks for simultaneously shifting all of the same around said axial bore.

3. In a screw cutting die head, the combination with a die stock having an axial bore, of a disk mounted thereon having a bore registering with the bore of said die stock, a plurality of chaser holders slidably mounted upon said disk in radial directions relative to said bore, coöperating adjusting blocks engaging said chaser holders, and means engaging one of said blocks for simultaneously shifting all of said chaser holders in radial directions relative to said bore.

4. In a screw cutting die head, the combination with a die stock having an axial bore, of a disk mounted thereon having a bore registering with the bore of said die stock and being provided with a plurality of grooves running in radial directions relative to said bore, a plurality of chaser holders slidably mounted in said grooves, coöperating adjusting-blocks engaging said chaser holders, and means engaging one of said blocks for simultaneously shifting all of said chaser holders in said grooves.

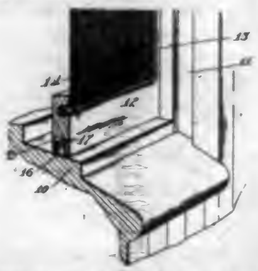
5. In a screw cutting die head, the combination with a die stock having an axial bore and a triangular groove around said bore, of a disk mounted upon said die stock having a bore registering with the bore of said die stock and being provided with a plurality of grooves running in radial directions relative to said bore, a plurality of chaser holders slidably mounted in the grooves of said disk, coöperating adjusting-blocks arranged in said triangular groove and engaging said chaser holders, and means engaging one of said blocks for simultaneously shifting all of the same around said axial bores and moving thus said chaser holders in radial directions relative to said bores.

[Claims 6 to 9 not printed in the Gazette.]

971,304. WINDOW-SCREEN. ALFRED H. NEWPHER, Chicago, Ill., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed July 11, 1910. Serial No. 571,529.

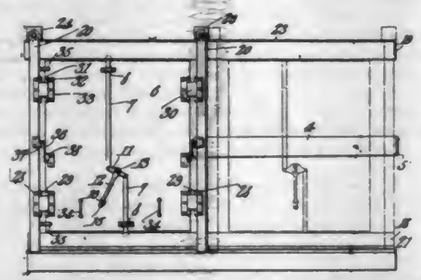
1. A sash frame having a longitudinal channel in the outer edge of one of its bars, a bar fitting loosely within the channel and having longitudinal shoulders, and a spring secured to the sash bar within its channel and having shoulders slidingly engaging the shoulders of the second named bar.

2. A window screen having the outer face of one of its bars longitudinally channeled, a leaf spring secured within the channel and having its ends projecting outwardly and being provided with lugs having lateral shoulders, and a tubular bar fitting loosely within the channel and having its inner face longitudinally slotted, the lugs on the spring entering such slot.



3. A window screen having the outer face of one of its bars longitudinally channeled, a leaf spring secured to the bottom of the channel and having its ends projecting outwardly and being provided with lugs having lateral shoulders, and a tubular bar fitting loosely within the channel and having its inner face longitudinally slotted, the lugs on the spring entering such slot.

971,305. FLUSH-CLOSING FREIGHT-CAR DOOR. JAMES A. PATTON, Hanover, Pa. Filed Aug. 16, 1909. Serial No. 513,076.



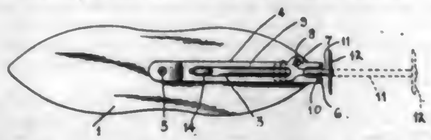
1. The combination with a car body having a door opening, tracks across the same, and hangers movable on said tracks independent of each other; of a door, flexible hinge connections between the hangers and door for permitting the latter to move laterally into the door opening, and pivotal supports between the vertical center of the door and the hangers relieving said connections of the weight of the door.

2. The combination of a car body, upper and lower track rails on the side of the car body, the lower edge of the lower track rail being formed into a bead, door hangers having their upper ends projecting over the upper track rail to travel thereon and having their lower ends formed into hooks adapted to engage the bead on the lower track rail, a door disposed between the said hangers, and swinging connections between the door and the door hangers.

3. The combination of a pair of door hangers, a door, swinging connections between the sides of the door and the hangers, eyes upon the hangers, similar eyes on the door, and S-shaped supporting rods having their upper ends engaging the eyes on the hangers and their lower ends engaging the eyes on the door.

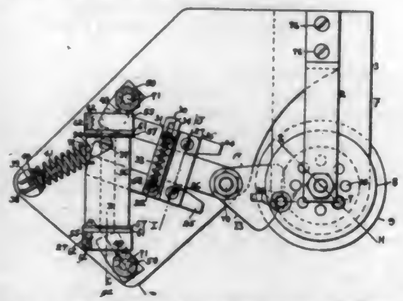
971,306. BRUSH. LEWIS H. PFLEGHARDT, Fayette City, Pa. Filed May 21, 1910. Serial No. 562,715.

1. The combination with a brush body having a longitudinally-extending groove formed in the outer face thereof, of a plate fixed at one end to the brush body and having its other end bent at right angles and abutting against one end of the brush body, said plate mounted over said groove and provided with a longitudinally-extending slot registering with the groove, said right-angularly disposed portion of said plate being bifurcated, means extending through the plate in proximity to said right-angularly disposed portion and engaging in the brush head for securing the bent end of the plate to the brush body, a rod slidably mounted in said groove and projecting from the angular end of the plate, a scraper head carried by the outer end of said rod, and means carried by the inner end of said rod and extending through said plate and adapted to hold said rod in an adjusted position.



2. The combination with a brush body having a longitudinally-extending groove formed in the outer face thereof, of a plate fixed at one end to the brush body and having its outer end bent at right angles and abutting against one end of the brush body, said right angularly-disposed portion of said plate provided with an opening, said plate mounted over said groove and provided with a longitudinally-extending slot spaced from the opening in said right angularly-disposed portion, means for securing the plate to the brush body, a rod slidably mounted in said groove and projecting from the angular end of the plate, a scraper head carried by the outer end of said rod, and means carried by said rod and extending through said plate for maintaining said rod in an adjusted position.

971,307. SAFETY LIMIT-SWITCH. WILLIAM W. PIERCE and GEORGE A. PIERCE, Philadelphia, Pa. Filed Feb. 27, 1909. Serial No. 480,480.



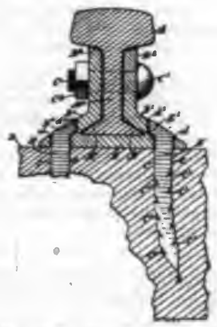
1. In a limit switch of the character described, the combination with a switching mechanism, of a fixed screw, a member adapted to rotatably traverse the said screw, said member adapted to engage with and actuate said switching mechanism upon a predetermined movement of said member, a transmission means, a crank operatively connected to the transmission means and adapted to engage with said member, all substantially as and for the purpose shown and described.

2. In a limit switch of the character described, the combination with a single pole, double throw, switch, the blade of which is pivoted at one of its extremities and provided with a slot, of a fixed screw, a wheel adapted to rotatably traverse said screw, a pin rigidly attached to said wheel and adapted to engage with the slot of said switch blade, coacting resilient members to actuate said switch upon a predetermined movement of said wheel and to react on the same upon the reverse subsequent movement thereof, a transmission means, a crank operatively connected to the transmission means, a plurality of apertures in said wheel and adapted to engage with the crank wrist of said crank, all substantially as and for the purpose shown and described.

3. In a limit switch of the character described, the combination with a single pole double throw switch provided with a main switch blade and adjacent switch blades, switch clips adapted to engage therewith, a yoke provided on the main blade of said switch at its pivotal end, of a fixed screw, a wheel provided with a plurality of apertures adapted to rotatably traverse the said screw, a pin rigidly attached to said wheel and adapted to engage with said yoke, a helical compression spring attached to one end of said main blade and pivoted at a point equidistant in relation to said switch clips, a helical spring connecting the said adjacent switch blades together, said springs adapted to actuate said adjacent switch blades upon a predetermined movement of said wheel and to reactuate the same upon the reverse subsequent movethereof, a transmission means, a crank operatively connected to said transmission means, and a crank wrist on said crank adapted to engage with the said apertures in the said wheel, all substantially as and for the purpose shown and described.

4. In a limit switch of the character described, the combination with a single pole double throw switch provided with a main switch blade and adjacent switch blades; switch clips adapted to engage therewith; a yoke provided on the main blade of said switch at its pivotal end; of a fixed screw, a wheel provided with a plurality of apertures adapted to rotatably traverse the said screw, a pin rigidly attached to the said wheel and adapted to engage with said yoke, a helical compression spring attached to one end of said main blade and pivoted at a point equidistant in relation with the said switch clips, a helical spring connecting the said adjacent switch blades together, said springs adapted to actuate the said adjacent switch blades upon a predetermined movement of said wheel and to reactuate the same upon the reverse subsequent movement thereof, a transmission means, and a means actuated thereby to engage with the apertures in said wheel to actuate the said switch, all substantially as and for the purpose shown and described.

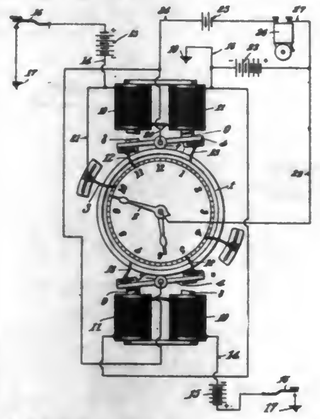
971,308. RAILROAD JOINT-CHAIR. PETER RADOMAN, Red Lodge, Mont. Filed Mar. 29, 1910. Serial No. 552,139.



1. A railroad track rail chair, consisting of a base plate, inclined flanges on the side edges of the base plate, and parallel spaced flanges vertically projecting from the inner edges of the inclined flanges, said base plate and inclined flanges having rectangular vertical perforations therein, said perforations having offset rectangular enlargements extended toward and adjacent to the vertical flanges, said enlargements having beveled bottom walls.

2. In combination, a railroad track rail chair, having a base, two inwardly and upwardly inclined flanges and two vertical flanges and provided with rectangular perforations in the base and inclined flanges, said perforations having offset rectangular lateral extensions, the bottom walls of which are beveled, and railroad spikes having rectangular bodies, each spike having an offset and inclined head that occupies and fits the offset enlargement or lateral extension of a respective perforation.

971,309. WATCHMAN'S CLOCK. RICHARD C. ROSE, Osceola, Ark. Filed Mar. 10, 1910. Serial No. 548,355.



1. In a watchman's clock, a contact hand or arm having a progressive movement, a contact constantly in the path of said hand or arm, a polarized armature lever intermediately pivoted, contacts on said armature lever and either of them movable by the rocking of the lever into path of the hand or arm, electro-magnets, one controlling one end of the armature lever and the other controlling the other end of said armature lever, a charged signal circuit connected to the hand and to the armature lever, a charged circuit including the hand, the magnets, and the contact constantly in the path of said arm, and a charged circuit including the magnets and a circuit controller and adapted to energize the magnets reversely to the circuit including the magnets, hand and contact constantly in the path of the latter.

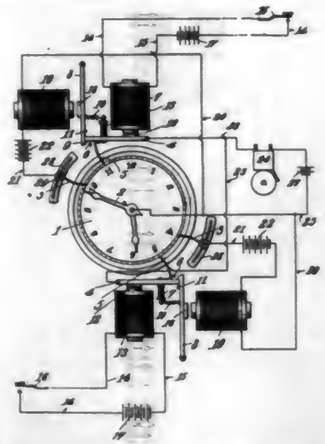
2. In a watchman's clock, a contact hand or arm having a progressive movement, a contact constantly in the path of said hand or arm, a polarized armature lever intermediately pivoted, means for maintaining the lever in actuated positions about its pivot support, contacts on said armature lever, and either of them movable by the rocking of the lever into the path of the hand or arm, electro-magnets one controlling one end of the armature lever and the other controlling the other end of said armature lever, a charged signal circuit connected to the hand and to the armature lever, a charged circuit including the hand, the magnets and the contact constantly in the path of said arm, and a charged circuit including the magnets and a circuit controller and adapted to energize the magnets reversely to the circuit including the magnets, the hand, and the contact constantly in the path of the latter.

3. In a watchman's clock, a progressively movable contact hand or arm, other contacts movable into and out of the path of the hand or arm, a polarized armature lever carrying said contacts, electro-magnets for causing the movement of the armature lever, means controlled by the hand or arm for causing the energizing of the electro-magnets in one direction, and manually controllable means for causing the energizing of the magnets in the other direction.

971,310. WATCHMAN'S CLOCK. RICHARD C. ROSE, Osceola, Ark. Filed Mar. 10, 1910. Serial No. 548,356.

1. In a watchman's clock, a contact hand or arm, a contact constantly in the path of said hand, an armature

lever, a contact finger carried thereby and movable into and out of the path of the hand by said armature lever, an electromagnet for moving the armature lever in a direction to withdraw the contact finger carried thereby from the path of the hand, a charged circuit including the magnet, a circuit controller in said circuit, a latch for holding the armature lever with the finger carried thereby in the withdrawn position, an electromagnet controlling the latch, a charged circuit including the hand, the contact constantly in the path thereof and the last named electromagnet, and a charged circuit including an indicating means and also including the armature lever and the hand.

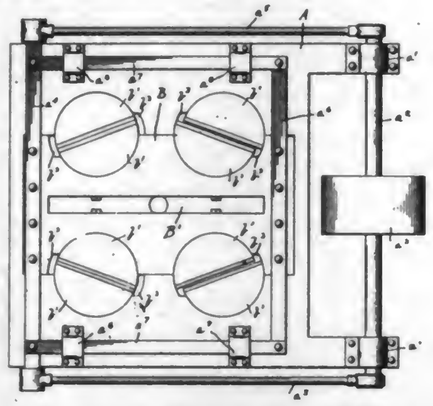


2. In a watchman's clock, a contact hand or arm, a contact constantly in the path of said hand and adjustable to determine the time of contact with said hand, an armature lever, a contact finger carried thereby and movable into and out of the path of the hand by said armature lever, an electromagnet for moving the armature lever in a direction to withdraw the contact finger carried thereby from the path of the hand, a charged circuit including the magnet, a circuit controller in said circuit, a latch for holding the armature lever with the finger carried thereby in the withdrawn position, an electromagnet controlling the latch, a charged circuit including the hand, the contact constantly in the path thereof, and the last named electromagnet, and a charged circuit including an indicating means and also including the armature lever and the hand.

3. In a watchman's clock, a contact hand or arm having a progressive movement, a contact terminal movable into and out of the path of said arm and having a normal tendency toward movement into the path of said arm, an electromagnet for withdrawing said contact from the path of the arm, manually controllable means for causing the energization of said magnet, electromagnetic means for locking the contact out of the path of the arm, and means controlled by said hand or arm for causing the energization of the last named electromagnetic means to release the contact to movement into the path of the hand or arm prior to the arrival of said hand or arm at the position of the contact when in the path of said arm.

4. In a watchman's clock, a contact hand or arm having a progressive movement, a contact terminal movable into and out of the path of said arm and having a normal tendency toward movement into the path of said arm, an electromagnet for withdrawing said contact from the path of the arm, manually controllable means for causing the energization of said magnet, electromagnetic means for locking the contact out of the path of the arm, and means controlled by said hand or arm for causing the energization of the last named electromagnetic means to release the contact to movement into the path of the hand or arm prior to the arrival of said hand or arm at the position of the contact when in the path of said arm, and an indicating means and actuating circuit therefor responsive to the engagement of the hand or arm with the contact movable into and out of the path thereof.

971,311. ROCK-PULVERIZING MACHINE. JOHN B. ROSSMAN, St. Paul, Minn. Filed July 28, 1908. Serial No. 445,743.



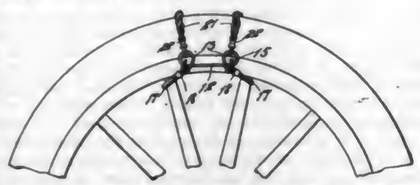
1. In a machine for disintegrating rock, the combination with a stationary frame, of a movable frame, and cooperating jaws carried by said frames, the meeting plane of said jaws being at any angle to the line of movement of said movable frame, and means for adjusting the relative angularity of said jaws.

2. In a machine for disintegrating rock, the combination with a stationary frame, of a movable frame, semi-circular recesses in said frames, correspondingly shaped coöperating jaws positioned in said recesses, the meeting plane of said jaws being arranged at an angle to the line of movement of said movable jaw, and cut-away portions in the frames adjacent said semi-circular recesses.

3. In a machine for disintegrating rock, the combination with a stationary frame, of a movable frame, semi-circular recesses in said frames, correspondingly shaped coöperating jaws adjustably positioned in said recesses, the meeting plane of said jaws being arranged at an angle to the line of movement of said movable jaw, and cut-away portions in the frames adjacent said semi-circular recesses.

4. In a machine for disintegrating rock, the combination with a stationary frame, of a movable frame, semi-circular recesses in said frames, correspondingly shaped coöperating jaws positioned in the recesses, grooves in the jaws, bolts positioned in said grooves for securing the jaws to the frame, the meeting plane of the jaws being at an angle to the line of movement of the aforesaid movable jaw, and cut-away portions in the frame adjacent said semi-circular recesses.

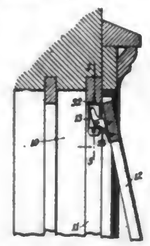
971,312. EMERGENCY ANTISKIDDING DEVICE. FREDERICK A. RUFF, Newark, N. J. Filed Dec. 3, 1909. Serial No. 531,181.



1. A device of the character described, comprising two attaching members provided with looped portions and having hooked portions extending across said loops, a tread member connected to the attaching member at the loops and means connecting the hooked portions whereby the tread member may be held about the tire of a wheel.

2. A device of the character described, comprising two attaching members provided with looped portions and having hooked portions forming a continuation of said looped portions and lying in substantially the same plane as the looped portions, a tread member connected to the attaching member at the loops and means connecting the hooked portions whereby the tread member may be held about the tire of a wheel.

971,313. SASH-HANGER. HARRY P. SARCHETT, Nowata, Okla. Filed Apr. 5, 1910. Serial No. 553,638.



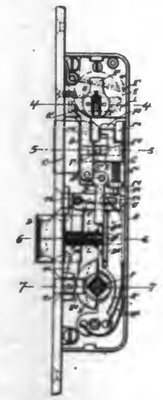
1. The combination with a window frame, and a screen frame, of socket members secured in the corners of the window frame and each formed of a plate offset adjacent to one end to form a flange and provided at its other end with a lateral flange, said flanges being apertured, the plate being provided with an inclined slot having rounded ends and an extension leading out through one side of the plate, and hanger brackets secured to the screen frame and each formed of a plate having a lateral flange at one side and provided with a headed pivot projecting at right angles from the flange, said pivots engaging the slots of the socket members.

2. In a device of the class described, a socket member adapted to be secured to a window frame and formed of a plate offset adjacent to one end to form a flange and provided at its other end and at one side with lateral flanges, the side flange being of a width equal to the offset of the plate and the flanges at the ends of the plate being apertured, the said plate being provided with an inclined slot having rounded ends and an extension leading out through the side of the plate opposite that having the flange, and hanger brackets adapted to be secured to a screen frame and each formed of an apertured plate having a lateral flange projecting from one side and provided with a headed pivot projecting at right angles from the flange and adapted to enter the slot of the bracket member.

3. In a device of the class described, a socket member adapted to be secured to a window frame and formed of a plate offset adjacent to one end to form a flange extending parallel with the plate and provided at its other end with a lateral right angular flange projecting in a direction opposite to the said offset, said flanges being apertured, the plate being provided with an inclined slot having rounded ends and an extension leading out through one side edge of the plate, and a hanger bracket adapted to be secured to a screen frame and formed of an apertured plate having a lateral flange at one side and provided with a headed pivot projecting at right angles from said flange and adapted to enter the slot of the socket member.

971,314. DOOR-LOCK. SAMUEL SCHACHT, New York, N. Y. Filed Oct. 22, 1909. Serial No. 523,972.

1. A door lock, comprising a casing, a bolt mounted to slide therein, a spring pressed latch mounted to slide in the casing and normally in locking position, a bell crank lever pivoted to the bolt, and adapted to engage the latch to actuate the same, a bar movable vertically on the bolt and pivotally connected with said bell crank lever, and a key controlled mechanism for actuating the said bolt and for depressing the said bar to retract the latch.



2. A door lock comprising a casing, a bolt mounted to slide therein, a guide lug on the casing extending through a slot in the shank of the bolt, a tumbler mounted to slide up and down on the face of the shank of the bolt, the said tumbler having a head at its upper end, lugs on the shank of the bolt between which the head of the tumbler extends, the tumbler being offset at one side and extending beneath one of said lugs, a horizontal arm extending from the other side of said tumbler at the lower portion thereof, the said arm having a lug adapted to engage the said guide lug on the casing to lock the said bolt in retracted or in locking position, a spring normally holding the tumbler in uppermost position, and a key controlled mechanism for actuating the tumbler and bolt.

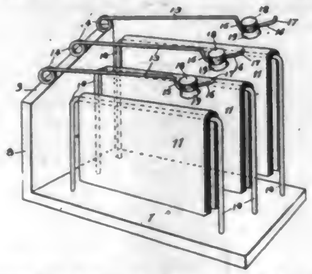
3. A door lock comprising a casing, a bolt mounted to slide therein, a guide lug on the casing extending through a slot in the shank of the bolt, a tumbler mounted to slide up and down on the face of the shank of the bolt and having a head at its upper end, lugs on the shank of the bolt between which the head of the tumbler extends, the tumbler having an offset portion at one side extending beneath one of said lugs, and a horizontal arm at the other side extending from the lower portion and provided with a lug adapted to engage the said guide lug of the casing, a depending pin on the offset portion of said tumbler and slidably engaging a bearing on the shank of the bolt, a spring coiled on said pin for normally holding the tumbler in uppermost position, and a key controlled mechanism for actuating the said tumbler and bolt.

4. A door lock comprising a casing, a bolt mounted to slide therein, a spring pressed latch normally in locking position, a bell crank lever mounted to swing on the said bolt, and adapted to engage the said latch to retract the latter, a lug on the shank of the bolt, a bar mounted to slide up and down on the shank of the bolt between the head of the bolt and said lug, the said bar being pivotally connected at its lower end with the said bell crank lever, the upper end of said bar terminating in a head, and key-actuated mechanism for actuating the said bolt and moving the said bar and the bell crank lever into position for the lever to engage the latch, the said mechanism being adapted to engage the head of the said bar to depress the latter, thereby swinging the bell crank lever to retract the latch.

971,315. RACK FOR WRAPPING-PAPER. JOHN HAROLD SENNSTROM, Chicago, Ill. Filed May 9, 1910. Serial No. 560,113.

1. A rack for wrapping paper consisting of a base, an upright and substantially rectangular support mounted thereon, and retro-active means provided with a device adapted to engage the sheets of paper when located on

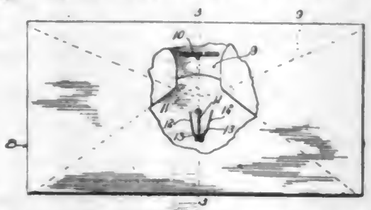
the support, said means and engaging device supported normally out of contact with the sheets of paper.



2. A rack for wrapping paper consisting of a base, a plurality of upright and substantially rectangular supports mounted thereon and spaced one from the other, resilient members extended at one of their ends near the upper ends of the supports, and a block provided with sheet-engaging means movably mounted on each of said members near their free ends.

3. A rack for wrapping paper consisting of a base, a plurality of upright and substantially rectangular supports mounted thereon and spaced one from the other, a resilient arm suitably supported at one of its ends and extended longitudinally over each of the supports and having a downwardly inclined extension near its free end, and a block provided with sheet-engaging means movably mounted on each of said extensions.

971,316. ENVELOP-SEAL. FLOYD SHANNON, Wellsburg, W. Va. Filed Feb. 9, 1910. Serial No. 542,883.



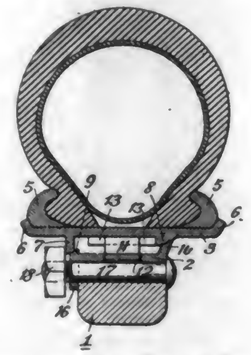
An envelop seal consisting of a shank having a flap engaging head at one end, and a plurality of envelop body engaging fingers at the other end diverging from the extreme end of said shank toward said head.

971,317. FILM-REEL FOR MOVING-PICTURE MACHINES. THOMAS SHARLOW, New York, N. Y. Filed Apr. 6, 1910. Serial No. 553,834.



A film reel for moving picture machines comprising a film drum and side disks, said drum consisting of a sheet of metal bent into cylindrical shape and formed with end tongues engaging with slits formed for their reception in the side disks, the edges of said drum sheet being spaced apart to form a longitudinal slot, said side disks each formed with a protruding central hub bearing having an annular groove in which the tongues on the drum are countersunk, and a spindle sleeve extending axially between and secured to the said protruding hub bearings of the side disks, and formed with a continuous longitudinal spline groove, substantially in the manner and for the purpose described.

971,318. VEHICLE-WHEEL RIM. EDWIN COUPLAND SHAW, Akron, Ohio, assignor, by mesne assignments, to The United Rim Company, Akron, Ohio, a Corporation of Ohio. Filed May 25, 1907. Serial No. 375,716.



1. The combination of a detachable split rim, endless tire retaining flanges thereon, and means for locking said rim against said flanges.

2. The combination of a detachable split rim, endless tire-retaining flanges thereon and means for expanding said rim into engagement with said flanges.

3. The combination of a resilient tire, an expansible rim therefor, removable annular tire-retaining flanges upon said rim, means for expanding said rim and means for locking it when expanded.

4. The combination of a detachable split rim, means mounted thereon for retaining one side of a tire, and an endless tire-retaining flange for retaining the other side of a tire removably mounted on said rim.

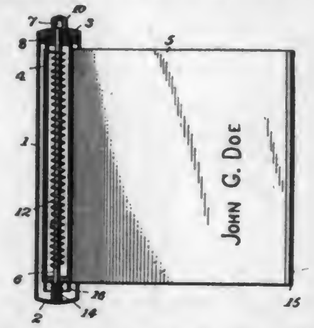
5. The combination of a detachable rim comprising a transversely split ring having upturned extremities forming flanges, and detachable annular tire-retaining flanges seated upon said rim.

[Claims 6 to 20 not printed in the Gazette.]

971,319. ROLLER CARD-CASE. EALE R. SHEPPARD, New York, N. Y. Filed June 23, 1910. Serial No. 568,571.

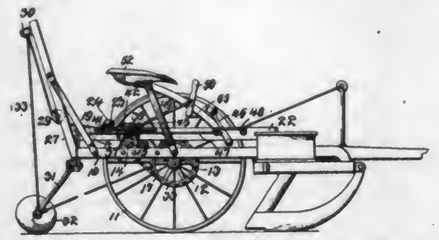
1. A receptacle for a display sheet comprising a tubular casing, a stem or arbor extending through the casing and having one end secured thereto, a tubular roller or barrel within the casing and revolubly mounted upon said arbor, a spring within the barrel and having its ends secured to the arbor and barrel respectively, a recessed plug in one end of the barrel adapted to slidingly engage the free end of said arbor, and means for sliding the barrel longitudinally in the casing to cause frictional engagement between the end of the arbor and said plug.

2. A receptacle for a display sheet, comprising a tubular casing closed at one end and having an apertured plug in the other end, a stem or arbor extending through the casing and secured to said closed end, a roller or barrel revolubly mounted within the casing upon said arbor, a spiral spring secured to said arbor and said barrel respectively, a recessed button secured to one end of said barrel and adapted to slidingly engage the free end of said arbor and projecting through said apertured plug, and a spring normally holding said button out of frictional engagement with the end of the arbor.



3. A receptacle for a display sheet, comprising a tubular casing closed at one end, a stem or arbor extending through the casing and secured to said closed end, a roller or barrel revolubly and slidably mounted within the casing upon said arbor, a spiral spring secured to said arbor and said barrel respectively, means for sliding said barrel upon the arbor and causing frictional engagement betwen parts fixed to the barrel and the casing respectively, and a spring normally holding said parts out of engagement.

971,320. CORN-PLANTER ATTACHMENT. JOHN S. SMITH, Rea, Mo. Filed Feb. 12, 1910. Serial No. 543,475.



1. In an attachment for corn planters, a marker arranged to swing in a vertical circle, and means to raise said marker including a winding drum, a ratchet on one end of said drum, a roller mounted for movement into and out of engagement with the ratchet, a flexible element connected to the marker and wound on the drum, said element being arranged to move the roller away from the ratchet as the drum is rotated to lift the marker, and releasable means to actuate the drum.

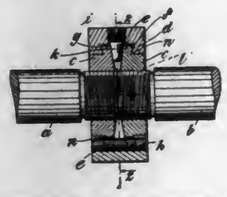
2. In an attachment for corn planters, a marker arranged to swing in a vertical circle, and means to raise said marker including a winding drum, a ratchet on one end of said drum, a pivoted frame, a roller mounted in said frame and adapted to bear against the ratchet when the frame is depressed, a flexible element connected to the marker and wound on the drum, said element being arranged to raise the roller from the ratchet as the drum is rotated to lift the marker, and releasable means to actuate said drum.

3. In an attachment for corn planters, a marker arranged to swing in a vertical circle, and means to raise said marker including a winding drum, a ratchet on one end of said drum, a frame pivoted at one end, a roller mounted toward the opposite end of said drum and adapted to bear against the ratchet when the end of the frame carrying the roller is depressed, a flexible element connected to the marker and wound on the drum, a guide sheave for said flexible element, said element extending under the roller and guide sheave and over the drum, and the roller, drum and guide sheave being positioned to flex the element when the roller is depressed whereby when the element is stressed by the rotation of the drum the roller is raised from the ratchet, and releasable means to actuate the drum.

4. The combination with a corn planter; of an attachment therefor comprising a marker pivoted to the planter to swing in a vertical circle, a shaft mounted for rotation on the planter, drive wheels supporting the planter, sprockets on one of said wheels and the shaft, a sprocket chain connecting said sprockets, a drum freely rotatable on the shaft and provided at one end with a ratchet and at the opposite end with a clutch member, a frame pivoted to the planter, a roller rotatably mounted toward the free end of said frame, a guide sheave, a flexible element wound on said drum and passing under the roller and guide sheave, a second guide sheave above the first mentioned sheave, said flexible element passing over the second guide sheave and being connected to the marker, said roller having an end adapted to bear against said ratchet when the frame is depressed, a releasable pawl engaging said ratchet, a clutch member fixed on the shaft, and means to move the drum clutch member into and out of engagement with the clutch member on the shaft.

5. The combination with a corn planter; of an attachment therefor comprising a marker pivoted to the planter to swing in a vertical circle, a shaft mounted for rotation on the planter, drive wheels supporting the planter, sprockets on one of said wheels and the shaft, a sprocket chain connecting said sprockets, a drum freely rotatable on the shaft and provided at one end with a ratchet and at the opposite end with a clutch member, a frame pivoted to the planter, a roller rotatably mounted toward the free end of said frame, a guide sheave, a flexible element wound on said drum and passing under the roller and guide sheave, said flexible element passing over the second guide sheave and being connected to the marker, said roller having an end adapted to bear against said ratchet when the frame is depressed, a releasable pawl engaging said ratchet, a clutch member fixed on the shaft, and means to move the drum clutch member into and out of engagement with the clutch member on the shaft, said means comprising a shipper having a forked end engaging the drum, a pin on the opposite end of said shipper, a sliding member provided with a cam slot engaging said pin, a quadrant fixedly mounted with relation to the planter, and a latch lever pivoted to said quadrant and operatively connected to said sliding member.

971,321. COUPLING. BENJAMIN F. SPARR, New York, N. Y. Filed Feb. 5, 1910. Serial No. 542,168.



1. The combination with two members to be coupled, of nuts threaded thereto respectively so as to move in opposite directions when rotated the same way, and a divided member adapted to fit around said nuts and to be engaged thereby when the nuts are rotated to move them apart.

2. The combination with two members to be coupled, and one of which has a projecting end fitting into the end of the other, of nuts threaded thereto respectively so as to move in opposite directions when rotated the same way, and a divided member adapted to fit around said nuts and to be engaged thereby when the nuts are rotated to move them apart.

3. The combination with two members to be coupled, of nuts threaded thereto respectively so as to move in opposite directions when rotated the same way, and a divided ring having a recess around its inner periphery into which said nuts are adapted to project.

4. The combination with two members to be coupled, of nuts threaded thereto respectively so as to move in opposite directions when rotated the same way, said nuts having projecting undercut flanges, and a divided ring having a recess with undercut sides and in which said flanges are adapted to fit so as to engage said sides.

5. The combination with two members to be coupled, of nuts threaded thereto respectively so as to move in opposite directions when rotated the same way, said nuts having projecting undercut flanges, a divided ring having a recess with undercut sides and in which said flanges are adapted to fit so as to engage said sides, and a separating member for the nuts.

[Claims 6 to 8 not printed in the Gazette.]

971,322. MINE-INSULATOR. CHARLES W. SPEAKMAN, Monongahela, Pa. Filed Nov. 29, 1909. Serial No. 530,478.



1. An insulator comprising the combination with an anchoring element formed with a water conducting groove, of an insulator body mounted upon said element and having a stop provided with a concavity and constituting a collector for water and communicating with the groove and said element.

2. An insulator comprising an anchoring element provided with a water-conducting groove, an insulator body mounted on the element and provided with means for the reception of an electrical conductor and further provided in its upper face with a concavity constituting a collector for water communicating with said groove, and means for supporting the insulator body upon said element and to prevent rotative movement of the insulator body.

3. An insulator comprising an anchoring element provided with a stop, an insulator body loosely mounted upon said element and having its movement in one direction arrested by said stop, and means carried by said element for supporting the insulator body and further preventing rotative movement of the insulator body upon said element.

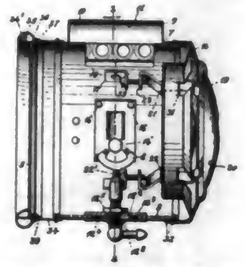
4. An insulator comprising a body-portion having its bottom formed of a pair of spaced lugs to provide a key-way, said body-portion further provided with an opening extending lengthwise with respect thereto and having its lower end arranged to one side of one end of the key-way.

971,323. LAMP. FREDERICK M. STEVENS, New York, N. Y., assignor to Manhattan Screw & Stamping Works, New York, N. Y., a Corporation of New York. Filed Oct. 21, 1909. Serial No. 523,776.

1. In a lamp of the class described, the combination with a casing comprising a central section provided with an outer and an inner wall and a rear section provided with an outer and an inner wall, of means independent of said outer walls adapted to hold said casing sections together, as and for the purpose described.

2. In a lamp of the class described, the combination with a casing comprising a central section provided with an outer and an inner wall and a rear section provided with an outer and an inner wall, of means attached to said inner walls adapted to hold said sections together, as and for the purpose described.

3. In a lamp of the class described, the combination with a casing comprising a central section provided with an outer and an inner wall and a rear section provided with an outer and an inner wall, of angle pieces fixed to the inner wall of said central section, brackets fixed to the inner wall of said rear section said brackets being adapted to hold a reflector yieldingly, and means uniting said angle pieces and said brackets to hold said central and rear sections together, as and for the purpose described.

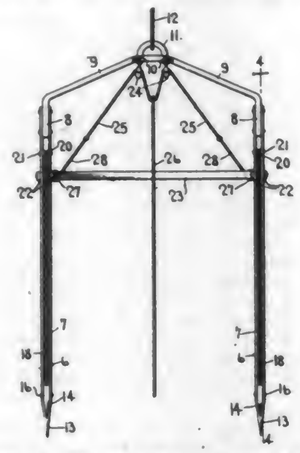


4. In a lamp of the class described having a casing provided with a rear section, the combination with said rear section of a reflector, a mounting for said reflector comprising a back provided with a tubular rim and a retaining piece also provided with a tubular rim said back and retaining piece being adapted to hold the reflector between them and to have their tubular rims slip one within the other, means for holding said back and retaining piece together, and means for attaching said mounting to said rear section, as and for the purpose described.

5. In a lamp of the class described the combination of a central section and a rear section each provided with an inner and an outer wall, a reflector, brackets attached to the rear section independent of its outer wall to hold the reflector in position, and means attached to the central section independent of its outer wall adapted to engage the brackets and hold said sections together, as and for the purpose described.

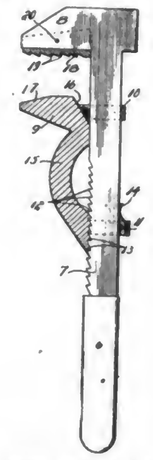
[Claims 6 to 9 not printed in the Gazette.]

971,324. HAY-FORK. WILLIAM S. THOMPSON, Wyanet, Ill. Filed Mar. 16, 1909. Serial No. 483,752.



A device of the class described comprising inwardly converging inverted U-shaped bars, a hanger loop centrally between the said bars, bolts passed through the bars and hanger loop for uniting the same together, tines depending from the ends of the bars and fixed thereto, each tine being provided with a slit throughout a greater portion of its length, harpoon teeth pivoted to forward tines near the lower end of the slits therein, levers centrally pivoted in said tines near the upper ends of the slits therein, link rods connecting said levers and teeth, and end brace bars connected to the inner and outer faces of the tines near their upper ends, the said bars being in alinement with each other, side brace bars connected to the tines near their upper ends, yokes formed centrally in the inner end brace bars, rollers journaled in said yokes, each roller being provided with a convexed periphery, ropes connecting the levers in pairs and trained over said rollers, pulleys carried at the ends of the hanger loop and depending centrally between the tines, and a pull cable trained over the pulleys and connected with said ropes.

971,325. WRENCH. FRANK A. TRAHIN, Gillespie, Ill. Filed Feb. 1, 1910. Serial No. 541,344.

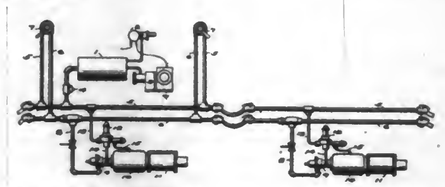


In a wrench, a shank having a fixed jaw at one end thereof and provided with rack teeth at one longitudinal edge, a handle fixed to the opposite end of the shank, a movable jaw having an outwardly bowed extension provided with rack teeth at its free end to engage the rack teeth on the shank, loops integral with said movable jaw and embracing the said shank, one of the loops being of greater size than the cross-sectional area of said shank, a leaf spring fixed to the last mentioned loop and frictionally engaging the longitudinal edge of the shank opposite the rack teeth, the said movable jaw being provided with an inner beveled edge to permit rocking of the said jaw on the shank, the said movable jaw being provided with a further beveled surface intersecting its gripping face, and a toothed jaw being of substantially U-shape in cross section to embrace the said fixed jaw and having detachable connection therewith.

971,326. AIR-BRAKE PROTECTION-VALVE. WALTER V. TURNER, Wilkinsburg, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 7, 1905. Serial No. 248,882.

1. In an air brake, the combination with a train pipe, auxiliary reservoir, and brake cylinder, of an additional reservoir or source of pressure, a triple valve having a port for supplying air from the additional source to the auxiliary reservoir, and automatic means for preventing the supply of air under a high pressure from the additional source to the triple valve when the auxiliary reservoir is depleted.

2. In an air brake, the combination with a train pipe, auxiliary reservoir, and brake cylinder, of an additional reservoir or source of pressure, a triple valve having a port for supplying air from the additional source to the auxiliary reservoir, and a valve device for controlling the supply of air from the additional source to the said triple valve port.



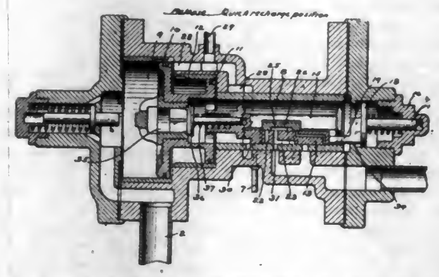
3. In an air brake, the combination with a train pipe, auxiliary reservoir, and brake cylinder, of an additional reservoir or source of pressure, a triple valve having a port for supplying air from the additional source to the auxiliary reservoir, and a valve device operated by pressure from the additional source for controlling communication to said triple valve port.

4. In an air brake, the combination with a train pipe, auxiliary reservoir, brake cylinder, and a triple valve having an additional port for supplying air to the auxiliary reservoir, of a pipe or passage leading from an additional source of pressure to said port, means for supplying air to the auxiliary reservoir through a separate connection, and a valve device for controlling communication through the pipe leading to the said triple valve port.

5. In an air brake, the combination with a train pipe, auxiliary reservoir, brake cylinder, and a triple valve having an additional port for supplying air to the auxiliary reservoir, of a pipe or passage leading from an additional source of pressure to said port, a separate pipe or passage communicating with the auxiliary reservoir, and a valve device for controlling the supply of air from the additional source through said passages.

[Claims 6 to 10 not printed in the Gazette.]

971,327. TRIPLE-VALVE DEVICE. WALTER V. TURNER, Edgewood, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 21, 1907. Serial No. 363,710.



1. A triple valve device for supplying air from the auxiliary reservoir to the brake cylinder, comprising a piston adapted to be controlled in its movement by the opposing pressures of the train pipe in one direction and the auxiliary reservoir and a separate source of fluid pressure supply in the opposite direction.

2. A triple valve device adapted to supply air from the auxiliary reservoir to the brake cylinder in service applications, comprising a piston operated in one direction by train pipe pressure and in the other by auxiliary reservoir pressure and pressure in a separate chamber.

3. A triple valve device, comprising a piston having two abutments, one of which is subject to the opposing pressures of the train pipe and auxiliary reservoir and the other abutment of which is subject to the pressure in a separate chamber, a main valve and an auxiliary valve having a movement relative to the main valve and oper-

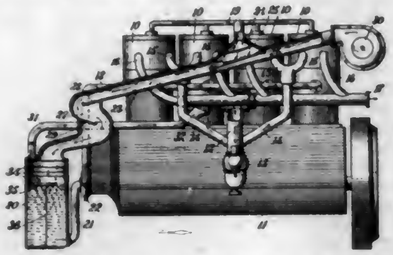
ated by said piston for controlling the admission of fluid to the brake cylinder.

4. A triple valve device, comprising a piston and means operated by said piston for controlling the supply of air from the auxiliary reservoir to the brake cylinder in service applications of the brakes, said piston being subject on one side to train pipe pressure and on the other to auxiliary reservoir pressure and to pressure from a separate source.

5. A triple valve device, comprising a movable abutment subject to the opposing pressures of the train pipe and the auxiliary reservoir and a separate chamber, means for establishing communication from the train pipe to said chamber, and means operated by said movable abutment for controlling a vent port from said chamber.

[Claims 6 to 34 not printed in the Gazette.]

971,328. COOLING DEVICE FOR INTERNAL-COMBUSTION ENGINES. RALPH BROOKS VAUGHN, Wilkes-Barre, Pa. Filed Aug. 25, 1909. Serial No. 514,508.



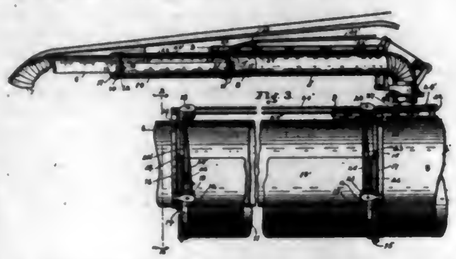
1. An explosion engine provided with a cooling device comprising a water storage tank connected with the water jacket of the engine, and a spraying and cooling device having a spraying nozzle connected with the outlet of the water jacket, a spraying chamber containing the said nozzle and having connection with the said water storage tank, means for producing air currents in the said chamber to cool the sprayed water previous to its return to the said tank, and a vent pipe leading from the said tank and discharging moist hot air into the inlet pipe of the carbureter for the engine.

2. A water cooler for internal combustion engines, comprising a downwardly-inclined conduit, means for spraying into said conduit the water from the engine jacket, a fan for delivering air to said conduit at the upper end thereof, a plurality of opposed baffles adjacent the lower end of the conduit, a tank for receiving water from said conduit, means for returning the water from said conduit to the engine jacket, and means for returning the air from said tank to the inlet of the carbureter of the engine.

3. An internal combustion engine, provided with a cooling device comprising a water storage tank connected with the water jacket of the engine, a spraying and cooling device having a spraying nozzle connected with the outlet of the water jacket, a spraying chamber separate from said water tank and containing said nozzle, a conduit delivering downwardly at an incline from said spraying and cooling chamber to said water storage tank, a plurality of baffles adjacent the lower end of said conduit, and means for blowing air through said chamber and said conduit, to cool the spraying water previous to its return to said tank.

971,329. PNEUMATIC STACKER. JAMES A. WALSH, Indianapolis, Ind., assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed July 20, 1908. Serial No. 444,331.

1. A pneumatic stacker chute comprising a cut away portion, sliding closures on opposite sides of said chute adapted to be lowered and raised to cover and uncover said cutaway portion, means for actuating said closures to cover said cut away portion, and means for actuating said closures to uncover said cut away portion.



2. The combination, with a pneumatic stacker chute, of closures slidably mounted on opposite sides thereof, a rope for sliding said closures upwardly simultaneously, and a rope for sliding said closures downwardly simultaneously.

3. The combination, with a pneumatic stacker chute having a longitudinal opening therein, of a pair of sliding closures mounted on opposite sides of said chute, a single operating means for upwardly sliding said closures, and a single operating means for downwardly sliding said closures.

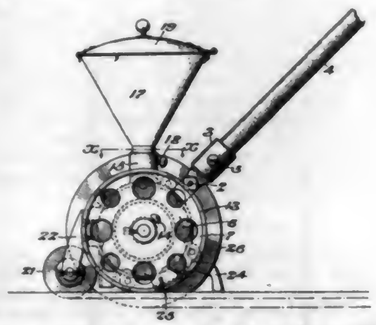
4. A pneumatic stacker chute comprising a cut-away portion, sliding closures on opposite sides of said chute adapted to cover and uncover said cut-away portion, means for slidably retaining said closures on said chute, means for upwardly sliding said closures, and means for downwardly sliding said closures.

5. The combination, with a pneumatic stacker chute, of sliding closures on opposite sides thereof, guide rollers on said chute for retaining said closures, ropes attached to said closures for upwardly sliding the same beneath said rollers, and ropes attached to said closures for downwardly sliding the same beneath said rollers.

[Claims 6 to 10 not printed in the Gazette.]

971,330. [WITHDRAWN.]

971,331. MACHINE FOR SOWING SEED. ARCHER WELSH, Bellmor, N. J. Filed Aug. 16, 1909. Serial No. 512,948.



1. In a seed planter, a driving shaft, a supporting wheel mounted thereon, a marking disk mounted on said shaft, a drum mounted on said shaft intermediately of said wheel and disk and provided with seed retaining pockets on its periphery, an inclosing casing in which said drum is loosely mounted and having a delivery spout at its lower portion and an inlet passage at its upper portion, a furrow disk rotatably carried by said casing and in alinement with the delivery spout, and means for adjusting the relative position of said supporting wheel and marking disk to vary the width of the furrow.

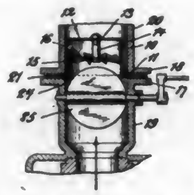
2. In a seed planter, a driving shaft, a supporting wheel mounted thereon, a marking disk mounted on said shaft, a drum mounted on said shaft intermediately of said wheel and disk and provided with seed retaining pockets on its periphery, the circumferential edges of said pockets being inclined, an inclosing casing loosely mounted on said drum and having a delivery spout at its lower portion and an inlet passage at its upper portion, a furrow disk rotatably carried by said shaft and in alinement with the delivery spout, and means for adjusting the relative position of said supporting wheel and marking disk to vary the width of the furrow, in combination with means carried by the casing for covering the deposited seeds with soil.

3. In a seed planter, a driving shaft, a supporting wheel mounted thereon, a marking disk mounted on said shaft, a drum mounted on said shaft intermediately of said wheel and disk and provided with seed retaining pockets on its periphery, the circumferential edges of said pockets being inclined, an inclosing casing loosely mounted on said drum and having a delivery spout at its lower portion and an inlet passage at its upper portion, a furrow disk rotatably carried by said shaft and in alinement with the delivery spout, the rim of the supporting wheel being of greater width than the furrow, and means for adjusting the relative position of said supporting wheel and marking disk to vary the depth of the furrow.

4. In a seed planter, the combination of a casing, of a feed drum mounted therein and provided with seed retaining pockets on its periphery, the opposite edges of said pockets being inclined and said casing being provided with an inlet and discharge passage, said inlet passage having the walls near its periphery converging to substantially the same diameter as the seed retaining pockets.

5. In a seed planter, a driving shaft, a feed drum adjustably mounted thereon and provided with seed retaining pockets on its outer periphery, having their circumferential edges inclined, a casing loosely mounted on said drum and provided with inlet and discharge passages cooperating with said seed retaining pockets, a plate secured to said casing to maintain said feed drum in operative relation with respect to said inlet and discharge passages, a supporting wheel carried by said shaft, a marking disk carried by said driving shaft, and means for adjusting the relative longitudinal position of said supporting wheel and disk on the driving shaft to vary the depth of the furrow.

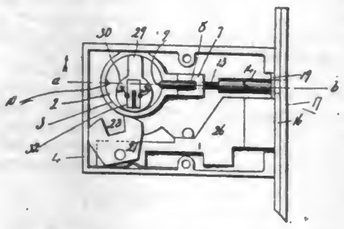
971,332. MIXER FOR GASEOUS FLUIDS. HARTWELL W. WEBB, Cresskill, and EDWARD H. STICKELS, Edgewater, N. J., assignors to Gyrex Mfg. Co., New York, N. Y. Filed Mar. 8, 1910. Serial No. 547,989.



1. As an article of manufacture, a mixer for gaseous fluids arranged to be disposed in the path of gaseous currents to be acted upon, comprising a tubular casing having an outwardly flaring flange at one end thereof, and provided intermediate its ends with a fan or paddle wheel rotatably supported thereby.

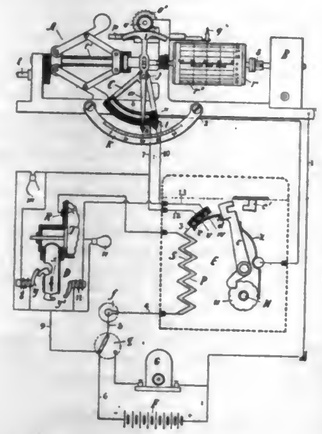
2. As an article of manufacture, a mixer for gaseous fluids arranged to be disposed in the path of gaseous currents to be acted upon, comprising a tubular casing having an outwardly flaring flange at one end thereof, spider arms at the opposite end and a central stud supported by the said spider arms, and a rotatable fan or paddle wheel provided with a tubular bearing sleeve rotatably mounted upon the said stud.

971,333. MORTISE DOOR-LOCK. DAVID WALTER WEED, Stamford, Conn., assignor to Eagle Lock Co., Terryville, Conn., a Corporation. Original application filed Mar. 10, 1910, Serial No. 548,460. Divided and this application filed June 20, 1910. Serial No. 567,885.



In a mortise door-lock, the combination with the case thereof, of a cylinder lock the cylinder of which is formed with positioning-notches, a double pointed positioning shoe for engagement with the cylinder to hold the same against rotation in the case, a screw entering the said shoe and passing at its outer end through a hole in the selvage of the lock-case, and a thrust-plate slotted to receive the screw and held in place against the inner face of the selvage plate of the lock-case and by the cover of the lock.

971,334. CONTROLLING MECHANISM FOR VEHICLES. JOHN T. WHALEN, Brooklyn, N. Y. Filed May 24, 1907. Serial No. 375,521.



1. In a speed controlling apparatus, the combination of a switch, a source of electricity connected to said switch, a contact lever moving over said switch, means for moving the contact lever over said switch comprising a shaft receiving motion from a moving vehicle, which motion varies with the varying rate of speed of travel of said vehicle, means for throttling the fuel supply of an enigine actuated by said source of electricity, and an electric igniter connected to said switch.

2. In a speed controlling apparatus, the combination of an electrically operated fuel-throttling device, an electric igniter, a source of electricity, a switch connected to said fuel throttling device and igniter, a second switch connected to said switch, source of electricity and fuel throttling device, and a lock actuating said second switch.

3. In a speed-controlling apparatus, the combination of an electrically-operated fuel-throttling device, a source of electricity, a switch located within an induction coil box connecting said fuel-throttling device to said source of electricity, and a lock actuating said switch and ar-

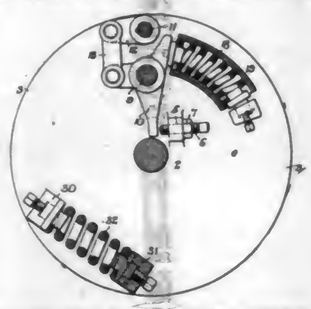
ranged to lock the said induction coil box whenever the energizing circuit of the induction coil is broken by the said switch.

4. In a speed controlling apparatus a source of electricity, an electric motor for actuating a fuel-throttling device, an electric igniter, and a switch operated by a centrifugal governor connected to said igniter and fuel-throttling device, and adapted to simultaneously operate said fuel-throttling device and igniter, and to render said igniter inoperative.

5. In a speed controlling apparatus, a source of electricity, an electric igniter, an electrically operated fuel-throttling device, a switch connected to said source, igniter and fuel-throttling device, and a switch lever, adapted to successively operate said igniter and fuel-throttling device simultaneously, and said fuel-throttling device alone.

[Claim 6 not printed in the Gazette.]

971,335. SAFETY FRICTION-CLUTCH. JOHN D. WILLIAMSON, Jr., Philadelphia, Pa., assignor to Williamson Bros. Co., Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 25, 1910. Serial No. 539,921.



1. The combination in a power transmitting clutch of a driving and driven member; a friction band operative on one member; and means for automatically tightening said band in proportion to the load applied.

2. The combination in a power transmitting clutch of a driving and a driven member; a friction band operative on one member; and means for tightening said band in proportion to the load applied; with means for limiting the possible amount of tightening of said band.

3. The combination in a power transmitting clutch of a driving and a driven member; a friction band operative on one of said members; with means for connecting said band to the other member; said means including a lever having one arm operatively connected to said band and a second arm in position to be acted on by said second member.

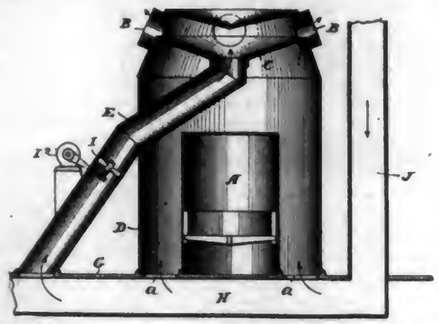
4. The combination in a power transmitting clutch of a driving and a driven member; a friction band operative on one of said members; means for connecting said band to the second member; the same including a lever having one arm operatively connected to said band and a second arm in position to be acted on by said second member; with means for limiting the possible turning of said lever.

5. The combination in a power transmitting clutch of a driving and a driven member; a lever mounted on one of said members; a friction band operative on the second member; means for operatively connecting the lever to the friction band; and a second structure on the first member capable of acting on said lever, for limiting the movement thereof.

[Claims 6 to 13 not printed in the Gazette.]

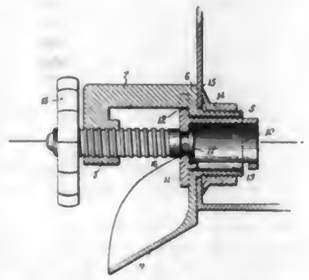
971,336. HEATING SYSTEM. PHILIP F. WULLSCHLEGER, University Place, Nebr. Filed Oct. 25, 1909. Serial No. 524,432.

A heating system comprising a furnace having a hood provided with a double top of funnel shaped sections, said sections providing a chamber between them, outlet flues leading from said chamber and the space beneath the lower of said funnel shaped sections, a flue communicating with said chamber and extending to the outside of the hood, a flue located beneath the base of the furnace and



communicating with said outwardly extended flue, and with the furnace hood at the base thereof; a third flue communicating with said underground flue, and a fan adapted to be driven by a motor for accelerating the circulation of the air heated by the furnace.

971,337. GLUE-FAUCET. CHARLES MOSER ZIMMERMAN, Cincinnati, Ohio. Filed May 31, 1910. Serial No. 564,111.



1. A faucet comprising a valve cylinder, an arm extending outwardly from the cylinder, having an offset end, a valve guided on the arm and slidable into and out of the cylinder, a valve stem passing through the offset end of the arm and operatively connected to the valve, and means to positively move the stem to and from its seat, reacting against the offset end of the arm.

2. A faucet comprising a tubular member having a valve seat, a support extending outwardly from the member, a valve slidably engaged with the support and adapted to bear against the seat of the tubular member and cut off the flow therethrough, a valve stem having a swiveled connection with the valve and threaded through the support, and means at the outside of the support to operate the stem.

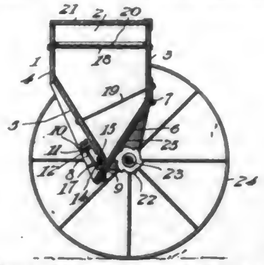
3. A faucet comprising a valve cylinder, a thimble valve slidable in the cylinder and held from turning therein and having a discharge opening at the lower side, an arm extending outwardly from the cylinder, having an offset portion, a valve stem operatively connected to the valve and passing through the offset portion of the arm, and means to move the stem of the valve longitudinally to carry the valve to and from its seat, reacting against the said arm.

4. A faucet comprising a valve cylinder having an outwardly-extending arm provided with an offset outer portion, a thimble valve slidable in the cylinder and slidably engaged with the arm, having a discharge opening at the bottom, a drain spout extending from the lower outer portion of the cylinder, a valve stem having a swiveled connection with the valve and threaded through the offset portion of the arm, and a handle connected to the valve stem at the outside of the arm.

5. A faucet comprising a valve cylinder having an external flange at its outer end, an arm extending from the upper portion of the flange, having an offset end portion, a drain spout extending from the lower portion of the said flange, a clamping ring threaded on the body of the valve cylinder and adapted to bind the vessel to which the valve is applied, to the shoulder presented by the flange, a valve slidable in the valve cylinder, having a discharge opening at the lower side thereof and slidably engaged with the arm, a valve stem threaded through the offset portion of the arm and having a swiveled connection with the valve, and an operating member connected to the stem at the outside of the arm.

[Claim 6 not printed in the Gazette.]

971,338. COMBINED FERTILIZER-DISTRIBUTER AND SEEDER. WILLIAM JAMES ADAMS, Cochranton, Pa. Filed Apr. 1, 1910. Serial No. 552,858.



1. In a machine of the class described, the combination with a hopper, of a shaker board arranged at one side thereof and movable relatively thereto, means for actuating said shaker board, and adjustable supporting means arranged at the side of the hopper opposite to the shaker board and upon which said shaker board is mounted for movement, said supporting means coöperating with said shaker board for controlling the position of the shaker board in relation to said actuating means.

2. In a machine of the class described, the combination with a hopper, of a shaker board arranged at one side thereof and movable relatively thereto, means for actuating said shaker board, and adjustable supporting devices arranged at the side of the hopper opposite to the shaker board and upon which said shaker board is mounted and freely movable, said supporting devices coöperating with said shaker board for controlling the position of the shaker board in relation to said actuating means.

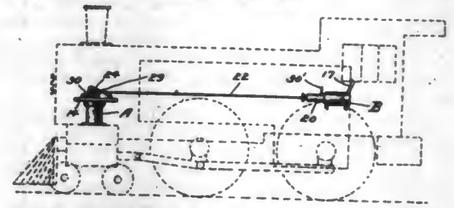
3. In a machine of the class described, the combination with a hopper, of a shaker board associated therewith and movable relatively thereto, means for actuating said shaker board, and headed adjusting devices carried by the hopper, said shaker board being mounted upon said adjusting devices but limited in its movement thereon by the heads of said devices.

4. In a machine of the class described, the combination with a hopper, of a shaker board associated therewith and movable relatively thereto, means for actuating said shaker board, and adjusting devices carried by the hopper and connected to said shaker board for controlling the position of the shaker board in relation to said actuating means, and thereby regulating the discharge of the material from said hopper, said shaker board freely movable upon said adjusting devices.

5. In a machine of the class described, the combination with a hopper, of a shaker board hingedly-connected thereto, means for actuating said shaker board, an adjusting rod upon which said shaker board is supported and freely movable, and means for adjustably connecting said rod to said hopper.

[Claims 6 to 19 not printed in the Gazette.]

971,339. MEANS FOR AUTOMATICALLY ADJUSTING LOCOMOTIVE EXHAUST-NOZZLES. WILLIAM CHARLES ALLISON, Moose Jaw, Saskatchewan, Canada. Filed Aug. 17, 1909. Serial No. 513,366.

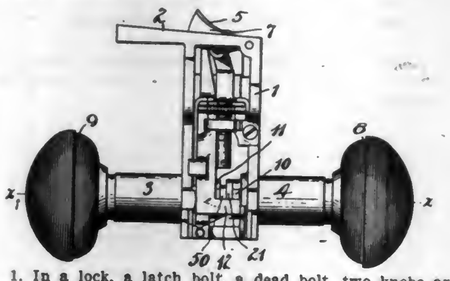


1. The combination with an exhaust nozzle of a cylinder having a longitudinal slot formed in the outer end of the same, a piston, a piston rod connected to the piston, spring means for holding the piston in innermost position, a handle connected to the piston rod and extending through the slot in the cylinder and means operated by the outward movement of the piston rod for controlling the size of the outlet in the exhaust column.

2. The combination with a cylindrical exhaust column, of a bracket having a perforation into which the top of the exhaust column extends, the top of said column being flush with the upper surface of the bracket, said bracket being formed with transversely extending guide-ways and with recesses at substantially right angles to the guide-ways, a pair of slidable plates mounted in the guide-ways adapted to control the opening of the exhaust column, means for actuating said plates, and spring packing members in the recesses pressing against the underside of the plates.

3. The combination with an exhaust nozzle and slidable plates controlling the outlet of the same, of bracket members supporting the plates having recesses therein, packing strips located in the recesses adapted to engage the slidable plates, and springs pressing said strips outwardly against the slidable plates.

971,340. ENTRANCE-DOOR LOCK. AUGUST ARENS, New Britain, Conn., assignor to P. & F. Corbin, New Britain, Conn., a Corporation of Connecticut. Filed Nov. 27, 1909. Serial No. 530,100.



1. In a lock, a latch bolt, a dead bolt, two knobs arranged to stand on opposite sides of said lock and independently operable, a roll-back for each knob operatively connected with said latch, another roll-back operable independently of the knobs and also operatively connected with said latch, still another roll-back operatively connected with said dead bolt, all of said roll-backs being arranged side by side, a spindle passing through all of said roll-backs and key-controlled means carried by each knob and operable independently thereof for operating said spindle.

2. In a lock, a latch bolt, a dead bolt, two knobs arranged to stand on opposite sides of said lock and independently operable, a roll-back for each knob operatively connected with said latch, another roll-back operable independently of the knobs and also operatively connected with said latch, still another roll-back operatively connected with said dead bolt, all of said roll-backs being

arranged side by side, and key-controlled means carried by each knob and operable independently thereof for operating said spindle, said spindle having a longitudinal movement, one of the first-mentioned roll-backs being movable laterally by the longitudinal movement of the spindle, said roll-back being free when the spindle stands in one position and held against rotation when the spindle stands in another position, said spindle-operating means at one end being constructed to impart either rotary or longitudinal movement to said spindle.

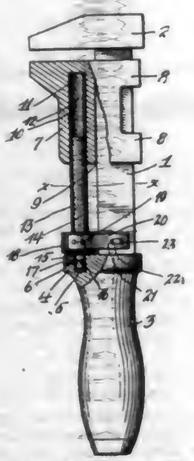
3. In a lock, a latch bolt, a dead bolt, two oppositely arranged independent knobs, both of said knobs being independently connected with said latch bolt, a roll-back for the latch bolt independent of the knobs, a roll-back for the dead bolt independent of the knobs, said roll-backs being arranged side by side, a spindle for operating said roll-backs by a rotary movement, means carried by the spindle to lock one of the knobs against rotation by a longitudinal movement of the spindle, key-operable means carried by one knob for imparting both a rotary and a longitudinal movement to said spindle, and key-operated means carried by the other knob for imparting rotary movement only to said spindle.

4. In a lock, a latch bolt, a dead bolt, opposite independent knobs, a roll-back connection between each knob and said latch bolt, another roll-back operable independently of the knobs and operatively connected with the latch bolt, and still another roll-back operable independently of the knobs and operatively connected with the dead-bolt, means for locking one of said knobs against rotation, and key-operable means concentric with the knobs and accessible by a key entered through the end of either knob for operating the last two mentioned roll-backs.

5. In a lock, a latch bolt, a dead bolt, opposite independent knobs, a roll-back connection between each knob and said latch bolt, another roll-back operable independently of the knobs and operatively connected with the latch bolt, and still another roll-back operable independently of the knobs and operatively connected with the dead-bolt, means for locking one of said knobs against rotation, and key-operable means concentric with the knobs and accessible by a key entered through the end of either knob for operating the last two mentioned roll-backs, said key-operable means at one side of the lock being included in the means for locking one of the knobs against rotation.

[Claims 6 to 18 not printed in the Gazette.]

971,341. WRENCH. PAUL BAJUSZ and ALEXANDAR KONDÁS, Woodriver, Ill. Filed Jan. 7, 1910. Serial No. 536,867.



In a wrench, the combination with a shank having a fixed jaw, and a detachable handle, said handle having an off-set portion provided with a socket, of an adjustable jaw slidably mounted upon said shank, the body of said jaw having a recess formed therein with diametrically opposed walls thereof threaded thereby providing smooth diametrically opposed walls, a screw adjustably mounted in said recess and having the threads thereof stripped to provide oppositely disposed smooth surfaces, said screw having the lower end thereof reduced and revolubly held in the socket of the off-set portion of said handle, a nut fixed upon the reduced end of said screw, a curved locking member secured to the periphery of said nut, said locking member having the outer end thereof provided with an opening, and a notched lug carried by said shank adjacent to the handle thereof and adapted to enter the opening of said locking member and hold said member fixed relatively to said shank, substantially as described.

971,342. SETTEE. STEVEN FRANKLIN BALENTINE, Charleston, S. C. Filed June 27, 1910. Serial No. 569,123.



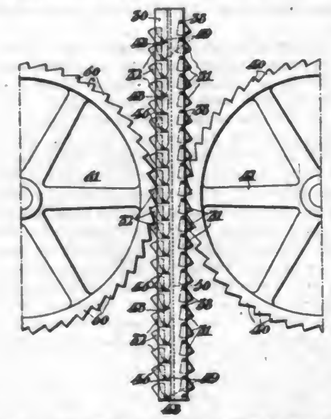
1. In a settee or bench, in combination with the rear supporting legs, of a corner fastening comprising a vertical attaching sleeve fitting upon the supporting leg below the upper end thereof, a horizontal socket at one side of the sleeve, and an upwardly-projecting flange on the socket; together with a fixture having an upper socket receiving a standard of the back of the settee, a lower socket receiving the aforesaid flange, and a shoulder resting upon the upper end of the supporting leg, substantially as shown and described.

2. A metal corner-fastening for settees, benches, etc., comprising a vertical attaching sleeve, a horizontal socket at one side of the same, an upwardly-projecting flange, and a locking-lever pivoted to the fastening device; together with a fixture attached to the seat of the settee or bench for locking engagement of the lever therewith, and a fixture adapted to be secured to the back of the settee and having a socket to receive the aforesaid flange, substantially as shown and described.

3. A metal corner-fastening for settees, benches, etc., comprising a vertical attaching sleeve, a horizontal socket at one side of the same, bracing-arms depending from the socket, and an upwardly-projecting flange connecting the upper part of the sleeve and socket and having a bolt-hole; together with a fixture having an upper socket receiving the standard of the back and a lower socket to receive the aforesaid flange of the corner-fastening, said lower socket having a bolt-hole registering with the bolt-hole in the flange to receive a connecting bolt, substantially as shown and described.

4. A metal corner-fastening for settees, benches, etc., comprising a vertical attaching sleeve, a horizontal socket at one side thereof to receive the seat of the settee, bracing-arms depending from the socket, and an upwardly-projecting flange; a locking-lever pivoted to the corner-fastening, and a fixture secured to the seat for locking engagement of the lever therewith; together with fixtures for securing the back of the settee, comprising each an upper socket to receive the back-standard, a lower socket to receive the aforesaid flange, and a shoulder adapted to rest on the corner-post, substantially as shown and described.

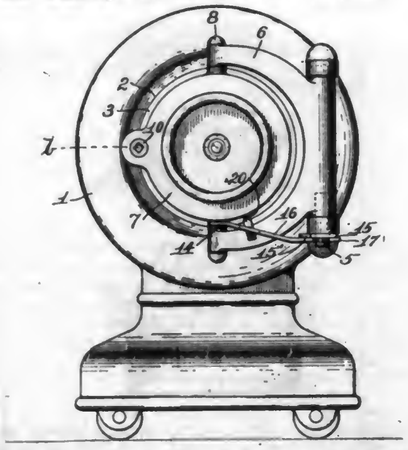
971,343. TIDE-MOTOR. DANIEL M. BARR, Philadelphia, Pa. Filed Oct. 1, 1908. Serial No. 455,714.



1. The combination of a float suitably attached to the shore of a tidal water; a pair of toothed wheels; a vertical reciprocatory rod having a plurality of series of pawls mounted thereon to coact with said wheels, one series being active to drive one of said wheels when said rod is moving downwardly and the other series being active to drive the other of said wheels when said rod is moving upward; and connections between said rod and float.

2. The combination of a float suitably attached to the shore of a tidal water; a pair of toothed wheels; a vertical reciprocatory rod having two series of pawls pivotally mounted thereon, one series being in stable equilibrium and the other series being in unstable equilibrium, and so related to said wheels that the first series operates to drive one wheel upon the downward movement of said rod, and the second series operates to drive the other wheel upon the upward movement of said rod.

971,344. SAFE OR VAULT. CARL BARTELS, Hamilton, Ohio, assignor to The Mosler Safe Company, Hamilton, Ohio. Filed Apr. 29, 1910. Serial No. 558,444.



1. A safe comprising, a safe-body, a door thereto, a hinge-pivot supported by the safe-body, a crane hinged to the hinge-pivot, pintles connecting the crane to the door, and a positive connection between the door and safe-body independent of the crane to cause the door to automatically approach parallelism with the crane as the door starts outwardly from its jamb, combined substantially as set forth.

2. A safe comprising, a safe-body, a door thereto, a hinge-pivot supported by the safe-body, a crane hinged to the hinge-pivot, pintles connecting the crane to the door, a cam supported by the safe-body at the hinge-pivot, and a connection from the cam to the door independent of the crane to cause the door to automatically approach parallelism with the crane as the door moves outwardly from its jamb, combined substantially as set forth.

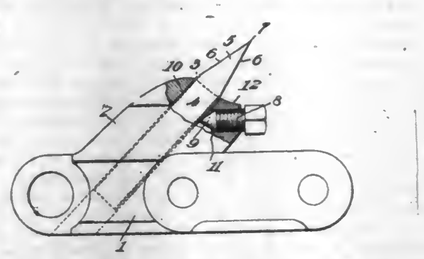
3. A safe comprising, a safe-body, a door thereto, a hinge-pivot supported by the safe-body, a crane hinged to the hinge-pivot, crane-pintles connecting the crane to the door, a cam supported by the safe-body at the hinge-pivot, a pintle carried by the door in front of the crane-pintles, and a corrector-bar pivoted to the front pintle and having its outer end controlled by the cam so as to cause the door to approach parallelism with the crane as the door moves outwardly from its jamb, combined substantially as set forth.

4. A safe comprising, a safe-body, a door thereto, a hinge-pivot supported by the safe-body, a crane hinged to the hinge-pivot, pintles connecting the crane to the door, a grooved cam carried by the safe-body at the hinge-pivot, a pintle on the door in front of the axis of the pintles uniting the door and crane, a corrector-bar pivoted to said front pintle and supported at the hinge-pivot, and a pin carried by the corrector-bar and engaging the groove of the cam, combined substantially as set forth.

5. A safe comprising, a safe-body, a door thereto, a hinge-pivot supported by the safe-body, a crane hinged to the hinge-pivot, pintles connecting the crane to the door, a cam supported by the safe-body at the hinge-pivot, a pintle carried by the door in front of the pintles uniting the door and frame, a corrector-bar having one end pivoted to said front pintle and having its outer end provided with a tail-piece sliding in the hinge-pivot, and a projection from the corrector-bar in engagement with the cam, combined substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

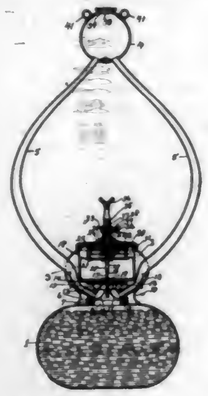
971,345. BIT FOR MINING-MACHINES OF THE CUTTING-CHAIN TYPE. CHARLES N. BARTON, Harrisburg, Ill., assignor of one-half to James B. Blackman, Harrisburg, Ill. Filed June 4, 1910. Serial No. 565,138.



The combination with a chain link of a mining machine having a diagonally disposed and off-standing lug with a diagonally disposed key-way formed therein; of a cutting bit comprising a substantially straight member provided with a cutting edge disposed intermediate opposite sides of the bit and adapted to have its position reversed for the cutting operation, said bit having corrugations formed on opposite sides of the shank portion thereof and adapted to be secured within the diagonally disposed key-way, a screw threaded aperture formed in said lug and communicating with the bit key-way, a screw bolt fitted within said screw threaded key-way and having its end constructed to impinge with the corrugations of the bit

shank and hold the bit in position, and the outer face of the lug through which the cutting end protrudes being recessed whereby to expose the full cutting point of the bit.

971,346. ACETYLENE-GENERATOR. CHARLES W. BECK, New York, N. Y., assignor, by mesne assignments, to Electrolite Gas Lamp Company, New York, N. Y. Filed Feb. 12, 1901. Serial No. 47,019.



1. In an acetylene generator, the combination of a lower generating chamber, a gas holder chamber communicating with the upper part of said generating chamber, a pair of tubular arms discharging at their lower ends into the upper part of the generating chamber, a carbid hopper supported upon the upper ends of said tubular arms and communicating with the latter, valve mechanism arranged to simultaneously control the discharge ends of said tubular arms, said valve mechanism consisting of a pair of pivotal spring pressed valves, a movable gas confining wall within said gas holder chamber and operative connections between said valve mechanism and the movable gas wall, whereby the gas generated simultaneously actuates the double valve mechanism.

2. In an acetylene generator, the combination with a generating chamber, an elevated carbid hopper and a pair of carbid ducts affording communication between the hopper and generating chamber and having their discharge ends arranged to approach each other in downwardly inclined convergent relation, of a pair of cup-like valve members respectively pivoted adjacent to and above the discharge ends of the several ducts, with their open ends arranged to move into and out of register with the respective ducts, a vertically reciprocatory operating rod and interconnections whereby the reciprocation of said rod operates to oscillate said valve members into open or closed position simultaneously, substantially as set forth.

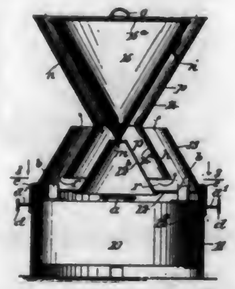
3. In an acetylene generator, the combination of a lower generating chamber, an upper chamber superposed thereon and in communication therewith, an expansible and collapsible gas holder arranged within said upper chamber, an elevated hopper, a pair of tubular arms supporting said elevated hopper and affording communication between the hopper and generator, the lower ends of said arms being arranged to extend obliquely downwardly through the side walls of the upper chamber in convergent relation with each other, a cup-shaped valve member pivotally mounted adjacent to the upper side of the discharge end of each of said tubular arms, having its mouth arranged to swing into and out of telescopic relation to the end of the arm it controls, a horizontally arranged presser bar extending between said valve members, lever arms rigidly connected with the valve members and having slot and pin connections with the presser bar whereby the raising and lowering of the latter serves to oscillate the valve members into and out of register with the discharge ends of the respective tubular arms, springs acting upon said valve members to normally hold the latter in closed position, an operating stem operatively connected with the expansible and collapsible gas holder extending loosely through the presser bar, shoulders upon said operating stem above and below the presser bar and respectively adapted to engage and actuate the latter as the operating stem approaches its limit of vertical movement in each direction and a controlled gas outlet from the gas holder, substantially as described.

4. In an acetylene generator, the combination of a lower generating chamber, an upper chamber superposed thereon and in communication therewith, an expansible and collapsible gas holder arranged within said upper chamber, an elevated hopper, a pair of tubular arms supporting said elevated hopper and affording communication between the hopper and generator, the lower ends of said arms being arranged to extend obliquely downwardly through the side walls of the upper chamber in convergent relation with each other, a cup-shaped valve member pivotally mounted adjacent to the upper side of the discharge end of each of said tubular arms, having its mouth arranged to swing into and out of telescopic relation to the end of the arm it controls, a horizontally arranged presser bar extending between said valve members, lever arms rigidly connected with the valve members, and having slot and pin connections with the presser bar whereby the raising and lowering of the latter serves to oscillate the valve members into and out of register with the discharge ends of the respective tubular arms, springs acting upon said valve members to normally hold the latter in closed position, an operating stem operatively connected with the expansible and collapsible gas holder extending loosely through the presser bar, shoulders upon said operating stem above and below the presser bar and respectively adapted to engage and actuate the latter as the operating stem approaches its limit of vertical movement in each direction and a controlled gas outlet from the gas holder, substantially as described.

5. In an acetylene generator, the combination of a carbid holder, a water holder below the carbid holder, a feed chute or passage between the two, a cup-shaped valve telescoping over the lower end of the feed chute to close the same, an expansible and collapsible gas holder, means connected to said holder and working against the gas pressure therein, means connected to the movable wall of said holder for opening the valve when the gas holder is deflated, a spring for preliminarily closing the valve during the inflation of said holder, and means connected to the movable wall of the holder for positively closing the valve when the said holder has been inflated to a predetermined point.

[Claims 6 to 15 not printed in the Gazette.]

971,347. COMBINED HEATER AND RADIATOR. ELAM V. BENTLEY, Everett, Wash. Filed Feb. 3, 1909. Serial No. 475,752.



In combination, a liquid fuel supply tank, burners thereon, a casing surrounding the tank, a top wall on the casing having an upright peripheral flange thereon, and also having a central conical deflector, an inverted conical deflector vertically supported on the apex of the first-mentioned conical deflector, an upwardly converged coniform wall, a downwardly converged coniform wall mounted upon the first-mentioned wall and secured to the inverted conical deflector, said converged walls being spaced from the cone deflectors and affording an annular air passage therebetween, and an upwardly converged coniform wall seated upon the top wall of the casing and spaced from the first named upwardly converged coniform wall, affording a conduit for the heat current from the burners, which current envelops and heats the upper inverted coniform wall, from which the heat is radiated.

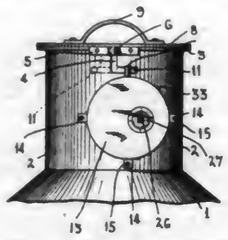
971,348. EYEGLASS CONNECTION. CHARLES BILLINGTON, Attleboro, Mass. Filed Jan. 23, 1909. Serial No. 473,869.



1. In an eyeglass connection, a one-piece sheet metal form having a middle curved portion and transverse portions located at the ends of said middle portion, means borne by said transverse portions and constructed and arranged to engage a lens, the said transverse portions having arms extending toward each other, coil springs encircling the said arms, and nose-grips pivotally supported adjacent to said arms and having portions arranged in contact with said springs whereby the springs are compressed when the nose-grips are separated.

2. In an eyeglass connection, a one-piece sheet metal form having a middle curved portion and transverse portions located at the ends of said middle portion, means borne by said transverse portions and constructed and arranged to engage a lens, the said transverse portions having curved arms extending toward each other, coil springs circling the said arms, and nose-grips pivotally supported adjacent to said arms and having portions provided with slots and arranged in contact with said springs, the said arms passing through the said slots, whereby the springs are compressed when the nose-grips are separated.

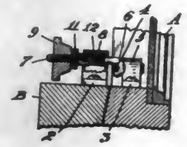
971,349. LOCK FOR MILK-CANS. JOSEPH F. BILLY, Monessen, Pa. Filed July 16, 1910. Serial No. 572,242.



1. The combination with a milk can having a neck provided with bayonet-shaped slots, a lid adapted to fit in said neck, and diametrically opposed pins carried by said lid and adapted to extend into said bayonet-shaped slots, of a lock casing secured to the neck of said can adjacent to one of said slots, a spring supported bolt movably mounted in said casing and adapted to protrude from said casing and engage behind one of said pins, a revoluble pinion adapted to move said bolt, resilient pawls adapted to normally hold said pinion, means arranged in said casing for moving said resilient pawls, and means adapted to extend into said casing for moving said pinion.

2. In a milk can lock, the combination with a milk can having a neck provided with bayonet-shaped slots, a lid adapted to fit in said neck, and diametrically opposed pins carried by said lid and adapted to engage in said bayonet-shaped slots, of a lock casing carried by said neck, a spring supported bolt movably mounted in said casing and adapted to protrude therefrom to engage behind one of said pins, a pinion revolubly mounted in said casing and adapted to move said bolt, resilient pawls arranged in said casing for normally holding said pinion from rotation, releasing rods connected to said resilient pawls and extending through the sides of said casing, and a key adapted to extend into said casing for rotating said pinion.

971,350. SASH-LOCK. EMIL BLOSSFELD, San Francisco, Cal. Filed Nov. 29, 1909. Serial No. 530,293.

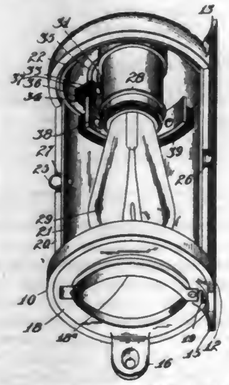


1. In a sash lock, the combination with a movable sash, a plate secured to a suitable point of support, a rod pivotally connected to said plate to swing in a plane parallel with the sash, a plate secured to the upper rail of said sash, and having a slidable spring-pressed clamp member engageable with said rod.

2. In a sash lock, the combination with a movable sash, a plate secured to a suitable point of support, a rod pivotally connected to said plate to swing in a plane parallel with the sash, a plate secured to the upper rail of said sash having a clamp member engageable with said rod, said clamp member comprising a slidably-mounted screw-threaded bolt having a U-shaped portion open at one side and adapted to embrace the rod and a clamp screw operative on the bolt.

3. In a window lock, the combination with movable sashes, of an outwardly spring-pressed hook member carried by one of the sashes and slidable transversely of one of the rails thereof, a pivoted rod carried by the other sash and engageable and disengageable with said hook member, and means for operating the hook member either to clamp the rod or to compress the spring of said hook member and thereby cause the hook member to release the rod.

971,351. BERTH-LAMP. WILLIAM J. BOHAN, St. Paul, Minn. Filed Aug. 19, 1909. Serial No. 513,648.



1. In a wall lamp, in combination, a cylindrical body having a lateral opening, a slide for closing the opening, an electric lamp mounted in the body, an electric circuit leading to the body, one branch thereof being normally open, and a contact-piece carried by the slide for electrically uniting the terminals of such branch.

2. In a wall lamp, in combination, a cylindrical body having a lateral aperture, a slide for closing the aperture, an electric lamp within the body, an electric circuit leading to the lamp, and a switch in one branch of the circuit comprising a pair of jaws and a blade carried by the slide and arranged to unite the jaws when the slide is moved to open the body aperture.

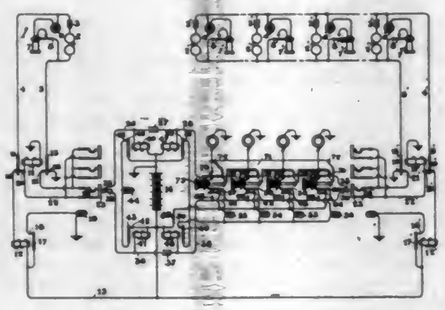
3. In a wall lamp, in combination, a cylindrical body having ventilating openings in its top and bottom and having flattened faces in intersecting planes in substantially perpendicular relation, attaching lugs projecting from such faces, an electric lamp housed within the body, an electric circuit leading to the lamp, and a switch in the circuit.

4. In a lamp, in combination, a chambered body having a lateral opening, a depending electric lamp socket within the body, and a removable bottom for the body arranged to lock a lamp within the socket.

5. In a lamp, in combination, a chambered body having a lateral opening, a depending electric lamp socket within the body, and an upwardly bowing removable bottom for the body arranged to lock a lamp within the socket.

[Claims 6 to 8 not printed in the Gazette.]

971,352. PARTY-LINE-INDICATING SYSTEM. CLIFFORD C. BRADBURY, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 13, 1908. Serial No. 420,877.



1. In a telephone system, the combination with a party line, of a cord circuit to connect with said line, a plurality of supervisory signals for the cord circuit adapted to be individually displayed according to the substation on the party line which is called, substantially as described.

2. In a telephone system, the combination with a telephone line having a plurality of substations thereon, a cord circuit to connect with the telephone line having a plurality of supervisory signals, one for each of the substations on the line, and means whereby the signals will be individually displayed to indicate which of the subscribers on the line has been called, substantially as described.

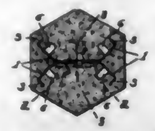
3. In a telephone system, the combination with a telephone line having a plurality of substations thereon, a cord circuit to connect with the line for conversation, a plurality of supervisory signals for the calling end of the cord circuit, means for individually displaying said signals to indicate which of the parties upon the line has been called, and means to efface the signal when the called party answers his call, substantially as described.

4. In a telephone system, the combination with a telephone line having a plurality of substations thereon, of a cord circuit to connect therewith, an operator's ringing key, a plurality of lamp signals and means to indicate by the display of said signals the substation last called, substantially as described.

5. In a telephone system, the combination with a telephone line having a plurality of substations thereon, an operator's ringing key having a plurality of actuating means, a plurality of electrically operated signals for the cord circuit respectively individual to each of said actuating means and adapted to be individually displayed to indicate which of said actuating means was last operated and released, substantially as described.

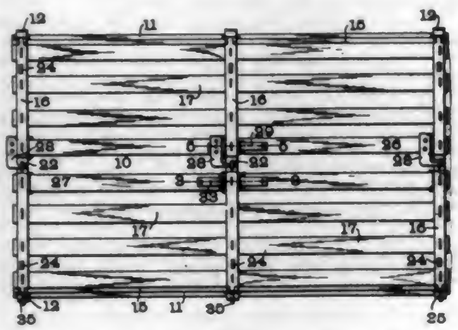
[Claims 6 to 15 not printed in the Gazette.]

971,353. REINFORCEMENT FOR CONCRETE STRUCTURES. GEORGE A. BRAYTON, Martins Ferry, and EDWIN C. ROBERTS, Bridgeport, Ohio. Filed Mar. 3, 1909. Serial No. 481,080.



A reinforcement for concrete posts formed of two pieces comprising contacting central portions having longitudinal grooves registering to form a cylindrical space between said pieces, and integral angularly disposed flanges on either edge of each central portion, the groove and angularly disposed flanges being relatively disposed to form alternate depressions and raised portions.

971,354. FOLDING CRATE. FREDERICK D. BROCKMAN, St. Louis, and EDWARD D. HOFFMAN, Cape Girardeau, Mo. Filed May 5, 1910. Serial No. 559,584.

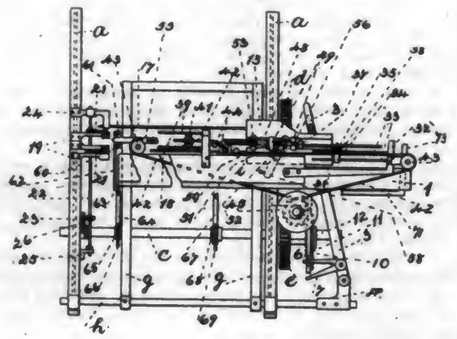


1. In a folding crate, the combination with a bottom, of sides hinged to said bottom, a top formed of two sections each hinged to one of the sides, eyes carried by one side of one section of the top, a locking slat carried by the other section of the top and provided with hooks engaging with said eyes to lock the crate in either its normal or its folded position, and a sliding slat carried by the other part of the top and adapted to give access to the crate.

2. In a folding crate, the combination with a bottom, of sides eyes carried by one side of one section of the top, hinged to said bottom, a top formed of two sections each hinged to one of the sides, a locking slat carried by the other section of the top, hook-shaped members carried by said slat and limiting its movement in one direction, said members engaging with said eyes to lock the crate in either its normal or its folded position, a spring detent normally locking said slat against movement, a sliding slat carried by the other section of the top and adapted to give access to the coop, and a spring detent normally locking said sliding slat.

3. In a folding crate, the combination with a bottom, of sides hinged to said bottom, end-pieces and a central partition dividing said crate into two parts, a top formed of two sections each hinged to one of the sides, eyes carried by one side and one section of the top, a locking slat carried by one section of the top and provided with hooks engaging with said eyes to lock the crate in either its normal or folded position, and a sliding slat carried by the other part of the top and adapted to give access to either end of the crate.

971,355. NEEDLE-LOOM FOR WEAVING PILE FABRICS. JOHN C. BROOKS, Paterson, N. J. Filed Jan. 21, 1909. Serial No. 473,556.



1. The combination, in a loom of filling inserting needles and pile forming wires with common means for operating the filling inserting needles and pile forming wires to produce fabrics.

2. In a needle loom, a combined weft-needle and pile-wire carrier and inserter, and means for operating the same, substantially as set forth.

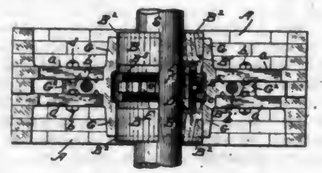
3. In a needle loom and in combination, a weft needle carrier and inserter, a receptacle formed therein for receiving a pile wire within said needle inserter, and means for retaining said pile wire in such receptacle, substantially as set forth.

4. In a needle loom and in combination, a weft needle carrier and inserter, a receptacle formed therein for receiving a pile wire within said needle inserter, means for retaining said pile wire in such receptacle, and a pile wire extractor and transferrer, substantially as herein set forth.

5. In a needle loom, and in combination, a weft needle carrier and inserter, a receptacle formed therein for receiving a pile wire within said needle inserter, means for retaining said pile wire in such receptacle, and a pivoted tensionally operated pile-wire extractor and transferrer situated on the breast beam of the loom, substantially as herein set forth.

[Claims 6 to 8 not printed in the Gazette.]

971,356. PULLEY. FRANCIS ELLSWORTH BUXTON, Lockington, Ohio. Filed Sept. 16, 1908. Serial No. 453,269.



1. A pulley comprising a separable wood rim having inwardly directed pairs of arms, a separable metal hub having outwardly directed single arms each one of which is adapted to fit between a pair of the first named arms, means for detachably connecting the arms of the rim with the arms of the hub, and a mechanism located in the hub for locking the pulley to a shaft, said means including means by which the power applied to revolve the shaft will increase the grip of the pulley thereon.

2. A mechanism for securing a pulley to a shaft, comprising a pair of sleeves, a ring connecting the sleeves, a plurality of bearing segments located in the sleeves and adapted to be moved convergently by the rotation of said ring to lock the mechanism on the shaft as a unitary structure, all substantially as shown and described.

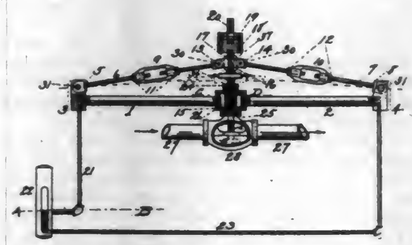
3. In combination with a shaft, a separable pulley disposed therearound, a mechanism carried in the pulley hub and disposed around the shaft, said mechanism comprising a pair of two-part oppositely directed sleeves having centrally directed tapering slide-ways formed therein, a tension ring connecting the sleeves, a plurality of segmental bearings extending from end-to-end of the combined sleeves and operable in said slide-ways, said mechanism affording means whereby the pulley may be rigidly connected to the shaft or by which it may be used as a loose pulley and revolve independent of the shaft, substantially as set forth.

4. A pulley comprising, a two-part rim, a two-part hub to which the rim is detachably connected, a pair of oppositely disposed two-part sleeves located in the hub aperture, a tension ring connecting the sleeves and adapted to move the sleeves endwise opposite to each other, a plurality of segment bearings located within the sleeves and adapted to be moved convergently toward each other at right angles to the operation of said sleeves when the sleeves are moved toward each other, and means for moving said segments apart when the sleeves are moved apart.

5. A pulley comprising a separable sectional wood-rim and arms, said arms being inwardly directed and arranged in pairs, a metal sectional hub having outwardly directed single projections each of which is adapted to fit between the pairs of arms of the rim, suitable means for securing the arms of the rims to the projections of the hub, a mechanism located within the hub with means for adjustably compressing certain members thereof upon a shaft, said mechanism comprising a plurality of segmental bearings slidably mounted in a pair of sleeves and the oppositely disposed sleeves having guide-ways therein for said bearings and means for detachably connecting said mechanism to the hub, all substantially as set forth.

[Claims 6 to 14 not printed in the Gazette.]

971,357. BOILER-FEED-WATER REGULATOR. HOWARD E. CADE, Pencoyd, and DAVID R. KNAPP, Philadelphia, Pa. Filed Mar. 22, 1910. Serial No. 550,926.



1. In a boiler feed water regulator of the character described, a straight expansive tube, rods connecting the ends of said tube to form an isosceles triangle with said tube as a base, means for controlling the water supply to the boiler operatively connected to the apex of said triangular formation, and means for conducting water or steam to said tube depending upon the water level in the boiler.

2. In a boiler feed water regulator of the character described, a straight expansive tube, adjustable rods connecting the ends of said tube to form an isosceles triangle with said tube as a base, means for controlling the water supply to the boiler operatively connected to the apex of

said triangular formation, and means for conducting water or steam to said tube depending upon the water level in the boiler.

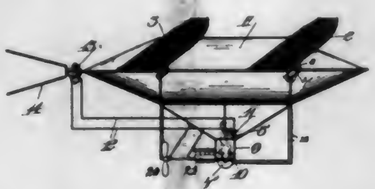
3. In a boiler feed water regulator of the character described, a feed line, a straight expansive tube, rods connecting the ends of said tube to form an isosceles triangle with said tube as a base, means in the feed line for controlling the water supply therein, the apex of said triangular formation operatively connected to said means, and means for conducting water or steam to said tube depending on the water level in the boiler.

4. In a boiler feed water regulator of the character described, a straight expansive tube, rods connecting the ends of said tube to form an isosceles triangle with said tube as a base, means for controlling the water supply to the boiler operatively connected to the apex of said triangular formation, resilient means interposed intermediate of said apex and said means, and means for conducting water or steam to said tube depending upon the water level in the boiler.

5. In a boiler feed water regulator of the character described, a straight expansive tube, rods connecting the ends of said tube to form an isosceles triangle with said tube as a base, means for controlling the water supply to the boiler operatively connected to the apex of said triangular formation, a counter balance weight operatively connected to said means, and means for conducting water or steam to said tube depending upon the water level in the boiler.

[Claims 6 to 11 not printed in the Gazette.]

971,358. AERIAL MACHINE. LEONARD E. CLAWSON, San Francisco, Cal. Filed Nov. 5, 1908. Serial No. 461,193.



1. An aerial apparatus including a frame, oscillating liquid-containing transmitters and wings fixed to the shafts thereof, a motor adapted to actuate said wings, liquid circulating pipes connecting the motor and wing transmitters, guiding rudders, transmitters connected therewith, motors and pipes connecting with said rudder-controlling transmitters, foot-pedal levers upon the shaft of the motor actuating the wings, and hand levers upon the shafts of the rudder motors.

2. An aerial apparatus including a frame, diagonally mounted wings and liquid filled transmitters, with shafts to which the wings are fixed, rudders turnable upon the frame, transmitters connected to said rudders, a pedal-actuated motor with transmission pipes connecting it with the wing transmitters, manually actuated motors, pipes connecting said motors with the rudder controlling transmitters, the several motors being capable of operation by the weight and manual power of a single person.

3. The combination in an apparatus of the character described, of a supporting frame, pivoted wing aeroplanes, and a horizontally and vertically turnable rudder, a plurality of transmitters acting at right angles to each other and connected to the rudder, and fluid-containing motors, and connections through which power may be transmitted to control the rudder.

4. The combination in an apparatus of the character described, of a main frame, pivoted wing aeroplanes, a horizontally and vertically turnable rudder, transmitting mechanism connected with the wings and with the rudder, pedal and manually-actuated motors, connections between the transmitting mechanism and the motors, and a propeller, and an engine connected therewith.

971,359. EUCALYPTUS-OIL SOLUTION AND PROCESS FOR THE MANUFACTURE THEREOF. AMOS M. COX, Los Angeles, Cal., assignor of one-half to Horace Metcalf, Los Angeles, Cal. Filed Mar. 25, 1910. Serial No. 551,416.

1. The herein described process for obtaining a solution of eucalyptus oil, comprising first exposing the oil bearing portions of the eucalyptus growth, and then placing such portions in contact with an oil dissolving liquid dissolved in a volatile liquid.

2. The herein described process for obtaining a solution of eucalyptus oil, comprising first exposing the oil bearing portions of the eucalyptus growth, and then placing such portions in contact with C_6H_6O.

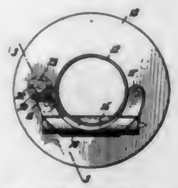
3. The herein described process for obtaining a solution of eucalyptus oil, comprising first exposing the oil bearing portions of the eucalyptus growth, and then placing such portions in contact with C_6H_6O dissolved in a volatile liquid.

4. The herein described process for obtaining a solution of eucalyptus oil, comprising first exposing the oil bearing portions of the eucalyptus growth, and then placing such portions in contact with C_6H_6O dissolved in a petroleum distillate.

5. The herein described process for obtaining a solution of eucalyptus oil, comprising first exposing the oil bearing portion of the eucalyptus growth, and then placing such portions in contact with C_6H_6O dissolved in a petroleum distillate of approximately seven to eight tenths specific gravity.

[Claims 6 to 13 not printed in the Gazette.]

971,360. ADJUSTABLE LEVEL. HANS AUGUST ERIKSEN COY, New York, N. Y. Filed Oct. 28, 1909. Serial No. 525,050.

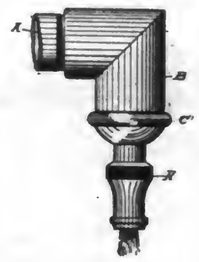


1. In a level, the combination of a face plate, a tube supported in the rear thereof, a tube carrier, a link having one end pivotally secured to one end of said carrier, the other end of said link constituting an eccentric strap, an eccentric upon the rear surface of said plate and within said strap, and a screw bolt extending through said face plate and operable from the front side thereof, for rotating said eccentric.

2. A leveling and plumbing instrument, consisting of a bar having a passage extending transversely therethrough, an annular face plate secured to said bar and encircling said passage, a collar secured to said face plate and extending into said passage and having a slot therein, a tube disposed partly within said slot and extending across the passage, means pivotally connecting one end of the tube and the rear surface of the plate, and means connecting the opposite end of the tube to the rear surface of the plate to swing the tube in a plane parallel to the plane of the face plate.

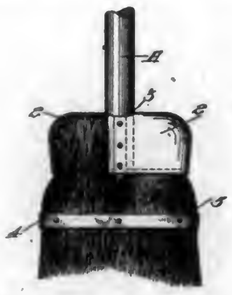
971,361. FAUCET. SAMUEL A. DENNIS, Los Angeles, Cal. Filed Nov. 14, 1906. Serial No. 343,936.

A faucet comprising a plug having an external screw thread and an internal packing chamber and a bore to receive a nozzle, a stuffing box gland screw seated in the packing chamber and having transverse openings, a plug screw seated in the inner end of the stuffing box gland and having a valve seat, a nozzle inserted through the



bore in the plug through the stuffing box gland and screw seated therein, and having an inner end adapted to fit the valve seat, and packing around the nozzle in the packing chamber.

971,362. BROOM. GUSTAV DIECKMANN, San Francisco, Cal. Filed Mar. 26, 1910. Serial No. 551,780.



1. In a broom, the combination of a pair of transversely slidable hollow shells open at the bottom to receive the broom straw, and having openings at the top through which the broom handle is inserted, said shells having vertical or downwardly convergent outer ends and sides, and having their inner edges adapted to overlap, and means passing through the overlapped edges of both shells for securing said shells to the handle to compress and clamp the upper ends of the straw thereto.

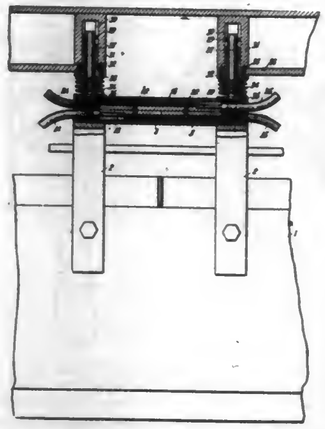
2. The combination in a broom, of a handle, similar hollow shells adapted to slide transversely of the broom and endwise one on the other having the outer ends and sides downwardly convergent, and having inturned lower edges, an opening at the top to receive a broom handle, and broom straw confined between the shells and the handle, and means to secure the overlapping edges to each other and to the handle.

971,363. CONNECTION FOR ELECTRIC CARS. JOSEPH VINCENT DOYLE, New York, N. Y. Filed Jan. 6, 1910. Serial No. 536,597.

1. In an electric car, the combination with a body, of a truck, a motor on said truck, and an electric connection between said body and said motor comprising abutting members movable relative to each other at their abutting points to allow for the relative movement of said body and said truck.

2. In an electric car, the combination with a body, of a truck, a motor on said truck, and mechanically-detached conducting members on said body and said motor, normally contacting with each other.

3. In an electric car, the combination with a body, of a truck, a motor on said truck, contact members connected to said motor and said body, and means for yieldingly holding said contact members in engagement.

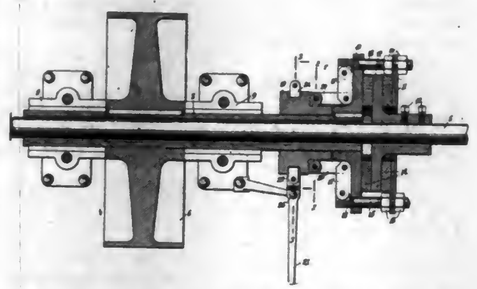


4. In an electric car, the combination with a body, of a truck, a motor on said truck, an insulating plate connected to said motor, an insulating plate connected to said body, contact members in said plates, juxtaposed to each other and adapted to transmit an electric current from said body to said motor, and means for normally holding said contact members in engagement.

5. In an electric car, the combination with a body, of a truck, a motor on said truck, an insulating plate adjustably connected to said body, an insulating plate connected to said motor, contact members in said second-mentioned plate adapted to contact with the contact members in said first-mentioned insulating plate, and spring means adapted to force said first-mentioned plate toward said second-mentioned plate.

[Claims 6 to 12 not printed in the Gazette.]

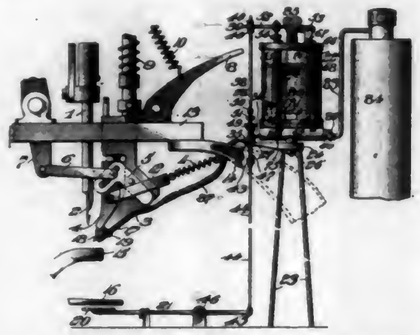
971,364. DRIVING MECHANISM. JOSEPH DUITCH. Farmington, W. Va. Filed Feb. 9, 1910. Serial No. 542,882.



1. The combination of bearings, a revoluble shaft supported independent of the said bearings a hollow shaft arranged on the first-named shaft and revolubly supported in the said bearings, a belt wheel secured to the hollow shaft between the bearings, and a clutch arranged to connect and disconnect the two shafts, having a shifting lever sleeve slidable on the hollow shaft.

2. The combination of bearings spaced apart, a hollow shaft journaled in the bearings, a driving wheel fixed to the hollow shaft between the bearings, a second shaft arranged within and out of contact with the hollow shaft, and a clutch to operatively connect the two shafts, having a clutch member respectively fixed to each.

971,365. SPRAYING DEVICE FOR LEATHER-WORKING MACHINERY. JOHN ELDERKIN and FRED ROSE, Philadelphia, Pa. Filed June 23, 1909. Serial No. 503,800.



1. In a device of the character described, means for maintaining air under pressure, a water tank, means for conducting air pressure to the water tank and introducing it above the water, a valve controlling the water, a valve for mixing the air and the water under air pressure, common means for properly operating the two valves, and a nozzle supported adjacent the presser foot and connected with said mixture of air and water to deliver spray to the material being operated on.

2. In a device of the character described, a nozzle, a water tank, means for exerting air pressure upon the surface of the water and making air under pressure available exterior to and in proximity to the tank, two valves controlling the water under air pressure and the mixture of air and water formed by admission of water to the point of air pressure availability, a connection between the second valve and the nozzle, and common means for operating the two valves together.

3. In a spraying device, a water tank having means for applying air pressure to the surface thereof and an air passage in proximity thereto, a valve in said tank controlling admission of water under pressure to said passage, a lever controlling the movement of said valve, a second valve controlling the flow of the mixed air and water, and means connected with the lever and with the stem of the second valve permitting partial movement of the first valve stem without movement of the second valve stem and causing movement of the second valve stem with continued movement of the first.

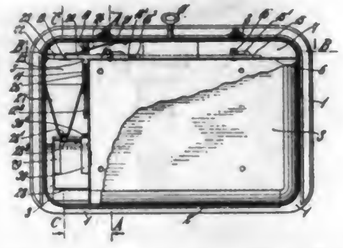
4. In a spraying device for leather work, a water tank provided with a passage therefrom and with a communicating passage for air under pressure, a valve each for the water and for the mixed water and air, said valves having common operating means, means for actuating said valves one in advance of the other and an auxiliary hand valve for said water.

5. In a spraying device for leather, the combination with a leather working machine, of a water tank having a passage therefrom and a passage communicating therewith for air under pressure, a valve for the water passage, operating means for said valve set in motion by the starting of the machine, a valve for controlling the passage of the air, means for actuating said valves, one in advance of the other, an auxiliary hand valve for said water, and adjustable stop means for determining the amount of opening of said valve.

[Claims 6 to 9 not printed in the Gazette.]

971,366. SAFE HAVING COIN-OPERATED LOCK. MAX EMER, Vienna, Austria-Hungary. Filed Apr. 25, 1910. Serial No. 557,389.

1. A coin controlled lock, comprising in combination with a casing, a lock bolt, means removably interposed between said lock bolt and the wall of said casing to obstruct the movement of said bolt, a coin chute having a movable bottom, an element carried by said interposed means and forming the top of said coin chute, and means to actuate said movable bottom against the inserted coin to move said interposed means out of the path of said lock bolt, whereby the latter may be thrown to locked position.



2. A coin controlled lock, comprising in combination with a casing, a sliding lock bolt therein, removable means interposed between said lock bolt and said casing to obstruct its sliding movement, a coin chute comprising fixed sides and a movable bottom, means to actuate said bottom against a coin when the casing is closed, and means carried by said interposed means to be actuated by said coin when the latter is moved by said bottom, to remove said interposed means from the path of said sliding lock bolt, whereby the lock may be thrown to locked position.

3. A coin controlled lock, comprising in combination with a casing, a sliding bolt, means interposed between the end of said lock bolt and the wall of said casing to prevent the sliding movement of said bolt, said interposed means being constructed to be swung out of the path of said bolt, a coin chute located adjacent said interposed means, a movable bottom in said chute adapted to lift a coin, and a device opposing said movable bottom and carried by said interposed means, whereby when said movable bottom lifts a coin, the latter will bear against said opposing device and throw said interposed means out of the path of said sliding lock bolt.

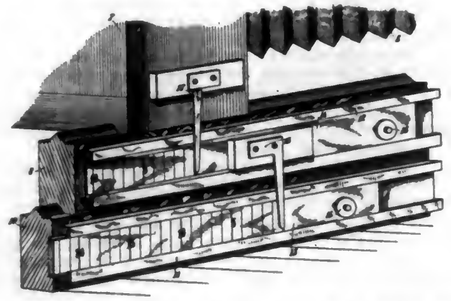
4. A coin controlled lock, comprising in combination with a casing, a sliding lock bolt, a jointed element interposed in the path of said sliding lock bolt between the latter and the wall of said casing, means to receive a coin, a device to lift said coin and said receiving means, an element opposing said lifting device and carried by said interposed means, whereby when said coin is lifted it will bear against said opposing element and throw said interposed means out of the path of said lock bolt.

5. A coin controlled lock, comprising in combination with a casing, a sliding bolt, an element jointed to said lock bolt and bearing against the wall of said casing in the path of movement of said lock bolt, a coin chute located at one side of said interposed element, a device movable toward said interposed element through said coin chute, a device carried by said interposed element opposite said first mentioned device, and means to move the latter when the casing is closed whereby the latter is adapted to bear against the inserted coin to raise said opposite device to throw the interposed element out of the path of movement of said sliding lock bolt.

[Claims 6 and 7 not printed in the Gazette.]

971,367. POSITIONING AND FOCUSING INDICATOR FOR ENLARGING AND REDUCING CAMERAS. ARTHUR FAUWIRTH, New York, N. Y. Filed Aug. 28, 1909. Serial No. 515,082.

1. The combination of a camera stand, a camera bed slidable on the stand, a camera slidable on the bed, a scale carried by the stand, indicating the position of the camera lens to make a photograph of an image located at a prescribed distance, of any required proportionate size within certain limits, a scale carried by the bed, graduated to indicate the position of the camera ground glass in focusing the camera for the several positions of the lens, an indicator carried on the last mentioned scale, traversing the first-named scale, and an indicator carried by the negative carrier of the camera, traversing said last mentioned scale.



2. The combination of a camera stand, a camera bed adjustable on the stand, an enlarging and reducing camera adjustable on the bed, guides respectively carried by the stand and bed, a scale adjustable on the guide carried by the stand and graduated to indicate the position of the camera lens to make a photograph of an image located at a prescribed point, of any required proportionate size within certain limits, and a scale adjustable on the guide carried by the bed and graduated to indicate the position of the camera ground glass in focusing the camera for the several positions of the lens.

3. The combination of a camera stand, a camera bed slidable on the stand, a camera slidable on the bed, guides respectively carried on the adjacent edges of the stand and bed, a scale adjustable in the guide carried by the stand and indicating the position of the camera lens to make a photograph of an image located at a prescribed distance, of any required proportionate size within certain limits, a scale adjustable in the guide carried by the bed and graduated to indicate the position of the camera ground glass in focusing the camera for the several positions of the lens, and indicators respectively carried by the negative carrier of the camera and the scale of the bed, and respectively traversing the scale of the bed and the scale of the stand.

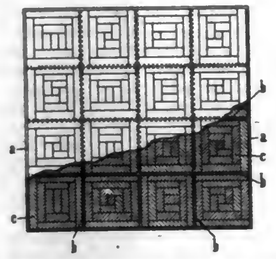
971,368. PROCESS OF TREATING DOLOMITE. JEAN JOSEPH GATHY, Mons, Belgium. Filed Jan. 11, 1910. Serial No. 537,490.

1. A process for treating dolomite consisting in calcining the dolomite, dissolving the lime of the finely powdered calcined product by means of a solution of chlorid of calcium, filtering the solution, causing the oxychlorid of calcium to crystallize and regenerating the chlorid of calcium by carbonating the oxychlorid of calcium by means of the gases escaping from the calcining kilns, substantially as and for the purpose set forth.

2. A process for treating dolomite consisting in calcining the dolomite, dissolving the lime of the finely powdered calcined product by means of a hot solution of chlorid of calcium, filtering the solution, and regenerating the chlorid of calcium by carbonating the hot solution escaping from the filter by means of the gases escaping from the calcining kilns, substantially as and for the purpose set forth.

3. A process for treating dolomite consisting in calcining the dolomite, dissolving the lime of the finely powdered calcined product by means of a hot solution of chlorid of calcium, filtering the solution, partially cooling the solution escaping from the filter and regenerating the chlorid of calcium by carbonating the said partially cooled solution, by means of the gases escaping from the calcining kilns, substantially as and for the purpose set forth.

971,369. PLATE FOR DEADENING VIBRATION AND SOUND. WERNER GENEST, Gross-Lichterfelde, and HUGO STÖSSEL, Westend, Germany. Filed July 14, 1909. Serial No. 507,664.

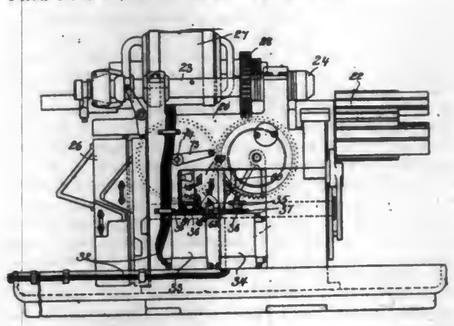


1. In a plate for deadening vibration and sound, the combination of a metal frame having transverse reinforcing bars, and a plurality of sheets of cork held in said frame, each sheet of cork comprising a plurality of strips of cork and roughened insertions placed between the same.

2. In a plate for deadening vibration and sound, the combination of a metal frame having transverse reinforcing bars, and a plurality of sheets of cork held in said frame, each sheet of cork comprising a plurality of strips of cork and metal strips, provided with oppositely disposed spurs or teeth, placed between the same.

3. In a plate for deadening vibration and sound, the combination of a metal frame having transverse reinforcing bars, and a plurality of sheets of cork held in said frame, each sheet of cork comprising a plurality of strips of cork and metal strips, of a depth less than that of the cork strips and provided with oppositely disposed spurs or teeth, placed between the same.

971,370. LATHE. GEORGE O. GRIDLEY, Windsor, Vt. Filed Nov. 24, 1905. Serial No. 288,844.



1. A machine tool comprising a work shaft, a feed-controlling shaft, independent sources of power for said shafts, means for varying the speed of the work shaft, and means on said feed-controlling shaft for controlling said speed-varying means, whereby any predetermined relations of the speeds of the feed-controlling shaft and the work-shaft may be secured.

2. A machine tool comprising a tool carrier, a work shaft, a feed-controlling shaft for effecting the feed of the tool carrier, mechanism for driving said feed-controlling shaft at different speeds to feed said tool carrier forward at any one of several speeds while the cutter is at work, independent mechanism for driving said work shaft at different speeds, and independent means mounted on said feed-controlling shaft for varying the speed of rotation of said driving mechanisms.

3. A machine tool comprising a work shaft, a tool carrier, a feed-controlling shaft for the tool carrier, independent motors for operating said shafts, means for

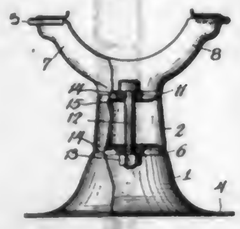
varying the driving speed of each motor, and independent means mounted on said feed-controlling shaft for controlling the said speed-varying means.

4. A machine tool, comprising a work shaft, a feed-controlling shaft, an independent motor for operating each shaft, and independent means for varying the driving speed of said motors, each of said means including a spindle, a gear on each spindle, a gear segment meshing with the gear, a cam driver on the feed-controlling shaft, and cams thereon for actuating the segment.

5. A machine tool comprising a turret-rotating shaft, an actuating shaft therefor, having independently rotatable sections one of which is longitudinally movable, clutch members on said sections for connecting the sections when one is moved toward the other, a spring exerting tension to move the shaft axially, means cooperating with one of the shaft sections for temporarily maintaining the clutch disconnected against the tension of the spring, and mechanism for increasing the tension of the spring intermittently to cause the engagement of the clutch members, substantially for the purpose set forth.

[Claims 6 to 18 not printed in the Gazette.]

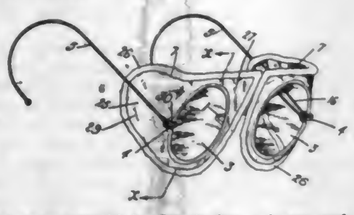
971,371. SEAT-FRAME. HENRY S. HALE, Philadelphia, Pa., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 20, 1908. Serial No. 411,601.



1. A seat-frame comprising a base-portion tapering toward its upper end and having its upper end closed, a tubular body-portion, a yoke having outwardly-extending arms for the support of a seat structure and a closed lower end, each of said parts consisting of a sheet-metal piece pressed into form, a ledge formed in said base-portion and in said yoke at the closed ends thereof, and means for securing said parts together with the ends of said body-portion bearing on said ledges, substantially as set forth.

2. A seat-frame comprising a base-portion tapering toward its upper end and having its upper end closed, a tubular body-portion, a yoke having outwardly-extending arms for the support of a seat structure and a closed lower end, each of said parts consisting of a sheet-metal piece pressed into form, a bolt passing through said closed ends to secure said parts together, and corrugations formed in said closed ends to prevent distortion thereof, substantially as set forth.

971,372. EYE-SHIELD FOR SPECTACLES. FREDERICK HAMILTON, Providence, R. I. Filed Dec. 22, 1909. Serial No. 534,433.



1. In an eye shield for spectacles, a frame and a covering therefor, said frame comprising a ring, an arm extending from the upper portion of the ring, a second arm connected with the side portion of the ring and extending rearwardly from the ring, and a member comprising oppositely disposed arms connected with the second arm.

2. In an eye shield for spectacles, a frame and a covering therefor, said frame comprising a ring, an arm extending from the upper portion of the ring, a second arm pivotally connected with the side portion of the ring, and a member comprising oppositely disposed arms pivotally connected with the second arm.

3. In an eye shield for spectacles, a frame and a covering therefor, said frame comprising a ring provided with an offset upon its side portion, an arm extending from the upper portion of the ring, a second arm pivotally mounted upon the offset, and a member comprising oppositely disposed arms pivotally connected with the second arm.

4. In an eye shield for spectacles, a frame and a covering therefor, said frame comprising a ring, a curved wire rod fixed to the periphery of the ring and provided with a loop at the upper portion of the ring and extended to form a substantially horizontal arm, a second arm pivotally connected with the side portion of the ring, and a member comprising oppositely disposed arms pivotally connected with the second arm.

5. In an eye shield for spectacles, a frame and a covering therefor, said frame comprising a ring provided with an offset upon its side portion, an arm extending from the upper portion of the ring, a second arm comprising horizontal rods provided upon their outer ends with an integral coil forming a bearing, and provided with loops upon their inner portions engaging the offset, and a member comprising oppositely disposed arms mounted in the bearing.

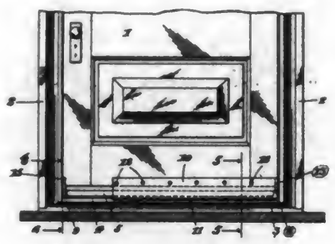
971,373. DEVICE FOR REMOVING FACIAL LINES AND DEFECTS. ESTELLE HANNIG, San Mateo, Cal. Filed Sept. 13, 1909. Serial No. 517,396.



1. A facial mask comprising a rigid plate having symmetrical ends fashioned to fit the cheeks of the wearer and connected rigidly across the middle and extending beneath the nose of the wearer, the middle portion extending above and below the mouth and having a central opening for the lips, and said plate having a series of convexities and concavities on its under side fitting the parts to be treated, with means for securing the plate on the head of the wearer.

2. A facial mask comprising a rigid plate shaped to fit across the face beneath the nose, with symmetrical ends expanded and shaped to fit the face beneath the eyes, the middle portion of the plate extending across the face beneath the nose and having a centrally located opening for the mouth, said opening being of sufficient size to allow for the protrusion of the lips, and the edges of the plate curved and shaped to the desired mouth contour.

971,374. WEATHER-STRIP. SPRAGUE F. HASKELL, St. Louis, Mo., assignor to The International Metal Weather Strip Company, St. Louis, Mo. Filed Jan. 3, 1910. Serial No. 536,158.



1. In an interlocking threshold, the combination of a recessed sill having an inclined slideway extending across one end thereof approximately the thickness of the door, an interlocking member adapted to enter said recess, and a member borne by the door having an inclined edge extending from end to end and so sloped as to conform to and coöperate with said inclined slideway throughout its entire extent, for producing an air tight joint between said edge and the adjacent surface of said slideway.

2. In an interlocking threshold, the combination of a sill containing a recess, a member carried by the door adapted to enter same, said sill having a beveled portion extending transversely at one end thereof, and a beveled member borne by the door extending transversely of same and adapted to engage said beveled portion of said sill throughout its entire extent, for producing an air tight joint between the contacting surfaces of said beveled portion and beveled member.

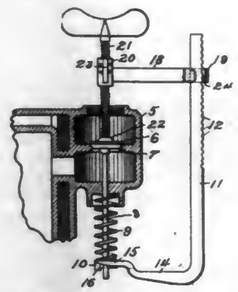
3. In an interlocking threshold, the combination of a sill containing a recess, a member carried by the door adapted to enter same, said sill having at each end thereof a beveled surface extending transversely of same, and a pair of beveled members borne by the door arranged to engage said transverse beveled surfaces on the sill for raising the door equally from both longitudinal edges, to produce complete contact of the first-named member in said recess.

4. In an interlocking threshold, the combination of a sill having a recess, a member so arranged upon the door as to enter said recess when the door is closed, said sill having at one end a transversely-extending cam groove and at the other a transversely-extending cam surface, a cam member borne by said door and adapted to ride in said groove and tightly engage same, and another cam member borne by said door and adapted to ride upon said cam surface at the other end of the sill and tightly to engage same for producing air tight joints between the cam members and said cam groove and cam surface, and for raising the door equally from both longitudinal edges, to produce complete contact of the first-named member in said recess.

5. A weather-strip comprising a sill having a recessed portion, a tread plate secured to said sill and arranged to project over said recessed portion, a pendent member carried by the door and having its lower edge adapted to underlie the projecting edge of said tread plate when the door is closed, one end of said tread plate being provided with a transversely arranged beveled surface extending completely thereacross, and a plate borne by the door and having a beveled edge, the beveled edge of said plate being adapted to engage the beveled surface of said tread plate and to raise the door while the door is being closed, whereby an air tight joint is produced between said edge and surface, and whereby the lower edge of said member is caused to press against the lower surface of the projecting edge of said tread plate.

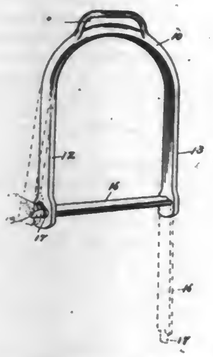
[Claims 6 to 8 not printed in the Gazette.]

971,375. DEVICE FOR FACILITATING THE REMOVAL OF ENGINE-VALVES. OLIVER A. HAYS, Southampton, N. Y. Filed June 23, 1910. Serial No. 568,538.



In a device of the character described, a bar having a notched edge throughout a portion of its length and having an angular extension at its lower end constituting a lever provided with a claw-end, an arm having an eye receiving the notched portion of said bar, a tooth carried by one wall of the eye to engage one of the notches in said bar, a sleeve carried by the free end of said arm, a screw loosely-mounted in said sleeve, and spring-pressed clamping jaws carried by the sleeve and engaging said screw to hold the latter in adjusted position.

971,376. SAFETY-STIRRUP. PETER G. HELSING, Emida, Idaho. Filed May 25, 1910. Serial No. 563,409.

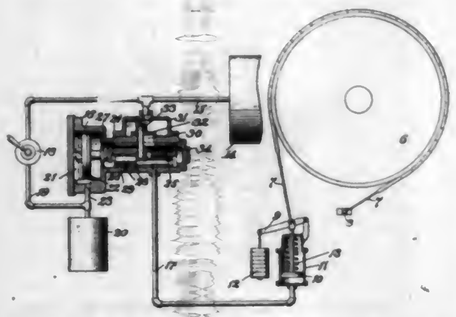


A safety stirrup consisting of an upper member having depending resilient prongs, one of which is provided with an inclined slot terminating at its lower end in a circular bearing, and the other with a vertically disposed elongated opening having its upper and lower portions downwardly and inwardly beveled, and a lower or foot-rest member having at one of its ends a journal provided on its free end with a laterally disposed arm deflected downwardly from the plane of the foot-rest member, said member having at its other end an elbow-shaped journal provided at its free end with an elongated head, the first-named journal and arm adapted to coact with the said slot and the elbow-shaped journal and its head with the elongated opening.

971,377. AUTOMATIC HOIST-BRAKE AND CLUTCH ADJUSTER. HERBERT T. HERR, Denver, Colo., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 13, 1907. Serial No. 362,164.

1. In a hoist brake, the combination with a spring tending to apply the brake, of a brake cylinder and a piston

therein operated by fluid under pressure to oppose the spring, and means for normally maintaining a predetermined degree of pressure in the brake cylinder.



2. In a hoist brake, the combination with a spring for applying the brake, of a brake cylinder and a piston therein operated by fluid under pressure to oppose the spring, and means operating upon a reduction in fluid pressure to release air from said brake cylinder and cause the spring to apply the brake.

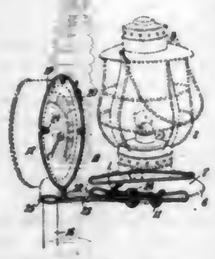
3. In a hoist brake, the combination with a spring for applying the brakes, of a brake cylinder and a piston therein, operating upon admission of fluid pressure to oppose the spring, and a valve mechanism operated by variations in fluid pressure and subject to the opposing pressure of the brake cylinder for governing the admission and release of fluid under pressure to and from the brake cylinder.

4. A hoist brake mechanism comprising in combination, a source of air pressure, an operating valve connected thereto, a brake cylinder and piston, and a pressure controlling means having connections to the source of air pressure direct to the operating valve, and to the brake cylinder, and adapted to automatically maintain a constant pressure in the brake cylinder, to hold the brakes released.

5. A hoist brake mechanism comprising in combination, a source of air pressure, an operating valve connected thereto, a brake cylinder and piston, and a pressure controlling valve having connections to the source of air pressure direct, to the operating valve, and to the brake cylinder, and adapted to automatically maintain a constant pressure in the brake cylinder, when the operating valve is in the lap position to hold the brakes released.

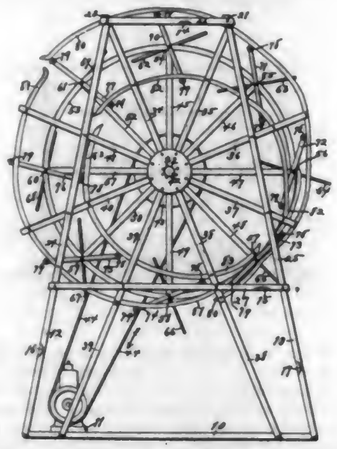
[Claims 6 to 13 not printed in the Gazette.]

971,378. LANTERN-HOLDER. ARTHUR CHESTER HEWITT, Cohoes, N. Y. Filed Nov. 16, 1909. Serial No. 528,285.



A device of the character described, comprising a single piece of wire bent to form a pair of loops for engaging the base of a lantern, and also bent to form a member for supporting said loops, said member being provided with a portion to be secured to the rear end of a car.

971,379. AIRSHIP. DAVID HILLIS, Des Moines, Iowa. Filed Dec. 20, 1909. Serial No. 534,019.



1. An air-ship, comprising a platform, primary frames thereon, end frames parallel with and carried by the primary frames, a shaft journaled in said frames, wheels on said shaft, feathering vanes on said wheels, tracks on said frames controlling said feathering vanes, said tracks formed with irregular curves and arranged in eccentric positions and each track composed of disconnected cams, and a motor on said platform geared to said shaft.

2. An air-ship, comprising a platform, primary frames fixed to and rising from said platform, end frames parallel with and carried by the primary frames, a shaft mounted for rotation in said frames and adapted to be geared to a prime mover on the platform, wheels on said shaft, feathering vanes on said wheels, arms on said vanes, and disconnected, irregularly-curved and intercommunicating tracks on said frames adapted for engagement by said arms.

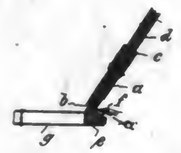
3. In an air-ship, a wheel formed with feathering vanes, said vanes adapted for travel through a common orbit and also adapted for rotation on independent axes, the rotation of the vanes on independent axes being in the ration of one to two to the travel of the vanes through the common orbit, the rotation controlling means comprising arms on said vanes and outer and inner tracks engaged by said arms, the outer tracks each composed of irregularly-curved cams overlapping and spaced apart at one end and spaced as to continuity at the opposite end, the inner tracks eccentric to the outer tracks and each composed of irregularly-curved cams spaced radially and also spaced as to continuity at each end.

4. In an air-ship, a wheel formed with feathering vanes, said vanes adapted for travel through a common orbit and also adapted for rotation on independent axes, the rotation of the vanes on independent axes being in the ration of one to two to the travel of the vanes through the common orbit, the rotation controlling means comprising arms on said vanes perpendicular to and crossing the planes of the vanes and outer and inner tracks engaged by said arms, the outer tracks each composed of irregularly-curved cams overlapping and spaced apart at one end and spaced as to continuity at the opposite end, the inner tracks eccentric to the outer tracks and each composed of irregularly-curved cams spaced radially and also spaced as to continuity at each end.

5. In an air-ship, a wheel formed with feathering vanes, said vanes adapted for travel through a common orbit and also adapted for rotation on independent axes, the rotation of the vanes on independent axes being in the ratio of one to two to the travel of the vanes through the common orbit, the rotation controlling means comprising arms on said vanes and outer and inner tracks engaged by said arms, the outer tracks each composed of irregularly-curved cams overlapping and spaced apart at one end and spaced as to continuity at the opposite end, the inner tracks eccentric to the outer tracks and each composed of irregularly-curved cams spaced radially and also spaced as to continuity at each end, opposite ends of each arm adapted for alternate engagement with and travel on opposite faces of track cams and of alternate tracks.

[Claims 6 and 7 not printed in the Gazette.]

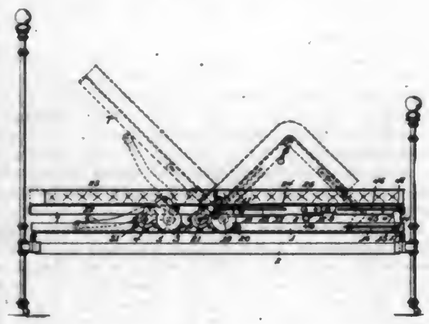
971,380. LIGHT-STRIKER. RICHARD VON HORVÁTH, Vienna, Austria-Hungary, assignor to Felix Kuschenitz, Vienna, Austria-Hungary. Filed July 11, 1908. Serial No. 443,052.



1. A light striker comprising a sleeve having a sharpened projection at one end, a slow match frictionally and adjustably contained within said sleeve, a second sleeve carrying on its outside a spark emitting body having a frictional surface for an independent coöperation with the sharpened projection of the first named sleeve, the second sleeve being closed at one end and open at the other end to receive the first sleeve with the projection and the ignited end of the slow match.

2. A light striker comprising a sleeve having a sharpened projection at one end, a wick frictionally and adjustably contained within said sleeve, and a second sleeve having on its outside a spark emitting body having a frictional surface for an independent coöperation with said sharpened projection.

971,381. INVALID-BED. JOHN M. KELLER, Youngstown, Ohio. Filed Nov. 11, 1908. Serial No. 462,146.



1. A bed consisting of a plurality of pivotally connected frame-sections adapted for adjustment to elevate a patient resting thereon to the "Fowler position" providing a body-rest, a thigh-rest and a leg-rest, adjusting means for said sections, and means whereby the thigh-rest may be adjusted with relation to the body-rest to vary the length of the former when the "Fowler position" is assumed.

2. In a bed, a back-section frame, a seat-section frame and a leg-section frame, said frames being pivotally connected, rotatable means for adjusting the elevation of said back-section, separate rotatable means for adjusting said seat-section, said sections being adapted for adjustment to elevate a patient to the "Fowler position," and means whereby said seat section may be adjusted with relation to the back section to shorten the length of the seat section when the "Fowler position" is assumed.

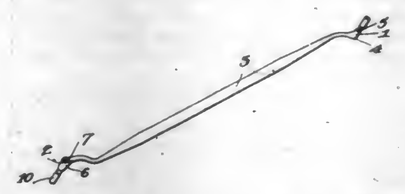
3. In a bed, a back-section frame, a seat-section frame and a leg-section frame, said frame-sections being pivotally connected and said back-section frame and said seat-section frame being independently adjustable, supports for said frame sections, means whereby said supports may be adjusted for varying the positions of said sections, and means whereby the seat section may be adjusted with relation to the back section for shortening the length of the former when said sections occupy positions at substantially a right angle to each other.

4. In an invalid bed, a main frame and a sectional frame, bearings supported by said main frame, two independent pairs of shafts journaled in said bearings, said sectional frame consisting of a back-section, a seat-section and a leg-section, all pivotally connected, a pair of arms carried by one shaft of each pair, one pair of arms being directed rearwardly and in supporting engagement with said back-section and the other being directed forward and in supporting engagement with said seat-section, and gearing whereby said shafts may be rotated for varying the relative positions of said back and seat sections.

5. In an invalid bed, a main frame, bearings supported by said frame, two independent pairs of shafts journaled in said bearings, a sectional frame mounted over said shafts and consisting of a back-section, a seat-section and a leg-section, said sections being pivotally connected, a pair of arms carried by one shaft in supporting engagement with said back-section, a pair of arms carried by another shaft in supporting engagement with the seat-section, anti-friction rollers carried by each arm, independent means for rotating said shafts for varying the relative positions of said back and seat sections, and slidable supports for said leg-section.

[Claims 6 to 9 not printed in the Gazette.]

971,382. DENTAL INSTRUMENT. JOHN LAWRENCE KELLY, Chicago, Ill. Filed Nov. 27, 1909. Serial No. 530,197.

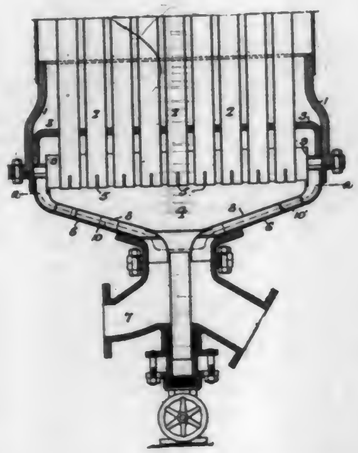


A dental instrument, comprising an intermediate handle portion, reduced end portions, of different lengths, extending laterally at different angles from the handle portions, and heads on the said end portions, each head having an inwardly tapered socket, open at its opposite ends, and provided with a flared mouth and a cutting edge at its outer end; the said bores being also disposed at different angles to the handle portion, for the purpose set forth.

971,383. APPARATUS FOR CONCENTRATING LIQUIDS. PAUL KESTNER, Lille, France, assignor to Kestner Evaporator Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Nov. 1, 1909. Serial No. 525,710.

1. In a tubular evaporator, the combination of a feed chamber at the base of the tubes for receiving the liquid under treatment, evaporating tubes leading upwardly from

said chamber, portions of said tubes extending into the same, an inlet for the liquid, and means interposed between said feed inlet and the extended ends of said tubes for facilitating the separation of steam or vapor from the liquid to facilitate an even flow and distribution of the same to the evaporating tubes.



2. In a tubular evaporator, the combination of a feed chamber at the base of the tubes for receiving the liquid under treatment, said liquid being accompanied by a large volume of steam or vapor, evaporating tubes leading upwardly from said chamber, portions of said tubes extending into the feed chamber, an inlet for said liquid, and means interposed between said feed inlet and the extended ends of said tubes for facilitating the separation of steam or vapor from the liquid prior to the entrance of the latter to the evaporating tubes.

3. In a tubular evaporator, the combination of a feed chamber at the base of the tubes for receiving the liquid under treatment, evaporating tubes leading upwardly from said chamber, portions of said tubes extending into the same, an inlet for the liquid, and an open topped pan surrounding the lower ends of the evaporating tubes, the incoming liquid overflowing the wall of said pan before gaining access to the tubes.

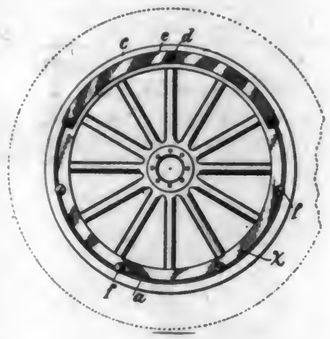
4. In a vertical tube evaporator, the combination of a feed chamber at the base of the tubes for receiving the liquid under treatment, evaporating tubes leading upwardly from said chamber, portions of said tubes extending into the feed chamber, an inlet for said liquid, a pan centrally disposed with respect to the feed chamber and surrounding the lower ends of the tubes, and a side wall in connection with said pan extending above the ends of the tubes so arranged that the incoming liquid overflows said wall before gaining access to the tubes.

5. In a tubular evaporator having a receiving chamber at its base, the combination of a casing forming said chamber, an inner shell separated from the wall of the chamber and forming a sub-chamber therein, and a series of evaporating tubes extending into the sub-chamber, said shell serving as a baffle to regulate the flow of the entering liquid.

[Claims 6 to 10 not printed in the Gazette.]

971,384. WHEEL FOR VEHICLES. CARL KINDSCHERF, Hanover, Germany, assignor to The Firm of Continental Caoutchouc- & Gutta-Percha Campagnie, Hanover, Germany. Filed Feb. 16, 1909. Serial No. 478,314.

In a vehicle wheel the combination of a removable rim having inclined outer edges with a fixed rim having an outwardly inclined flange, an axially adjustable tension piece having an inwardly directed wedge face extending over a portion of the periphery of the wheel and adapted to bear against said removable rim, screw bolts for adjusting the tension piece and rotary cams arranged around the balance of the periphery of the wheel and adapted to bear against the removable rim.



971,385. METALLIC FILAMENT. ISIDOR KITSEE, Philadelphia, Pa. Filed Aug. 10, 1910. Serial No. 576,467.

1. The process of producing a metallic filament, which consists in first converting the metallic particles into an ingot consisting of the metallic compound, then reconverting the ingot into metallic state; then subjecting the metallic ingot to pressure of hammering and rolling during the time that said ingot is at the high temperature; repeating this process and finally drawing out the ingot into desired wire at a temperature lower than the former temperature.

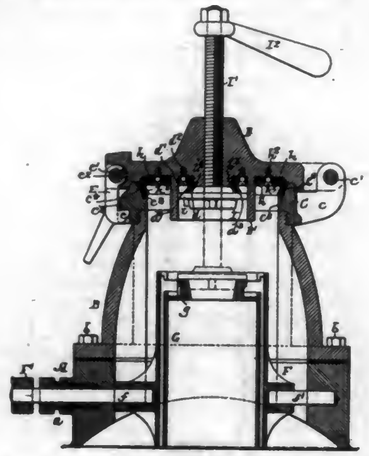
2. The process of producing metallic filaments, which consists in first producing an ingot of the phosphide of the metal out of which the filament should consist, then converting said phosphide ingot into a porous metallic ingot; then subjecting said ingot to a high temperature and to mechanical stress during said temperature and finally drawing out the compacted metal into a wire of desired thickness.

3. In the production of metallic filaments, the following steps:—first, producing a compound of the metal out of which said filament should consist; second, reducing said compound of metal to metallic state; third, heating said converted metal and subjecting the same to mechanical stress during the period of heating; fourth, drawing out the metal into the desired thickness during the time that said metal is subjected to a temperature higher than the normal.

4. In the production of metallic filaments, the process, which consists, in first producing an ingot of the phosphide of the metal out of which said filament should consist; in, second, converting said phosphide into the metallic state with the aid of electrolysis; third, subjecting simultaneously the reconverted metal to heat and mechanical stress; and fourth, drawing out said metal to a wire of required thickness at a temperature higher than normal.

5. The process of producing a metallic filament which consists in first producing an ingot of the compound of the metal out of which the filament should consist, then converting said compound ingot into a porous metallic ingot, then subjecting said metallic ingot simultaneously to a high temperature and a mechanical stress and finally drawing the compacted metal into a wire of the desired thickness.

971,386. CHEMICAL-TANK FOR FIRE-EXTINGUISHERS. JOHN T. LALLY, Wilmington, Del. Filed June 19, 1909. Serial No. 503,142.



1. In a fire extinguisher, the combination of a casing, a cap mounted thereon, a screw stem, a stopper mounted on the screw stem, a bottle mounted within the casing and adapted to be closed by the stopper, with a packing ring having a depending flange with which the cork comes in contact when it is raised and by which a tight joint is made between the stopper and the cap, preventing the leakage of gas.

2. The combination of a casing, a cap pivoted thereto, a screw stem mounted in the casing, a stopper on the screw stem, means for securing the cap to the casing, a packing ring mounted on the cap and having a depending flange, said flange bearing on the casing, forming a tight joint between the casing and cap, a second packing ring having a depending flange with which the stopper comes in contact when raised, a bottle holder, and a bottle.

3. In a fire extinguisher, the combination of a tank having an aperture, a cap on the tank and covering the aperture, a screw stem in said cap, a stopper on the stem and two packing rings secured to the cap and having depending flanges, one flange serving to seal the space between the stem and the cap when engaged by the stopper, the other flange serving to seal the seam between the cap and the tank.

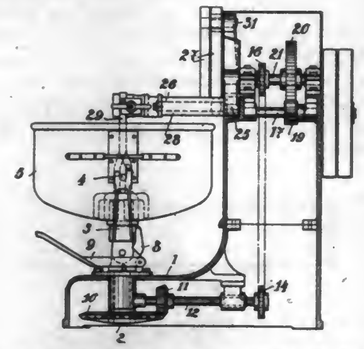
4. In a fire extinguisher, the combination of a casing, a cap thereon, a stem in the cap, a stopper on the stem and having a tapered projection, a packing ring secured to the cap and having a depending flange for engagement with the tapered portion of the stopper to form a seal.

5. In a fire extinguisher, the combination of a casing having an aperture, a ring detachably connected to the casing and encircling the aperture, an annular flange on the ring and having a beveled surface, a cap mounted on the ring, a screw stem operable through the cap, a stopper on the stem and having a tapered projection, a packing ring secured to the cap and having a depending flange for engagement with the beveled portion of the stopper to form a seal, a second packing ring secured to the cap and having a depending flange coöperating with the beveled surface of the annular flange to form a seal and means for securing the cap to the ring.

[Claims 6 to 8 not printed in the Gazette.]

971,387. KNEADING AND MIXING MACHINE. JAKOB LIPS, Nieder-Urdorf, Switzerland. Filed Dec. 22, 1908. Serial No. 468,756.

1. In a kneading machine the combination, with a container, of a carrier for said container, a rotating support for said carrier, said carrier being pivotally mounted on said support and said container being pivotally secured to said carrier.



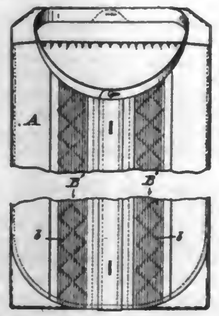
2. In a kneading machine the combination with a container, of a carrier for said container, a rotating support for said carrier, said carrier being pivotally mounted on said support, said container being pivotally secured to said carrier, means for locking said carrier in upright position on said support and means for locking said container in upright position on said carrier.

3. In a kneading machine the combination with a container, of kneading arms projecting into said container, guiding arms connected with said kneading arms, said guiding arms being provided with curved slots, rotating crank arms engaging said kneading arms and elements mounted on the machine engaging said curved slots.

4. In a kneading machine the combination with a container, of kneading arms projecting into said container, guiding arms connected with said kneading arms, said guiding arms crossing each other and being provided with curved slots, rotating crank arms engaging said kneading arms and elements mounted on the machine engaging said curved slots.

5. In a kneading machine the combination with a container, of kneading arms projecting into said container, guiding arms connected with said kneading arms, said guiding arms being provided with curved slots and crossing each other, rotating crank arms engaging said kneading arms, and elements mounted on the machine engaging said curved slots, said elements in coaction with said guiding arms being adapted to impart successively downward, diverging, upward and approaching movements to the lower ends of said kneading members.

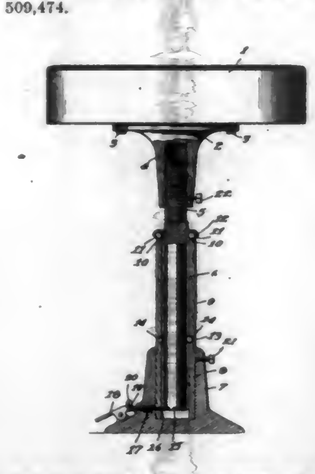
971,388. METHOD OF ORNAMENTING WEARING-APPAREL. JOSEPH LUNER, Chicago, Ill. Filed Apr. 8, 1910. Serial No. 554,281.



The method of ornamenting starched and laundried articles of wearing apparel having a series of flat unruffled plaits and flat unruffled portions between and ad-

jacent to said plaits as described, consisting in starching and flat-ironing the article to be ornamented, then raising said plaits to an approximately vertical position, then indenting or crimping these vertical plaits to a predetermined ornamental design to be produced, the portions between and adjacent to said vertical plaits remaining flat, as described.

971,389. REVOLVING MEAT-BLOCK. JAMES FRANKLIN MALONE, Lawrence, Ark. Filed July 26, 1909. Serial No. 509,474.



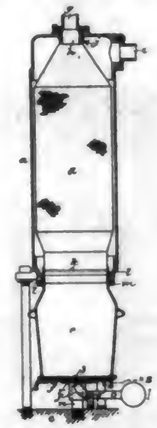
In a revolving meat block comprising a base having a circular vertically disposed hole cut therein, a tubing whose upper edge is provided with an annular concave groove fitted into said hole, temporary means consisting of a set screw to prevent the removal of said tubing from the base, a spindle provided with an annular flange extending into said tubing and mounted thereupon for rotation, ball bearings interposed between the flange of the spindle and the groove of the tubing, said spindle being of solid construction and having formed integral therewith and projecting upward a screw-threaded portion, a casting secured to a meat block which casting is provided with a screw-threaded hole therein, said screw-threaded hole receiving the screw-threaded upper portion of the spindle, means to secure the casting at any point desired upon the screw-threaded portion of the spindle, said means being a set screw.

971,390. DUST-COLLECTOR. FRANK J. MATCHETTE, Milwaukee, Wis. Filed Dec. 21, 1908. Serial No. 468,454.

1. In a dust collector, the combination with a casing having an opening in the lower part thereof, a dust and air inlet and an air outlet, of a strainer bag inclosed in said casing between said inlet and outlet, and having an opening in its lower end, an elastic packing ring attached to the strainer bag around the opening in the lower end thereof and fitting the casing around the opening in the lower part thereof, and a removable closure fitted to said packing ring.

2. In a dust collector, the combination with a casing having an opening in the lower part thereof and provided with an air and dust inlet and with an air outlet, a flexible strainer bag suspended in said casing around said inlet and between it and the air outlet and having an opening at its lower end, an elastic ring attached to said bag around the opening in its lower end and fitting the casing around the opening therein, and a removable closure fitted to said ring.

3. In a dust collector, the combination of a casing having an inlet opening in the upper part thereof, a discharge opening in the lower part thereof, and an air outlet, of a coupling tube removably secured in said inlet opening, a flexible strainer bag attached at its upper end to said tube and having an opening at its lower end, an elastic ring attached to said bag around said opening and fitting the casing around the opening in the lower part thereof, and a removable closure fitted to said ring.

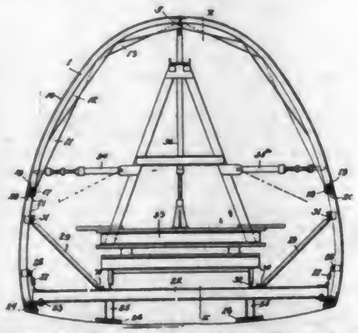


4. In a dust collector, the combination of a casing having an opening in the lower part thereof, and provided with an air and dust inlet and an air outlet; a strainer bag suspended in said casing around said inlet and having an opening at its lower end, an elastic flanged packing ring attached to said bag around the opening in its lower end and fitting into the opening in the lower part of the casing, and a removable closure fitting against the flange of said ring.

5. In a dust collector, the combination of a casing having an opening in the lower part thereof and provided with an air and dust inlet and an air outlet, a strainer bag inclosed in said casing around said inlet and having an opening at its lower end, an elastic packing ring attached to said bag around the opening in the lower end thereof and fitting the casing around the opening in the lower part thereof, a removable closure fitted to said ring, and means for pressing and holding the closure against said ring.

[Claims 6 to 11 not printed in the Gazette.]

971,391. MOLD. CHARLES D. MCARTHUR, Pittsburg, Pa., assignor to Blaw Collapsible Steel Centering Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Feb. 4, 1910. Serial No. 542,066.

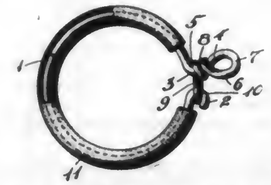


1. In combination in a U shaped mold, a pair of lower opposing side sections, a series of transverse beams extending across the bottom of the mold arranged to hold the lower edges of the side sections in position, inclined braces for the side sections extending diagonally downward from such sections for maintaining the upper edges of the sections rigidly in position, a track mounted on the beams between the diagonal side braces, a self sustaining collapsible arch section detachably mounted upon the upper edges of the side sections, and a truck on the track for carrying the collapsed arch section therealong and provided with raising and lowering means for the arch sections.

2. In combination in a U shaped mold, a beam extending across the bottom of the form, a lower side section at each end of the beam, detachable connections between the ends of the beam and the lower portions of the side sections, detachable diagonal braces between the beam and the side sections, a track extending across the beam intermediate the braces, a collapsible arch section detachably secured to the tops of the side sections, and means carried by the truck for collapsing the arch sections.

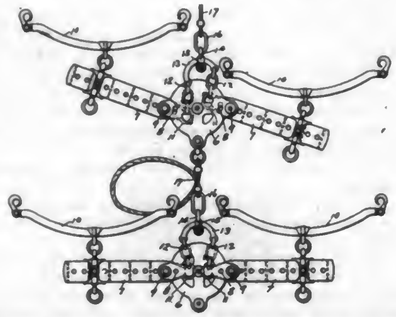
3. In combination in a U shaped mold, a pair of lower side sections, a series of transverse beams extending across the bottom of the mold and adapted to maintain the lower edges of the side sections spaced apart a fixed distance, detachable bracing means from the beams to the side sections, a track mounted on the beams, a collapsible arch section detachably mounted upon the upper edges of the side sections, and a truck on the track carrying collapsing means for the arch section.

971,392. COLLAR FOR DECOY-DUCKS. LOUIS J. MICKA, St. Louis, Mo. Filed Apr. 26, 1909. Serial No. 492,280.



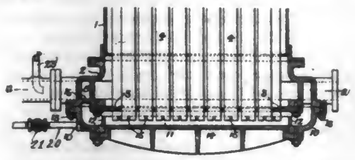
A collar for a decoy duck consisting of a plain circular ring, adapted to fit around the neck of a duck, formed with an out-turned reverse hook at one end with an outwardly extending curved arm at the other end, having a lateral bend and an inwardly extending curved arm twisted around the outwardly extending curved arm so as to provide a short eye and with a hook arm, offset from the ring, and having an out-turned reverse hook at right angles to the reverse hook at the first named end.

971,393. DRAFT DEVICE. THOMAS S. MOFFETT, Spokane, Wash. Filed Sept. 21, 1909. Serial No. 518,802.



A draft device comprising a support consisting of spaced plates, a pair of oppositely extending levers pivotally mounted between the plates, the levers and plates having registering openings, pins passing through said openings whereby the pivotal supports of the levers are had, said levers having a plurality of openings to permit adjustment of the pivots, draft trees connected to the outer ends of the levers, a rigid arcuate member, a flexible connection between the ends of said member and the inner ends of the respective levers, said connection extending between the aforesaid plates, a pulley mounted on the arcuate member and slidable thereon, the ends of the arcuate member serving as stops to limit the sliding movement of the pulley, and determining the extent of the swing of the levers, and a draft device connected to the pulley.

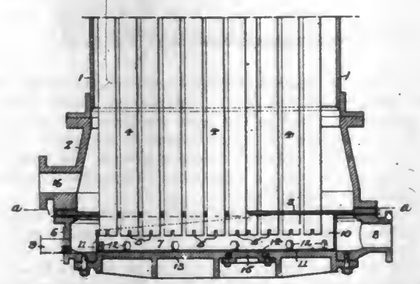
971,394. FEEDING DEVICE FOR EVAPORATORS. ANTHONY SAUNDERS MORRIS, Haverford, Pa., assignor to Kestner Evaporator Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed June 18, 1909. Serial No. 502,945.



1. In a vertical tube evaporator, the combination of a shell or casing, an annular member secured to the bottom of the same, said member having an inlet and forming a chamber for the reception of the liquid under treatment, a plate carried by said member, tubes carried by said plate and projecting below the same into said chamber, an annular wall secured to said member larger in diameter than the area occupied by said tubes, and a bottom plate for said wall, the latter with said wall forming a well into which the tubes dip.

2. In a vertical tube evaporator, the combination of a shell or casing, an annular member secured to the bottom of the same, said member having an inlet and forming a receiving chamber for the liquid under treatment, a plate carried by said member, tubes mounted in said plate and projecting below the same, an open ring having an inner annular flange forming a channel secured to said member, said flange lying outside the area covered by the tubes, and a bottom plate for said ring, said flange and plate forming a well into which the tubes dip, and said annular member having an outlet from the steam space surrounding the heating tubes.

971,395. FEEDING DEVICE FOR EVAPORATORS. ANTHONY SAUNDERS MORRIS, Haverford, Pa., assignor to Kestner Evaporator Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Nov. 19, 1909. Serial No. 528,936.



1. In a vertical tube evaporator, the combination of a shell or casing, a feed chamber at the bottom of the same having a suitable inlet, tubes disposed in said casing and having portions disposed in said feed chamber, and an

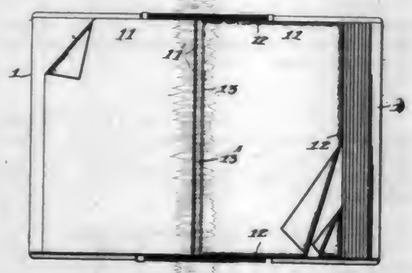
annular baffle plate disposed in said chamber and substantially filling the vertical space of the same opposite said inlet, said baffle plate tapering rearwardly and providing for the gradual separation of vapor accompanying the liquid under treatment.

2. In a vertical tube evaporator, the combination of a shell or casing, an annular member secured to the bottom of the same, a plate secured to said member, tubes disposed in said casing and passing through said plate, a shell forming a chamber into which said tubes dip and having a liquid inlet, and an annular baffle plate disposed in said chamber and substantially filling the vertical space of the same opposite said inlet, said baffle plate tapering rearwardly and providing for the gradual separation of vapor accompanying the liquid under treatment.

3. In a vertical tube evaporator, the combination of a shell or casing, a feed chamber at the bottom of the same having a suitable inlet for the liquid under treatment, tubes mounted in said casing and projecting below into the feed chamber, an inner annular wall or baffle disposed within said chamber opposite the feed inlet, said wall extending to the top of the chamber at a point directly opposite the feed opening and inclined rearwardly from a point near such inlet to a point directly at the rear of the same for the gradual separation of vapor accompanying the liquid under treatment, and means for maintaining such baffle above the bottom of the feed chamber.

4. In a vertical tube evaporator, the combination of a shell or casing, an annular member secured to the bottom of the same, said member having an inlet and forming a receiving chamber for the liquid under treatment, a plate carried by said member, tubes mounted in said plate and projecting below the same, an annular ring having a feed inlet secured to said member, a bottom cover plate fitting said ring and forming with it a chamber into which the tubes dip, and an inner annular wall or diaphragm disposed within said chamber opposite the feed inlet, said wall extending to the top of the chamber at a point directly opposite the feed opening and inclined from such point for the gradual separation of vapor accompanying the liquid under treatment.

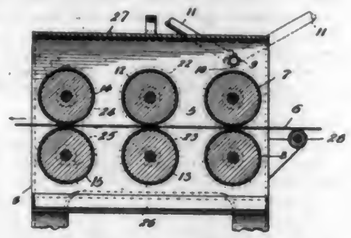
971,396. RECORD-BOOK. BEN W. MULKEY, Vale, Oreg. Filed Nov. 16, 1909. Serial No. 528,378.



1. A book for the reception and preservation of records, comprising a back and covers, transparent leaves secured at their inner edges to the back and arranged in pairs, one leaf of each pair of leaves having on its face a line of adhesive material adjacent its edges whereby the leaves of each pair may be secured together to form inclosed pockets, substantially as described.

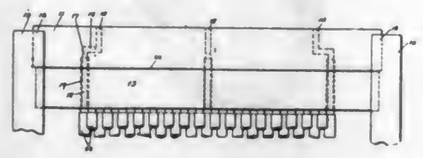
2. A book for the reception and preservation of records, comprising a back and covers, transparent leaves secured at their inner edges to the back and arranged in pairs, one leaf of each pair of leaves having on its face a line of adhesive material adjacent its edges, the line of adhesive material adjacent the inner edge being slightly spaced therefrom to provide a hinge section, whereby the leaves of each pair may be secured together to form inclosed pockets, substantially as described.

971,397. APPARATUS FOR OILING CAULS. AARON S. NICHOLS, New York, N. Y. Filed Nov. 18, 1909. Serial No. 528,723.



The combination with a plurality of pairs of opposing and driven rolls adapted to permit the passage of the cauls between them, of an oil feeding pipe arranged parallel with and over the initial one of said rolls, said pipe being adapted to turn on its axis and having a longitudinal row of discharging orifices, and a second pipe joined to the first mentioned one at right angles and supplying it with oil, and also adapted to serve as a means whereby to turn the first mentioned pipe so as to carry the orifices into and out of discharging position.

971,398. TRACKER-BOARD FOR MECHANICAL MUSICAL INSTRUMENTS. JAMES O'CONNOR, New York, N. Y., assignor to Auto-Pneumatic Action Co., New York, N. Y., a Corporation of New York. Filed Apr. 20, 1903, Serial No. 153,403. Renewed Feb. 26, 1910. Serial No. 546,260.



1. The combination in a tracker board system, of a base provided with a series of air passages, a detachable tracker board provided with a series of air apertures, and a series of tubes for registering the tracker board on the base and establishing air communication between the corresponding passages and apertures of the base and tracker board.

2. The combination, in a tracker board system, of a tracker member provided with a series of air apertures, a base member having a series of air apertures registering with those of the tracker member, and a series of tubes pneumatically connecting the respective apertures of the tracker member and base.

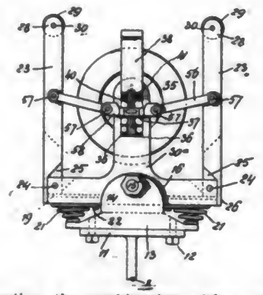
3. The combination in a tracker board system of a base provided with a series of air passages, a detachable tracker board provided with a series of air apertures which at one end are spaced to coincide with the air passages of the base, and open at the other end in a different spacing, and a series of registering tubes for establishing the air communication between the corresponding passages and apertures of the base and tracker board.

4. The combination of a base provided with a series of air passages, a plurality of detachable tracker boards having air apertures spaced in different scales, and a series of tubes connecting the air passages of the base with their respective apertures of the trackers.

5. The combination in a tracker board system of a base provided with a series of air passages, a plurality of detachable tracker boards having air apertures spaced in different scales, and means extending from the passages of the base for registering each tracker board with the base.

[Claims 6 and 7 not printed in the Gazette.]

971,399. TROLLEY. JOSEPH ORSZÁG and JOHN ORSZÁG, Ashtabula, Ohio. Filed Jan. 12, 1910. Serial No. 537,635.



1. In a trolley, the combination with a pole, of a harp bearing carried by said pole, a harp frame pivotally mounted in said bearing, journal arms carried by said frame, a trolley wheel revolubly mounted between said journal arms, spring-controlled guard arms carried by said journal arms, and having a normal tendency to move away from each other, guard wheels movably mounted in the upper ends of said guard arms and adapted to extend into proximity to one another, retaining arms carried by the ends of said harp frame, and straps supported by said retaining arms for maintaining the guard arms in operative position.

2. In a trolley, the combination with a pole, of a harp bearing carried thereby, a harp frame pivotally mounted in said bearing, means carried by said bearing and adapted to normally retain said frame in a horizontal position, journal arms carried by said frame, a trolley wheel revolubly mounted between said arms, spring-pressed guard arms carried by said journal arms and adapted to extend over said trolley wheel, spring-pressed guard wheel bearings movably mounted in the upper ends of said guard arms, guard wheels arranged in said bearings, retaining arms carried by the ends of said harp frame, links pivotally connected to said retaining arms, and straps supported by said links for maintaining said guard arms in a vertical position.

3. The combination with a trolley pole, of a harp bearing carried thereby, a harp frame pivotally mounted in said bearing, means carried by said harp bearing and adapted to normally hold said frame in a horizontal position, journal arms carried by said harp frame, a trolley wheel revolubly mounted between said journal arms, spring-pressed guard arms carried by said journal arms and adapted to extend over said trolley wheel, spring-pressed guard wheel bearings arranged in the upper ends of said guard arms, guard wheels carried by said bearings and adapted to extend into proximity to one another, retaining arms carried by the ends of said harp frame, means carried by said harp frame and adapted to normally retain said retaining arms in a vertical position, links pivotally connected to said retaining arms, straps supported by said links for maintaining said guard arms in a vertical position, and means connecting with said straps for shifting said straps, thereby releasing the guard arms.

971,400. CORRUGATED METAL CULVERT. JOSEPH RALPH ORWIG, Des Moines, Iowa. Filed Feb. 3, 1908. Serial No. 414,090.



1. An improved culvert, formed of a single piece of sheet metal arranged in tubular form and having one longitudinal edge overlapping the other longitudinal edge and connected therewith by means such as rivets, said culvert being provided throughout its entire length with reinforcing corrugations arranged spirally to strengthen the culvert and to form screw-threaded ends, one end being provided with transverse slots and the other with holes to receive fastening means such as bolts to connect the two sections together.

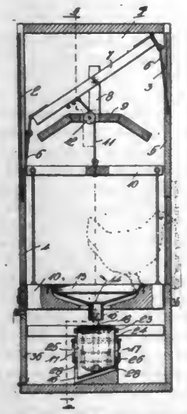
2. An improved culvert, formed of a single piece of sheet metal arranged in tubular form with its longitudinal edges in overlapping positions and provided with openings to receive fastening devices, said culvert also provided with transverse slots at one end and openings at the other end to receive fastening means for connecting two culvert sections together, said culvert being also provided with spiral corrugations whereby the end of one section may be screwed into the end of a mating section, said openings at the longitudinal edges of the section being arranged to receive fastening devices either before or after two sections have been connected together, so that the end of one section may be slightly expanded before being screwed on to the end of the mating section and the fastening devices placed in said holes after two sections are connected together.

3. An improved culvert, comprising a sheet metal body portion having spiral corrugations at its ends and also having an inwardly projecting portion formed integral with the material of which the culvert is formed, said projection being arranged to limit the movement of a mating culvert section at the end adjacent to said projection.

4. An improved culvert, comprising a sheet metal body portion having spiral corrugations and also having at one end a series of transverse slots and at the other end a series of transverse holes, said parts being so arranged that one section may be screwed into the end of a mating section and bolts or the like extended through the holes in one end and through the slots in the other end, said slots being so arranged that the end of the culvert containing them may be slightly expanded to receive a mating culvert section without interfering with the insertion of bolts therein.

5. A culvert section formed of sheet metal, having spiral corrugations throughout its length for strengthening and reinforcing it and for forming screw threads at the ends, so that one end of said culvert section may be screwed into a mating culvert section and said culvert sections held rigidly together by the spiral corrugations, and means near one end of the culvert section for limiting its screwing movement relative to a mating culvert section.

971,401. TRAP-NEST. HARRY EVES PENNINGTON and HERBERT W. RAYMOND, North Abington, Mass. Filed Feb. 8, 1910. Serial No. 542,678.



1. In a device of the character described, a box or casing having formed therein an inlet and an exit opening.

doors adapted to open and close said inlet and exit openings, a door operating lever pivotally mounted in said box, a nest frame connected to and suspended from said lever and adapted to actuate the latter to partially close one door and open the other when a fowl enters the box, a nest frame supporting mechanism adapted to receive and support the nest frame when a fowl has entered the box, and means to trip said nest supporting mechanism after an egg has been laid by the fowl on the nest thereby causing said nest frame to completely close the inlet door and open the exit door of the box.

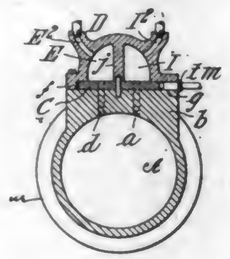
2. In a device of the character described, a box or casing having formed therein an inlet opening and an exit opening, doors to open and close said openings, a nest frame suspended in said box, a door operating lever actuated by the movement of said nest frame when the latter is entered by a fowl thereby partially closing the door of said inlet opening and partially opening the door of the exit opening whereby the fowl is permitted to leave the box through the inlet opening before an egg has been laid, a nest frame supporting mechanism adapted to support the nest frame and weight of the fowl therein, and means actuated by the weight of an egg laid by the fowl to trip said supporting mechanism thereby permitting the nest frame to descend and thus completely closing the inlet door and opening the exit door whereby the fowl is permitted to leave the box from the opposite side from which she entered.

3. In a device of the character described, a box or casing having an inlet and an exit opening, doors to open and close said openings, guides to hold said doors in slidable engagement with the edges of the openings, the guides of the inlet opening being cut away to permit the door of said opening to swing outwardly when in a partly lowered position, a nest frame suspended in said box or casing, a door operating lever actuated by said frame whereby the inlet door is partly closed and the exit door partly opened when a fowl enters the box, pivotally mounted nest supporting bars adapted to receive and support the nest frame, trip levers actuated by the weight of an egg to engage and trip said bars, and means to receive the egg when laid and to apply the weight thereof to said trip levers to cause the latter to trip said supporting bars thereby permitting the nest frame to lower and thus entirely close the door of the inlet opening and open the door of the exit opening.

4. In a device of the character described, a box or casing having an inlet and an exit opening, doors to open and close said openings, guides to hold said doors in slidable engagement with the edges of the openings, the guides of the inlet opening being cut away to permit the door of said opening to swing outwardly when in a partly lowered position, a nest frame suspended in said box or casing, a door operating lever actuated by said frame whereby the inlet door is partly closed and the exit door partly opened when a fowl enters the box, pivotally mounted nest supporting bars adapted to receive and support the nest frame, anti-friction rollers revolubly mounted in the upper ends of said bars, pivotally mounted trip levers, starting rods connected at their inner ends to said trip levers adjacent to their upper ends, guide frames to receive and guide the lower ends of said starting rods, a hammock connected to the upper ends of said levers and adapted to receive an egg laid in the nest frame whereby the weight of the egg is applied to the trip levers and starting rods to cause the same to engage and trip said supporting bars whereby the nest frame is permitted to lower and thereby entirely close the inlet door and open the exit door of the box.

5. In a device of the character described, a nest box adapted to be set into a wall or partition, said box having an inlet opening and an exit opening, slidably mounted doors adapted to open and close said openings, a lever to actuate said doors, a nest frame operatively connected to said lever, a concave bottom or nest arranged in said frame, said bottom having an egg discharging passage, said frame being adapted to be operated by the weight of a fowl entering the same thereby actuating said lever to cause the inlet door to partly close and the exit door to partly open, means to receive and support said nest frame in a partially lowered position, and means actuated by the weight of an egg falling through the passage in the nest bottom to trip said nest supporting devices thereby permitting the nest frame to further lower and thus entirely close the inlet door and entirely open the exit door, and a supplemental door adapted to be engaged with the box or casing over the exit opening whereby the fowl will be confined upon the nest.

971,402. STEAM-ENGINE. GEORJE PSAREAS and NICK PARKAS, Holyoke, Mass. Filed Dec. 22, 1909. Serial No. 534,444.

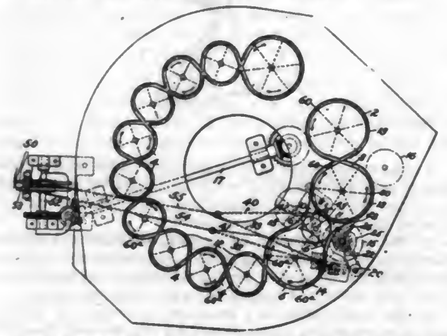


1. In a steam engine, a cylinder having conduits leading from communication with opposite ends of its chamber to and terminating in ports at the exterior of the cylinder and located to one side of the median line of the latter, and exhaust conduits leading from communication with opposite end portions of the cylinder chamber to and terminating in ports at the exterior of the latter which are to the opposite side of such median line, a valve-plate arranged to cover the pairs of exhaust and inlet ports and having two apertures, one for registering with either of the inlet ports and the other for registering with either of the exhaust ports, a casing forming a closure for the valve-plate having a longitudinal partition therein whereby separated chambers are created, and in which the valve apertures are respectively located, a steam inlet conduit connected with one of the chambers, an exhaust way leading from the other, and means for oscillating the valve plate.

2. In a steam engine, a cylinder having pairs of inlet and exhaust conduits arranged at opposite sides of the central longitudinal plane of the cylinder and those of each pair having communication with end portions of the cylinder chamber and terminating in grouped ports at the top of the cylinder, and the apparatus being formed with a circular pocket at its port comprising portion with an outwardly opening recess, a circular valve plate, accommodated in said pocket, covering the pairs of approached exhaust and inlet ports and having two apertures in its front and rear portions respectively, a casing above and forming a closure for the valve plate and its pocket having a longitudinal partition therein producing separated chambers at opposite sides thereof and with which the valve apertures respectively have communication, a steam inlet conduit connected with the front chamber and an exhaust way leading from the other chamber, an arm projecting from the circular valve plate outwardly through the recessed side of the pocket, and a rod or bar connected with said arm for imparting a partial rotary reciprocatory movement to the valve plate.

3. In a steam engine, a cylinder having pairs of inlet and exhaust conduits arranged at opposite sides of the central longitudinal plane of the cylinder and those of each pair having communication with end portions of the cylinder chamber and terminating in grouped ports at the top of the cylinder, and the apparatus being formed with a circular pocket at its port comprising portion with a forwardly opening recess, the wall of such pocket being curved at its front, a circular valve-plate, accommodated in said pocket, covering the pairs of approached exhaust and inlet ports and having two apertures, one in its front, and the other in its rear portion, a casing above and forming a closure for the valve-plate and its pocket, having a longitudinal partition therein with separated chambers at front and rear thereof and with which the two valve apertures respectively have communication, a steam inlet conduit connected with the front chamber and an exhaust way leading from the other chamber, an arm projecting from the circular valve-plate forwardly through the recessed front of the pocket, a rod or bar connected therewith for imparting a partial rotary reciprocatory movement to the valve plate, and a curved sweep-plate or cap carried on the arm, fitting the said curved wall, and covering the forwardly opening recess.

971,403. BRAIDING-MACHINE. ROBERT C. RAHM, Wyomissing borough, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a Corporation of Pennsylvania. Filed Nov. 20, 1909. Serial No. 530,330.



1. In a braiding machine, a race-way, a series of cooperating carriers and drive mechanism therefor, switch mechanism for disconnecting at intervals a section of said race-way with certain of said carriers thereon, and controlling means for said drive-mechanism whereby the latter carriers only are made to operate during disconnection of said section.

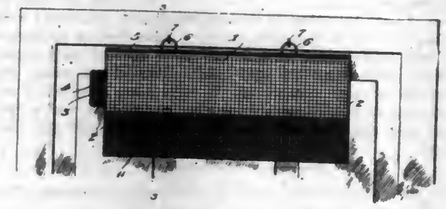
2. In a braiding machine, a race-way, a series of jointly operated carriers and drive mechanism therefor, switch mechanism for disconnecting at intervals a section of said race-way with certain of said carriers thereon, controlling means for said drive mechanism whereby the latter carriers only are made to operate during disconnection of said section, and means for simultaneously operating said switch mechanism and controlling means.

3. In a braiding machine, a race-way, a series of jointly operated carriers and drive mechanism therefor, switch mechanism for disconnecting at intervals a section of said race-way with certain of said carriers thereon, and clutch mechanism whereby the operation of carriers outside of said section is stopped upon disconnection of said section and restarted upon reconnection of the same.

4. In a braiding machine, a race-way, a series of jointly operated carriers and drive mechanism therefor, switch mechanism for disconnecting at intervals a section of said race-way with certain of said carriers thereon, clutch mechanism whereby the operation of carriers outside of said disconnected section is stopped without stopping the operation of the carriers on said section, and pattern mechanism controlling the operation of said switch and clutch mechanisms.

971,404. FLY-TRAP. DELBERT H. REDDEN and JOHN F. CUNNINGHAM, Park City, Utah, assignors of one-fourth to Edward P. Le Compte and one-fourth to William Doidge, Park City, Utah. Filed June 4, 1909. Serial No. 500,208.

A fly trap closed at its top, ends, back and front, and having a bottom formed by longitudinal lapped portions inclined upward and inward from its back and front and terminating in straight edges, and clips arranged at intervals along said meeting edges of the longitudinal inclined



portions; the meeting edges of said longitudinal inclined portions being spread apart between the clips to form guards, for the purpose set forth.

971,405. PROCESS OF SEPARATING HETEROGENEOUS SUBSTANCES AND DETINNING SCRAP. CHARLES J. REED, Philadelphia, Pa. Filed June 19, 1909, Serial No. 503,166. Renewed Feb. 28, 1910. Serial No. 546,547.

1. The process of separating mixed heterogeneous substances, which consists in pulverizing one substance by a subdivided magnetic material, and then magnetically removing the magnetic material and separating the pulverized from the unpulverized material.

2. The process of separating mixed heterogeneous substances, which consists in pulverizing one substance by heat and a subdivided magnetic material, and then magnectically removing the magnetic material and separating the pulverized from the unpulverized material.

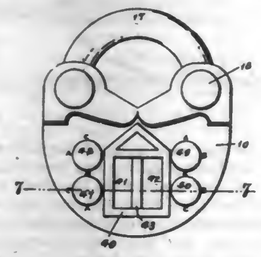
3. The process of separating mixed metals, which consists in pulverizing one metal by a subdivided magnetic material, and then magnetically removing the magnetic material and separating the pulverized metal from the unpulverized metal.

4. The process of separating mixed metals, which consists in pulverizing one metal by heat and a subdivided magnetic material, and then magnetically removing the magnetic material and separating the pulverized metal from the unpulverized metal.

5. The process of separating mixed metals, which consists in pulverizing one metal by agitating a charge containing the mixed metals and an added magnetic material, and then mechanically separating the pulverized and unpulverized metals and magnetically removing the magnetic material.

[Claims 6 to 8 not printed in the Gazette.]

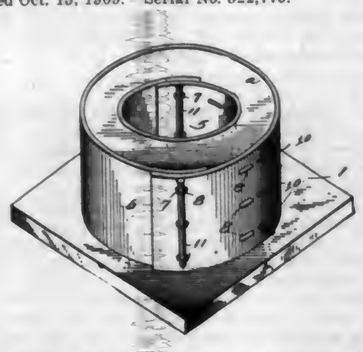
971,406. PADLOCK. THEODORE REMLINGER, Elizabeth, N. J. Filed Jan. 3, 1910. Serial No. 536,132.



In a lock, the combination of a casing having a front wall with a keyhole and a hinged outer door adapted to cover said keyhole, a catch member on the inner side of said door adapted to project through said wall, a rear wall of similar outward construction to said front wall with its

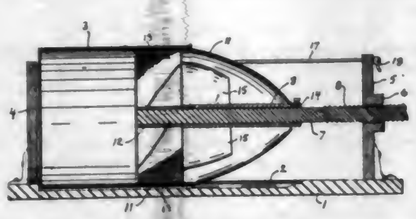
door permanently closed, a slide plate inside said casing parallel to said walls, means slidably supporting said plate, knobs outside the front and rear walls having stems extending rotatably through said walls, said knobs being similar and similarly disposed, means securing the stem of one of said front knobs to said slide-plate, the front wall being slotted for this stem, notched disks fast on the stems of the other front knobs and lying against said slide-plate, projections on said plate adapted to enter the notches, a catch member on the slide plate adapted to engage the said catch member on the hinged door, and a lock bolt and tumblers between said slide plate and the rear wall.

971,407. MOLDING DEVICE. JOHN RIAL, Brenham, Tex. Filed Oct. 15, 1909. Serial No. 522,779.



In a mold of the character described, a pair of spaced flexible walls each formed from a single piece of material and each wall having one of its ends formed to provide spaced vertical series of passages and having its opposite end provided with staples for interchangeable engagement in the said series of passages, pivoted closures carried by each wall and located adjacent to the innermost passages therein, a keeper rod extending through the said staples to hold the wall ends against separation, and a base member formed on its opposite sides for interchangeable engagement with the said walls and provided with outstanding head portions fitting between the walls to hold them spaced from each other.

971,408. LARD-EXTRACTOR. CHRISTOPHER H. RITTER, Dixon, Ill. Filed Sept. 7, 1909. Serial No. 516,615.



1. A device of the class named, comprising a casing, adapted to be introduced into a can containing a semi-solid substance; a cutting head in the inuer end of such casing, adapted to assist in conducting the contents of the can into such casing; means for gradually forcing the casing into such can; and means for discharging the contents through said casing and at the side of the machine.

2. In a device of the class named, a base; means for securing a lard can in place thereon; a casing, longitudinally movable on said base; a cutting head in the inner end of said casing; partitions extending longitudinally of said casing; means for moving said casing longitudinally of said base, and means for discharging the contents of the can at the side of the casing.

3. A device of the class named, comprising a base; means for securing a lard can thereon; a shaft, rotatably mounted on said base; a casing, mounted on said shaft, so as to move longitudinally therewith; a cutting head mounted on the inner end of said shaft; means for giving said shaft a gradual longitudinal movement during the rotation thereof; and means for conducting the contents of said can through such casing to one side of the machine.

971,409. PROPELLER. THEODORE ROGGENBUCK, San Francisco, Cal. Filed Sept. 2, 1909. Serial No. 515,767.



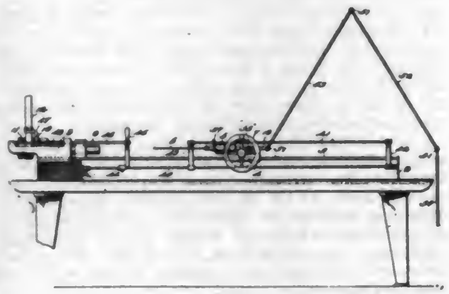
1. The combination in a propeller of radial and pitched vanes, said vanes having overhanging plates at the ends with the outer edges of said plates inturned substantially toward the axis of the propeller.

2. The combination in a propeller, of radial and pitched blades having overhanging transverse plates at the outer ends, said plates having flanges inturned substantially toward each other and toward the axis of the propeller.

3. The combination in a propeller, of radial and pitched blades, overhanging plates extending transversely from the outer edges of the blades said plates having inturned flanges projecting from their edges, and said plates being sections of a cylindrical surface coaxial with the propeller.

4. The combination in a propeller, of radial and pitched blades having curved transverse plates at the outer ends, and inturned convergent flanges projecting from the edges of the plates substantially toward the axis of the propeller.

971,410. MEANS FOR LUBRICATING AND DISENGAGING CUTTING-TOOLS. CHARLES HENRY AUGUSTUS FREDERICK LOCKHART ROSS, Quebec, Quebec, Canada. Filed Jan. 3, 1910. Serial No. 536,242.



1. In a metal working machine, the combination of a slide provided with a tool; a clutch connection between said slide and tool; and means for supplying fluid under pressure for operating said clutch; substantially as described.

2. In a metal working machine, the combination of a slide provided with a tool; a clutch connection between said slide and tool; means for supplying fluid under pressure for operating said clutch; and means for causing a portion of said fluid to lubricate said tool; substantially as described.

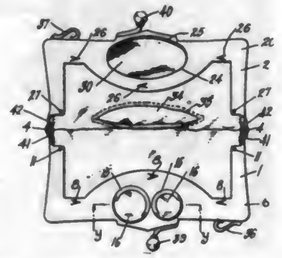
3. In a metal working machine, the combination of a slide provided with a tool; a rotating work holder adapted to carry the work on which said tool operates; a clutch connection between said slide and tool; and means for supplying fluid under pressure to operate said clutch and to lubricate said tool while operating on said work; substantially as described.

4. In a metal working machine, the combination of a slide provided with a tool; a rotating work holder adapted to carry the work on which said tool operates; a clutch connection between said slide and tool; means for supplying fluid under pressure to operate said clutch and to lubricate said tool while operating on said work; and means for stopping the rotation of said work holder when an abnormal resistance is encountered by said tool; substantially as described.

5. In a metal working machine, the combination of a movable tool support a clutch carried by said support; a tool carried by said clutch; pipe sections for conveying a lubricant under pressure to said tool and clutch whereby said tool may be lubricated and said clutch operated by said lubricant; and means permitting said sections to angularly move relatively to each other when said tool support is moved, whereby the pressure of said lubricant does not retard or accelerate the movement of said support; substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

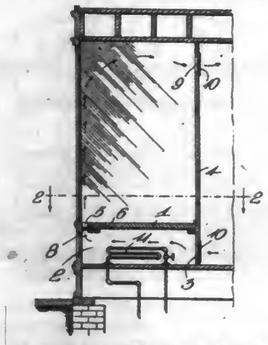
971,411. CHATELAINE-BAG. WILLIAM H. SAART, Attleboro, Mass., assignor to The W. H. Saart Company, a Corporation of Massachusetts. Filed Mar. 5, 1910. Serial No. 547,387.



In a chatelaine bag, a frame composed of hollow arched jaws pivotally united, the one jaw comprising an outer plate, an inner plate and a marginal connecting strip, coin holders mounted in said jaw with portions projecting beyond the inner plate and having inturned flanges, said coin holders extending at right angles to said inner and outer plates, the other jaw comprising inner and outer walls and an intermediate marginal strip, the inner wall being cut away to provide an opening with the material at the margin of said opening bent rearward forming a flange surrounding said opening, the cavity thus formed being adapted to receive and said flange to surround the coin holders.

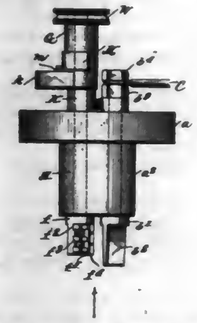
971,412. WINDOW-VENTILATOR. JOSEPH B. SCHERMAN, Nanticoke, Pa. Filed Feb. 3, 1910. Serial No. 541,705.

A show window having a floor space above the floor of the room, said window floor having a plurality of air passages formed therein adjacent to the window pane, a back wall in said window, said wall having formed therein an inlet opening from the room into the space below the window floor and an air discharge port opening out of the upper portion of the window into the room whereby a continuous circulation of air is provided through the window and over the window panes, means carried by the back wall for supporting said window floor, screens ar-



ranged over the air passages in the floor and back wall, and a radiator section through which is adapted to circulate a heating medium arranged in the space below the window floor.

971,413. IGNITER FOR GAS OR OTHER INTERNAL-COMBUSTION ENGINES. GEORGE Z. SMITH, Salt Lake City, Utah. Filed Jan. 6, 1910. Serial No. 536,757.



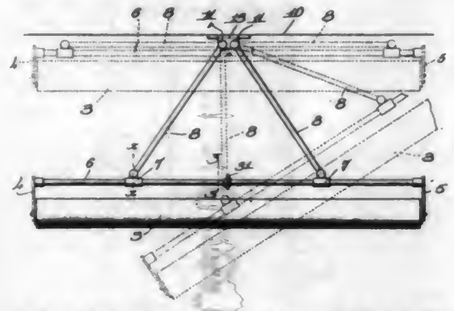
1. In a gas engine igniter, an insulating base, a pair of parallel rods, one of said rods being stationary and being provided with a common contact, and the other of said rods being movable and being provided with a plurality of contacts adapted to engage said common contact, a sleeve secured to the end of said movable rod, a movable collar disposed about said movable rod and arranged to engage said sleeve for rotating the latter, said sleeve and said movable rod being arranged to rotate so as to bring the separate contacts into engagement with the common contacts, and to be reciprocated for causing frictional engagement of the contacts for cleaning purposes and a spring for restoring said movable rod to its normal position.

2. In a gas engine igniter, an insulating base, a common contact carried thereby, a series of movable contacts arranged to be brought into engagement with said stationary contact, said movable contacts being mounted for individual adjustment, and means for effecting a simultaneous movement of said series of contacts along the surface of the common contact for cleaning purposes.

971,414. SWINGING SUPPORT FOR WINDOW-SHADES. MARTIN J. SMITH, Brockton, Mass. Filed Oct. 22, 1909. Serial No. 523,971.

1. In a shade support, the combination with a pair of shade carrying brackets, and a rigid connecting member

to which said brackets are secured, of a window frame, means pivoted to said window frame, means slidably mounted on said rigid connecting member and pivotally connected to said first mentioned means, substantially as and for the purpose set forth.



2. In a shade support, the combination with a pair of arms pivoted to a window frame, of hinge members pivoted to the ends of the arms, a rod slidably sustained by said hinge members, and shade-carrying brackets sustained by said rod.

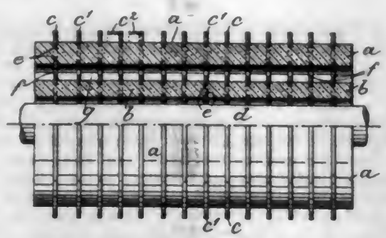
3. In a shade support, the combination with a pair of shade-carrying brackets, of a rod connecting said brackets, and a swinging support for the rod having a pivotal sliding connection therewith.

4. In a shade support, the combination with two arms pivoted centrally to a window frame, of a hinge member pivoted to the end of each arm, a rod slidably sustained by said hinge member, and shade-carrying brackets secured to the rod.

5. In a shade support, the combination with a pair of shade-carrying brackets, of a rod connecting said brackets, and a pair of pivoted arms having a sliding pivotal connection with said rod.

[Claim 6 not printed in the Gazette.]

971,415. BUFFER AND OTHER SPRING CONSTRUCTED WITH INDIA-RUBBER. ALFRED GEORGE SPENCER, London, England. Filed May 14, 1910. Serial No. 561,428.



1. The hereinbefore described method of manufacturing buffer or other springs according to which spring elements, each comprising ring-like india rubber bodies arranged one within the other a short distance apart and a plate molded into them, are produced by partially curing the india rubber when the plate is in position, in any known manner, a desired number of such elements being then placed together end to end with a perforated plate between each element and the adjacent ones, and the operation of curing the india rubber then completed so that all the perforated plates become securely held in the india rubber.

2. The hereinbefore described method of manufacturing buffer or other springs according to which spring elements, each comprising ring-like india rubber bodies arranged one within the other a short distance apart and a metal plate molded into them, are produced by partially curing the india rubber when the plate is in position, in any known manner, a desired number of such elements being then placed together end to end with a perforated plate between each element and the adjacent ones, and the operation of curing the india rubber then completed so that all the perforated metal plates become securely held in the india rubber.

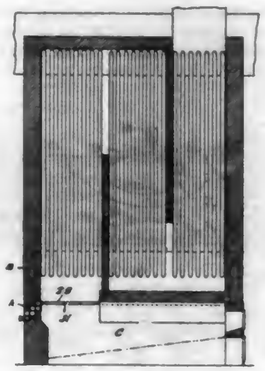
3. A spring comprising holding plates and rubber bodies between two adjacent plates, such rubber bodies being of ring-like form arranged one within the other a short distance apart and each said rubber body comprising ring-like parts one of which is connected to one of said plates and another to the adjacent said plate.

4. A spring comprising holding plates and rubber bodies between two adjacent plates, such rubber bodies being of ring-like form arranged one within the other a short distance apart and each said rubber body comprising ring-like parts one of which is connected to one of said plates, another of which is connected to the adjacent plate and another of which is not connected to any of said plates.

5. A spring comprising metal holding plates and rubber bodies between two adjacent plates, such rubber bodies being of ring like form arranged one within the other a short distance apart and each said rubber body comprising ring-like parts one of which is connected to one of said plates and another to the adjacent said plate.

[Claims 6 to 11 not printed in the Gazette.]

971,416. FURNACE. PETER STIPP, Scranton, Pa. Filed Sept. 5, 1908. Serial No. 451,886.



1. The combination in a furnace with the combustion chamber and a firewall thereof, of a series of unitary, hollow, structures forming chambers arranged in step-like formation, the lowermost chamber having an inlet from the atmosphere and the uppermost chamber opening into the combustion chamber, and the lower walls of the upper and intermediate chambers forming perforated closures for a portion of the chamber beneath.

2. An air superheater comprising a series of hollow unitary, structures superposed in step-like formation and forming chambers located in a firewall and combined with the combustion chamber of a furnace, the lower walls of the upper and intermediate chambers forming perforated closures for a portion of the chamber beneath, hollow angular extensions connected to the uppermost chamber, the lowermost chamber being open to the atmosphere, and the uppermost chamber and said extensions open to the combustion chamber.

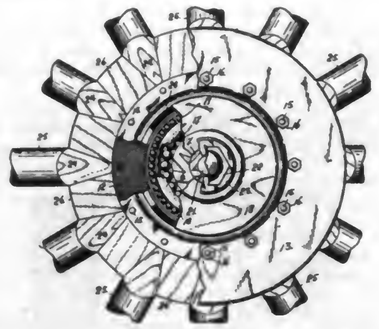
3. The combination in a furnace with the combustion chamber and a firewall thereof, of a series of unitary, hollow, structures forming chambers arranged in step-like formation, the lower chamber having an inlet from the atmosphere and the uppermost chamber opening into the combustion chamber, the lower walls of the upper and intermediate chambers forming perforated closures for a portion of the chamber beneath, and vertically arranged longitudinally extending walls formed in the intermediate chambers and perforated near their centers.

4. An air superheater comprising a series of superposed chambers in step like formation, the upper walls of the lowest and the intermediate chambers being perforated near their ends, vertically arranged longitudinally-extending partitions formed in the intermediate chambers and perforated midway their lengths to permit passage of air currents through said upper walls and partitions, an air inlet to the lowest chamber, and outlets from the uppermost chamber.

5. An air superheater comprising a series of chambers located on ascending levels, the upper walls of the lowest and intermediate chambers being perforated near their ends, and vertically arranged longitudinally-extending partitions dividing the intermediate chambers and perforated midway their length to permit passage of air currents through said perforated walls and partitions, an air inlet to the lowest chamber, outlets from the uppermost chamber, and angular extensions connected to said uppermost chamber and provided with outlets.

[Claims 6 to 8 not printed in the Gazette.]

971,417. WHEEL-BEARING. LINDSAY S. STREPEY, Victor, Colo., assignor of two-sevenths to Jasper N. Strepey, Buena Vista, Colo. Filed Feb. 5, 1908. Serial No. 414,360.



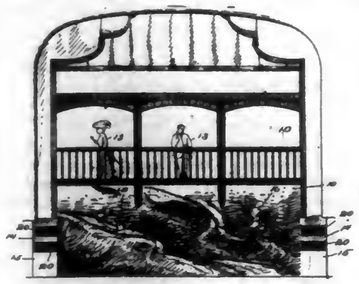
The combination with an axle, of an inner bearing member composed of two members, one member being threaded to the outer extremity of the axle to rotate therewith and having a reduced protruding exteriorly threaded part, the second bearing member being secured upon the protruding part of the first named member, the outer portions of the abutting faces of the bearing members being cut away at right angles to form a circumferential groove in the bearing when the two members are assembled, a rotary element whose inner face enters the groove of the bearing, bearing balls interposed between the rotary element and the bearing members, one set of balls engaging the inner face of the hub and the other sets the opposite sides thereof, and packing rings interposed between the portion of the rotary element which enters the groove of the bearing and the walls of the grooves on opposite sides, substantially as described.

971,418. STAGE EFFECT. FRANK D. THOMAS, New York, N. Y. Filed May 7, 1910. Serial No. 560,007.

1. The combination with a movable object, of means adapted to receive complementary portions of the same moving picture scene in front and back of the movable object.

2. The combination with a movable object, of means to receive complementary portions of a moving picture scene upon opposite sides of the movable object, and means to obliterate the moving picture scene where it strikes the movable object.

3. The combination with a screen adapted to receive a moving picture scene, of a screen section located in front of the first-mentioned screen, and providing a space for the introduction of a movable object.

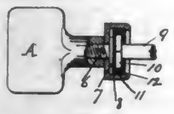


4. The combination with a main screen adapted to receive a moving picture scene, of a screen section located in front of the plane of the main screen and adapted to receive a portion of the moving picture scene and providing space between the plane of the main screen and the screen section for the introduction of a moving object.

5. The combination with a main screen, of a screen section disposed in front of the main screen, such screens being adapted to receive complementary portions of the same moving picture scene and provide a space for the introduction of a movable object, and means to obliterate the moving picture scene cast upon the moving object.

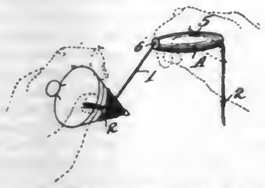
[Claims 6 to 16 not printed in the Gazette.]

971,419. ELECTRIC SWITCH. GEORGE B. THOMAS, Bridgeport, Conn., assignor to The Perkins Electric Switch Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Dec. 17, 1908. Serial No. 468,041.



A spindle for switch mechanism comprising a spindle with angled head on one end an angled shell surrounding said head and perforated in line with said spindle, a threaded key stem projecting through said perforation and provided with an angled head fitting within said shell, an insulating washer separating said key stem from the switch spindle, a washer surrounding the head on said spindle and separating the same from said inclosing shell, a washer threaded over the switch spindle and juxtaposed to the head thereon, the edges of said angled shell being rolled over upon the last mentioned washer and serving to lock said parts together, substantially as described.

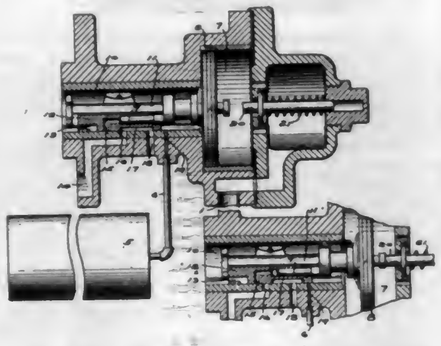
971,420. TOP-SPINNING DEVICE. CHARLES C. TANNERT, Brooklyn, N. Y. Filed Mar. 27, 1908. Serial No. 423,691.



A top spinning appliance comprising an elongated body tapered at its ends and provided at a central point with

a transverse opening, and at opposite ends with longitudinally inclined openings which communicate at their inner ends with the respective opposite ends of the transverse opening, the outer ends of the longitudinally inclined openings extending centrally through the extremities of the body, and the inner ends of said longitudinally inclined openings extending through the sides of the body near the transverse opening, and a cord passed through the openings of the body and held frictionally therein, and provided with stops at its ends.

971,421. GRADUATED-RELEASE TRIPLE VALVE. WALTER V. TURNER, Wilkinsburg, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Feb. 7, 1905. Serial No. 244,622.



1. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, and brake cylinder, of an additional reservoir or source of pressure, and a valve device having yielding resistance means for defining an intermediate or lap position, and operated by variations in fluid pressure for controlling the release from the brake cylinder and communication from the additional source to the auxiliary reservoir.

2. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder, and an additional reservoir or supply, of a valve device having a movable abutment operated by variations in fluid pressure, a valve actuated by said abutment for controlling communication from the additional reservoir to the auxiliary reservoir, and yielding resistance means for defining an intermediate or lap position of said valve.

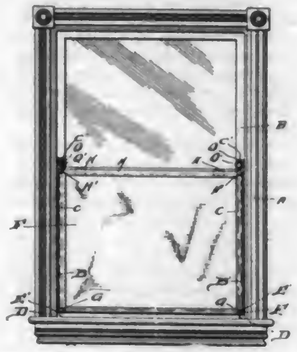
3. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, brake cylinder, and an additional reservoir or supply, of a valve device having a movable abutment subject to the opposing pressures of the train pipe and auxiliary reservoir, a valve operated by said abutment for controlling communication from the additional reservoir to the auxiliary reservoir side of said abutment and the release from the brake cylinder, and yielding resistance means for defining an intermediate or lap position of said valve.

4. A triple valve device having a brake cylinder port and a port for supplying air from an additional reservoir or source to the auxiliary reservoir, and a yielding resistance means for defining an intermediate or lap position of the valve in which these ports are closed.

5. A triple valve device having ports adapted in one position to open the exhaust from the brake cylinder and communication from an additional reservoir or source to the auxiliary reservoir, and in another position to open communication from the auxiliary reservoir to the brake cylinder, and a yielding stop for defining an intermediate lap position with the ports closed.

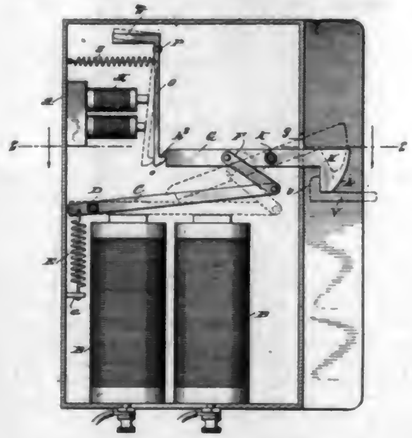
[Claim 6 not printed in the Gazette.]

971,422. WINDOW-SCREEN. ERVIN WALRATH and FRANK W. AUSTIN, Gloversville, N. Y. Filed June 30, 1910. Serial No. 569,765.



In combination with the frame of a window and sash therein, vertical rods engaging apertures in the sill of the frame, slotted bracket members fastened to the frame and adapted to receive the upper ends of the rods, cotter keys engaging said slots and holding the upper ends of the rods within said bracket members, a transversely disposed rod having eyes in the ends receiving the vertical rods, a stationary rod connecting the vertical rods, a pliable screen fastened to said rods and adapted to unfold and fold with the opening and closing of the window.

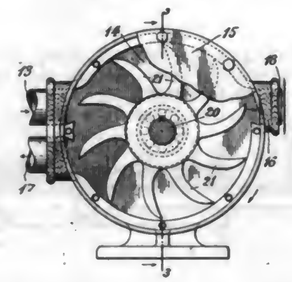
971,423. LOCK. FRANK WALTERS, Spokane, Wash. Filed May 6, 1910. Serial No. 559,748.



1. An electrically controlled lock comprising a casing, a pivoted latch arm carried thereby, a pivoted armature connected with said latch arm, magnets for moving said armature, a second armature provided with a head arranged to engage the end of said latch arm for deadlocking the same, and magnets for moving the second armature, thereby permitting a movement of the latch arm when the first named armature is actuated by its magnets.

2. An electrically controlled lock comprising a casing, a pivoted latch arm carried thereby, a pivoted armature, a link connecting one end of said pivoted armature with said latch arm, a spring connecting the other end of said pivoted armature with said casing, a second pivoted armature provided with a head arranged to engage the end of the latch arm for deadlocking the same, a spring for normally keeping said second named armature in engagement with said latch arm, and magnets for moving said second named armature away from said latch arm, said second named magnets and said first named magnets being on one electrical circuit.

971,424. MUFFLER FOR INTERNAL-COMBUSTION ENGINES. JOHN M. WERNER, Hoboken, N. J. Filed Feb. 3, 1910. Serial No. 541,792.

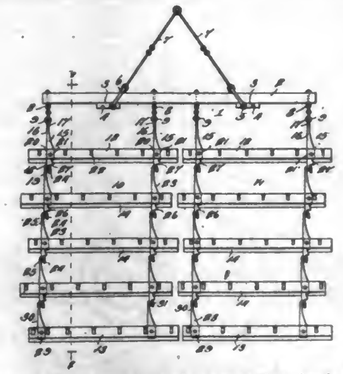


1. The combination with an internal combustion engine, of a muffling device comprising: a casing forming a chamber for the exhaust gases from said engine; a rotatable shaft; a plurality of vanes mounted upon said shaft and adapted to rotate therewith within said chamber, said vanes extending substantially from the shaft to the inner wall of said chamber and forming pockets for the exhaust gases between adjacent vanes; an inlet to said chamber adapted to direct the exhaust gases into the said pockets formed between adjacent vanes and toward the inner portion thereof; and an outlet from said chamber to receive the gases expelled from the outer portion of the said pockets.

2. The combination with an internal combustion engine, of a muffling device comprising: a casing forming a chamber for the exhaust gases from said engine, said casing having lateral cylindrical extensions providing a ball-race; a shaft passing through said casing and said lateral extensions; suitable coupling flanges at the ends of said shaft adapted to be coupled to the shaft of the said engine; means to secure said coupling flanges to the said muffler shaft to hold the same against relative rotation and to hold suitable balls within the said ball-race; a plurality of vanes mounted upon said muffler shaft and adapted to rotate therewith within said chamber, said vanes extending substantially from the shaft to the inner wall of said chamber; an inlet to said chamber adapted to direct the exhaust gases into the chamber formed between adjacent vanes and toward the inner portion thereof; and an outlet from said chamber to receive the gases expelled from the outer portion of the said chamber formed between adjacent blades.

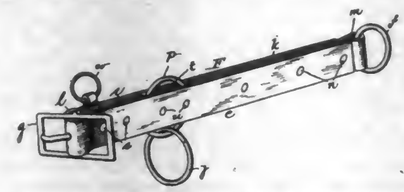
971,425. HARROW. HARRY A. WETMORE, Anthon, Iowa. Filed Mar. 26, 1909. Serial No. 485,947.

A harrow comprising a draw-bar, harrow sections located rearwardly of the draw-bar and comprising front, rear and intermediate parallel spaced tooth-carrying bars, members on the bars of the front sections pivoted at their forward ends to the said draw-bar, members on the bars of the intermediate sections, the said members of the intermediate bars being pivotally connected together and those on the front bars of the said intermediate sections being pivotally connected with the members of the front bars, members on the rear bars pivotally connected with the members on the rear bars of the intermediate sections, the said members on the front, rear and intermediate bars having portions extending upwardly and rearwardly to support the said bars at an inclination to the



surface of the ground, and co-engaging hook and stop portions on the members of said bars for limiting their pivotal movements.

971,426. HARNESS. JEFFERSON O. ADAMS, New Iberia, La. Filed Apr. 4, 1910. Serial No. 553,275.



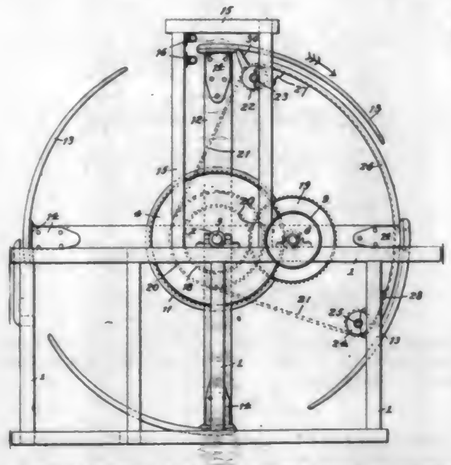
In a harness, a coupling comprising a longitudinal strap bent in the direction of its length upon itself, a buckle having its bar disposed in the loop at the forward end of said strap, a filler arranged between and riveted to the sides of said strap and located immediately in rear of the said bar of the buckle, a looped strap interposed and fastened by rivets between the rear portions of the first-named strap, a ring interposed between the sides of the first-named strap and located intermediate the said filler and the looped strap, a filler arranged in and adapted to hold said ring against undue play and also arranged between and fastened by rivets to the sides of the first-named strap, a ring carried in the said looped strap, and a ring loosely mounted on the lower portion of the first-named ring and arranged at right angles thereto for the purpose of receiving and coöperating with a shaft or thill.

971,427. SINGEING-MACHINE. THOMAS ALLSOP, WALTER W. SIBSON, and WALTER F. HAGAR, Jr., Philadelphia, Pa., assignors to The Philadelphia Drying Machinery Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Nov. 18, 1909. Serial No. 528,789.

1. In a singeing machine, singeing means, an elongated support for the articles to be singed mounted for rotation in a circular path, the longitudinal axis of said support extending in the direction of movement of said support, and means for actuating said support.

2. In a singeing machine, singeing means, a carrier, means for rotating said carrier in a circular path, and an elongated support associated with said carrier and rigidly connected thereto at one of its ends, the other end of said support being free to receive the articles to be singed, the longitudinal axis of said support extending in the direction of movement of said support.

3. In a singeing machine, singeing means, a rotating carrier, a curved support for the articles to be singed arranged upon said carrier and disposed concentrically to the axis of said carrier, and means for rotating said carrier.

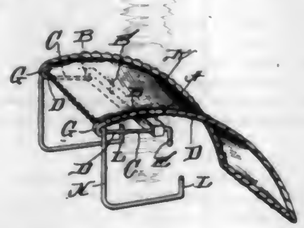


4. In a singeing machine, singeing means, a rotating carrier, a curved support for the articles to be singed associated with said carrier and rigidly connected thereto at one of its ends, the other end of said support being free to receive the articles to be singed, said support being disposed concentrically to the axis of said carrier, and means for rotating said carrier.

5. In a singeing machine, singeing means, a support for the articles to be singed, stripping mechanism coöperating with said support to remove the singed articles therefrom, and means for causing relative movement between said support and said stripping mechanism at a different surface speed.

[Claims 6 to 19 not printed in the Gazette.]

971,428. HEAD-REST FOR CAR-SEATS. HENRY W. BOWMAN, Barbourville, Ky. Filed May 22, 1909, Serial No. 497,734. Renewed Mar. 2, 1910. Serial No. 546,960.



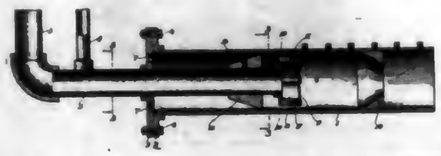
1. In combination with the arm of a seat, a head rest comprising a bar adapted to rest upon the upper edge of the arm of the seat, a wire having arms passing through said bar and its ends angled for engagement with the edge of the arm, a covering supported by said wire and forming a rest for the head, and means for fastening the device to the arm of a seat.

2. In combination with the arm of a seat, a head rest comprising a bar adapted to rest upon the upper edge of the arm of the seat, a wire having arms passing through said bar and its ends angled for engagement with the edge of the arm, a covering supported by said wire and forming a rest for the head, and hooks pivotally connected to said wire and adapted to engage underneath the arm of a seat.

3. A head rest, comprising a bar having transverse apertures therein, a wire bent to form a skeleton frame for a rest, a covering closing the space intermediate the marginal edge of the skeleton frame, a wire bent to form hooks and pivotally connected to the arms of the wire passing through said bar and adapted to engage over the edge of the arm of a seat.

4. A head rest, comprising a bar having apertures therein, wires passing through said apertures and having angled ends, said wire bent to form eyes and thence to form a skeleton frame for a head rest, a wire having a straight shank portion pivotally mounted in said eyes and covered and terminating in hooks designed to engage underneath the arm of a seat.

971,429. GAS-BURNER FOR HEATING PURPOSES. GEORGE BERNHARDT DAMON, Glenside, Pa. Filed Nov. 23, 1908. Serial No. 463,978.



1. In a device of the character described, the combination of a burner barrel having an air inlet, a steam inlet and an initial mixing chamber therein, said mixing chamber having a substantially annular inlet for the air and steam, and means for injecting into said mixing chamber in an opposite direction to the current of air and steam a current of fluid fuel.

2. In a device of the character described the combination of a burner barrel, a gas inlet pipe having a head located within the barrel provided with rearwardly directed openings, a head on the rear of the burner barrel provided with a plurality of openings and a partial obstruction located in the rear of the head upon the pipe to produce a mixing chamber within the burner barrel.

3. In a device of the character described the combination of a burner barrel, a gas inlet pipe having a head located within the barrel provided with rearwardly directed openings, a head on the rear of the burner barrel provided with a plurality of openings for air, means for admitting a supply of steam in the rear of the burner barrel and a partial obstruction located in the rear of the head upon the pipe to produce a mixing chamber within the burner barrel.

4. In a device of the character described the combination of a burner barrel, a gas inlet pipe having a head located within the barrel provided with rearwardly directed openings, a head on the rear of the burner barrel provided with a plurality of openings, a partial obstruction located in the rear of the head upon the pipe to produce a mixing chamber within the burner barrel and a member with a tapering opening in the front of the burner barrel.

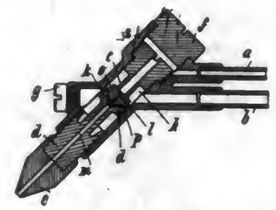
5. In a device of the character described the combination of a burner barrel, a gas inlet pipe having a head located within the barrel provided with rearwardly directed openings, a head on the rear of the burner barrel provided with a plurality of openings for air, means for admitting a supply of steam in the rear of the burner barrel, a partial obstruction located in the rear of the head upon the pipe to produce a mixing chamber within the burner barrel and a member with a tapering opening in the front of the burner barrel.

[Claims 6 to 18 not printed in the Gazette.]

971,430. WELDING-BURNER. ALEXANDER BERNHARD DRÄGER, Lübeck, Germany, assignor to The Firm of Drägerwerk, Heinr. & Bernh. Dräger, Lübeck, Germany. Filed July 14, 1909. Serial No. 507,550.

1. A welding burner comprising a suction nozzle and a pressure nozzle having laterally movable ends and, means

on their juxtaposited coöperating faces adapted to automatically center the two nozzles with relation to each other in the assembling of the burner.



2. A welding burner comprising a casing, a suction nozzle and a pressure nozzle mounted therein and having laterally movable ends and, longitudinal passages and means to automatically bring the longitudinal axes of the latter into alinement.

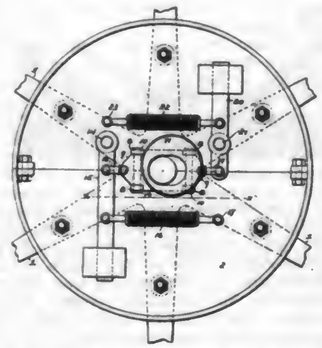
3. A welding burner, comprising a suction nozzle having a conical rear face, a pressure nozzle having a conical face of less conicity from that of the suction nozzle, one of said nozzles provided with longitudinal ribs which have end engagement with the conical face of the other nozzle.

4. A welding burner comprising a pressure nozzle and a suction nozzle having flexible neck portions, and means on the juxtaposited coöperating faces of the nozzles capable of imparting relative lateral movement to said neck portions.

5. A welding burner, comprising a casing, a suction nozzle mounted therein having a conical rear face, a pressure nozzle mounted in the casing in rear of the suction nozzle, having a front face of less conicity than said rear face and coöperating with the latter to form an annular delivery passage of approximately the same cross-sectional area at all points as the cross-sectional area of its inlet and outlet and which communicates with a mixing passage in the suction nozzle.

[Claims 6 to 9 not printed in the Gazette.]

971,431. ENGINE-GOVERNOR. CHARLES B. EDWARDS, Massillon, Ohio, assignor of one-fourth to John H. Crooks and one-fourth to William Simonet, Massillon, Ohio. Filed Feb. 15, 1910. Serial No. 544,124.



1. In a governor, the combination with a plate or disk adapted for connection with an engine shaft, of an eccentric, means affording hinged-connection of said eccentric with said plate or disk, and centrifugal devices connected with said hinged eccentric and supported by the plate or disk.

2. In a governor, the combination with a plate or disk adapted for connection with a fly-wheel of an engine, arms pivotally connected with said plate or disk, an eccentric supported by said pivoted arms with its center out of line with the center of said disk or plate, and centrifugal devices supported by said plate and connected with the hinged eccentric.

3. In a governor, the combination with a plate or disk adapted for attachment to a fly-wheel of an engine and provided with enlargements on one face, of arms pivotally attached at one end to the enlargement on the disk or plate, a block to which the outer ends of said arms are pivotally connected, an eccentric secured to said block and having an elongated slot for the passage of an extension of the engine shaft, weighted arms pivotally supported by the disk or plate, links connecting said arms with respective ends of the blocks which carry the eccentric, and springs connected with said weighted arms to oppose the outward movements thereof.

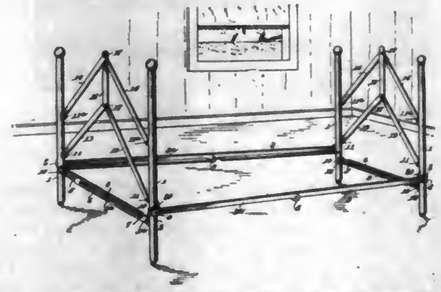
971,432. RAZOR-STROP CLAMP. ABRAHAM EISNER, Chicago, Ill., assignor of one-half to R. M. Sunasack, Chicago, Ill. Filed Jan. 15, 1910. Serial No. 538,279.



1. A razor strop having an opening formed therethrough, and a clamp comprising oppositely disposed clamping plates adapted to engage opposite sides of said strop, and having tongues formed integral with, and extending angularly toward one another from, said clamping plates to enter the aforesaid strop opening in overlapped relation, said tongues having inter-engaging means for locking the same together.

2. A razor strop having an opening formed therethrough, and a clamp embracing the sides of said strop and having tongues formed integral therewith and extending toward one another to enter the aforesaid strop opening in over-lapped relation, said tongues having, upon their adjacent faces, a relatively engaging projection and recess whereby to lock the same in position.

971,433. FOLDING BEDSTEAD. EDWARD LELAND ELLIOTT and WILLIAM HENRY SCHROEDER, Coquille, Oreg. Filed July 7, 1910. Serial No. 570,746.



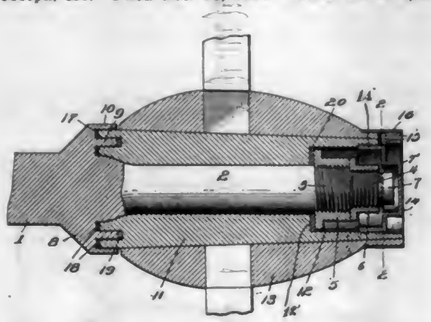
1. A folding bedstead, comprising a pair of head posts and a pair of foot posts, a side rail connecting the adjacent posts of the head and foot, each rail consisting of a plurality of sections hinged with an upwardly bending rule joint at their meeting ends, the outer end of each rail being pivoted to the post, sectional end rails, the sections being slidably connected at one end and pivoted to the posts at the other, means for securing the sections in adjusted position, a vertical lever between each pair of posts, and links connecting the ends of the levers to the posts on each side, said links being pivoted to the lever and to the posts, and a catch for each post, the foot post having a recess for the catch, said catch being pivoted in the recess and extending above the side rail when in outward position, and a spring normally pressing the catch outwardly.

2. A folding bedstead, comprising a pair of head posts and a pair of foot posts, a side rail connecting the adjacent posts of the head and foot, each rail consisting of a plurality of sections hinged with an upwardly bending rule joint at their meeting ends, the outer end of each rail being pivoted to a post, each of said posts having a catch for preventing upward movement of the rail, springs normally holding the catches in engaging position, end rails each consisting of a plurality of sections, the sections having each a longitudinal slot, and one having a pin fitting in the slot, a set screw engaging the slots of both sections, a vertical lever between each pair of posts, and links connecting the ends of the levers to the posts on each side, said links being pivoted to the lever and to the posts.

3. A folding bedstead, comprising a pair of head posts and a pair of foot posts, a side rail connecting the adjacent posts of the head and foot, each rail consisting of a plurality of sections hinged with an upwardly bending rule joint at their meeting ends, the outer end of each rail being pivoted to a post, each of said posts having a recess above the connections of the rail, a catch in the recess, and a spring normally pressing the catch outward.

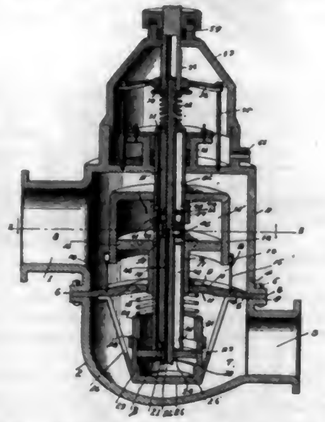
4. A folding bed-stead comprising a pair of head posts and a pair of foot posts, sectional side and end rails connecting the posts, one section of each of said rails being pivoted to a post, the sections of the side rails being hinged intermediate the posts, and the sections of the end rails being slidably connected intermediate the posts, means for locking the sections of the side rails in alinement, means for securing the sections of the end rails in adjustment, and means for moving the members of the pair of head posts and the members of the pair of foot posts toward and from each other.

971,434. VEHICLE-WHEEL. JOHN H. ESDEAS, St. Joseph, Mo. Filed Dec. 30, 1908. Serial No. 470,040.



In a vehicle wheel, an axle provided with a spindle having at its outer end reversely threaded portions and a smooth surfaced extremity progressively reduced in diameter in stepped relation, an axle having a transverse opening in one side at its outer end and provided with a box journaled on the spindle, the outer end of said box being formed with a flaring chamber having a coinciding transverse opening and an internally threaded portion, said chamber extending inwardly beyond the innermost threaded portion of the spindle and having its inner wall forming a plane annular shoulder, a gasket bearing against said shoulder and surrounding the adjacent portion of the body of the spindle, a nut engaging the inner larger threaded portion of the spindle and bearing against the gasket, a second nut engaging the outer and smaller reversely threaded portion of the spindle and bearing against the first-named nut, a transverse pin removably fitted in the outer smooth surfaced end of the spindle to retain said nut in position, said pin being arranged for alinement with the transverse openings in the axle and box, a cap nut having an enlarged externally threaded portion engaging the threaded portion of the chamber and inclosing the outer nut and a hollow head or cap portion of reduced diameter inclosing the said smooth surfaced extremity of the spindle, said cap nut being arranged to close the transverse opening in the box, and a sliding band inclosing the outer end of the hub and closing the transverse opening therein.

971,435. STEAM-PRESSURE REDUCING AND CONTROLLING VALVE. NICOLAS FILIBERTO, Brooklyn, N. Y. Filed Feb. 25, 1910. Serial No. 546,020.



1. A fluid pressure reducing and controlling device of the class described comprising a casing, a ported diaphragm therein dividing the casing into inlet and outlet chambers, a main piston mounted in the outlet chamber and having one end open, a valve adapted to seat on the diaphragm, a piston in the cylinder connected with the valve, a secondary cylinder in the inlet chamber, a piston therein, a controlling valve connected with the last mentioned piston, means for admitting fluid to the main cylinder through the controlling valve, and ports in the controlling valve arranged to be covered and uncovered by the movement of such valve for admitting fluid from the main cylinder to the secondary cylinder whereby the movement of the controlling valve controls the pressure of the fluid in the main cylinder and thereby determines the opening of the first mentioned valve.

2. A fluid pressure reducing and controlling device of the class described comprising a casing having inlet and outlet chambers, a pressure reducing valve controlling communication between the chambers, a main cylinder in the outlet chamber having one end closed and the other end opening into the chamber, a piston in the cylinder and connected with the valve and having one side exposed to the pressure in the outlet chamber, a controlling valve through which fluid passes from the inlet chamber to the cylinder at a pressure determined by the movement of the controlling valve, a secondary cylinder in the inlet chamber, a piston in the secondary cylinder connected with the controlling valve and having one side exposed to the inlet pressure, said controlling valve having means for connecting the main with the secondary cylinder whereby the opposing pressures on the piston in the secondary cylinder causes movement of the controlling valve, and means for weighting the controlling valve.

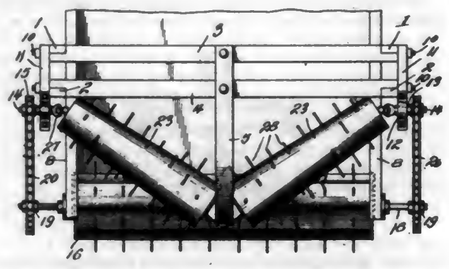
3. A fluid pressure reducing and controlling device of the class described comprising a casing, a diaphragm dividing the casing into inlet and outlet chambers, said diaphragm having a port, a main valve arranged to open and close the port, a main cylinder supported on the diaphragm and having an open end spaced from the latter, a piston in the cylinder connected with the valve to move the same, a secondary cylinder disposed in the inlet chamber and having an open end spaced from the diaphragm, a weighted controlling valve through which fluid passes from the inlet to the main cylinder and thence to the secondary cylinder, and a piston in the secondary cylinder acted on by fluid in the inlet chamber and fluid from the main cylinder to determine the position of the controlling valve and hence the pressure of the fluid acting in the main cylinder to open the main valve.

4. A fluid pressure reducing and controlling device of the class described comprising a casing, a diaphragm dividing the casing into inlet and outlet chambers and provided with a port, a main valve controlling the port, a main cylinder in the outlet chamber, a secondary cylinder in the inlet chamber, said cylinders having open ends nearest the diaphragm, means for supporting the cylinders on the diaphragm, a piston in the main cylinder connected with the main valve, a spring interposed between the main valve and secondary cylinder tending to seat the former, a piston in the secondary cylinder having one side exposed to the inlet pressure, a controlling valve connected with the last mentioned piston and having means for admitting fluid from the inlet chamber to the main cylinder and from the latter to the secondary cylinder whereby the pressure of fluid in the main cylinder is controlled, and means for weighting the controlling valve.

5. A fluid pressure reducing and controlling device of the class described comprising a casing divided into inlet and outlet chambers, a main valve controlling communication between the chambers, a main cylinder in the outlet chamber, a piston in the cylinder connected with the valve, a secondary cylinder in the inlet chamber, a reciprocatory controlling valve having a chamber which is in permanent open communication with the inlet chamber and in controllable communication with the main cylinder and also having a passage permanently communicating with both cylinders, a piston in the secondary cylinder connected with the valve for actuating the same by the fluid from the second passage opposing the fluid in the inlet chamber, and means for weighting the controlling valve.

[Claims 6 to 10 not printed in the Gazette.]

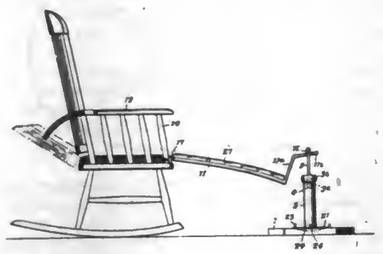
971,436. MANURE-SPREADER. LEWIS A. FUNK, Jeromesville, Ohio. Filed Apr. 15, 1910. Serial No. 555,652.



1. An attachment for manure spreaders comprising a frame having rearwardly and downwardly extending brackets, a bearing block supported by said brackets, additional bearing members vertically adjustable upon the frame, spiked rollers having shafts provided with bearings in the block supported by the rearwardly extending brackets, short shafts supported for rotation in the vertically adjustable bearing members, and knuckle joints connecting said shafts with the outer ends of the roller-carrying shafts.

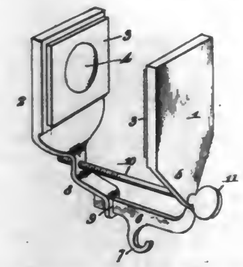
2. In a device of the character described, a frame including pairs of legs and cap members connecting the same, a bracket connecting said cap members and extending rearwardly and downwardly, a bearing block supported thereby, bearing members vertically adjustable upon the legs of the frame, shafts supported for rotation in said bearing members, spiked rollers having shafts extending therethrough, said shafts being provided at their inner ends with approximately spherical heads supported for rotation in recesses in the bearing block, and knuckle joints connecting the outer ends of the shafts with the short shafts supported in the vertically adjustable bearing members.

971,437. FOOT AND LEG REST. JOHN A. GAERTNER, Boston, Mass. Filed Jan. 31, 1910. Serial No. 541,055.



In a foot and leg rest, a grooved base, a pair of metal uprights carried thereby, an oscillating support pivoted on said uprights, a leg support pivotally connected with said oscillating support at one end, a chair having a pivotal connection with said leg support at the other end, the lower end of said oscillating support being adapted to enter the slot in said base, and a strip provided with a slot arranged to be moved over the groove in said base for locking the oscillating support in a stationary position.

971,438. CLAMP. FREDRIC C. GILLITT, Hastings, Minn. Filed Sept. 24, 1909. Serial No. 519,495.

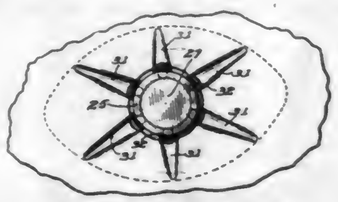


A clamp hook comprising a pair of rectangular-shaped jaw members having their opposed inner faces countersunk, cushions arranged in the said countersinks, one of said jaw members being provided on its lower side with an arm, a portion of which inclines downwardly and beyond the plane of the inner face of the jaw and ends in a vertical downward extension having a threaded opening, the said extension terminating in a downwardly inclined extension having adjacent to its center a slot, the other of said jaws being provided on its lower side with an arm, a portion of which extends vertically downward and is provided with an opening to aline with the screw-threaded opening, the said downwardly extending portion terminating in a bent portion extending beyond the inner face of the second-named jaw and insertible into the said slot, a hook depending from the said bent portion, and a clamping screw passing through said openings.

971,439. METAL BARREL. WILLIAM B. GODDARD, Brooklyn, N. Y. Filed Apr. 1, 1909. Serial No. 487,253.

1. In a metallic barrel having a depressed portion, a bung holder fitted and secured into the depressed portion and conforming on its outer surface to the form of the barrel, the barrel and bung holder having registering

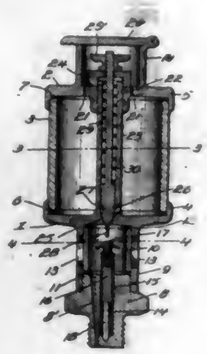
openings for the reception of a bung, corrugations made in the depressed portion of the barrel, the bung holder having channels corresponding to the corrugations in the depressed portion of the barrel forming fluid passages through both, substantially as described.



2. In a metallic barrel having a depressed portion a bung holder fitted and secured into the depressed portion and conforming on its outer surface to the form of the barrel, the barrel and bung holder having registering openings, fluid passages formed in the barrel and in the bung holder for draining the barrel, substantially as shown and described.

3. In a barrel having a depressed portion surrounding the bung hole, a bung holder fitted into the depressed surface of the barrel, grooves formed on the inside of the barrel radial from the bung hole, channels in the bung holder corresponding with the grooves in the barrel and forming fluid passages, and a bung adapted to close the passages.

971,440. THERMOSTATIC OIL-CUP. EDWIN J. GRANT, Sandy Point, Me. Filed July 31, 1909. Serial No. 510,567.

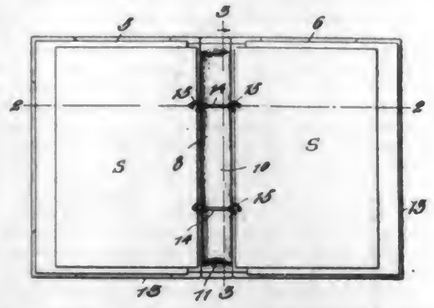


1. An automatic oil cup comprising a reservoir having a depending stem, a sight tube arranged between the reservoir and stem, a spring-closed valve controlling communication between the reservoir and sight tube, a cylinder upon the stem projecting into the sight tube and containing a column of mercury, a plunger in said cylinder, and an adjustable contact piece carried by the plunger to engage and open the valve.

2. An automatic oil cup comprising a reservoir having a discharge port, a spring-actuated valve controlling said port, a sight tube into which the lower end of the valve extends, a guide tube supported below and in axial alinement with the valve, said tube projecting upwardly into the sight tube and having a column of mercury therein, a plunger in said guide tube, and a contact piece adjustably mounted upon the plunger, said contact piece being adapted to engage the lower end of the valve and having a sloping surface.

3. An automatic oil cup comprising a reservoir having a depending stem, and a sight tube arranged between the reservoir and stem, a spring-closed valve controlling communication between the reservoir and sight tube, a cylinder upon the stem projecting into the sight tube and containing a column of mercury, a plunger in said cylinder, and an adjustable contact piece carried by the plunger to engage and open the valve, said contact piece having a sloping surface.

971,441. TEMPORARY BINDER. CLARENCE D. GRAVES, Clarksville, Tenn. Filed May 2, 1910. Serial No. 558,858.



A device of the character described comprising a front and back cover, a connecting strip arranged between said covers, the covers being movable upon the longitudinal edges of the strip, said strip having a convex outer face and a concaved inner face, the ends of said strip being longitudinally concaved and reduced in thickness, a suitable binding material secured upon and uniting said covers and strip, and a wire sheet holding loop extending transversely upon the strip at each side of its longitudinal center, said loop being of rectangular form and extending between the covers, the extremities of the loop being bent at right angles and secured in said strip.

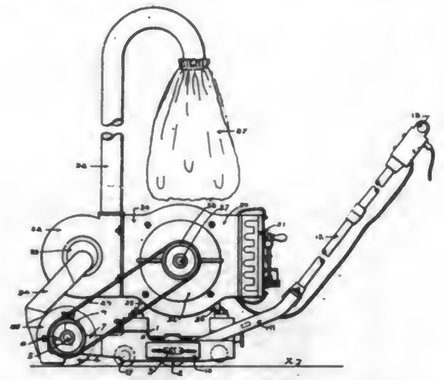
971,442. SOUND-REPRODUCING DEVICE FOR TALKING-MACHINES. LUMEN GRIFFITH, Hudson, Mich. Filed Mar. 2, 1910. Serial No. 546,831.



1. The combination of a sound box, a diaphragm mounted thereon, a spider secured to the sound box and located at the side of the diaphragm opposite from the sound box, said spider having an opening arranged in line with the center of the diaphragm, a member having one end operatively related to the diaphragm, a tubular coupler extending through the opening of the spider and spaced from the edges of said opening, one end of the member extending into the coupler, means for securing the coupler and member together, a needle secured in the other end of the coupler, a bracket on the spider, members loosely mounted on the bracket and connected with the coupler, and springs on the last-mentioned members for yieldingly mounting the coupler.

2. The combination of a sound box, a diaphragm mounted thereon, a spider secured to the sound box and located at the side of the diaphragm opposite from the sound box, said spider having an opening arranged in line with the center of the diaphragm, a member having one end operatively related to the diaphragm, a tubular coupler extending through the opening of the spider and spaced from the edges of said opening, one end of the member extending into the coupler, means for securing the coupler and member together, a needle secured in the other end of the coupler, a bracket on the spider having spaced elongated openings, screws extending through the openings engaged with the coupler, and springs surrounding the screws and having their ends bearing on the heads of the latter and on the bracket.

971,443. FLOOR-DRESSING MACHINE. GEORGE F. HALL, Providence, R. I. Filed Apr. 27, 1908. Serial No. 429,576.



1. In a floor-dressing machine, the combination of a rigid frame supported from and in rolling contact with the floor, a horizontally revoluble dressing tool mounted on the frame and forming one of said supports when said machine is in operative contact with the floor, a motor mounted on the rigid frame, means of energizing the motor, means of revolving the dressing tool from the motor, a vertically oscillating frame pivotally connected with the rigid frame and having means adapted to contact with the floor forward of the pivotal connection between said frames, a handle on said oscillating frame adapted for propelling the machine along the floor surface and by its weight to lift the forward end of the rigid frame and with it the revolving tool from contact with the floor surface.

2. In a floor-dressing machine, the combination of two pivotally connected vertically oscillating frames adapted to assume varying angular relations with each other, adjustable means on one of the frames adapted to contact with the other of the frames to limit the angular relations of the frames to a predetermined degree, when the machine is operating.

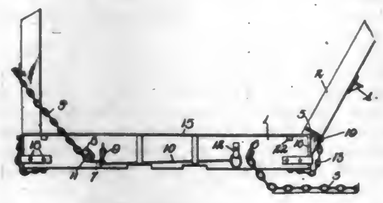
3. In a floor-dressing machine, the combination of two pivotally connected vertically oscillating frames adapted to assume varying angular relations with each other, adjustable means on one of the frames adapted to contact with the other of the frames to limit the angular relations of the frames to a predetermined degree, and adjustable means mounted and adapted to vary at will the location of the pivotal connection between the frames.

4. In a floor-dressing machine, the combination of two pivotally connected vertically oscillating frames adapted to assume varying angular relations with each other, adjustable means on one of the frames adapted to contact with the other of the frames to limit the angular relations of the frames to a predetermined degree, adjustable means mounted and adapted to vary at will the location of the pivotal connection between the frames and both of said frames so adapted that a part of the weight of each is supported from the floor at the pivotal connection of said frames and the balance of the weight of one frame is supported from the floor by a revolving dressing tool mounted in bearings in said frame and the balance of the weight of the other frame is supported from the floor by a wheel mounted on said frame and in rolling contact with the floor when said machine is operating.

5. In a floor-dressing machine, the combination of a pivoted frame supported in stable equilibrium from and in operative position on the floor on three points of bearing, rotatable wheels forming two of these points and a revoluble dressing tool mounted in bearings in said frame forming the third point, another frame pivotally connected with the first named frame, a handle mounted on said second named frame and adapted for propelling the machine along the floor surface, means of contact between the two frames at other than the pivotal connection of the frames and all the component parts so assembled that the machine is in equilibrium on its supports when there is no contact between the frames, except at their pivotal connection, and so that the dressing tool is raised from the floor by the gravity of the weight of the second named frame and the parts mounted thereon or forming a part thereof when the frames are in contact at other than the pivotal connection between the frames.

[Claims 6 to 21 not printed in the Gazette.]

971,444. LOGGING-CAR. WILLIAM T. HARDING, Raleigh, N. C. Filed Mar. 1, 1910. Serial No. 546,655.



1. In a logging car the combination of a beam provided with a slot; straps passing along said beam at each side of said slot and down across the end of said beam; an additional strap crossing said first mentioned straps and said slot; a standard resting on said beam, fitting said slot and adapted to be entirely lifted therefrom, and means extending from said standard to said beam crossing the angle between the same, adapted to receive a part of the weight of the logs and to jam said standard against said beam, substantially as described.

2. In a logging car the combination of a beam provided with a slot; a strap passing over the top of said beam and over the end of the same; an additional strap crossing said first mentioned strap and said slot; a standard resting in said slot and adapted to be entirely lifted therefrom; means loosely attaching one end of said standard to said beam; and means crossing the angle between the standard and beam, adapted to receive a part of the weight of the logs carried by said car and to cause said standard to jam firmly against said beam, substantially as described.

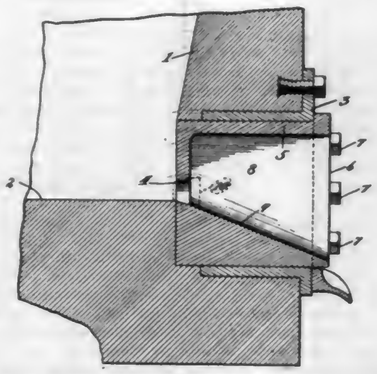
3. In a logging car the combination of a beam provided with slots; straps passing along said beam at each side of said slots and down across the ends of said beam; additional straps crossing said first mentioned straps and said slots below the center of said beam; standards resting on said beam, fitting said slots, adapted to be entirely lifted therefrom; chains extending from each of said standards to said beam, crossing the angle between the standards and the beam, adapted to receive a part of the weight of the logs and to jam said standards against said beam; and means for readily releasing one end of one of said chains and permitting one of said standards to fall away from said beam, substantially as described.

4. In a logging car the combination of a beam provided with a slot; straps passing over the ends of said beam at each side of said slot; additional straps crossing said first mentioned straps and slots below the center of the beam; tie pieces 22 securing said first mentioned straps

together at the base of said slot; standards resting on said first mentioned straps and fitting said slots, said standards adapted to be entirely lifted from said slots; chains attaching said standards to said beam; chains 3 extending from said standard to said beam at each end, crossing the angle between the standards and the beam and adapted to receive a part of the weight of the logs and thereby jam said standards against said beam; a latch hook 7 adapted to secure the end of one of said chains 3; a link 9 adapted to hold the end of said latch; and means for readily moving said link, substantially as described.

5. In a logging car, the combination of a beam provided with a slot; straps passing along said beam at each side of said slot and down across the end of said beam; an additional strap crossing said first mentioned straps and said slot below the center of the latter; a third strap 22 to which said first mentioned straps are secured and disposed transversely of said beam at the base of said slot; a standard provided with a reduced end cut away at 20 resting on said beam and in said slot and adapted to be entirely lifted therefrom; a chain 13 loosely securing said standard to said beam; a bracket 4 carried by said standard; a chain 3 secured to one end of said beam passing over said bracket 4; a casting 8 provided with a hook 7 secured to said beam and adapted to receive the other end of said chain 3; a link 9 secured to said beam and adapted to control the end of said hook 7 a rod 10 for operating said link and a keeper for said rod, substantially as described.

971,445. TAPPING ELEMENT FOR MELTING-FURNACES. HERMAN L. HARTENSTEIN, Constantine, Mich., assignor, by mesne assignments, to Continental Investment Company, Duluth, Minn., a Corporation of Minnesota. Filed Nov. 19, 1906. Serial No. 343,988.



1. In a tapping device for furnaces, a chambered member having a downwardly flaring chamber and adapted to extend through the side of a furnace and having the inner end of the chamber closed by an orificed wall, the orifice being of relatively small diameter as compared with said wall and being located next the lower wall of said chamber, said chamber being of less lateral than vertical diameter.

2. In a tapping device for furnaces, a chambered member adapted to extend through the side of a furnace and having the inner end of the chamber closed by an orificed wall, the orifice being of relatively small diameter as compared with said wall and being located next the lower wall of the chamber, said chamber being of less lateral than vertical diameter and having its lower side sloping downward and outward.

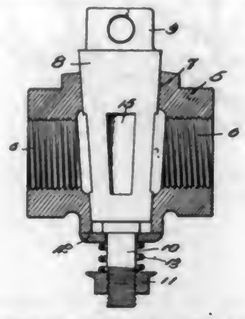
3. In a tapping device for furnaces, a chambered member adapted to extend through the side of a furnace and having the inner end of the chamber closed by an orificed wall, the orifice being of relatively small diameter as compared with said wall and being located next the lower wall of the chamber, said chamber being of less lateral than vertical diameter, having its lower side sloping downward and outward and also having its lateral sides flaring outward.

4. In a tapping device for furnaces, a member adapted to extend through the side of a furnace, said member being provided with an internal chamber extending to a point short of the inner end of said member, said inner end being provided with a relatively small tapping orifice located next the lower wall of said chamber and said chamber being of greater height than width and having its lower side sloping downward and outward.

5. In a tapping device for furnaces, a member adapted to extend through the side of a furnace, said member being provided with an internal chamber extending to a point short of the inner end of said member, said inner end being provided with a relatively small tapping orifice located next the lower wall of said chamber and said chamber being of greater height than width and having its lower side sloping downward and outward, and also having its lateral sides flaring outward.

[Claims 6 to 9 not printed in the Gazette.]

971,446. STOP-VALVE. CHARLES O. HAWKINS, Chesterhill, Ohio. Filed July 27, 1909. Serial No. 509,758.



1. A stop valve comprising a casing having a liquid passage and a tapering bore, and a plug seated in the bore and having a transverse aperture, said plug being provided with recesses in the walls thereof intermediate the terminals of the aperture, and said recesses being obstructed by a solid portion of the valve casing when the plug is open.

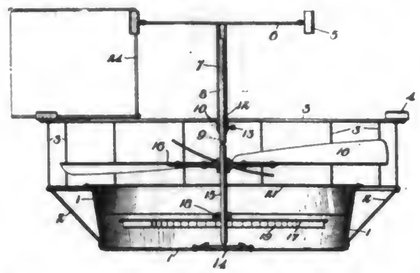
2. A solid valve casing having a liquid passage intersected by a tapering bore, and a core or plug seated upon the bore and having a transverse aperture, said core being provided with recesses formed in the walls thereof in diametrically opposite relation intermediate the ends of the aperture.

3. A stop valve comprising a solid casing having a liquid passage intersected by a tapering bore, and a core or plug seated upon the bore and having a transverse aperture, said core being provided with recesses formed in the walls thereof in diametrically opposite relation intermediate the ends of the aperture, and said core being also provided with a stem projecting through the casing and having a nut threaded thereon; and a spring interposed between the nut and the casing.

971,447. PHOTOGRAPHIC APPARATUS. HANS C. HUTTERALLE and CHRISTIAN MOELER, Boise, Idaho. Filed Feb. 21, 1910. Serial No. 545,154.

1. The combination of a revoluble fan, means for revolving same comprising a motor directly connected with the shaft of said fan, a fluid injecting nozzle directed against said motor, and means for supporting the photographic productions to be treated directly above said fan and in planes substantially at right angles to the plane of revolution of said fan, substantially as described.

2. The combination of a vessel, a vertically disposed spindle located in said vessel, an impact disk disposed in said vessel and supported by said spindle, a water injecting nozzle discharging against said impact disk, a fan carried by said spindle, and means for supporting the photographic productions to be treated substantially edgewise with relation to said fan, substantially as described.



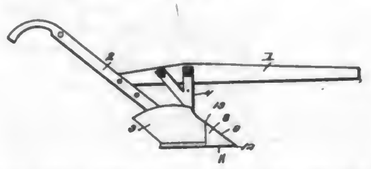
3. The combination of a revoluble fan and means for revolving same, a support provided with a plurality of holding clips, a second support provided with a plurality of holding clips, both sets of said clips being arranged radially with reference to said fan, one set being arranged in a horizontal direction and the other in a vertical direction adjacent said fan whereby said clips receive and hold the photographic productions to be treated edgewise in substantially parallel planes in a position to allow of the direct passage therebetween of the air current generated by said fan, substantially as described.

4. The combination of an open cylindrical support forming also a guard, a rotatably mounted spindle provided with a fan revoluble within said guard, a bar extending across said guard, a sleeve centrally of said bar provided with a set screw, a rod slidable in said sleeve and forming the upper bearing for said spindle, a hollow shaft encircling the upper end of said rod and resting on said sleeve, a second support surmounting said sleeve, vertically disposed clips arranged radially of said second support, horizontally disposed clips arranged radially of said first support or guard, and means for rotating said fan, substantially as described.

5. The combination of an open cylindrical support forming also a guard, a rotatably mounted spindle provided with a fan revoluble within said guard, a bar extending across said guard, a sleeve centrally of said bar provided with a set screw, a rod slidable in said sleeve and forming the upper bearing for said spindle, a hollow shaft encircling the upper end of said rod and resting on said sleeve, a second support surmounting said sleeve, vertically disposed clips arranged radially of said second support, horizontally disposed clips arranged radially of said first support or guard, and means for rotating said fan comprising a motor provided with impact vanes on its underneath face and injection nozzles directed against said impact blades or vanes, substantially as described.

[Claim 6 not printed in the Gazette.]

971,448. PLOW. RANDOLPH MEREDITH KEMP, Durham Ox, near Pyramid Hill, Victoria, Australia. Filed Sept. 29, 1908. Serial No. 455,379.

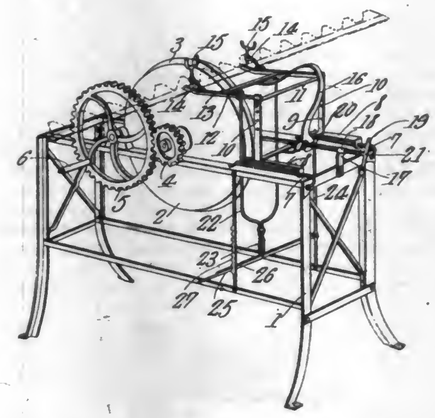


1. In a plow, a share approximately the form of a wedge shaped triangle, the hypotenuse forming a furrow edge 9, one side and back edge 10, and the other side an edge 11, the share being provided with two sockets disposed at right angles to each other, to render the share reversible.

2. In a plow, a share having a share point 12, a wing point 13, an edge 10, and an edge 11, said share having sockets adjacent to the edges 10 and 11 and disposed at right angles to each other, each socket having undercut side walls.

3. In a plow, a share of triangular wedge shape, the hypotenuse forming a furrow edge 9, one side and back edge 10 and the other side an edge 11, the share being provided with sockets adjacent to the edges 10 and 11 and extending in a direction parallel with the sides of the triangle, the side walls of the sockets converging toward the wing and share points, and a bracket having an angular extension to engage either of the sockets, to render the share reversible.

971,449. SICKLE-GRINDER. JOHN P. KINE, Walsenburg, Colo. Filed July 5, 1910. Serial No. 570,412.



1. A grinder comprising a frame, an abrading member mounted for rotation thereon, guides mounted upon the frame, a yoke slidably mounted upon the guides, arms pivotally connected to the yoke, clamping devices carried by the arms, means for resiliently holding the arms in an uppermost position, means for moving the yoke along the guides and holding the same in an adjusted position and means for holding the arms in a depressed position against the tension of the said resilient means for holding them in an uppermost position.

2. A grinder comprising a frame, an abrading member journaled upon the frame for rotation, guides located upon the frame, strips slidably mounted upon the guides, a yoke supported upon the strips, arms pivotally connected with the yoke, clamping devices carried by the arms, means for resiliently holding the arms in an uppermost position, means connected with the frame and the yoke for moving the yoke along the guides and holding the same in an adjusted position and means for resiliently holding the arms in a depressed position against the tension of the said means for resiliently holding the arms in an uppermost position.

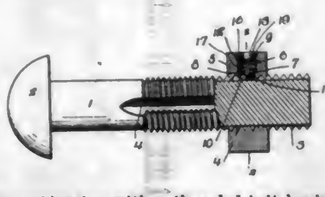
3. A grinder comprising a frame, an abrading member journaled upon the frame, guides mounted upon the frame, strips slidably mounted upon the guides, a yoke fixed to the strip, arms pivotally connected to the yoke, clamping members carried by the arms, means for resiliently holding the arms in an uppermost position, means for moving the yoke along the guides and holding the same in an adjustable position, a ball connected with the arms, a spring connected with the ball, a lever fulcrumed upon the frame and connected with the said spring and means for holding the said lever in an adjusted position.

971,450. TANK-CLOSURE. BRUTUS A. LAKE, Bigprairie, Ohio. Filed Apr. 14, 1910. Serial No. 555,361.



In a tank of the character described, a series of threads arranged around the upper edge thereof, a reinforcing ring arranged within and engaging the upper edge of the tank said ring having on its lower edge an inwardly projecting strengthening bead, an annular outwardly projecting flange formed on the upper end of said ring and adapted to engage the upper edge of the tank, a cover having an interiorly threaded recess or groove formed on its lower inner edge and adapted to be screwed into engagement with the threaded upper edge of the tank, said groove or recess forming an annular shoulder adapted to fit against the flange on the upper end of said reinforcing ring, said ring having a width sufficient to project forwardly in the tank a slight distance below the lower edge of the cover.

971,451. NUT-LOCK. AUDRECIE LE BLANC, Centerville, La. Filed Jan. 11, 1910. Serial No. 537,479.

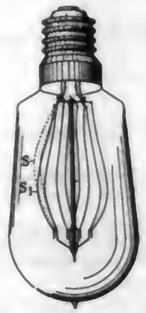


1. In combination with a threaded bolt having longitudinal bores, of a nut for the bolt, said nut being provided with a bore having a reduced annular offset portion, said offset being provided with a reduced cut away portion, a spring pressed locking dog normally resting upon the offset shoulder, said dog having its lower portion of a size corresponding with the opening of the offset of the bore and being further provided with a bit corresponding with the reduced opening of the offset, and means for rotating the locking dog to bring its bit and lower body portion into alinement with the openings provided by the bore.

2. In combination with a threaded bolt provided with longitudinally extending slots, of a nut for the bolt, said nut being provided with a bore communicating with the threads of the bolt, said bore having its lower portion provided with an offset, a cut away portion within the offset, a locking dog within the bore, said locking dog having a lower enlarged portion provided with a bit, a T-shaped head upon the dog, a collar for the bore, and a spring between the collar and the enlarged portion of the locking dog, and means for rotating the locking dog, substantially as and for the purpose set forth.

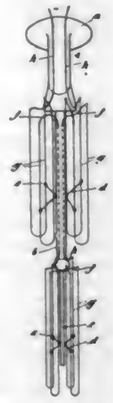
971,452. METALLIC INCANDESCENT FILAMENT. ANTON LEDERER, Atzgersdorf, near Vienna, Austria-Hungary, assignor to Westinghouse Lamp Company, Bloomfield, N. J., a Corporation of Pennsylvania. Filed Aug. 25, 1906. Serial No. 332,077.

1. In an incandescent electric lamp, a central support, a metallic filament having loop shaped members arranged cylindrically about the support, supports for the ends of the loop-shaped members, anchors engaging the bent portions of the members, the said members being bowed between the supporting ends and the anchors whereby the bent portions are resiliently pressed against their respective anchors.



2. In an incandescent electric lamp having metallic filaments, a central support about which the filaments are cylindrically arranged, the filaments being of loop shape, leading-in wires to which the terminals of the filaments are secured, anchors engaging the looped portions of the filaments, the said filaments being bowed between the supporting ends and the anchors whereby the loops are resiliently pressed against their respective anchors.

971,453. INCANDESCENT ELECTRIC LAMP. ANTON LEDERER, Atzgersdorf, near Vienna, Austria-Hungary, assignor to Westinghouse Lamp Company, Bloomfield, N. J., a Corporation of Pennsylvania. Filed Aug. 30, 1906. Serial No. 332,721.



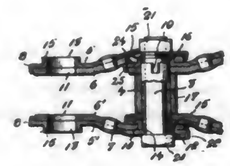
1. In an electric lamp, a filament support, a light-giving portion surrounding said support and arranged in lines substantially parallel to its axis, an extension for said support, and a second light-giving portion similarly arranged and surrounding the said extension.

2. In an electric lamp two light-giving portions each arranged in the form of a hollow cylinder, the lines of the filament forming such cylinder being substantially parallel with its axis.

3. In an electric lamp a filament support surrounded by the light-giving portion arranged to form luminous lines substantially parallel with its axis, a second support coaxial with the former and similarly surrounded by a second light-giving portion also arranged to form luminous lines substantially parallel with its axis.

4. In an incandescent electric lamp, the combination of a central supporting stem, a series of incandescent filaments of U-shape form, supports for said filaments at or near one end of the central support, a second series of filaments arranged around an extension of said support in a similar manner, and supports for the second set of filaments located beyond the looped portions of the first series of filaments.

971,454. POWER-CHAIN. CHRISTOPHER W. LEVALLEY, Milwaukee, Wis. Filed Nov. 19, 1908. Serial No. 463,435.



1. A power chain formed of pintle-connected links, the side bars of which are of composite construction being formed of sheet metal pieces united together, and the side bars of the links having at the joints interlocking projections concentric with the axes of articulation.

2. A power chain formed of pintle-connected links, the side bars of which are each formed of two pieces of metal united, the pieces being of different thicknesses and formed with projections adapted to interlock with the side bars of other links at the joints of the chain when the links are united.

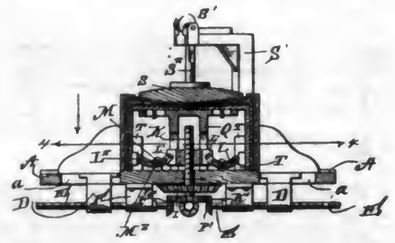
3. A power chain formed of pintle-connected links, the side bars of which are each formed of two pieces of shaped metal united to each other, the said pieces being of different thicknesses and the thinner pieces being formed with hubs surrounding the pintle openings therein and arranged to constitute interlocking connections between united links.

4. A power chain formed of pintle-connected links, the side bars of which are each formed of two pieces of shaped sheet metal united together, the two said pieces being of different thicknesses and each link having a tubular end bar uniting the side bars and seated in the thicker pieces of the side bars.

5. A power chain formed of pintle-connected links, the side bars of which are each formed of two pieces of sheet metal cut to shape and united, and the end bars of which are separate from the side bars but seated in one pair of opposite pieces, the other pair of opposite pieces being formed with projections adapted to constitute interlocking connections at the joints of the chain.

[Claims 6 to 13 not printed in the Gazette.]

971,455. APPARATUS FOR MAKING BOXES. LORENZO D. LEWIS, Adams, N. Y., assignor of one-third to George B. Kellogg and one-third to Charles S. Kellogg, Adams, N. Y. Filed Dec. 26, 1908, Serial No. 469,323. Renewed May 26, 1910. Serial No. 563,660.



1. A box forming machine, comprising two series of expanding and contracting segments, means for moving each series simultaneously in opposite directions to clamp and hold the rim of a box cover, and mechanism for clamping and holding disks against the opposite sides of the flange of said rim, as set forth.

2. A box making apparatus, comprising a table, two series of expanding and contracting clamping segments, means for operating the same simultaneously in opposite directions, a follower mounted upon said table and adapted to clamp and hold disks against the rim of a box held by clamping members, as set forth.

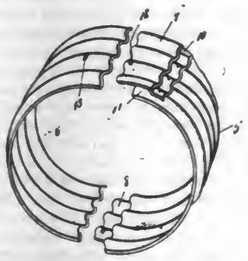
3. A box making apparatus, comprising a table, two series of concaved clamping segments mounted thereon, the outer series of said plates having inturned flanges, one about the upper end of each segment, means for moving said series of segment clamps simultaneously in opposite directions and adapted to clamp and hold the rim of a box cover, and a follower adapted to clamp and hold disks against the opposite sides of the inturned portions of the rim of a box cover, as set forth.

4. A box forming apparatus, comprising a table having slots therein, an inner and an outer series of segmental clamping plates, said outer series of plates having each a projection extending through a slot in the table, screws passing through threaded apertures in said projections, gear mechanism for operating said screws simultaneously, means actuated by said gear mechanism for moving the inner series of expanding segments simultaneously with the movements of the outer series in opposite directions, and means for clamping and holding disks against the flanges of the rims which latter are adapted to be clamped by said segments, as set forth.

5. A box forming apparatus, comprising a table having slots therein, an inner and an outer series of segmental clamping plates, said outer series of plates having each a projection extending through a slot in the table, screws passing through threaded apertures in said projections, a vertically mounted screw passing through said table, gear connections between said screws, a nut mounted upon said vertically disposed screw, pivotal link connections between the same and the inner series of expanding segments, a follower mounted above said expanding segments, and means for operating said follower, as set forth.

[Claims 6 to 9 not printed in the Gazette.]

971,456. ROAD-CULVERT. WILLIAM F. LOOKER, Portland, Oreg. Filed Apr. 8, 1910. Serial No. 554,219.



1. In a nestable culvert, an oblong section, oblong strips arranged longitudinally of the outer surface of the said section and having portions offset and spaced from the section, and further provided with transverse openings, and a second section having its opposite sides insertible into the space between the said strips and first-named section and provided with teeth to enter the openings of the said strips.

2. In a nestable culvert, an oblong semi-cylindrical section, a pair of oblong strips secured adjacent to the opposite sides of said section, and having offset portions spaced from the outer face thereof, and a second-named semi-cylindrical section having its opposite side portion insertible into the space between the offset portions of said strips and first-named section, and means for automatically locking the two sections together.

3. In a nestable culvert, a cylindrical pipe formed of two sections, one of which has a recess along one of the longitudinal edges thereof, and means for automatically locking one of the longitudinal edges of the opposite section thereto.

4. A nestable culvert comprising a pair of sections one of which has a marginal socket to receive an adjacent edge portion of the other section, and coöperating device arranged on both sections serving to automatically lock the sections when the same are brought together.

971,457. PROCESS FOR REDUCING FIBER-YIELDING MATERIALS. GEORGE H. MARSHALL, Roanoke Rapids, N. C. Filed June 10, 1909. Serial No. 501,380.

1. The herein described process of treating fiber yielding materials which consists in introducing the materials in a digester together with an alkaline neutralizing agent and a minimum amount of water or moisture, which amount is sufficient to thoroughly saturate the materials and agent, then subjecting the contents of the digester to a mild steam pressure while rotating the digester, then exhausting air and gases from the digester, then gradually increasing the steam pressure within the digester while the materials are being rotated, then suddenly reducing the pressure in the digester and blowing off the materials from the latter, then removing the fibrous materials from the digester and removing the moisture from such materials.

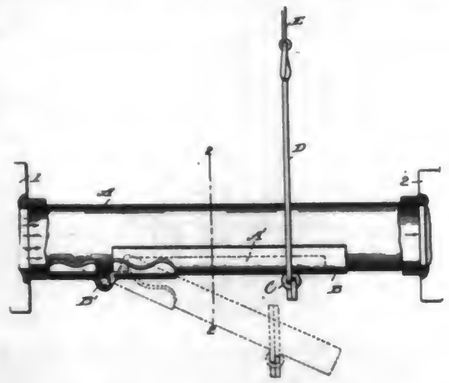
2. The herein described process of treating fiber yielding materials which consists in introducing the materials in a digester, together with an alkaline solution, then subjecting the materials to a mild steam pressure while rotating them, then exhausting the air and gases from the digester, then gradually increasing the steam pressure within the digester while the materials are being rotated, then suddenly reducing the pressure and blowing off the liquids from the digester, then removing the fibrous materials from the digester, and then successively washing the fibrous materials and squeezing the moisture therefrom.

3. The herein described process of treating fiber yielding materials which consists in introducing the materials in a digester, together with an alkaline solution, then subjecting the materials to a mild steam pressure while rotating them, then exhausting the air and gases from the digester, then gradually increasing the steam pressure within the digester while the materials are being rotated, then suddenly reducing the pressure and blowing off the liquids from the digester, then removing the fibrous materials from the digester, then spraying the fibrous materials with water and squeezing them to remove the moisture, then subjecting the fibrous materials to a second squeezing action, and then drying the fibrous materials.

4. The herein described process of treating fiber yielding materials, which consists in introducing the materials in a digester, together with an alkaline solution, then subjecting the materials to a mild steam pressure while rotating them, then exhausting the air and gases from the digester, then gradually increasing the steam pressure within the digester while the materials are being rotated, then suddenly reducing the pressure and blowing off the liquids from the digester, then removing the fibrous materials from the digester, then spraying the fibrous materials with water and squeezing them to remove the moisture, then subjecting the fibrous materials to a second squeezing action, then drying the fibrous material and finally packing the latter for shipment.

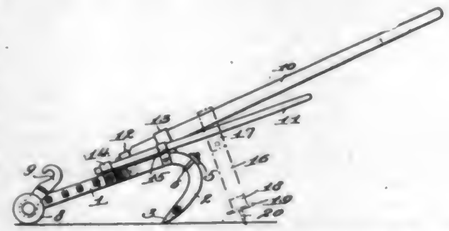
971,458. MUFFLER CUT-OUT FOR AUTOMOBILES. HARRY MCCLEARY, Washington, D. C., assignor of one-half to James Bendion, Washington, D. C. Filed Mar. 8, 1910. Serial No. 548,097.

A muffler cut-out comprising in combination with a pipe having an opening in its bottom elongated in the direction of length of the pipe, a gate curved in cross section to conform to the contour of the pipe and adapted to fit over the opening in the pipe and to extend laterally and longitudinally beyond the same, a hinge connecting one end of the gate with the pipe, an eye on the pipe near its swinging end, and a link passed through said eye and extending



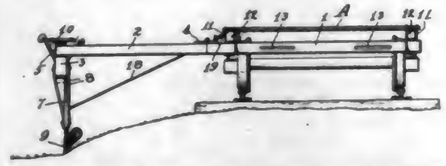
above the pipe and adapted to rest upon the pipe and limit the opening movement of the gate, all substantially as and for the purposes set forth.

971,459. ROOT-PULLER. GEORGE T. MCGEHEE, San Marcos, Tex. Filed Apr. 30, 1910. Serial No. 558,602.



In a root pulling implement, the combination of a plurality of connected grubbers arranged side by side; a single beam connected to one of said grubbers; a fulcrum post carried by said beam rearwardly of said grubbers and provided at its upper end with a strap detachably connected to said beam, and at its lower end with a spiked cap; a roller support comprising an axle passed through the front end of the grubbers, and a pair of rollers mounted on said axle; and a hook pivoted to said axle.

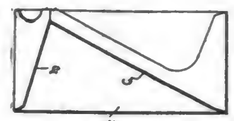
971,460. MARKING AND TRIMMING DEVICE. RASMUS J. MELAND and THEODORE O. MOE, Lodi, Wis. Filed Apr. 5, 1910. Serial No. 553,543.



1. A device of the character described, an attaching bar, an extension bar hingedly connected therewith, and a plow-carrying beam hingedly connected with the extension bar to swing in a plane approximately at right angles to the plane of movement of the extension bar.

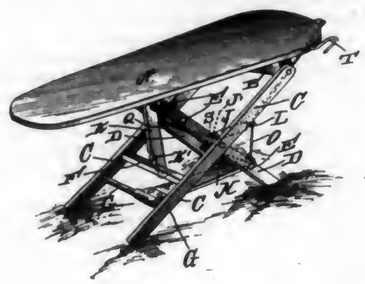
2. In a device of the character described, an attaching bar, an extension bar hingedly connected therewith, a plow-carrying beam hingedly connected with the extension bar to swing in a plane approximately at right angles to the movement of the latter, said plow-carrying beam being beveled at its front end, and means for connecting the device with a hand car.

971,461. SAFETY-ENVELOP. ADAM MIEDEN, Los Angeles, Cal. Filed Mar. 2, 1910. Serial No. 546,835.



An envelop having a rectangular body portion, a side flap formed with an extension designed to lap over said body portion, a flap at each end designed to lap over and be pasted to said side flap, one of said end flaps being formed with an extension glued to the extension of said side flap, the other flap being formed with a retaining member extending from one corner diagonally to the opposite corner on the back of said side flap and glued thereto, said member being formed with an extension pasted to the extension on said side member and extending adjacent the extension on the opposite end member, whereby when a stamp is affixed to the face of said body portion and to the extensions on said end members all of the parts of the envelop will be secured together at one point.

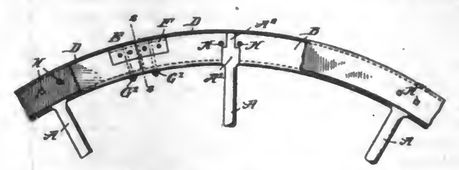
971,462. IRONING-TABLE. JAMES W. MILLS, Barbourville, Ky., assignor to Daniel W. Clark, Barbourville, Ky. Filed Dec. 28, 1909. Serial No. 535,232.



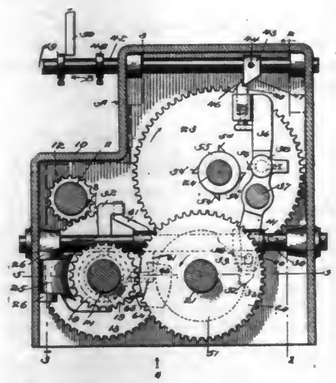
An ironing table comprising legs arranged in pairs, a round upon which the latter are pivotally mounted at their points of intersection, a tread member pivotally mounted upon a round intermediate two of the legs, an ironing board, a cleat fastened to the under surface thereof and pivoted to the ends of one pair of said legs, the free end of the board adapted to rest upon the ends of the other pair of legs, a link pivotally mounted upon said round and having an eye at its end, an eye at the pivotal end of the board, a rope fastened to said tread member and passing loosely through the eye upon said link and engaging the eye at the end of the board, and means for regulating the height of the board.

971,463. WHEEL. RICHARD D. MOON, San Angelo, Tex. Filed Oct. 20, 1909. Serial No. 523,570.

The combination of a spoke having a head at its outer end, and a tenon and provided at the juncture of the tenon and head with shoulders, felly sections having their ends notched to conform to the shouldered end of the spoke and having said ends abutting partly against the head and partly against the tenon of the spoke and a channeled tire fitting over the joint between the felly sections and the head and extending inwardly to a point beyond the shoulders between the head and tenon whereby said shouldered joints between the felly sections and the spoke will be inclosed within and protected by the channeled tire, substantially as set forth.



971,464. INDEXING DEVICE. BYRON F. MORRILL, Nashua, N. H. Filed Jan. 16, 1908. Serial No. 411,186.



1. In an indexing device, a driven shaft, a driving shaft, means for intergearing the shafts, a clutch interposed in the intergearing, a longitudinally movable member to throw the clutch into engagement and carrying means adapted when moved rotatably to throw the clutch out of engagement, means actuated from the driven shaft and arranged to move rotatably the means carried by the longitudinally movable member, and means arranged to actuate the longitudinally movable member.

2. In an indexing device, the combination with a movable part, of a driven shaft, a driving shaft, means for intergearing the shafts, a clutch interposed in the intergearing, a yoke adapted to operate the clutch, an angularly movable arm, a longitudinally movable member provided with a lug arranged to engage the yoke when moved longitudinally to throw the clutch into engagement said arm tending to throw the clutch out of engagement, when moved angularly, means operated from the driven shaft and arranged to move the said arm angularly, and means actuated from the movable part to impart longitudinal movement to the member.

3. In an indexing device, the combination with a movable part, of a driven shaft, a driving shaft, means intergearing with the shafts, a locking means interposed in the gearing, a plunger rod adapted when moved longitudinally to throw the locking means into engagement, carrying means adapted when moved rotatably to throw the locking means out of engagement, means actuated from the driven shaft and adapted to move rotatably the means carried by the plunger rod, and means actuated from the movable part to move the plunger rod longitudinally.

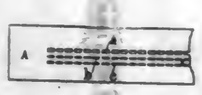
4. In an indexing device, a driven shaft, a driving shaft, means intergearing the shafts, a clutch interposed in the

intergearing, a plunger rod adapted when moved longitudinally to throw the clutch into engagement and carrying means adapted when moved rotatably to throw the clutch out of engagement, means actuated from the driven shaft adapted to move rotatably the means carried by the plunger rod and means actuated from the moving part adapted to move the plunger rod longitudinally.

5. In an indexing device, the combination with a moving part, of a driven shaft, a driving shaft, means intergearing the shafts, a clutch interposed in the intergearing, a yoke adapted to operate the clutch, a plunger rod provided with a lug adapted to engage the yoke when moved longitudinally to throw the clutch into engagement and with an arm adapted when moved angularly to throw the clutch out of engagement, means operated from the driven shaft adapted to move the plunger rod carried arm angularly, and means actuated from the moving part to move the plunger rod longitudinally.

[Claims 6 to 14 not printed in the Gazette.]

971,465. TRACKER FOR AUTOMATIC MUSICAL INSTRUMENTS OR ORCHESTRIONS. ALPHONSE LAURENT MUSTEL, Paris, France, assignor to Société Mustel et Cie., Paris, France, a Corporation of France. Original application filed Nov. 4, 1907, Serial No. 400,681. Divided and this application filed Dec. 17, 1908. Serial No. 468,087.



1. A tracker bar having a plurality of sets of apertures in its working face alined transversely of the tracker, independent sets of pneumatics communicating therewith respectively, each set of apertures occupying a different extent transversely of the bar, substantially as described.

2. A tracker bar having a plurality of sets of passages corresponding sets of sound operating pneumatics communicating therewith respectively, corresponding sets of apertures in the working face of said tracker opening into said passages, said apertures being alined in the direction of the travel of the music sheet transversely of said bar and occupying a different extent transversely of the bar, substantially as and for the purpose described.

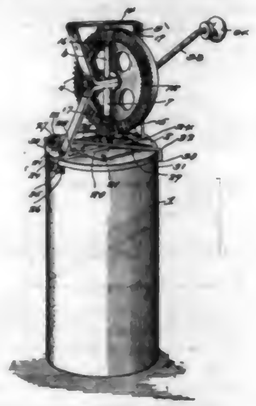
3. A tracker bar having a plurality of sets of apertures in its working face alined transversely of the tracker, independent sets of pneumatics communicating therewith respectively, each set of apertures occupying a different extent transversely of the bar, in combination with a music sheet provided with a plurality of sets of perforations of different length, the perforations of one set serving to operatively open but a single set of apertures in the tracker, substantially as described.

4. A tracker bar having a plurality of sets of apertures in its working face alined transversely of the tracker and communicating with independent sets of pneumatics, each set of apertures occupying a different extent transversely of the bar, in combination with a music sheet provided with a plurality of sets of perforations of different length, the perforations of each set serving to operatively open a different set of apertures in the tracker, substantially as described.

5. A tracker provided in its working face with a plurality of sets of apertures opening to independent sets of pneumatics for operating different sound producing instruments, one set of apertures extending a greater distance transversely of the tracker than the other, in combination with a perforated music sheet provided with two sets of perforations, one comprising separate perforations of constant area and the other comprising perforations of less width and greater length, each set serving to operatively open but a single set of apertures.

[Claim 6 not printed in the Gazette.]

971,466. CHURN. JAMES NATHAN NALL, Hornbeck, La. Filed Aug. 6, 1910. Serial No. 575,953.



1. In a churn, a churn body or receptacle, a cover therefor, telescopically arranged centrally disposed shafts penetrating the cover and provided with churning elements, a rectangular casting secured to the cover, a crank shaft provided with a beveled spur gear mounted in a bearing of the casting, said casting having inwardly turned ends arranged adjacent one another forming bearings for the telescopically arranged shafts and the extremity of the crank shaft, and beveled pinions carried by the telescopically arranged shafts to mesh with the beveled spur gear, whereby motion may be imparted to the churning elements.

2. In a driving mechanism for a churning element, the combination of a pair of telescopically arranged shafts, and a crank shaft, of a rectangular frame or casting having inwardly turned adjacent ends forming bearings for the telescopically arranged shaft and the crank shaft.

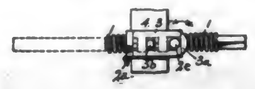
3. In a driving mechanism for a churning element, the combination of a pair of telescopically arranged shafts, and a crank shaft, of a rectangular frame or casting having inwardly turned adjacent ends forming bearings for the telescopically arranged shaft and the crank shaft, a beveled spur gear carried by the crank shaft, and beveled pinions carried by the telescopically arranged shafts to mesh with the spur gear whereby motion may be imparted to the telescopically arranged shafts.

4. In a driving mechanism for a churning element, the combination of a churn's cover and telescopically arranged shafts penetrating the cover, of a rectangular casting having inwardly turned adjacent ends forming bearings for the shafts, means for preventing downward displacement of one of the shafts, and mechanism for rotating the telescopically arranged shafts.

5. In a driving mechanism for a churning element, the combination of a churn's cover and telescopically arranged shafts penetrating the cover, of a rectangular casting having inwardly turned adjacent ends forming bearings for the shafts, means for preventing downward displacement of one of the shafts, a crank shaft mounted in said casting having its extremity mounted in a thrust bearing of the inwardly turned ends and provided with a beveled spur gear, and beveled pinions carried by the telescopically arranged shafts, whereby motion may be imparted to them through the medium of the spur gear.

971,467. MINING-DRILL THREAD-BOX AND SUPPORT. GEORGE W. NIXON, Chattanooga, Tenn., assignor to Nixon Mining Drill Co., Incorporated, Chattanooga, Tenn. Filed Apr. 26, 1909. Serial No. 492,246.

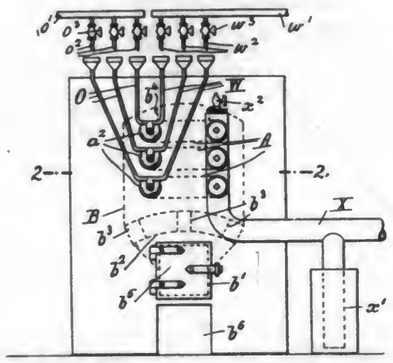
1. In combination with a screw bar of a drill, of a thread box having trunnions at one end, a slotted support having closed trunnion bearings to receive said trunnions and permit rotation of the thread box on its trunnion axis through an arc of 360° and to permit said thread box to be used in any position.



2. In combination with a screw bar of a drill, of a thread box having trunnions at one end, a slotted support having trunnion bearings to receive said trunnions and permit rotation of said thread box through an arc of 360°, the greatest width of said thread box exclusive of said trunnions being less than the width of the slot in said slotted support to permit said thread box to be swung through said slotted support, substantially as shown and for the purposes described.

3. In combination with a longitudinally slotted support, a clip embracing said support and secured thereto, said clip having a pair of closed trunnion bearings at one side of the support, a thread box having trunnions at one end mounted in said trunnion bearings, said thread box exclusive of said trunnions having its greatest width less than the width of the slot of said support, in virtue of which said thread box may be swung on its trunnions through an arc of 360°, and means for rotatably mounting said longitudinally slotted support.

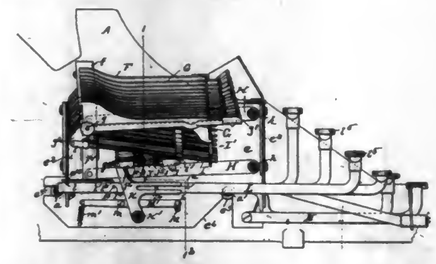
971,468. TREATMENT OF HYDROCARBON OILS AND THE LIKE. JAMES NOAD, East Ham, England, assignor of one-half to Edward Joseph Townsend, London, England. Filed July 11, 1908. Serial No. 443,092.



The process of converting mineral oil into petroleum spirit, consisting in introducing the oil in liquid form and water in liquid form in contiguous relation into a retort, decomposing or dissociating the oil and water by allowing them in contiguous relation to come into intimate contact within said retort with iron heated to a temperature of about 900 degrees Fahrenheit, and leading off the resultant vapor products to a condenser, substantially as described.

971,469. TYPE-WRITER. JOHN W. PAUL, Kittanning, Pa., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Aug. 13, 1906, Serial No. 330,330. Renewed Jan. 7, 1909. Serial No. 471,162.

1. In a typewriter, the combination of a frame, a platen having a printing point thereon facing the front of the machine; a type basket comprising a type bar segment; type bars normally lying toward the front of the machine and in a horizontal position; a mounting for said basket comprising parallel bars pivotally secured to the rear of the basket and extending forwardly in the same general direction as the type bars and having their front ends pivotally secured to the frame whereby the type bars and parallel bars may all be assembled in and occupy the same general part of the machine.



2. In a typewriter, the combination of a frame; a platen mounted in the frame; a type basket; type bars in the basket and normally extending toward the front of the machine; parallel bars having their rear ends pivotally secured to the rear of the basket and extending forwardly; rods *h*—*h* pivotally mounted on the frame to which the parallel bars are secured, said rods being in front of the type bars.

3. In a front strike typewriter, the combination of a platen; a type-basket containing a system of type-bars; a mounting for said basket comprising parallel bars, said mounting being arranged to compel a slight rearward movement of the basket during the case-shift and to maintain all the parts of the basket in a position parallel to the same parts in the normal position of the basket; a key-lever mounted independently of the type-basket; and a connection between the key-lever and its associated type-bar, arranged to compensate for the rearward movement of the parts as the type-basket is shifted in its mounting.

4. In a type-writer the combination of a type-bar; a finger piece; a connection between the finger piece and type-bar for communicating the movement of the finger piece to the type-bar comprising a key-lever, a rock-lever actuated by the key-lever, a push rod extending from the rock lever toward the front of the machine and a rod extending from the type-bar toward the front of the machine with which the push rod is connected.

5. In a type-writer the combination of a type-bar; a finger piece; and a connection between the finger piece and the type-bar including a push rod arranged to actuate the type bar on the movement of the rod toward the front of the machine, said push rod being arranged beneath the type-bars and the front of said rod being in front of said rear end of the type-bar, and a rod extending from the type-bar toward the front of the machine connected with the push rod.

[Claims 6 to 25 not printed in the Gazette.]

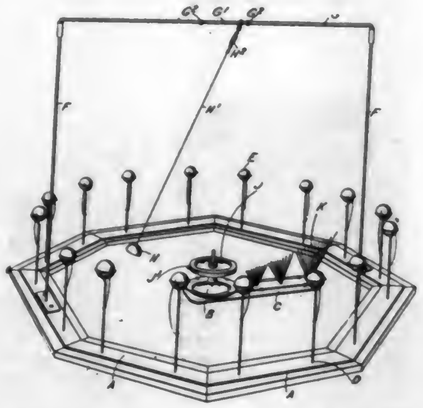
971,470. GAME APPARATUS. WALTER PEALL, Brighton, England. Filed Mar. 5, 1910. Serial No. 547,476.

1. In a game apparatus the combination of a rotatable member, a suspended body adapted to swing into contact therewith, and a target object in a path of motion of the suspended body, the forms of the suspended body and rotatable member being such that the suspended body after touching said member is repelled thereby as set forth.

2. In a game apparatus the combination of a rotatable member, a suspended body adapted to swing into contact therewith, and a movable target object in a path of motion of the suspended body, the forms of the suspended body and rotatable member being such that the suspended body after touching said member is repelled thereby as set forth.

3. In a game apparatus the combination of a rotatable member, a suspended body adapted to swing into contact

therewith, a target object in a path of motion of the suspended body, the forms of the suspended body and rotatable member being such that the suspended body after touching said member is repelled thereby, and a damping device for the suspended body as set forth.

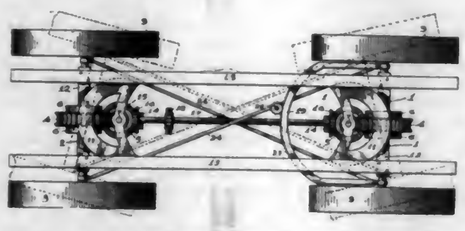


4. In a game apparatus the combination of a rotatable member, a suspended body adapted to swing into contact therewith, and a plurality of target objects each in a path of motion of the suspended body, the forms of the suspended body and rotatable member being such that the suspended body after touching said member is repelled thereby as set forth.

5. In a game apparatus the combination of a rotatable member, a projection on the periphery thereof, a suspended body adapted to swing into contact with the projection, and a target object in a path of motion of the suspended body as set forth.

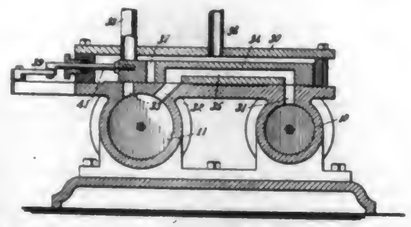
[Claims 6 to 16 not printed in the Gazette.]

971,471. TRANSMISSION AND STEERING MECHANISM FOR TRACTION-ENGINES. RAFORD W. PETERSON and ALEXANDER SCHELLING, Santa Rosa, Cal.; said Schelling assignor to said Peterson. Filed Feb. 19, 1909. Serial No. 478,983.



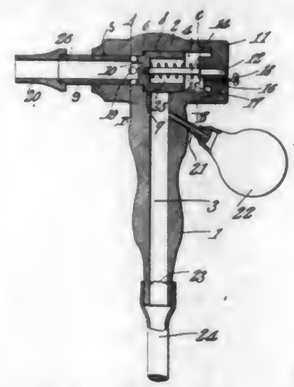
A driving and steering mechanism for traction engines comprising front and rear axles, a pair of wheels carried by each axle, a gear wheel 4, carried by each axle, means for independently driving each wheel of each pair from the gear wheel 4, a front and rear frame carried by the vehicle and having vertical bearings therein, an upright shaft mounted in said bearings, a worm on each shaft gearing with the gear wheel 4, a horizontal shaft 17, a gear wheel thereon adapted to be connected with the motor power, a gear wheel on the lower end of each vertical shaft, gear wheels on the horizontal shaft 17 meshing therewith, and a casing inclosing each gear wheel 4 and supported by the vertical shaft.

971,472. VALVE MECHANISM FOR COMPOUND ENGINES. PAUL OLUFF POULSON, Brigham, Utah. Original application filed Mar. 18, 1909, Serial No. 496,797. Divided and this application filed Oct. 6, 1909, Serial No. 521,262. Renewed Aug. 26, 1910. Serial No. 579,159.



An engine of the class described, comprising two parallel cylinders, a steam chest common to both of said cylinders, a slide valve within said steam chest and having a passage therethrough, a combined inlet and exhaust port in one of said cylinders and communicating with said passage when said valve is in one position, an inlet port in the other cylinder communicating with said passage when the valve is in the above-mentioned position, and an exhaust port for said last-mentioned cylinder and controlled by said valve independently of the passage through the latter.

971,473. DEVICE FOR CLOSING FAUCETS. ALEXANDER E. REDLICH, Chicago, Ill. Filed Aug. 5, 1909. Serial No. 511,427.



1. A device of the class described comprising a faucet; a valve slidably mounted in the faucet; a cap mounted upon the end of faucet; a shaft journaled for rotation in the cap and arranged to engage the valve to hold the same in closed position; the cap being removable from the faucet to set the valve free, independently of the position of the shaft.

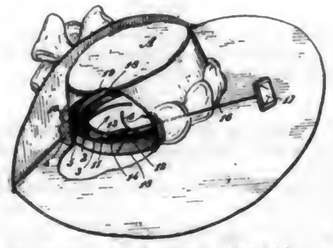
2. A device of the class described comprising a faucet; a valve slidably mounted in the faucet; a shaft journaled for rotation in the end of the faucet parallel to the line of travel of the valve and provided with a laterally extending head, the head being movable by the shaft into and out of the line of the travel of the valve to engage the end of the valve, to hold the same in closed position.

3. A device of the class described comprising a faucet; a valve slidably mounted in the faucet; a spindle projecting from the valve; a shaft journaled for rotation in the end of the faucet parallel to the spindle and provided with a laterally extending head movable by the shaft to engage the end of the spindle to hold the valve in closed position.

4. A device of the class described comprising a faucet provided in one end with a channel; a valve slidably mounted in the faucet; a spindle projecting from the valve and arranged to reciprocate in the channel; a shaft journaled for rotation in the faucet parallel to the spindle and provided with a laterally extending head, the head being movable into the channel to engage one end of the spindle to hold the valve in closed position.

5. A device of the class described comprising a faucet including a shank and a transverse head provided in its interior with a shoulder located between the bore of the shank and the discharge end of the faucet; a tubular valve slidably mounted in the head and arranged to protrude therefrom, the valve being arranged to engage the shoulder and to close the bore of the shank, simultaneously, the valve having an aperture in its side wall normally positioned between the shoulder and the discharge end of the faucet and closed by the head, the valve being shiftable from the shoulder to open the bore of the shank and to position the aperture beyond the shoulder to form a continuous passage through the bore of the shank and through the interior of the valve.

971,474. LADY'S HAT-FASTENER. ANTON REIM, Colorado Springs, Colo. Filed Apr. 23, 1910. Serial No. 557,123.



In a device of the character described, an annular trough-shaped body, a ring supported for oscillation therein, hair-engaging pins pivotally connected with the ring and guided through apertures in the inner wall of the body, a post connected with the ring, a socketed arm pivotally connected with the post, and an operating rod detachably connected with the socketed arm.

971,475. SPRING-SUSPENSION ARRANGEMENT FOR VEHICLES. CARL EDUARD RENNEN, Oberhomburg, and WILHELM ROMEISER, Frankfort-on-the-Main, Germany. Filed July 2, 1908. Serial No. 441,614.



1. In a spring suspension for vehicles, the combination of the vehicle frame, a main spring therefor, a bolt connecting one end of the main spring with the frame, a link connected with the frame and united with the other end of the spring, an auxiliary spring connected with the link, a yoke depending from said bolt, and an adjustable tightener slidably mounted in said yoke and connected with said auxiliary spring.

2. In a spring suspension for vehicles, the combination of the vehicle frame, a main spring therefor, a bolt connecting one end of the spring with the frame, a link connected with the frame and united with the other end of the spring, an auxiliary spring device connected with said link, a yoke supported by said bolt, a tightener yoke slidably mounted in said first named yoke and connected with the auxiliary spring device, and an adjusting element for moving one yoke with respect to the other to adjust said auxiliary spring device.

971,476. VEIL HOLDER OR RETAINER FOR BONNETS. JACOB ROSTENBERG, White Plains, N. Y. Filed June 28, 1910. Serial No. 569,353.



1. A bonnet provided with a forwardly-extending portion or hood adapted to cover the ears and substantially the side face of the wearer; a plurality of straps overlying said hood; and a veil positioned by said straps with reference to the bonnet, whereby the veil will be confined or drawn in at the lower portion of the hood, permitting the same to be readily tied to effect a positioning of the bonnet on the head.

2. In a head-covering provided with a forwardly-extending inverted U-shaped portion or hood adapted to conform to the side face of the wearer, a strap overlying said hood at each of its lower ends; a strap or straps intermediate the end or lowermost strap upon each side; and a veil adapted to coöperate with said straps, whereby upon the removal of the veil from beneath the intermediate strap or straps the veil at its middle portion may be distended and drawn down over the face of the wearer and to the rear of the head-covering, while confined at the lower portion of the hood by the straps carried thereby.

3. In a head-covering, the combination of a body portion; a hood or forwardly-extending section adapted to be drawn around the face of the wearer; a strap located at the lower portion of each end of the hood section; a third strap located at the upper portion of the hood section, one end of said strap being detachable; and a veil adapted to be confined in position by the straps, substantially as described.

4. In a head-covering, the combination of a body portion; a hood or forwardly-extending section; a strap carried at each end of the hood section; a third strap located intermediate the straps aforesaid and having its rear end permanently positioned; a fastening member carried by the free end of said strap; a coöperating fastening member mounted upon the outer upper portion of the hood section; a similar fastening member located to one side of the hood section, said fastening members adapted to coöperate with the fastening member carried by the free end of the strap to hold the strap in one or another position; and a veil adapted to coöperate with the straps.

971,477. WINDOW-SCREEN. EDGAR H. TALBERT, Washington, D. C., assignor of one-half to Henry A. Hale, Johnson City, Tenn. Filed Sept. 29, 1909. Serial No. 520,161.

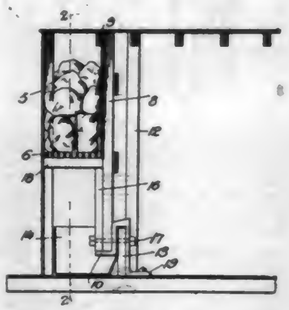
A screen frame comprising sections one of which is provided with a curved slot, a pin attached to the other section and passing transversely through the curved slot of

the first mentioned section, and a screen attached to the sections and bridging the slot and pin connection between the sections, the said slot and pin connection forming a hinge joint connection between the frame sections where-



by the frame sections may have relative movement in directions transversely of the hinge pin as the sections are swung upon their hinge joint connection.

971,478. REFRIGERATOR-CAR. ANTHONY W. WATSON, Jersey City, N. J., assignor of one-half to Bernard J. Reitze, Jersey City, N. J. Filed Apr. 13, 1910. Serial No. 555,279.



1. In a refrigerator car, the combination with a drip pan supported by and having an outlet beneath the flooring of the car, of a base board, studs over the drip pan supporting the ice bunker and a footing for the studs and securing the drip pan to the base board.

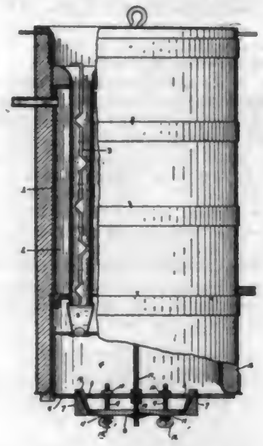
2. In a refrigerator car, the combination with an ice bunker at one end of the car, of a drip pan beneath the entire bunker and its front end, a base board at one side of the drip pan, studs carrying the bunker, and castings overhanging the pan to support the studs and adapted to secure the pan to the base board.

3. In a refrigerator car, the combination with an ice bunker at one end of the car, of studs supporting same, a drip pan beneath the ice bunker, a base board at one side of the drip pan, a casting with a footing for the studs and a footing to attach it to the flooring of the car and embracing the pan and base board, and a bolt passing through the base board, the side of the pan, the casting and the studs to hold them together.

971,479. DEVICE FOR REGULATING THE DISCHARGE OF GRAIN-HEATERS. FREDERICK A. WEGNER, Milwaukee, Wis., assignor, by mesne assignments, of one-half to Herbert C. Graham, Milwaukee, Wis. Filed Jan. 8, 1910. Serial No. 537,064.

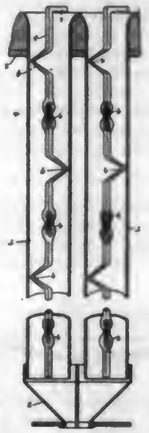
1. In a grain heater, the combination of a bottom member provided with a plurality of apertures for the escape of grain, a plurality of stoppers having a vertical convex side conforming in shape to and adapted to bear against one side of said apertures, and an opposite downwardly diverging side, said stoppers being adapted as they are raised to close said apertures from one side and means for adjustably supporting said stoppers in said apertures.

2. In a grain heater, the combination of a bottom member provided with a plurality of apertures for the escape of grain, a plurality of stoppers having a vertical convex side conforming in shape to and adapted to bear against one side of said apertures, and an opposite concave downwardly diverging side, said stoppers being



adapted as they are raised to close said apertures from one side and means for adjustably supporting said stoppers in said apertures.

971,480. AGITATOR FOR GRAIN-HEATERS. FREDERICK A. WEGNER, Milwaukee, Wis., assignor, by mesne assignments, of one-half to Herbert C. Graham, Milwaukee, Wis. Filed Jan. 8, 1910. Serial No. 537,065.

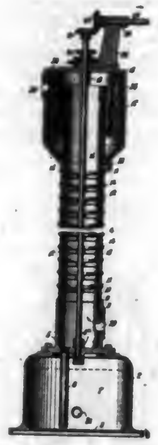


1. The combination with the vertical tubes of a grain heater, of a grain deflecting member provided with a plurality of integrally formed downwardly and outwardly inclined members adapted to deflect the descending grain outwardly from the center of said tubes.

2. The combination with the heating tubes of a grain heater, of an integrally formed grain deflecting rod provided with a plurality of V-shaped bends, the apexes of which are adapted to terminate in close proximity with the vertical walls of said tubes, and means for suspending said rods centrally in said tubes.

3. The combination with the heating tubes of a grain heater, of an integrally formed grain deflecting rod provided with a plurality of V-shaped bends arranged in a spiral series between the respective ends of said rod, the apexes of which are adapted to terminate in close proximity with the vertical walls of said tubes, and means for suspending said rods centrally in said tubes.

971,481. APPARATUS FOR CLEANING GAS. DAVID SMITH ANTHONY, Durango, Mexico, assignor of one-third to Edward Williams and one-third to George F. Habernigg, Durango, Mexico. Filed Feb. 11, 1910. Serial No. 543,259.



1. In a gas cleaner, a plurality of collars, constructed to be secured together to form a conduit, a set of disks with central openings, the peripheries of the disks being secured between the collars respectively, to be supported in the conduit, a shaft disposed through the openings in the disks, and a second set of disks between the first-mentioned disks respectively, and secured to the shaft.

2. In a gas cleaner, a plurality of collars, constructed to be secured together to form a conduit, an upper member having a chamber, through an opening in which the vertical conduit extends, a set of disks with central openings, the peripheries of the disks being secured between the collars respectively, to be supported in the conduit, a shaft disposed in the conduit, through the openings in the disks, a second set of disks disposed between the first-mentioned disks respectively and secured to the shaft, the peripheries of the second disks not extending to the inner wall of the conduit, and a pipe leading from the chamber below the plane of the upper terminal of the conduit.

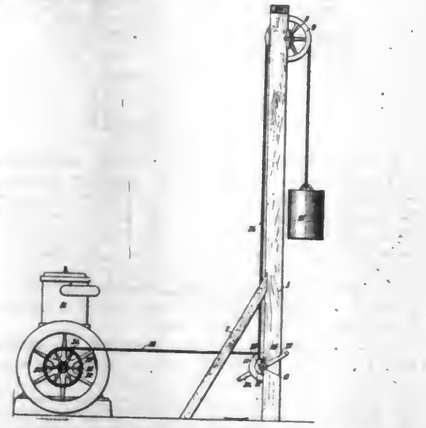
3. In a gas cleaner, a vertical conduit, an upper member having a chamber, through an opening in which the vertical conduit extends, a lower member having a chamber, a head at the lower terminal of the conduit, with a port, a pipe secured to the said head and communicating with the port, the pipe extending into the chamber in the lower member, and a second pipe leading from an opening in the upper member below the plane of the upper terminal of the conduit to an opening in the lower member near its bottom, affording communication between the two chambers.

4. In a gas cleaner, a conduit, an upper member having a chamber, through an opening in which the conduit extends, a lower member having a chamber, a head at the lower terminal of the conduit, with a port, a pipe secured to the said head and communicating with the port, the pipe having a free terminal extending into the chamber in the lower member, and a second pipe leading from an opening in the upper chamber to an opening in the lower member, affording communication between the two chambers, there being an overflow port in the lower member above the free terminal of the first-mentioned pipe and the opening in the lower chamber.

5. In a gas cleaner, a vertical conduit, an upper member having a chamber, through an opening in which the vertical conduit extends, a lower member having a chamber, a head at the lower terminal of the conduit, having a port, which communicates with the chamber in the lower member, and a pipe leading from an opening in the upper member to an opening in the lower member, affording communication between the two chambers.

[Claim 6 not printed in the Gazette.]

971,482. STARTER FOR INTERNAL-COMBUSTION ENGINES. DAVID SMITH ANTHONY, Durango, Mexico, assignor of one-third to Edward Williams and one-third to George F. Habernigg, Durango, Mexico. Filed Feb. 12, 1910. Serial No. 543,496.



1. In an engine starter, a drum adapted to rotate, a pulley, a weight, a cable secured to and adapted to be wound on the drum, the cable extending over the pulley and being secured to the weight, and a cable secured to the drum and adapted to be wound on the engine shaft.

2. In an engine starter, a frame, a shaft journaled in the frame, a drum rotatably mounted on the shaft, there being a recess in a member of the drum, a pin connected with the shaft and adapted to be disposed in the recess in the drum to hold the drum relatively to the shaft, a weight, and a cable connected with the weight and adapted to be wound on the drum.

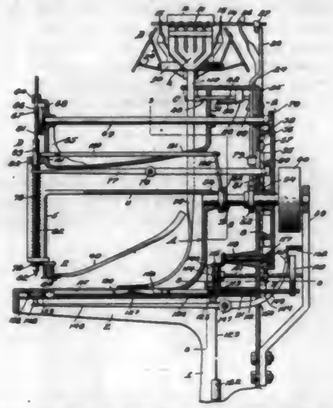
3. In an engine starter, a frame, a shaft journaled in the frame, a drum mounted on the shaft and having a recess, a pulley, a weight, and a cable connected with the weight and adapted to be wound on the drum, a pin adapted to be disposed in the recess, and a lever pivoted to a member connected to the shaft, the lever being connected to the pin.

4. In an engine starter, a frame, a shaft journaled in the frame, two drums mounted on the shaft, there being a recess in a member of one of the drums, a tooth adapted to be disposed in the recess, a lever pivoted to a member of the shaft, a link connecting the lever with the tooth, a pulley, a weight, a cable connected with the weight, the cable being disposed over the pulley and being adapted to be wound on one of the drums, an engine shaft, a pulley thereon, and a second cable adapted to be wound on the pulley of the engine shaft and on the other drum.

5. In an engine starter, a frame, a shaft journaled in the frame, a drum mounted on the shaft, a cable adapted to be wound on the drum, an engine shaft, a pulley mounted on the engine shaft and having a recess, said cable being adapted to be wound on the pulley, a second pulley, a cable disposed over the second-mentioned pulley, and a weight secured to one terminal of the cable, the last-mentioned cable being adapted to be wound on the drum.

[Claims 6 and 7 not printed in the Gazette.]

971,483. RIVETING-MACHINE. WALTER BAKER, Wapato, Wash. Filed July 7, 1908. Serial No. 442,313.



1. In a machine of the class described, the combination of a work table, a punch, separate members arranged concentrically around the punch and operated successively for respectively engaging the work during the withdrawal of the punch therefrom and for holding the rivets in the work during the upsetting operation, a mechanism for actuating the punch, a chute for feeding rivets or the like, and a device operated by the said mechanism for carrying a rivet from the chute to assembling position with respect to the hole punched in the work.

2. In a machine of the class described, the combination of a work table, a swinging member, means for actuating the same, a fastener-carrying element, a spring arranged to hold the element in normal position, means for throwing the element to assembling position, a locking device arranged to be automatically locked for holding said element after the same has reached assembled position, a member arranged to engage the element and move the same toward the work for inserting a fastener, and a device for releasing locking device for disengaging the element from the fastener before the latter is fully inserted.

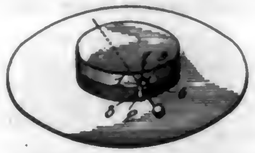
3. In a machine of the class described, the combination of a work table, a punch, a swinging fastener-carrying element, a fastener-feeding device, means for holding the element normally in a position to receive a fastener from the device, a punch-actuating mechanism arranged to throw the element toward the work during the swinging movement thereof, a member operating on the element for inserting a fastener in the work, and a device arranged to engage the work for releasing the element from the fastener before the latter is fully inserted.

4. In a machine of the class described, the combination of a work table, a fastener-feeding device, a fastener-carrying arm, a spring operating on the arm to hold the same in position to receive a fastener from the device, a rock-shaft arranged to swing the arm to a position for inserting the fastener in the work, a lock for holding the arm in such position, a spring pressed releasing device actuated by contact with the work for opening the lock to permit the element to release the fastener before the latter is fully inserted, and a spring brought into play upon the release of the lock for quickly disengaging the arm from the fastener and returning the arm to position for receiving the next fastener.

5. In a machine of the class decribed, the combination of a work table, a fastener-feeding device, an element for receiving a fastener from the device, a rod mounted for rocking and longitudinal movement for carrying the said element to assembling position of the fastener, separate springs operating conjointly to return the rod to normal position, and a mechanism operating in opposition to the springs to actuate the rod for throwing the element to the position for assembling the fastener in the work.

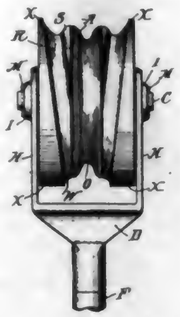
[Claims 6 to 39 not printed in the Gazette.]

971,484. HAT-PIN HOLDER. GEORGE C. BASSETT, Winifrede, W. Va. Filed Mar. 15, 1910. Serial No. 549,423.



A hat pin holder comprising a body composed of separable sections, one having side plates and a jaw between the latter, means for securing the other section of the body between said side plates, a guide pin projecting from the last mentioned section of the body, a slide carrying a jaw to oppose the first named one and provided with flanges to engage the edges of the side plates and also carrying a finger piece, and a coil spring arranged on said pin for projecting said slide.

971,485. TROLLEY-HARP. LEWIS E. BRADT, Santa Monica, Cal. Filed Oct. 5, 1909. Serial No. 521,081.

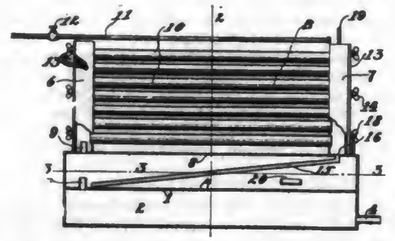


1. In combination with the trolley wheel, of a replacing wheel on each side thereof and coaxial therewith, said replacing wheels being concentric with the axis of the trolley wheel, each of the said replacing wheels having a groove eccentric to its axis and merging at the highest point into the face adjacent to the trolley wheel, the said highest point being substantially flush with the periphery of the trolley wheel and the outer wall of the groove on each of said replacing wheels extending beyond the periphery of the trolley wheel to form a guard on the side thereof for the purpose specified.

2. In combination with the trolley wheel, of a replacing wheel on each side thereof of greater diameter than the trolley wheel and coaxial therewith, the said replacing wheels being concentric with the axis of the trolley wheel, each of said replacing wheels having a groove eccentric to the axis and merging at the highest point into the face adjacent to the trolley wheel, said highest point being substantially flush with the periphery of the trolley wheel.

971,486. STEAM-CONDENSER. HENRY L. BRANDON, Leavenworth, Kans. Filed May 25, 1910. Serial No. 563,317.

1. A condenser comprising a base section, and a cooling section mounted thereon; said base section being divided into inlet and reboiling chambers; means for supplying steam to the inlet chamber at one end; means at the opposite end of the inlet chamber for connecting the same with the reboiling chamber; means for conducting steam from the reboiling chamber to the cooling section of the condenser; means for conducting water of condensation from the cooling section to one end of the reboiling chamber; an outlet through which the water of condensation discharges after passing through substantially the full length of the reboiling chamber, and a skimmer arranged in the reboiling chamber at a point disposed between the said outlet and said water conducting means.



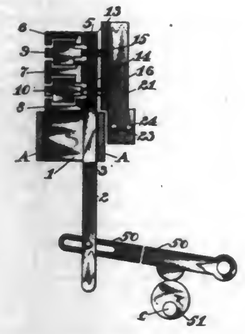
2. A condenser comprising a chambered base, a partition extending longitudinally thereof for dividing the base into a lower steam inlet chamber and an upper reboiling chamber, means for supplying steam to one end of the inlet chamber, means for permitting steam to pass from the inlet to the reboiling chamber, a steam condensing device mounted on the base and communicating with the reboiling chamber, means for conducting water of condensation from the cooling device to the inner end of the reboiling chamber to cause the water to flow over the partition in a direction opposite to the flow of steam in the inlet chamber, a valve controlled outlet through which the water passes from the reboiling chamber, and a skimming device in the reboiling chamber.

3. A condenser comprising a hollow base, a horizontal partition dividing the base into upper and lower chambers, means for admitting steam to one end of the lower chamber, means for conducting steam from the lower to the upper chamber, hollow heads rising from the base, cooling tubes extending from one head to the other, means for connecting one head with the upper chamber to receive steam therefrom, a pipe extending longitudinally of the upper chamber and having one end connected with the bottom of the other head to receive water of condensation therefrom, the lower end of the pipe terminating at the end of the partition through which the steam passes from the lower to the upper chamber, and an outlet at the end of the upper chamber opposite from that into which the water flows through the pipe whereby the water of condensation flows longitudinally of the partition to be heated by the steam flowing in the opposite direction in the lower chamber.

4. A condensesr comprising a hollow base, a horizontal partition dividing the base into upper and lower chambers, means for admitting steam to one end of the lower chamber, means for conducting steam from the lower to the upper chamber, hollow heads rising from the base, cooling tubes extending from one head to the other, means for connecting one head with the upper chamber to receive steam therefrom, a pipe extending longitudinally of the upper chamber and having one end connected with the bottom of the other head to receive water of condensation therefrom, the lower end of the pipe terminating at the end of the partition through which the steam passes and from the lower to the upper chamber, an outlet at the end of the upper chamber opposite from that into which the water flows through the pipe whereby the water of condensation flows longitudinally of the partition to be heated by the steam flowing in the opposite direction in the lower chamber, and a device for supplying sprinkling cooling water on the tubes and on the base.

5. A condenser comprising a hollow base, a horizontal partition dividing the base into upper and lower chambers, means for admitting steam to one end of the lower chamber, means for conducting steam from the lower to the upper chamber, hollow heads rising from the base, cooling tubes extending from one head to the other, means for connecting one head with the upper chamber to receive steam therefrom, a pipe extending longitudinally of the upper chamber and having one end connected with the bottom of the other head to receive water of condensation therefrom, the lower end of the pipe terminating at the end of the partition through which the steam passes from the lower to the upper chamber, an outlet at the end of the upper chamber opposite from that into which the water flows through the pipe whereby the water of condensation flows longitudinally of the partition to be heated by the steam flowing in the opposite direction in the lower chamber, and a skimmer located above the said partition at a point between the lower end of the said pipe and the outlet for the water of condensation.

971,487. NEEDLE-LOOM. JOHN C. BROOKS, Paterson, N. J. Original application filed Jan. 18, 1902, Serial No. 90,273. Divided and this application filed Oct. 2, 1907. Serial No. 395,641.



1. A weft inserting device for looms comprising a plurality of race-ways located one above the other, a plurality of needles coöperating respectively with the raceways, means upon the needles coöperative with means within the raceways to yieldingly hold the needles in a predetermined position, and means to simultaneously, intermittently, or consecutively reciprocate the needles within their raceways.

2. In a needle loom, the combination of needle raceways adapted to move the needles in and from a predetermined position, means to reciprocate the needles within their respective raceways, means within the raceways and flexible means upon the needles coactive to hold the needles in a predetermined position previous to being again inserted.

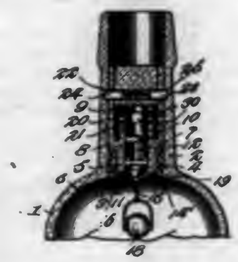
3. In a needle loom, a plurality of needle race-ways, an actuator carried upon a spindle and provided with a groove with which to engage projections from the needles, and move the needles within their race-ways; means to move the raceways, means to move the actuator, and means within the raceways coacting with means upon the needles to engage the ends of the needles, and hold them in a predetermined manner.

4. In a loom, the combination of a weft needle holder adapted to be movable and provided with a plurality of needle raceways, an actuator to engage the needles and longitudinally move them within their raceways, flexible means upon the ends of the needles and means within the raceways to engage with each other to prevent the needles from being accidentally unpositioned with reference to the actuator therefor.

5. In a needle loom, a weft needle holder having raceways for the needles and adapted to move the needles in and out of the pathway of an actuator adapted to reciprocate the needles within their respective raceways; means to actuate the actuator, and means, at the end of the raceways and upon the end of the needles, coactive, to prevent the needles from accidental misplacement when inactive.

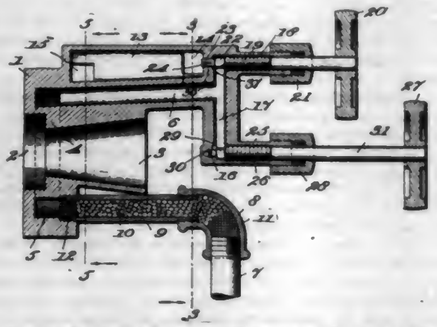
[Claim 6 not printed in the Gazette.]

971,488. NON-REFILLABLE BOTTLE. LEON GUSTAVE BUGNON, Seattle, Wash. Filed Feb. 1, 1909. Serial No. 475,513.



A non-refillable bottle provided with a neck having an interior groove and an interior flange formed at its juncture with the body of the bottle, a valve cage within the neck and connected with the annular flange of the bottle, said cage comprising a central bore having its lower end provided with a valve seat, a valve for said seat, said valve being provided with a stem connected with a piston adapted to engage the walls of the bore, a ball provided with a ball supported from the lower end of the valve by a flexible connection, the bore for the valve and piston terminating a distance away from the top of the member, the member being provided with an annular depression between its outer face and the central bore, the wall between the bore and the depression being provided with a plurality of communicating openings, a sleeve provided with spring pressed retaining members positioned within the sleeve and resting upon the wall provided by the central bore and the depression adjacent the bore, the valve cage having its walls provided with opening alining with the depression of the bottle neck to allow the spring pressed retaining members to engage the said opening, and the sleeve having its outer face provided with spaced grooves and depressions, substantially as and for the purpose set forth.

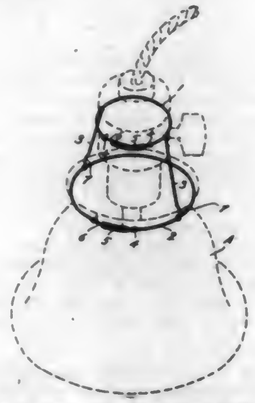
971,489. HYDROCARBON-BURNER. WILLIS W. CASE, Sr., Denver, Colo., assignor to The Denver Fire Clay Company, Denver, Colo., a Corporation of Colorado. Filed Apr. 21, 1910. Serial No. 556,876.



1. A hydrocarbon burner having a retort portion with a central opening therethrough, said retort portion being cut away so as to leave a continuous annular space therein, means for admitting fuel into said annular space on one side, a generator burner of the Bunsen type on the opposite side, a burner tip, said hydrocarbon burner being provided with a T-shaped passage connecting said annular space with the burner tip and with the generator burner, and valves for governing the passage into the burner tip and the generator burner, each of said valves having a slotted cylindrical portion, substantially as described.

2. A hydrocarbon burner provided with passages for the fuel and gas, and a discharge nozzle, valves governing said passages, said burner being provided with a seat and a perforation through the wall of said burner, said perforation being cylindrical on the inside and tapering outwardly to the discharge nozzle, each of said valves having a screw-threaded portion, a reduced cylindrical portion adapted to fit against the valve seat, and a valve tip smaller than said reduced portion, said valve tip comprising a smooth, cylindrical portion next to said first named cylindrical portion, a hollowed out end, and a slot passing through the side and end of said tip, leaving an unobstructed cylindrical neck on said tip next to said first named cylindrical portion, substantially as described.

971,490. HOLDER FOR ELECTRIC-LIGHT GLOBES. AVA I. CHANDLER, Marion, Ohio. Filed Dec. 22, 1909. Serial No. 534,540.



1. In a device of the class described, the combination with adjustable socket and shade engaging members, of braces connecting the same, and means formed therein whereby said braces may engage the shade.

2. A device of the class described comprising circular socket and shade engaging members, of spring adjusting members interposed between the extremities thereof, and vertical means for connecting said socket and shade engaging members.

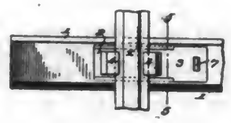
3. A device of the class described comprising a spring wire ring adapted to engage the socket above the key, of a similar member adapted to engage the groove of a lamp shade, vertical means for connecting said rings having outwardly formed recesses therein adapted to engage the flange surrounding the groove in the lamp shade, and resilient means interposed between the extremities of said rings for adjusting the same.

4. A device of the class described comprising a spring wire ring adapted to engage the socket above the key, of a similar member adapted to engage the groove of a lamp shade, vertical means for connecting said rings having outwardly formed recesses therein adapted to engage the flange surrounding the groove in the lamp shade, and coil springs interposed between the extremities of said rings adapted to provide adjustability to the same.

5. A device of the class described comprising circular lamp and socket engaging members, springs interposed between the extremities of said members, and vertical converging braces connecting said members.

971,491. METALLIC RAILWAY CROSS, BRIDGE, AND SWITCH TIE AND FASTENING. JOHN W. CLUBB, Paris, Ill. Filed Aug. 12, 1909. Serial No. 512,550.

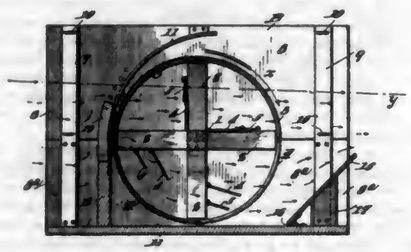
1. A metallic tie provided on its upper side with opposite, parallel, undercut ribs, the portion of the tie which intervenes between said ribs being flat in order to support a rail fastening, and the space between the ribs being enlarged at the entrance whereby the tie is adapted for reception, engagement, and support of rail fastenings in the manner described.



2. A metallic tie having an I-form in cross section, its top flanges being rolled upward and inward for a portion of their length and shaped to form opposite ribs which are undercut and thereby adapted for sliding engagement with rail fastenings, substantially as described.

3. The combination, with a tie, having its top surface provided with ribs arranged opposite and which are undercut for a portion of their length, and are separated more widely at their inner ends where end shoulders are provided, of rail fastenings having base portions adapted to engage the aforesaid ribs when slid into place between them, and provided with claws adapted for engagement with the edge of a rail base, the rail fastening when in place abutting against the end shoulders of the ribs, substantially as described.

971,492. FISH-SCREEN AND SLUICE-BOX. ADONIRAM JUDSON COLLAR, Yreka, Cal. Filed July 1, 1908, Serial No. 441,297. Renewed Mar. 30, 1910. Serial No. 552,416.



1. The combination, with a sluice-box adapted to be secured in a ditch or flume, of a rotatable reticulated screen comprising a cylindrical screen proper and the frame arranged within the same and having a series of transverse bars and flat blades or paddles which are hinged to the transverse bars forming part of the frame, whereby they are adapted to swing and pass through the current on the lower side of the screen and assume an opposing position on the upper side of the screen as shown and described.

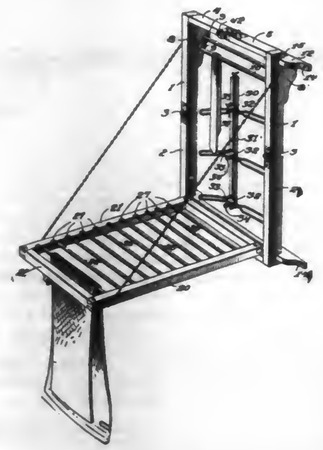
2. The combination, with a sluice-box and a rotatable cylindrical screen arranged therein, of arc-shaped guards secured to the inner sides of the sluice-box on the upstream side, their upper portion being arranged at a gradually increased distance from the periphery of the screen, as shown and described.

3. The combination, with a sluice-box comprising a bottom and parallel fixed side sections, removable side sections supported above and upon such fixed sections, and a rotatable screen whose journals project between the two sections, as shown and described.

4. The combination, of a rotatable screen with a sluice-box having a guard 12 arranged transversely on the upstream side, and a removable guard arranged above and upon such fixed guard, as shown and described.

5. The combination, of the rotatable screen with a sluice-box having a guard on the down-stream side which is hinged to the bottom of the sluice-box, and means for supporting such guards at different inclinations, as shown and described.

971,493. DISPLAY-RACK. WILBUR H. CRANE, New York, N. Y. Filed Sept. 18, 1909. Serial No. 518,393.



1. In an apparatus of the character described an oblong rectangular vertical main frame having a transverse strip at its top and bottom, on one side, projecting horizontally therefrom and adapted to be secured to a wall, means for suspending garments from said frame between it and a wall, and an oblong rectangular frame hinged to one end of said main frame, and foldable within the latter, detachable means for suspending garments in said frame, and means for holding said frame in extended position from the main frame.

2. In an apparatus of the character described, an oblong rectangular vertical main frame provided with means for securing it to a wall, and holding it at a short distance from said wall, means for supporting garments from said frame between it and the wall, and a swinging garment supporting frame mounted within the main frame and movable to extended position out of said frame.

3. In an apparatus of the character described, an oblong rectangular vertical frame having means for supporting garments within said frame, means for securing said frame to a wall in spaced relation therefrom and projections on the upper end of said frame with means for suspending garments therefrom between a wall and said frame.

4. In an apparatus of the character described, an oblong rectangular main frame consisting of vertical side strips and horizontal end strips, the upper end of said side strips being each formed with an outstanding inclined bracket having tapering slots, garment suspending rods in said slots, a transverse flat strip detachably mounted on and projecting from each end of said side strips and adapted to be fastened to a wall, and a garment supporting frame mounted in and hinged to said main frame.

971,494. TROLLEY-CAR-POLE ATTACHMENT. GEORGE R. DUNN, San Pedro, Cal. Filed Oct. 13, 1909. Serial No. 522,379.

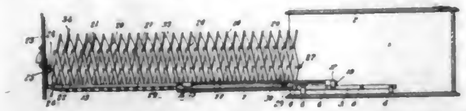
The improved trolley-pole attachment comprising a slotted frame provided with a fixed, transverse ring a short distance below its head, a trolley wheel bar pivoted

in said head and provided with a shank extending through the said ring, and a spring chain connecting the shank



with the lower portion of the frame, as shown and described.

971,495. CREDIT-ACCOUNT-FILING DEVICE. WILLIAM EACRETT, Toronto, Ontario, Canada, assignor to The Multoplex Filing Device Company, a Corporation of Ohio. Filed Feb. 4, 1910. Serial No. 541,966.



1. In a credit account filing device, the combination of a case, a series of partitions provided with fingers at their bottom or lower ends, said fingers adapted to constitute a bottom, a series of bars adapted to connect the partitions together, and means for supporting the partitions in closed or extended position, substantially as and for the purpose specified.

2. In a credit account filing device, the combination of a case, a series of partitions and a series of bars adapted to pivotally connect the partitions together, said partitions provided with springs, said springs located between the partitions, the top or upper ends of said springs being fixed and their lower ends free and adapted to press against an adjacent partition, and means for supporting the partitions in closed or extended positions, substantially as and for the purpose specified.

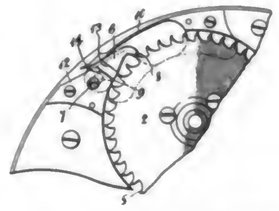
3. In a credit account filing device, the combination of a case, a filing device consisting of partitions, said partitions pivotally connected together and adapted to be extended and closed, a detachable end member adapted to close the case, said end member provided with means adapted to support the filing device and the filing device adapted to be removed from the case, and means for supporting the filing device when extended, substantially as and for the purpose specified.

4. In a credit account filing device, the combination of a case, a filing device consisting of partitions, said partitions pivotally connected together and adapted to be extended and closed, a detachable end member adapted to close the case, said end member provided with means adapted to support the filing device and the filing device adapted to be removed from the case, and means for supporting the filing device when extended and the partitions provided with document holding springs, substantially as and for the purpose specified.

5. In a filing device of the character described, the combination of a filing device consisting of partitions, said partitions pivotally connected together and adapted to be extended and closed, a case adapted to inclose the partitions when in a closed condition, and a detachable end member adapted to close the case said end member provided with means adapted to support the outer end of the filing device, substantially as and for the purpose specified.

[Claims 6 and 7 not printed in the Gazette.]

971,496. RATCHET MECHANISM FOR WATCH-MOVEMENTS. WILLIAM HENRY EBELHARE, Waltham, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 2, 1910. Serial No. 541,443.



1. In a watch movement, the combination with the ratchet wheel of a detent adapted to engage the teeth of the same at its free end and provided with a slot extending substantially in the direction of the peripheral movement of said wheel, a fixed pivot pin passing through said slot, a spring arranged to press the free end of the detent into contact with the teeth of the ratchet wheel, and a fixed stop to arrest the rearward movement of the detent and hold it out of contact with said pivot pin.

2. In a watch movement, the combination with the ratchet wheel of a longitudinally-slotted detent located adjacent to the periphery of the wheel and extending substantially in the direction of the forward movement thereof, said detent being provided with a stop shoulder, a fixed pivot pin passing through the slot in the detent, a spring arrranged to press the free end of the detent into contact with the teeth of the ratchet wheel, and a plate overlapping the rear end of the detent and providing a stop surface adapted to engage the shoulder on the detent and limit the rearward movement of the latter.

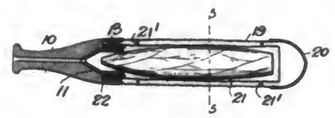
3. In a watch movement, the combination with the ratchet wheel of a detent adapted to engage the teeth of the same at its free end and provided with a slot extending substantially in the direction of its length, the slotted portion of said detent being recessed on its upper surface, a spring arranged to press the free end of the detent into contact with the teeth of the ratchet wheel, a fixed plate extending into the recess in the detent and overlying the slot therein, and a fixed pivot pin passing through said plate and slot.

4. In a watch movement, the combination with the ratchet wheel of a detent adapted to engage the teeth of the same at its free end and provided with a slot extending substantially in the direction of its length, the slotted portion of said detent being recessed on its upper surface, a fixed pivot pin passing through said slot, a spring arranged to press the free end of the detent into contact with the teeth of the ratchet wheel, and a fixed plate extending into the recess in the detent and overlying the slot therein, the front wall of said recess and the front edge of said plate providing conforming stop surfaces adapted to prevent rearward and turning movements of the detent.

971,497. CIGARETTE AND CIGAR HOLDER. JUSTO DE SUSINI ETCHEVERRY and PEDRO PERDOMO FIGUEROA, New York, N. Y. Filed Feb. 28, 1910. Serial No. 546,339.

1. In a cigarette or cigar holder, the combination with a holder having a socket and a passage for the smoke, of a fire-proof thimble to carry the cigar and fitted in the socket and a perforated case attached to the thimble.

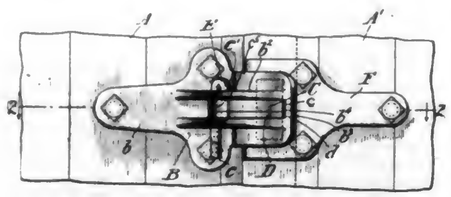
2. In a cigarette or cigar holder, the combination with a holder having a socket in its outer end and a passage for the smoke, of a screw threaded thimble to carry the cigar and adapted to fit in the socket, and a perforated casing adapted to surround the cigar and having a threaded inner end to secure it to the holder.



3. In a cigarette or cigar holder, the combination with a holder having a socket and a passage for the smoke, of a fire proof thimble to carry the cigar, a perforated cylinder secured to the thimble and a second perforated cylinder fitted in the socket of the holder.

4. In a cigarette or cigar holder, the combination with a mouth piece having a socket and a passage for the smoke, of a fire-proof thimble fitted in the socket to hold the cigar, a perforated cylinder screwed to the thimble, a second perforated cylinder fitted within the socket at one end, and a perforated cap secured to the outer end of the second cylinder.

971,498. DOOR-FASTENER. CHARLES EYTALIS, Chicago, Ill., assignor of one-sixth to Eugene Baren, one-sixth to Robert Weinberg, and one-sixth to Joseph Butkus, Chicago, Ill. Filed Feb. 15, 1908. Serial No. 415,994.



1. In a device of the class described the combination with a latch hook, of means pivotally supporting the same, locking means for said latch hook, and a pivotally supported automatic actuator for said locking means.

2. In a device of the class described the combination with a pivoted catch, of a locking bolt therefor, and means for automatically moving said bolt from locking position.

3. The combination with a member, of a catch pivoted therein, a bolt adapted to lock said catch in closed position, and an actuator having a cam thereon adapted to move the bolt from locking position.

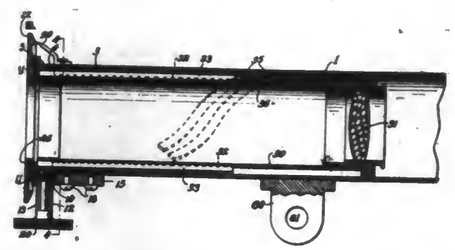
4. In a device of the class described the combination with a slotted member, of a latch hook pivoted therein, a bolt adapted to hold said hook in locking position, and a cam adapted to move said bolt and permit the latch hook to pass the same.

5. In a door fastener the combination with a bracket, of a latch hook pivotally mounted in the bracket, a bolt slidably mounted in the bracket and adapted to lock the hook in closed position, and means operated by the closing of the door adapted to operate said bolt and release the hook.

[Claims 6 to 21 not printed in the Gazette.]

971,499. OPTOMETER. IVAN FOX, Media, Pa., assignor to Fox Optical Manufacturing Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Jan. 14, 1908. Serial No. 410,770.

1. In an optometer, the combination of a tube, a lens carrier movably supported in the said tube, means supported upon the said tube and having connection with the said lens carrier and being adapted to occasion revoluble movement thereof, a gear-wheel supported independently of the said means in engagement with the said gear, and means for causing longitudinal movement of said lens carrier.



2. In an optometer, the combination of a tube, a lens carrier revolubly mounted in the said tube, means for occasioning longitudinal movement between the said lens carrier and the said tube when the said carrier is given a movement of revolution, means supported upon the said tube and having connection with the said lens carrier for occasioning revolution of the latter, a gear connected to the said means, and a gear-wheel supported independently of the said means in engagement with the said gear.

3. In an optometer the combination of an outer tube or similar device, a tube or similar device located interiorly of the said outer tube or similar device, a lens carrier operatively connected to the second named tube or similar device, the said lens carrier being provided with a guideway extending spirally thereof, means for occasioning revolution of the interior tube or similar device and the lens carrier, and means projecting from the outer tube or similar device into the said guide-way to occasion longitudinal movement of the lens carrier simultaneously with its movement of revolution.

4. In combination, an outer tube or similar device, an inner tube or similar device having a guide located upon its inner surface, a lens carrying tube or similar device having a guide-way into which the said guide projects, means for occasioning revolution of the inner and lens carrier tubes or similar devices, and the lens carrying tube being provided with a guide-way extending spirally thereof, and means projecting from the outer tube or similar device into the said spiral guide-way to occasion longitudinal movement of the said lens carrying tube or similar device simultaneously with its movement of revolution.

5. In combination, an outer tube or similar device, an inner tube or similar device having guides located upon its inner surface, a lens carrying tube or similar device having guide-ways into which the said guides project, means for occasioning revolution of the inner and lens carrier tubes or similar devices, and the lens carrying tube being provided with a guide-way extending spirally thereof, and means projecting from the outer tube or similar device into the said spiral guide-way to occasion longitudinal movement of the said lens carrying tube or similar device with its movement of revolution.

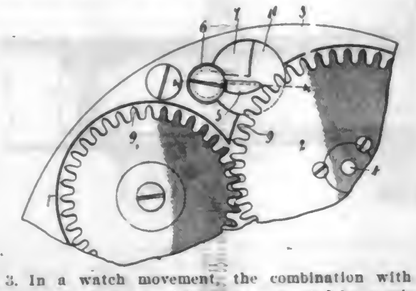
[Claims 6 to 14 not printed in the Gazette.]

971,500. RATCHET MECHANISM FOR WATCH-MOVEMENTS. HOWARD METZLER GROFF, Waltham, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 2, 1910. Serial No. 541,451.

1. In a watch movement, the combination with the ratchet wheel of a detent arm mounted to oscillate in engagement with the teeth of said wheel, a fixed stop arranged to engage and limit the backward movement of said detent arm, a stop arm having a spring connection with the detent arm and oscillating therewith, and a fixed stop arranged to limit the forward movement of said stop arm.

2. In a watch movement, the combination with the ratchet wheel of a detent comprising two arms connected

by a spring and mounted to oscillate on a pivotal axis, the rear arm being in constant engagement with the teeth of said wheel and serving as a detent arm and the forward arm being out of engagement with said teeth and serving as a stop arm, and fixed stops arranged to limit the backward and forward movements of said arms respectively.



3. In a watch movement, the combination with the ratchet wheel of two rigid arms connected by a substantially circular spring, a fixed pivot forming a bearing for said spring and serving as a pivotal axis for said arms, the rear arm being engaged at its free end with the teeth of said wheel, and fixed stops to limit the forward and backward movements of the respective arms.

4. In a watch movement, the combination with the ratchet wheel of a one-piece oscillating detent comprising a detent arm and a stop arm connected by a substantially circular spring, a fixed pivot passing through and forming a bearing for said spring, and fixed stops arranged to limit the backward movement of the detent arm and the forward movement of the stop arm respectively.

5. In a watch movement, the combination of the ratchet wheel and the plate on which the same is journaled, said plate being provided with intersecting circular recesses, a detent arm and a stop arm located in the recess adjacent to the ratchet wheel and adapted to oscillate therein, the walls of said recess serving as stops to limit the backward movement of the detent arm and the forward movement of the stop arm, a substantially circular spring located in the other recess and connecting said arms, and a pivot pin passing through said spring and forming a bearing therefor.

[Claim 6 not printed in the Gazette.]

971,501. PRODUCTION OF AMMONIA. FRITZ HABER and ROBERT LE ROSSIGNOL, Karlsruhe, Germany, assignors to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation of Baden. Filed Aug. 13, 1909. Serial No. 512,679.

1. The process of producing ammonia by passing gases containing nitrogen and hydrogen over a catalyst containing osmium.

2. The process of producing ammonia by passing gases containing nitrogen and hydrogen over a heated catalyst containing osmium.

3. The process of producing ammonia by passing gases containing nitrogen and hydrogen under pressure over a heated catalyst containing osmium.

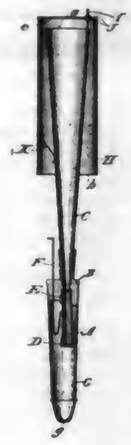
4. The process of producing ammonia by passing a mixture of nitrogen and hydrogen over a catalyst containing osmium at a pressure above 100 atmospheres.

5. The process of producing ammonia by passing a mixture of nitrogen and hydrogen over a heated catalyst containing osmium at a pressure above 100 atmospheres.

[Claim 6 not printed in the Gazette.]

971,502. ORGAN-PIPE. WILLIAM E. HASKELL, Brattleboro, Vt., assignor to Estey Organ Company, Brattleboro, Vt., a Corporation of Vermont. Filed Feb. 10, 1910. Serial No. 543,050.

1. A striking reed organ pipe having a resonator comprising a sheet metal conical base open at top and bottom with its large end uppermost, and a sheet metal cylindrical inverted bell open at its bottom and closed at its top, said bell surrounding the upper end of the base and being supported thereby, the internal area of the bell in cross-section being twice the internal area of the base at its top, and the vertical distance between the top edge of the base and the underside of the top of the bell being one-fourth the internal diameter of the base at its top.



2. A reed organ pipe having a resonator comprising a conical base open at top and bottom with its large end uppermost, and a cylindrical bell open at its bottom and closed at its top, said bell surrounding the upper end of the base and being supported thereby, the internal area of the bell in cross-section being twice the internal area of the base at its top, and the vertical distance between the top edge of the base and the underside of the top of the bell being one-fourth the internal diameter of the base at its top.

3. A reed organ pipe having a boot with a wind outlet through the reed and to the resonator but otherwise closed at its top; and a resonator comprising a conical base open at top and bottom with its large end uppermost, and a cylindrical bell open at its bottom and closed at its top, said bell surrounding the upper end of the base and being supported thereby, the internal area of the bell in cross-section being greater than the external area of the base at its top, and there being a space between the top of the bell and the top of the base.

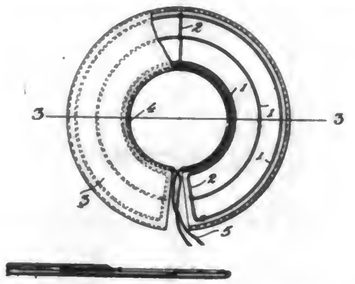
4. A reed organ pipe having a boot with a wind outlet through the reed and to the resonator but otherwise closed at its top; and a resonator comprising a conical base open at top and bottom with its large end uppermost, and a cylindrical bell open at its bottom and closed at its top, said bell surrounding the upper end of the base and the internal area of the bell in cross-section being greater than the external area of the base at its top, and there being a space between the top of the bell and the top of the base.

5. A reed organ pipe having a boot with a wind outlet through the reed and to the resonator but otherwise closed at its top; and a resonator comprising a base open at top and bottom, and a closed-top bell surrounding the upper end of the base, the bell being of greater dimensions laterally than the top of the base, and there being a space between the top of the bell and the top of the base.

[Claims 6 to 8 not printed in the Gazette.]

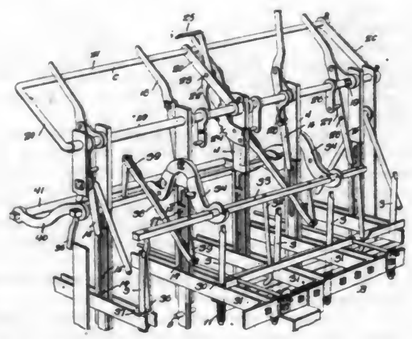
971,503. SUNSHADE. CORA I. HOWARD, Lynchburg, Va. Filed Aug. 27, 1909. Serial No. 514,959.

A protector for the head comprising a flat frame of annular form radially split at a point in its circumferential length and comprising a series of concentric wires and radially disposed tie wires connecting the concentric wires, said annular frame being adapted to be contracted or expanded, a textile covering of annular form adapted to receive the annular frame and inclose the same, said cover-



ing having a hem at its inner edge and a draw string passing through said hem and adapted to contract the frame and secure the same in the desired contracted position and likewise to hold the cover in place thereon.

971,504. TIE-TAMPING MACHINE. JOHN ILIFF, Madison, Wis. Filed Feb. 25, 1910. Serial No. 545,984.



1. A tamping machine comprising a tamper, a slide connected therewith to reciprocate with the movement of the tamper, a link connected with the slide, a lever connected with the link and operating through the same for adjusting the vertical position of the tamper, and a locking device engaging the link for holding the tamper out of operation.

2. A tamping machine comprising a pair of tampers, separate slides connected with the tampers to move therewith, a link arranged to engage both slides, a lever connected with the link for raising the slides, and a device arranged to engage the link when the lever is raised for holding the tampers inoperative.

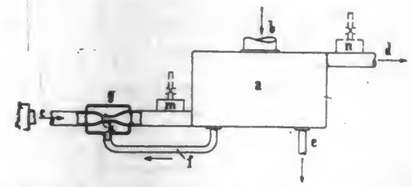
3. A tamping machine comprising oppositely disposed tampers, slides connected therewith, a post on which the slides are mounted, means operating on the slides to move the tampers on their upstroke, means for moving the tampers on the tamping stroke, a link having a slot and pin connection with each slide, means operating through the link for holding both tampers out of inoperative relation with the first-mentioned means, and a device for engaging the link for locking the tampers out of operation.

4. A tamping machine comprising a plurality of tampers, separately actuated devices for holding any tamper in inoperative position, and a single device operating through the first-mentioned devices for adjusting the vertical position of the tampers.

5. A tamping machine comprising a plurality of tampers, individual levers operatively connected with the tampers for raising the same, a device for holding any tamper out of operation, and a common lever arranged to operate through the first-mentioned levers for adjusting the vertical position of the tampers.

[Claims 6 to 24 not printed in the Gazette.]

971,505. APPARATUS FOR REMOVING GASES AND VAPORS FROM SURFACE CONDENSERS. EMIL JOSSE, Berlin, and WILHELM GENSECKE, Charlottenburg, Germany. Filed Oct. 12, 1909. Serial No. 522,344.



1. In apparatus for removing gases and vapors from a surface condenser, the combination with said condenser, of a cooling medium supply pipe connected to the cooling medium inlet of said condenser, means for delivering cooling medium under pressure into said cooling medium supply pipe, an inducing device in said cooling medium supply pipe, a diffuser behind said inducing device in said cooling medium supply pipe, a chamber surrounding said inducing device, and a connecting pipe connecting the condenser vapor outlet to said chamber, whereby the gases and vapors not condensed by said cooling medium in its passage through said condenser are drawn from the latter through said connecting pipe by the inducing action of said cooling medium passing through said inducing device and carried along by it through said cooling medium supply pipe into and through the cooling medium space in the condenser and out through the cooling medium outlet of the condenser, as set forth.

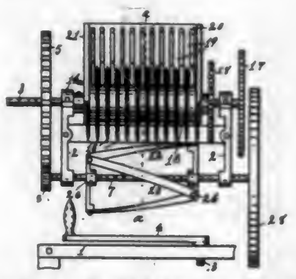
2. In apparatus for removing gases and vapors from a surface condenseer, the combination with said condenser, of a cooling medium supply pipe connected to the cooling medium inlet of said condenseer, a force pump for delivering cooling medium under pressure into said cooling medium supply pipe, an inducing device in said cooling medium supply pipe, a diffuser behind said inducing device in said cooling medium supply pipe, a chamber surrounding said inducing device, and a connecting pipe connecting the condenser vaper outlet to said chamber, whereby the gases and vapors not condensed by said cooling medium in its passage through said condenser are drawn from the latter through said connecting pipe by the inducing action of said cooling medium passing through said inducing device and carried along by it through said cooling medium supply pipe into and through the cooling medium space in the condenser and out through the cooling medium outlet of the condenser, as set forth.

3. In apparatus for removing gases and vapors from a surface condenseer, the combination with said condenser, of a cooling medium supply pipe connected to the cooling medium inlet of said condenser, a force pump for delivering cooling medium under pressure into said cooling medium supply pipe, and inducing device in said cooling medium supply pipe, a diffuser behind said inducing device in said cooling medium supply pipe, a chamber surrounding said inducing device, and a connecting pipe connecting the condenser vapor outlet to said chamber, and a suction device located behind said diffuser in the path of said cooling medium, whereby the gases and vapors carried along by said cooling medium and not dissolved in it are removed from said cooling medium, as set forth.

971,506. CHEESE-CURD MILL. CHARLES JUNKER, Greenleaf, Wis. Filed Feb. 2, 1909. Serial No. 475,713.

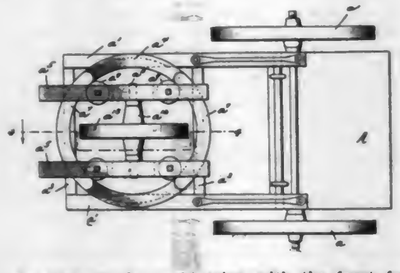
A cheese curd mill comprising a hopper, a roller rotatably mounted beneath the hopper, a series of parallel

disks rotatably mounted beneath the hopper and having their peripheral edges arranged in direct contact with the surface of the roller, the said disks and the said rollers, respectively, being arranged immediately beneath the throat of the hopper to permit a direct gravity feed of material between the disks and roller, respectively, a shearing member extending longitudinally of the roller



and beneath the longitudinal axis thereof, a cutting knife mounted immediately beneath the said disks and roller, respectively, and having its blades formed to coöperate with the said shearing member, and a series of deflecting plates extending downwardly between the disks and rollers, respectively, and having their lower ends arranged immediately at one side of the shearing member.

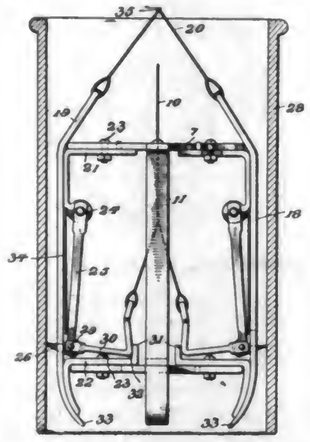
971,507. FRONT GEAR FOR WAGONS. GEORGE KAUTZ, Sr., Albany, N. Y., assignor to Huldah M. Kautz, Albany, N. Y. Filed Aug. 27, 1909. Serial No. 514,949.



1. In a wagon, in combination with the front framework thereof, front running-gear, comprising a horizontally-disposed annulus rigidly secured to said framework, wagon-hounds disposed beneath said annulus, two arc-plates disposed on top of said wagon-hounds, extending transversely thereof, rigidly secured thereto, and bearing against the under surface of said annulus, two straight plates rigidly secured to said hounds and bearing, at their ends, upon the upper surface of said annulus, anti-friction rollers rotatably mounted between said straight plates and said hounds and bearing against the inner circumferential wall of said annulus, and a single front wheel disposed between said hounds.

2. In a wagon, in combination with the front framework thereof, front running-gear, comprising a horizontally-disposed annulus rigidly secured to said framework, wagon-hounds disposed beneath said annulus, two arc-plates disposed on top of said wagon-hounds, extending transversely thereof, rigidly secured thereto, and bearing against the under surface of said annulus, shoulders carried on the upper surfaces and intermediate the length of said hounds, two straight plates rigidly secured to said hounds and disposed on top of said shoulders and bearing, at their ends, upon the upper surface of said annulus, anti-friction rollers rotatably mounted between said straight plates and said hounds and bearing against the inner circumferential wall of said annulus, and a single front wheel disposed between said hounds.

971,508. TILE-SETTER FOR WELLS. ALBIN H. KLUCKING, Sibley, Iowa, assignor of one-third to George McMillan, Sibley, Iowa. Filed Jan. 10, 1910. Serial No. 537,317.



1. A tile setter including a rigid frame, a gripping device pivotally mounted on the frame and movable into engagement with a tile, a trip device pivotally connected with the lower end of said gripping device for holding the gripping device in engagement with said tile, and means operatively connected with the trip device for releasing the latter.

2. A tile setter including a rigid frame adapted to fit within a tile, gripping arms pivotally mounted on the frame and movable into frictional engagement with the inner wall of a tile, trip devices pivotally connected with the lower ends of the gripping arms for holding the gripping arms in engagement with the tile, and means operatively connected with the trip devices for releasing the latter.

3. A tile setter including a frame having slots formed therein, gripping arms mounted on the frame and provided with angularly disposed fingers movable through said slots into engagement with a tile, trip devices connected with the arms for holding the fingers in contact with said tile, and means operatively connected with the trip devices for releasing the latter.

4. A tile setter including an adjustable frame adapted to fit within a tile and provided with slots, gripping arms pivotally mounted on the frame and provided with terminal fingers extending through said slots for engagement with the interior wall of the tile, stop lips secured to the frame, trip devices pivotally connected with the gripping arms and adapted to engage the stop lips for holding the fingers of said gripping arms in engagement with the tile, and means connected with said trip devices for disengaging the latter from the stop lips to permit the removal of the frame from the tile.

5. A tile setter including a frame having slots formed therein and adapted to fit within a tile, gripping arms pivotally mounted on the frame and provided with angularly disposed fingers adapted to extend through said slots for engagement with the inner wall of the tile, stop lips spaced from the lower ends of the gripping arms, springs bearing against the gripping arms for normally holding the fingers thereof in retracted position, trip devices pivotally connected with said gripping arms and provided with elbows adapted to bear against the outer faces of the stop lips for holding the fingers of the gripping arms in engagement with the tile, an actuating cable connected with the trip devices for releasing the latter, and a hoisting cable connected with the frame.

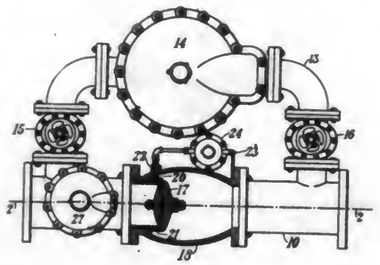
[Claims 6 to 9 not printed in the Gazette.]

971,509. RECEPTACLE-COVER. BERTHA F. KRAMER, Louisville, Ky. Filed Feb. 23, 1910. Serial No. 545,381



In combination with a tapering cover having perforations therein, a hood having its inner edge movable in contact with and conforming to the taper of the hood, a curved perforated slide movable against the inner face of the perforated portion of the cover, means for fastening said hood and slide to move in unison whereby the perforations of the hood and slide may be moved into or out of registration by the manipulation of the hood.

971,510. METER SYSTEM. JAMES A. TILDEN, Hyde Park, Mass., assignor to Hersey Manufacturing Company, South Boston, Mass., a Corporation of Maine. Filed Dec. 14, 1908. Serial No. 467,390.

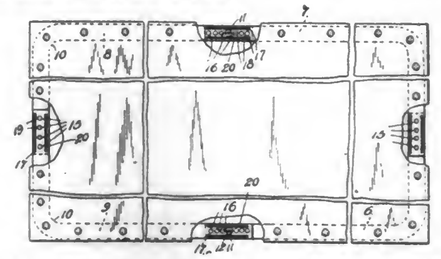


In a meter system; a main conduit; a primary by-pass communicating therewith; a meter included in the primary by-pass and operable by a relatively small flow through the system; a proportional meter comprising a diaphragm in the main conduit between the openings of the primary by-pass, a secondary by-pass about the diaphragm, and a meter in the secondary by-pass, the diaphragm being provided with an opening closely approximating in diameter that of the main conduit, thus offering practically no resistance to flow therethrough and consequently being effective to divert a measurable quantity of liquid through the secondary by-pass only upon a relatively large flow through the system; and a check-valve situated in the main conduit between the primary by-pass openings and adapted to normally hold said main conduit closed and to open when a flow occurs sufficient to operate the secondary by-pass meter.

971,511. HOLDER FOR FLOOR-COVERINGS. DEWEY WOLCOTT, Norwalk, Ohio. Filed Mar. 5, 1910. Serial No. 547,601.

1. In an attachment for spreading and holding floor coverings, a frame comprising sections having adjustable interlocking connections at their ends, cupped portions struck up from the sections, the portions having apertures and intersecting slots in the top thereof, and buttons adapted to be secured to a floor covering near its edge engaged by said portions.

2. In an attachment for spreading and holding floor coverings, a frame comprising sections adapted to interlock, the said interlocking sections being provided with engaging members and apertures respectively adapted to receive said engaging members, one of the interlocking sections being provided with slots and the other of said members being provided with studs slidable in said slots for retaining the sections in operative relation, resilient clasps struck from the sections, and buttons having heads engaged by the clasps, the said buttons being adapted for attachment to a floor covering.



3. In an attachment for spreading and holding floor coverings, a frame comprising sections, one of said sections having engaging members projecting from the upper surface thereof and formed integral therewith, studs on opposite sides of the engaging members, sections adapted to coact with the first mentioned sections having apertures to receive the engaging members and having slots to receive the studs whereby the sections are held in operative relation, clasps struck from the sections, and buttons having shanks adapted to be secured to a floor covering said buttons having heads engaged by the clasps.

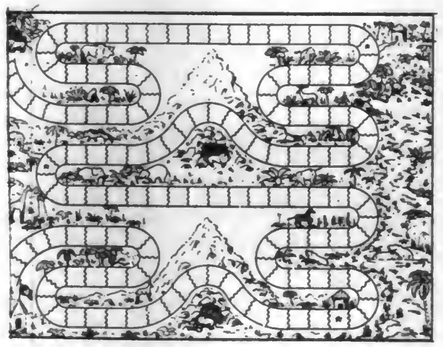
DESIGNS.

40,914. PUZZLE-BADGE. WALTER B. BLISS, Los Angeles, Cal. Filed Apr. 9, 1908. Serial No. 426,131. Term of patent 3½ years.



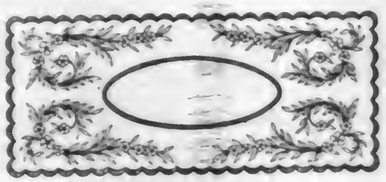
The ornamental design for a puzzle badge, as shown and described.

40,915. GAME-BOARD OR SIMILAR ARTICLE. GEORGE N. ROCK, Branford, Conn. Filed June 13, 1910. Serial No. 566,702. Term of patent 3½ years.



The ornamental design for a game board or similar article as shown.

40,916. BOX-MAT. ROBERT GAIR, New York, N. Y. Filed July 16, 1910. Serial No. 572,391. Term of patent 3½ years.



The ornamental design for a box mat, as shown.

40,917. BOX-MAT. ROBERT GAIR, New York, N. Y. Filed July 30, 1910. Serial No. 574,738. Term of patent 3½ years.



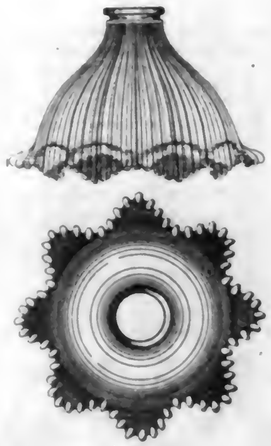
The ornamental design for a box mat, as shown.

40,918. MUFF. JACOB KARPELES, New York, N. Y. Filed Aug. 5, 1910. Serial No. 575,857. Term of patent 7 years.



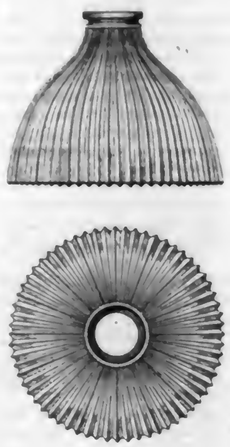
The ornamental design for a muff, as shown.

40,919. LAMP SHADE OR REFLECTOR. JACOB KAPPLER, Philadelphia, Pa., assignor to Gill & Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Aug. 14, 1909. Serial No. 512,930. Term of patent 14 years.



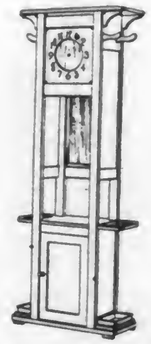
The ornamental design for a lamp shade or reflector, as shown and described.

40,920. LAMP SHADE OR REFLECTOR. JACOB KAPPLER, Philadelphia, Pa., assignor to Gill & Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Aug. 17, 1909. Serial No. 513,365. Term of patent 14 years.



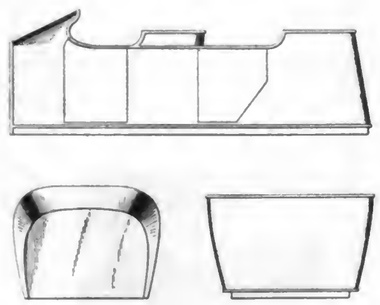
The ornamental design for a lamp shade or reflector, as shown and described.

40,921. CLOCK AND HALL STAND. LOUIS A. BREITINGER, Philadelphia, Pa. Filed June 23, 1910. Serial No. 568,601. Term of patent 3½ years.



The ornamental design for a clock and hall stand, as shown.

40,922. AUTOMOBILE-BODY. ERIK HEYL, Buffalo, N. Y. Filed July 30, 1910. Serial No. 574,739. Term of patent 7 years.



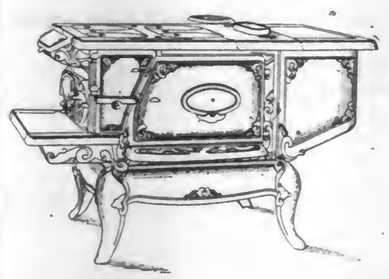
The ornamental design for an automobile body, as shown.

40,923. STOVE. SYDNEY P. LANDCRAFT, Quincy, Ill. Filed July 21, 1910. Serial No. 573,151. Term of patent 7 years.



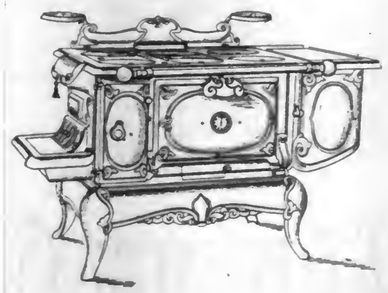
The ornamental design for a stove as shown.

40,924. STOVE. MAX R. LEHMAN, Quincy, Ill. Filed Aug. 16, 1910. Serial No. 577,533. Term of patent 7 years.



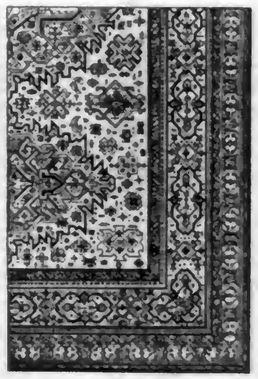
The ornamental design for a stove as shown.

40,925. STOVE. MAX R. LEHMAN, Quincy, Ill. Filed Aug. 16, 1910. Serial No. 577,534. Term of patent 7 years.



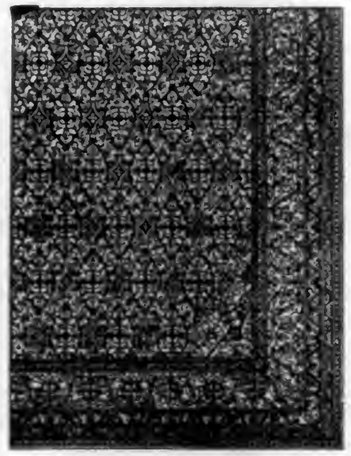
The ornamental design for a stove as shown.

40,926. RUG. EMIL G. SAUER, Richmond Hill, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed Aug. 11, 1910. Serial No. 576,777. Term of patent 7 years.



The ornamental design for a rug, as shown, and described.

40,927. RUG. JOHN SPRING, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed Aug. 11, 1910. Serial No. 576,776. Term of patent 7 years.



The ornamental design for a rug, as shown, and described

TRADE-MARKS

PUBLISHED SEPTEMBER 27, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 31,071. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) WHITFIELD HARDWARE COMPANY, Hawkinsville, Ga. Filed Nov. 7, 1907.

WIRE GRASS

Particular description of goods.—Pocket-Cutlery, Razors, Scissors, Hatchets, Axes, and Adzes.

Ser. No. 39,061. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ELETO COMPANY, New York, N. Y. Filed Dec. 3, 1908.



Particular description of goods.—A Preparation for Cleaning the Teeth and a Liquid Antiseptic for Use Both Externally and Internally.

Ser. No. 40,869. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) OAKLEY CHEMICAL CO., New York, N. Y. Filed Mar. 1, 1909.

OAKITE

Particular description of goods.—A Granulated Chemical Cleansing Compound.

Ser. No. 46,179. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) O'NEIL & WEILL, Toledo, Ohio. Filed Nov. 29, 1909.



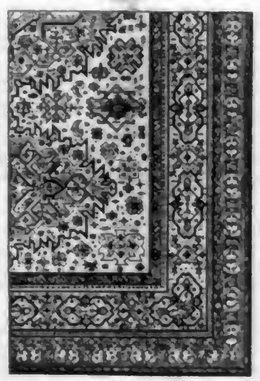
Particular description of goods.—Blended Rye Whiskies.

Ser. No. 48,972. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE HAVEN MILLING COMPANY, INC., Haven, Kans. Filed Apr. 9, 1910.

FEATHERFLAKE

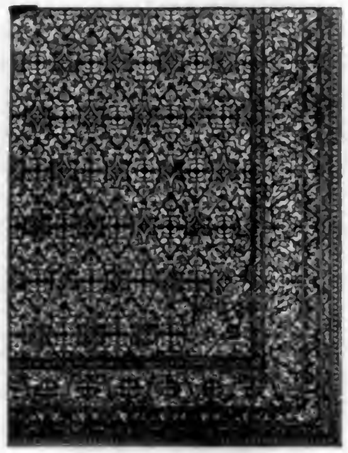
Particular description of goods.—Wheat-Flour.

40,926. RUG. EMIL G. SAUER, Richmond Hill, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed Aug. 11, 1910. Serial No. 576,777. Term of patent 7 years.



The ornamental design for a rug, as shown, and described.

40,927. RUG. JOHN SPRING, New York, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed Aug. 11, 1910. Serial No. 576,776. Term of patent 7 years.



The ornamental design for a rug, as shown, and described.

TRADE-MARKS

PUBLISHED SEPTEMBER 27, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

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Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 31,071. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) WHITFIELD HARDWARE COMPANY, Hawkinsville, Ga. Filed Nov. 7, 1907.

WIRE GRASS

Particular description of goods.—Pocket-Cutlery, Razors, Scissors, Hatchets, Axes, and Adzes.

Ser. No. 39,061. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ELETO COMPANY, New York, N. Y. Filed Dec. 3, 1908.



Particular description of goods.—A Preparation for Cleaning the Teeth and a Liquid Antiseptic for Use Both Externally and Internally.

Ser. No. 40,869. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) OAKLEY CHEMICAL CO., New York, N. Y. Filed Mar. 1, 1909.

OAKITE

Particular description of goods.—A Granulated Chemical Cleansing Compound.

Ser. No. 46,179. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) O'NEIL & WEILL, Toledo, Ohio. Filed Nov. 29, 1909.



Particular description of goods.—Blended Rye Whiskies.

Ser. No. 48,972. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE HAVEN MILLING COMPANY, INC., Haven, Kans. Filed Apr. 9, 1910.

FEATHERFLAKE

Particular description of goods.—Wheat-Flour.

Ser. No. 49,064. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FORT STANWIX CANNING COMPANY, Rome, N. Y. Filed Apr. 13, 1910.

FARMSIDE

Particular description of goods.—Canned Fruits and Vegetables.

Ser. No. 49,127. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) BROAD RIVER GRANITE COMPANY, Atlanta, Ga. Filed Apr. 16, 1910. Used ten years.

OGLESBY

The word "Oglesby."
Particular description of goods.—Rough Granite.

Ser. No. 49,151. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) W. F. SCHRAFFT & SONS CORPORATION, Boston, Mass. Filed Apr. 16, 1910.



The Alhambra

Comprising the words "The Alhambra" and the representation of the Alhambra.
Particular description of goods.—Chocolate Candy.

Ser. No. 49,368. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE MAUDE ODELL COMPANY, New York, N. Y. Filed Apr. 28, 1910.



Being the portrait of Maude Odell Doherty.
Particular description of goods.—Soap.

Ser. No. 50,010. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) A. W. O'BRIAN & COMPANY, Hutchinson, Kans. Filed May 31, 1910.



The portrait being fanciful.
Particular description of goods.—Medicinal Oil.

Ser. No. 50,134. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SAMUEL CABOT, INC., Boston, Mass. Filed June 6, 1910.

Santago

Particular description of goods.—An Antiseptic.

Ser. No. 50,166. (CLASS 39. CLOTHING.) BROWN DURRELL CO., Boston, Mass. Filed June 7, 1910. Used ten years.

BABIES COMFORT

Particular description of goods.—Children's Woolen, Cotton, and Linen Knitted and Woven Underclothing.

Ser. No. 50,487. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) UNIVERSAL TIRE SETTER COMPANY, Baltimore, Md. Filed June 21, 1910.

MAGIC

Particular description of goods.—A Special Alloy Manufactured for Use in Repairing Wagon-Wheels.

Ser. No. 50,549. (CLASS 48. MALT EXTRACTS AND LIQUORS.) ASHLAND BREWING CO., Ashland, Wis. Filed June 24, 1910. Used ten years.

Ashland

Particular description of goods.—Beer.

Ser. No. 50,720. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE L. C. HASINGER COMPANY, Indiana, Pa. Filed July 6, 1910.



Particular description of goods.—Wooden Tool-Handles.

Ser. No. 50,856. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) GIROUX MANUFACTURING COMPANY, Buffalo, N. Y. Filed July 15, 1910.



The portrait being fanciful.
Particular description of goods.—Hair-Dressing and Hair-Tonic.

Ser. No. 50,902. (CLASS 17. TOBACCO PRODUCTS.) MOORE & CALVI, New York, N. Y. Filed July 18, 1910.

LA MEDITACION.

Particular description of goods.—Smoking and Chewing Tobacco.

Ser. No. 50,957. (CLASS 39. CLOTHING. THE CRAVENETTE COMPANY, LIMITED, Bradford, England. Filed July 21, 1910. Used ten years.

CRAVENETTE

Particular description of goods.—Hats and Caps Made of Straw, Grass, and Silk.

Ser. No. 51,089. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) C. W. ANTRIM & SONS, Richmond, Va. Filed July 26, 1910. Used ten years.

ALBEMARLE

Particular description of goods.—Vinegar.

Ser. No. 51,185. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) MARSHALL FURNACE COMPANY, Marshall, Mich. Filed July 30, 1910.

WOLVERINE

Particular description of goods.—Furnaces.

Ser. No. 51,304. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) WAYNE OIL TANK & PUMP COMPANY, Fort Wayne, Ind. Filed Aug. 8, 1910. Used ten years.

WAYNE

Particular description of goods.—Self-Measuring Pumps and Tanks.

Ser. No. 51,339. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) E. KIRSTEIN SONS COMPANY, Rochester, N. Y. Filed Aug. 10, 1910.

KOSMA

Particular description of goods.—Lenses.

Ser. No. 51,354. (CLASS 5. ADHESIVES.) THE "GLOY" MANUFACTURING COMPANY, LIMITED, London, England. Filed Aug. 11, 1910. Used ten years.

GLOY

Particular description of goods.—Adhesive Paste.

Ser. No. 51,370. (CLASS 12. CONSTRUCTION MATERIALS.) J. B. KING & CO., New York, N. Y. Filed Aug. 12, 1910.

SNOW FLAKE

Particular description of goods.—Plaster-of-Paris.

Ser. No. 51,453. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) KINNEY MFG. CO., Boston, Mass. Filed Aug. 17, 1910.



Particular description of goods.—Rotary Pumps.

Ser. No. 51,457. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) MILLERS FALLS COMPANY, Montague and Millers Falls, Mass. Filed Aug. 19, 1910. Used ten years.



Particular description of goods.—Hacksaw Frames and Chucks.

Ser. No. 51,462. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) WALTER E. SMITH, Boston, Mass. Filed Aug. 19, 1910.



Particular description of goods.—Catnip, Catnip Preparation, and Catnip-Balls.

Ser. No. 51,467. (CLASS 15. OILS AND GREASES.) CATARACT REFINING AND MANUFACTURING COMPANY, Buffalo, N. Y. Filed Aug. 20, 1910.

CASCADE

Particular description of goods.—Lubricating-Grease and Yarn-Grease.

Ser. No. 51,515. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JEREMIAH P. SMITH, Lincolntown, N. C. Filed Aug. 24, 1910.

J.P.S.

Particular description of goods.—A Remedy for Diseases of the Lungs.

Ser. No. 51,625. (CLASS 12. CONSTRUCTION MATERIALS.) FORD MANUFACTURING COMPANY, Chicago, Ill. Filed Aug. 30, 1910. Used ten years.

AQUAPROOF

Particular description of goods.—Prepared Rubber Roofings.

TRADE-MARKS

REGISTERED SEPTEMBER 27, 1910.

79,637. COLORS IN OIL. ACME WHITE LEAD & COLOR WORKS, Detroit, Mich.
Filed August 23, 1907. Serial No. 29,549. PUBLISHED JULY 26, 1910.

79,638. WRITING AND PRINTING PAPER. AMERICAN WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 7, 1907. Serial No. 27,925. PUBLISHED JULY 26, 1910.

79,639. SOAP. AQUIDNECK MANUFACTURING CO., Newport, R. I.
Filed July 17, 1909. Serial No. 43,577. PUBLISHED JULY 26, 1910.

79,640. LUBRICATING OIL AND GREASE. CHARLES H. BESLY & COMPANY, Chicago, Ill.
Filed March 8, 1910. Serial No. 48,274. PUBLISHED JULY 12, 1910.

79,641. PAPER, ENVELOPS, TABLETS, AND BLANK BOOKS. J. C. BLAIR COMPANY, Huntingdon, Pa.
Filed May 6, 1909. Serial No. 42,284. PUBLISHED JULY 26, 1910.

79,642. PAPER, ENVELOPS, TABLETS, AND BLANK BOOKS. J. C. BLAIR COMPANY, Huntingdon, Pa.
Filed August 25, 1909. Serial No. 44,350. PUBLISHED JULY 26, 1910.

79,643. COTTON PIECE GOODS. BOOTT MILLS, Lowell, Mass.
Filed September 7, 1906. Serial No. 21,955. PUBLISHED JULY 26, 1910.

79,644. COTTON PIECE GOODS. BOOTT MILLS, Lowell, Mass.
Filed September 7, 1906. Serial No. 21,957. PUBLISHED JULY 26, 1910.

79,645. LUBRICATING APPLIANCES FOR MACHINERY. AUGUSTUS BOWSER, Fort Wayne, Ind.
Filed March 4, 1910. Serial No. 48,185. PUBLISHED JUNE 21, 1910.

79,646. COVER-PAPER. CHAS. S. BOYD PAPER COMPANY, Appleton, Wis.
Filed June 23, 1910. Serial No. 50,545. PUBLISHED JULY 26, 1910.

79,647. SOAP. THE BURCKHARDT COMPANY, Cincinnati, Ohio.
Filed June 17, 1910. Serial No. 50,410. PUBLISHED JULY 26, 1910.

79,648. SELF-RAISING PANCAKE-FLOUR. F. B. CHAMBERLAIN COMPANY, St. Louis, Mo.
Filed December 6, 1909. Serial No. 46,313. PUBLISHED MARCH 29, 1910.

79,649. WHEAT-FLOUR. OSCAR W. CLEAL, Syracuse, N. Y.
Filed March 5, 1910. Serial No. 48,214. PUBLISHED JULY 26, 1910.

79,650. MACARONI PASTE FOODS. THE CLEVELAND MACARONI COMPANY, Cleveland, Ohio.
Filed August 21, 1908. Serial No. 36,867. PUBLISHED JULY 26, 1910.

79,651. GREASE COMPOUND FOR FILLING PITS IN CYLINDERS. CRESCENT PASTE CO., Penn township, Allegheny county, Pa.
Filed May 7, 1910. Serial No. 49,594. PUBLISHED JULY 26, 1910.

79,652. VEGETABLE REMEDY FOR MALARIA. DAVIS AND LAWRENCE CO., New York, N. Y.
Filed April 26, 1910. Serial No. 49,307. PUBLISHED JULY 26, 1910.

79,653. WEEKLY MAGAZINES. TERESA DEAN, New York, N. Y.
Filed May 16, 1910. Serial No. 49,758. PUBLISHED JUNE 28, 1910.

79,654. BRIAR-WOOD TOBACCO-PIPES. DELACOUR BROTHERS LIMITED, London, England.
Filed May 13, 1910. Serial No. 49,688. PUBLISHED JULY 26, 1910.

79,655. BEAN-SEED, PEA-SEED, FIELD-SEEDS, GRASS-SEEDS, AND SEED-GRAINS. THE ALBERT DICKINSON COMPANY, Chicago, Ill.
Filed May 19, 1910. Serial No. 49,810. PUBLISHED JULY 26, 1910.

79,656. REMEDY FOR DISEASES OF SWINE. MAX DIENSTFERTIG, Fraustadt, Germany.
Filed April 19, 1909. Serial No. 41,878. PUBLISHED JULY 26, 1910.

79,657. CERTAIN CLOTHING. CHARLES H. DUDLEY, Hanover, N. H.
Filed October 1, 1909. Serial No. 45,053. PUBLISHED JULY 26, 1910.

79,658. MAGAZINE. ANDREW J. DURAN, South Boston, Mass.
Filed April 9, 1910. Serial No. 48,965. PUBLISHED MAY 24, 1910.

79,659. LEATHER BOOTS, SHOES, AND LEGGINGS. ELLET-KENDALL SHOE COMPANY, Kansas City, Mo.
Filed November 2, 1907. Serial No. 30,952. PUBLISHED JULY 19, 1910.

79,660. COTTON, VELVET, AND FUSTIAN PIECE GOODS. N. ERLANGER, BLUMGART & CO., New York, N. Y.
Filed January 15, 1910. Serial No. 47,128. PUBLISHED JULY 26, 1910.

79,661. REMEDY FOR HEMORRHOIDS. JOHN C. ETHERTON, East St. Louis, Ill.
Filed May 21, 1910. Serial No. 49,857. PUBLISHED JULY 26, 1910.

79,662. RUBBER BANDS. A. W. FABER, Stein, near Nuremberg, and Berlin, Germany.
Filed June 30, 1910. Serial No. 50,636. PUBLISHED JULY 26, 1910.

79,663. LAXATIVE FOODS. FREDERICK K. FERNALD, Elkhart, Ind.
Filed June 13, 1910. Serial No. 50,295. PUBLISHED JULY 26, 1910.

79,664. CANNED SALMON. FIDALGO ISLAND PACKING CO., Anacortes, Wash.
Filed September 25, 1905. Serial No. 12,981. PUBLISHED JULY 26, 1910.

79,665. BOOTS AND SHOES AND SLIPPERS. NATH'L FISHER & CO., New York, N. Y.
Filed March 8, 1910. Serial No. 48,264. PUBLISHED JULY 26, 1910.

79,666. COFFEE. JAS. H. FORBES TEA & COFFEE COMPANY, St. Louis, Mo.
Filed March 16, 1910. Serial No. 48,488. PUBLISHED MAY 3, 1910.

79,667. BELTING. THE B. F. GOODRICH COMPANY, Akron, Ohio.
Filed June 20, 1910. Serial No. 50,435. PUBLISHED JULY 19, 1910.

79,668. WHEAT-FLOUR. THE ISAAC HARTER MILLING COMPANY, Toledo and Fostoria, Ohio.
Filed June 10, 1910. Serial No. 50,244. PUBLISHED JULY 26, 1910.

79,669. REMEDIES FOR CERTAIN DISEASES. THE HARTMAN DRUG COMPANY, Fort Wayne, Ind.
Filed May 27, 1910. Serial No. 49,950. PUBLISHED JULY 26, 1910.

79,670. CURRANTS. THE HILLS BROTHERS COMPANY, New York, N. Y.
Filed May 13, 1910. Serial No. 49,703. PUBLISHED JULY 26, 1910.

79,671. MALTED SODA. JOHANN HOFF, New York, N. Y.
Filed February 8, 1910. Serial No. 47,642. PUBLISHED JULY 26, 1910.

79,672. WHEAT-FLOUR. HOLT & COMPANY, New York, N. Y.
Filed April 25, 1910. Serial No. 49,283. PUBLISHED JULY 26, 1910.

79,673. SOAP. HOPEWELL BROTHERS, Newton, Mass.
Filed June 27, 1910. Serial No. 50,610. PUBLISHED JULY 26, 1910.

79,674. METAL-POLISH. HOPEWELL BROTHERS, Newton, Mass.
Filed June 27, 1910. Serial No. 50,611. PUBLISHED JULY 26, 1910.

79,675. REMEDY FOR HEADACHES, NEURALGIA, AND HEARTBURN. JOSEPH HOUSEWELLER, Albany, N. Y.
Filed April 14, 1910. Serial No. 49,082. PUBLISHED JULY 26, 1910.

79,676. WATCHCASES AND WATCH-MOVEMENTS. ILLINOIS WATCH CASE CO., Elgin, Ill.
Filed June 17, 1910. Serial No. 50,362. PUBLISHED JULY 26, 1910.

79,677. COTTON PIECE GOODS. CHARLES KOHLMAN & CO. INC., New York, N. Y.
Filed June 10, 1910. Serial No. 50,249. PUBLISHED JULY 26, 1910.

79,678. COTTON PIECE GOODS. KRAFT & CUTTER, New York, N. Y.
Filed January 31, 1910. Serial No. 47,485. PUBLISHED JULY 26, 1910.

79,679. CLOTHES-TREES ORNAMENTED BY PYROGRAPHIC METHOD. RICHARD G. KRUEGER, New York, N. Y.
Filed July 2, 1909. Serial No. 43,375. PUBLISHED JULY 26, 1910.

79,680. BROOMS. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed June 1, 1910. Serial No. 50,039. PUBLISHED JULY 26, 1910.

79,681. BOOTS AND SHOES OF LEATHER AND LEATHER AND CLOTH. A. E. LITTLE & COMPANY, Lynn, Mass.
Filed June 30, 1910. Serial No. 50,649. PUBLISHED JULY 26, 1910.

79,682. ALL TYPES OF WOVEN-WIRE FENCE. LUDLOW-SAYLOR WIRE COMPANY, St. Louis, Mo.
Filed May 16, 1910. Serial No. 49,749. PUBLISHED JULY 26, 1910.

79,683. BLOOD REMEDY AND TONIC. MILAM MEDICINE COMPANY, INC., Danville, Va.
Filed June 6, 1910. Serial No. 50,153. PUBLISHED JULY 26, 1910.

79,684. BLOOD REMEDY AND TONIC. MILAM MEDICINE COMPANY, INC., Danville, Va.
Filed June 8, 1910. Serial No. 50,189. PUBLISHED JULY 26, 1910.

79,685. REMEDY FOR COUGHS AND COLDS. OLIVER D. MILLER, Nevada, Iowa.
Filed April 6, 1910. Serial No. 48,870. PUBLISHED JUNE 7, 1910.

79,686. PERFUME. MIRO-DENA COMPANY, Syracuse, N. Y.
Filed April 12, 1910. Serial No. 49,031. PUBLISHED JULY 26, 1910.

79,687. REMEDY FOR LOCAL APPLICATION AND INHALATION. NATIONAL CHEMICAL COMPANY, Memphis, Tenn.
Filed August 6, 1908. Serial No. 36,512. PUBLISHED JULY 26, 1910.

79,688. RUGS. PEOPLE'S OUTFITTING COMPANY, Detroit, Mich.
Filed July 2, 1909. Serial No. 43,381. PUBLISHED JULY 26, 1910.

79,689. LEATHER BOOTS AND SHOES. JOHN PILLING SHOE COMPANY, Lowell, Mass.
Filed June 11, 1910. Serial No. 50,268. PUBLISHED JULY 26, 1910.

79,690. KNITTED UNDERSHIRTS, DRAWERS, AND UNION SUITS. THE PIQUA HOSIERY CO., Piqua, Ohio.
Filed May 9, 1910. Serial No. 49,599. PUBLISHED JULY 26, 1910.

79,691. CANNED VEGETABLES, SAUER-KRAUT, HOMINY, AND PORK AND BEANS. J. T. POLK COMPANY, Greenwood, Ind.
Filed April 25, 1910. Serial No. 49,285. PUBLISHED JULY 26, 1910.

79,692. VISES. PRENTISS VISE COMPANY, New York, N. Y.
Filed March 16, 1910. Serial No. 48,457. PUBLISHED JULY 26, 1910.

79,693. HAIR-TONICS. BALDOMERO DE LA PRIDA, Mexico, Mexico.
Filed June 15, 1910. Serial No. 50,318. PUBLISHED JULY 26, 1910.

79,694. INTERLINING. PRINTZ, BIEDERMAN CO., Cleveland, Ohio.
Filed June 23, 1910. Serial No. 50,522. PUBLISHED JULY 26, 1910.

79,695. FOOT-POWDER. PURITY LABORATORIES, New York, N. Y.
Filed June 16, 1910. Serial No. 50,341. PUBLISHED JULY 26, 1910.

79,696. CANDIES. JOHN T. REED, Baltimore, Md.
Filed April 6, 1910. Serial No. 48,879. PUBLISHED MAY 3, 1910.

79,697. BRICKS. RIDGWAY BRICK CO., Ridgway, Pa.
Filed June 13, 1910. Serial No. 50,288. PUBLISHED JULY 26, 1910.

79,698. GRAIN-SEPARATORS AND THRESHING-MACHINES. ROBINSON & CO., Richmond, Ind.
Filed June 3, 1910. Serial No. 50,092. PUBLISHED JULY 26, 1910.

79,699. MEN'S, WOMEN'S, AND CHILDREN'S LEATHER SHOES. ABE. SCHWALBE, New York, N. Y.
Filed February 23, 1910. Serial No. 47,980. PUBLISHED JULY 26, 1910.

79,700. ANIMAL-SERUM. SERUM-LABORATORIUM RUETE-ENOCH, Hamburg, Germany.
Filed November 15, 1909. Serial No. 45,906. PUBLISHED JULY 26, 1910.

79,701. HAIR-TONIC. PLEASANT M. SIMS, Augusta, Ga.
Filed June 20, 1910. Serial No. 50,452. PUBLISHED JULY 26, 1910.

79,702. TOOTH-WASH. ABRAHAM C. SMYSOR, Cincinnati, Ohio.
Filed June 4, 1910. Serial No. 50,115. PUBLISHED JULY 26, 1910.

79,703. READY-MIXED PAINTS. THE SQUARE PAINT COMPANY, New Orleans, La.
Filed May 11, 1910. Serial No. 49,644. PUBLISHED JULY 26, 1910.

79,704. COMPRESSED YEAST. STANDARD COMPRESSED YEAST COMPANY, Baltimore, Md.
Filed June 9, 1910. Serial No. 50,210. PUBLISHED JULY 26, 1910.

79,705. COTTON-WADDING AND COTTON-BATTING. THE STEARNS & FOSTER COMPANY, Cincinnati, Ohio.
Filed April 30, 1909. Serial No. 42,139. PUBLISHED JULY 26, 1910.

79,706. COTTON-WADDING AND COTTON-BATTING. THE STEARNS & FOSTER COMPANY, Cincinnati, Ohio.
Filed April 30, 1909. Serial No. 42,140. PUBLISHED JULY 26, 1910.

79,707. CERTAIN CLOTHING. LEVI STRAUSS & CO., San Francisco, Cal.
Filed April 19, 1910. Serial No. 49,195. PUBLISHED JULY 26, 1910.

79,708. ICE-CREAM AND ICES. TERRE HAUTE PURE MILK AND ICE CREAM COMPANY, Terre Haute, Ind.
Filed August 9, 1909. Serial No. 44,033. PUBLISHED MAY 17, 1910.

79,709. WHEAT-FLOUR. WISCONSIN MILLING COMPANY, Menomonie, Wis.
Filed March 19, 1910. Serial No. 48,539. PUBLISHED JULY 26, 1910.

79,710. HOSIERY, UNDERSHIRTS, DRAWERS, AND UNION SUITS. H. WOLF & SONS, Cincinnati, Ohio.
Filed February 1, 1909. Serial No. 40,283. PUBLISHED JULY 26, 1910.

79,711. REMEDY FOR CERTAIN DISEASES. J. H. ZEILIN & COMPANY, INC., Philadelphia, Pa.
Filed May 4, 1910. Serial No. 49,497. PUBLISHED JULY 26, 1910.

79,712. LAXATIVES AND PURGATIVES. THE ZYMOLE COMPANY, New York, N. Y.
Filed May 23, 1910. Serial No. 49,879. PUBLISHED JULY 26, 1910.

TRADE-MARKS CANCELED.

74,486. CHEWING-TOBACCO. MANUEL SOBRINO, Habana, Cuba.
Registered July 13, 1909. Canceled August 27, 1910.

LABELS

REGISTERED SEPTEMBER 27, 1910.

15,327.—*Title:* "MINEOLA." (For Cigars.) JOSE GONZALEZ, New York, N. Y. Filed September 13, 1910.

15,328.—*Title:* "STONE HILL WINE CO." (For Brandy, Cognac Style.) STONE HILL WINE CO., St. Louis, Mo. Filed September 15, 1910.

15,329.—*Title:* "LIMKO EXTRACT." (For an Extract for Making Beverages.) JACOB H. NICHOLSON, Baltimore, Md. Filed September 14, 1910.

15,330.—*Title:* "TAVERN." (For Blended Coffee.) CLOSSET & DEVERS, Portland, Oreg. Filed September 7, 1910.

15,331.—*Title:* "BREEN'S—BRITISH BLEND." (For Blended Tea.) THOMAS G. BREEN, Boston, Mass. Filed August 5, 1910.

15,332.—*Title:* "INDEPENDENT BAKERY CO. EAGLE BREAD." (For Bread.) INDEPENDENT BAKERY CO., St. Louis, Mo. Filed May 7, 1910.

15,333.—*Title:* "SO-EZY." (For Foot-Powder.) IMPERIAL REMEDY CO., Buffalo, N. Y. Filed June 15, 1910.

15,334.—*Title:* "SELLRICH BATH SPONGE." (For Bath-Sponges.) FREIRICH & MANSELL, New York, N. Y. Filed August 22, 1910.

15,335.—*Title:* "STEP-INTO SHOE." (For Shoes.) GUY A. ORMISTON, Arkansas City, Kans. Filed April 25, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

TAYLOR *v.* GILMAN.

Decided January 19, 1910.

1. INTERFERENCE—PRIORITY—REDUCTION TO PRACTICE—TESTS OF EXHIBITS AT HEARING.

T. offered at the hearing to have a certain exhibit which had been offered in evidence tested, in order to show that it was then in an operative condition. *Held* that the result of such test would be immaterial, since the question of reduction to practice is one which must be decided on the record as presented.

2. SAME—SAME—DILIGENCE—WORK ON OTHER FORMS OF DEVICE.

Work on one form of a device cannot be considered as diligence in the reduction to practice of another form.

APPEAL from Examiners-in-Chief.

HAMMER-DRILL.

Messrs. Brown & Seward for Taylor.

Messrs. Emery & Booth for Gilman.

BILLINGS, *First Assistant Commissioner:*

This is an appeal by Gilman from a decision of the Examiners-in-Chief awarding priority of invention to Taylor. This decision reversed the decision of the Examiner of Interferences as to count 4, but affirmed it as to the remaining counts.

The invention relates to what are known as "hammer-drills," and the issue contains ten counts, of which the following set forth the invention sufficiently for the purpose of this decision:

2. In an air-feed hammer-drill, a head-block, an air-supply, an air-feed cylinder, its piston and a manually-operated valve in the head-block having passages arranged when in its first position to open communication between the air-feed cylinder and external atmosphere and close communication between the air-supply, the air-feed cylinder and the hammer; when in its second position to close communication between the air-feed cylinder and external atmosphere and between the air-supply and hammer and to open communication between the air-supply and air-feed cylinder; and when in its third position to open communication between the air-supply, the air-feed cylinder and the hammer.

4. In an air-feed hammer-drill, a head-block, an air-supply, an air-feed cylinder attached directly to the head-block, a piston located in the cylinder having its rod extended rearwardly to form a rear support for the tool, and a manually-operated valve in the head-block for controlling communication between the air-supply, the air-feed cylinder and the hammer.

6. The combination with a pressure-fluid tool of pressure-fluid-feeding means therefor, and a controlling-throttle for said tool and said feeding means adapted to connect the pressure fluid, first to the feeding means and then to the tool, without interrupting the supply of pressure fluid to the feeding means.

9. The combination with a pressure-fluid tool of pressure-fluid-feeding means therefor alined therewith, and throttling means both for the tool and the feeding means and located in a space between the same.

The relation of this invention to the prior art is well stated in the decision of the Examiner of Interferences, as follows:

Prior to the invention of either of these parties it was old to provide drills of this character with what were known as pressure-feeds; that is, the cutting-tool, and its actuating elements, were moved forward by means of air-pressure acting in a cylinder provided with a piston. A suitable support was provided, and upon the admission of air to the feed-cylinder, the cutting-tool and the hammer-actuating mechanism were moved forward by the pressure exerted between the piston and its cylinder. As these drills were heretofore made, the practice was to provide the same with two independent valves, one adapted to control the application of air to the feed-cylinder, the other adapted to control the admission of air to the hammer-actuating cylinder. The invention in issue differs from the prior art in that it is provided with but a single valve, so designed as to perform the functions of the two valves of the prior construction. The valves used by the respective parties are specifically different. That used by Taylor is a tapered rotary valve, while that employed by Gilman is in the form of a piston moving in a cylinder. In each, however, the initial movement of the valve causes admission of air to the feeding-cylinder. Further movement, in both instances, causes admission of air to the hammer-cylinder by which the hammer is actuated, the action being such that the pressure in the feeding-cylinder is maintained during the drilling operation, so that the drill is forced forward as the same advances into the material.

Taylor discloses in his application two forms of the invention. In one the cylinder of the pressure-feed is attached to the head-block, in the other the piston is so attached. Gilman shows only one form—that in which the cylinder is attached to the head-block. Count 4 is specific to this form of the invention. The other counts will read on both forms.

Gilman took no testimony, but relies on the filing of his application for conception and constructive reduction to practice. His application was filed February 2, 1907.

The Examiner of Interferences and the Examiners-in-Chief both found that Taylor had established conception of the invention set forth in all the counts some time prior to Gilman's filing date. They both found that Taylor had built a drill with the cylinder attached to the head-block and a number of drills with the piston attached to the head-block prior to that date, that the former was merely an abandoned experiment, and that therefore Taylor had not established a reduction to practice of the invention set forth in count 4, but that the other drills constituted a reduction to practice of the remaining counts. The Examiner of Interferences held that Taylor was lacking in diligence in reducing the in-

vention of count 4 to practice; but on this point his decision was reversed by the Examiners-in-Chief.

That Taylor had a conception of both forms of the invention prior to Gilman's filing date is conclusively established by the testimony of Taylor and the witnesses Wilhelm, Clappison, and Carpenter, who testify as to the making of certain drawings which are in evidence and which clearly disclose the invention.

Taylor's testimony as to the building of machines in accordance with these drawings may be summarized as follows: After the first drawings were made work was started on a drill having the piston attached to the head-block; but it was never completed, as certain changes in construction had been decided upon. In June, 1905, shortly after work was stopped on the earlier machine, a drill was built with the cylinder attached to the head-block. Upon the completion of this machine, which is in evidence as "Taylor Exhibit Experimental Machine Cylinder Attached to Head Block," it was laid aside, and nothing more was done with this type until after Gilman filed his application. After the first machine was completed drawings were made of the type having the piston attached to the head block, and in the summer of 1906 drills of this type were built and many of them sold.

Taylor offered in evidence as "Taylor Exhibit Standard Machine No. 1" and "Taylor Exhibit Standard Machine No. 2" two drills of the type which he states were built in 1906 in accordance with certain drawings which are in evidence and which clearly disclose the invention of all the counts except count 4.

The testimony offered in corroboration of Taylor as to the "cylinder-attached-to-head-block" form of the device is believed to be sufficient to establish that such a machine was built, but not to establish that this machine was a reduction to practice. As stated above, Taylor testifies that this machine was built in June, 1905, in accordance with certain drawings which clearly disclose the invention in issue. These drawings, which are in evidence as "Taylor's Exhibit G, G', G^2, and G^3," are identified by Carpenter, who made them, and he also identifies one of a set of papers marked "Taylor's Exhibit H" as being the order for patterns corresponding to these drawings. Anderson testifies that he built the machine which is in evidence as "Taylor's Exhibit Experimental Machine Cylinder Attached to Head Block" in June, 1905, and ran it in July, 1905. His testimony as to the testing of this machine is very meager, amounting merely to a statement that the machine was run and that its action was satisfactory. It appears, however, from Taylor's testimony (Q. 93 and X-Qs. 153–155) that this machine was not submitted to even so much of a test as the regular machines which were manufactured by the Ingersoll Rand Company, the assignee of his application and the real party in interest. In view of this fact and of the further facts that the machine was laid aside and work commenced on the other form, that it was not taken up for more than a year and a half, when drawings were made in April, 1907, and that when a machine of this type was built in August, 1907, it was found necessary to test it carefully in actual work for about three weeks and then make certain changes in it, it must be held that the "Experimental Machine Cylinder Attached to Head Block" did not constitute a reduction to practice.

Taylor has offered to have the exhibit "Experimental Machine Cylinder Attached to Head Block" tested in order to show that it is now in operative condition. The result of such a test would, however, be immaterial. The question involved is whether Taylor has established a reduction to practice, and that must be decided on the record as presented.

While the testimony offered in corroboration of that of Taylor as to the making of drills like exhibits "Standard Machines Nos. 1 and 2" is not so clear and explicit as it might have been, it is believed to be sufficient to establish that this form of the invention was reduced to practice prior to Gilman's filing date.

Taylor himself testifies that drills like these exhibits were made in the summer of 1906 in accordance with certain drawings. The dates of these drawings are clearly established, and they fully disclose the invention. He also testifies that prior to the time when this form was commenced they were manufacturing drills made in accordance with the Haeseler patent, No. 892,023, in which two valves were employed, one controlling the admission of air to the air-feed, and the other controlling the admission of air to the hammer, that the manufacture of drills of the Haeseler type was discontinued in the spring of 1906, (X-Q. 140,) and that several hundred drills like the "Standard Machines" have been sold.

Apgar testifies that two types of drills were manufactured by the Ingersoll Rand Company, one having two valves for the control of the air, the other having a single valve for the purpose, that he saw drills of the latter type complete and ready for sale about July 20, 1906, and that the exhibits "Standard Machines Nos. 1 and 2" are similar to the ones he saw at that time. He also testifies that the Ingersoll Rand Company stopped manufacturing and shipping the type of drill having two valves in the spring of 1906.

Kutz, who states that he is foreman of the testing department of the Ingersoll Rand Company, testifies that his duties are to test all machines and tools as they come from the assemblers, and that he tested machines like the "Standard Machines" in the summer of 1906, and that they were tested not only for defects but for efficiency. He describes the tests to which these machines were submitted as follows:

> 27 X-Q. How did you test machines like Standard Machine No. 1 and Standard Machine No. 2?
>
> A. By placing them in a vertical position with the air-feed extended against a support and the lower part of the hammer with a part in the bushing like a drill-shank, that we call a testing set, against a steel block and air-connected, running in that position for I say 8 to 10 hours.

In view of the fact that drills having an air-feed were old and that the invention in issue consists in

the substitution of one valve for the two previously used this test is deemed sufficient. The fact that a number of these drills were sold also tends to corroborate Taylor's testimony that these drills were found satisfactory when tested in 1906.

These drills embody the invention set forth in counts 1, 2, 3, and 5 to 10 of the issue, and it is held that Taylor has established reduction to practice of the invention set forth in these counts prior to Gilman's filing date and that priority of invention was properly awarded as to them.

Taylor has not, as stated above, established a reduction to practice of the invention set forth in count 4 prior to Gilman's filing date, and this was the holding of both the Examiner of Interferences and the Examiners-in-Chief. The latter, however, held that Taylor was entitled to an award of priority as to this count, on the ground that he was the first to conceive and was not lacking in diligence. Their decision on this point is as follows:

> * * * Even if the Standard machines did not constitute a reduction to practice of the invention in controversy Taylor is still entitled to prevail as to these counts since his work upon the machines from 1905 until October 1, 1907, when he filed his application, appears to have been unremitting and persistent. This conclusion as to diligence necessarily involves the form of machine in which the cylinder was attached to the head-block, covered by count 4. (*Christensen* v. *Noyes*, C. D., 1900, 212; 15 App. D. C., 94.) The two forms of the device embody the same generic invention and diligence in respect to either form was sufficient if, as appears to be the fact in this case, the other form was not abandoned.

It has been repeatedly held, however, that work upon one form of a device cannot be considered as diligence in the reduction to practice of another form. (*Clement* v. *Richards* v. *Meissner*, 113 O. G., 1143; *Briggs* v. *Lillie, etc.*, 116 O. G., 871.) In the former decision the Commissioner said:

> It is contended by Clement that work on one of these specific forms of invention constitutes reasonable diligence in the completion of the other form. This contention is not sound, for the following reasons: It is clear that proofs which establish the fact of conception and disclosure of one specific form of an invention cannot be held to establish conception and disclosure of another specific form of the same generic invention. Likewise, proofs of the reduction to practice of one specific form of invention cannot be held to establish the fact of reduction to practice of another specific form of that invention. Consequently it necessarily follows that diligence in reducing to practice the conception of one specific form cannot be held to be diligence in the reduction to practice of another specific form.

It is to be noted that in the decision in *Christensen* v. *Noyes*, referred to by the Examiners-in-Chief, there is no mention of more than one form of the invention.

Since Taylor was doing nothing with the invention set forth in count 4 at the time Gilman filed his application, the latter is entitled to an award of priority as to this count.

It is contended on behalf of Taylor that count 4, although patentable to Taylor, is not patentable to Gilman. The grounds for this contention are stated in the brief for Taylor as follows:

> While count 4 containing the limiting phrase "cylinder attached directly to the head-block," may be patentable to the party who first made the invention which provided for the use of a single valve to first admit air to the feed, then to the feed and tool, and subsequently cutting off air from the tool and opening communication between the feed and atmosphere, it is not patentable to a rival inventor later in the field, for the reason that it does not contain sufficient patentable novelty to warrant in itself the issue of a rival patent thereon, it being simply a reversal of one feature of the present invention and that not the important or essential feature.

Taylor, however, shows the two species in his application and was allowed the claim containing the limitation referred to. The Examiner of Interferences did not recommend that this count is not patentable over the remaining counts, and the case is not such a one as to warrant action under the supervisory authority of the Commissioner.

Priority of invention is therefore awarded to Gilman as to count 4 and to Taylor as to the remaining counts.

The decision of the Examiners-in-Chief is affirmed as to all the appealed counts, except count 4, and as to that count it is reversed.

EX PARTE STUBTEVANT AND STUBTEVANT.

Decided September 6, 1910.

PROSECUTION OF APPLICATION—RESPONSIVE ACTION.

Where the Examiner rejected certain claims and required further illustration, the mere amendment of the drawing was not an action which amounted to the prosecution of the application within the meaning of section 4894, Revised Statutes, (citing *ex parte Walton*, 120 O. G., 659, and *ex parte Wentzel*, 131 O. G., 941.)

ON PETITION.

CRUSHING-MACHINE.

Messrs. Calver & Calver for the applicants.

TENNANT, *Acting Commissioner:*

This is a petition that this case be held to be not abandoned or that if held to be techincally abandoned the case be revived.

The record shows that the first official action was made on January 30, 1909, certain claims of the application being rejected and illustrations of certain matter being required. On July 8, 1909, the applicants filed blue-prints, with a request for leave to amend the drawings, and on July 19, 1909, permission to amend the drawings was given by the Examiner, and on July 22, 1909, the applicant filed a letter requesting the official draftsman to amend the drawings in accordance with the sketch which had been furnished. No further action was taken in the case until May 18, 1910, more than three months after the year from the official action of January 30, 1909.

No showing accompanies the amendment or the petition why this amendment was not filed at an earlier date. It is contended, however, by the applicants that—

> they have not failed to prosecute their application within one year after notice of official action, but that, on the contrary, they have continued the prosecution of the case by taking such action as was proper in the matter, and that the application has been prosecuted in good faith.

This contention is clearly without force. The amendment of the drawings merely cured a formal error and was not an action which amounted to the prosecution of the application within the meaning of section 4894, Revised Statutes, as pointed out in numerous decisions, as, for example, *ex parte Walton* (120 O. G., 659) and *ex parte Wentzel*, (131 O. G., 941.)

As before stated, there is no showing why an amendment clearly responsive to the Office action was not filed earlier, and it cannot, therefore, be held that the delay in prosecuting the case has been

shown to have been unavoidable within the meaning of section 4894, Revised Statutes.

The petition is denied.

DECISION OF THE SECRETARY OF THE INTERIOR.

DUNKLEY v. BEEKHUIS.

Decided September 13, 1910.

1. JURISDICTION OF THE SECRETARY OF INTERIOR OVER THE COMMISSIONER OF PATENTS—EXTENSION OF FINAL HEARING IN AN INTERFERENCE.

Where an appeal was taken to the Secretary of the Interior from the decision of the Commissioner of Patents refusing to set aside the action of the Examiner of Interferences extending the time for final hearing in an interference where the printed copies of the junior party's testimony had been filed less than forty days before the date of hearing originally set, *Held* that "it might well be held upon the uniform decision of the court and this department that this appeal does not lie." (*Butterworth* v. *Hoe*, 112 U. S., 50; *Knight* v. *Bagnall* v. *Curtis* v. *Morgan*, 12 Op. Asst. Atty.-Gen., 183; 76 O. G., 1115, and the decision of Assistant Attorney-General Van Devanter, 14 Op. Asst. Atty.-Gen., 177; 87 O. G., 357.)

2. INTERFERENCE—POSTPONEMENT OF FINAL HEARING.

Where the junior party to an interference failed to file the printed copies of his testimony forty days before the day set for final hearing and upon a showing the Examiner of Interferences extended the date of final hearing and the Commissioner of Patents refused to set aside the action, *Held* that the Patent Office acted within its discretion, (citing Rule 120 of the Rules of Practice of the Patent Office.)

Messrs. Bacon & Milans and *Mr. T. Walter Fowler* for appellant.

Messrs. Chappell & Earl for the appellee.

Mr. R. F. Whitehead for the Commissioner of Patents.

DEPARTMENT OF THE INTERIOR,
Washington, September 13, 1910.

The Commissioner of Patents.

SIR: Hermanus A. Beekhuis proffered an appeal to the Secretary of the Interior from your office decision of August 8, 1910, refusing to set aside the action of an Examiner of Interferences in extending the time for final hearing in the interference proceeding of *Dunkley* v. *Beekhuis*, No. 30,610, which involved an application for Letters Patent for an invention and in accepting the printed record of testimony filed on behalf of Dunkley, the junior party, in that proceeding.

August 16, 1910, the Acting Secretary transmitted such proffered appeal for the consideration and report of the Commissioner of Patents, advising that such report should fully inform the department of the issues involved in this matter, and inviting suggestion as to the jurisdiction of the Secretary of the Interior over the question raised by the appeal.

Under date of August 19, 1910, in response to such reference, the Acting Commissioner of Patents reported that this interference was declared in accordance with the Rules of Practice of the Patent Office on July 13, 1909, and that the time for final hearing was set for September 18, 1909; that after various proceedings had in accordance with the Rules of Practice of your Office and pursuant to certain stipulations, times for taking testimony were extended, and on April 23, 1910, Dunkley's rebuttal testimony was set to close May 18, 1910, and the final hearing in the case set for July 21, 1910; that testimony was taken and filed on behalf of both parties, and that on July 5, 1910, printed copies of Dunkley's testimony were received; that on July 6, 1910, Dunkley was notified by the Chief Clerk of the Patent Office that these printed copies of the record had been received late and would not be filed except upon stipulation or motion. This notification was given under Rule 162 of the Rules of Practice of the Patent Office, which provides for the filing of printed copies of testimony, and reads in part as follows:

> These copies of the record of junior party's testimony must be filed not less than forty days before the day of final hearing, and in the case of the senior party, not less than twenty days;

that on July 11, 1910, Dunkley filed a motion that the date of final hearing be extended and that the printed copies of the record be accepted, this motion being based on the affidavit of Fred L. Chappell, one of the attorneys of record for Dunkley, and that the motion was opposed by Beekhuis, but was granted by the Examiner of Interferences July 15, 1910. Said decision of the Examiner of Interferences sets out that said affidavit was to the effect that he consulted the Rules of Practice and found, as he supposed, that the printed record should be on file ten days before the hearing; that he, the said Chappell, did not notice the letter referring to the amended rules forming an appendix to the volume and therefore supposed he was complying with the rules in filing his printed copies at the time he did; that he even went to the trouble to call on the Patent Office for its latest edition of the rules in order that he might make no mistake, but that the present rule with respect to the printing of testimony being in the appendix of this edition also, did not serve to avoid the mistake. Thereupon the Examiner of Interferences allowed the motion, continuing the date of final hearing to August 15, 1910, and the printed record of testimony filed by Dunkley was accepted and filed.

The parties to this proceeding were heard in oral argument before the Assistant Secretary of the Interior on the 6th instant, both parties being represented by counsel, and the Commissioner of Patents being represented by an officer of his Bureau. It was urged on behalf of the appellant that he is the patentee of an invention for which the appellee is prosecuting his claims; that Rule 162 of the Rules of Practice has been grossly violated by indirection, in that the language of that rule is imperative to the effect that printed copies of the record of the junior party's testimony must be filed not less than forty days before the day of final hearing, by the action of the Examiner of Interferences in postponing or moving forward the day of final hearing, thereby bringing the filing of this record of testimony within the letter of said rule.

It is not claimed on behalf of the party Beekhuis that he has been deprived of any right to be heard by reason of this order, but it is strenuously urged

that in view of the flimsiness or impertinence of the claims of the party Dunkley upon the merits the party Beekhuis is entitled to make the technical objection to the violation of the letter of this rule, and that he is entitled to an appeal to the Secretary of the Interior from the action of the Commissioner of Patents sustaining the Examiner of Interferences.

On behalf of Dunkley it is contended by brief and was contended upon the oral argument that the order of the Examiner of Interferences was within his power, and under the circumstances within his duty to make; that no substantial right of the party Beekhuis has been invaded by such order, and that if jurisdiction be assumed of this appeal the action of the Commissioner of Patents, sustaining such Examiner, should be approved by the Secretary of the Interior.

It is clear from the foregoing statement that if the Secretary of the Interior assumes jurisdiction of the appeal and sustains the action of your Office in the premises, the interference may then proceed to a determination in regular course upon the merits, but if the action of your Office should not be sustained the interference declared will be at an end and the party Beekhuis will be entitled to a judgment upon the record. In this latter event it must result that the Secretary of the Interior has interfered with the judicial functions of the Commissioner of Patents in the matter of Dunkley's application for Letters Patent for invention, for if the Secretary of the Interior may terminate this proceeding he thereby denies to Dunkley the right to further prosecute his application—a quasijudicial question committed by law to the Commissioner of Patents and subject to review by the Court of Appeals of the District of Columbia. This being true, it might well be held upon the uniform decisions of the courts and of this department that this appeal does not lie. (See *Butterworth, Commissioner of Patents*, v. *United States, ex rel. Hoe and others*, 112 U. S., 50; opinion of Assistant Attorney-General Little of May 8, 1896, in the case of *Knight* v. *Bagnall* v. *Curtis* v. *Morgan*, 12 Op. Asst. Atty.-Gen., 183; 76 O. G., 1115, and the decision of Assistant Attorney-General Van Devanter of February 20, 1899, approved by the Acting Secretary of the Interior, 14 Op. Asst. Atty.-Gen., 177; 87 O. G., 357.)

But the department is not disposed to rest its disposition of this matter upon a question of jurisdiction. It is clear that the discretion with which your Office is vested by law and approved regulations has not been abused. While the rule of practice referred to appears to be mandatory in terms and seems to peremptorily require the filing of a junior party's testimony at least forty days before the day set for final hearing, yet no penalty is imposed by that rule for the failure of such party to file such testimony within the time fixed.

The contention of the party Beekhuis is that a failure to conform to the rule is such default as compels the Commissioner of Patents to dissolve the interference and dismiss the junior party's application for patent. The department cannot concur in this view. It is not denied that for sufficient reasons the Commissioner of Patents may postpone a day set for final hearing in interference cases. Rule 120 of the rules of your Office specifically provides that—

> If either party desire to have the hearing continued, he will make application for such postponement by motion, (see Rule 153,) and will show sufficient reason therefor by affidavit.

The application for postponement was made in this case, and in the judgment of your Office sufficient reason therefor was shown by affidavit. The fact that this postponement, under the reasons given, has the effect of bringing the filing of this testimony technically within the time provided by Rule 162 is not important. The fact remains that clearly your Office was acting within its discretion when it postponed the day for final hearing, and if such postponement brought the filing of said testimony within the time fixed by Rule 162 the party Beekhuis may not complain of such action, unless a substantial right be invaded thereby, and this does not appear upon this record.

The appeal is dismissed and the papers are herewith transmitted.

Very respectfully,

JESSE E. WILSON,
Assistant Secretary.

ADJUDICATED PATENTS.

The Lord patent, No. 548,074, for a trolley pole and rope controller, claim 4 is void, as broader in its terms than the real invention described in the specification. *Wilson Trolley Catcher Co.* v. *Frank Ridlon Co.*, (C. C. A.,) 179 Fed. Rep., 708.

The Hoffman patent, No. 644,077, for acetyl-salicylic acid, known medically as "aspirin," *Held* valid and infringed. *Kuchmeied* v. *Farbenfabriken of Elberfeld Co.*, (C. C. A.,) 179 Fed. Rep., 701.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 8, 1910.

Luin F. Mangis, his assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Hitchcock-Hill Company, of 100 Lake street, Chicago, Ill., for registration of a trade-mark and a trade-mark registered to Luin F. Mangis, of 435 Main street, Portland, Oreg., and a communication having been received from the post-office to the effect that it has been unable to deliver the letter to said Mangis, notice is hereby given to the said Mangis, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

Maud Meyberg, her assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of G. R. Springer, of 1332 Grand avenue, Kansas City, Mo., for registration of a trade-

mark and a trade-mark registered to Maud Meyberg, of Chicago, Ill., and the notice of said declaration sent by registered mail to the said Maud Meyberg having been returned undelivered, notice is hereby given to the said Maud Meyberg, her assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

William Johnson Nelson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Lanman & Kemp, of 135–137 Water street, New York, N. Y., for registration of a trade-mark and trade-mark registration to the following named parties: (1) Minard's Liniment Manufacturing Company, Framingham, Mass.; (2) George H. Rundle, Piqua, Ohio; (3) Adelia B. De Grath, 302 West Thirty-fourth street, New York, N. Y.; (4) William Johnson Nelson, Bridgewater, county of Lunenberg, Province of Nova Scotia, Canada, and the notice of such declaration sent by registered mail to the said William Johnson Nelson at the address given above has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said William Johnson Nelson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 6, 1910.

George J. Washburn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of William S. Scull, of Front and Federal streets, Camden, N. J., for registration of a trade-mark and the trade-mark registrations to Wolfe, McMillan and Company, of 11 South Front street, Philadelphia, Pa.; George J. Washburn, of 115 East Second street, Davenport, Iowa; The Brewster Manufacturing Company, of Newark, N. J.; Chase and Sanborn, of Boston, Mass.; Bensdorp and Company, of Amsterdam, Netherlands, and Walter McEwan, of Albany, N. Y., and the notice of such declaration sent by registered mail to the said George J. Washburn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George J. Washburn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., August 10, 1910.

The H. L. Berry Company, its assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of Hoffman Brothers Company, of Fort Wayne, Ind., for registration of a trade-mark and a trade-mark registration to The H. L. Berry Company, Whitfield, Fla., and the notice of such declaration sent by registered mail to the said The H. L. Berry Company at the address above given has been returned by the Post-Office Department as undeliverable.

Notice is therefore hereby given to the said The H. L. Berry Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

FREDERICK A. TENNANT, *Acting Commissioner.*

ISSUE OF SEPTEMBER 27, 1910.

Patents	497	No. 971,015 to No. 971,511, inclusive.
Designs	14	No. 40,914 to No. 40,927, inclusive.
Trade-Marks	76	No. 79,637 to No. 79,712, inclusive.
Labels	9	No. 15,327 to No. 15,335, inclusive.
Prints	None.	
Reissues	None.	
Total	596	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	1	.....	New York	71	21
Arkansas	3	.....	North Carolina	2	.....
California	26	1	North Dakota	2	.....
Colorado	11	.....	Ohio	40	10
Connecticut	11	.....	Oklahoma	3	.....
Delaware	1	.....	Oregon	4	1
Florida	.....	.....	Pennsylvania	51	5
Georgia	1	1	Rhode Island	10	1
Idaho	3	.....	South Carolina	1	.....
Illinois	36	4	South Dakota	1	.....
Indiana	4	6	Tennessee	4	1
Iowa	12	1	Texas	9	.....
Kansas	3	1	Utah	3	.....
Kentucky	6	.....	Vermont	2	.....
Louisiana	3	1	Virginia	2	2
Maine	2	.....	Washington	7	1
Maryland	.....	3	West Virginia	6	.....
Massachusetts	24	9	Wisconsin	14	2
Michigan	9	2	Wyoming	.....	.....
Minnesota	6	.....			
Mississippi	1	.....	Arizona Territory	.....	.....
Missouri	13	6	District of Columbia	4	.....
Montana	1	.....	New Mexico Ter't'y	.....	.....
Nebraska	2	.....	Philippine Islands	.....	.....
Nevada	.....	.....			
New Hampshire	1	1	Total to citizens of the United States	437	80
New Jersey	21	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	1	.....	Netherlands	.....	.....
Austria-Hungary	4	.....	Newfoundland	.....	.....
Belgium	1	.....	New South Wales	1	.....
Brazil	.....	.....	New Zealand	1	.....
Canada	8	.....	Norway	.....	.....
Chile	.....	.....	Persia	.....	.....
China	.....	.....	Russia	.....	.....
Costa Rica	.....	.....	Scotland	.....	.....
Cuba	.....	.....	South Australia	.....	.....
Denmark	1	.....	Spain	.....	.....
Ecuador	.....	.....	Sweden	.....	.....
England	17	1	Switzerland	1	.....
France	7	.....	Tasmania	.....	.....
Germany	25	3	Transvaal, South Africa	.....	.....
Guatemala	.....	.....	Uruguay	.....	.....
Ireland	.....	.....	Victoria	4	.....
Isle of Man	.....	.....	Western Australia	.....	.....
Italy	.....	.....			
Japan	.....	.....	Total to citizens of foreign countries	73	5
Luxemburg	.....	.....			
Mexico	2	1			

INDEX

TO THE

DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS.

SEPTEMBER, 1910.

[Decisions of the Secretary of the Interior are indicated by a dagger (†) and of the United States Circuit Court of Appeals by the letter d.]

TABLE OF CASES.

	Page.
Barney *v.* Hess	702
†Dunkley *v.* Beekhuis	886
Enterprise Bed Company. *Ex parte*	481
Garrett. *Ex parte*	701
Granger. *Ex parte*	229
James Chadwick & Brother, Limited, *v.* Fabrique de Soie Artificielle d'Obourg	228
Keith, Erickson, and Erickson *v.* Lundquist *v.* Lorimer and Lorimer	701
Landa *v.* Kavle	228
Noyes. *Ex parte*	227
Opalla *v.* Hughes	481
dSafety Car Heating & Lighting Co. *v.* Consolidated Car Heating Co	230
Stork Company *v.* Kabo Corset Company	482
Sturtevant and Sturtevant. *Ex parte*	885
Taylor *v.* Gilman	883
dTime Saver Company *v.* Stamford Trust Company	704
Wade. *Ex parte*	704
dWestinghouse Electric & Manufacturing Company *v.* Allis-Chalmers Company	482

SUBJECT-MATTER INDEX.

	Page.
Action of the Examiner of Interferences not to be reviewed in absence of showing of abuse of discretion, Opalla *v.* Hughes	481
Amendment of drawings, *ex parte* Sturtevant and Sturtevant	885
†Construction of Rule 120, Dunkley *v.* Beekhuis	886
Rule 122, Barney *v.* Hess	702
Construction of section 4894, Revised Statutes, *ex parte* Sturtevant and Sturtevant	885
Decision of the Examiners-in-Chief pointing out new references, applicant entitled to prosecute the case further, *ex parte* Wade	704
Diligence, work on one form of device not diligence in reducing to practice another form, Taylor *v.* Gilman	883
Examination of applications, complete action by Office as important as avoidance of piecemeal prosecution by applicant, *ex parte* Garrett	701
Examiners-in-Chief, recommendation by, *ex parte* Noyes	227
†Final hearing, extension of time for, Dunkley *v.* Beekhuis	886
Interference, testing exhibit, Taylor *v.* Gilman	883
Tests to demonstrate patentability not needed for devices of great simplicity, Landa *v.* Kavle	228
Judgment on the record suspended to take testimony as to operativeness of disclosure, Barney *v.* Hess	702
†Jurisdiction of the Secretary of the Interior over the Commissioner of Patents, Dunkley *v.* Beekhuis	886
Motion dismissed by Examiner of Interferences not considered on appeal, Keith, Erickson, and Erickson *v.* Lundquist *v.* Lorimer and Lorimer	701
Motion to shift burden of proof, no appeal from decision of Examiner of Interferences, Barney *v.* Hess	702
dPatentability, construction of specifications and patents, Safety Car Heating & Lighting Co. *v.* Consolidated Car Heating Co	230
dTime Saver Company *v.* Stamford Trust Company	704
dPatentability, construction of specifications and patents, Westinghouse Electric & Manufacturing Company *v.* Allis-Chalmers Company	482
Practice in the Patent Office, *ex parte* Noyes	227
Preliminary statement, amendment to required by Examiner of Interferences, Opalla *v.* Hughes	481
Priority of invention, operativeness of device of parent case relied upon as constructive reduction to practice, Barney *v.* Hess	702
Prosecution of application, sufficiency of action, *ex parte* Sturtevant and Sturtevant	885
Reduction to practice, question of must be decided on record as presented, Taylor *v.* Gilman	883
Right to patent, delay in filing application after reduction to practice while making efforts to secure manufacture not such concealment as would destroy, Landa *v.* Kavle	228
Testimony, piecemeal consideration of to be avoided, Barney *v.* Hess	702
Suppression of irrelevant, Keith, Erickson, and Erickson *v.* Lundquist *v.* Lorimer and Lorimer	701
Trade-marks, opposition to registration, amendment to notice of, James Chadwick & Brother, Limited, *v.* Fabrique de Soie Artificielle d'Obourg	228
Practice in the Patent Office, Stork Company *v.* Kabo Corset Company	482
Shown in two certificates of registration James Chadwick & Brother, Limited, *v.* Fabrique de Soie Artificielle d'Obourg	228
The word "Dean," for furnace-grates, refused registration as an ordinary surname, *ex parte* Granger	229
"Hygeia" registrable for spring-mattresses, *ex parte* Enterprise Bed Company	481

DIGEST

OF THE

DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS.

SEPTEMBER, 1910.

[Decisions of the Secretary of the Interior are indicated by a dagger (†) and of the United States Circuit Court of Appeals by the letter ᵈ.]

ABANDONMENT OF APPLICATION.

(See Prosecution of Applications.)

ACTION BY THE EXAMINER.

(See Appeal from the Examiners-in-Chief; Decisions of the Examiners-in-Chief.)

AGGREGATION.

(See Particular Patents, 1.)

AMENDMENT.

(See Prosecution of Applications.)

AMENDMENT TO NOTICE OF OPPOSITION TO REGISTRATION.

(See Trade-Marks, 1.)

AMENDMENT TO PRELIMINARY STATEMENT.

INTERFERENCE—APPEAL.

Where the Examiner of Interferences required one of the parties to an interference to amend his preliminary statement in certain particulars or be penalized by being restricted to his record date, *Held* that no appeal lay from the decision and that the action of the Examiner of Interferences would not be reviewed in the absence of a showing of a clear abuse of discretion.

[Opalla *v.* Hughes, 481.

APPEAL FROM THE EXAMINER OF INTERFERENCES.

(See Amendment to Preliminary Statement.)

INTERFERENCE—MOTIONS.

A motion will not be considered on appeal which has been dismissed by the Examiner of Interferences, having original jurisdiction thereof, although the reason for which it was dismissed no longer exists.

[Keith, Erickson, and Erickson *v.* Lundquist *v.* Lorimer and Lorimer, 701.

APPEAL FROM THE EXAMINERS-IN-CHIEF.

RECOMMENDATION BY EXAMINERS-IN-CHIEF—PRACTICE.

Where the Examiners-in-Chief affirm the action of the Primary Examiner as to certain of the appealed claims, but reverse his action as to others and include in their decision a recommendation that the latter claims be rejected, *Held* that an appeal from the decision of the Examiners-in-Chief so far as it affirmed the action of the Primary Examiner will not be considered until the patentability of the other claims is determined or they are brought up on appeal. [*Ex parte* Noyes, 227.

APPEAL TO THE SECRETARY OF THE INTERIOR.

(See Jurisdiction of the Secretary of the Interior over the Commissioner of Patents.)

BURDEN OF PROOF.

(See Interference, 2.)

CLAIMS.

See Appeal from the Examiners-in-Chief; Decisions of the Examiners-in-Chief.)

COMMISSIONER OF PATENTS.

(See Examination of Applications; Interference, 5; Jurisdiction of the Secretary of the Interior over the Commissioner of Patents.)

COMPLETE ACTION.

(See Examination of Applications.)

CONCEALMENT OF INVENTION.

(See Reduction to Practice, 2.)

CONSTRUCTION OF RULES.

(See Interference, 2, 5.)

CONSTRUCTION OF SPECIFICATIONS AND PATENTS.

(See Particular Patents; Patentability.)

CONSTRUCTION OF STATUTES.

(See Prosecution of Applications.)

DECISIONS OF THE EXAMINER OF INTERFERENCES.

(See Amendment to Preliminary Statement; Interference, 2.)

DECISIONS OF THE EXAMINERS-IN-CHIEF.

(See Appeal from the Examiners-in-Chief.)

APPEAL—NEW REFERENCES CITED.

Where in a decision affirming the action of the Primary Examiner the Examiners-in-Chief refer to a new reference as showing certain features of the claims not disclosed in the references of record, *Held* that the applicant is entitled to further prosecution of the case before the Primary Examiner. [*Ex parte* Wade, 704.

DELAY IN FILING APPLICATIONS.

(See Reduction to Practice, 2.)

DEMURRER.

(See Trade-Marks, 4.)

DESCRIPTIVE TERMS.

(See Trade-Marks, 3.)

DILIGENCE.

WORK ON OTHER FORMS OF DEVICE.

Work on one form of a device cannot be considered as diligence in the reduction to practice of another form. [Taylor *v.* Gilman, 883.

DISCLOSURE OF INVENTION.

(See Decisions of Examiners-in-Chief; Interference, 3, 4; Particular Patents, 1.)

DISCRETION OF THE EXAMINER OF INTERFERENCES.

(See Amendment to Preliminary Statement.)

DISCRETION OF THE PATENT OFFICE.

(See Interference, 5.)

DRAWINGS.

(See Prosecution of Applicat ns.)

EMPLOYERS.

(See Reduction to Practice, 2.)

EVIDENCE.

(See Interference, 1; Reduction to Practice, 3.)

EXAMINATION OF APPLICATIONS.

(See Prosecution of Applications.)

IMPORTANCE OF COMPLETE OFFICE ACTIONS.

"Complete actions on the part of this Office are as important as the avoidance of piecemeal prosecution on the part of the applicant. Thereby the burden incident to the prosecution of the application is reduced both for the applicant and the Office, unnecessary delay is eliminated and the issuance of the patent expedited. The importance of an early issuance of a patent on an application containing allowable subject-matter, thereby placing the invention in the hands of the public through the expiration of the patent monopoly at as early a date as possible, has been emphasized in many Commissioners' decisions." [*Ex parte* Garrett, 701.

EXAMINER OF INTERFERENCES.

(See Amendment to Preliminary Statement; Appeal from the Examiner of Interferences; Interference, 2, 5; Jurisdiction of the Secretary of the Interior over the Commissioner of Patents; Trade-Marks, 4.)

EXAMINERS-IN-CHIEF.

(See Appeal from the Examiners-in-Chief; Decisions of the Examiners-in Chief.)

EXHIBITS.

(See Reduction to Practice, 3.)

EXTENSION OF TIME FOR FINAL HEARING.

(See Interference, 5; Jurisdiction of the Secretary of the Interior over the Commissioner of Patents.)

FINAL HEARING.

(See Interference, 5; Jurisdiction of the Secretary of the Interior over the Commissioner of Patents.)

FORMER DECISIONS CITED.

(See Jurisdiction of the Secretary of the Interior over the Commissioner of Patents; Prosecution of Applications.)

INTERFERENCE.

(See Amendment to Preliminary Statement; Appeal from the Examiner of Interferences; Diligence; Jurisdiction of the Secretary of the Interior over the Commissioner of Patents; Reduction to Practice; Trade-Marks, 4.)

1. EVIDENCE OF CONSOLIDATION OF INTEREST—SUPPRESSION.

The mere fact of consolidation of interest between two or more parties to an interference *Held* immaterial to the question of priority and testimony on this point properly suppressed in the absence of any showing as to its special relevancy.
[Keith, Erickson, and Erickson *v.* Lundquist *v.* Lorimer and Lorimer, 701.

2. BURDEN OF PROOF—JUDGMENT ON THE RECORD—RULE 122.

Rule 122, providing that there shall be no appeal from decisions on motions to shift the burden of proof, applies also to cases where such a motion is made in response to a rule to show cause and judgment on the record results from the decision of the Examiner of Interferences on such motion. [Barney *v.* Hess, 702.

3. PRIORITY—OPERATIVENESS OF PARENT CASE—TESTIMONY.

Where one party attacks the operativeness of the structure disclosed in a parent application upon which reliance is placed by the other party for constructive reduction to practice, *Held* that upon proper showing the taking of testimony on the question will be permitted. [Id.

4. SAME—SAME—SAME—FULL PROOFS.

Where it is found that judgment on the record must be suspended in order to take testimony as to the operativeness of a party's disclosure, full proofs on the question of priority will be permitted to avoid piecemeal consideration of testimony. [Id.

5. POSTPONEMENT OF FINAL HEARING.

Where the junior party to an interference failed to file the printed copies of his testimony forty days before the day set for final hearing and upon a showing the Examiner of Interferences extended the date of final hearing and the Commissioner of Patents refused to set aside the action, *Held* that the Patent Office acted within its discretion, (citing Rule 120 of the Rules of Practice of the Patent Office.) [†Dunkley *v.* Beekhuis, 886.

INVENTION.

(See Particular Patents; Patentability.)

IRRELEVANT TESTIMONY.

(See Interference, 1.)

ISSUANCE OF PATENTS.

(See Examination of Applications.)

JUDGMENT ON THE RECORD.

(See Interference, 2, 4.)

JURISDICTION OF THE EXAMINER OF INTERFERENCES.

(See Appeal from the Examiner of Interferences.)

JURISDICTION OF THE SECRETARY OF THE INTERIOR OVER THE COMMISSIONER OF PATENTS.

EXTENSION OF FINAL HEARING IN AN INTERFERENCE.

Where an appeal was taken to the Secretary of the Interior from the decision of the Commissioner of Patents refusing to set aside the action of the Examiner of Interferences extending the time for final hearing in an interference where the printed copies of the junior party's testimony had been filed less than forty days before the date of hearing originally set, *Held* that "it might well be held upon the uniform decision of the court and this Department that this appeal does not lie." (*Butterworth* v. *Hoe*, 29 O. G., 615; 112 U. S., 50; *Knight* v. *Bagnall* v. *Curtis* v. *Morgan*, 12 Op. Asst. Atty.-Gen., 183; 76 O. G., 1115, and the decision of Assistant Attorney-General Van Devanter, 14 Op. Asst. Atty.-Gen., 177; 87 O. G., 357.) [†Dunkley *v.* Beekhuis, 886.

MONOPOLY.

(See Examination of Applications.)

MOTIONS.

(See Appeal from the Examiner of Interferences.)

MOTION TO SHIFT BURDEN OF PROOF.

(See Interference, 2.)

NAME OF INDIVIDUAL.

(See Trade-Marks, 2.)

NOTICE OF OPPOSITION TO REGISTRATION.

(See Trade-Marks, 1.)

OPERATIVE DEVICES.

(See Interference, 3; Reduction to Practice, 3.)

OPPOSITION TO REGISTRATION.

(See Trade-Marks, 1, 4.)

PARTICULAR PATENTS.

1. LAMME—NO. 606,015—SYSTEM OF ELECTRICAL DISTRIBUTION.

The Lamme patent, No. 606,015, for a system of electrical distribution and regulation, designed to obviate the variation in speed of a rotary converter with changes in the amount of the inductive load when converting a direct into an alternating current, *Held* not a mere aggregation of previously-known devices, but to disclose invention of decided merit.
[‡Westinghouse Electric & Manufacturing Company *v.* Allis-Chalmers Company, 482.

2. RAND—NO. 746,157—BANK ACCOUNT-BOOK.

The Rand patent, No. 746,157, for a bank account-book, in which the leaves have a vertical crease down the center, upon which the outer half may be folded forward or backward to facilitate the carrying forward of balances to another page, is void for lack of invention in view of the prior art.
[‡Time Saver Company *v.* Stamford Trust Company, 704.

3. SEARLE—CAR-HEATING APPARATUS—PATENTABILITY.

The introduction of an additional heater in the riser-pipe of a heating system to aid circulation do the work in the same way as a single heater *Held* not to amount to invention.
[‡Safety Car Heating & Lighting Co. *v.* Consolidated Car Heating Co., 230.

PATENTABILITY.

(See Appeal from the Examiners-in-Chief; Particular Patents.)

CONSTRUCTION—ELECTRICAL MECHANISMS.

"When we are dealing with electricity, an invisible, intangible agency, and in itself of different kinds, and when we know that in its different phases it may affect, or be affected by, metals and appliances in different ways and with wholly different results, we must guard against being misled by the mere superficial resemblances of the appliances and machines used in connection with it; for from an electrical standpoint the real significance of such appliance lies, not in their material, external appearance, but in their working effect under the influence of diverse electrical factors."
[‡Westinghouse Electric & Manufacturing Company *v.* Allis-Chalmers Company, 482.

PIECEMEAL PROSECUTION OF APPLICATIONS.

(See Examination of Applications.)

PRELIMINARY STATEMENT.

(See Amendment to Preliminary Statement.)

PRIOR APPLICATIONS.

(See Interference, 3.)

PRIORITY OF INVENTION.

(See Diligence; Interference, 1, 3, 4; Reduction to Practice.)

PROOFS.

(See Interference, 4.)

PROSECUTION OF APPLICATIONS.

(See Decisions of the Examiners-in-Chief; Examination of Applications.)

RESPONSIVE ACTION.

Where the Examiner rejected certain claims and required further illustration, the mere amendment of the drawing was not an action which amounted to the prosecution of the application within the meaning of section 4894, Revised Statutes, (citing *ex parte Walton*, 120 O. G., 659, and *ex parte Wentzel*, 131 O. G., 941.)
[*Ex parte* Sturtevant and Sturtevant, 885.

REDUCTION TO PRACTICE.

(See Diligence; Interference, 3.)

1. INTERFERENCE—TEST—SIMPLE DEVICE.

A key-cup made of a single piece of sheet metal *Held* to be of that simple character which requires no test to demonstrate its practicability. [Landa *v.* Kavle, 228.

2. SAME—DELAY IN FILING APPLICATION.

A delay by L. of two and a half years in filing an application after reducing the invention to practice, during which time he was endeavoring to get his employers to undertake the manufacture of the device, *Held* not to constitute such concealment of the invention as to work a forfeiture of his right to a patent. [Id.

3. SAME—PRIORITY—TESTS OF EXHIBITS AT HEARING.

T. offered at the hearing to have a certain exhibit which had been offered in evidence tested, in order to show that it was then in an operative condition. *Held* that the result of such test would be immaterial, since the question of reduction to practice is one which must be decided on the record as presented.
[Taylor *v.* Gilman, 883.

REFERENCES.

(See Decisions of the Examiners-in-Chief.)

REGISTRABILITY.

(See Trade-Marks, 2, 3.)

REJECTION OF CLAIMS.

(See Appeal from the Examiners-in-Chief; Prosecution of Applications.)

RESPONSIVE ACTION BY APPLICANT.

(See Prosecution of Applications.)

RIGHT TO PATENT.

(See Reduction to Practice, 2.)

SUPPRESSION OF TESTIMONY.

(See Interference, 1.)

TESTIMONY.

(See Interference, 1, 3, 4, 5; Jurisdiction of the Secretary of the Interior over the Commissioner of Patents.)

TESTS.

(See Reduction to Practice, 1, 3.)

TRADE-MARKS.

1. OPPOSITION—AMENDMENT OF NOTICE OF.
In his notice of opposition the opposer alleged that he was the owner of the trade-mark shown in a certain certificate of registration and also stated of what his mark consists. *Held* that a proposed amendment to the notice of opposition stating that the opposer's mark was also shown in another certificate of registration did not constitute a new ground of opposition, the mark of the latter registration being included in that of the former and the ownership of both being stated in the original notice of opposition.
[James Chadwick & Brother, Limited, *v.* Fabrique de Sole Artificielle d'Obourg, 228.

2. "DEAN"—NAME OF AN INDIVIDUAL—NOT REGISTRABLE.
The word "Dean" held to be an ordinary surname and not registrable as a trade-mark. [*Ex parte* Granger, 229.

3. "HYGIENIC"—"HYGEIA."
The word "Hygeia" *Held* registrable as a trade-mark for spring-mattresses, notwithstanding the fact that a mark previously registered for air-mattresses included the word "Hygienic," the latter word being descriptive of the goods on which the mark was used. [*Ex parte* Enterprise Bed Company, 481.

4. OPPOSITION—PRACTICE.
Where an opposition to the registration of a trade-mark was filed by the owner of a registered mark, the fact that on demurrer it was held by the Examiner of Interferences that the goods of the two parties were not so dissimilar as to justify dismissing the opposition affords no excuse for the opposer's failure to file a replication to the answer of the applicant.
[Stork Company *v.* Kabo Corset Company, 482.

VALID PATENTS.

(See Particular Patents, 1.)

VOID PATENTS.

(See Particular Patents, 3.)

O

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED DURING THE MONTH OF SEPTEMBER, 1910.

[Abbreviations: "Sp."=Monthly Volume of Specifications; "Gaz."=Official Gazette.]

Abbe, George C., Lansdowne, assignor to Baldwin Locomotive Works, Philadelphia, Pa. Locomotive-frame. No. 970,287; Sept. 13; Sp. p. 2450; Gaz. vol. 158; p. 413.
Abbott, George E., Hartford, Conn., assignor to The Globe Machine & Stamping Company, Cleveland, Ohio. Tumbling-barrel. No. 970,977; Sept. 20; Sp. p. 3911; Gaz. vol. 158; p. 668.
Abeel, Foland R., Tacoma, Wash. Centrifugal separator. No. 969,591; Sept. 6; Sp. p. 952; Gaz. vol. 158; p. 150.
Abell, Rollin, Boston, assignor of one-half to G. W. Currier, Methuen, Mass. Flexible shafting. No. 970,675; Sept. 20; Sp. p. 3288; Gaz. vol. 158; p. 566.
Ablett, Charles. (See Oulton, Ablett, and Lightfoot.)
Ackerman, Maurice, Washington, D. C. Flying-machine. No. 971,235; Sept. 27; Sp. p. 4470; Gaz. vol. 158; p. 782.
Ackerman, Maurice, assignor of fifteen one-hundredths to H. Goldman, Washington, D. C. Folding seat. No. 970,777; Sept. 20; Sp. p. 3522; Gaz. vol. 158; p. 602.
Acrey, Charles M. (See Goss, George W., assignor.)
Actiengesellschaft fuer Kohlendestillation, The. (See Roelofsen, Jan A., assignor.)
Adams, Frank F. (See Malmros and Adams.)
Adams, Jefferson O., New Iberia, La. Harness. No. 971,426; Sept. 27; Sp. p. 4816; Gaz. vol. 158; p. 843.
Adams, Powell O., Cameron, Tex. Rail-joint. No. 970,158; Sept. 13; Sp. p. 2160; Gaz. vol. 158; p. 368.
Adams, Powell O., Cameron, Tex. Rail-joint. No. 970,159; Sept. 13; Sp. p. 2162; Gaz. vol. 158; p. 369.
Adams-Randall, Charles, New York, N. Y. Telephone-repeater. No. 970,288; Sept. 13; Sp. p. 2452; Gaz. vol. 158; p. 413.
Adams & Westlake Company, The. (See Hamm, William S., assignor.)
Adams & Westlake Company, The. (See Newpher, Alfred H., assignor.)
Adams & Westlake Company, The. (See Williston, M Brock, assignor.)
Adams, William J., Cochranton, Pa. Combined fertilizer-distributer and seeder. No. 971,338; Sept. 27; Sp. p. 4657; Gaz. vol. 158; p. 815.
Adamson, Nils F., assignor of one-half to T. J. Tully, Denver, Colo. Facing-mold. No. 969,435; Sept. 6; Sp. p. 604; Gaz. vol. 158; p. 96.
Addis, Jacob. (See Hengel and Addis.)
Addressograph Company. (See Duncan, Joseph S., assignor.)
Adt, Leo F., Troy, N. Y. Eyeglasses. No. 969,683; Sept. 6; Sp. p. 1126; Gaz. vol. 158; p. 181.
Adt, Leo F., Albany, N. Y. Eyeglass-mounting. No. 970,160; Sept. 13; Sp. p. 2163; Gaz. vol. 158; p. 369.
Agrell, Frans G., Stockholm, Sweden, assignor to L. J. Doolittle, Brooklyn, N. Y. Soap-dispensing machine. No. 969,829; Sept. 13; Sp. p. 1491; Gaz. vol. 158; p. 257.
Agrell, Frans G., Stockholm, Sweden, assignor to L. J. Doolittle, Brooklyn, N. Y. Soap-dispensing machine. No. 969,830; Sept. 13; Sp. p. 1493; Gaz. vol. 158; p. 257.
Ahman, Frank P., Norfolk, Va. Railway-switch. No. 971,236; Sept. 27; Sp. p. 4473; Gaz. vol. 158; p. 783.
Aiken, Charles W., West New Brighton, assignor to Honchin-Aiken Co., Brooklyn, N. Y. Machine for cutting soap. No. 970,161; Sept. 13; Sp. p. 2166; Gaz. vol. 158; p. 369.
Aktieselskabet Sandvikens Blikvarefabrik. (See Kramer, Gustav, assignor.)
Albert and J. M. Anderson Manufacturing Company. (See Curtis, Kenneth L., assignor.)
Albrecht, Martin, Friedberg, assignor to Felten & Guilleaume-Lahmeyer werke Actien-Gesellschaft, Frankfort-on-the-Main, Germany. Motor-car truck. No. 970,596; Sept. 20; Sp. p. 3090; Gaz. vol. 158; p. 538.
Alden, Charles A., Steelton, Pa. Tongue-switch. No. 969,596; Sept. 6; Sp. p. 751; Gaz. vol. 158; p. 119.
Aldridge, Maynard H., Plattsburg, N. Y. Cushioned vehicle-wheel. No. 971,100; Sept. 27; Sp. p. 4180; Gaz. vol. 158; p. 737.
Alexander, Hayes J. J., assignor of one-half to C. L. Berry, Youngstown, Ohio. Concrete-mixing machine. No. 970,870; Sept. 20; Sp. p. 3711; Gaz. vol. 158; p. 634.
Allbright-Nell Company, The. (See Kohlhepp, John W., assignor.)
Allen, Adolphus M., assignor to Allen Alfalfa Mill Company, Minneapolis, Minn. Machine for comminuting alfalfa and like materials. No. 969,739; Sept. 6; Sp. p. 1257; Gaz. vol. 158; p. 202.
Allen Alfalfa Mill Company. (See Allen, Adolphus M., assignor.)
Allen, Anna M., Yuba City, Cal. Skirt-measuring device. No. 970,006; Sept. 13; Sp. p. 1870; Gaz. vol. 158; p. 318.
Allen, Frank B. (See Hoffman, William M., assignor.)
Allen, Orville E., Hornell, N. Y. Steam-cooker. No. 970,289; Sept. 13; Sp. p. 2455; Gaz. vol. 158; p. 414.
Alliance Machine Company, The. (See Kendall, David, assignor.)
Allis-Chalmers Company *et al.* (See Brown, Arthur J., assignor.)
Allis-Chalmers Company. (See Jeffrey, Fraser, assignor.)
Allis-Chalmers Company. (See Lord, Charles E., assignor.)
Allis-Chalmers Company *et al.* (See Mattman, Emil, assignor.)
Allis-Chalmers Company *et al.* (See Van Valkenburg, Hermon L., assignor.)
Allison, William C., Moose Jaw, Saskatchewan, Canada. Means for automatically adjusting locomotive exhaust-nozzles. No. 971,339; Sept. 27; Sp. p. 4661; Gaz. vol. 158; p. 815.
Allsop, Thomas, W. W. Sibson, and W. F. Hagar, Jr., assignors to The Philadelphia Drying Machinery Company, Philadelphia, Pa. Singeing-machine. No. 971,427; Sept. 27; Sp. p. 4817; Gaz. vol. 158; p. 843.
Allyn, Louis E., Pekin, Ill. Tank-car. No. 971,102; Sept. 27; Sp. p. 4183; Gaz. vol. 158; p. 738.
Almirall, Juan A., assignor to Evans, Almirall & Co., New York, N. Y. Heating apparatus. No. 971,165; Sept. 27; Sp. p. 4309; Gaz. vol. 158; p. 758.
Alsop, Charles F., Ampere, N. J. Advertising-card. No. 969,831; Sept. 13; Sp. p. 1496; Gaz. vol. 158; p. 258.
Altman, Curtiss M. (See Altman, William A. and C. M.)
Altman, William A. and C. M., Findlay, Ohio. Tube-cutter. No. 969,507; Sept. 6; Sp. p. 754; Gaz. vol. 158; p. 119.
Altmann, Frank C., assignor to The English & Mersick Co., New Haven, Conn. Latch. No. 970,007; Sept. 13; Sp. p. 1872; Gaz. vol. 158; p. 319.
Ambrose, Harry T. (See Donning, George W., assignor.)
American Can Company. (See Graham, Charles W., assignor.)
American Can Company. (See Taylor, William E., assignor.)
American Circular Loom Company. (See Lutz, George A., assignor.)
American Clay Machinery Company. (See Cunningham, William R., assignor.)
American Evaporator Company. (See Dunn, Joseph E., assignor.)
American Laundry Machinery Company. (See Hagen and Cooper, assignors.)
American Multigraph Company, The. (See Gammeter, Harry C., assignor.)
American Narrow Fabric Company. (See Lationa, Charles A., assignor.)
American Narrow Fabric Company. (See Stahl, Charles H., assignor.)
American Optical Company. (See Bernheim, Eugene C., assignor.)
American Optical Company. (See Matters, Edward R., assignor.)
American Power & Mfg. Co. (See Snee, William, assignor.)
American Steel Foundries. (See Schroyer, Charles A., assignor.)
American Tool Works Company, The. (See Schatz, Herman W., assignor.)
American Typographic Corporation. (See Richards, Francis H., assignor.)
American Valve & Meter Company. (See Anderson, Frank C., assignor.)
Amos, Harry M., Lorain, Ohio. Adjustable frame for making concrete receptacles. No. 969,436; Sept. 6; Sp. p. 606; Gaz. vol. 158; p. 96.

Anable, Frederick S. (See Blake, Philip W., assignor.)
Andersen, Charles, New Rochelle, N. Y. Pulley-block. No. 970,978; Sept. 20; Sp. p. 3914; Gaz. vol. 158; p. 669.
Andersen, Frederick E., Red Wing, Minn. Door check and closer. No. 969,150; Sept. 6; Sp. p. 1; Gaz. vol. 158; p. 3.
Anderson, Carl A., assignor to Reliance Elevator Company, Chicago, Ill. Cable-hitch for elevators. No. 969,322; Sept. 6; Sp. p. 359; Gaz. vol. 158; p. 59.
Anderson, Frank C., assignor to American Valve & Meter Company, Cincinnati, Ohio. Spout for water-columns. No. 969,321; Sept. 6; Sp. p. 356; Gaz. vol. 158; p. 58.
Anderson, Frank E., assignor to Cutler Mail-Chute Company, New York, N. Y. Mail-chute. No. 971,015; Sept. 27; Sp. p. 3987; Gaz. vol. 158; p. 709.
Anderson, John N., assignor of one-half to C. F. Jordan, Madison, Wis. Elevated carrying system. No. 969,437; Sept. 6; Sp. p. 607; Gaz. vol. 158; p. 96.
Anderson, John N., assignor of one-half to C. F. Jordan, Madison, Wis. Cable-operating drum. No. 969,438; Sept. 6; Sp. p. 608; Gaz. vol. 158; p. 97.
Anderson, Joseph, San Diego, Cal. Pencil-sharpener. No. 969,323; Sept. 6; Sp. p. 360; Gaz. vol. 158; p. 59.
Anderson, Julius, assignor to O. Sweet, Eau Claire, Wis. Pipe-puller. No. 969,508; Sept. 6; Sp. p. 755; Gaz. vol. 158; p. 119.
Anderson, Olof, Chicago, Ill. Uncoupling mechanism for cars. No. 970,778; Sept. 20; Sp. p. 3523; Gaz. vol. 158; p. 602.
Anderson Tool Company, The. (See Burkhardt, Franklin P., assignor.)
Andorfer, Antone W., Shinglehouse, Pa. Oil or gas burner. No. 970,363; Sept. 13; Sp. p. 2592; Gaz. vol. 158; p. 438.
Andrade, Cipriano, Jr., New York, N. Y. Windlass. No. 970,597; Sept. 20; Sp. p. 3091; Gaz. vol. 158; p. 538.
Andrews-Burr Paper Company. (See Cummings, Henry H., assignor.)
Angelino, James C. (See Carlson, Osborn, and Angelino.)
Ansco Company. (See Bornmann, Carl, assignor.)
Anthony, David S., assignor of one-third to E. Williams and one-third to G. F. Habernigg, Durango, Mexico. Apparatus for cleaning gas. No. 971,481; Sept. 27; Sp. p. 4914; Gaz. vol. 158; p. 861.
Anthony, David S., assignor of one-third to E. Williams and one-third to G. F. Habernigg, Durango, Mexico. Starter for internal-combustion engines. No. 971,482; Sept. 27; Sp. p. 4916; Gaz. vol. 158; p. 861.
Anthony, John T., Fulton, Miss. Churn. No. 970,676; Sept. 20; Sp. p. 3291; Gaz. vol. 158; p. 566.
Anthony, Marcus O. (See Rhein and Anthony.)
Antis, John H. (See Coates, Raymond, assignor.)
Antonucci, Eugene, assignor to Millinery and Decorating Supply Company, Buffalo, N. Y. Artificial flower. No. 970,413; Sept. 13; Sp. p. 2688; Gaz. vol. 158; p. 454.
Apollo Artificial Stone Company. (See Henderson, John C., assignor.)
Arbetter Felling Machine Company. (See Arbetter, Wolf, assignor.)
Arbetter, Wolf, Chelsea, assignor to Arbetter Felling Machine Company, Boston, Mass. Sewing-machine for felling. No. 969,740; Sept. 6; Sp. p. 1260; Gaz. vol. 158; p. 202.
Archdeacon, John, Carlisle, Ky. Hand street-oiler. No. 970,290; Sept. 13; Sp. p. 2457; Gaz. vol. 158; p. 414.
Archer, Calvert B., Milford, Mass. Pocket pneumatic cushion. No. 969,439; Sept. 6; Sp. p. 609; Gaz. vol. 158; p. 97.
Archer, William H., Toledo, Ohio. Grinder. No. 969,741; Sept. 6; Sp. p. 1267; Gaz. vol. 158; p. 203.
Arens, August, assignor to P. & F. Corbin, New Britain, Conn. Entrance-door lock. No. 971,340; Sept. 27; Sp. p. 4663; Gaz. vol. 158; p. 815.
Armstrong, Lyman P., San Jose, Cal. Window-bed. No. 971,016; Sept. 27; Sp. p. 3990; Gaz. vol. 158; p. 709.
Armstrong, Otto. (See Holsey, Arthur, assignor.)
Armstrong, Russell L., *et al.* (See De Forrest, Charles E., assignor.)
Arnet, Orla A., Woodland, Mich. Automobile sled. No. 970,008; Sept. 13; Sp. p. 1873; Gaz. vol. 158; p. 319.
Arnold, Arthur W., assignor to Safety and Economy Damper Company, Portland, Oreg. Automatic damper. No. 970,598; Sept. 20; Sp. p. 3094; Gaz. vol. 158; p. 539.
Arnold, Arthur W., assignor to Safety and Economy Damper Company, Portland, Oreg. Automatic fire-governor. No. 970,599; Sept. 20; Sp. p. 3096; Gaz. vol. 158; p. 540.
Arnold, Engelbert, Karlsruhe, Germany, and J. L. La Cour, Vesteras, Sweden. Electric motor. No. 970,412; Sept. 13; Sp. p. 2685; Gaz. vol. 158; p. 454.
Arnold, Max O., Neustadt, near Coburg, Germany. Talking-machine. No. 969,239; Sept. 6; Sp. p. 199; Gaz. vol. 158; p. 32.
Arnone, Cyrus, New York, N. Y. Shaving-cup. No. 970,779; Sept. 20; Sp. p. 3524; Gaz. vol. 158; p. 603.
Arpin, Daniel J., Grand Rapids, Mich. Scraper. No. 969,764; Sept. 13; Sp. p. 1329; Gaz. vol. 158; p. 235.
Arrow Electric Company, The. (See Peterson, Johann G., assignor.)
Arzt, Traugott F., West Manchester, N. H. Picker-stick. No. 970,979; Sept. 20; Sp. p. 3915; Gaz. vol. 158; p. 669.
Ashbaugh, Samuel T., assignor of one-half to H. H. Hill, Canton, Ohio. Screen-frame. No. 970,162; Sept. 13; Sp. p. 2171; Gaz. vol. 158; p. 370.
Askew, Charles B., Chicago, Ill. Fire-boat. No. 969,440; Sept. 6; Sp. p. 610; Gaz. vol. 158; p. 97.
Atlee, Joshua W., Riverton, N. J. Telephone. No. 971,237; Sept. 27; Sp. p. 4474; Gaz. vol. 158; p. 783.
Atwood, Winfield A., Schenectady, N. Y., assignor to General Electric Company. Circuit-controlling mechanism. No. 970,600; Sept. 20; Sp. p. 3098; Gaz. vol. 158; p. 540.
Auble, James H., assignor of one-half to H. A. Barrett, Cincinnati, Ohio. Mechanical movement. No. 970,163; Sept. 13; Sp. p. 2173; Gaz. vol. 158; p. 370.
Auble, James H., and H. A. Barrett, Cincinnati, Ohio. Mower-wheel. No. 970,455; Sept. 20; Sp. p. 2783; Gaz. vol. 158; p. 489.
Augsberger, Jacob D., Linngrove, Ind. Screen-roller. No. 970,456; Sept. 20; Sp. p. 2785; Gaz. vol. 158; p. 489.
Aurora Automatic Machinery Company. (See Norling, Reinhold A., assignor.)
Austin, Frank W. (See Walrath and Austin.)
Austin, James E., Fresno, Cal. Hose-support. No. 970,164; Sept. 13; Sp. p. 2176; Gaz. vol. 158; p. 371.
Austin Manufacturing Company. (See De Wind, Norman, assignor.)
Austin Manufacturing Company. (See Mustin, Herbert S., assignor.)
Auto Bi Company, The. (See Becker, Clarence E., assignor.)
Auto-Flame Gas Burners Company. (See D'Arsi, Fortunato M., assignor.)
Auto-Pneumatic Action Co. (See O'Connor, James, assignor.)
Autocar Company, The. (See Bachman, Benjamin B., assignor.)
Automatic Platen Press Company. (See Morrison, Lewis E., assignor.)
Aylsworth, Jonas W., East Orange, and F. L. Dyer, Montclair, N. J. Distilling coal. No. 970,364; Sept. 13; Sp. p. 2594; Gaz. vol. 158; p. 438.
Baase, Henry C. (See Horlacher and Baase.)
Babcock, Annie, Minneapolis, Minn. Dish-washing apparatus. No. 970,872; Sept. 20; Sp. p. 3715; Gaz. vol. 158; p. 635.
Babcock, Garrison, assignor to Simplex Telephone Equipment Company, Rochester, N. Y. Telephone apparatus. No. 969,832; Sept. 13; Sp. p. 1497; Gaz. vol. 158; p. 258.
Bachman, Benjamin B., Philadelphia, assignor to The Autocar Company, Ardmore, Pa. Band-brake. No. 971,103; Sept. 27; Sp. p. 4185; Gaz. vol. 158; p. 739.
Bachman, Harry M., assignor to Dutchess Tool Company, Fishkill-on-the-Hudson, N. Y. Creaming and beating machine. No. 969,324; Sept. 6; Sp. p. 364; Gaz. vol. 158; p. 59.
Backer, George, Syracuse, N. Y. Vacuum-cleaner. No. 969,441; Sept. 6; Sp. p. 611; Gaz. vol. 158; p. 97.
Bacon, George W., assignor of one-half to E. A. Yelton, Grand Junction, Colo. Threadless nut-lock. No. 969,325; Sept. 6; Sp. p. 365; Gaz. vol. 158; p. 60.
Bader, Gustav A., Rochester, N. Y. Eyeglass-mounting. (Reissue.) No. 13,151; Sept. 20; Sp. p. 3977; Gaz. vol. 158; p. 680.
Badische Anilin & Soda Fabrik. (See Bohn, René, assignor.)
Badische Anilin & Soda Fabrik. (See Haber and Le Rossignol, assignors.)
Badische Anilin & Soda Fabrik. (See Kačer, Filip, assignor.)
Baechlin, Frederick G., Bloomfield, N. J. Window. No. 970,000; Sept. 13; Sp. p. 1875; Gaz. vol. 158; p. 319.
Baerlocker, Robert F., Manchester, England, assignor to Westinghouse Electric and Manufacturing Company. Controller for electric motors. No. 969,509; Sept. 6; Sp. p. 756; Gaz. vol. 158; p. 119.
Bailey, Fess, Woodville, Fla., assignor to A. J. Conoly, Quitman, Ga. Dipper for turpentine-cups. No. 969,765; Sept. 13; Sp. p. 1330; Gaz. vol. 158; p. 235.
Bailey, George H., Pittsburg, Pa. Flushing-tank. No. 969,442; Sept. 6; Sp. p. 614; Gaz. vol. 158; p. 98.
Bailliot, Alphonse, and A. Ménager, Montreal, Quebec, Canada. Furnace-grate. No. 971,104; Sept. 27; Sp. p. 4187; Gaz. vol. 158; p. 739.
Bain, Benjamin F., Pittsburg, Pa., assignor to Wolverine Supply & Manufacturing Company. Jar-holder. No. 970,365; Sept. 13; Sp. p. 2596; Gaz. vol. 158; p. 439.
Baisden, Edward J., Topeka, Kans. Rim-bearing wheel. No. 970,291; Sept. 13; Sp. p. 2460; Gaz. vol. 158; p. 414.
Bajusz, Paul, and A. Kondás, Woodriver, Ill. Wrench. No. 971,341; Sept. 27; Sp. p. 4668; Gaz. vol. 158; p. 816.
Baker, Arthur D., South Bend, Ind. Steering device for vehicles. No. 969,766; Sept. 13; Sp. p. 1331; Gaz. vol. 158; p. 235.
Baker, Charles A., assignor to Sterling Wheelbarrow Company, Milwaukee, Wis. Concrete-cart. No. 970,457; Sept. 20; Sp. p. 2787; Gaz. vol. 158; p. 489.
Baker, Godfrey H. M., Ottawa, Ontario, Canada. Saw guiding and feeding device. No. 969,240; Sept. 6; Sp. p. 200; Gaz. vol. 158; p. 33.
Baker, Malcolm H., New York, N. Y., assignor to Westinghouse Electric and Manufacturing Company. Self-regulating arc-lamp. No. 969,510; Sept. 6; Sp. p. 753; Gaz. vol. 158; p. 120.
Baker, Tom W., London, England. Vehicle-wheel. No. 969,241; Sept. 6; Sp. p. 201; Gaz. vol. 158; p. 33.
Baker, Walter, Wapato, Wash. Riveting-machine. No. 971,483; Sept. 27; Sp. p. 4018; Gaz. vol. 158; p. 862.
Baldwin Locomotive Works. (See Abbe, George C., assignor.)

Baldwin Locomotive Works. (See Hodges, William S., assignor.)
Baldwin, Luther C., Providence, R. I. Bobbin-boring machine. No. 970,601; Sept. 20; Sp. p. 3102; Gaz. vol. 158; p. 541.
Balentine, Steven F., Charleston, S. C. Settee. No. 971,342; Sept. 27; Sp. p. 4669; Gaz. vol. 158; p. 816.
Ballard, Harrie A., Somerville, assignor to The Boylston Manufacturing Company, Boston, Mass. Mechanism for inserting fasteners. No. 969,934; Sept. 13; Sp. p. 1702; Gaz. vol. 158; p. 293.
Ballard, John C., and J. F. Bynum, Cherryville, N. C. Latch for cotton ring spinning and twisting frames. No. 969,443; Sept. 6; Sp. p. 617; Gaz. vol. 158; p. 98.
Banger, John E. A. (See Wiley and Banger.)
Bankers Construction Company, The. (See Wheeler, Raymond O., assignor.)
Banks, Daniel B. (See Tanner and Banks.)
Banks, Virgil G., Mount Kisco, N. Y. Tie-plate and rail-brace. No. 970,414; Sept. 13; Sp. p. 2689; Gaz. vol. 158; p. 454.
Barber, Howard M., Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Variable-size-flat-sheet-delivery mechanism. No. 970,366; Sept. 13; Sp. p. 2597; Gaz. vol. 158; p. 439.
Barber, John C., assignor to Standard Car Truck Company, Chicago, Ill. Center-bearing for cars. No. 969,444; Sept. 6; Sp. p. 618; Gaz. vol. 158; p. 98.
Barbour, Thomas S., Ames, Iowa. Hay-fork attachment. No. 970,415; Sept. 13; Sp. p. 2691; Gaz. vol. 158; p. 455.
Barbre, Thomas J., Denver, Colo. Lubricating-valve. No. 970,292; Sept. 13; Sp. p. 2461; Gaz. vol. 158; p. 414.
Barcalo Manufacturing Company. (See Vallone and Rogers, assignors.)
Bard, Paul, Pittsburg, Pa. Cuspidor. No. 969,742; Sept. 6; Sp. p. 1268; Gaz. vol. 158; p. 203.
Baren, Eugene, *et al.* (See Eytalis, Charles, assignor.)
Barilla, John. (See Sechlik and Barilla.)
Barker, England J., Chicago, Ill. Means for combining autographic registers and type-writers. No. 970,780; Sept. 20; Sp. p. 3525; Gaz. vol. 158; p. 603.
Barnes, Ned E., assignor of one-half to O. A. Smith and one-fourth to H. A. McDonald, Willis, Tex. Indicator or bulletin. No. 969,592; Sept. 6; Sp. p. 955; Gaz. vol. 158; p. 151.
Barnett, Wheeler, Knoxville, Tenn. Pipe-machine. No. 970,677; Sept. 20; Sp. p. 3292; Gaz. vol. 158; p. 567.
Barnhill, Edward B. (See Waller and Barnhill.)
Barr, Daniel M., Philadelphia, Pa. Tide-motor. No. 971,343; Sept. 27; Sp. p. 4671; Gaz. vol. 158; p. 817.
Barr, John H., assignor to The Smith Premier Type-writer Company, Syracuse, N. Y. Type-writing machine. No. 969,326; Sept. 6; Sp. p. 366; Gaz. vol. 158; p. 60.
Barr, John M., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Manufacturing parts of brush-holders and similar devices. No. 969,511; Sept. 6; Sp. p. 760; Gaz. vol. 158; p. 120.
Barrett, Charles R., Chicago, Ill. Machine for forming loops on coil-springs. No. 971,238; Sept. 27; Sp. p. 4478; Gaz. vol. 158; p. 783.
Barrett, Harry A. (See Auble, James H., assignor.)
Barrett, Harry A. (See Auble and Barrett.)
Barron, Amos N., Cleveland, and W. G. Waitt, Fremont, assignors to National Carbon Company, Cleveland, Ohio. Dry cell. No. 969,512; Sept. 6; Sp. p. 761; Gaz. vol. 158; p. 120.
Barteis, Carl, assignor to The Mosler Safe Company, Hamilton, Ohio. Safe or vault. No. 971,344; Sept. 27; Sp. p. 4672; Gaz. vol. 158; p. 817.
Barton, Charles N., assignor of one-half to J. B. Blackman, Harrisburg, Ill. Bit for mining-machines of the cutting-chain type. No. 971,345; Sept. 27; Sp. p. 4675; Gaz. vol. 158; p. 817.
Bary, William B., St. Petersburg, Russia. Annular rotating furnace. No. 970,293; Sept. 13; Sp. p. 2462; Gaz. vol. 158; p. 415.
Bassett, George C., Winifrede, W. Va. Hat-pin holder. No. 971,484; Sept. 27; Sp. p. 4927; Gaz. vol. 158; p. 862.
Batchelder, Charles A., Stoughton, Mass., assignor to O. A. Miller Treeing Machine Company, Portland, Me., and Brockton, Mass. Boot and shoe tree. No. 970,165; Sept. 13; Sp. p. 2177; Gaz. vol. 158; p. 371.
Batt, Henry, Hendersyde Park, Kelso, Scotland. Electric ignition device for internal-combustion engines. No. 969,327; Sept. 6; Sp. p. 371; Gaz. vol. 158; p. 60.
Battershall, Joseph W., Attleboro, Mass. Appliance for treatment of spinal affections. No. 970,781; Sept. 20; Sp. p. 3529; Gaz. vol. 158; p. 603.
Battey, Sumter B., New York, N. Y. Automatic lighter. No. 970,294; Sept. 13; Sp. p. 2464; Gaz. vol. 158; p. 415.
Battle, Robert H. (See Sawyer, Walter H., assignor.)
Bausch & Lomb Optical Company. (See Kellner, Gustav A. H., assignor.)
Bausher, Thomas D., Reading, Pa. Fuel-cartridge. No. 969,151; Sept. 6; Sp. p. 3; Gaz. vol. 158; p. 3.
Bausher, Thomas D., Reading, Pa. Portable thawing-furnace. No. 971,105; Sept. 27; Sp. p. 4188; Gaz. vol. 158; p. 739.
Bayer, Joseph C. (See Leo and Bayer.)
Baylor, William W., *et al.* (See Omalia, Michael, assignor.)
Beach, Charles S., *et al.* (See Malone, Frank, assignor.)
Beach, Edward. (See Tucker and Beach.)
Beach, Howard L., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Controller for electric motors. No. 969,513; Sept. 6; Sp. p. 762; Gaz. vol. 158; p. 121.
Bean, Charles L., assignor of one-half to F. C. Kline, Toledo, Ohio. Threshing-machine. No. 971,239; Sept. 27; Sp. p. 4480; Gaz. vol. 158; p. 784.
Bear, Carlton J., Monticello, Ill. Animal-shelter. No. 970,873; Sept. 20; Sp. p. 3716; Gaz. vol. 158; p. 635.
Beard, Edward A., Rockville, Md. Inking attachment for type-writers. No. 970,295; Sept. 13; Sp. p. 2467; Gaz. vol. 158; p. 416.
Bechman, Henry F., assignor to Duplex Printing Press Company, Battle Creek, Mich. Printing-press. No. 969,514; Sept. 6; Sp. p. 767; Gaz. vol. 158; p. 121.
Beck, Charles W., assignor to Electrolite Gas Lamp Company, New York, N. Y. Acetylene-generator. No. 971,346; Sept. 27; Sp. p. 4670; Gaz. vol. 158; p. 818.
Beck, Joseph W., assignor of one-half to J. C. Metzger, Cincinnati, Ohio. Cooling-tower. No. 969,743; Sept. 6; Sp. p. 1270; Gaz. vol. 158; p. 203.
Becker, Clarence E., assignor to The Auto Bi Company, Buffalo, N. Y. Saddle-support for motor-cycles, &c. No. 970,458; Sept. 20; Sp. p. 2789; Gaz. vol. 158; p. 490.
Bedell, Carl E., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electrical controller. No. 969,515; Sept. 6; Sp. p. 771; Gaz. vol. 158; p. 121.
Beebe, Horace W., New Haven, Conn. Vehicle-lamp. No. 969,445; Sept. 6; Sp. p. 619; Gaz. vol. 158; p. 99.
Beffel, Leonard, Jackson, Mich. Sleigh-runner for wheeled vehicles. No. 970,874; Sept. 20; Sp. p. 3717; Gaz. vol. 158; p. 635.
Behrendt, Eugene, Manila, Philippine Islands. Machine for separating fibers from the pulp and extraneous matter of plants and trees. No. 970,166; Sept. 13; Sp. p. 2179; Gaz. vol. 158; p. 371.
Beidelman, William D., Union, Oreg. Harness. No. 969,328; Sept. 6; Sp. p. 373; Gaz. vol. 158; p. 61.
Bell, John C., Cleveland, Ohio. Bill. No. 971,106; Sept. 27; Sp. p. 4189; Gaz. vol. 158; p. 739.
Bell, John C., Cleveland, Ohio. Check. No. 971,107; Sept. 27; Sp. p. 4191; Gaz. vol. 158; p. 740.
Bell, John W., Vancouver, British Columbia, Canada. Wood-surfacing machine. No. 970,875; Sept. 20; Sp. p. 3719; Gaz. vol. 158; p. 636.
Bell, Willard J., Newaygo, Mich. Grinding-machine. No. 971,108; Sept. 27; Sp. p. 4193; Gaz. vol. 158; p. 740.
Bellion, William E. (See Kneip, Anton, assignor.)
Bellows, Winfield S., Steelton, Pa. Float-controlled valve. No. 970,167; Sept. 13; Sp. p. 2185; Gaz. vol. 158; p. 372.
Bender, Nicholas A., assignor of one-half to T. A. Quinn, Clayton, Mo. Horseshoe attachment. No. 971,109; Sept. 27; Sp. p. 4195; Gaz. vol. 158; p. 740.
Bendlon, James. (See McCleary, Harry, assignor.)
Benjamin Electric Manufacturing Company. (See Benjamin, Reuben B., assignor.)
Benjamin, Reuben B., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill. Cluster-lamp-holding device. No. 970,678; Sept. 20; Sp. p. 3294; Gaz. vol. 158; p. 567.
Benjamin, Walter R., Granite City, Ill. Toy gun. No. 970,876; Sept. 20; Sp. p. 3720; Gaz. vol. 158; p. 636.
Bennett, William R., St. John, New Brunswick, Canada. Rudder. No. 971,240; Sept. 27; Sp. p. 4483; Gaz. vol. 158; p. 784.
Benoit, Ida V., New York, N. Y. Storm-garment. No. 971,110; Sept. 27; Sp. p. 4196; Gaz. vol. 158; p. 741.
Bentley, Elam V., Everett, Wash. Combined heater and radiator. No. 971,347; Sept. 27; Sp. p. 4681; Gaz. vol. 158; p. 818.
Berg, Herman, New York, N. Y. Candle-holder. No. 969,767; Sept. 13; Sp. p. 1333; Gaz. vol. 158; p. 236.
Berg, Olav, and M. Imhoff, Paterson, N. J. Preserving tin-weighted silk. No. 969,446; Sept. 6; Sp. p. 621; Gaz. vol. 158; p. 99.
Bergdoit, Wilhelm. (See Blank and Bergdoit.)
Bergen Point Iron Works. (See Smith, Augustus, assignor.)
Bernasconi, Jean, *et al.* (See Cervelli, José, assignor.)
Bernheim, Eugene C., assignor to American Optical Company, Southbridge, Mass. Finger-piece eyeglasses. No. 969,447; Sept. 6; Sp. p. 621; Gaz. vol. 158; p. 99.
Bernstein, William F., Philadelphia, Pa. Stretcher for hospital and other purposes. No. 970,877; Sept. 20; Sp. p. 3722; Gaz. vol. 158; p. 636.
Berquam, Olai O., Grafton, N. D. Safety lamp-burner. No. 970,782; Sept. 20; Sp. p. 3531; Gaz. vol. 158; p. 604.
Berry, Charles L. (See Alexander, Hayes J. J., assignor.)
Berry, Herbert H., and W. J. Markham, London, England. Protected or armor-clad electric-switch fuse. No. 970,296; Sept. 13; Sp. p. 2470; Gaz. vol. 158; p. 416.
Bertin, Isaac, New York, N. Y. Machine for making paper dishes. No. 970,168; Sept. 13; Sp. p. 2186; Gaz. vol. 158; p. 372.
Betts, Anson G., Troy, N. Y. Production of ferric salts. No. 969,833; Sept. 13; Sp. p. 1499; Gaz. vol. 158; p. 258.
Beyer, Emil, assignor of one-half to F. J. Schaefer, Newark, N. J. Burner for fire-pots, blow-torches, and the like. No. 970,416; Sept. 13; Sp. p. 2691; Gaz. vol. 158; p. 455.

Biddeloo, Auguste L. A., Paris, France. Collar holder or retainer. No. 961,017; Sept. 27; Sp. p. 3992; Gaz. vol. 158; p. 709.

Biel, Richard, Itzehoe, Germany. Window. No. 970,980; Sept. 20; Sp. p. 3918; Gaz. vol. 158; p. 669.

Bierer, George W., Pittsburg, Pa. Antiskidding protector. No. 969,744; Sept. 6; Sp. p. 1274; Gaz. vol. 158; p. 204.

Billington, Charles, Attleboro, Mass. Eyeglass connection. No. 971,348; Sept. 27; Sp. p. 4682; Gaz. vol. 158; p. 819.

Billy, Joseph F., Monessen, Pa. Lock for milk-cans. No. 971,349; Sept. 27; Sp. p. 4684; Gaz. vol. 158; p. 819.

Bingaman, Harvey. (See Miller and Bingaman.)

Binggeli, Gottlieb. (See Segesman and Binggeli.)

Bingham, Floyd F., San Jose, Cal. Motor-cycle. No. 971,166; Sept. 27; Sp. p. 4311; Gaz. vol. 158; p. 758.

Birdsey, Somers Company. (See Doolittle, James E., assignor.)

Birsfield, Jules A., Rochester, N. Y., assignor to C. A. Brown and L. A. Williams, Chicago, Ill. Electrical protective apparatus. No. 970,160; Sept. 13; Sp. p. 2190; Gaz. vol. 158; p. 373.

Bishop, Elmer W., Sedro Woolley, Wash. Can-opener. No. 970,170; Sept. 13; Sp. p. 2195; Gaz. vol. 158; p. 373.

Bissell, Charles E. (See Wolfe, Bissell, and Branstetter.)

Bitzer, Gottlob, Dusseldorf, Germany. Tool for pointing nails and similar articles. No. 969,242; Sept. 6; Sp. p. 202; Gaz. vol. 158; p. 33.

Bjorklund, Nils D., Manchester, N. H. Lantern-holder. No. 970,171; Sept. 13; Sp. p. 2197; Gaz. vol. 158; p. 373.

Blackburn, William K., Milwaukee, Wis. Friction-gearing. No. 969,448; Sept. 6; Sp. p. 623; Gaz. vol. 158; p. 99.

Blackman, James B. (See Barton, Charles N., assignor.)

Blackstone, Robert D., Muskogee, Okla. Trolley-harp. No. 970,981; Sept. 20; Sp. p. 3920; Gaz. vol. 158; p. 670.

Blackwell, William L., Dayton, Ohio. Water-heater. No. 971,167; Sept. 27; Sp. p. 4324; Gaz. vol. 158; p. 759.

Blaikley, David, Partick, Glasgow, Scotland. Planchette game apparatus. No. 969,935; Sept. 13; Sp. p. 1705; Gaz. vol. 158; p. 294.

Blair, Charles W. (See Holland, Curtis, assignor.)

Blake, Onesimus W., Denver, Colo. Gum-box. No. 969,329; Sept. 6; Sp. p. 374; Gaz. vol. 158; p. 61.

Blake, Philip W., assignor to F. S. Anable, Boston, Mass. Adhesive substance and preparing the same. No. 969,449; Sept. 6; Sp. p. 625; Gaz. vol. 158; p. 100.

Blalock, Alonzo L., Madison, Fla. Auto-wheel. No. 969,593; Sept. 6; Sp. p. 956; Gaz. vol. 158; p. 151.

Blanchard, Maurice, Wardner, Idaho. Furnace. No. 970,417; Sept. 13; Sp. p. 2698; Gaz. vol. 158; p. 456.

Blank, August, and K. Heusner, Leverkusen, near Cologne, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Azo dye. No. 969,450; Sept. 6; Sp. p. 627; Gaz. vol. 158; p. 100.

Blank, August, and W. Bergdoit, Leverkusen, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Trisazo dye. No. 971,111; Sept. 27; Sp. p. 4197; Gaz. vol. 158; p. 741.

Blank, August, and W. Bergdoit, Leverkusen, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Trisazo dye. No. 971,112; Sept. 27; Sp. p. 4198; Gaz. vol. 158; p. 741.

Blaustein, Joseph. (See Greenwald, Blaustein, and Weiss.)

Blaw Collapsible Steel Centering Company. (See McArthur, Charles D., assignor.)

Bledsoe, Carl F., Chicago, Ill. Friction-clutch. No. 970,459; Sept. 20; Sp. p. 2791; Gaz. vol. 158; p. 490.

Bloch, Pauline S., assignor to Rogers Verybest Manufacturing Company, New York, N. Y. Vending-machine. No. 969,330; Sept. 6; Sp. p. 375; Gaz. vol. 158; p. 61.

Block, Joseph, New York, N. Y. Portable electric light. No. 971,241; Sept. 27; Sp. p. 4483; Gaz. vol. 158; p. 784.

Blocki, Herbert J., Sheboygan, Wis. Packing-pad. No. 969,451; Sept. 6; Sp. p. 628; Gaz. vol. 158; p. 100.

Bloom, Harry F., Sandusky, Ohio. Heater attachment for gas-lamps. No. 971,242; Sept. 27; Sp. p. 4484; Gaz. vol. 158; p. 785.

Bloom, Orvis D., and J. H. Hill, Portland, Oreg. Billiard-cue. No. 970,172; Sept. 13; Sp. p. 2198; Gaz. vol. 158; p. 374.

Bloomfield, Edward W., Vancouver, British Columbia, Canada. Necktie-adjusting means. No. 969,594; Sept. 6; Sp. p. 959; Gaz. vol. 158; p. 151.

Blos, Ernst, Schöneberg, near Berlin, Germany. Transmitter for teleselectors. No. 970,367; Sept. 13; Sp. p. 2601; Gaz. vol. 158; p. 440.

Blossfeld, Emil, San Francisco, Cal. Sash-lock. No. 971,350; Sept. 27; Sp. p. 4685; Gaz. vol. 158; p. 819.

Blossfeld, Wilhelm C. F., Sprague ville, Iowa. Truck for hay-loaders. No. 969,595; Sept. 6; Sp. p. 959; Gaz. vol. 158; p. 152.

Blower, Joseph W., Columbus, Ohio. Railway-track construction. No. 969,152; Sept. 6; Sp. p. 4; Gaz. vol. 158; p. 3.

Bluff, John T., assignor of one-half to F. F. Hayes, Butte, Mont. Device for preventing the creeping of rails. No. 970,418; Sept. 13; Sp. p. 2700; Gaz. vol. 158; p. 456.

Blum, Edward W., W. T. S. Johnson, and F. Kropf, assignors to The Bradford Machine Tool Company, Cincinnati, Ohio. Relieving attachment for lathes. No. 971,243; Sept. 27; Sp. p. 4486; Gaz. vol. 158; p. 785.

Blumer, James. (See Howe, John, assignor.)

Boeck, Charles G., assignor to Novelty Manufacturing Company, Jackson, Mich. Automobile-radiator. No. 970,297; Sept. 13; Sp. p. 2472; Gaz. vol. 158; p. 416.

Boeckmann, Frank, Bartelso, Ill. Road-drag. No. 971,113; Sept. 27; Sp. p. 4190; Gaz. vol. 158; p. 741.

Boenker, Henry H., St. Charles, Mo. Agricultural implement. No. 970,783; Sept. 20; Sp. p. 3532; Gaz. vol. 158; p. 604.

Bofird, Louis, New York, N. Y. Air-tight revolving window-sash. No. 970,173; Sept. 13; Sp. p. 2199; Gaz. vol. 158; p. 374.

Boggs, Thaddeus M., Monongahela, Pa. Tool for finishing bearings. No. 969,452; Sept. 6; Sp. p. 629; Gaz. vol. 158; p. 100.

Bogue, Samuel R. (See McClintock, Charles D., assignor.)

Bohan, William J., St. Paul, Minn. Combined door-stop brace and fastener. No. 970,602; Sept. 20; Sp. p. 3108; Gaz. vol. 158; p. 541.

Bohan, William J., St. Paul, Minn. Berth-lamp. No. 971,351; Sept. 27; Sp. p. 4686; Gaz. vol. 158; p. 819.

Böhm, Emil, Finkenkrug, near Seegefeld, Germany. Insect-trap, especially for flies. No. 970,784; Sept. 20; Sp. p. 3536; Gaz. vol. 158; p. 605.

Bohn, René, Mannheim, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Vat dye and making same. No. 970,878; Sept. 20; Sp. p. 3722; Gaz. vol. 158; p. 636.

Boland, Francis P., Providence, R. I. Machine for drying jewelry, &c. No. 969,453; Sept. 6; Sp. p. 630; Gaz. vol. 158; p. 100.

Bole, Samuel T., assignor to The J. G. Brill Company, Philadelphia, Pa. Passenger-car. No. 970,010; Sept. 13; Sp. p. 1877; Gaz. vol. 158; p. 320.

Bolger, Thomas P., assignor to Success Manufacturing Company, Gloucester, Mass. Ash-sifter. No. 971,018; Sept. 27; Sp. p. 3903; Gaz. vol. 158; p. 709.

Bolzani, Anton, Berlin, Germany. Brake for hoisting devices. No. 969,834; Sept. 13; Sp. p. 1500; Gaz. vol. 158; p. 258.

Bond, John T., Palatka, Fla. Oil-strainer. No. 970,982; Sept. 20; Sp. p. 3921; Gaz. vol. 158; p. 670.

Booton, Charles D., Audubon, Iowa. Ironing-cabinet. No. 970,174; Sept. 13; Sp. p. 2200; Gaz. vol. 158; p. 374.

Boozer, Thomas J., Rosalia, Wash. Hoe attachment for drills. No. 970,298; Sept. 13; Sp. p. 2476; Gaz. vol. 158; p. 417.

Borgman, Bernard, Geneva, N. Y. Variable-speed transmission-gearing. No. 970,879; Sept. 20; Sp. p. 3723; Gaz. vol. 158; p. 636.

Boring, Robert E., Carlinville, Ill. Cushion-wheel. No. 969,596; Sept. 6; Sp. p. 961; Gaz. vol. 158; p. 152.

Bornmann, Carl, New Haven, Conn., assignor to Ansco Company, Binghamton, N. Y. Winding-key for cameras. No. 970,603; Sept. 20; Sp. p. 3109; Gaz. vol. 158; p. 541.

Bossen, Fred, Platte, S. D. Harvester. No. 969,331; Sept. 6; Sp. p. 376; Gaz. vol. 158; p. 61.

Boston Wire Stitcher Company. (See Briggs, Thomas A., assignor.)

Boswell, Samuel H., Norwich, England. Apparatus for starting motor-car or the like engines. No. 970,604; Sept. 20; Sp. p. 3112; Gaz. vol. 158; p. 542.

Bottle, Edward K., Niagara Falls, N. Y., assignor to The Carter-Crume Company, Limited, Ontario, Canada. Manifolding-pad. No. 970,785; Sept. 20; Sp. p. 3537; Gaz. vol. 158; p. 605.

Bouchayer, Joseph A., Grenoble, France. Automatic apparatus for stopping the supply in case of a sudden emptying. No. 969,516; Sept. 6; Sp. p. 775; Gaz. vol. 158; p. 122.

Boucher, Alexander, Boston, Mass. Cigarette-tipping machine. No. 970,011; Sept. 13; Sp. p. 1878; Gaz. vol. 158; p. 320.

Bouchet, Peter A., Merced, Cal. Well-boring machine. No. 970,880; Sept. 20; Sp. p. 3726; Gaz. vol. 158; p. 637.

Boushear, Henry, Fort William, Ontario, Canada. Water-gage. No. 969,454; Sept. 6; Sp. p. 632; Gaz. vol. 158; p. 101.

Boutwell, Charles H., and M. Marshall, Rawson, Ohio. Pulley brake and grip. No. 969,835; Sept. 13; Sp. p. 1503; Gaz. vol. 158; p. 259.

Bowdle, George F., Piqua, Ohio. Friction disk clutch. No. 971,168; Sept. 27; Sp. p. 4326; Gaz. vol. 158; p. 759.

Bowen, Pardon M., Jr. (See Haselrigg, Ross, assignor.)

Bowerbank, Albert W. (See Parsons, Stoney, Carnegie, and Bowerbank.)

Bowman, Adam K. (See Johnston and Bowman.)

Bowman, Henry W., Barbourville, Ky. Head-rest for car-seats. No. 971,428; Sept. 27; Sp. p. 4822; Gaz. vol. 158; p. 844.

Bowser, Virgil C., Monroe, Ind. Gage-lifting attachment for corn-planters. No. 970,605; Sept. 20; Sp. p. 3113; Gaz. vol. 158; p. 542.

Box Office Ticket Printing Machine Company. (See Vaughan, Thomas M., assignor.)

Boyce, Harry R., *et al.* (See Saldin, Max, assignor.)

Boyce, John H., *et al.* (See Saldin, Max, assignor.)

Boyd, Charley A., Spencer, N. C. Feed-bag. No. 970,299; Sept. 13; Sp. p. 2477; Gaz. vol. 158; p. 417.

Boyd, Frederic R. C., Lynn, Mass., assignor to General Electric Company. Leakage-reducing means for turbines. No. 969,517; Sept. 6; Sp. p. 776; Gaz. vol. 158; p. 122.

Boyd, James T., Springville, Miss. Plow. (No. 969,243; Sept. 6; Sp. p. 203; Gaz. vol. 158; p. 33.

Boyd, John, Bothwell, assignor of one-half to D. Phillips and James Scott & Sons (Limited), Dundee, Scotland. Mechanism for guiding and tensioning spindle-driving bands. No. 969,768; Sept. 13; Sp. p. 1334; Gaz. vol. 158; p. 236.

Boyer, Henry W., *et al.* (See Spencer, Oliver H. P. G., assignor.)

Boyle, James E., Lancaster, Pa. Mail-bag catching and delivering apparatus. No. 970,606; Sept. 20; Sp. p. 3114; Gaz. vol. 158; p. 542.

Boylston Manufacturing Company, The. (See Ballard, Harrie A., assignor.)

Bradbury, Clifford C., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Party-line-indicating system. No. 971,352; Sept. 27; Sp. p. 4688; Gaz. vol. 158; p. 820.

Bradford Machine Tool Company, The. (See Blum, Johnson, and Kropf, assignors.)

Bradley, Charles S., New York, N. Y. Apparatus for ozonifying. No. 971,244; Sept. 27; Sp. p. 4489; Gaz. vol. 158; p. 785.

Bradley, William H., Half Moon Bay, Cal. Oil-burner. No. 970,300; Sept. 13; Sp. p. 2478; Gaz. vol. 158; p. 417.

Bradt, Lewis E., Santa Monica, Cal. Trolley-harp. No. 971,485; Sept. 27; Sp. p. 4928; Gaz. vol. 158; p. 862.

Braen, Aaron, North Paterson, N. J. Folding crate or case. No. 969,455; Sept. 6; Sp. p. 633; Gaz. vol. 158; p. 101.

Brandon, Henry L., Leavenworth, Kans. Steam-condenser. No. 971,486; Sept. 27; Sp. p. 4929; Gaz. vol. 158; p. 862.

Brangier, Pierre-Armand, Agnews, Cal. Manufacturing purified potable spirits. No. 969,332; Sept. 6; Sp. p. 380; Gaz. vol. 158; p. 62.

Branstetter, William J. (See Wolfe, Bissell, and Branstetter.)

Brantley, Thomas, assignor to Southern Machine Works, Albany, Ga. Brush. No. 969,456; Sept. 6; Sp. p. 634; Gaz. vol. 158; p. 101.

Brassert, Herman A., and A. G. Witting, Chicago, Ill. Method and apparatus for cleaning gas. No. 969,769; Sept. 13; Sp. p. 1336; Gaz. vol. 158; p. 236.

Brayton, George A., Martins Ferry, and Edwin C. Roberts, Bridgeport, Ohio. Reinforcement for concrete structures. No. 971,353; Sept. 27; Sp. p. 4692; Gaz. vol. 158; p. 820.

Breckenkamp, Louis H., assignor of one-half to J. C. Miller, St. Louis, Mo. Sandpapering-machine. No. 971,114; Sept. 27; Sp. p. 4200; Gaz. vol. 158; p. 741.

Brekke, Lewis O., Seattle, Wash. Stove and furnace grate. No. 970,460; Sept. 20; Sp. p. 2795; Gaz. vol. 158; p. 491.

Brenneisen, George B., Warren, Pa. Centering-machine. No. 970,679; Sept. 20; Sp. p. 3298; Gaz. vol. 158; p. 567.

Brennahan, William D., *et al.* (See Spencer, Oliver H. P. G., assignor.)

Brewer, Elton G., and C. A. Cheshire, Des Moines, Iowa. Feeder for printing-presses. No. 971,245; Sept. 27; Sp. p. 4492; Gaz. vol. 158; p. 786.

Bricteon, Ole A., Brookings, S. D. Protector for pneumatic tires. No. 971,246; Sept. 27; Sp. p. 4494; Gaz. vol. 158; p. 786.

Briede, Otto, Benrath, near Dusseldorf, Germany. Rolling out hollow billets to form seamless tubes. No. 969,333; Sept. 6; Sp. p. 381; Gaz. vol. 158; p. 62.

Briggs, Thomas A., East Greenwich, R. I., assignor to Boston Wire Stitcher Company, Portland, Me. Wire-stitcher. No. 970,461; Sept. 20; Sp. p. 2796; Gaz. vol. 158; p. 491.

Briggs, Thomas A., assignor to Boston Wire Stitcher Company, East Greenwich, R. I. Wire-cutter. No. 971,247; Sept. 27; Sp. p. 4495; Gaz. vol. 158; p. 786.

Brinckerhoff, Francis M., New York, N. Y., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa. Metallic door. No. 969,518; Sept. 6; Sp. p. 779; Gaz. vol. 158; p. 122.

Britton, Van E. (See Schwartz, Sigmund, assignor.)

Brockman, Frederick D., St. Louis, and E. D. Hoffman, Cape Girardeau, Mo. Folding crate. No. 971,354; Sept. 27; Sp. p. 4693; Gaz. vol. 158; p. 820.

Bronder, Gaston A., Brooklyn, N. Y. Turn-table. No. 971,115; Sept. 27; Sp. p. 4202; Gaz. vol. 158; p. 742.

Brooks, Edward J., East Orange, N. J. Dress-weight. No. 970,175; Sept. 13; Sp. p. 2002; Gaz. vol. 158; p. 375.

Brooks, Harry A. (See Newcomb and Brooks.)

Brooks, John C., Paterson, N. J. Needle-loom for weaving pile fabrics. No. 971,355; Sept. 27; Sp. p. 4694; Gaz. vol. 158; p. 821.

Brooks, John C., Paterson, N. J. Needle-loom. No. 971,487; Sept. 27; Sp. p. 4931; Gaz. vol. 158; p. 863.

Brophy, Edward J., Brooklyn, N. Y. Drip-alarm device for refrigerators. No. 969,153; Sept. 6; Sp. p. 5; Gaz. vol. 158; p. 3.

Brown, Alexander T., Syracuse, N. Y. Type-writing machine. No. 969,836; Sept. 13; Sp. p. 1504; Gaz. vol. 158; p. 259.

Brown, Arthur J., Norwood, Ohio, assignor to Allis-Chalmers Company and The Bullock Electric Manufacturing Company. Dynamo-electric machine. No. 970,786; Sept. 20; Sp. p. 3539; Gaz. vol. 158; p. 605.

Brown, Charles A., *et al.* (See Birsfield, Jules A., assignor.)

Brown, Clarence R., assignor to E. E. Brown, Philadelphia, Pa. Sectional sash-weight. No. 970,176; Sept. 13; Sp. p. 2203; Gaz. vol. 158; p. 375.

Brown, David I. (See Peters and Brown.)

Brown, Edward. Omaha, Nebr. Horse-collar. No. 969,837; Sept. 13; Sp. p. 1512; Gaz. vol. 158; p. 259.

Brown, Egbert B., Los Angeles, Cal. Journal-lubricator. No. 969,838; Sept. 13; Sp. p. 1514; Gaz. vol. 158; p. 260.

Brown, Elmer E. (See Brown, Clarence R., assignor.)

Brown, Franklin P., Dayton, Ohio. Hand-truck. No. 970,787; Sept. 20; Sp. p. 3541; Gaz. vol. 158; p. 606.

Brown, Jesse B., Lansing, Mich. Compression-regulator for gas-engines. No. 970,462; Sept. 20; Sp. p. 2808; Gaz. vol. 158; p. 491.

Brown, John R., assignor to Ohio Brass Company, Mansfield, Ohio. Pressure-regulator. No. 969,519; Sept. 6; Sp. p. 781; Gaz. vol. 158; p. 123.

Brown, John R., assignor to Ohio Brass Company, Mansfield, Ohio. Gage-cock. No. 969,770; Sept. 13; Sp. p. 1330; Gaz. vol. 158; p. 237.

Brown, William G. (See Houser, Winfield S., assignor.)

Browne, George E., Greenfield, Mich. Clamp. No. 969,771; Sept. 13; Sp. p. 1341; Gaz. vol. 158; p. 237.

Browning, Joseph R., Springhill, La. Valve-operating mechanism for presses. No. 969,457; Sept. 6; Sp. p. 635; Gaz. vol. 158; p. 102.

Bruner, William R. (See Cookingham, Peter F., assignor.)

Bryan, John, Yellow Springs, Ohio. System to prevent the overflowing of rivers. No. 969,334; Sept. 6; Sp. p. 386; Gaz. vol. 158; p. 62.

Bryant Electric Company, The. (See Goodridge, Gilbert W., assignor.)

Bryant, Henry E., Atlanta, Ga. Combined eraser and pencil-sharpener. No. 960,984; Sept. 20; Sp. p. 3023; Gaz. vol. 158; p. 670.

Buchan, Hugh G., Woodbridge township, Middlesex county, N. J. Leaf-binder. No. 969,936; Sept. 13; Sp. p. 1706; Gaz. vol. 158; p. 294.

Buchanan, Leonard B., Woburn, assignor to Stone and Webster, Boston, Mass. Automobile-horn. No. 971,169; Sept. 27; Sp. p. 4327; Gaz. vol. 158; p. 759.

Buck, Orlando J., Chicago, Ill. Chewing-gum. No. 969,458; Sept. 6; Sp. p. 637; Gaz. vol. 158; p. 102.

Buckingham, Benjamin J., assignor to Buckingham-Rae Company, Chicago, Ill. Garment-holder. No. 969,520; Sept. 6; Sp. p. 788; Gaz. vol. 158; p. 123.

Buckingham-Rae Company. (See Buckingham, Benjamin J., assignor.)

Buckler, James, Philadelphia, Pa., assignor to Crompton & Knowles Loom Works. Pile-fabric loom. No. 970,463; Sept. 20; Sp. p. 2812; Gaz. vol. 158; p. 492.

Buckley, Jeremiah C., Detroit, Mich. Tool-holding block. No. 970,177; Sept. 13; Sp. p. 2204; Gaz. vol. 158; p. 375.

Bucknam, Ezra S., and G. B. Kohler, assignors to The J. G. Brill Company, Philadelphia, Pa. Fare-box. No. 969,597; Sept. 6; Sp. p. 962; Gaz. vol. 158; p. 152.

Bucknam, Ezra S., and G. B. Kohler, assignors to The J. G. Brill Company, Philadelphia, Pa. Fare-box. No. 970,178; Sept. 13; Sp. p. 2205; Gaz. vol. 158; p. 375.

Buckwalter, Tracy V., Altoona, Pa. Battery-transfer mechanism. No. 969,154; Sept. 6; Sp. p. 7; Gaz. vol. 158; p. 4.

Buermann, George, Newark, N. J. Spur. No. 969,839; Sept. 13; Sp. p. 1517; Gaz. vol. 158; p. 260.

Buffalo Forge Company. (See Carrier, Willis H., assignor.)

Bugnon, Leon G., Seattle, Wash. Non-refillable bottle. No. 971,488; Sept. 27; Sp. p. 4933; Gaz. vol. 158; p. 864.

Bulasky, Louis, New York, N. Y. Work guide or gage for sewing-machines. No. 970,179; Sept. 13; Sp. p. 2209; Gaz. vol. 158; p. 380.

Bullock Electric Manufacturing Company, The, *et al.* (See Brown, Arthur J., assignor.)

Bullock Electric Manufacturing Company, The, *et al.* (See Mattman, Emil, assignor.)

Bullock Electric Manufacturing Company, The. (See Mug, Edward T., assignor.)

Bullock Electric Manufacturing Company, The, *et al.* (See Van Valkenburg, Hermon L., assignor.)

Burchardi, Bernard T. (See Wahlstrom, Verner J., assignor.)

Burcik, Emil, *et al.* (See Chartener, Victor, assignor.)

Bureau, Octave, Waterville, Me. Log-marker. No. 970,012; Sept. 13; Sp. p. 1884; Gaz. vol. 158; p. 320.

Burk, Charles H., Chicago, Ill. Shoe for sad-irons. No. 969,335; Sept. 6; Sp. p. 388; Gaz. vol. 158; p. 63.

Burke, Charles G., New York, N. Y., assignor of one-half to J. Q. A. Whittemore, Newton, Mass. Telegraphy. No. 971,170; Sept. 27; Sp. p. 4329; Gaz. vol. 158; p. 759.

Burke, Thomas J., New Orleans, La. Advertising device. No. 970,301; Sept. 13; Sp. p. 2480; Gaz. vol. 158; p. 418.

Burkhardt, Franklin P., Springfield, Ohio, assignor, by mesne assignments, to The Anderson Tool Company, Anderson, Ind. Slicing-machine. No. 970,680; Sept. 20; Sp. p. 3299; Gaz. vol. 158; p. 568.

Burnett, William S., assignor to Morse Code Signal Co., Milwaukee, Wis. Electromagnetic device. No. 970,180; Sept. 13; Sp. p. 2211; Gaz. vol. 158; p. 380.

Burton, Oliver M., Chicago, Ill. Mattress. No. 969,840; Sept. 13; Sp. p. 1519; Gaz. vol. 158; p. 261.

Buskard, Samuel G., Hamilton, Ontario, Canada. Flat-iron heater. No. 970,013; Sept. 13; Sp. p. 1886; Gaz. vol. 158; p. 321.

Buskard, Samuel G., Hamilton, Ontario, Canada. Table for garment-workers. No. 970,014; Sept. 13; Sp. p. 1888; Gaz. vol. 158; p. 321.

Buskard, Samuel G., Hamilton, Ontario, Canada. Smoothing-iron. No. 970,788; Sept. 20; Sp. p. 3542; Gaz. vol. 158; p. 606.

Butcher, Harry G., Urbana, Ohio. Attachment for emery-wheel dressers. No. 970,681; Sept. 20; Sp. p. 3304; Gaz. vol. 158; p. 568.

Butkus, Joseph, *et al.* (See Eytalis, Charles, assignor.)

Butler, Fabius M., David City, Nebr. Lightning-arrester. No. 969,336; Sept. 6; Sp. p. 389; Gaz. vol. 158; p. 63.

Butler, George P., New Haven, Conn. Expansible bit. No. 970,789; Sept. 20; Sp. p. 3543; Gaz. vol. 158; p. 606.

Butler, William G., Brooklyn, N. Y. Making invoice and scrap books. No. 970,682; Sept. 20; Sp. p. 3306; Gaz. vol. 158; p. 568.

Buttles, Gilbert W., Appleton, Wis. Clothes-line reel. No. 969,598; Sept. 6; Sp. p. 964; Gaz. vol. 158; p. 153.

Buxton, Francis E., Lockington, Ohio. Pulley. No. 971,356; Sept. 27; Sp. p. 4697; Gaz. vol. 158; p. 821.

Bynum, John F. (See Ballard and Bynum.)

Byrd, Arthur B., Oklahoma, Okla. Window-scaffold. No. 969,521; Sept. 6; Sp. p. 780; Gaz. vol. 158; p. 124.

Byrne, Matthew, San Francisco, Cal. Heel-cushion. (Reissue.) No. 13,150; Sept. 6; Sp. p. 1327; Gaz. vol. 158; p. 211.

Byrum, George R. (See Copeland, George W., assignor.)

C. B. Cottrell & Sons Company. (See Barber, Howard M., assignor.)

C. B. Cottrell & Sons Company. (See Cottrell, Edgar H., assignor.)

C. G. Sargent's Sons Corporation. (See Sargent, Frederick G., assignor.)

C. W. Ferguson Collar Co. *et al.* (See Ferguson, Clarence W., assignor.)

Cade, Howard E., Pencoyd, and D. R. Knapp, Philadelphia, Pa. Boiler-feed-water regulator. No. 971,357; Sept. 27; Sp. p. 4702; Gaz. vol. 158; p. 821.

Cadwallader, Joseph W., Monessen, Pa. Toy and game apparatus. No. 970,881; Sept. 20; Sp. p. 3728; Gaz. vol. 158; p. 637.

Caldwell, Welsey A., Bradford, Ill. Portable grain-elevator. No. 970,464; Sept. 20; Sp. p. 2814; Gaz. vol. 158; p. 492.

California Valve and Air Brake Company. (See Neal and Childress, assignors.)

Calvin, Harry C., Dothan, Ala. Automatic time-switch. No. 970,882; Sept. 20; Sp. p. 3729; Gaz. vol. 158; p. 638.

Cameron, George W., assignor of one-half to G. and J. Muennink, Hondo, Tex. Lint-packing apparatus. No. 969,841; Sept. 13; Sp. p. 1520; Gaz. vol. 158; p. 261.

Camp, Thomas N., Powder Springs, Ga. Gin-feed-actuating device. No. 969,337; Sept. 6; Sp. p. 390; Gaz. vol. 158; p. 63.

Campbell, Benjamin F., Placerville, Colo. Railway-tie. No. 969,459; Sept. 6; Sp. p. 638; Gaz. vol. 158; p. 102.

Campbell Company, The. (See Stewart, Charles C., assignor.)

Campbell, James S., Camden, Ill. Currycomb. No. 971,171; Sept. 27; Sp. p. 4333; Gaz. vol. 158; p. 760.

Cann, Annie K., Watkins, Colo. Covering for mouthpieces of telephone-transmitters. No. 970,015; Sept. 13; Sp. p. 1889; Gaz. vol. 158; p. 321.

Cappon, Jesse, and J. A. Schantz, Milwaukee, Wis. Gas apparatus. No. 971,019; Sept. 27; Sp. p. 3904; Gaz. vol. 158; p. 710.

Cargill, Lawrence W., Columbus, Ohio. Concrete-mixing machine. No. 970,419; Sept. 13; Sp. p. 2701; Gaz. vol. 158; p. 456.

Carichoff, Eugene R. (See White and Carichoff.)

Carl, Rudolf, Buffalo, N. Y. Last. No. 969,244; Sept. 6; Sp. p. 204; Gaz. vol. 158; p. 34.

Carleton, Charles A., Cumberland Mills, assignor of one-half to W. G. McClintock, Booth Bay Harbor, Me. Furnace. No. 969,745; Sept. 6; Sp. p. 1275; Gaz. vol. 158; p. 204.

Carlson, Charles A., Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa. Machine element. No. 970,791; Sept. 20; Sp. p. 3552; Gaz. vol. 158; p. 607.

Carlson, Charles A., Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa. Transmission-gearing. No. 970,792; Sept. 20; Sp. p. 3554; Gaz. vol. 158; p. 608.

Carlson, Charles A., Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa. Shaft-coupling. No. 970,793; Sept. 20; Sp. p. 3556; Gaz. vol. 158; p. 608.

Carlson, Charles A., Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa. Governing means for internal-combustion engines. No. 970,794; Sept. 20; Sp. p. 3558; Gaz. vol. 158; p. 609.

Carlson, Charles A., Brooklyn, A. E. Osborn, New York, and J. C. Angelino, Brooklyn, N. Y., assignors to Carlson Motor & Truck Company, Philadelphia, Pa. Transmission-gearing. No. 970,790; Sept. 20; Sp. p. 3545; Gaz. vol. 158; p. 607.

Carlson, Gust, Jamestown, N. Y. Metal door. No. 970,985; Sept. 20; Sp. p. 3025; Gaz. vol. 158; p. 671.

Carlson, John A., Chicago, Ill. Windmill. No. 969,522; Sept. 6; Sp. p. 791; Gaz. vol. 158; p. 124.

Carlson Motor & Truck Company. (See Carlson, Charles A., assignor.)

Carlson Motor & Truck Company. (See Carlson, Osborn, and Angelino, assignors.)

Carlson Motor & Truck Company. (See Haywood, Daniel H., assignor.)

Carlson Motor & Truck Company. (See Osborn, Alden E., assignor.)

Carmer, James R., Wilmington, Del. Bolster construction for railway-cars. No. 970,302; Sept. 13; Sp. p. 2482; Gaz. vol. 158; p. 418.

Carmer, James R., Wilmington, Del. Bolster construction for railway-cars. No. 970,303; Sept. 13; Sp. p. 2483; Gaz. vol. 158; p. 418.

Carnegie, Alfred Q. (See Parsons, Stoney, Carnegie, and Bowerbank.)

Carnegie Steel Company. (See Davis, Cleland, assignor.)

Caro, Nikodem, Berlin, Germany. Obtaining ammonia. No. 970,883; Sept. 20; Sp. p. 3731; Gaz. vol. 158; p. 638.

Carpenter, Louis G. W. (See Magna and Carpenter.)

Carrier, Willis H., assignor to Buffalo Forge Company, Buffalo, N. Y. Humidifying apparatus. No. 971,248; Sept. 27; Sp. p. 4498; Gaz. vol. 158; p. 787.

Carrington, Rush W., Kansas City, Mo. Ventilator. No. 969,842; Sept. 13; Sp. p. 1521; Gaz. vol. 158; p. 261.

Carson, Howard A., Malden, Mass. Waterproofing tunnels. No. 970,683; Sept. 20; Sp. p. 3308; Gaz. vol. 158; p. 569.

Carter, Clarendon B., Keota, Iowa. Seed-planter. No. 969,338; Sept. 6; Sp. p. 392; Gaz. vol. 158; p. 64.

Carter-Crume Company, The. (See Bottle, Edward K., assignor.)

Carter-Crume Company, The. (See Old, Thomas W., assignor.)

Carter, Frank M., Stonington, Me. Insect-catcher. No. 970,181; Sept. 13; Sp. p. 2214; Gaz. vol. 158; p. 377.

Carter, George H., Richmond Hill, N. Y. Portable cigarette-machine. No. 970,016; Sept. 13; Sp. p. 1890; Gaz. vol. 158; p. 321.

Carter, Harold B., Springfield, Vt. Reel-cradle. No. 970,884; Sept. 20; Sp. p. 3733; Gaz. vol. 158; p. 638.

Carter, Henry F., Braden, Okla. Corn-planter. No. 971,116; Sept. 27; Sp. p. 4204; Gaz. vol. 158; p. 742.

Carver, John H., Cincinnati, Ohio. Gas-burner. No. 971,117; Sept. 27; Sp. p. 4207; Gaz. vol. 158; p. 742.

Casale, Antonio, Scranton, Pa. Electric railway safety system. No. 971,249; Sept. 27; Sp. p. 4501; Gaz. vol. 158; p. 787.

Case Brothers Cutlery Co. (See Orchard, Arthur L., assignor.)

Case, Frank E., Schenectady, N. Y., assignor to General Electric Company. Controller-handle. No. 970,684; Sept. 20; Sp. p. 3300; Gaz. vol. 158; p. 569.

Case, Willis W., Sr., assignor to The Denver Fire Clay Company, Denver, Colo. Hydrocarbon-burner. No. 971,489; Sept. 27; Sp. p. 4934; Gaz. vol. 158; p. 864.

Cassidy, George W., East Orange, N. J., assignor to Cassidy & Son Manufacturing Company, New York, N. Y. Chandelier for gas-lamps. No. 971,020; Sept. 27; Sp. p. 3906; Gaz. vol. 158; p. 710.

Cassidy & Son Manufacturing Company. (See Cassidy, George W., assignor.)

Castles, William H., *et al.* (See Macdonald, Thomas A., assignor.)

Cater, Rowland W., West Croydon, and G. V. A. Schofield, London, England. Knife or tool for tapping rubber and other gum trees. No. 971,021; Sept. 27; Sp. p. 3997; Gaz. vol. 158; p. 710.

Cates, Joseph A., Mason, Tex. Insulation-applying device. No. 969,599; Sept. 6; Sp. p. 966; Gaz. vol. 158; p. 153.

Catton, Ira C., Brimfield, Ill. Rail-tie and rail-fastener. No. 971,118; Sept. 27; Sp. p. 4208; Gaz. vol. 158; p. 743.

Cervelli, José, assignor of one-third to J. Molinari and one-third to J. Bernasconi, Buenos Ayres, Argentina. Propelling and driving mechanism. No. 970,607; Sept. 20; Sp. p. 3116; Gaz. vol. 158; p. 543.

Chadwick, Robert, Lexington, Nebr. Train-ventilator. No. 970,685; Sept. 20; Sp. p. 3312; Gaz. vol. 158; p. 569.

Chaloux, John J., Watervliet, N. Y. Glass-tube-grinding machine. No. 970,987; Sept. 20; Sp. p. 3927; Gaz. vol. 158; p. 671.

Chamberlain, Rufus N., Depew, assignor to Gould Storage Battery Company, New York, N. Y. Storage battery. No. 970,420; Sept. 13; Sp. p. 2703; Gaz. vol. 158; p. 456.

Chamberlain, Walter, *et al.* (See Hemphill, Henry B., assignor.)

Chamberlin, Floyd E., Schaller, Iowa. Disk-sled. No. 969,600; Sept. 6; Sp. p. 967; Gaz. vol. 158; p. 153.

Chandler, Ava I., Marion, Ohio. Holder for electric-light globes. No. 971,490; Sept. 27; Sp. p. 4937; Gaz. vol. 158; p. 864.

Chapman, Frederick S., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Automatic starting device for mercury-vapor rectifiers. No. 969,523; Sept. 6; Sp. p. 793; Gaz. vol. 158; p. 124.

Chapman, William B., assignor to W. B. Hopping, trustee, New York, N. Y. Gas-producer. No. 970,017; Sept. 13; Sp. p. 1891; Gaz. vol. 158; p. 322.

Chappel, James M., New York, N. Y., assignor to C. S. Marsh, Winchester, Mass. Weighing-machine. No. 970,465; Sept. 20; Sp. p. 2815; Gaz. vol. 158; p. 493.

Charles, George M., Washington, D. C. Fountain-comb. No. 971,250; Sept. 27; Sp. p. 4504; Gaz. vol. 158; p. 788.

Chartener, Victor, assignor of one-fourth to J. Ramsey, Pittsburg, one-fourth to E. Burcik and one-fourth to W. Stark, Knoxville, Pa. Sheet-embossing mill. No. 969,460; Sept. 6; Sp. p. 639; Gaz. vol. 158; p. 102.

Chemische Fabrik Griesheim-Elektron. (See Reitz, Heinrich, assignor.)

Chemische Fabrik Griesheim Electron. (See Schick, Karl, assignor.)

Cheshire, Carey A. (See Brewer and Cheshire.)

Chicago Spring Butt Company. (See Keene and Schuster, assignors.)

Chief Manufacturing Company. (See Horlacher and Baase, assignors.)

Childress, Joseph M. (See Neal and Childress.)

Chromography Limited. (See Geisler, Louis, assignor.)

Chronik, August and L., New York, N. Y. Thread-counting apparatus. No. 970,795; Sept. 20; Sp. p. 3562; Gaz. vol. 158; p. 609.

Chronik, Louis. (See Chronik, August and L.)

Chytraus, Emil F., Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Device for cutting insulation from conductors. No. 969,339; Sept. 6; Sp. p. 393; Gaz. vol. 158; p. 64.

Cibulas, Stephen E., assignor to The G. Drouve Company, Bridgeport, Conn. Window. No. 970,988; Sept. 20; Sp. p. 3930; Gaz. vol. 158; p. 671.

Clagett, George M., Marlboro, Md. Shock-conveying machine. No. 970,304; Sept. 13; Sp. p. 2485; Gaz. vol. 158; p. 419.

Clamer, Guilliam H., Philadelphia, Pa. Elimination of metals. No. 970,686; Sept. 20; Sp. p. 3314; Gaz. vol. 158; p. 570.

Clancy, John C., New York, N. Y. Treatment of ores bearing precious metals. No. 971,251; Sept. 27; Sp. p. 4505; Gaz. vol. 158; p. 788.

Clancy, John C., New York, N. Y. Treatment of ores bearing precious metals. No. 971,252; Sept. 27; Sp. p. 4506; Gaz. vol. 158; p. 788.

Clark, Arnold, Latty, Ohio. Beet-digger. No. 971,253; Sept. 27; Sp. p. 4507; Gaz. vol. 158; p. 788.

Clark, Arnold, Latty, Ohio. Windrow attachment for beet-harvesters. No. 971,254; Sept. 27; Sp. p. 4508; Gaz. vol. 158; p. 788.

Clark, Boslery W., Brown Station, N. Y. Stove attachment. No. 969,340; Sept. 6; Sp. p. 395; Gaz. vol. 158; p. 64.

Clark, Charles F., Calistoga, Cal. Supply system for water-power plants. No. 970,796; Sept. 20; Sp. p. 3565; Gaz. vol. 158; p. 610.

Clark, Daniel W. (See Mills, James W., assignor.)

Clark, Dwight G., Plainville, assignor to Eagle Lock Co., Terryville, Conn. Making rivets. No. 970,687; Sept. 20; Sp. p. 3316; Gaz. vol. 158; p. 570.

Clark, Frank, Colony, Okla. Railway-gate. No. 970,305; Sept. 13; Sp. p. 2489; Gaz. vol. 158; p. 419.

Clark, John A., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Carriage for tuft-yarn needles. No. 970,608; Sept. 20; Sp. p. 3118; Gaz. vol. 158; p. 543.

Clark, Joseph H., Newark, N. J. Filter. No. 969,245; Sept. 6; Sp. p. 208; Gaz. vol. 158; p. 34.

Clark, Pearl M., Island Lake, Wis. Wrench. No. 970,990; Sept. 20; Sp. p. 3933; Gaz. vol. 158; p. 672.

Clark, Prentice E., Elkins, W. Va. Machine-driving means. No. 969,601; Sept. 6; Sp. p. 968; Gaz. vol. 158; p. 153.

Clark, Walter L., New York, N. Y. Case for shaving appliances. No. 970,797; Sept. 20; Sp. p. 3566; Gaz. vol. 158; p. 610.

Clarke, Albert G., Montreal, Quebec, Canada. Document-file. No. 970,989; Sept. 20; Sp. p. 3932; Gaz. vol. 158; p. 672.

Clarke, Athol W., Manchester, England, assignor to The Westinghouse Machine Company. Shrouding of turbine-blades. No. 969,843; Sept. 13; Sp. p. 1526; Gaz. vol. 158; p. 261.

Clarkson, Frank S., Baltimore, Md. Oyster-opening machine. No. 969,246; Sept. 6; Sp. p. 210; Gaz. vol. 158; p. 35.

Clawson, Charles F., Mount Pleasant, Iowa. Rail-anchor. No. 970,306; Sept. 13; Sp. p. 2490; Gaz. vol. 158; p. 419.

Clawson, Clement C., Flagtown, N. J. Coin-controlled vending-machine. No. 969,844; Sept. 13; Sp. p. 1527; Gaz. vol. 158; p. 262.

Clawson, Leonard E., San Francisco, Cal. Aerial machine. No. 971,358; Sept. 27; Sp. p. 4705; Gaz. vol. 158; p. 822.

Clay, Harry C., assignor to Reeves & Company, Columbus, Ind. Boiler. No. 969,746; Sept. 6; Sp. p. 1277; Gaz. vol. 158; p. 204.

Clay, John B., assignor of one-half to J. W. Spangler, Shelby, N. C. Bottle-vending machine. No. 969,747; Sept. 6; Sp. p. 1278; Gaz. vol. 158; p. 205.

Cleal, Joseph P., assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 970,798; Sept. 20; Sp. p. 3567; Gaz. vol. 158; p. 610.

Clément, Charles P., Liege, Belgium, assignor to Smith & Wesson Incorporated, Springfield, Mass. Automatic pistol. No. 970,307; Sept. 13; Sp. p. 2492; Gaz. vol. 158; p. 420.

Clement, Edward E., Washington, D. C., assignor to The North Electric Company, Cleveland, Ohio. Electrical relay. No. 969,759; Sept. 6; Sp. p. 1302; Gaz. vol. 158; p. 209.

Clements, George, and J. M. Hostler, assignors to Hygienic Renovating Company, Chicago, Ill. Cleaning device. No. 970,466; Sept. 20; Sp. p. 2821; Gaz. vol. 158; p. 493.

Clemmer, Howard M., Dallas, N. C. Metallic shingle. No. 970,885; Sept. 20; Sp. p. 3734; Gaz. vol. 158; p. 638.

Cleveland, Heman C., Buffalo, N. Y. Game apparatus. No. 970,709; Sept. 20; Sp. p. 3574; Gaz. vol. 158; p. 611.

Cline, Ora M., Marion, Ohio. Ironing-board. No. 969,684; Sept. 6; Sp. p. 1128; Gaz. vol. 158; p. 182.

Clubb, John W., Paris, Ill. Metallic railway cross, bridge, and switch tie and fastening. No. 971,491; Sept. 27; Sp. p. 4938; Gaz. vol. 158; p. 864.

Clutsam, Frederick, St. Kilda, Victoria, Australia. Keyboard. No. 971,172; Sept. 27; Sp. p. 4336; Gaz. vol. 158; p. 760.

Clymer, George N. (See Spicer, George W., assignor.)

Coates, Raymond, assignor of one-half to J. H. Antis, Jackson, Mich. Thill-coupling. No. 969,937; Sept. 13; Sp. p. 1711; Gaz. vol. 158; p. 294.

Cobb, Elmer M., South Portland, assignor to E. M. Lang, Jr., Portland, Me. Safety yieldable gearing. No. 970,991; Sept. 20; Sp. p. 3934; Gaz. vol. 158; p. 672.

Cobb, Julius O., Milwaukee, Wis. System and apparatus for propelling vehicles by compressed air. No. 969,772; Sept. 13; Sp. p. 1342; Gaz. vol. 158; p. 237.

Coburn, Ralph G. (See Strid, Sven J., assignor.)

Cocker, George B., Philadelphia, Pa. Machine for linking warps. No. 969,155; Sept. 6; Sp. p. 8; Gaz. vol. 158; p. 4.

Cocksedge, Herbert E. (See Freeth and Cocksedge.)

Coffee, Robert W., Richmond, Va., assignor to L. M. Keizer, Baltimore, Md. Transmission-gear mechanism. No. 970,467; Sept. 20; Sp. p. 2822; Gaz. vol. 158; p. 493.

Coffin, Howard E., Detroit, Mich. Radius-rod. No. 969,748; Sept. 6; Sp. p. 1280; Gaz. vol. 158; p. 205.

Cogle, William J., *et al.* (See Fay, Alpheus, assignor.)

Cogswell, Elmer E., Syracuse, N. Y. Drill-chuck. No. 969,341; Sept. 6; Sp. p. 396; Gaz. vol. 158; p. 64.

Colburn, Irving W., assignor to Colburn Machine Glass Company, Franklin, Pa. Means for drawing sheet-glass. No. 970,182; Sept. 13; Sp. p. 2215; Gaz. vol. 158; p. 377.

Colburn Machine Glass Company. (See Colburn, Irving W., assignor.)

Cole, Alexander G., Ottawa, Ontario, Canada. Collapsible canopy attachment for cots or the like. No. 969,342; Sept. 6; Sp. p. 399; Gaz. vol. 158; p. 65.

Cole, Frederick W., Newton, Mass., assignor to The Gamewell Fire Alarm Telegraph Company, New York, N. Y. Signal-box. No. 970,800; Sept. 20; Sp. p. 3576; Gaz. vol. 158; p. 611.

Cole, Frederick W., Newton, Mass., assignor to Gamewell Fire-Alarm Telegraph Company, New York, N. Y. Fire and police telegraph system. No. 970,886; Sept. 20; Sp. p. 3735; Gaz. vol. 158; p. 639.

Cole, Frederick W., Newton, Mass., assignor to The Gamewell Fire Alarm Telegraph Company, New York, N. Y. Fire-alarm-telegraph system. No. 970,887; Sept. 20; Sp. p. 3746; Gaz. vol. 158; p. 639.

Colegrove, Charles E., East Cleveland, assignor to The White Sewing Machine Company, Cleveland, Ohio. Extension-leaf-latching mechanism for sewing-machines. No. 969,938; Sept. 13; Sp. p. 1713; Gaz. vol. 158; p. 295.

Coleman, Samuel, assignor to B. C. Farr, Lexington, Miss. Harpooning device. No. 970,018; Sept. 13; Sp. p. 1898; Gaz. vol. 158; p. 322.

Collar, Adoniram J., Yreka, Cal. Ditch-gate. No. 970,308; Sept. 13; Sp. p. 2494; Gaz. vol. 158; p. 420.

Collar, Adoniram J., Yreka, Cal. Fish-screen and sluice-box. No. 971,492; Sept. 27; Sp. p. 4939; Gaz. vol. 158; p. 865.

Collins, John A., Philadelphia, Pa. Damper-regulator. No. 969,939; Sept. 13; Sp. p. 1714; Gaz. vol. 158; p. 295.

Collmer Brothers. (See Collmer, Otto H., assignor.)

Collmer, Otto H., assignor to Collmer Brothers, South Bend, Ind. Tool for truing abrading-wheels. No. 970,992; Sept. 20; Sp. p. 3936; Gaz. vol. 158; p. 673.

Colomb, Charles A., Elgin, Ill. Game apparatus. No. 970,993; Sept. 20; Sp. p. 3938; Gaz. vol. 158; p. 673.

Colson, A. W. (See Deaton, Percy E., assignor.)

Commonwealth Feed Mills Company. (See Gloor and Pascal, assignors.)

Compressed Metal Company. (See Kitchen, Frederick T., assignor.)

Conboy, Patrick J., Auburn, N. Y. Adjustable die-holder. No. 970,888; Sept. 20; Sp. p. 3750; Gaz. vol. 158; p. 640.

Condon, Benjamin J., Port Chester, N. Y. Scabbard. No. 969,524; Sept. 6; Sp. p. 795; Gaz. vol. 158; p. 125.

Coney, Glenn E., assignor to Metal Stamping Company, Jackson, Mich. Automobile-fender. No. 970,309; Sept. 13; Sp. p. 2496; Gaz. vol. 158; p. 420.

Conger, Hugh E., and C. W. Waller, Chicago, Ill. Meat-sliding machine. No. 970,994; Sept. 20; Sp. p. 3939; Gaz. vol. 158; p. 673.

Conings, Rene, Pittsburg, Kans. Fuse-igniter. No. 970,889; Sept. 20; Sp. p. 3751; Gaz. vol. 158; p. 640.

Conkling, Cloud C., Buffalo, assignor to Lackawanna Steel Company, New York, N. Y. Composite piling. No. 969,343; Sept. 6; Sp. p. 402; Gaz. vol. 158; p. 65.

Conner, George F., Port Huron, Mich., assignor to The Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic stacker. No. 970,183; Sept. 13; Sp. p. 2220; Gaz. vol. 158; p. 377.

Connor, Alexander, Montezuma, Ind. Boiler-flue cleaner. No. 969,461; Sept. 6; Sp. p. 641; Gaz. vol. 158; p. 103.

Conoly, Angus J. (See Bailey, Fess, assignor.)

Conrad, Frank, Swissvale, Pa., assignor to Westinghouse Electric & Manufacturing Company. Mercury-vapor rectifier. No. 969,525; Sept. 6; Sp. p. 796; Gaz. vol. 158; p. 125.

Conrader, Rudolph, Erie, Pa. Apparatus for actuating liquids. No. 969,940; Sept. 13; Sp. p. 1716; Gaz. vol. 158; p. 295.

Continental Caoutchouc- & Gutta-Percha Campagnie. (See Kindscherf, Carl, assignor.)

Continental Investment Company. (See Hartenstein, Herman L., assignor.)

Conway, Frederick, Buffalo, N. Y. Buckle and strap loop. No. 970,184; Sept. 13; Sp. p. 2222; Gaz. vol. 158; p. 378.

Cook, J., *et al.* (See Phillips, Cornelius R., assignor.)

Cook, Thomas R., Fort Wayne, Ind. Power mechanism. No. 970,609; Sept. 20; Sp. p. 3119; Gaz. vol. 158; p. 543.

Cook, William H., Sturgis, Mich. Burglar-alarm. No. 970,468; Sept. 20; Sp. p. 2827; Gaz. vol. 158; p. 494.

Cookingham, Peter P., assignor of one-third to W. R. Bruner, Longbeach, Cal. Noiseless car-wheel. No. 970,185; Sept. 13; Sp. p. 2223; Gaz. vol. 158; p. 378.

Coons, Charles A., Buffalo, N. Y. Passenger-car. No. 969,602; Sept. 6; Sp. p. 971; Gaz. vol. 158; p. 154.

Cooper, Andrew B., Okoee, Okla. Trammel. No. 969,156; Sept. 6; Sp. p. 11; Gaz. vol. 158; p. 5.

Cooper, Daniel M. (See Hagen and Cooper.)

Cooper, Ellis W., assignor, by mesne assignments, to R. Hoe and Co., New York, N. Y. Cutting mechanism. No. 971,022; Sept. 27; Sp. p. 3990; Gaz. vol. 158; p. 711.

Copeland, George W., assignor of one-half to G. R. Byrum, Ensley, Ala. Cotton-planter. No. 970,186; Sept. 13; Sp. p. 2225; Gaz. vol. 158; p. 378.

Copley, Nolberto G., assignor to The "S. C." Regulator Company, Fostoria, Ohio. Water-level regulator. No. 970,421; Sept. 13; Sp. p. 2704; Gaz. vol. 158; p. 457.

Corbin Cabinet Lock Company, The. (See Johnson, Charles E., assignor.)

Corey, Fred B., Schenectady, N. Y., assignor to General Electric Company. Electrically-operated track-switch. No. 969,526; Sept. 6; Sp. p. 798; Gaz. vol. 158; p. 125.

Corliss, Herbert A., Grants Pass, Oreg. Grizzly. No. 969,603; Sept. 6; Sp. p. 973; Gaz. vol. 158; p. 154.

Corliss, William, Providence, R. I. Valve. No. 970,469; Sept. 20; Sp. p. 2829; Gaz. vol. 158; p. 494.

Coseglia, Anthony, West Hoboken, N. J. Coin-vending machine. No. 970,801; Sept. 20; Sp. p. 3578; Gaz. vol. 158; p. 612.

Cota, Simon P., Dickinson, N. D. Cut-out and release for air-brake apparatus. No. 969,344; Sept. 6; Sp. p. 407; Gaz. vol. 158; p. 66.

Cottrell, Edgar H., Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Folding machinery. No. 970,688; Sept. 20; Sp. p. 3318; Gaz. vol. 158; p. 570.

Couailliet, Armand. (See Gounevitch and Couailliet.)

Courson, John F., Pitcairn, Pa. Draft-gear. No. 970,802; Sept. 20; Sp. p. 3580; Gaz. vol. 158; p. 612.

Cowan, Edward, assignor of one-half to R. M. Napier, Bethune, Saskatchewan, Canada. Attachment for harness. No. 970,310; Sept. 13; Sp. p. 2497; Gaz. vol. 158; p. 421.

Cowing, Percy F., New York, N. Y. Producing alloys and the separation of metals. No. 969,773; Sept. 13; Sp. p. 1350; Gaz. vol. 158; p. 287.

Cox, Amos M., assignor of one-half to H. Metcalf, Los Angeles, Cal. Eucalyptus-oil solution and manufacture thereof. No. 971,359; Sept. 27; Sp. p. 4706; Gaz. vol. 158; p. 822.

Cox, Frederick J., Kentish Town, London, England. Carbureter. No. 969,941; Sept. 13; Sp. p. 1725; Gaz. vol. 158; p. 296.

Cox, George W., Edison, Nebr. Hog-holding machine. No. 970,187; Sept. 13; Sp. p. 2226; Gaz. vol. 158; p. 379.

Coy, Hans A. E., New York, N. Y. Adjustable level. No. 971,360; Sept. 27; Sp. p. 4708; Gaz. vol. 158; p. 822.

Cracraft-Leich Electric Co. (See Leich and Pedersen, assignors.)

Craft, Edward B. (See Holmes and Craft.)

Craft, Edward B. (See Wallace and Craft.)

Craft, John D., *et al.* (See Light, Samuel E., assignor.)

Craig, William G., Marshalltown, and A. R. Ramsdell, Toledo, Iowa. Door for grain-cars. No. 969,604; Sept. 6; Sp. p. 974; Gaz. vol. 158; p. 154.

Crandall, Albert B., Red Wing, Minn. Thumb-sucking preventer. No. 969,942; Sept. 13; Sp. p. 1727; Gaz. vol. 158; p. 296.

Crane, Edward M., Hardwick, Vt. Collar attachment. No. 970,891; Sept. 20; Sp. p. 3755; Gaz. vol. 158; p. 641.

Crane, Wilbur H., New York, N. Y. Display-rack. No. 971,493; Sept. 27; Sp. p. 4941; Gaz. vol. 158; p. 865.

Crank, Orlando, Salt Lake City, Utah. Mortising-machine. No. 970,689; Sept. 20; Sp. p. 3321; Gaz. vol. 158; p. 570.

Creahan, John T. (See MacConnell, Phineas J., assignor.)

Creasey, Samuel E., assignor of one-half to John V. Tucker, Sanford, Me. Game apparatus. No. 971,024; Sept. 27; Sp. p. 4004; Gaz. vol. 158; p. 712.

Créchriou, Yves M., Monterey, Cal. Automobile-fender. No. 970,892; Sept. 20; Sp. p. 3757; Gaz. vol. 158; p. 641.

Crehore, Albert C., Yonkers, assignor to Typewriting Telegraph Company, New York, N. Y. Printing-telegraph. No. 969,527; Sept. 6; Sp. p. 801; Gaz. vol. 158; p. 126.

Crescent Machine Company, The. (See Halverstadt, Leroy J., assignor.)

Crocker, Francis B. (See Gin, Gustave, assignor.)

Croft, Robert D. (See Saunders and Croft.)

Crompton & Knowles Loom Works. (See Buckler, James, assignor.)

Crompton & Knowles Loom Works. (See Clark, John A., assignor.)

Crompton & Knowles Loom Works. (See Cyr, Joseph T., assignor.)

Crompton & Knowles Loom Works. (See Wyman, Horace, assignor.)

Cronholm, Frederick N., Naches, Wash. Spoon-gage. No. 969,845; Sept. 13; Sp. p. 1530; Gaz. vol. 158; p. 262.

Cronholm, Frederick N., Naches, Wash. Pipe-coupling. No. 969,943; Sept. 13; Sp. p. 1728; Gaz. vol. 158; p. 296.

Cronholm, Frederick N., Naches, Wash. Dumping-wagon. No. 970,893; Sept. 20; Sp. p. 3758; Gaz. vol. 158; p. 641.

Crooks, John H., *et al.* (See Edwards, Charles B., assignor.)

Crossing, Samuel L., New York, N. Y. Self-releasing hose-rack. No. 970,188; Sept. 13; Sp. p. 2229; Gaz. vol. 158; p. 379.

Crosthwait, John P., Georgetown, Ky. Mowing-machine. No. 970,019; Sept. 13; Sp. p. 1901; Gaz. vol. 158; p. 323.

Crouse-Hinds Company. (See Olley, Raymond B., assignor.)

Crozier, Robert C., *et al.* (See Hemphill, Henry B., assignor.)

Crozier, Rufus B. (See Holmes and Crozier.)

Crum, Crayton C., Bucyrus, Ohio. Husking-roll. No. 970,610; Sept. 20; Sp. p. 3121; Gaz. vol. 158; p. 544.

Cudd, Simeon S., assignor of one-half to D. C. Flynn, Union S. C. Heating-stove. No. 969,605; Sept. 6; Sp. p. 976; Gaz. vol. 158; p. 155.

Culver, Frank S., Madison, Wis. System of electrical distribution. No. 969,345; Sept. 6; Sp. p. 409; Gaz. vol. 158; p. 66.

Culver, Katherine, Austin, Tex. Spool and work holder. No. 970,470; Sept. 20; Sp. p. 2833; Gaz. vol. 158; p. 495.

Cummings, Harry W., Los Angeles, Cal. Shock-absorber for vehicles. No. 970,611; Sept. 20; Sp. p. 3122; Gaz. vol. 158; p. 544.

Cummings, Henry H., Newton, assignor to Andrews-Burr Paper Company, Boston, Mass. Toggle. No. 970,422; Sept. 13; Sp. p. 2706; Gaz. vol. 158; p. 457.

Cummings, Michael H., assignor of one-third to T. H. Moriarty and one-third to M. Duffy, Minneapolis, Minn. Knockdown tent. No. 970,612; Sept. 20; Sp. p. 3123; Gaz. vol. 158; p. 544.

Cunniff, John V., Fall River, assignor to Draper Company, Hopedale, Mass. Spinning-machine spindle. No. 970,189; Sept. 13; Sp. p. 2230; Gaz. vol. 158; p. 379.

Cunningham, J. F. (See Redden and Cunningham.)

Cunningham, John A., South Bethlehem, Pa. Nail. No. 970,423; Sept. 13; Sp. p. 2708; Gaz. vol. 158; p. 457.

Cunningham, Robert, Belfast, Ireland. Machine for folding handkerchiefs and like articles. No. 970,424; Sept. 13; Sp. p. 2709; Gaz. vol. 158; p. 457.

Cunningham, William R., assignor to The American Clay Machinery Company, Bucyrus, Ohio. Centrifugal screen. No. 971,174; Sept. 27; Sp. p. 4341; Gaz. vol. 158; p. 761.

Curran, Edward J., Alton, Ill. Ladder attachment. No. 970,425; Sept. 13; Sp. p. 2713; Gaz. vol. 158; p. 458.

Currier, Guy W. (See Abell, Rollin, assignor.)

Currier, Hiram D., assignor to Western Electric Company, Chicago, Ill. Intercommunicating telephone system. No. 969,774; Sept. 13; Sp. p. 1353; Gaz. vol. 158; p. 238.

Curtis, Charles G., New York, N. Y., assignor, by mesne assignments, to General Electric Company. Elastic-fluid turbine. No. 969,606; Sept. 6; Sp. p. 977; Gaz. vol. 158; p. 155.

Curtis, Grant M., assignor to Cyphers Incubator Company, Buffalo, N. Y. Incubator. No. 970,311; Sept. 13; Sp. p. 2499; Gaz. vol. 158; p. 421.

Curtis, Kenneth L., assignor to Albert and J. M. Anderson Manufacturing Company, Boston, Mass. Circuit-controller. No. 969,607; Sept. 6; Sp. p. 979; Gaz. vol. 158; p. 155.

Cuthbert, George, Philadelphia, Pa., and F. J. Fee, Collingswood, N. J. Metallic shuttle. No. 970,803; Sept. 20; Sp. p. 3583; Gaz. vol. 158; p. 612.

Cutler-Hammer Manufacturing Company, The. (See Henderson, Clark T., assignor.)

Cutler-Hammer Manufacturing Company, The. (See Simon, Arthur, assignor.)

Cutler Mail-Chute Company. (See Anderson, Frank E., assignor.)

Cycle Support Company. (See Taylor, James P., assignor.)

Cyphers Incubator Company. (See Curtis, Grant M., assignor.)

Cyr, Joseph T., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Evener-motion for tufted-fabric looms. No. 970,613; Sept. 20; Sp. p. 3125; Gaz. vol. 158; p. 544.

D'Arsi, Fortunato M., assignor to Auto-Flame Gas Burners Company, New York, N. Y. Cigar-lighter. No. 969,346; Sept. 6; Sp. p. 417; Gaz. vol. 158; p. 67.

Dager, George C., assignor of one-half to H. C. Daubenspeck, Washington, Pa. Mold. No. 970,426; Sept. 13; Sp. p. 2715; Gaz. vol. 158; p. 458.

Dahill, Maurice J., Jr., South Easton, Mass. Detachable collar and cuff fastener. No. 969,846; Sept. 13; Sp. p. 1532; Gaz. vol. 158; p. 263.

Dahl, Bernard J. (See Wethall, Hans G., assignor.)

Dale, John H., New York, N. Y. Shade-holder. No. 970,804; Sept. 20; Sp. p. 3585; Gaz. vol. 158; p. 613.

Dalemont, Julien. (See Herdt, Louis A., assignor.)

Damon, George B., Glenside, Pa. Gas-burner for heating purposes. No. 971,429; Sept. 27; Sp. p. 4823; Gaz. vol. 158; p. 844.

Damron, Frank E., assignor of one-third to H. F. Minter, Roanoke, Va. Railway-track drill. No. 970,312; Sept. 13; Sp. p. 2500; Gaz. vol. 158; p. 421.

Danison, Arthur, Blue Earth, Minn. Corn-popper. No. 971,255; Sept. 27; Sp. p. 4510; Gaz. vol. 158; p. 789.

Darr, Barbara A. (See Forbes and Darr.)

Daub, Firm of Andreas. (See Kunzmann and Stierle, assignors.)

Daubenspeck, Henry C. (See Dager, George C., assignor.)

Davidoff, Louis, assignor of one-half to A. Spelke, Stamford, Conn. Combined shoe-horn and button-hook. No. 969,944; Sept. 13; Sp. p. 1729; Gaz. vol. 158; p. 297.

Davidoff, Louis, assignor of one-half to A. Spelke, Stamford, Conn. Combined shoe-horn and button-hook. No. 969,945; Sept. 13; Sp. p. 1730; Gaz. vol. 158; p. 297.

Davies, Charles W. T., New York, N. Y. Body-garment. No. 970,427; Sept. 13; Sp. p. 2716; Gaz. vol. 158; p. 458.

Davies, John M., Plattsburg, N. Y. Ventilator for hats. No. 970,894; Sept. 20; Sp. p. 3762; Gaz. vol. 158; p. 642.

Davies, Roderick W., assignor of one-half to W. K. Doty, Columbus, Ohio. Dump-car. No. 969,462; Sept. 6; Sp. p. 644; Gaz. vol. 158; p. 103.

Davis, Benjamin A., Elwood, Iowa. Combined book and type-writer stand. No. 969,247; Sept. 6; Sp. p. 215; Gaz. vol. 158; p. 35.

Davis, Cleland, U. S. Navy, assignor, by mesne assignments, to Carnegie Steel Company, Pittsburg, Pa. Manufacture of hardened-steel projectiles. No. 970,428; Sept. 13; Sp. p. 2718; Gaz. vol. 158; p. 459.

Davis, Cleveland G., Manistee, Mich. Double-wheeled step-ladder. No. 970,690; Sept. 20; Sp. p. 3322; Gaz. vol. 158; p. 571.

Davis, Fitzwilliam R., Kew Gardens, England. Carbureter for internal-combustion engines. No. 970,429; Sept. 13; Sp. p. 2720; Gaz. vol. 158; p. 459.

Davis, Green B., and J. A. McFarland, Linn Creek, Mo. Mold for concrete walls. No. 969,248; Sept. 6; Sp. p. 216; Gaz. vol. 158; p. 35.

Davis, Harold N., Luton Beds, and W. R. Twigg, West Dulwich, England. Radiator or other heating-stove heated by gaseous fuel. No. 971,119; Sept. 27; Sp. p. 4210; Gaz. vol. 158; p. 743.

Davis, Jesse, Milan, Kans. Barber's stool. No. 969,347; Sept. 6; Sp. p. 418; Gaz. vol. 158; p. 67.

Davis, John H., Hamilton, Ohio. Flush-valve mechanism. No. 970,471; Sept. 20; Sp. p. 2834; Gaz. vol. 158; p. 495.

Davis, Joseph L., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Dynamo-electric machine. No. 969,608; Sept. 6; Sp. p. 982; Gaz. vol. 158; p. 156.

Davis, Leslie N., Cliftondale, Mass. Grinding-machine. No. 970,691; Sept. 20; Sp. p. 3324; Gaz. vol. 158; p. 571.

Davis, Stephen G., Georgetown, Ill. Splice-bar. No. 970,430; Sept. 13; Sp. p. 2722; Gaz. vol. 158; p. 459.

Davis, Stephen H. (See Wright, Solomon A., assignor.)

Davis, Thomas, Orange, N. J., assignor to Orange Machine and Manufacturing Company. Pneumatic pump. No. 969,847; Sept. 13; Sp. p. 1533; Gaz. vol. 158; p. 263.

Davis, Ulysses C., Pittsfield, Mass. Dusting-machine. No. 969,609; Sept. 6; Sp. p. 983; Gaz. vol. 158; p. 156.

Davis, Verner F., Orange, N. J. Temperature-regulator. No. 969,848; Sept. 13; Sp. p. 1535; Gaz. vol. 158; p. 263.

Davis, William F. (See Donovan, James D., assignor.)

Davison, Gregory C., Quincy, Mass., assignor to Electric Boat Company, New York, N. Y. Torpedo-director. No. 970,431; Sept. 13; Sp. p. 2723; Gaz. vol. 158; p. 460.

Dawson, George, Crescent, La. Attaching steel to steel or steel to iron. No. 969,610; Sept. 6; Sp. p. 985; Gaz. vol. 158; p. 157.

Day, Charles E., Mohawk, assignor to J. J. O'Hanlon and R. Rousseau, Ilion, N. Y. Boring-tool holder. No. 971,120; Sept. 27; Sp. p. 4211; Gaz. vol. 158; p. 744.

Day, Francis H., Minneapolis, Minn. Floor-sweep. No. 969,157; Sept. 6; Sp. p. 12; Gaz. vol. 158; p. 5.

Day, Harry, Toledo, Ohio. Mechanically-propelled sled. No. 969,348; Sept. 6; Sp. p. 420; Gaz. vol. 158; p. 67.

Day, William P., Altoona, Pa. Railway-tie and rail-fastening. No. 969,611; Sept. 6; Sp. p. 986; Gaz. vol. 158; p. 157.

De Bisschop, Joseph E., New Britain, Conn. Grade-level. No. 970,472; Sept. 20; Sp. p. 2835; Gaz. vol. 158; p. 495.

De Camp, Lyman B., Berkeley, Cal. Air-compressing apparatus. No. 971,175; Sept. 27; Sp. p. 4345; Gaz. vol. 158; p. 762.

De Forrest, Charles E., assignor of one-third to E. E. Jones and one-third to R. L. Armstrong, Lima, Ohio. Heater. No. 969,749; Sept. 6; Sp. p. 1281; Gaz. vol. 158; p. 205.

De Laval Steam Turbine Company. (See Waller, Carl R., assignor.)

De Loach, Alonzo A., Bridgeport, Ala. Friction transmission-gearing. No. 970,190; Sept. 13; Sp. p. 2231; Gaz. vol. 158; p. 380.

De Voe, Albert H., Elizabeth, N. J., assignor to The Singer Manufacturing Company. Sewing-machine folder. No. 970,474; Sept. 20; Sp. p. 2838; Gaz. vol. 158; p. 496.

De Voss, Edwin A. (See Gregg and De Voss.)

De Wind, Norman, Harvey, assignor to Austin Manufacturing Company, Chicago, Ill. Trip-lock for use in starting explosive-engines. No. 970,475; Sept. 20; Sp. p. 2842; Gaz. vol. 158; p. 496.

De Zeng, Henry L., assignor to De Zeng-Standard Company, Philadelphia, Pa. Schematic eye. No. 971,026; Sept. 27; Sp. p. 4013; Gaz. vol. 158; p. 712.

De Zeng-Standard Company. (See De Zeng, Henry L., assignor.)

Dean, Charles B. (See Dearborn, Richard J., assignor.)

Dean, Daniel C. (See Cornelius and Dean.)

Dean Electric Company, The. (See Manson, Ray H., assignor.)

Dearborn, Richard J., Beverly, assignor of one-half to C. B. Dean, Boston, Mass. Heel-protector. No. 970,692; Sept. 20; Sp. p. 3326; Gaz. vol. 158; p. 571.

Deaton, Percy E., assignor of one-half to A. W. Colson, Mooresville, N. C. Rolling and seaming machine. No. 969,249; Sept. 6; Sp. p. 217; Gaz. vol. 158; p. 35.

Deere & Company. (See Sklovsky and Mixter, assignors.)

Delzeit, Bertram J. (See Dever and Delzeit.)

Demarest, David C., San Francisco, Cal. Grinding-barrel. No. 970,020; Sept. 13; Sp. p. 1904; Gaz. vol. 158; p. 323.

Demattels, Julian, Batavia, Iowa. Railway-tie. No. 971,256; Sept. 27; Sp. p. 4512; Gaz. vol. 158; p. 789.

Deming Company, The. (See Garber, Jesse B., assignor.)

Dempsey, Edward R., Atlantic City, N. J. Feed-bag. No. 970,021; Sept. 13; Sp. p. 1905; Gaz. vol. 158; p. 323.

Dennis, George W., Harvey, Ill. Concentrator or separator. No. 971,025; Sept. 27; Sp. p. 4007; Gaz. vol. 158; p. 712.

Dennis, Samuel A., Los Angeles, Cal. Faucet. No. 971,361; Sept. 27; Sp. p. 4709; Gaz. vol. 158; p. 822.

Denver Fire Clay Company, The. (See Case, Willis W., Sr., assignor.)

Denver Rock Drill & Machinery Company, The. (See Waugh, Daniel S., assignor.)

Denzer, Jacob, Strasburg, Ohio. Head-rest. No. 969,251; Sept. 6; Sp. p. 222; Gaz. vol. 158; p. 36.

Detroit Can Company. (See Harbeck, Jervis R., assignor.)

Deussen, Karl E., Berlin, Germany. Spring suspension device for vehicles. No. 969,463; Sept. 6; Sp. p. 645; Gaz. vol. 158; p. 103.

Deutsche Waffen- und Munitionsfabriken. (See Sonnberg, Wilhelm, assignor.)

Dever, Bernard J., and B. J. Delzeit, Philadelphia, Pa. Pyrotechnic compound. No. 969,252; Sept. 6; Sp. p. 224; Gaz. vol. 158; p. 36.

Devin, Anna H., Ottumwa, Iowa. Heel plate and frame. No. 970,313; Sept. 13; Sp. p. 2502; Gaz. vol. 158; p. 422.

Dewar, Joseph A. (See Sprint, John W., assignor.)

Dexter, Thomas F., Providence, R. I. Drying-machine. No. 971,176; Sept. 27; Sp. p. 4347; Gaz. vol. 158; p. 762.

Dexter, Thomas F., Providence, R. I. Drying-machine. No. 971,177; Sept. 27; Sp. p. 4349; Gaz. vol. 158; p. 762.

Diack, Archibald W., Detroit, Mich. Recovering metal. No. 969,253; Sept. 6; Sp. p. 225; Gaz. vol. 158; p. 36.

Diamond Electric Company. (See Parkhurst and Weeks, assignors.)

Diamond Power Specialty Company. (See Waller and Barnhill, assignors.)

Diamond, William H. (See Gilbride, Thomas F., assignor.)

Dieckmann, Gustav, San Francisco, Cal. Broom. No. 971,362; Sept. 27; Sp. p. 4710; Gaz. vol. 158; p. 823.

Dill, Harry E., administrator. (See Grimes, Charles D.)

Dill, Thomas C., Philadelphia, Pa. Power-transmission mechanism. No. 970,995; Sept. 20; Sp. p. 3944; Gaz. vol. 158; p. 674.

Dillenback, Daniel S., Hastings, Nebr. Coupling for neck-yokes and vehicle-tongues. No. 970,996; Sept. 20; Sp. p. 3947; Gaz. vol. 158; p. 674.

Dinkel, George, Jersey City, N. J. Automatic fuel-feed mechanism for furnaces. No. 970,191; Sept. 13; Sp. p. 2235; Gaz. vol. 158; p. 380.

Dinkel, George, Jersey City, N. J. Automatic fuel-feed mechanism for furnaces. No. 970,432; Sept. 13; Sp. p. 2724; Gaz. vol. 158; p. 460.

Dinsmore, Frank A., Fredonia, N. Y. Centrifugal clothes-drier. No. 970,022; Sept. 13; Sp. p. 1906; Gaz. vol. 158; p. 324.

Diplock, Arthur B., North Vancouver, British Columbia, Canada. Sawmill-refuse burner. No. 969,158; Sept. 6; Sp. p. 14; Gaz. vol. 158; p. 5.

Disbrow, Levi A., Owatonna, Minn. Combined churn and butter-worker. No. 971,178; Sept. 27; Sp. p. 4351; Gaz. vol. 158; p. 763.

Disbrow, Reuben B., Owatonna, Minn. Butter-spade. No. 969,528; Sept. 6; Sp. p. 807; Gaz. vol. 158; p. 126.

Divekey, John J., Aurora, Ill. Safety compression bib-relief. No. 970,192; Sept. 13; Sp. p. 2238; Gaz. vol. 158; p. 381.

Dodd, Walter L., Westville, Ind. Wheel. No. 970,476; Sept. 20; Sp. p. 2844; Gaz. vol. 158; p. 497.

Dodd, Willis G., San Francisco, Cal. Turbine. No. 970,193; Sept. 13; Sp. p. 2239; Gaz. vol. 158; p. 381.

Dodge, Charles A., Springdeld, Mass. Mess-kit. No. 971,179; Sept. 27; Sp. p. 4352; Gaz. vol. 158; p. 763.

Dodge, Eben G., Maplewood, assignor to Edison Manufacturing Company, West Orange, N. J. Primary battery. No. 969,349; Sept. 6; Sp. p. 421; Gaz. vol. 158; p. 68.

Doidge, William, *et al.* (See Redden and Cunningham, assignors.)

Donald, James, and T. F. Downey, Chicago, Ill. Furnace. No. 970,805; Sept. 20; Sp. p. 3586; Gaz. vol. 158; p. 613.

Donald, James L., Mooresville, N. C. Ground-connector. No. 970,693; Sept. 20; Sp. p. 3327; Gaz. vol. 158; p. 572.

Donaldson, Charles, assignor of one-half to E. E. Myers, Coudersport, Pa. Oil and gas burner. No. 970,023; Sept. 13; Sp. p. 1908; Gaz. vol. 158; p. 324.

Donaldson, George M., Boston, Mass. Bottle-closure. No. 969,350; Sept. 6; Sp. p. 422; Gaz. vol. 158; p. 68.

Donaldson, Robert S., and Y. E. Furnas, assignors to Furnas, Brown & Plummer, Louisville, Ky. Sleeve cable-terminal. No. 970,194; Sept. 13; Sp. p. 2241; Gaz. vol. 158; p. 381.

Donnelly, Daniel B., Pittsburg, Pa. Locking-chuck for paper-roll spindles. No. 969,529; Sept. 6; Sp. p. 808; Gaz. vol. 158; p. 127.

Donning, George W., New York, N. Y., assignor of fifty one-hundredths to H. T. Ambrose, East Orange, N. J. Book type-writer. No. 970,195; Sept. 13; Sp. p. 2243; Gaz. vol. 158; p. 382.

Donning, George W., Stanford, Conn., assignor to H. T. Ambrose, Orange, N. J. Tabulating device for type-writers. No. 970,433; Sept. 13; Sp. p. 2728; Gaz. vol. 158; p. 460.

Donovan, James D., assignor, by mesne assignments, of two-thirds to W. F. Davis, Kansas City, Mo. Railway-engine for cars and locomotives. No. 969,760; Sept. 6; Sp. p. 1284; Gaz. vol. 158; p. 206.

Dooley, Joel C., Des Moines, Iowa. Insecticide and disinfectant. No. 970,434; Sept. 13; Sp. p. 2736; Gaz. vol. 158; p. 461.

Doolittle, James E., assignor to Birdsey, Somers Company, Bridgeport, Conn. Corset. No. 970,997; Sept. 20; Sp. p. 3947; Gaz. vol. 158; p. 674.

Doolittle, Lewis J. (See Agrell, Frans G., assignor.)

Dor-Delattre, Emile, Liege, Belgium. Apparatus for charging the retorts of zinc and other analogous furnaces. No. 969,254; Sept. 6; Sp. p. 226; Gaz. vol. 158; p. 37.

Dorau, John P., Waukesha, Wis. Washing-machine. No. 971,027; Sept. 27; Sp. p. 4015; Gaz. vol. 158; p. 713.

Dorsey, Parmer, Hutchinson, Kans. Rod-packing. No. 969,255; Sept. 6; Sp. p. 227; Gaz. vol. 158; p. 37.

Dotson, Ira M., Santa Cruz, Cal. Motor. No. 969,685; Sept. 6; Sp. p. 1129; Gaz. vol. 158; p. 182.

Doty, Wilson K. (See Davies, Roderick W., assignor.)

Dougine, James T., Kenosha, Wis. Hydraulic-power plant. No. 970,196; Sept. 13; Sp. p. 2256; Gaz. vol. 158; p. 382.

Douglas, Robert B., Laanecoorie, Victoria, assignor of one-fourth to G. F. Martin, Newbridge, Australia. Stripper-harvester and other comb-machine. No. 971,180; Sept. 27; Sp. p. 4354; Gaz. vol. 158; p. 764.

Douglass, Arthur R., and J. F. Willett, assignors of one-third to P. E. Vail, Chariton, Iowa. Combined mop head and wringer. No. 970,197; Sept. 13; Sp. p. 2259; Gaz. vol. 158; p. 382.

Dourte, George J., Longmont, Colo. Pump. No. 970,435; Sept. 13; Sp. p. 2737; Gaz. vol. 158; p. 461.

Dover Engineering Works, The. (See Pollock, Thomas, assignor.)

Dover, George W., Cranston, R. I. Mounting. No. 971,181; Sept. 27; Sp. p. 4357; Gaz. vol. 158; p. 764.

Downey, Thomas F. (See Donald and Downey.)

Doyle, John, New York, N. Y. Gas-regulator. No. 970,805; Sept. 20; Sp. p. 3763; Gaz. vol. 158; p. 642.

Doyle, Joseph V., New York, N. Y. Connection for electric cars. No. 971,363; Sept. 27; Sp. p. 4711; Gaz. vol. 158; p. 823.

Dräger, Alexander B., Lübeck, Germany. Device for preventing the ignition of pressure-reducing valves. No. 970,024; Sept. 13; Sp. p. 1910; Gaz. vol. 158; p. 324.

Dräger, Alexander B., assignor to Drägerwerk, Heinr. & Bernh. Dräger, Lübeck, Germany. Welding-burner. No. 971,430; Sept. 27; Sp. p. 4826; Gaz. vol. 158; p. 844.

Drägerwerk, Heinr. & Bernh. Dräger. (See Dräger, Alexander B., assignor.)

Draper Company. (See Cunniff, John V., assignor.)

Draper Company. (See Hollins, Denis, assignor.)

Draper Company. (See Robinson, Joshua, assignor.)

Drewell, Heinrich, Charlottenburg, assignor to Schnellsetz-Maschinengesellschaft mit beschränkter Haftung, Berlin, Germany. Type-setting machine. No. 970,694; Sept. 20; Sp. p. 3328; Gaz. vol. 158; p. 572.

Druhe, George W., Oakland, Cal. Fruit-jar. No. 970,896; Sept. 20; Sp. p. 3765; Gaz. vol. 158; p. 642.

Druliner, George W., Benkelman, Nebr. Kitchen-cabinet. No. 970,025; Sept. 13; Sp. p. 1912; Gaz. vol. 158; p. 325.

Dubé, Joseph E., Quebec, Quebec, Canada. Razor-blade holder. No. 971,257; Sept. 27; Sp. p. 4513; Gaz. vol. 158; p. 789.

Dubourg, Robert H., Shively, Ky. Wheeled hand-cultivator. No. 971,121; Sept. 27; Sp. p. 4213; Gaz. vol. 158; p. 744.

Duffy, Alvin R., Manhattan, Kans. Slack-adjuster. No. 970,026; Sept. 13; Sp. p. 1913; Gaz. vol. 158; p. 325.

Duffy, Michael, *et al.* (See Cummings, Michael H., assignor.)

Duitch, Joseph, Farmington, W. Va. Driving mechanism. No. 971,364; Sept. 27; Sp. p. 4713; Gaz. vol. 158; p. 823.

Duller, David M., Houston, Tex. Form for building concrete structures. No. 970,098; Sept. 20; Sp. p. 3048; Gaz. vol. 158; p. 675.

Dummert, Horace W. (See Thoma and Dummert.)

Duncan Electric Manufacturing Company. (See Harris, Jesse, assignor.)

Duncan, Joseph S., assignor to Addressograph Company, Chicago, Ill. Inking mechanism. No. 970,027; Sept. 13; Sp. p. 1914; Gaz. vol. 158; p. 325.

Duncan, Joseph S., assignor to Addressograph Company, Chicago, Ill. Ribbon-feeding mechanism. No. 970,028; Sept. 13; Sp. p. 1917; Gaz. vol. 158; p. 326.

Dungan, Elmer E., assignor of one-half to C. M. Klump, Philadelphia, Pa. Clock. No. 970,198; Sept. 13; Sp. p. 2261; Gaz. vol. 158; p. 383.

Dunham, George W., assignor to Olds Motor Works, Lansing, Mich. Valve-actuating rod. No. 970,099; Sept. 20; Sp. p. 3950; Gaz. vol. 158; p. 675.

Dunlevy, George M., New Cumberland, W. Va. Keyhole-guard. No. 971,122; Sept. 27; Sp. p. 4215; Gaz. vol. 158; p. 744.

Dunn, George R., San Pedro, Cal. Trolley-car-pole attachment. No. 971,494; Sept. 27; Sp. p. 4942; Gaz. vol. 158; p. 865.

Dunn, Joseph E., Philadelphia, Pa. Steam-separator. No. 970,477; Sept. 20; Sp. p. 2844; Gaz. vol. 158; p. 497.

Dunn, Joseph E., assignor to American Evaporator Company, Philadelphia, Pa. Evaporator. No. 971,258; Sept. 27; Sp. p. 4514; Gaz. vol. 158; p. 789.

Dunne, Patrick. (See Holbrook, Lucius R., assignor.)

Dunning, Parker, Schenectady, N. Y., assignor to General Electric Company. Circuit-controlling device. No. 970,478; Sept. 20; Sp. p. 2846; Gaz. vol. 158; p. 497.

Dunning, William E., assignor to The McCaskey Register Company, Alliance, Ohio. Pad-holder. No. 969,775; Sept. 13; Sp. p. 1358; Gaz. vol. 158; p. 238.

Dunwoody, Foster J., Denver, Colo. Pulverized-soap container and dispenser. No. 970,479; Sept. 20; Sp. p. 2848; Gaz. vol. 158; p. 498.

Duplex Metals Company. (See Monnot, John F., assignor.)

Duplex Printing Press Company. (See Bechman, Henry F., assignor.)

Dupont, Joseph. (See Hodgkinson, Percy W., assignor.)

Durie, James, assignor of one-half to J. Dusty, Toronto, Ontario, Canada. Rail-breaking device. No. 969,256; Sept. 6; Sp. p. 229; Gaz. vol. 158; p. 37.

Durrant, George, Manchester, England. Cloth-stretching machine. No. 971,123; Sept. 27; Sp. p. 4216; Gaz. vol. 158; p. 745.

Dusty, James. (See Durie, James, assignor.)

Dutchess Tool Company. (See Bachman, Harry M., assignor.)

Dutchess Tool Company. (See Van Houten, Frank H., assignor.)

Dutchess Tool Company. (See Van Houten and Hanna, assignors.)

Dwyer, Elmer M., *et al.* (See Mickey, Robert K., assignor.)

Dyer, Frank L. (See Aylsworth and Dyer.)

Dyer, Frank L. (See Pierman, Alexander N., assignor.)

Dyer, Frank L., Montclair, N. J. Portable electric heater. No. 969,849; Sept. 13; Sp. p. 1536; Gaz. vol. 158; p. 264.

Dyer, Frank L., Montclair, and D. Holden, Upper Montpelier, assignors to Edison Manufacturing Company, West Orange, N. J. Printing moving-picture films. No. 970,199; Sept. 13; Sp. p. 2263; Gaz. vol. 158; p. 383.

Dyer, Frank L., Montclair, and D. Holden, Upper Montclair, assignors to Edison Manufacturing Company, West Orange, N. J. Apparatus for printing moving-picture films. No. 970,614; Sept. 20; Sp. p. 3127; Gaz. vol. 158; p. 545.

E. H. Freeman Electric Company. (See Freeman, Edgar H., assignor.)

E. H. Hotchkiss Co., The. (See Jessup and Muth, assignors.)

E. I. du Pont de Nemours Powder Company. (See Fleming, Samuel H., assignor.)

E. M. Hulse Company, The. (See Hulse, Edwin M., assignor.)

Eacrett, William, Toronto, Ontario, Canada, assignor to The Multoplex Filing Device Company. Credit-account-filing device. No. 971,495; Sept. 27; Sp. p. 4943; Gaz. vol. 158; p. 866.

Eagle Lock Co. (See Clark, Dwight G., assignor.)

Eagle Lock Co. (See Weed, David W., assignor.)

Eagle White Lead Company, The. (See Merrill, Robert A., assignor.)

Earle, Courtland C., Providence, R. I. Apparatus for picking cotton from the boll. No. 970,695; Sept. 20; Sp. p. 3333; Gaz. vol. 158; p. 572.

Earman, Hiram O., Manhasset, N. Y. Level. No. 970,897; Sept. 20; Sp. p. 3766; Gaz. vol. 158; p. 643.

Easthope, Joseph. (See Yoxall and Easthope.)

Ebelhare, William H., Waltham, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa. Ratchet mechanism for watch-movements. No. 971,496; Sept. 27; Sp. p. 4946; Gaz. vol. 158; p. 866.

Eberhardt, Elmer G., assignor, by mesne assignments, to Newark Gear Cutting Machine Company, Newark, N. J. Mechanical movement. No. 969,352; Sept. 6; Sp. p. 424; Gaz. vol. 158; p. 68.

Eckmann, Emil, Neubeckum, Germany. Steam regenerative accumulator. No. 969,257; Sept. 6; Sp. p. 230; Gaz. vol. 158; p. 37.

Eddy, George D., Burlington, Vt. Sputum-cup. No. 970,480; Sept. 20; Sp. p. 2851; Gaz. vol. 158; p. 498.

Eddy, George W., assignor of one-half to G. A. Strohhaecker, Milwaukee, Wis. Keyless padlock. No. 970,481; Sept. 20; Sp. p. 2853; Gaz. vol. 158; p. 498.

Edison Manufacturing Company. (See Dodge, Eben G., assignor.)

Edison Manufacturing Company. (See Dyer and Holden, assignors.)

Edison, Thomas A., Llewellyn Park, Orange, N. J. Method and apparatus for making sound-records. No. 970,615; Sept. 20; Sp. p. 3130; Gaz. vol. 158; p. 545.

Edison, Thomas A., Llewellyn Park, Orange, N. J. Flying-machine. No. 970,616; Sept. 20; Sp. p. 3133; Gaz. vol. 158; p. 546.

Edwards, Charles B., assignor of one-fourth to J. H. Crooks and one-fourth to W. Simonet, Massillon, Ohio. Engine-governor. No. 971,431; Sept. 27; Sp. p. 4828; Gaz. vol. 158; p. 845.

Edwards, Nora C., Buffalo, N. Y. Skirt-supporter. (Reissue.) No. 13,152; Sept. 20; Sp. p. 3080; Gaz. vol. 158; p. 681.

Effantin, Stanislas, St. Cloud, France. Apparatus for distributing liquids in measured quantities. No. 971,259; Sept. 27; Sp. p. 4517; Gaz. vol. 158; p. 790.

Eggebrecht, Otto, Momence, assignor to The Emerson Typewriter Company, Chicago, Ill. Escapement mechanism. No. 969,530; Sept. 6; Sp. p. 810; Gaz. vol. 158; p. 127.

Eggleston, Eugene B., Sheridan, Ill. Mail-box protector. No. 969,686; Sept. 6; Sp. p. 1131; Gaz. vol. 158; p. 182.

Eggleston, Harvey L., Tulare, Cal. Retaining means for teeth of road-dressers. No. 969,850; Sept. 13; Sp. p. 1538; Gaz. vol. 158; p. 264.

Egly, Georg, Treptow, near Berlin, assignor to Gebrueder Siemens & Co., Lichtenberg, near Berlin, Germany. Protective screen for apparatus which are exposed to high temperatures. No. 971,124; Sept. 27; Sp. p. 4218; Gaz. vol. 158; p. 745.

Ehrsam, William J. (See Morscher, Lawrence N., assignor.)

Eickershoff, John H., Dusseldorf, Germany. Mine-prop. No. 969,851; Sept. 13; Sp. p. 1539; Gaz. vol. 158; p. 264.

Eisner, Abraham, assignor of one-half to R. M. Sunasack, Chicago, Ill. Razor-strop clamp. No. 971,432; Sept. 27; Sp. p. 4830; Gaz. vol. 158; p. 845.

Eklund, August, Spokane, Wash. Chemical compound. No. 970,898; Sept. 20; Sp. p. 3767; Gaz. vol. 158; p. 643.

Ekström, Gösta, Limhamn, Sweden. Making grape-sugar. No. 970,029; Sept. 13; Sp. p. 1923; Gaz. vol. 158; p. 326.

Elderkin, John, and F. Rose, Philadelphia, Pa. Spraying device for leather-working machinery. No. 971,365; Sept. 27; Sp. p. 4714; Gaz. vol. 158; p. 824.

Electric Boat Company. (See Davison, Gregory C., assignor.)

Electrolite Gas Lamp Company. (See Beck, Charles W., assignor.)

Elevator Safety Equipment Company. (See McNaught, Harry W., assignor.)

Ellertson, Even E. (See Wold, Carl O., assignor.)

Elliott, Edward L., and W. H. Schroeder, Coquille, Oreg. Folding bedstead. No. 971,433; Sept. 27; Sp. p. 4831; Gaz. vol. 158; p. 845.

Elliott, Graham B., Barton, Vt. Penholder and pen therefor. No. 970,315; Sept. 13; Sp. p. 2507; Gaz. vol. 158; p. 422.

Ellis, Charles P. (See O'Donohoe and Ellis.)

Ellis, Hallett D., Kansas City, Mo. Dumping-wagon. No. 969,259; Sept. 6; Sp. p. 233; Gaz. vol. 158; p. 38.

Ellis, Hallett D., assignor of one-fourth to H. M. Godard, Kansas City, Mo. Dumping-wagon. No. 969,258; Sept. 6; Sp. p. 232; Gaz. vol. 158; p. 38.

Ellsworth, Albert D., Broad Brook, Conn. Wagon. No. 970,436; Sept. 13; Sp. p. 2739; Gaz. vol. 158; p. 462.

Emer, Max, Vienna, Austria-Hungary. Safe having coin-operated lock. No. 971,366; Sept. 27; Sp. p. 4717; Gaz. vol. 158; p. 824.

Emerson, Charles O. (See Raymond, Edgar F., assignor.)

Emerson Typewriter Company, The. (See Eggebrecht, Otto, assignor.)

Emery, Plato G., Chicago, Ill. Shade-guide. No. 970,452; Sept. 13; Sp. p. 2775; Gaz. vol. 158; p. 467.

Emmons, Harry D., Woodstock, and W. B. Emmons, Thornton, N. H. Reinforced-concrete railway-tie. No. 970,316; Sept. 13; Sp. p. 2508; Gaz. vol. 158; p. 423.

Emmons, Willie B. (See Emmons, Harry D. and W. B.)

Emsheimer, Charles, New York, N. Y. Indicator. No. 970,200; Sept. 13; Sp. p. 2264; Gaz. vol. 158; p. 384.

Engelberg, Henry C., New York, N. Y. Lamp-bracket. No. 970,899; Sept. 20; Sp. p. 3768; Gaz. vol. 158; p. 643.

English & Mersick Co., The. (See Altmann, Frank C., assignor.)

English, William J., New York, N. Y. Time-stamp. No. 970,201; Sept. 13; Sp. p. 2266; Gaz. vol. 158; p. 384.

Ennis, John L., assignor to The Reading Saddle and Mf'g. Co., Reading, Pa. Sad-iron. No. 971,125; Sept. 27; Sp. p. 4219; Gaz. vol. 158; p. 745.

Enos, Frank, Jr., Norwich, Conn. Drinking-fountain for poultry. No. 969,852; Sept. 13; Sp. p. 1540; Gaz. vol. 158; p. 264.

Equilibrator Company. (See Fuerth, William G., assignor.)

Equitable Meter Company. (See Younge, Fred E., assignor.)

Erb, Daniel. (See Stuart, Josie A. W., assignor.) (Reissue.)

Erickson, Fred E., Krem, N. D. Whip-socket lock. No. 970,696; Sept. 20; Sp. p. 3335; Gaz. vol. 158; p. 573.

Erickson, John, Cheyenne, Wyo. Sill-protector, bolster-stop, and truss-rod support for cars. No. 970,900; Sept. 20; Sp. p. 3769; Gaz. vol. 158; p. 643.

Ernst, Emil R., New York, N. Y. Game apparatus. No. 970,901; Sept. 20; Sp. p. 3770; Gaz. vol. 158; p. 643.

Esders, John H., St. Joseph, Mo. Vehicle-wheel. No. 971,434; Sept. 27; Sp. p. 4832; Gaz. vol. 158; p. 846.

Eskildsen, Neis P. B., Hampton, Nebr. Wagon-box protector. No. 971,028; Sept. 27; Sp. p. 4017; Gaz. vol. 158; p. 716.

Estes, Henry E. (See Estes, John D. and H. E.)

Estes, John D. and H. E., Phillipsburg, Mo. Attachment for beds. No. 969,531; Sept. 6; Sp. p. 813; Gaz. vol. 158; p. 128.

Estey Organ Company. (See Haskell, William E., assignor.)

Etcheverry, Justo D., and P. P. Figueroa, New York, N. Y. Cigarette and cigar holder. No. 971,497; Sept. 27; Sp. p. 4947; Gaz. vol. 158; p. 866.

Evans, Almirall & Co. (See Almirall, Juan A., assignor.)

Evans, George R., Berkeley, Cal. Rotary engine. No. 969,353; Sept. 6; Sp. p. 428; Gaz. vol. 158; p. 69.

Evans, Harley B. (See Goddin and Evans.)

Evans, William, executor. (See Whittles, Jeremiah C.)

Ewell, Herbert P., Detroit, Mich. Making liquid sodium amalgam. No. 969,853; Sept. 13; Sp. p. 1541; Gaz. vol. 158; p. 265.

Eytalis, Charles, assignor of one-sixth to E. Baren, one-sixth to R. Weinberg, and one-sixth to J. Butkus, Chicago, Ill. Door-fastener. No. 971,498; Sept. 27; Sp. p. 4949; Gaz. vol. 158; p. 867.

Eyton, Charles, Los Angeles, Cal. Keyhole-illuminating device. No. 970,698; Sept. 20; Sp. p. 3338; Gaz. vol. 158; p. 573.

F. L. Smidth & Co. (See Lindhard, Pool T., assignor.)

Fagan, Eugene, Whittier, Cal. Work-support. No. 970,902; Sept. 20; Sp. p. 3771; Gaz. vol. 158; p. 644.

Faget, Arthur, San Francisco, Cal. Car-door closure. No. 970,806; Sept. 20; Sp. p. 3589; Gaz. vol. 158; p. 613.

Faget, Arthur, San Francisco, Cal. Apparatus for economizing power in precooling plants. No. 970,807; Sept. 20; Sp. p. 3591; Gaz. vol. 158; p. 614.

Faget, Arthur, San Francisco, Cal. Refrigerating system. No. 971,182; Sept. 27; Sp. p. 4358; Gaz. vol. 158; p. 764.

Faget, Arthur, San Francisco, Cal. Water-distillation system. No. 971,183; Sept. 27; Sp. p. 4360; Gaz. vol. 158; p. 765.

Failing, Martin L., *et al.* (See Williams, Roger F., assignor.

Falbe, John. (See Stamm, Charles, assignor.)

Fallon, Thomas D., Prattville, Ala. Cotton-gin. No. 970,482; Sept. 20; Sp. p. 2856; Gaz. vol. 158; p. 499.

Fanning, Charles E., Davenport, Iowa. Foldable perambulator. No. 970,202; Sept. 13; Sp. p. 2270; Gaz. vol. 158; p. 384.

Farbenfabriken vorm. Friedr. Bayer & Co. (See Blank and Bergdolt, assignors.)

Farbenfabriken vorm. Friedr. Bayer & Co. (See Blank and Heusner, assignors.)

Farbenfabriken vorm. Friedr. Bayer & Co. (See Gruettefien, Wilhelm, assignor.)

Farbenfabriken vorm. Friedr. Bayer & Co. (See Grüttefien, Wilhelm, assignor.)

Farbenfabriken vorm. Friedr. Bayer & Co. (See Meckbach, Ernst, assignor.)

Farbenfabriken vorm. Freidr. Bayer & Co. (See Thomaschewski, Raeder, Mieg, and Fischer, assignors.)

Farbenfabriken vorm. Friedr. Bayer & Co. (See Volkmann, Paul, assignor.)

Farlin, Irving, Battle Creek, Mich. Awning or window-tent. No. 969,687; Sept. 6; Sp. p. 1132; Gaz. vol. 158; p. 183.

Farnam, George D., assignor to Star Rubber Company, Akron, Ohio. Apparatus for forming hot-water bags and other hollow rubber articles. No. 969,464; Sept. 6; Sp. p. 647; Gaz. vol. 158; p. 104.

Farr, B. C. (See Coleman, Samuel, assignor.)

Fauber, William H., Chicago, Ill. Hydroplane boat. No. 971,029; Sept. 27; Sp. p. 4018; Gaz. vol. 158; p. 713.

Fauber, William H., Nanterre, France. Aeroplane. No. 971,030; Sept. 27; Sp. p. 4023; Gaz. vol. 158; p. 714.

Fay, Alpheus, assignor of four-fifths to G. F. Selser and one-fifth to W. J. Cogle, Louisville, Ky. Apparatus for treating, dehairing, swelling, and tanning hides. No. 971,126; Sept. 27; Sp. p. 4220; Gaz. vol. 158; p. 745.

Federal-Huber Company. (See Graham, William B., assignor.)

Fee, Francis J. (See Cuthbert and Fee.)

Fehr, William, and J. Kaufmann, assignors to Steel Heddle Manufacturing Company, Philadelphia, Pa. Machine for making heddles. No. 970,808; Sept. 20; Sp. p. 3592; Gaz. vol. 158; p. 614.

Felheimer, Jerome B., *et al.* (See Phillips, Cornelius R., assignor.)
Felten & Guilleaume-Lahmeyer werke Actien-Gesellschaft. (See Albrecht, Martin, assignor.)
Felumlee, Cornelius S., assignor of one-half to C. V. Priest, Newark, Ohio. Pneumatic stone-marking tool. No. 969,354; Sept. 6; Sp. p. 431; Gaz. vol. 158; p. 69.
Fennell, John M., Quitman, Ga. Steam-engine. No. 970,903; Sept. 20; Sp. p. 3773; Gaz. vol. 158; p. 644.
Fenske, Gustav H., Clark, Mo. Post-mold. No. 970,904; Sept. 20; Sp. p. 3774; Gaz. vol. 158; p. 644.
Ferguson, Clarence W., assignor of one-half to Tim & Co. and one-half to C. W. Ferguson Collar Co., Troy, N. Y. Collar. No. 971,031; Sept. 27; Sp. p. 4034; Gaz. vol. 158; p. 714.
Ferguson, William T., Weiser, Idaho. Mail receiving and delivering apparatus. No. 969,612; Sept. 6; Sp. p. 988; Gaz. vol. 158; p. 157.
Ferman, Cyral L., Milan, Mich. Pressure-tap. No. 969,355; Sept. 6; Sp. p. 432; Gaz. vol. 158; p. 69.
Ferranti, Sebastian Z. de, Grindleford Bridge, near Sheffield, England. Turbine-blading machine. No. 969,260; Sept. 6; Sp. p. 236; Gaz. vol. 158; p. 30.
Ferranti, Sebastian Z. de, Grindleford, England. Metallurgical furnace. No. 969,261; Sept. 6; Sp. p. 239; Gaz. vol. 158; p. 29.
Ferranti, Sebastian Z. de, Grindleford, near Sheffield, England. Spinning-machine. No. 970,203; Sept. 13; Sp. p. 2274; Gaz. vol. 158; p. 385.
Ferranti, Sebastian Z. de, Grindleford, near Sheffield, England. Spinning, doubling, and twisting machine. No. 970,617; Sept. 20; Sp. p. 3135; Gaz. vol. 158; p. 546.
Ferris, Henry L. and H. J., Harvard, Ill. Swinging track and supporting-boom therefor. No. 969,465; Sept. 6; Sp. p. 648; Gaz. vol. 158; p. 104.
Ferris, Howard J. (See Ferris, Henry L. and H. J.)
Ferris, Lewis, Pocatello, Idaho. Digger. No. 969,613; Sept. 6; Sp. p. 990; Gaz. vol. 158; p. 157.
Fiebeger, Frank, Akron, Ohio. Stove or furnace radiator. No. 970,483; Sept. 20; Sp. p. 2857; Gaz. vol. 158; p. 499.
Figueroa, Pedro P. (See Etcheverry, Justo D., assignor.)
Filiberto, Nicolas, Brooklyn, N. Y. Steam-pressure reducing and controlling valve. No. 971,435; Sept. 27; Sp. p. 4833; Gaz. vol. 158; p. 846.
Filson, Ira, Springfield, Ohio. Safety device for heaters. No. 969,466; Sept. 6; Sp. p. 650; Gaz. vol. 158; p. 105.
Firth, Edwin, Attleboro, Mass. Clothes-wringer. No. 970,317; Sept. 13; Sp. p. 2510; Gaz. vol. 158; p. 423.
Fischer, Paul. (See Thomaschewski, Raeder, Mieg, and Fischer.)
Fisher, Alva J., assignor to Hurley Machine Company, Chicago, Ill. Journal and bearing. No. 970,030; Sept. 13; Sp. p. 1023; Gaz. vol. 158; p. 326.
Fisher, William C., Middletown, Conn. Cartridge-belt. No. 970,905; Sept. 20; Sp. p. 3775; Gaz. vol. 158; p. 644.
Fisher, William C., Middletown, Conn. Cartridge-belt. No. 970,906; Sept. 20; Sp. p. 3776; Gaz. vol. 158; p. 645.
Fitzgerald, Jeremiah C., De Kalb, assignor to Smith Manufacturing Company, Chicago, Ill. Stop and rebounder for elevated carriers. No. 970,031; Sept. 13; Sp. p. 1926; Gaz. vol. 158; p. 326.
Fitzgerald, Jeremiah C., De Kalb, assignor to Smith Manufacturing Company, Chicago, Ill. Elevated-track system for overhead carriers. No. 970,032; Sept. 13; Sp. p. 1928; Gaz. vol. 158; p. 327.
Fitzgerald, John J., North Walpole, N. H. Cableway. No. 969,356; Sept. 6; Sp. p. 434; Gaz. vol. 158; p. 70.
Fleming, Richard, Lynn, Mass., assignor to General Electric Company. Voltage-regulator. No. 971,184; Sept. 27; Sp. p. 4363; Gaz. vol. 158; p. 765.
Fleming, Samuel H., Camden, N. J., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del. Treating glycerin. No. 969,159; Sept. 6; Sp. p. 15; Gaz. vol. 158; p. 6.
Fleming, William S. S., Portland, Oreg. Lawn-trimming implement. No. 971,000; Sept. 20; Sp. p. 3951; Gaz. vol. 158; p. 675.
Flinn, George A., assignor of one-half to C. Lochner, Fort Wayne, Ind. Mail-wagon. No. 970,437; Sept. 13; Sp. p. 2741; Gaz. vol. 158; p. 462.
Florenz, Matthias, Lawrence, Mass. Self-leveling table. No. 969,614; Sept. 6; Sp. p. 991; Gaz. vol. 158; p. 158.
Flory, John W., Dayton, Ohio. Fireless cooker. No. 971,260; Sept. 27; Sp. p. 4518; Gaz. vol. 158; p. 790.
Floyd, Harrison D., North Fork, Wis. Animal poke or yoke. No. 970,484; Sept. 20; Sp. p. 2859; Gaz. vol. 158; p. 500.
Flynn, Daniel C. (See Cudd, Simeon S., assignor.)
Fogg, Charles F., assignor of one-half to G. M. Orton, New York, N. Y. Automatically-closing file-case. No. 969,262; Sept. 6; Sp. p. 243; Gaz. vol. 158; p. 39.
Folb, David, New York, N. Y. Dental flask. No. 969,263; Sept. 6; Sp. p. 244; Gaz. vol. 158; p. 39.
Foley, Thomas F., Washington, D. C. Fastener for closures. No. 969,776; Sept. 13; Sp. p. 1359; Gaz. vol. 158; p. 229.
Fondren, John W. (See Hollenbeck, Jacob P., assignor.)
Foote, James H., Cincinnati, Ohio. Weather-strip. No. 971,001; Sept. 20; Sp. p. 3952; Gaz. vol. 158; p. 676.
Forbes, James E., Kopple, and B. A. Darr, McKees Rocks, Pa. Hot-water bandage. No. 970,907; Sept. 20; Sp. p. 3777; Gaz. vol. 158; p. 645.
Forbes, William Y. and W. H. Rothwell, Liverpool, England. Type-writing machine. No. 971,032; Sept. 27; Sp. p. 4035; Gaz. vol. 158; p. 714.
Ford, Otho H., Kansas City, Mo. Wrench attachment. No. 971,033; Sept. 27; Sp. p. 4036; Gaz. vol. 158; p. 715.
Forsberg, Erik A., and B. Ljungström, Stockholm, Sweden. Gas-turbine. No. 970,204; Sept. 13; Sp. p. 2277; Gaz. vol. 158; p. 385.
Forster, John C., Pittsburg, Pa. Washing-machine. No. 970,205; Sept. 13; Sp. p. 2280; Gaz. vol. 158; p. 385.
Forster, John C., Pittsburg, Pa. Household-tool. No. 970,206; Sept. 13; Sp. p. 2282; Gaz. vol. 158; p. 386.
Fort Pitt Bedding Company. (See Sleeth, Montgomery, assignor.)
Foster, George, East Auburn, Cal. Ironing-table. No. 970,207; Sept. 13; Sp. p. 2284; Gaz. vol. 158; p. 386.
Foster, Linwood E., Hoquiam, Wash. Sister-hook. No. 970,033; Sept. 13; Sp. p. 1932; Gaz. vol. 158; p. 327.
Fox, Ivan, Media, assignor to Fox Optical Manufacturing Company, Philadelphia, Pa. Optometer. No. 971,499; Sept. 27; Sp. p. 4952; Gaz. vol. 158; p. 867.
Fox Optical Manufacturing Company. (See Fox, Ivan, assignor.)
Frahm, Hermann, Hamburg, Germany. Means for damping the rolling motion of ships. No. 970,368; Sept. 13; Sp. p. 2605; Gaz. vol. 158; p. 440.
Frank and Dugan. (See Murphy, Arthur, assignor.)
Frank, William V., Springfield, Ohio. Motor. No. 969,467; Sept. 6; Sp. p. 654; Gaz. vol. 158; p. 105.
Frank, William V., Springfield, Ohio. Oscillating motor. No. 969,532; Sept. 6; Sp. p. 815; Gaz. vol. 158; p. 128.
Franke, Herman L., Chicago, Ill. Fly-screen. No. 969,777; Sept. 13; Sp. p. 1361; Gaz. vol. 158; p. 239.
Franks, Samuel C., Fremont, Ohio. Window. No. 969,778; Sept. 13; Sp. p. 1362; Gaz. vol. 158; p. 239.
Frayer, Lee A., Columbus, and W. J. Miller, assignors, by mesne assignments, to The Kelly Motor Truck Company, Springfield, Ohio. Explosive-engine. No. 970,034; Sept. 13; Sp. p. 1933; Gaz. vol. 158; p. 328.
Fraser, Terry H., and W. W. Vanlandingham, Lone Oak, Tex. Rotary engine. No. 970,035; Sept. 13; Sp. p. 1934; Gaz. vol. 158; p. 328.
Frederick, Lott, Indiana, Pa. Ironing-table. No. 969,615; Sept. 6; Sp. p. 992; Gaz. vol. 158; p. 158.
Fredrum, John W., Denver, Colo. Milk-strainer. No. 969,357; Sept. 6; Sp. p. 436; Gaz. vol. 158; p. 70.
Freeman, Edgar H., assignor to E. H. Freeman Electric Company, Trenton, N. J. Cover for electrical outlet-boxes. No. 971,002; Sept. 20; Sp. p. 3954; Gaz. vol. 158; p. 676.
Freeman, Edwin T., Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Machine for inserting metallic fastenings. No. 970,008; Sept. 20; Sp. p. 3779; Gaz. vol. 158; p. 645.
Freeman, Joseph W., Peebles, Ohio. Grave-vault. No. 970,208; Sept. 13; Sp. p. 2286; Gaz. vol. 158; p. 387.
Freeman, Laban T., Sr., Brookville, Miss. Educational appliance. No. 971,185; Sept. 27; Sp. p. 4365; Gaz. vol. 158; p. 766.
Freeth, Francis A., Great Crosby, and H. E. Cocksedge, London, England. Making ammonium chlorid. No. 970,909; Sept. 20; Sp. p. 3784; Gaz. vol. 158; p. 646.
Freitag, Charles A., St. Joseph, Mich. Picker for grapes, &c. No. 971,186; Sept. 27; Sp. p. 4365; Gaz. vol. 158; p. 766.
French, Algy D., Shelton, Conn. Foot-support. No. 970,910; Sept. 20; Sp. p. 3785; Gaz. vol. 158; p. 646.
French, Robert, Hillsboro, Ill. Cartridge-filler. No. 970,318; Sept. 13; Sp. p. 2513; Gaz. vol. 158; p. 424.
Fresko, Alix and B. W., Amsterdam, Ohio. Wrench. No. 970,209; Sept. 13; Sp. p. 2287; Gaz. vol. 158; p. 387.
Fresko, Bela W. (See Fresko, Alix and B. W.)
Frey, George, Steelton, and S. Lotz, Harrisburg, Pa. Car-fender. No. 970,699; Sept. 20; Sp. p. 3340; Gaz. vol. 158; p. 574.
Frey, John S., New York, N. Y. Soap-dish. No. 970,485; Sept. 20; Sp. p. 2861; Gaz. vol. 158; p. 500.
Friedel, Robert, Cincinnati, Ohio, assignor of one-third to A. H. F. Geyer, Newport, Ky. Puttyless window-sash. No. 970,438; Sept. 13; Sp. p. 2742; Gaz. vol. 158; p. 462.
Friedman, Samuel M., New York, N. Y. Vehicle-wheel. No. 970,911; Sept. 20; Sp. p. 3786; Gaz. vol. 158; p. 646.
Fries, John W., Winston Salem, N. C. Humidifier. No. 969,854; Sept. 13; Sp. p. 1542; Gaz. vol. 158; p. 265.
Friesen, George E., North Yakima, Wash. Spring-wheel. No. 970,486; Sept. 20; Sp. p. 2862; Gaz. vol. 158; p. 500.
Frisbee, Frank E., Des Moines, Iowa. Window-frame. No. 971,261; Sept. 27; Sp. p. 4519; Gaz. vol. 158; p. 790.
Friz, Emil, Göppingen, Germany. Top-spinner. No. 969,264; Sept. 6; Sp. p. 244; Gaz. vol. 158; p. 40.
Fruwirth, Arthur, New York, N. Y. Positioning and focusing indicator for enlarging and reducing cameras. No. 971,367; Sept. 27; Sp. p. 4720; Gaz. vol. 158; p. 824.
Fuerth, William G., assignor to Equilibrator Company, Newark, N. J. Ink. No. 970,439; Sept. 13; Sp. p. 2743; Gaz. vol. 158; p. 462.
Fulda, Lamartine R., San Francisco, Cal. Propeller. No. 970,319; Sept. 13; Sp. p. 2514; Gaz. vol. 158; p. 424.
Fulkerson, Ambus M., Sac and Fox Agency, Okla. Ratchet-wrench. No. 970,320; Sept. 13; Sp. p. 2516; Gaz. vol. 158; p. 424.
Fuller, Alvarado M., Topeka, Kans. Submarine torpedo-boat. No. 970,210; Sept. 13; Sp. p. 2288; Gaz. vol. 158; p. 387.
Fuller, Benjamin D., J. R. Reilly, Lakewood, and T. A. Reilly, Cleveland, Ohio. Power-transmission mechanism. No. 970,440; Sept. 13; Sp. p. 2745; Gaz. vol. 158; p. 462.

Fuller, Lawson M., assignor to Velie Motor Vehicle Company, Moline, Ill. Air-intake for carbureters. No. 971,034; Sept. 27; Sp. p. 4038; Gaz. vol. 158; p. 715.
Funk, Lewis A., Jeromesville, Ohio. Manure-spreader. No. 971,436; Sept. 27; Sp. p. 4837; Gaz. vol. 158; p. 847.
Furnas, Brown & Plummer. (See Donaldson and Furnas, assignors.)
Furnas, Vincent E. (See Donaldson and Furnas.)
G. Drouve Company, The. (See Cibulas, Stephen E., assignor.)
Gaertner, John A., Boston, Mass. Foot and leg rest. No. 971,437; Sept. 27; Sp. p. 4839; Gaz. vol. 158; p. 847.
Gage, Burt O., assignor to Warren Steam Pump Company, Warren, Mass. Pump. No. 969,616; Sept. 6; Sp. p. 994; Gaz. vol. 158; p. 158.
Gagnon, Joseph, Fall River, Mass. Shuttle. No. 971,187; Sept. 27; Sp. p. 4366; Gaz. vol. 158; p. 766.
Gallagher, Thomas F., Charlestown, Mass. Game. No. 970,321; Sept. 13; Sp. p. 2518; Gaz. vol. 158; p. 425.
Gamble, John M., Burlington, Iowa. Self-locking ticket-window closure. No. 970,912; Sept. 20; Sp. p. 3788; Gaz. vol. 158; p. 647.
Gamewell Fire Alarm Telegraph Company, The. (See Cole, Frederick W., assignor.)
Gammeter, Harry C., Bratenahl, assignor to The American Multigraph Company, Cleveland, Ohio. Paper-stripping device for printing-presses. No. 970,441; Sept. 13; Sp. p. 2749; Gaz. vol. 158; p. 463.
Gammeter, John R., assignor, by mesne assignments, to The United Rim Company, Akron, Ohio. Vehicle-wheel rim. No. 969,779; Sept. 13; Sp. p. 1364; Gaz. vol. 158; p. 240.
Ganzini, Mario, Milan, Italy. Screen for displaying projected pictures. No. 970,913; Sept. 20; Sp. p. 3790; Gaz. vol. 158; p. 647.
Garber, Jesse B., assignor to The Deming Company, Salem, Ohio. Hydropneumatic pump. No. 970,914; Sept. 20; Sp. p. 3790; Gaz. vol. 158; p. 647.
Gardner, Benjamin F., Chicago, Ill. Electric-controller plug. No. 969,265; Sept. 6; Sp. p. 245; Gaz. vol. 158; p. 40.
Gardner, John W., Quincy, Ill. Air-compressor. No. 970,487; Sept. 20; Sp. p. 2863; Gaz. vol. 158; p. 501.
Gardner, Roland, Cleveland, Ohio. Abrading-wheel. No. 970,618; Sept. 20; Sp. p. 3136; Gaz. vol. 158; p. 547.
Gardner, Roland, Cleveland, Ohio. Abrading-block and carrier therefor. No. 970,619; Sept. 20; Sp. p. 3137; Gaz. vol. 158; p. 547.
Garrison, Ferdnando G., Fort Worth, Tex. Automobile-radiator. No. 971,127; Sept. 27; Sp. p. 4221; Gaz. vol. 158; p. 746.
Gates, John C., Tipton, Ind. Nail-setter. No. 970,809; Sept. 20; Sp. p. 3595; Gaz. vol. 158; p. 614.
Gathy, Jean J., Mons, Belgium. Treating dolomite. No. 971,368; Sept. 27; Sp. p. 4721; Gaz. vol. 158; p. 825.
Gayley, James, New York, N. Y. Extracting moisture from air. No. 970,453; Sept. 13; Sp. p. 2778; Gaz. vol. 158; p. 467.
Gaynor, Joseph, New York, N. Y. Resilient vehicle-wheel. No. 969,266; Sept. 6; Sp. p. 247; Gaz. vol. 158; p. 40.
Gebhardt, John H., Des Moines, Iowa. Adjustable reversing attachment and feed for cutting-tools. No. 971,262; Sept. 27; Sp. p. 4522; Gaz. vol. 158; p. 791.
Gebott, Frederick W., Everett, Wash. Slasher-head and coupling. No. 970,915; Sept. 20; Sp. p. 3792; Gaz. vol. 158; p. 648.
Gebrüder Siemens & Co. (See Viertel, Hermann, assignor.)
Gee, Charles A., South Tottenham, London, England. Exhibiting and advertising apparatus. No. 969,780; Sept. 13; Sp. p. 1366; Gaz. vol. 158; p. 240.
Gehrkens, Edward F., Schenectady, N. Y., assignor to General Electric Company. Means for heating metals. No. 970,488; Sept. 20; Sp. p. 2865; Gaz. vol. 158; p. 501.
Geisler, Louis, Paris, France, assignor to Chromography Limited, London, England. Apparatus for taking photographs in colors and causing them to appear stereoscopically. No. 970,322; Sept. 13; Sp. p. 2519; Gaz. vol. 158; p. 425.
Geissinger, Harry G., assignor to Geissinger Regulator Company, New York, N. Y. Automatic electric heat control. No. 969,781; Sept. 13; Sp. p. 1370; Gaz. vol. 158; p. 240.
Geissinger Regulator Company. (See Geissinger, Harry G., assignor.)
General Chemical Company. (See Herreshoff, John B. F., assignor.)
General Electric Company. (See Atwood, Winfield A., assignor.)
General Electric Company. (See Boyd, Frederic R. C., assignor.)
General Electric Company. (See Case, Frank E., assignor.)
General Electric Company. (See Corey, Fred B., assignor.)
General Electric Company. (See Curtis, Charles G., assignor.)
General Electric Company. (See Dunning, Parker, assignor.)
General Electric Company. (See Fleming, Richard, assignor.)
General Electric Company. (See Gehrkens, Edward F., assignor.)
General Electric Company. (See Janisch, Leopold, assignor.)
General Electric Company. (See Lemp, Hermann, assignor.)
General Electric Company. (See Moss, Sanford A., assignor.)
General Electric Company. (See Rice, Richard H., assignor.)
General Electric Company. (See Riddell, John, assignor.)
General Electric Company. (See Thomson, Elihu, assignor.)
General Electric Company. (See Van Aller, Tycho, assignor.)
General Electric Company. (See Vollmer, Joseph, assignor.)
General Electric Company. (See White, Harold E., assignor.)
General Electric Company. (See White and Carichoff, assignors.)
General Railway Signal Company. (See Howe, Winthrop K., assignor.)
Genest, Werner, Gross-Lichterfelde, and H. Stössel, Westend, Germany. Plate for deadening vibration and sound. No. 971,369; Sept. 27; Sp. p. 4722; Gaz. vol. 158; p. 825.
Gensecke, Wilhelm. (See Josse and Gensecke.)
Gentle, William M., Greenwood, Ind. Game apparatus. No. 970,489; Sept. 20; Sp. p. 2863; Gaz. vol. 158; p. 501.
George, Thomas J., Inglewood, N. J. Building construction. No. 971,035; Sept. 27; Sp. p. 4040; Gaz. vol. 158; p. 716.
Georgeff, Evan, Seattle, Wash. Sash-closing mechanism. No. 970,036; Sept. 13; Sp. p. 1936; Gaz. vol. 158; p. 328.
Gerard Ozone Process Company. (See Twombly, Alexander H., assignor.)
Gerken, Louis C., New York, N. Y. Carbureter for gas-engines. No. 970,916; Sept. 20; Sp. p. 3793; Gaz. vol. 158; p. 648.
Gessi, Felix. (See Kostanjevic, Matzenik, and Gessi.)
Gether, Charles R., Milwaukee, Wis. Rotary pump or air-compressor. No. 971,188; Sept. 27; Sp. p. 4368; Gaz. vol. 158; p. 766.
Getley, William, South Lorain, assignor of two-fifths to C. A. Smith, Lorain, Ohio. Safety device for gas-supply connections. No. 970,490; Sept. 20; Sp. p. 2869; Gaz. vol. 158; p. 501.
Getz, Alfred C., Sidney, Ohio. Universal-woodworking-machine. No. 970,917; Sept. 20; Sp. p. 3794; Gaz. vol. 158; p. 648.
Geyer, Albert H. F. (See Friedel, Robert, assignor.)
Gibson Mandolin-Guitar Company. (See Laurian, George D., assignor.)
Gierding, Charles E., assignor to Sterling-Meaker Company, Newark, N. J. Trolley-base. No. 970,211; Sept. 13; Sp. p. 2306; Gaz. vol. 158; p. 387.
Gilbert, Elam, Portland, Oreg.; M. R. Gilbert guardian of said Elam Gilbert, insane. Record-ejector for phonographs. No. 969,946; Sept. 13; Sp. p. 1732; Gaz. vol. 158; p. 297.
Gilbert, Mattie R., guardian. (See Gilbert, Elam.)
Gilbride, Thomas F., New York, assignor of one-half to W. H. Diamond, Poughkeepsie, N. Y. Amusement apparatus. No. 971,003; Sept. 20; Sp. p. 3955; Gaz. vol. 158; p. 676.
Gilfillan, Essington N., Syracuse, assignor of fifty-one one-hundredths to J. Hunter, Fulton, N. Y. Closure for receptacles. No. 970,037; Sept. 13; Sp. p. 1937; Gaz. vol. 158; p. 328.
Gillie, John W., North Shields, England. Artificial horizon. No. 971,189; Sept. 27; Sp. p. 4372; Gaz. vol. 158; p. 767.
Gillitt, Fredric C., Hastings, Minn. Clamp. No. 971,438; Sept. 27; Sp. p. 4840; Gaz. vol. 158; p. 847.
Gillmor, Horatio G., Bath, Me., assignor to C. A. Price, Quincy, Mass. Means of forming rail-joints. No. 970,810; Sept. 20; Sp. p. 3597; Gaz. vol. 158; p. 615.
Gilmore, Eva, Hamilton, Ontario, Canada. Curtain-ring. No. 971,263; Sept. 27; Sp. p. 4524; Gaz. vol. 158; p. 791.
Gin, Gustave, Paris, France, assignor to F. B. Crocker, New York, N. Y. Electric furnace for transforming pig-iron into steel. No. 970,700; Sept. 20; Sp. p. 3342; Gaz. vol. 158; p. 574.
Glasel, Charles J., Washington, D. C. Apparatus for treating hides. No. 970,701; Sept. 20; Sp. p. 3344; Gaz. vol. 158; p. 574.
Glass, Charles L., Joplin, Mo. Shoveling-machine. No. 971,036; Sept. 27; Sp. p. 4044; Gaz. vol. 158; p. 716.
Glass Enameled Package Co., The. (See Shields, George, assignor.)
Glaus, Christian, Milwaukee, Wis. Butter-cutting tool. No. 969,947; Sept. 13; Sp. p. 1733; Gaz. vol. 158; p. 298.
Gleason, Odiorne J. W., Worcester, Mass. Mail-box. No. 969,948; Sept. 13; Sp. p. 1734; Gaz. vol. 158; p. 298.
Glenn, John S., West Covington, Ky. Drill-brace. No. 971,037; Sept. 27; Sp. p. 4047; Gaz. vol. 158; p. 717.
Glidden, Charles C., Birmingham, Ala. Fluid pulsating apparatus. No. 969,782; Sept. 13; Sp. p. 1373; Gaz. vol. 158; p. 241.
Glise, Roy C., Prosper, Minn. Scraper. No. 970,323; Sept. 13; Sp. p. 2520; Gaz. vol. 158; p. 425.
Globe Machine & Stamping Company, The. (See Abbott, George E., assignor.)
Gloor, Edwin, Webster Groves, and W. W. Pascal, assignors to Commonwealth Feed Mills Company, St. Louis, Mo. Alfalfa feed mixture. No. 969,267; Sept. 6; Sp. p. 248; Gaz. vol. 158; p. 40.

Goble, William A., Conway Springs, Kans. Plumb-level attachment. No. 969,855; Sept. 13; Sp. p. 1547; Gaz. vol. 158; p. 265.
Godard, Henry M. (See Ells, Hallett D., assignor.)
Goddard, William B., Brooklyn, N. Y. Metal barrel. No. 971,439; Sept. 27; Sp. p. 4841; Gaz. vol. 158; p. 847.
Goddin, George J., and H. B. Evans, Elkins, W. Va. Sled-knee. No. 970,324; Sept. 13; Sp. p. 2522; Gaz. vol. 158; p. 426.
Goddu, George, Winchester, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Welt-attaching apparatus. No. 970,702; Sept. 20; Sp. p. 3346; Gaz. vol. 158; p. 575.
Goe, Henry H., Prescott, Wash. Weeding-machine. No. 970,212; Sept. 13; Sp. p. 2308; Gaz. vol. 158; p. 388.
Goeb, Rudolph W. (See Ketcheson and Goeb.)
Goebel, John, assignor to Jasper & Goebel, New York, N. Y. Sanitary drinking-fountain. No. 970,213; Sept. 13; Sp. p. 2310; Gaz. vol. 158; p. 388.
Goerk, Jacob, Irvington, N. J. Desk-pad. No. 970,811; Sept. 20; Sp. p. 3607; Gaz. vol. 158; p. 615.
Gold, William. (See Sobel, Gold, and Stretch.)
Goldberg, Charlotte, Chicago, Ill. Garment-receptacle. No. 969,468; Sept. 6; Sp. p. 657; Gaz. vol. 158; p. 105.
Goldman, Hymen. (See Ackerman, Maurice, assignor.)
Gollmar, George J., Baraboo, Wis. Mechanical bell-ringer. No. 970,703; Sept. 20; Sp. p. 3351; Gaz. vol. 158; p. 575.
Goodall, John N., Portsmouth, N. H., assignor, by mesne assignments, to Goodall Manufacturing Company. Pipe-coupling. No. 969,358; Sept. 6; Sp. p. 438; Gaz. vol. 158; p. 71.
Goodall Manufacturing Company. (See Goodall, John N., assignor.)
Goode, William B., Philadelphia, Pa. Pencil-clip. No. 971,190; Sept. 27; Sp. p. 4373; Gaz. vol. 158; p. 767.
Gooding, Edward F. (See Goodrow and Gooding.)
Goodnow, William T. (See Loetzer and Goodnow.)
Goodrich, Ralph B., Cincinnati, Ohio. Washing-machine dolly. No. 969,359; Sept. 6; Sp. p. 441; Gaz. vol. 158; p. 71.
Goodridge, Gilbert W., assignor to The Bryant Electric Company, Bridgeport, Conn. Key-socket for electric incandescent lamps. No. 969,617; Sept. 6; Sp. p. 998; Gaz. vol. 158; p. 159.
Goodrow, Frank A., and E. F. Gooding, Elgin, Ill. Blasting-plug. No. 971,264; Sept. 27; Sp. p. 4525; Gaz. vol. 158; p. 791.
Goodwin, Edwin B., Ward, Colo. Treating ores. No. 970,325; Sept. 13; Sp. p. 2523; Gaz. vol. 158; p. 426.
Gose, Robert G., Upton, Wyo. Sage-brush cutter. No. 969,469; Sept. 6; Sp. p. 659; Gaz. vol. 158; p. 106.
Goss, George F., Wallaceton, Pa. Pool-ball rack. No. 971,128; Sept. 27; Sp. p. 4222; Gaz. vol. 158; p. 746.
Goss, George W., Orlo, Tex., assignor of one-half to C. M. Acrey, Carlsbad, N. Mex. Calculator. No. 970,038; Sept. 13; Sp. p. 1939; Gaz. vol. 158; p. 329.
Gothing, Charles A., Worcester, Mass. Shutter-worker. No. 970,039; Sept. 13; Sp. p. 1940; Gaz. vol. 158; p. 329.
Gould Coupler Company. (See Richards, Willard F., assignor.)
Gould Storage Battery Company. (See Chamberlain, Rufus N., assignor.)
Gould Storage Battery Company. (See Hubbard, Albert S., assignor.)
Gounevitch, Etienne de, Paris, and A. Couailliet, St. Nicolas d'Aliermont, France. Clockwork-globe. No. 970,040; Sept. 13; Sp. p. 1941; Gaz. vol. 158; p. 329.
Gover, Bowen R., Newton, Ohio. Headlight for vehicles. No. 971,265; Sept. 27; Sp. p. 4527; Gaz. vol. 158; p. 792.
Gowing, Ernest T., assignor of one-half to A. T. Plunkett, Watertown, N. Y. Stop-collar for winding-shafts. No. 969,268; Sept. 6; Sp. p. 248; Gaz. vol. 158; p. 41.
Graham, Albert C., Oilfields, Cal. Shoe-guide for well-casings. No. 970,812; Sept. 20; Sp. p. 3608; Gaz. vol. 158; p. 615.
Graham, Charles W., Rome, assignor, by mesne assignments, to American Can Company, New York, N. Y. Can-heading machine. No. 969,470; Sept. 6; Sp. p. 660; Gaz. vol. 158; p. 106.
Graham, Charles W., Rome, assignor, by mesne assignments to American Can Company, New York, N. Y. Can-cleaning machine. No. 969,949; Sept. 13; Sp. p. 1736; Gaz. vol. 158; p. 298.
Graham, Charles W., Rome, assignor, by mesne assignments, to American Can Company, New York, N. Y. Body-forming machine. No. 970,620; Sept. 20; Sp. p. 3139; Gaz. vol. 158; p. 547.
Graham, Charles W., Rome, assignor, by mesne assignments, to American Can Company, New York, N. Y. Can-testing machine. No. 970,621; Sept. 20; Sp. p. 3168; Gaz. vol. 158; p. 547.
Graham, Charles W., Rome, assignor, by mesne assignments, to American Can Company, New York, N. Y. Making can-bodies. No. 970,622; Sept. 20; Sp. p. 3173; Gaz. vol. 158; p. 548.
Graham, Charles W., Rome, assignor, by mesne assignments, to American Can Company, New York, N. Y. Apparatus for use in can-making. No. 970,704; Sept. 20; Sp. p. 3354; Gaz. vol. 158; p. 576.
Graham, F. M., *et al.* (See Mills, Edward N., assignor.)
Graham, Herbert C. (See Wegner, Frederick A., assignor.)
Graham Nut Company. (See Mummelthey, Ferdinand, assignor.)
Graham, William S., assignor to Federal-Huber Company, Chicago, Ill. Closet-flushing apparatus. No. 970,214; Sept. 13; Sp. p. 2312; Gaz. vol. 158; p. 389.
Grahl, Gustav de, Zehlendorf, near Berlin, Germany. Boiler-furnace. No. 969,250; Sept. 6; Sp. p. 220; Gaz. vol. 158; p. 36.
Grahl, Gustav de, Zehlendorf, near Berlin, Germany. Furnace-door. No. 971,266; Sept. 27; Sp. p. 4528; Gaz. vol. 158; p. 792.
Grain Belt Car Specialty Company. (See Posson, Edward, assignor.)
Grand Rapids Refrigerator Company. (See Whittier, Walter H., assignor.)
Grandperrin, Paul M., Sag Harbor, N. Y. Multiplying attachment. No. 969,360; Sept. 6; Sp. p. 442; Gaz. vol. 158; p. 71.
Grandperrin, Paul M., Sag Harbor, N. Y. Extension-rack for photographers. No. 970,491; Sept. 20; Sp. p. 2871; Gaz. vol. 158; p. 502.
Grant, Edwin J., Sandy Point, Me. Thermostatic oil-cup. No. 971,440; Sept. 27; Sp. p. 4843; Gaz. vol. 158; p. 848.
Grant, Joseph C., Akron, Ohio. Dough-raiser. No. 969,533; Sept. 6; Sp. p. 817; Gaz. vol. 158; p. 120.
Graves, Clarence D., Clarksville, Tenn. Temporary binder. No. 971,441; Sept. 27; Sp. p. 4844; Gaz. vol. 158; p. 848.
Gray, Almon J., *et al.* (See Williams, Roger F., assignor.)
Gray, Charles H., Denver, Colo. Dumb-waiter. No. 969,269; Sept. 6; Sp. p. 251; Gaz. vol. 158; p. 41.
Gray, Emmet P., Detroit, Mich. Signal-bell. No. 969,270; Sept. 6; Sp. p. 255; Gaz. vol. 158; p. 41.
Gray, Michael J., Burlington, N. J. Testing-clamp. No. 971,191; Sept. 27; Sp. p. 4374; Gaz. vol. 158; p. 768.
Gray, Thomas, Buffalo, N. Y. Electric-light support. No. 971,192; Sept. 27; Sp. p. 4376; Gaz. vol. 158; p. 768.
Graybill, John E., York, Pa. Circuit-protecting apparatus. No. 969,361; Sept. 6; Sp. p. 446; Gaz. vol. 158; p. 72.
Grazer, Charles J. (See Grazer, William E. and C. J.)
Grazer, William E., Pittsburg, and C. J. Grazer, Fairhaven, Pa. Folding shipping box and crate. No. 969,751; Sept. 6; Sp. p. 1290; Gaz. vol. 158; p. 206.
Great Western Wire Fence & Mfg. Co. (See Young, Ira J., assignor.)
Greaves, Charles K., Waco, Tex. Ice-cream freezer. No. 970,360; Sept. 13; Sp. p. 2609; Gaz. vol. 158; p. 440.
Green, Malcolm, Boston, Mass. Deflector for furnaces. No. 969,752; Sept. 6; Sp. p. 1291; Gaz. vol. 158; p. 207.
Green, Thomas L., Indianapolis, Ind. Wire-cut soft-cake machine. No. 970,370; Sept. 13; Sp. p. 2611; Gaz. vol. 158; p. 441.
Greenawald, Karl E. (See Knott, Frederick, assignor.)
Greenleaf, W. F. (See Melchert, August L., assignor.)
Greenspun, Jacob, *et al.* (See Henry, Charles J., assignor.)
Greenwald, Isador, J. Blaustein, Pittsburg, and M. Z. Weiss, McKeesport, Pa. Lamp-extinguisher. No. 970,813; Sept. 20; Sp. p. 3609; Gaz. vol. 158; p. 616.
Greer, William J., Goldthwaite, Tex. Insect collector and destroyer. No. 971,193; Sept. 27; Sp. p. 4379; Gaz. vol. 158; p. 769.
Gregg, Louise I., Santa Monica, and E. A. De Voss, Los Angeles, Cal. Auxiliary car-step. No. 969,362; Sept. 6; Sp. p. 449; Gaz. vol. 158; p. 72.
Gregg, Margaret M., Brooklyn, N. Y. Coloring leather and product thereof. No. 970,326; Sept. 13; Sp. p. 2526; Gaz. vol. 158; p. 426.
Gregg, Uriah C., Terre Haute, Ind. Wrench. No. 970,371; Sept. 13; Sp. p. 2618; Gaz. vol. 158; p. 441.
Gregory, John J., Hazleton, Pa. Miter-box. No. 970,327; Sept. 13; Sp. p. 2527; Gaz. vol. 158; p. 426.
Gridley, George O., Windsor, Vt. Lathe. No. 971,370; Sept. 27; Sp. p. 4724; Gaz. vol. 158; p. 825.
Griesbeck, Albert, New York, N. Y. Package-protector. No. 969,950; Sept. 13; Sp. p. 1741; Gaz. vol. 158; p. 299.
Griffen, Arthur B., Verona, N. J. Liquid-measuring pump. No. 969,271; Sept. 6; Sp. p. 255; Gaz. vol. 158; p. 42.
Griffin, Charles W. (See Whitney and Griffin.)
Griffith, Lawrence, Yonkers, N. Y. Insulated rail-joint. No. 969,856; Sept. 13; Sp. p. 1548; Gaz. vol. 158; p. 266.
Griffith, Lumen, Hudson, Mich. Sound-reproducing device for talking-machines. No. 971,442; Sept. 27; Sp. p. 4845; Gaz. vol. 158; p. 848.
Griggs, E. M. (See Riley, Samuel L., assignor.)
Grimes, Charles D., deceased; H. E. Dill, administrator, assignor to M. B. Grimes, Dayton, Ohio. Machine for forming and attaching fasteners to paper receptacles. No. 970,314; Sept. 13; Sp. p. 2503; Gaz. vol. 158; p. 422.
Grimes, Mary B. (See Grimes, Charles D., assignor.)
Grimsdale, William H., Twickenham, England. Apparatus for producing music-sheets for mechanical piano-players, &c. No. 970,492; Sept. 20; Sp. p. 2873; Gaz. vol. 158; p. 502.
Griswold, Glen G., Madison, Ohio. Silo. No. 970,041; Sept. 13; Sp. p. 1943; Gaz. vol. 158; p. 330.
Griswold, Robert, Denver, Colo. Fly-trap. No. 969,363; Sept. 6; Sp. p. 452; Gaz. vol. 158; p. 73.
Grizzell, Emory C., Claflin, Kans. Traction-gas-engine gearing. No. 970,493; Sept. 20; Sp. p. 2876; Gaz. vol. 158; p. 502.
Groff, Howard M., Waltham, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa. Ratchet mechanism for watch-movements. No. 971,500; Sept. 27; Sp. p. 4955; Gaz. vol. 158; p. 867.

Grootenhuis, Lewis T., Bigtimber, Mont. Revolving self-cleaning screen. No. 969,364; Sept. 6; Sp. p. 455; Gaz. vol. 158; p. 74.
Gros, Oscar, Leipzig, Germany. Preparation impermeable for Roentgen rays. No. 970,215; Sept. 13; Sp. p. 2317; Gaz. vol. 158; p. 389.
Grossman, Simon, Pittsburg, Pa. Mechanism for applying corner-pieces to suit-cases and bags. No. 969,471; Sept. 6; Sp. p. 676; Gaz. vol. 158; p. 107.
Grove, August W., Chicago, Ill. Fly-frightener. No. 969,857; Sept. 13; Sp. p. 1552; Gaz. vol. 158; p. 266.
Grove, Clyde, Warren, Ohio. Artificial bait. No. 970,216; Sept. 13; Sp. p. 2317; Gaz. vol. 158; p. 389.
Grove, George H., Harrisburg, Pa. Plotter. No. 970,918; Sept. 20; Sp. p. 3603; Gaz. vol. 158; p. 649.
Grover, Albert D., Malden, Mass. Coin-operated delivering and fraud-preventing mechanism for vending-machines. No. 969,272; Sept. 6; Sp. p. 257; Gaz. vol. 158; p. 42.
Gruber, Archibald B., Portland, Oreg. Attachment for music-stands. No. 969,365; Sept. 6; Sp. p. 456; Gaz. vol. 158; p. 74.
Gruettefien, Wilhelm, Vohwinkel, near Elberfeld, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Producing aminoacetylpyrocatechin. No. 970,217; Sept. 13; Sp. p. 2318; Gaz. vol. 158; p. 390.
Grundmann, Albert. (See Schmidt and Grundmann.)
Grunewald, Samuel, Van Wert, Ohio. Wheel-tire. No. 971,267; Sept. 27; Sp. p. 4531; Gaz. vol. 158; p. 792.
Grüttefien, Wilhelm, Vohwinkel, near Elberfeld, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Aminoacidylpyrocatechin and making same. No. 970,042; Sept. 13; Sp. p. 1945; Gaz. vol. 158; p. 330.
Guilck, Edward J., assignor to The Simplex Motor Car Company, Mishawaka, Ind. Carbureter. No. 971,038; Sept. 27; Sp. p. 4049; Gaz. vol. 158; p. 717.
Gumb, John. (See Kerkow, Gustav C., assignor.)
Gyrex Mfg. Co. (See Webb and Stickels, assignors.)
H. Mueller Manufacturing Company, The. (See Schuermann, Anton C., assignor.)
Haage, Wilhelm. (See Trainer and Haage.)
Haas, Fredolin. (See Haas, Joseph A. and F.)
Haas, Joseph A., Pittsburg, and F. Haas, West Apollo, Pa. Window-fixture. No. 970,814; Sept. 20; Sp. p. 3611; Gaz. vol. 158; p. 616.
Haber, Fritz, and R. Le Rossignol, Karlsruhe, assignors to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Production of ammonia. No. 971,501; Sept. 27; Sp. p. 4957; Gaz. vol. 158; p. 868.
Habernigg, George F., *et al.* (See Anthony, David S., assignor.)
Hackett, George E., New York, N. Y. Tool-shank. No. 971,039; Sept. 27; Sp. p. 4052; Gaz. vol. 158; p. 718.
Hagan, Alexander J., assignor of one-half to C. Murray, Represa, Cal. Automatic car-fender. No. 969,753; Sept. 6; Sp. p. 1293; Gaz. vol. 158; p. 207.
Hagan, George J., Pittsburg, Pa. Gas-producer. No. 969,273; Sept. 6; Sp. p. 259; Gaz. vol. 158; p. 42.
Hagar, Walter F., Jr. (See Allsop, Sibson, and Hagar.)
Hageman, Ira, San Francisco, Cal. Quicksilver apparatus. No. 970,705; Sept. 20; Sp. p. 3356; Gaz. vol. 158; p. 576.
Hagen, Arthur T., and D. M. Cooper, Rochester, N. Y., assignors, by mesne assignments, to American Laundry Machinery Company, Cincinnati, Ohio. Dampening-machine. No. 969,688; Sept. 6; Sp. p. 1135; Gaz. vol. 158; p. 183.
Hagerman, Addison W. (See Hagerman, Lyman S. and A. W.)
Hagerman, Lyman S. and A. W., Mondamin, Iowa. Windmill-regulator. No. 969,366; Sept. 6; Sp. p. 458; Gaz. vol. 158; p. 74.
Hailstone, C. E., *et al.* (See Mills, Edward N., assignor.)
Hair, James L., St. Elmo, Tenn. Coal-hod. No. 970,218; Sept. 13; Sp. p. 2320; Gaz. vol. 158; p. 390.
Haldy, Henri, assignor to J. Stark, Waltham, Mass. Tool-post for lathes. No. 970,219; Sept. 13; Sp. p. 2320; Gaz. vol. 158; p. 390.
Hale, Henry A. (See Talbert, Edgar H., assignor.)
Hale, Henry S., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa. Seat-frame. No. 971,871; Sept. 27; Sp. p. 4727; Gaz. vol. 158; p. 826.
Hale-Kilburn Metal Company. (See Brinckerhoff, Francis M., assignor.)
Hale-Kilburn Metal Company. (See Hale, Henry S., assignor.)
Hale, Stephen H., Neodesha, Kans. Air and gas mixing device. No. 970,919; Sept. 20; Sp. p. 3804; Gaz. vol. 158; p. 649.
Hall, Fred C., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Dynamo-electric machine. No. 969,472; Sept. 6; Sp. p. 678; Gaz. vol. 158; p. 107.
Hall, George F., Providence, R. I. Combined floor leveling and surfacing machine. No. 970,043; Sept. 13; Sp. p. 1947; Gaz. vol. 158; p. 330.
Hall, George F., Providence, R. I. Floor-dressing machine. No. 971,443; Sept. 27; Sp. p. 4846; Gaz. vol. 158; p. 849.
Hall, Hartwell & Co. (See McKay, Joseph, assignor.)
Hall, John H. (See Jones, Theodore N., assignor.)
Halle, Otto, Oranienburg, Germany. Exposure-indicator for photographic-plate holders. No. 970,494; Sept. 20; Sp. p. 2879; Gaz. vol. 158; p. 503.
Halley, Edward, Chicago, Ill., assignor of one-half to R. J. McDonell, Victoria, British Columbia, Canada. Steam and water gage. No. 971,268; Sept. 27; Sp. p. 4532; Gaz. vol. 158; p. 792.
Hallwood, Henry S., Columbus, Ohio. Scale. No. 970,442; Sept. 13; Sp. p. 2751; Gaz. vol. 158; p. 463.
Halverstadt, Leroy J., assignor to The Crescent Machine Company, Leetonia, Ohio. Guard for woodworking-machines. No. 969,618; Sept. 6; Sp. p. 999; Gaz. vol. 158; p. 159.
Halvorson, August, Spokane, Wash. Train-order-delivery apparatus. No. 971,004; Sept. 20; Sp. p. 3956; Gaz. vol. 158; p. 676.
Hamaker, Aaron W., New York, N. Y. Attachment for type-casting machines. No. 971,040; Sept. 27; Sp. p. 4055; Gaz. vol. 158; p. 718.
Hamann, Adolph P., Adams Basin, N. Y. Attachment for pens. No. 969,680; Sept. 6; Sp. p. 1137; Gaz. vol. 158; p. 184.
Hamblen, Samuel. (See Lubbock and Hamblen.)
Hamilton, Edgar G., Burlington, Vt. Mailing-tube. No. 969,367; Sept. 6; Sp. p. 459; Gaz. vol. 158; p. 75.
Hamilton, Frederick, Providence, R. I. Eye-shield for spectacles. No. 971,372; Sept. 27; Sp. p. 4728; Gaz. vol. 158; p. 826.
Hamilton, James L., Grand Junction, Colo. Orchard-heater. No. 970,044; Sept. 13; Sp. p. 1953; Gaz. vol. 158; p. 331.
Hamilton, John R., Yonkers, N. Y., assignor to Ventura Alarm Company, Dover, N. J. Cutter for pipe and the like. No. 969,858; Sept. 13; Sp. p. 1553; Gaz. vol. 158; p. 267.
Hamm, William S., Hubbard Woods, assignor to The Adams & Westlake Company, Chicago, Ill. Lantern. No. 970,815; Sept. 20; Sp. p. 3612; Gaz. vol. 158; p. 616.
Hammersley, Ralph. (See Vermilyea and Hammersley.)
Hammerstein, Oscar, New York, N. Y. Cigar-rolling machine. No. 969,274; Sept. 6; Sp. p. 260; Gaz. vol. 158; p. 43.
Hammetter, August H. (See Pfefferkorn, Schloerb, and Hammetter.)
Hammond, George F., Cleveland, Ohio. Camera-finder. No. 970,443; Sept. 13; Sp. p. 2757; Gaz. vol. 158; p. 464.
Hammond, George W., Autreyville, Ga. Fence-stretcher. No. 970,495; Sept. 20; Sp. p. 2881; Gaz. vol. 158; p. 503.
Hammond, Robert P., Fort Worth, Tex. Coin-controlled slide. No. 970,045; Sept. 13; Sp. p. 1955; Gaz. vol. 158; p. 331.
Hampton, Edward J., Berkeley, Cal. Stand for holding printing-press rolls. No. 970,046; Sept. 13; Sp. p. 1956; Gaz. vol. 158; p. 332.
Hancock, William O., Orleans, Ind. Gearing. No. 970,328; Sept. 13; Sp. p. 2528; Gaz. vol. 158; p. 427.
Handley, John A., Jr. (See Lott, Andrew G., assignor.)
Handschy, Frederick W., Seattle, Wash. Carton. No. 970,220; Sept. 13; Sp. p. 2322; Gaz. vol. 158; p. 390.
Handseth, Iver. (See Moen, Nels L., assignor.)
Hankins, Thomas W., Stella, Mo. Sanitary milking-pail. No. 970,816; Sept. 20; Sp. p. 3614; Gaz. vol. 158; p. 617.
Hanna, David J. (See Van Houten and Hanna.)
Hannah, Hugh A., *et al.* (See Hannah, William H., assignor.)
Hannah, William H., assignor of one-sixth to H. A. Hannah, Yelk, and one-sixth to J. F. Judy, Bartow, W. Va. Wire-stretcher. No. 969,951; Sept. 13; Sp. p. 1742; Gaz. vol. 158; p. 299.
Hannig, Estelle, San Mateo, Cal. Device for removing facial lines and defects. No. 971,373; Sept. 27; Sp. p. 4730; Gaz. vol. 158; p. 826.
Hansen, Anders, Philadelphia, Pa. Railway-car. No. 970,047; Sept. 13; Sp. p. 1958; Gaz. vol. 158; p. 332.
Hansen, John M., Pittsburg, Pa. Reworking car-wheels. No. 969,275; Sept. 6; Sp. p. 263; Gaz. vol. 158; p. 43.
Hansen, William F., Des Moines, Iowa. Furnace-casing. No. 971,269; Sept. 27; Sp. p. 4533; Gaz. vol. 158; p. 793.
Hansley, Edwin M., and H. Will, Williamsburg, Mich. Fruit-picker. No. 971,005; Sept. 20; Sp. p. 3958; Gaz. vol. 158; p. 677.
Hanson, Joseph T., Sioux Falls, S. D. Band-cutter for threshing-machines. No. 970,920; Sept. 20; Sp. p. 3806; Gaz. vol. 158; p. 649.
Hanson, Samuel L., Albert Lea, Minn. Trolley-shifter. No. 969,754; Sept. 6; Sp. p. 1294; Gaz. vol. 158; p. 207.
Harbeck, Jervis R., assignor, by mesne assignments, to Detroit Can Company, Detroit, Mich. Container-closure. No. 970,496; Sept. 20; Sp. p. 2882; Gaz. vol. 158; p. 504.
Harding, Charles K., Chicago, Ill. Process and apparatus for producing light from hydrocarbons. No. 969,368; Sept. 6; Sp. p. 460; Gaz. vol. 158; p. 75.
Harding, Kathryn D., Evanston, Ill. Attachment for crutches. No. 970,497; Sept. 20; Sp. p. 2883; Gaz. vol. 158; p. 504.
Harding, William T., Raleigh, N. C. Logging-car. No. 971,444; Sept. 27; Sp. p. 4852; Gaz. vol. 158; p. 849.
Hardy, Joseph H., Ipswich, Mass. Hose-coupling. No. 969,160; Sept. 6; Sp. p. 17; Gaz. vol. 158; p. 6.
Harkins, Effie R., Gurnee, Ala. Blasting-barrel. No. 970,372; Sept. 13; Sp. p. 2619; Gaz. vol. 158; p. 441.
Harlan, Wilson B. (See Platt and Harlan.)
Harmon, Nathaniel O., Los Angeles, Cal. Wave-motor. No. 970,048; Sept. 13; Sp. p. 1959; Gaz. vol. 158; p. 333.
Harriman, Norman F. (See Hoffhine and Harriman.)

Harris, Adolphus H., Denver, Colo., assignor to The International Railroad Automatic Safety Pipe Coupling Company, Omaha, Nebr. Automatic safety hose-coupling. No. 969,276; Sept. 6; Sp. p. 266; Gaz. vol. 158; p. 43.

Harris, C. R. (See Warfield, John G., assignor.)

Harris, George. (See Lindhorst, Frank E., assignor.)

Harris, Irvin F., Forreston, Tex. Vending apparatus. No. 969,619; Sept. 6; Sp. p. 1001; Gaz. vol. 158; p. 160.

Harris, Jesse, assignor to Duncan Electric Manufacturing Company, La Fayette, Ind. Electric meter. No. 970,498; Sept. 20; Sp. p. 2884; Gaz. vol. 158; p. 504.

Harris, Lydia, East Pasadena, Cal. Washing-machine. No. 969,952; Sept. 13; Sp. p. 1743; Gaz. vol. 158; p. 299.

Harris, William H., Laurium, Mich. Calipers. No. 970,817; Sept. 20; Sp. p. 3615; Gaz. vol. 158; p. 617.

Harrison Bros. & Co. (See Hileman, Albert, assignor.)

Harryman, Carrel R., Shawnee, Okla. Plow. No. 970,818; Sept. 20; Sp. p. 3616; Gaz. vol. 158; p. 617.

Hart Manufacturing Company, The. (See Leppert, Henry E., assignor.)

Hartenstein, Herman L., Constantine, Mich., assignor, by mesne assignments, to Continental Investment Company, Duluth, Minn. Tapping element for melting-furnaces. No. 971,445; Sept. 27; Sp. p. 4854; Gaz. vol. 158; p. 850.

Hartlett, George D., New Rochelle, N. Y., assignor to R. Stern, West Norwalk, Conn. Curtain-shade fixture. No. 969,473; Sept. 6; Sp. p. 678; Gaz. vol. 158; p. 108.

Hartley, Harry C., Washington, D. C., assignor of one-half to E. M. Potter, New York, N. Y. Draft-writing machine. No. 969,360; Sept. 6; Sp. p. 464; Gaz. vol. 158; p. 75.

Hartlieb, Herman, and F. Lind, St. Louis, Mo. Egg-turner for incubators. No. 969,277; Sept. 6; Sp. p. 267; Gaz. vol. 158; p. 44.

Hartmann, Svend, Melbourne, Victoria, Australia. Butter-collecting appliance for churns. No. 971,041; Sept. 27; Sp. p. 4056; Gaz. vol. 158; p. 718.

Hartwell, Leslie L., Chelsea, assignor to A. G. Walton, Wakefield, Mass. Machine for making skived blanks. No. 970,499; Sept. 20; Sp. p. 2886; Gaz. vol. 158; p. 504.

Haskell, Broderick, Franklin, Pa. Telegraph-pole and the like. No. 969,859; Sept. 13; Sp. p. 1555; Gaz. vol. 158; p. 267.

Haskell, Broderick, Franklin, Pa. Telegraph-pole and the like. No. 969,860; Sept. 13; Sp. p. 1556; Gaz. vol. 158; p. 268.

Haskell, Broderick, Franklin, Pa. Brake-beam. No. 969,861; Sept. 13; Sp. p. 1557; Gaz. vol. 158; p. 268.

Haskell, Broderick, Franklin, Pa. Telegraph-pole and the like. No. 969,862; Sept. 13; Sp. p. 1558; Gaz. vol. 158; p. 268.

Haskell, Broderick, Franklin, Pa. Telegraph-pole and the like. No. 969,863; Sept. 13; Sp. p. 1560; Gaz. vol. 158; p. 268.

Haskell, Sprague F., assignor to The International Metal Weather Strip Company, St. Louis, Mo. Weather-strip. No. 971,374; Sept. 27; Sp. p. 4731; Gaz. vol. 158; p. 827.

Haskell, William E., assignor to Estey Organ Company, Brattleboro, Vt. Organ-pipe. No. 971,502; Sept. 27; Sp. p. 4958; Gaz. vol. 158; p. 868.

Hasselberger, Friedrich, Munich, Germany. Pen and pencil box. No. 970,049; Sept. 13; Sp. p. 1962; Gaz. vol. 158; p. 333.

Hasselmann, Fritz, Munich, Germany. Wood-preserving solution. No. 971,194; Sept. 27; Sp. p. 4380; Gaz. vol. 158; p. 769.

Hatt, George, Detroit, Mich. Cloth sponging and refinishing machine. No. 969,864; Sept. 13; Sp. p. 1561; Gaz. vol. 158; p. 269.

Hawkins, Charles O., Chesterhill, Ohio. Stop-valve. No. 971,446; Sept. 27; Sp. p. 4856; Gaz. vol. 158; p. 850.

Hawkins, Elwood, St. Michael, Alaska. Safety winding device. No. 970,221; Sept. 13; Sp. p. 2323; Gaz. vol. 158; p. 390.

Hawley Time Register Company. (See Hawley, William D., assignor.)

Hawley, William D., assignor to Hawley Time Register Company, Syracuse, N. Y. Time-recorder. No. 969,370; Sept. 6; Sp. p. 472; Gaz. vol. 158; p. 76.

Hayes, Frank F. (See Bluff, John T., assignor.)

Hayne, Levi. (See Pike and Hayne.)

Hays, Oliver A., Southampton, N. Y. Device for facilitating the removal of engine-valves. No. 971,375; Sept. 27; Sp. p. 4733; Gaz. vol. 158; p. 827.

Hayward, Eugene, and W. Walter, Sturgis, Mich.; said Hayward assignor to said Walter. Curtain and shade hanger. No. 969,534; Sept. 6; Sp. p. 810; Gaz. vol. 158; p. 129.

Haywood, Daniel H., New York, N. Y., assignor, by mesne assignments, to Carlson Motor & Truck Company, Philadelphia, Pa. Transmission-gearing. No. 970,706; Sept. 20; Sp. p. 3359; Gaz. vol. 158; p. 576.

Haseltigg, Ross, Oakland, assignor of one-half to P. M. Bowen, Jr., Alameda, Cal. Combined door knob and bell. No. 970,222; Sept. 13; Sp. p. 2324; Gaz. vol. 158; p. 391.

Headland, Walter F., St. Johns, Oreg. Potato-digger. No. 969,690; Sept. 6; Sp. p. 1138; Gaz. vol. 158; p. 184.

Hecht, Henry, Jackson, Minn. Lever-harrow. No. 970,921; Sept. 20; Sp. p. 3808; Gaz. vol. 158; p. 650.

Heck, Adam F. (See Heck, William R., assignor.)

Heck, William R., assignor of one-half to A. F. Heck, Palmer, Nebr. Tire-inflater. No. 970,329; Sept. 13; Sp. p. 2530; Gaz. vol. 158; p. 427.

Heckel, Fred J. (See Kennedy and Heckel.)

Heffer, Philip, Pittsburg, Pa. Curtain-holder. No. 970,819; Sept. 20; Sp. p. 3618; Gaz. vol. 158; p. 618.

Heil, Andrew A., St. Louis, Mo. Aeroplane. No. 969,865; Sept. 13; Sp. p. 1563; Gaz. vol. 158; p. 269.

Heim, John B., Madison, Wis. Sprinkling-valve for hydrants. No. 970,707; Sept. 20; Sp. p. 3365; Gaz. vol. 158; p. 577.

Heibig, Robert, assignor to Nierth & Heibig, Dresden, Germany. Shoe. No. 970,444; Sept. 13; Sp. p. 2760; Gaz. vol. 158; p. 464.

Heller, George, Milwaukee, Wis. Tire-bolt cutter and nut turner and splitter. No. 971,195; Sept. 27; Sp. p. 4392; Gaz. vol. 158; p. 769.

Heller, Jacob K. (See Heller, Micajah B. and J. K.)

Heller, Micajah B. and J. K., Townville, S. C. Andirons and fender. No. 969,953; Sept. 13; Sp. p. 1744; Gaz. vol. 158; p. 299.

Hellstrom, Charles, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 970,708; Sept. 20; Sp. p. 3366; Gaz. vol. 158; p. 577.

Helm, Bruce M., Hagerstown, Md. Cutting-stick for paper-cutting machines. No. 969,371; Sept. 6; Sp. p. 483; Gaz. vol. 158; p. 76.

Helm, Sanford D., *et al.* (See Michael, Anceal C., assignor.)

Helsing, Peter G., Emida, Idaho. Safety-stirrup. No. 971,376; Sept. 27; Sp. p. 4735; Gaz. vol. 158; p. 827.

Hemmens, Henry J. (See Pratt, Allison A., assignor.)

Hemming, Henry J. R., Washington, D. C. Producing pure or mixed aeriform environments. No. 970,623; Sept. 20; Sp. p. 3177; Gaz. vol. 158; p. 548.

Hemphill, Henry B., assignor of one-half to A. Moore and W. Chamberlain, Eldorado, Ill. Insole for shoes. No. 969,691; Sept. 6; Sp. p. 1140; Gaz. vol. 158; p. 184.

Hemphill, Henry B., assignor of one-half to A. Moore and W. Chamberlain, one-fourth to R. C. Crozier, and one-fourth to C. W. Johnson, Eldorado, Ill. Washboiler. No. 970,022; Sept. 20; Sp. p. 3809; Gaz. vol. 158; p. 650.

Hemptinne, Alexander de, Ghent, Belgium. Manufacture of lubricating-oils. No. 970,473; Sept. 20; Sp. p. 2837; Gaz. vol. 158; p. 496.

Hemstreet, George P., Hastings-upon-Hudson, N. Y., assignor to The International Pavement Company, Hartford, Conn. Rattler. No. 970,373; Sept. 13; Sp. p. 2620; Gaz. vol. 158; p. 442.

Henderson, Clark T., Pittsburg, Pa., assignor to The Cutler-Hammer Manufacturing Company, Milwaukee, Wis. Motor-starter. No. 969,866; Sept. 13; Sp. p. 1565; Gaz. vol. 158; p. 269.

Henderson, John C., Oakland, assignor to Apollo Artificial Stone Company, San Francisco, Cal. Facing artificial stone. No. 969,692; Sept. 6; Sp. p. 1141; Gaz. vol. 158; p. 184.

Hengel, Frederick, and J. Addis, New York, N. Y. Automobile tool-box. No. 969,620; Sept. 6; Sp. p. 1004; Gaz. vol. 158; p. 160.

Henly, Thomas A., Enola, assignor of one-half to J. M. Reynolds, Vilonia, Ark. Stalk-cutter. No. 970,709; Sept. 20; Sp. p. 3370; Gaz. vol. 158; p. 578.

Hennings, George J. T. (See Hull, Wolcott A., assignor.)

Henriksen, Gustav T. E., Chicago, Ill. Oiling device for stocks and dies. No. 969,867; Sept. 13; Sp. p. 1571; Gaz. vol. 158; p. 270.

Henry, Charles J., assignor of one-third to J. Greenspun and one-third to M. J. Olsen, Perth Amboy, N. J. Bottle-closure. No. 969,621; Sept. 6; Sp. p. 1006; Gaz. vol. 158; p. 160.

Henry, John M., *et al.* (See Hurl, Charles W., assignor.)

Henry, William K., assignor to P. & F. Corbin, New Britain, Conn. Door-check. No. 970,445; Sept. 13; Sp. p. 2761; Gaz. vol. 158; p. 464.

Herdt, Louis A., assignor of one-half to J. Dalemont, Montreal, Quebec, Canada. Dynamo. No. 969,161; Sept. 6; Sp. p. 19; Gaz. vol. 158; p. 6.

Herlinger, Siegfried. (See Schön, Lödwig, assignor.)

Herr, Herbert T., Denver, Colo., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Automatic hoist-brake and clutch-adjuster. No. 971,377; Sept. 27; Sp. p. 4736; Gaz. vol. 158; p. 827.

Herreshoff, John B. F., assignor to General Chemical Company, New York, N. Y. Treating burner-gases. No. 969,868; Sept. 13; Sp. p. 1572; Gaz. vol. 158; p. 270.

Hersey Manufacturing Company. (See Tilden, James A., assignor.)

Hertzberg, Harry. (See Low, Wohl, and Hertzberg.)

Hess, Henry, Philadelphia, Pa. Metal-working machine. No. 970,330; Sept. 13; Sp. p. 2532; Gaz. vol. 158; p. 427.

Heusner, Karl. (See Blank and Heusner.)

Heverling, John B., St. Louis, Mo. Car construction. No. 969,278; Sept. 6; Sp. p. 268; Gaz. vol. 158; p. 44.

Hewes, James E., Plattsburg, N. Y. Electric furnace. No. 969,622; Sept. 6; Sp. p. 1007; Gaz. vol. 158; p. 161.

Hewitt, Andrew C., *et al.* (See Hewitt and Thomas, assignors.)

Hewitt, Andrew C., and W. C. Thomas, assignors of two-thirds to said Hewitt and one-third to G. W. Krout, Philadelphia, Pa. Telephone attachment. No. 970,449; Sept. 13; Sp. p. 2760; Gaz. vol. 158; p. 466.

Hewitt, Arthur C., Cohoes, N. Y. Lantern-holder. No. 971,378; Sept. 27; Sp. p. 4740; Gaz. vol. 158; p. 828.

Heymann, Charles E. (See Montilli, Leonard, assignor.)

Hiatt, Demmie. (See Olson and Hiatt.)

Hibbard, Charles L., Chicago, Ill., assignor to New Jersey Patent Company, West Orange, N. J. Controlling device for phonographs. No. 970,223; Sept. 13; Sp. p. 2326; Gaz. vol. 158; p. 391.

Hibbard, Henry D., Plainfield, N. J. Ball-mill or comminuter plate. No. 971,196; Sept. 27; Sp. p. 4383; Gaz. vol. 158; p. 769.

Hileman, Albert, Hollidaysburg, assignor to Harrison Bros. & Co., Inc., Philadelphia, Pa. Making basic sulfate of lead. No. 969,474; Sept. 6; Sp. p. 680; Gaz. vol. 158; p. 108.

Hill, Albert E., *et al.* (See Stanway, William, assignor.)

Hill, Arthur A., New York, N. Y. Bread-toaster. No. 969,475; Sept. 6; Sp. p. 681; Gaz. vol. 158; p. 108.

Hill, Homer H. (See Ashbaugh, Samuel T., assignor.)

Hill, Horace G., Youngs, Miss. Can-opener. No. 970,331; Sept. 15; Sp. p. 2538; Gaz. vol. 158; p. 428.

Hill, Jesse H. (See Bloom and Hill.)

Hill, Nicholas S., Jr., and B. B. Hodgman, East Orange, N. J., assignors to National Water Main Cleaning Company. Apparatus for cleaning water-pipes. No. 971,042; Sept. 27; Sp. p. 4058; Gaz. vol. 158; p. 719.

Hiller, Nicolai H., Carbondale, Pa. Absorber. No. 970,050; Sept. 13; Sp. p. 1963; Gaz. vol. 158; p. 333.

Hiller, Nicolai H., Carbondale, Pa. Method of evaporation and apparatus therefor. No. 970,051; Sept. 13; Sp. p. 1965; Gaz. vol. 158; p. 334.

Hillis, David, Des Moines, Iowa. Airship. No. 971,379; Sept. 27; Sp. p. 4741; Gaz. vol. 158; p. 828.

Hinkle, Paris R., Monterey, Cal. Nut-lock. No. 969,693; Sept. 6; Sp. p. 1142; Gaz. vol. 158; p. 184.

Hinman, Bertrand C., London, England. Means for measuring or analyzing gaseous mixtures. No. 970,923; Sept. 20; Sp. p. 3811; Gaz. vol. 158; p. 650.

Hinton, Henry L., New York, N. Y. Fireproof floor construction. No. 970,500; Sept. 20; Sp. p. 2888; Gaz. vol. 158; p. 505.

Hitchcock, Martin L., assignor of one-half to C. R. Summerfield, Fayetteville, W. Va. Combination-lock. No. 970,924; Sept. 20; Sp. p. 3813; Gaz. vol. 158; p. 650.

Hitt, Marcellus M., assignor to D. L. Kauffman, Luray, Va. Apparatus for use in exercising and developing and applying static electricity. No. 970,332; Sept. 13; Sp. p. 2540; Gaz. vol. 158; p. 428.

Hodges, William S., assignor, by mesne assignments, to Baldwin Locomotive Works, Philadelphia, Pa. Locomotive trailer-truck. No. 970,333; Sept. 13; Sp. p. 2541; Gaz. vol. 158; p. 428.

Hodgkinson, Francis, Edgewood Park, Pa., assignor to The Westinghouse Machine Company. Packing. No. 969,869; Sept. 13; Sp. p. 1574; Gaz. vol. 158; p. 271.

Hodgkinson, Percy W., assignor of one-half to J. Dupont, Rochester, N. Y. Engine-starting device. No. 969,162; Sept. 6; Sp. p. 20; Gaz. vol. 158; p. 7.

Hodgman, Burt B. (See Hill and Hodgman.)

Hoelzer, Hermann, Osterholz-Scharmbeck, near Bremen, Germany. Tooth-powder distributer. No. 970,224; Sept. 13; Sp. p. 2328; Gaz. vol. 158; p. 392.

Hoerr, Louis A., St. Louis, Mo. Striking-block and angle-cock holder. No. 969,623; Sept. 6; Sp. p. 1009; Gaz. vol. 158; p. 161.

Hoes, Albertes M., St. Paul, Nebr. Double-door bolt. No. 969,624; Sept. 6; Sp. p. 1010; Gaz. vol. 158; p. 161.

Hoff, Merritt D., and A. J. McCabe, Minneapolis, Minn. Furnace. No. 969,279; Sept. 6; Sp. p. 270; Gaz. vol. 158; p. 44.

Hoffhine, John, and N. F. Harriman, Omaha, Nebr. Still. No. 969,625; Sept. 6; Sp. p. 1012; Gaz. vol. 158; p. 162.

Hoffman, Edward D. (See Brockman and Hoffman.)

Hoffman, Fred, San Quentin, assignor to National Cash Protector Company, San Francisco, Cal. Check-identifying machine. No. 971,197; Sept. 27; Sp. p. 4386; Gaz. vol. 158; p. 770.

Hoffman, Lewis J., Monroeville, Ind. Washstand. No. 969,694; Sept. 6; Sp. p. 1143; Gaz. vol. 158; p. 185.

Hofman, William M., Buffalo, N. Y., assignor to F. B. Allen, Toronto, Canada. Rotary engine. No. 971,043; Sept. 27; Sp. p. 4062; Gaz. vol. 158; p. 719.

Hofmann, Walter H., Union Hill, N. J., assignor to Richey, Browne and Donald, Maspeth, N. Y. Molding-machine. No. 970,834; Sept. 13; Sp. p. 2543; Gaz. vol. 158; p. 429.

Hoglund, Gustav E., assignor to W. N. Selig, Chicago, Ill. Apparatus for reproducing pictures or characters. No. 970,820; Sept. 20; Sp. p. 3610; Gaz. vol. 158; p. 618.

Holbrook, Lucius R., assignor of one-half to P. Dunne, Fort Riley, Kans. Oven. No. 970,501; Sept. 20; Sp. p. 2890; Gaz. vol. 158; p. 505.

Holden, Delos. (See Dyer and Holden.)

Holden, Thomas J., Muncie, Ind. Die-holder for glass-making machinery. No. 969,280; Sept. 6; Sp. p. 272; Gaz. vol. 158; p. 44.

Holden, Walter A., Ansonia, assignor to The Robert N. Bassett Company, Shelton, Conn. Buckle. No. 970,374; Sept. 13; Sp. p. 2624; Gaz. vol. 158; p. 442.

Holden, William M., Barre, Vt. Throttle-handle for pneumatic tools. No. 970,225; Sept. 13; Sp. p. 2329; Gaz. vol. 158; p. 392.

Holland, Curtis, Butte, assignor to C. W. Blair, Missoula, Mont. Type-writing machine. No. 970,052; Sept. 13; Sp. p. 1970; Gaz. vol. 158; p. 334.

Holland, Thomas J. (See Smith, Anton C., assignor.)

Hollenbeck, Jacob P., assignor of one-half to J. W. Fondren, Frederick, Okla. Liquid-fuel burner. No. 970,335; Sept. 13; Sp. p. 2544; Gaz. vol. 158; p. 429.

Hollinger, Andrew, Canton, Ohio. Railway-frog. No. 971,129; Sept. 27; Sp. p. 4227; Gaz. vol. 158; p. 746.

Hollingsworth, Joseph C. (See Ward and Hollingsworth.)

Hollins, Denis M., Blackburn, England, assignor to Draper Company, Hopedale, Mass. Change-controlling mechanism for jacquards employed in automatic weft-replenishing looms. No. 970,502; Sept. 20; Sp. p. 2895; Gaz. vol. 158; p. 506.

Holm, Guy D., Brady, Nebr. Trace-supporter. No. 970,226; Sept. 13; Sp. p. 2331; Gaz. vol. 158; p. 392.

Holmes, David E., and R. B. Crozier, Dunnegan, Mo. Paper-bag holder. No. 969,626; Sept. 6; Sp. p. 1014; Gaz. vol. 158; p. 162.

Holmes, Hiram W., Oakville, Conn. Sash-fastener. No. 969,870; Sept. 13; Sp. p. 1576; Gaz. vol. 158; p. 271.

Holmes, Howard B., Park Ridge, and E. B. Craft, Wilmette, assignors to Western Electric Company, Chicago, Ill. Automatic exchange-selector. No. 970,821; Sept. 20; Sp. p. 3623; Gaz. vol. 158; p. 619.

Holmes, Rush C., North Bend, Oreg. Device for packing eggs. No. 969,954; Sept. 13; Sp. p. 1745; Gaz. vol. 158; p. 300.

Holsey, Arthur, assignor, by mesne assignments, to O. Armstrong, Ottumwa, Iowa. Bag-tongs. No. 969,695; Sept. 6; Sp. p. 1144; Gaz. vol. 158; p. 185.

Holt, Benjamin, Stockton, Cal. Traction-engine. No. 970,503; Sept. 20; Sp. p. 2896; Gaz. vol. 158; p. 506.

Holt, Charles L., Lawrence, Mass. Roof-collar for vent-pipes. No. 969,476; Sept. 6; Sp. p. 683; Gaz. vol. 158; p. 108.

Holt, Henry L., Camden, Ark. Apparatus for preparing food products. No. 969,955; Sept. 13; Sp. p. 1746; Gaz. vol. 158; p. 300.

Holyoke Machine Company. (See White, William D., assignor.)

Homan, Eugene, Jersey City, N. J. Glass-beveling machine. No. 970,227; Sept. 13; Sp. p. 2332; Gaz. vol. 158; p. 392.

Honigmann, Hans, Duluth, Minn. Automatic feeder for platen printing-presses. No. 970,822; Sept. 20; Sp. p. 3626; Gaz. vol. 158; p. 619.

Honscheid, William, Elmira, N. Y. Planer-chuck. No. 970,710; Sept. 20; Sp. p. 3372; Gaz. vol. 158; p. 578.

Hooper, William, Warner, Kans. Fence-post. No. 971,270; Sept. 27; Sp. p. 4535; Gaz. vol. 158; p. 793.

Hopkins, John H., Punxsutawney, Pa. Churn. No. 970,823; Sept. 20; Sp. p. 3631; Gaz. vol. 158; p. 619.

Hoppenstein, Harris, Baltimore, Md. Combined vest and suspenders. No. 970,824; Sept. 20; Sp. p. 3633; Gaz. vol. 158; p. 620.

Hopping, Walter B. (See Chapman, William B., assignor.)

Horlacher, Adam S., and H. C. Baase, assignors to Chief Manufacturing Company, Indianapolis, Ind. Carpet-cleaning machine. No. 970,228; Sept. 13; Sp. p. 2335; Gaz. vol. 158; p. 393.

Hornig, August W., Chicago, Ill. Apparatus for grinding and polishing glass. No. 969,871; Sept. 13; Sp. p. 1578; Gaz. vol. 158; p. 271.

Horsrud, Ole, Chicago, Ill. Target. No. 969,477; Sept. 6; Sp. p. 684; Gaz. vol. 158; p. 108.

Horton, George P., Washington, D. C. Electric railway. No. 971,006; Sept. 20; Sp. p. 3959; Gaz. vol. 158; p. 677.

Horváth, Richard von, assignor to F. Kuschenitz, Vienna, Austria-Hungary. Light-striker. No. 971,380; Sept. 27; Sp. p. 4744; Gaz. vol. 158; p. 828.

Hoskins, William, Chicago, Ill. Destroying weeds. No. 970,375; Sept. 13; Sp. p. 2626; Gaz. vol. 158; p. 442.

Hoskins, William, La Grange, assignor to The Pulverized Manure Company, Chicago, Ill. Treatment of manure. No. 970,711; Sept. 20; Sp. p. 3374; Gaz. vol. 158; p. 579.

Hosley, Nelson D., assignor to The Wilcox & White Company, Meriden, Conn. Swinging music-roll actuator. No. 969,783; Sept. 13; Sp. p. 1374; Gaz. vol. 158; p. 241.

Hostler, James M. (See Clements and Hostler.)

Hottel, George H., Strasburg, Va. Feed-regulator for flour-mills. No. 969,372; Sept. 6; Sp. p. 484; Gaz. vol. 158; p. 77.

Houchin-Aiken Co. (See Aiken, Charles W., assignor.)

Hongk, Henry, Baltimore, Md. Ash-sifter. No. 970,336; Sept. 13; Sp. p. 2545; Gaz. vol. 158; p. 429.

Hoult, Edward, New Westminster, New Brunswick, Canada. Propelling and steering device for airships. No. 969,627; Sept. 6; Sp. p. 1015; Gaz. vol. 158; p. 162.

Houser, Frank B., Lancaster, Ohio. Flush-closing door. No. 970,337; Sept. 13; Sp. p. 2546; Gaz. vol. 158; p. 429.

Houser, Winfield S., assignor of one-half to W. G. Brown, Dubois, Pa. Resilient wheel. No. 970,229; Sept. 13; Sp. p. 2337; Gaz. vol. 158; p. 393.

Houston, Edward D., assignor of one-half to J. W. Knibbs, Worcester, Mass. Seasoning and making the same. No. 970,712; Sept. 20; Sp. p. 3375; Gaz. vol. 158; p. 579.

House, Ulgisse. (See Mambourg and House.)

Howard, Cora I., Lynchburg, Va. Sunshade. No. 971,503; Sept. 27; Sp. p. 4960; Gaz. vol. 158; p. 868.

Howard, Henry, Boston, Mass. Separating dust from gases. No. 970,053; Sept. 13; Sp. p. 1973; Gaz. vol. 158; p. 335.

Howard, Henry, Brookline, Mass. Making formates and formic acid. No. 970,825; Sept. 20; Sp. p. 3634; Gaz. vol. 158; p. 620.

Howe, John, assignor of one-half to himself and one-half to J. Blumer, New York, N. Y. Cork and bung cutter. No. 969,535; Sept. 6; Sp. p. 823; Gaz. vol. 158; p. 130.
Howe, John B., Nashville, Tenn. Ice-making apparatus. No. 969,696; Sept. 6; Sp. p. 1145; Gaz. vol. 158; p. 185.
Howe, Winthrop K., assignor to General Railway Signal Company, Buffalo, N. Y. Apparatus for operating railway-signals. No. 969,281; Sept. 6; Sp. p. 273; Gaz. vol. 158; p. 45.
Hoyt, Roscoe, New York, N. Y. Dividing apparatus. No. 970,826; Sept. 20; Sp. p. 3635; Gaz. vol. 158; p. 620.
Hubbard, Albert S., Belleville, N. J., assignor to Gould Storage Battery Company. Dynamo-electric machine. No. 970,827; Sept. 20; Sp. p. 3638; Gaz. vol. 158; p. 621.
Hubbard, Bert S., Oakland, assignor to The Union Telegraph Company, San Francisco, Cal. Loose-leaf binder. No. 971,007; Sept. 20; Sp. p. 3962; Gaz. vol. 158; p. 678.
Hubbard, George W., Cockeysville, Md. Trotting-sulky. No. 970,828; Sept. 20; Sp. p. 3640; Gaz. vol. 158; p. 621.
Hudgins, Charles F., Norfolk, Va., assignor of one-half to F. M. Phillips, Washington, D. C. Fastening for lifeboat covers. No. 969,628; Sept. 6; Sp. p. 1017; Gaz. vol. 158; p. 163.
Hudson, Charles D., Anderson, S. C. Non-refillable bottle. No. 969,697; Sept. 6; Sp. p. 1150; Gaz. vol. 158; p. 186.
Hudson, John F., Radium, Colo. Track-binder. No. 970,054; Sept. 13; Sp. p. 1975; Gaz. vol. 158; p. 335.
Huebler, Ernst, Dresden, Germany. Apparatus for the production of fringes. No. 970,055; Sept. 13; Sp. p. 1977; Gaz. vol. 158; p. 335.
Huff Electrostatic Separator Company. (See Wentworth, Henry A., assignor.)
Huffman, Coyle S., Ashland, Ohio. Canopy attachment for hammocks. No. 969,956; Sept. 13; Sp. p. 1749; Gaz. vol. 158; p. 300.
Hughes, Frank J., assignor to Practical Display Rack Company, Mansfield, Ohio. Display-stand. No. 969,698; Sept. 6; Sp. p. 1151; Gaz. vol. 158; p. 186.
Hughes, William B., Cleveland, Ohio. Gas-producer. No. 971,271; Sept. 27; Sp. p. 4536; Gaz. vol. 158; p. 793.
Hughes, William B., Cleveland, Ohio. Gas-producer. No. 971,272; Sept. 27; Sp. p. 4538; Gaz. vol. 158; p. 794.
Hulin, Paul L., Grenoble, assignor to Société d'Electro-Chimie, Paris, and P. L. Hulin, Grenoble, France. Manufacture of metallic sodium. No. 971,198; Sept. 27; Sp. p. 4389; Gaz. vol. 158; p. 770.
Hull, Wolcott A., assignor to G. J. T. Hennings, New York, N. Y. Combined water cooler and filter. No. 970,504; Sept. 20; Sp. p. 2899; Gaz. vol. 158; p. 507.
Hulse, Edwin M., assignor to The E. M. Hulse Company, Columbus, Ohio. Sofa or davenport bed. No. 971,008; Sept. 20; Sp. p. 3963; Gaz. vol. 158; p. 678.
Humberstone, Clifford C., La Grange, Ill. Trap. No. 969,282; Sept. 6; Sp. p. 275; Gaz. vol. 158; p. 45.
Humphrey, Isaac W., and H. A. Spurgeon, Dayton, Ohio. Toy flying-machine. No. 970,829; Sept. 20; Sp. p. 3643; Gaz. vol. 158; p. 621.
Humphreys, Ira B., Denver, Colo. Rotary pump. No. 969,478; Sept. 6; Sp. p. 688; Gaz. vol. 158; p. 109.
Hunsaker, Marvin W., Lakeside, Nebr. Scythe-snath fastener. No. 970,338; Sept. 13; Sp. p. 2548; Gaz. vol. 158; p. 430.
Hunt, Andrew M. (See Speed, James B., assignor.)
Hunter, David E., Cambridge, assignor to Library Bureau, Boston, Mass. Panel construction. No. 969,163; Sept. 6; Sp. p. 23; Gaz. vol. 158; p. 7.
Hunter, John. (See Gilfillan, Essington N., assignor.)
Hunter, Laura G., assignor of one-half to W. A. M. Webb, Ewing, Ill. Trousers hanger and stretcher. No. 969,872; Sept. 13; Sp. p. 1581; Gaz. vol. 158; p. 272.
Hupp Motor Car Company. (See Nelson, Emil A., assignor.)
Hurd, Davis, Niagara Falls, N. Y. Whiffletree. No. 969,629; Sept. 6; Sp. p. 1018; Gaz. vol. 158; p. 163.
Hurl, Charles W., Altoona, assignor of one-fourth to J. M. Henry and one-fourth to J. C. Turner, Juniata, Pa. Automatic fluid-pressure-retaining valve. No. 969,479; Sept. 6; Sp. p. 689; Gaz. vol. 158; p. 109.
Hurley Machine Company. (See Fisher, Alva J., assignor.)
Hurley, William H., New Haven, Conn. Gas-burner. No. 970,056; Sept. 13; Sp. p. 1979; Gaz. vol. 158; p. 335.
Huston, George H., Cincinnati, Ohio. Gas-mantle support. No. 969,630; Sept. 6; Sp. p. 1020; Gaz. vol. 158; p. 163.
Huston, Isaac G., Carey, Ohio. Fire-pot. No. 969,373; Sept. 6; Sp. p. 485; Gaz. vol. 158; p. 77.
Hutchinson, Charles G., New York, N. Y. Hand vacuum-cleaner. No. 971,044; Sept. 27; Sp. p. 4063; Gaz. vol. 158; p. 719.
Hutchinson, Harold F., Rochester, N. Y. Electroller-fixture. No. 969,283; Sept. 6; Sp. p. 277; Gaz. vol. 158; p. 45.
Hutteball, Hans C., and C. Morler, Boise, Idaho. Photographic apparatus. No. 971,447; Sept. 27; Sp. p. 4857; Gaz. vol. 158; p. 850.
Hutton, Samuel T., assignor to Sheidel Western X-Ray Coil Company, Chicago, Ill. Electric switching apparatus. No. 969,480; Sept. 6; Sp. p. 691; Gaz. vol. 158; p. 109.
Huverstuhl, Joseph, Los Angeles, Cal. Lubricator. No. 969,699; Sept. 6; Sp. p. 1153; Gaz. vol. 158; p. 187.
Hygienic Renovating Company. (See Clements and Hostler, assignors.)
Hygienic Soap Granulator Company. (See Shaver, George F., assignor.)
Hylkema, George W., Volga, S. D. Paper-clip. No. 969,700; Sept. 6; Sp. p. 1157; Gaz. vol. 158; p. 187.
Hysong, Charles H., deceased, Pittsburg, Pa.; J. Taylor, administrator. Heater. No. 970,450; Sept. 13; Sp. p. 2770; Gaz. vol. 158; p. 466.
I. E. Palmer Co., The. (See Palmer, Isaac E., assignor.)
Ideal Hat Frame Machine Company. (See Mann, Samuel, assignor.)
Iliff, John, Madison, Wis. Tie-tamping machine. No. 971,504; Sept. 27; Sp. p. 4961; Gaz. vol. 158; p. 869.
Illingworth, John, Newark, N. J. Vehicle-wheel. No. 969,536; Sept. 6; Sp. p. 825; Gaz. vol. 158; p. 130.
Imhoff, Max. (See Berg and Imhoff.)
Imperial Car Shipbuilding and Dry Dock Corporation. (See Leigh, Frederick J., assignor.)
Indiana Manufacturing Company, The. (See Conner, George F., assignor.)
Indiana Manufacturing Company, The. (See Ruddell, Fredrick L., assignor.)
Indiana Manufacturing Company, The. (See Walsh, James A., assignor.)
Industrial Engineering Company. (See Miller, Edgar S. and B. H., assignors.)
Ingersoll-Rand Company. (See Taylor, Albert H., assignor.)
Ingle, William H., Tacoma, Wash. Attachment for elevators. No. 970,925; Sept. 20; Sp. p. 3815; Gaz. vol. 158; p. 651.
Inland Manufacturing Company. (See Wallin, Gustaf E., assignor.)
International Metal Weather Strip Company. (See Haskell, Sprague F., assignor.)
International Pavement Company, The. (See Hemstreet, George P., assignor.)
International Railroad Automatic Safety Pipe Coupling Company, The. (See Harris, Adolphus H., assignor.)
Internationale "Wasserstoff" Aktiengesellschaft. (See Messerschmitt, Anton, assignor.)
Ippers, John W., New York, assignor of one-half to C. A. Roessel, Brooklyn, N. Y. Making engraved printing-rollers. No. 971,009; Sept. 20; Sp. p. 3964; Gaz. vol. 158; p. 678.
Irvine, Wilson C., Gettysburg, S. D. Churn. No. 970,230; Sept. 13; Sp. p. 2338; Gaz. vol. 158; p. 394.
Isaac, Archie, Tacoma, Wash. Fair-leader. No. 969,873; Sept. 13; Sp. p. 1582; Gaz. vol. 158; p. 272.
Isaacs, Joel L., Red Bank, N. J. Wire fabric. No. 970,713; Sept. 20; Sp. p. 3377; Gaz. vol. 158; p. 579.
Ivory, James W. (See Sawaya, Farris S., assignor.)
J. C. McCarty & Co. (See Lane, Willey B., assignor.)
J. G. Brill Company, The. (See Bole, Samuel T., assignor.)
J. G. Brill Company, The. (See Bucknam and Kohler, assignors.)
Jackson, Walter S., Waterville, Me. Safety device for railway-cars. No. 970,231; Sept. 13; Sp. p. 2339; Gaz. vol. 158; p. 394.
Jacobs, Olaus B., assignor of two-ninths to E. C. Mullendore, Cleveland, Okla. Rotary engine. No. 969,957; Sept. 13; Sp. p. 1750; Gaz. vol. 158; p. 300.
Jaek, Carl, Berlin, Germany. Manufacturing printing-rollers. No. 970,830; Sept. 20; Sp. p. 3644; Gaz. vol. 158; p. 622.
Jakobsen, Jakob A., Esbjerg, Denmark. Life-saving apparatus. No. 971,273; Sept. 27; Sp. p. 4539; Gaz. vol. 158; p. 794.
Jakway, William H., Syracuse, N. Y. Vacuum cleaning apparatus. No. 970,232; Sept. 13; Sp. p. 2342; Gaz. vol. 158; p. 395.
James H. Sager Company. (See Sager, James H., assignor.)
James Scott & Sons *et al.* (See Boyd, John, assignor.)
James, William P., Los Angeles, Cal. Protractor-level. No. 970,714; Sept. 20; Sp. p. 3379; Gaz. vol. 158; p. 580.
Janisch, Leopold, Berlin, Germany, assignor to General Electric Company. System of motor control. No. 971,199; Sept. 27; Sp. p. 4390; Gaz. vol. 158; p. 770.
Jaques, Fernando O., Jr., Cranston, R. I. Means for forming tooth-crowns. No. 971,274; Sept. 27; Sp. p. 4540; Gaz. vol. 158; p. 794.
Jargick, Peter P., La Grange, assignor of one-half to G. W. Rettig, Willow Springs, Ill. Nut-lock. No. 969,537; Sept. 6; Sp. p. 826; Gaz. vol. 158; p. 130.
Jasper & Goebel. (See Goebel, John, assignor.)
Jaspersen, Max, Hamburg, Germany. Fluid-pressure regulator. No. 971,275; Sept. 27; Sp. p. 4542; Gaz. vol. 158; p. 794.
Jaynes, Claude F., Seattle, Wash. Planter. No. 969,701; Sept. 6; Sp. p. 1158; Gaz. vol. 158; p. 187.
Jeffrey, Fraser, Milwaukee, Wis., assignor to Allis-Chalmers Company. Commutator construction. No. 970,233; Sept. 13; Sp. p. 2344; Gaz. vol. 158; p. 395.
Jeffrey Manufacturing Company, The. (See Sessions, Frank L., assignor.)
Jenkins, Charles F., Washington, D. C., assignor to Single Service Package Corporation of America, New York, N. Y. Closure for receptacles. No. 970,926; Sept. 20; Sp. p. 3816; Gaz. vol. 158; p. 651.
Jenkins, Walter S., Washington, D. C., assignor to The Whitehead & Hoag Company, Newark, N. J. Puzzle. No. 969,481; Sept. 6; Sp. p. 695; Gaz. vol. 158; p. 110.
Jennings, John F., Cleveland, Ohio. Valve. No. 969,874; Sept. 13; Sp. p. 1584; Gaz. vol. 158; p. 272.

Jepson, Worth E., Los Angeles, Cal. Illuminated sign and signal-lamp. No. 969,374; Sept. 6; Sp. p. 487; Gaz. vol. 158; p. 77.
Jessup, George W., Jr., Newton, Mass. Wrench. No. 969,538; Sept. 6; Sp. p. 827; Gaz. vol. 158; p. 131.
Jessup, William C., Norwalk, and J. Muth, Westport, assignors to The E. H. Hotchkiss Co., Norwalk, Conn. Stapling-machine. No. 971,130; Sept. 27; Sp. p. 4229; Gaz. vol. 158; p. 746.
Jewett, Robert A., Worcester, Mass. Electric gas-lighting device. No. 971,010; Sept. 20; Sp. p. 3965; Gaz. vol. 158; p. 678.
John Simmons Company. (See Meem, James C., assignor.)
Johnson, Carl, Chicago, Ill. Torch. No. 969,875; Sept. 13; Sp. p. 1586; Gaz. vol. 158; p. 273.
Johnson, Carl A., Bucklin, Mo. Bale-tying mechanism. No. 969,284; Sept. 6; Sp. p. 279; Gaz. vol. 158; p. 46.
Johnson, Charles, Bozeman, Mont. Train-order holder. No. 970,831; Sept. 20; Sp. p. 3645; Gaz. vol. 158; p. 622.
Johnson, Charles E., assignor to The Corbin Cabinet Lock Company, New Britain, Conn. Key-cutting machine. No. 969,702; Sept. 6; Sp. p. 1159; Gaz. vol. 158; p. 188.
Johnson, Charles H., Petaluma, Cal. Door-securer. No. 969,631; Sept. 6; Sp. p. 1021; Gaz. vol. 158; p. 163.
Johnson, Charles W., *et al.* (See Hemphill, Henry B., assignor.)
Johnson, Daniel, Columbus Grove, Ohio. Nut-lock. No. 970,505; Sept. 20; Sp. p. 2902; Gaz. vol. 158; p. 507.
Johnson, Gehard L., Cottonwood, S. D. Game-trap. No. 969,958; Sept. 13; Sp. p. 1772; Gaz. vol. 158; p. 301.
Johnson, George H., Chicago, Ill. Fire-escape. No. 971,276; Sept. 27; Sp. p. 4545; Gaz. vol. 158; p. 795.
Johnson, Godfrey B., London, England. Apparatus for producing corrugated metal sheets. No. 971,277; Sept. 27; Sp. p. 4546; Gaz. vol. 158; p. 795.
Johnson, Gustavus J., Chicago, Ill. Secondary battery. No. 969,876; Sept. 13; Sp. p. 1589; Gaz. vol. 158; p. 273.
Johnson, Joseph M., Normal, Ill. Bulletin-board. No. 969,703; Sept. 6; Sp. p. 1161; Gaz. vol. 158; p. 188.
Johnson, Manander M., Clay Center, Nebr. Heater for incubators. No. 970,057; Sept. 13; Sp. p. 1980; Gaz. vol. 158; p. 335.
Johnson, Oliver J., Wheeling, W. Va. Can-body-making machine. No. 971,278; Sept. 27; Sp. p. 4549; Gaz. vol. 158; p. 795.
Johnson, Oscar, Chicago, Ill. Air-brake system. No. 969,877; Sept. 13; Sp. p. 1591; Gaz. vol. 158; p. 273.
Johnson, William T. S. (See Blum, Johnson, and Kropf.)
Johnston, George S., St. Louis, Mo. Vehicle-heater. No. 969,784; Sept. 13; Sp. p. 1377; Gaz. vol. 158; p. 242.
Johnston, Howard M., and A. K. Bowman, Greensburg, Pa. Folding box and crate. No. 971,279; Sept. 27; Sp. p. 4551; Gaz. vol. 158; p. 796.
Johnstone, Wilson F., Honolulu, Hawaii. Cane-loading machine. No. 969,164; Sept. 6; Sp. p. 26; Gaz. vol. 158; p. 7.
Jones, Alva D., assignor to National Hygenic Service Company, Louisville, Ky. Beer-dispensing apparatus. No. 970,027; Sept. 20; Sp. p. 3817; Gaz. vol. 158; p. 651.
Jones, Arthur B., St. Johns, Mich. Attachment for hay-loaders. No. 970,028; Sept. 20; Sp. p. 3821; Gaz. vol. 158; p. 652.
Jones, Belden D., Chicago, Ill. Car-door. No. 969,878; Sept. 13; Sp. p. 1593; Gaz. vol. 158; p. 274.
Jones, Edward, Perry Barr, England, assignor to Kynoch Limited, Birmingham, England. Gas-producer. No. 969,375; Sept. 6; Sp. p. 488; Gaz. vol. 158; p. 77.
Jones, Ellis E., *et al.* (See De Forrest, Charles E., assignor.)
Jones, Herbert F., Oconto, Wis. Pocket-igniter. No. 970,506; Sept. 20; Sp. p. 2903; Gaz. vol. 158; p. 507.
Jones, Louis W., Louisville, Ky. Boring-machine. No. 969,632; Sept. 6; Sp. p. 1023; Gaz. vol. 158; p. 164.
Jones, Theodore N., Denver, Colo., assignor of one-third to J. H. Hall, Hastings, Nebr. Drenching device. No. 969,482; Sept. 6; Sp. p. 697; Gaz. vol. 158; p. 110.
Jones, Theodore N., Boulder, Colo., assignor to The Powers Burglar Proof Sash Lock Company, Hastings, Nebr. Sash-lock. No. 970,507; Sept. 20; Sp. p. 2904; Gaz. vol. 158; p. 507.
Jones, Thomas M., and G. Seel, Oak Hill, Ohio. Flexible closure for cabinets, &c. No. 970,832; Sept. 20; Sp. p. 3646; Gaz. vol. 158; p. 622.
Jones, William D., Greeley, Colo. Lamp-igniter. No. 970,715; Sept. 20; Sp. p. 3380; Gaz. vol. 158; p. 580.
Jordan Brothers. (See Jordan, William H., assignor.)
Jordan, Carl M. (See Jordan, Wallace P., assignor.)
Jordan, Conrad F. (See Anderson, John N., assignor.)
Jordan, Wallace P., assignor of one-half to C. M. Jordan, Norfolk, Va. Mooring-buoy. No. 970,339; Sept. 13; Sp. p. 2550; Gaz. vol. 158; p. 430.
Jordan, William H., assignor to Jordan Brothers, New York, N. Y. Machine for grinding commutators of dynamos and motors. No. 969,633; Sept. 6; Sp. p. 1025; Gaz. vol. 158; p. 164.
Joselin, Frank E., Toronto, Ontario, Canada. Bottle-closure. No. 970,234; Sept. 13; Sp. p. 2346; Gaz. vol. 158; p. 396.
Josse, Emil, Berlin, and W. Gensecke, Charlottenburg, Germany. Apparatus for removing gases and vapors from surface condensers. No. 971,505; Sept. 27; Sp. p. 4965; Gaz. vol. 158; p. 869.
Judge, Arthur I., Baltimore, Md. Canning green corn. No. 970,058; Sept. 13; Sp. p. 1982; Gaz. vol. 158; p. 336.
Judy, James F., *et al.* (See Hannah, William H., assignor.)
Junker, Charles, Greenleaf, Wis. Cheese-curd mill. No. 971,506; Sept. 27; Sp. p. 4966; Gaz. vol. 158; p. 869.
Kaeer, Filip, Mannheim, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Anthracene compound and making same. No. 970,340; Sept. 13; Sp. p. 2551; Gaz. vol. 158; p. 430.
Kaldrider, William H., Heaters, W. Va. Brake-hanger. No. 969,704; Sept. 6; Sp. p. 1162; Gaz. vol. 158; p. 188.
Kaldrider, William H., Heaters, W. Va. Brake-shoe. No. 969,705; Sept. 6; Sp. p. 1164; Gaz. vol. 158; p. 189.
Kallmeyer, Frederick G. (See Tilmes and Kallmeyer.)
Kamenstein, Myer, New York, N. Y. Handle-making machine. No. 970,059; Sept. 13; Sp. p. 1983; Gaz. vol. 158; p. 336.
Kamrath, Charles, North Milwaukee, Wis. Adjustable horse. No. 970,508; Sept. 20; Sp. p. 2906; Gaz. vol. 158; p. 508.
Karlson, Selma, Chicago, Ill. Trash receptacle and crematory. No. 969,879; Sept. 13; Sp. p. 1595; Gaz. vol. 158; p. 274.
Karmann, Joseph, Jr., Stanton, Nebr. Band-cutter. No. 970,624; Sept. 20; Sp. p. 3194; Gaz. vol. 158; p. 549.
Kasseker, Johann, assignor to Schmidt, Kasseker & Co., Altwasser, Germany. Ink for ceramic transfer-pictures. No. 971,280; Sept. 27; Sp. p. 4553; Gaz. vol. 158; p. 796.
Kaufman, D. L. (See Hitt, Marcellus M., assignor.)
Kaufmann, Jacob. (See Fehr and Kaufmann.)
Kautz, George, Sr., assignor to H. M. Kautz, Albany, N. Y. Front gear for wagons. No. 971,507; Sept. 27; Sp. p. 4968; Gaz. vol. 158; p. 870.
Kautz, Huldah M. (See Kautz, George, Sr., assignor.)
Kay, Emily G. (See Monson, August A., assignor.)
Keehn, Clarence H., Indianapolis, Ind. Cable-code system. No. 970,716; Sept. 20; Sp. p. 3381; Gaz. vol. 158; p. 580.
Keeler, Henry L., Lundys Lane, Pa. Station-indicator. No. 970,717; Sept. 20; Sp. p. 3385; Gaz. vol. 158; p. 580.
Keene, William J., and G. W. Schuster, assignors to Chicago Spring Butt Company, Chicago, Ill. Spring-hinge. No. 971,281; Sept. 27; Sp. p. 4554; Gaz. vol. 158; p. 796.
Keipper, Albert T., Milwaukee, Wis. Poultry-coop. No. 969,285; Sept. 6; Sp. p. 285; Gaz. vol. 158; p. 46.
Keiser, Lewis M. (See Coffee, Robert W., assignor.)
Kellam, Eli A., New York, N. Y. Covering pipes. No. 970,235; Sept. 13; Sp. p. 2347; Gaz. vol. 158; p. 396.
Keller, John M., Youngstown, Ohio. Invalid-bed. No. 971,381; Sept. 27; Sp. p. 4745; Gaz. vol. 158; p. 829.
Keller, John R., Pittsburg, Pa. Rail-joint. No. 970,236; Sept. 13; Sp. p. 2348; Gaz. vol. 158; p. 396.
Keller, William G., Avon, N. Y. Wrench. No. 969,880; Sept. 13; Sp. p. 1597; Gaz. vol. 158; p. 275.
Kellner, Gustav A. H., Rochester, N. Y., assignor, by mesne assignments, to Bausch & Lomb Optical Company. Projecting-lamp. No. 969,785; Sept. 13; Sp. p. 1379; Gaz. vol. 158; p. 242.
Kellogg, Charles S., *et al.* (See Lewis, Lorenzo D., assignor.)
Kellogg, George B., *et al.* (See Lewis, Lorenzo D., assignor.)
Kellogg Switchboard and Supply Company. (See Bradbury, Clifford C., assignor.)
Kellogg Switchboard and Supply Company. (See Weiss, Alfred H., assignor.)
Kelly, John L., Chicago, Ill. Dental instrument. No. 971,382; Sept. 27; Sp. p. 4748; Gaz. vol. 158; p. 829.
Kelly, John P., Springfield, Mass. Water-meter. No. 969,286; Sept. 6; Sp. p. 286; Gaz. vol. 158; p. 47.
Kelly Motor Truck Company, The. (See Frayer and Miller, assignors.)
Kemp, Randolph M., Durham, Ox, Victoria, Australia. Plow. No. 971,448; Sept. 27; Sp. p. 4859; Gaz. vol. 158; p. 851.
Kendall, David, assignor to The Alliance Machine Company, Alliance, Ohio. Ingot-stripper. No. 969,634; Sept. 6; Sp. p. 1028; Gaz. vol. 158; p. 165.
Kenely, Martin F., Elizabeth, N. J. House-heating boiler. No. 970,833; Sept. 20; Sp. p. 3647; Gaz. vol. 158; p. 622.
Kennedy, Albert E. (See Tuck and Kennedy.)
Kennedy, Julian, Pittsburg, Pa. Blast-furnace-cooling apparatus. No. 970,376; Sept. 13; Sp. p. 2626; Gaz. vol. 158; p. 442.
Kennedy, Samuel R., Philadelphia, Pa. Treating milk. No. 970,718; Sept. 20; Sp. p. 3388; Gaz. vol. 158; p. 581.
Kennedy, Samuel R., Philadelphia, Pa. Treating milk. No. 970,719; Sept. 20; Sp. p. 3388; Gaz. vol. 158; p. 581.
Kennedy, Thomas H., and F. J. Heckel, Bradford, Pa.; said Heckel assignor to said Kennedy. Separating the products of the destructive distillation of wood. No. 969,635; Sept. 6; Sp. p. 1031; Gaz. vol. 158; p. 165.
Kerkow, Emma, administratrix. (See Kerkow, Gustav C.)
Kerkow, Gustav C., deceased, (E. Kerkow, administratrix,) assignor of one-half to J. Gumb, Fremont, Nebr. Attachment for beer-cases. No. 970,237; Sept. 13; Sp. p. 2351; Gaz. vol. 158; p. 396.
Kerr, Edward, and J. Smith, Pittsburg, Pa. Mold for hollow articles. No. 971,045; Sept. 27; Sp. p. 4064; Gaz. vol. 158; p. 719.
Kerstetter, Davis J., Green Ridge, Mo. Vehicle-body. No. 970,238; Sept. 13; Sp. p. 2353; Gaz. vol. 158; p. 396.
Kestner Evaporator Company. (See Kestner, Paul, assignor.)

Kestner Evaporator Company. (See Morris, Anthony S., assignor.)

Kestner, Paul, Lille, France, assignor to Kestner Evaporator Company, Philadelphia, Pa. Apparatus for concentrating liquids. No. 971,383; Sept. 27; Sp. p. 4749; Gaz. vol. 158; p. 829.

Ketcheson, John H., and R. W. Goeb, assignors to United States Fibre Stopper Company, St. Louis, Mo. Apparatus for impregnating porous articles. No. 970,509; Sept. 20; Sp. p. 2908; Gaz. vol. 158; p. 508.

Key, Isaac Fowlerton, Ind. Lifting-jack. No. 970,239; Sept. 13; Sp. p. 2354; Gaz. vol. 158; p. 397.

Keystone Watch Case Company, The. (See Ebelhare, William H., assignor.)

Keystone Watch Case Company, The. (See Groff, Howard M., assignor.)

Keystone Watch Case Company, The. (See Levy, Bernard, assignor.)

Kiefer, Adolph. (See Weber, George, assignor.)

Kiely, Francis, Los Angeles, Cal., assignor of one-fourth to E. E. Sellers, Denver, Colo., and one-fourth to F. A. Sellers, Los Angeles, Cal. Package-filler. No. 969,376; Sept. 6; Sp. p. 489; Gaz. vol. 158; p. 78.

Kilborn, Chauncey W., Rosenhayn, N. J. Pug-mill and stone-separator. No. 970,240; Sept. 13; Sp. p. 2356; Gaz. vol. 158; p. 397.

Kilby, James T., Danville, Va. Pitman. No. 970,929; Sept. 20; Sp. p. 3824; Gaz. vol. 158; p. 652.

Kincaid, William D., *et al.* (See Tiner, John F., assignor.)

Kindrick, George R., Spray, N. C. Slubber, intermediate, and fine frame doff-governor. No. 970,060; Sept. 13; Sp. p. 1984; Gaz. vol. 158; p. 336.

Kindscherf, Carl, assignor to Continental Caoutchouc- & Gutta-Percha Campagnie, Hanover, Germany. Wheel for vehicles. No. 971,384; Sept. 27; Sp. p. 4752; Gaz. vol. 158; p. 830.

Kine, John P., Walsenburg, Colo. Sickle-grinder. No. 971,449; Sept. 27; Sp. p. 4860; Gaz. vol. 158; p. 851.

Kinealy, John H., Ferguson, Mo. Air-washing apparatus. No. 969,287; Sept. 6; Sp. p. 288; Gaz. vol. 158; p. 47.

King, Eugene W., assignor to Semet-Solvay Company, Syracuse, N. Y. Heating arrangement for retort coke-ovens. No. 970,720; Sept. 20; Sp. p. 3389; Gaz. vol. 158; p. 581.

King, Howard G., Denver, Colo. Ore-dressing machine. No. 971,046; Sept. 27; Sp. p. 4066; Gaz. vol. 158; p. 720.

Kingham, Boaz, Tecumseh, Okla. Attachment for hay-presses. No. 970,930; Sept. 20; Sp. p. 3826; Gaz. vol. 158; p. 652.

Kinkead Manufacturing Company. (See Loggie, George W., assignor.)

Kinnear, William R., New Castle, Pa. Metal sash construction. No. 971,011; Sept. 20; Sp. p. 3957; Gaz. vol. 158; p. 679.

Kinser, William C., Omaha, Nebr. Churn. No. 970,061; Sept. 13; Sp. p. 1986; Gaz. vol. 158; p. 337.

Kirkpatrick, Clifford P. (See Kirkpatrick, Robbins, and Kirkpatrick.)

Kirkpatrick, William A., J. E. Robbins, Greensburg, and C. P. Kirkpatrick, Indianapolis, Ind. Knockdown seat. No. 970,721; Sept. 20; Sp. p. 3391; Gaz. vol. 158; p. 582.

Kitchen, Frederick T., assignor, by mesne assignments, to Compressed Metal Company, New York, N. Y. Casting apparatus. No. 969,539; Sept. 6; Sp. p. 831; Gaz. vol. 158; p. 131.

Kitsee, Isidor, Philadelphia, Pa. Metallic filament. No. 971,385; Sept. 27; Sp. p. 4753; Gaz. vol. 158; p. 830.

Kittlinger, Frederick W., Rochester, N. Y. Latch for hinged lasts. No. 971,200; Sept. 27; Sp. p. 4393; Gaz. vol. 158; p. 771.

Kjillberg, John E., assignor of one-half to C. G. Ollinger, Mobile, Ala. Sea-wall or wharf construction. No. 969,706; Sept. 6; Sp. p. 1165; Gaz. vol. 158; p. 189.

Kleber, Clemens O., Clifton, N. J. Perfume. No. 969,636; Sept. 6; Sp. p. 1036; Gaz. vol. 158; p. 166.

Klein, Hugo L., *et al.* (See Lewy, Charles H., assignor.)

Klemm, William H., Pittsburg, Pa. Combined closure and locking means. No. 969,851; Sept. 13; Sp. p. 1598; Gaz. vol. 158; p. 275.

Kline, Fred C. (See Bean, Charles L., assignor.)

Klinger, Richard, Gumpoldskirchen, near Vienna, Austria-Hungary. Cock and the like. No. 970,834; Sept. 20; Sp. p. 3648; Gaz. vol. 158; p. 623.

Klucking, Albin H., assignor of one-third to G. McMillan, Sibley, Iowa. Tile-setter for wells. No. 971,508; Sept. 27; Sp. p. 4969; Gaz. vol. 158; p. 870.

Klump, Charles M. (See Dungan, Elmer E., assignor.)

Knapp, David R. (See Cade and Knapp.)

Knapp, George N., St. Louis, Mo. Air, steam, or hot-water coupling. No. 969,637; Sept. 6; Sp. p. 1037; Gaz. vol. 158; p. 166.

Knapp, Theron L., Woodstock, assignor to The Oliver Typewriter Company, Chicago, Ill. Type-writing machine. No. 969,483; Sept. 6; Sp. p. 698; Gaz. vol. 158; p. 111.

Kneip, Anton, Maspeth, assignor of one-half to W. E. Bellton, Brooklyn, N. Y. Spring-wheel. No. 970,835; Sept. 20; Sp. p. 3650; Gaz. vol. 158; p. 623.

Knibbs, John W. (See Houston, Edward D., assignor.)

Knight, Thomas H., Atlanta, Ga. Revolving book and file case. No. 969,959; Sept. 13; Sp. p. 1773; Gaz. vol. 158; p. 301.

Knobeloch, George R., Coraopolis, Pa. Nut and bolt lock. No. 969,786; Sept. 13; Sp. p. 1381; Gaz. vol. 158; p. 242.

Knott, Frederick, assignor of one-half to K. E. Greenawald, Portland, Oreg. Motion-picture machine. No. 969,288; Sept. 6; Sp. p. 290; Gaz. vol. 158; p. 47.

Knott, Jacob, Paterson, N. J. Apparatus for stretching and drying skeins of silk and like materials. No. 969,960; Sept. 13; Sp. p. 1775; Gaz. vol. 158; p. 302.

Knowles, George E., New York, N. Y. Ventilating-valve. No. 971,047; Sept. 27; Sp. p. 4069; Gaz. vol. 158; p. 720.

Knox, George A., Dexter, N. Y. Plow. No. 969,377; Sept. 6; Sp. p. 491; Gaz. vol. 158; p. 78.

Knox, William, *et al.* (See Malone, Frank, assignor.)

Koegler, August J., Milwaukee, Wis. Sectional grain-heater. No. 969,484; Sept. 6; Sp. p. 701; Gaz. vol. 158; p. 111.

Koegler, August J., Milwaukee, Wis. Agitator for grain-heaters. No. 971,048; Sept. 27; Sp. p. 4071; Gaz. vol. 158; p. 721.

Kohler, George B. (See Bucknam and Kohler.)

Kohlhepp, John W., Chicago, Ill., assignor to The All-bright-Nell Company. Flexible beater and scraper. No. 971,049; Sept. 27; Sp. p. 4072; Gaz. vol. 158; p. 721.

Komarek, Gustav, St. Louis, Mo. Briquet-machine. No. 969,540; Sept. 6; Sp. p. 833; Gaz. vol. 158; p. 132.

Kondás, Alexandar. (See Bajuss and Kondás.)

Korfhage, Herman C., New Albany, Ind. Clock-synchronising system. No. 970,241; Sept. 13; Sp. p. 2358; Gaz. vol. 158; p. 398.

Kosack, Paul, Omaha, Nebr. Wall-stirrup. No. 969,289; Sept. 6; Sp. p. 293; Gaz. vol. 158; p. 48.

Kostanjevic, Rudolf, J. Matsenik, and F. Gessl, Trieste, Austria-Hungary. Turbine. No. 969,541; Sept. 6; Sp. p. 838; Gaz. vol. 158; p. 132.

Kosters, Clements B., Buffalo, N. Y. Shoe-form. No. 969,165; Sept. 6; Sp. p. 32; Gaz. vol. 158; p. 8.

Kovacic, Blasius, East Pittsburg, Pa. Extinguisher for lamps and lanterns. No. 971,282; Sept. 27; Sp. p. 4555; Gaz. vol. 158; p. 797.

Krajiček, Vincenc, Pardubits, Austria-Hungary. T-square. No. 970,625; Sept. 20; Sp. p. 3195; Gaz. vol. 158; p. 549.

Kramer, Bertha F., Louisville, Ky. Receptacle-cover. No. 971,509; Sept. 27; Sp. p. 4971; Gaz. vol. 158; p. 871.

Kramer, Gustav, assignor to Aktieselskabet Sandvikens Blikvarefabrik, Sandviken, near Christiania, Norway. Protecting mechanism for pressing, punching, and cutting machines, &c. No. 969,961; Sept. 13; Sp. p. 1777; Gaz. vol. 158; p. 302.

Kramer, Henry H., assignor of one-half to S. E. Sparks, Terre Haute, Ind. Suspender attachment. No. 970,931; Sept. 20; Sp. p. 3827; Gaz. vol. 158; p. 653.

Kramer, William C., Jr., Brenham, Tex. Wire-fastener. No. 970,722; Sept. 20; Sp. p. 3392; Gaz. vol. 158; p. 582.

Kramp, Karl, Wusseken, near Borntuchen, Germany. Door and the like checking device. No. 969,882; Sept. 13; Sp. p. 1599; Gaz. vol. 158; p. 275.

Krause, Albert F., assignor of one-half to C. C. Ladd, Buffalo, N. Y. Liquid-motor. No. 969,378; Sept. 6; Sp. p. 492; Gaz. vol. 158; p. 78.

Kress, Joseph, Bisbee, Ariz. Fly-escape for window-screens. No. 970,723; Sept. 20; Sp. p. 3393; Gaz. vol. 158; p. 582.

Kress, Willitts A., Hutchinson, Kans. Composition for treating sweat-bands of hats. No. 970,724; Sept. 20; Sp. p. 3394; Gaz. vol. 158; p. 583.

Kreuzberger, Bartlet, Meriden, Conn. Shade-hanger and curtain-support. No. 969,962; Sept. 13; Sp. p. 1779; Gaz. vol. 158; p. 302.

Krick, Kay C. (See Renick and Krick.)

Kriz, Josef, and F. Schorik, Chicago, Ill.; said Kriz assignor to said Schorik. Vending-machine. No. 969,883; Sept. 13; Sp. p. 1600; Gaz. vol. 158; p. 275.

Kropf, Frederick. (See Blum, Johnson, and Kropf.)

Krotz, Alvaro S., assignor to Precision Appliance Company, Chicago, Ill. Driving mechanism for lubricators. No. 969,290; Sept. 6; Sp. p. 294; Gaz. vol. 158; p. 48.

Krotz, Alvaro S., assignor of one-half to P. A. Staley, Springfield, Ohio. Apparatus for charging storage batteries. No. 969,542; Sept. 6; Sp. p. 841; Gaz. vol. 158; p. 132.

Krout, George W., *et al.* (See Hewitt and Thomas, assignors.)

Krueger, Frederick J., Detroit, Mich. Triplicate manifolding book or pad. No. 971,283; Sept. 27; Sp. p. 4556; Gaz. vol. 158; p. 797.

Krug, Otto, Magdeburg, Germany. Lamp-holder. No. 971,131; Sept. 27; Sp. p. 4231; Gaz. vol. 158; p. 747.

Krüger, Otto, Leipsig, Germany. Stamping and printing paper webs. No. 970,932; Sept. 20; Sp. p. 3828; Gaz. vol. 158; p. 653.

Krumming, Reinhold, Milwaukee, Wis. Attachment means for binder-posts. No. 970,510; Sept. 20; Sp. p. 2914; Gaz. vol. 158; p. 508.

Kucera, Frank O., Tobias, Nebr. Check or draft protector. No. 970,341; Sept. 13; Sp. p. 2552; Gaz. vol. 158; p. 430.

Kuhn, Harry A., Pittsburg, Pa. Mining coal. No. 970,725; Sept. 20; Sp. p. 3395; Gaz. vol. 158; p. 583.

Kuhn, Herbert R. (See Reynolds, Frank C., assignor.)

Kunkel, A., *et al.* (See Leavell, Thomas G., assignor.)

Kunkel, Fred R., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Ventilating-fan. No. 969,707; Sept. 6; Sp. p. 1165; Gaz. vol. 158; p. 189.

Kunzmann, Rudolf, and E. Stierle, assignors to The Firm of A. Daub, Pforzheim, Germany. Soldering chain-links. No. 970,726; Sept. 20; Sp. p. 3398; Gaz. vol. 158; p. 583.

Kurt, Alfred, Pioche, Nev. Collapsible camping-stove. No. 970,342; Sept. 13; Sp. p. 2553; Gaz. vol. 158; p. 431.

Kuschenitz, Felix. (See Harváth, Richard von, assignor.)

Kynoch Limited. (See Jones, Edward, assignor.)

L. S. Starrett Company. (See Starrett, Laroy S., assignor.)

La Cour, Jens L. (See Arnold and La Cour.)

La Dow, Olin, Arcola, Ill. Invalid's bed-rest. No. 969,351; Sept. 6; Sp. p. 423; Gaz. vol. 158; p. 68.

Laa, Georg, Vienna, Austria-Hungary. Elastic support for upholstered furniture. No. 969,963; Sept. 13; Sp. p. 1781; Gaz. vol. 158; p. 302.

Lack, Charles T., Impington, England. Machine for closing cans and like receptacles. No. 969,166; Sept. 6; Sp. p. 33; Gaz. vol. 158; p. 8.

Lackawanna Steel Company. (See Conkling, Cloud C., assignor.)

Lacy, Charles E., *et al.* (See Michael, Anceal C., assignor.)

Ladd, Charles C. (See Krause, Albert F., assignor.)

Lahan, Edward J., Quincy, Ill. Mail-pouch catcher and deliverer. No. 969,964; Sept. 13; Sp. p. 1782; Gaz. vol. 158; p. 303.

Lake, Albert H., Jr., Fentonville, N. Y. Automatic safety gas-valve. No. 970,062; Sept. 13; Sp. p. 1988; Gaz. vol. 158; p. 337.

Lake, Bertus A., Bigprairie, Ohio. Tank-closure. No. 971,450; Sept. 27; Sp. p. 4861; Gaz. vol. 158; p. 852.

Lake, Simon, Bridgeport, Conn. Internal-combustion engine. No. 970,063; Sept. 13; Sp. p. 1990; Gaz. vol. 158; p. 338.

Lake, Simon, Milford, Conn. Submarine boat. No. 970,064; Sept. 13; Sp. p. 1995; Gaz. vol. 158; p. 338.

Lake, Wilmot Washington, D. C. Knockdown apparatus for forming artificial-stone blocks. No. 970,727; Sept. 20; Sp. p. 3399; Gaz. vol. 158; p. 583.

Lally, John T., Wilmington, Del. Chemical-tank for fire-extinguishers. No. 971,386; Sept. 27; Sp. p. 4755; Gaz. vol. 158; p. 831.

Lamb, George L., Nappanee, Ind. Open-link chain. No. 970,242; Sept. 13; Sp. p. 2365; Gaz. vol. 158; p. 398.

Lambert, Gerard B., New York, N. Y. Drawing-board. No. 969,638; Sept. 6; Sp. p. 1038; Gaz. vol. 158; p. 166.

Lamort, Marcel, Vitry-le-François, France. Controlling mechanism for change-speed gearing. No. 970,836; Sept. 20; Sp. p. 3651; Gaz. vol. 158; p. 623.

Lamprecht, Emil, Philadelphia, Pa. Cue-tip. No. 971,201; Sept. 27; Sp. p. 4394; Gaz. vol. 158; p. 771.

Lance, Andrew M., Batson, Tex. Nut-lock. No. 969,543; Sept. 6; Sp. p. 846; Gaz. vol. 158; p. 133.

Landa, Karl, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Key-lever cup. No. 971,050; Sept. 27; Sp. p. 4074; Gaz. vol. 158; p. 721.

Lander, Andrew H., Port Chester, N. Y. Skirt-marker. No. 969,544; Sept. 6; Sp. p. 847; Gaz. vol. 158; p. 133.

Landers, Frary and Clark. (See Spellman and Olmsted, assignors.)

Landers, Frary and Clark. (See Warner, Alonzo A., assignor.)

Landers, John A., Jackson, Mich. Brake. No. 969,167; Sept. 6; Sp. p. 37; Gaz. vol. 158; p. 9.

Lane, Francis L., Leeds, England. Door suitable for closing openings in ships' bulkheads and other purposes. No. 970,838; Sept. 20; Sp. p. 3654; Gaz. vol. 158; p. 624.

Lane, Francis L., assignor to Leeds Forge Company, Limited, Leeds, England. Freight-car door. No. 970,837; Sept. 20; Sp. p. 3653; Gaz. vol. 158; p. 624.

Lane, Willey B., Philadelphia, Pa., assignor to J. C. McCarty & Co. Ratchet mechanism for screw-drivers, wrenches, &c. No. 969,379; Sept. 6; Sp. p. 494; Gaz. vol. 158; p. 79.

Lang, Edward M., Jr. (See Cobb, Elmer M., assignor.)

Lange, Gustav J., Eau Claire, Wis. Marking attachment for canning-machines. No. 970,839; Sept. 20; Sp. p. 3655; Gaz. vol. 158; p. 624.

Langh, Leopold, Vienna, Austria-Hungary. Tooth-brush. No. 969,639; Sept. 6; Sp. p. 1040; Gaz. vol. 158; p. 167.

Langstaff, Lewis G., New York, N. Y. Tampon. No. 969,640; Sept. 6; Sp. p. 1041; Gaz. vol. 158; p. 167.

Larkin, William H., Jr., Somerville, Mass., assignor to United Concrete Machinery Company, New York, N. Y. Mixer. No. 971,051; Sept. 27; Sp. p. 4075; Gaz. vol. 158; p. 721.

Larrimer, Jesse P. (See Leonard and Larrimer.)

Larsen, Jacob N., Preston, Idaho, assignor to Western Book and Manufacturing Company, Logan, Utah. Loose-leaf binder. No. 971,202; Sept. 27; Sp. p. 4396; Gaz. vol. 158; p. 771.

Larson, Richard L., Minneapolis, Minn. Stopper and dropper. No. 969,291; Sept. 6; Sp. p. 296; Gaz. vol. 158; p. 48.

Lations, Charles A., assignor of one-half to American Narrow Fabric Company, Worcester, Mass. Suspender. No. 970,511; Sept. 20; Sp. p. 2916; Gaz. vol. 158; p. 509.

Latulip, Fred, assignor of one-half to A. F. Vadeboncoeur, Syracuse, N. Y. Machine for molding concrete shingles. No. 970,243; Sept. 13; Sp. p. 2366; Gaz. vol. 158; p. 399.

Laughlin, Homer, Jr., Los Angeles, Cal., and D. Schuyler, Bridgeport, Conn., assignors to The Perfect Sliding Door Company, Los Angeles, Cal. Air-check for sliding doors. No. 969,641; Sept. 6; Sp. p. 1042; Gaz. vol. 158; p. 167.

Laurian, George D., assignor to Gibson Mandolin-Guitar Company, Kalamazoo, Mich. Tailpiece for stringed musical instruments. No. 970,626; Sept. 20; Sp. p. 3195; Gaz. vol. 158; p. 549.

Lautenschlager, William F., Cincinnati, Ohio, assignor to L. Muther, Denver, Colo. Cement-applier. No. 969,168; Sept. 6; Sp. p. 39; Gaz. vol. 158; p. 9.

Lauterbur, Frank X., Sidney, Ohio. Automatic tongue. No. 970,244; Sept. 13; Sp. p. 2369; Gaz. vol. 158; p. 399.

Laux, Michael, Pittsburg, Pa. Junction-box. No. 970,377; Sept. 13; Sp. p. 2628; Gaz. vol. 158; p. 443.

Lawler, James J., Mount Vernon, N. Y. Bath-spray. No. 969,292; Sept. 6; Sp. p. 297; Gaz. vol. 158; p. 49.

Lawrence, Harry W., Denver, Colo. Fixture for adjustable electric drop-lights. No. 971,203; Sept. 27; Sp. p. 4390; Gaz. vol. 158; p. 772.

Lawson, Charles and R. W., Boston, Mass. Gas-meter. No. 970,627; Sept. 20; Sp. p. 3197; Gaz. vol. 158; p. 550.

Lawson, Robert W. (See Lawson, Charles and R. W.)

Le Blanc, Audrecle, Centerville, La. Nut-lock. No. 971,451; Sept. 27; Sp. p. 4862; Gaz. vol. 158; p. 852.

Le Compte, Edward P., *et al.* (See Redden and Cunningham, assignors.)

Le Rossignol, Robert. (See Haber and Le Rossignol.)

Lea, Henry I., Pittsburg, Pa., assignor to The Westinghouse Machine Company. Gas-producer regulating-valve. No. 969,884; Sept. 13; Sp. p. 1604; Gaz. vol. 158; p. 276.

Leander, Axel, Chicago, Ill. Trousers. No. 969,380; Sept. 6; Sp. p. 496; Gaz. vol. 158; p. 79.

Leavell, Thomas G., assignor of three-fourths to A. Kunkel, P. H. Sherman, and E. C. Lloyd, Spokane, Wash. Indicator. No. 971,052; Sept. 27; Sp. p. 4077; Gaz. vol. 158; p. 722.

Leavitt, William H., Stamford, Tex. Tying device for hay bales or packages. No. 970,065; Sept. 13; Sp. p. 2000; Gaz. vol. 158; p. 339.

Lederer, Anton, Atzgersdorf, near Vienna, Austria-Hungary, assignor to Westinghouse Lamp Company, Bloomfield, N. J. Metallic incandescent filament. No. 971,452; Sept. 27; Sp. p. 4864; Gaz. vol. 158; p. 852.

Lederer, Anton, Atzgersdorf, near Vienna, Austria-Hungary, assignor to Westinghouse Lamp Company, Bloomfield, N. J. Incandescent electric lamp. No. 971,453; Sept. 27; Sp. p. 4865; Gaz. vol. 158; p. 852.

Leeds Forge Company. (See Lane, Francis L., assignor.)

Leese, Harry M., Washington, D. C. Desk. No. 970,933; Sept. 20; Sp. p. 3829; Gaz. vol. 158; p. 653.

Leese, Harry M., Washington, D. C. Lock. No. 970,934; Sept. 20; Sp. p. 3831; Gaz. vol. 158; p. 653.

Leevers, Frederic W., Walthamstow, England. Stop and through-way valve. No. 970,245; Sept. 13; Sp. p. 2371; Gaz. vol. 158; p. 399.

Lehman, Otto A., Hoboken, N. J. Bag. No. 971,284; Sept. 27; Sp. p. 4558; Gaz. vol. 158; p. 797.

Leich, Oscar M., and N. Pedersen, assignors to Cracraft-Leich Electric Co., Genoa, Ill. Telephone-transmitter. No. 970,066; Sept. 13; Sp. p. 2002; Gaz. vol. 158; p. 339.

Leigh, Frederick J., assignor to Imperial Car Shipbuilding and Dry Dock Corporation, Seattle, Wash. Ventilating-cowl for railway-cars. No. 969,708; Sept. 6; Sp. p. 1168; Gaz. vol. 158; p. 190.

Leineweber, Herman, South Chicago, Ill. Nail-clipper. No. 970,067; Sept. 13; Sp. p. 2004; Gaz. vol. 158; p. 340.

Leistler, Alois, Hollenstein a. d. Ybbs, Austria-Hungary. Automatically-locking lock for doors and the like. No. 970,628; Sept. 20; Sp. p. 3199; Gaz. vol. 158; p. 550.

Leistler, Alois, Hollenstein a. d. Ybbs, Austria-Hungary. Safety device for automatically-locking locks. No. 970,629; Sept. 20; Sp. p. 3201; Gaz. vol. 158; p. 550.

Lembke, Carl H. F., Toledo, Ohio. Extracting apparatus. No. 970,246; Sept. 13; Sp. p. 2375; Gaz. vol. 158; p. 400.

Lemp, Hermann, Lynn, Mass., assignor, by mesne assignments, to General Electric Company. Kerosene-burner. No. 969,545; Sept. 6; Sp. p. 848; Gaz. vol. 158; p. 133.

Lentz, George, *et al.* (See Macdonald, Thomas A., assignor.)

Lentz, Sylvanus P., Dayton, Ind. Cultivator-shovel. No. 970,247; Sept. 13; Sp. p. 2377; Gaz. vol. 158; p. 400.

Leo, William, and J. C. Bayer, Portland, Oreg. Air-pipe damper. No. 971,285; Sept. 27; Sp. p. 4559; Gaz. vol. 158; p. 797.

Leonard, Lewis A., New York, and J. P. Larrimer, Brooklyn, N. Y. Producing a metal of high grade from a metal of low grade. No. 970,728; Sept. 20; Sp. p. 3401; Gaz. vol. 158; p. 583.

Leppert, Henry E., New Britain, assignor to The Hart Manufacturing Company, Hartford, Conn. Plug-switch. No. 969,787; Sept. 13; Sp. p. 1382; Gaz. vol. 158; p. 242.

Lespérance, Joseph, Montreal, Quebec, Canada. Vapor-generating apparatus for medical treatment. No. 969,485; Sept. 6; Sp. p. 703; Gaz. vol. 158; p. 112.

Levalley, Christopher W., Milwaukee, Wis. Rower-chain. No. 971,454; Sept. 27; Sp. p. 4866; Gaz. vol. 158; p. 853.

Levy, Bernard, Riverside, N. J., assignor, by mesne assignments, to The Keystone Watch Case Company, Philadelphia, Pa. Watchcase-bow. No. 971,053; Sept. 27; Sp. p. 4081; Gaz. vol. 158; p. 722.

Lewis, Edward, Youngstown, and F. H. Nullmeyer, Struthers, assignors to The Youngstown Sheet & Tube Company, Youngstown, Ohio. Wire-clamping mechanism. No. 969,546; Sept. 6; Sp. p. 851; Gaz. vol. 158; p. 134.

Lewis, Frank B., Jr., assignor to Poultry Dust Bath Company, Whiting, Ind. Poultry-hook. No. 970,840; Sept. 20; Sp. p. 3657; Gaz. vol. 158; p. 625.

Lewis, Herman J. S., and J. F. Reynolds, New York, N. Y. Dust-remover. No. 971,054; Sept. 27; Sp. p. 4082; Gaz. vol. 158; p. 722.

Lewis, Lorenzo D., assignor of one-third to G. B. Kellogg and one-third to C. S. Kellogg, Adams, N. Y. Apparatus for making boxes. No. 971,455; Sept. 27; Sp. p. 4869; Gaz. vol. 158; p. 853.

Lewy, Charles H., assignor to B. Sterne and H. L. Klein, Chicago, Ill. Adjusting device for petticoat-bands. No. 970,068; Sept. 13; Sp. p. 2005; Gaz. vol. 158; p. 340.

Library Bureau. (See Hunter, David E., assignor.)

Liebknecht, Otto, Frankfort-on-the-Main, Germany, assignor to The Roessler & Hasslacher Chemical Co., New York, N. Y. Making sodium cyanid. No. 969,885; Sept. 13; Sp. p. 1606; Gaz. vol. 158; p. 277.

Liechty, Hermann, Berne, Switzerland. Locomotive. No. 970,512; Sept. 20; Sp. p. 2916; Gaz. vol. 158; p. 509.

Liederman, Isadore, *et al.* (See Passman, Abraham, assignor.)

Liederman, Jacob H., *et al.* (See Passman, Abraham, assignor.)

Light, Samuel E., assignor to W. H. McCurdy and J. D. Craft, Evansville, Ind. Vehicle-body. No. 969,293; Sept. 6; Sp. p. 298; Gaz. vol. 158; p. 49.

Lightfoot, William E. (See Oulton, Ablett, and Lightfoot.)

Lighthouse, John C., Rochester, N. Y. Wheel. No. 969,886; Sept. 13; Sp. p. 1607; Gaz. vol. 158; p. 277.

Lighthouse, John C., Rochester, N. Y. Wheel. No. 969,887; Sept. 13; Sp. p. 1609; Gaz. vol. 158; p. 277.

Lighthouse, John C., Rochester, N. Y. Wheel and tire. No. 969,888; Sept. 13; Sp. p. 1610; Gaz. vol. 158; p. 278.

Lighthouse, John C., Rochester, N. Y. Sectional wheel-tire. No. 969,889; Sept. 13; Sp. p. 1612; Gaz. vol. 158; p. 278.

Lighthouse, John C., Rochester, N. Y. Wheel-tire. No. 969,890; Sept. 13; Sp. p. 1614; Gaz. vol. 158; p. 278.

Lillie, Edger U., Guthrie Center, Iowa. Mail-box holder. No. 969,965; Sept. 13; Sp. p. 1784; Gaz. vol. 158; p. 303.

Lind, Friedrich. (See Hartlieb and Lind.)

Linder, Oscar, Chicago, Ill., assignor to Standard Electro-Utilities Company. Ozonizer. No. 969,547; Sept. 6; Sp. p. 853; Gaz. vol. 158; p. 135.

Lindgren, Alexus C., Moline, Ill., assignor to Moline Plow Company. Two-row cultivator. No. 970,513; Sept. 20; Sp. p. 2919; Gaz. vol. 158; p. 510.

Lindgren, Alexus C., Moline, Ill., assignor to Moline Plow Company. Wheeled cultivator. No. 970,514; Sept. 20; Sp. p. 2923; Gaz. vol. 158; p. 510.

Lindgren, Alexus C., Moline, Ill., assignor to Moline Plow Company. Wheeled cultivator. No. 970,515; Sept. 20; Sp. p. 2925; Gaz. vol. 158; p. 511.

Lindhard, Povl T., assignor to F. L. Smidth & Co., New York, N. Y. Burning cement and other materials. No. 969,169; Sept. 6; Sp. p. 43; Gaz. vol. 158; p. 10.

Lindhe, Eric G., New York, N. Y. Shim. No. 969,709; Sept. 6; Sp. p. 1171; Gaz. vol. 158; p. 190.

Lindhorst, Frank E., assignor of one-half to G. Harris, St. Louis, Mo. Nut-lock. No. 969,548; Sept. 6; Sp. p. 856; Gaz. vol. 158; p. 135.

Lindström, Charles A., assignor to Pressed Steel Car Company, Pittsburg, Pa. Combined car and brake wheel. No. 970,378; Sept. 13; Sp. p. 2630; Gaz. vol. 158; p. 443.

Lindstrom, John T., Allentown, Pa. Steam-separator. No. 969,170; Sept. 6; Sp. p. 44; Gaz. vol. 158; p. 10.

Lingle, George W., Burlington, Wis. Spirit-level. No. 970,729; Sept. 20; Sp. p. 3402; Gaz. vol. 158; p. 584.

Link, Joseph S. (See McNab and Link.)

Lips, Jakob, Nieder-Urdof, Switzerland. Kneading and mixing machine. No. 971,337; Sept. 27; Sp. p. 4757; Gaz. vol. 158; p. 831.

Lisle, Myron C., assignor of one-fourth to V. Robinson, Toronto, Ontario, Canada. Firearm. No. 970,248; Sept. 13; Sp. p. 2378; Gaz. vol. 158; p. 401.

Litchfield, Herbert L., Southbridge, Mass. Loom shuttle-spindle. No. 970,516; Sept. 20; Sp. p. 2931; Gaz. vol. 158; p. 511.

Livingood, Calvin, Hamburg, Pa. Railway-tie. No. 971,132; Sept. 27; Sp. p. 4231; Gaz. vol. 158; p. 747.

Livingston, Lloyd L. (See Putnam and Livingston.)

Livix, William. (See Seals, Charles, assignor.)

Ljungström, Birger. (See Forsberg and Ljungström.)

Lloyd, E. C., *et al.* (See Leavell, Thomas G., assignor.)

Locandro, Domenico, Collinsville, Ill. Spout for powder-cans. No. 971,055; Sept. 27; Sp. p. 4083; Gaz. vol. 158; p. 723.

Lochner, Charles. (See Flinn, George A., assignor.)

Locke, Nathaniel C., assignor to Locke Regulator Company, Salem, Mass. Fire-pump governor. No. 970,630; Sept. 20; Sp. p. 3203; Gaz. vol. 158; p. 551.

Locke Regulator Company. (See Locke, Nathaniel C., assignor.)

Lockhart, Willie C., Perry, Fla. Knife. No. 970,517; Sept. 20; Sp. p. 2934; Gaz. vol. 158; p. 511.

Lockwood, Henry S., South Norwalk, Conn. Securing thumb-knobs to roses. No. 970,518; Sept. 20; Sp. p. 2935; Gaz. vol. 158; p. 512.

Loesekann, Gerhard, Hanover, Germany. Making artificial cryolite. No. 969,381; Sept. 6; Sp. p. 497; Gaz. vol. 158; p. 79.

Loetzer, Christian E., and W. T. Goodnow; said Loetzer assignor to said Goodnow, Sayre, Pa. Lifting-jack. No. 971,286; Sept. 27; Sp. p. 4560; Gaz. vol. 158; p. 798.

Loggie, George W., Somerville, assignor to Kinkead Manufacturing Company, Boston, Mass. Centering-pin cap for telescopes. No. 970,631; Sept. 20; Sp. p. 3205; Gaz. vol. 158; p. 551.

Lohr, Carl A., Chicago, Ill. Synchronous induction-motor. No. 971,056; Sept. 27; Sp. p. 4084; Gaz. vol. 158; p. 723.

Lombard, Victor E., Fort Smith, Ark. Smoke separator and purifier. No. 970,519; Sept. 20; Sp. p. 2936; Gaz. vol. 158; p. 512.

Lombard, Victor E., Forth Smith, Ark. Smoke and fume consuming apparatus. No. 970,520; Sept. 20; Sp. p. 2938; Gaz. vol. 158; p. 512.

London, William J. A., Manchester, England, assignor to The Westinghouse Machine Company. Elastic-fluid turbine. No. 969,891; Sept. 13; Sp. p. 1616; Gaz. vol. 158; p. 279.

Lonney, Thomas F., assignor to G. Upington, Brooklyn, N. Y. Universal dredging-machine. No. 969,171; Sept. 6; Sp. p. 45; Gaz. vol. 158; p. 10.

Lonney, Thomas F., assignor to G. Upington, Brooklyn, N. Y. Excavating-machine. No. 969,172; Sept. 6; Sp. p. 45; Gaz. vol. 158; p. 10.

Looker, William F., Portland, Oreg. Road-culvert. No. 971,456; Sept. 27; Sp. p. 4871; Gaz. vol. 158; p. 853.

Loose, Jacob L., assignor to Loose-Wiles Biscuit Company, Kansas City, Mo. Food product. No. 969,173; Sept. 6; Sp. p. 63; Gaz. vol. 158; p. 11.

Loose-Wiles Biscuit Company. (See Loose, Jacob L., assignor.)

Loose-Wiles Biscuit Company. (See Lynch, John J., assignor.)

Lord, Charles E., Norwood, Ohio, assignor to Allis-Chalmers Company. Fluid-pressure system. No. 969,788; Sept. 13; Sp. p. 1384; Gaz. vol. 158; p. 242.

Lord, Charles E., Milwaukee, Wis., assignor to Allis-Chalmers Company. Commutator bar and lead. No. 969,892; Sept. 13; Sp. p. 1618; Gaz. vol. 158; p. 279.

Lore, Reuben J., Clarksville, Iowa. Brooder. No. 969,710; Sept. 6; Sp. p. 1172; Gaz. vol. 158; p. 190.

Lorenz, Henry W. F. Jersey City, N. J. Sensitive safety-print. No. 969,549; Sept. 6; Sp. p. 857; Gaz. vol. 158; p. 135.

Loske, Rudolf, Brooklyn, N. Y. Tobacco-pipe. No. 970,632; Sept. 20; Sp. p. 3206; Gaz. vol. 158; p. 551.

Lott, Andrew G., Camden, assignor of one-half to J. A. Handley, Jr., Barnes, Tex. Car-door. No. 969,711; Sept. 6; Sp. p. 1174; Gaz. vol. 158; p. 191.

Lotz, Samuel. (See Frey and Lotz.)

Louden Machinery Company. (See Neller, Albert H., assignor.)

Lovejoy, Henry L., Melrose, Mass. Sight for firearms. No. 971,287; Sept. 27; Sp. p. 4563; Gaz. vol. 158; p. 798.

Low, Abbot A., Horseshoe, M. J. Wohl and H. Hertzberg, New York, N. Y., assignors to said Low. Vaporizing device. No. 969,893; Sept. 13; Sp. p. 1620; Gaz. vol. 158; p. 279.

Lubbock, William L., Houston, Tex., and S. Hamblen, Portales, N. Mex. Crude-oil burner. No. 970,521; Sept. 20; Sp. p. 2939; Gaz. vol. 158; p. 513.

Luce, Reginald M., Denver, Colo. Combination manicure article. No. 971,057; Sept. 27; Sp. p. 4086; Gaz. vol. 158; p. 723.

Luedders, Arthur D., Sturgis, Mich. Adjustable reclining-chair. No. 971,288; Sept. 27; Sp. p. 4565; Gaz. vol. 158; p. 799.

Luke, Richard, assignor to The Beng Company, Chicago, Ill. Crib-hook. No. 971,058; Sept. 27; Sp. p. 4089; Gaz. vol. 158; p. 724.

Lund, Johan P. H., Rockhampton, Queensland, Australia. Steering and controlling device for screw-propelled vessels. No. 969,642; Sept. 6; Sp. p. 1044; Gaz. vol. 158; p. 167.

Lundell, Robert, New York, N. Y. Method of and means for controlling regenerative electric motors. No. 969,894; Sept. 13; Sp. p. 1621; Gaz. vol. 158; p. 280.

Lundstrom, Carl J., Little Falls, N. Y. Locking device for follower-blocks. No. 970,522; Sept. 20; Sp. p. 2941; Gaz. vol. 158; p. 513.

Luner, Joseph, Chicago, Ill. Ornamenting wearing-apparel. No. 971,388; Sept. 27; Sp. p. 4758; Gaz. vol. 158; p. 831.

Luther, Gardner C., Providence, R. I. Cable-propelled aeroplane. No. 969,643; Sept. 6; Sp. p. 1046; Gaz. vol. 158; p. 168.

Lutz, Frederick, Philadelphia, Pa. Refrigerator-mounting. No. 971,059; Sept. 27; Sp. p. 4090; Gaz. vol. 158; p. 724.

Lutz, George A., Plainfield, N. J., assignor to American Circular Loom Company, Portland, Me. Making armored electrical conductors. No. 969,712; Sept. 6; Sp. p. 1176; Gaz. vol. 158; p. 191.

Lux, Julius K., Washington, D. C. Circuit-controlling device. No. 970,523; Sept. 20; Sp. p. 2944; Gaz. vol. 158; p. 513.

Lyche, Halver H. (See Odquist and Lyche.)

Lyhne, Anker S., Bridgeport, Conn. Socket-shell. No. 969,486; Sept. 6; Sp. p. 706; Gaz. vol. 158; p. 112.

Lyle, John S., McCloud, Okla. Machine for cleaning and separating cotton. No. 969,762; Sept. 6; Sp. p. 1322; Gaz. vol. 158; p. 210.

Lyman, Stanley W., Roberts, Mont. Road-bed. No. 969,966; Sept. 13; Sp. p. 1785; Gaz. vol. 158; p. 303.

Lynch, John J., assignor to Loose-Wiles Biscuit Company, St. Louis, Mo. Shipping and display box for products. No. 971,060; Sept. 27; Sp. p. 4092; Gaz. vol. 158; p. 724.

Lynn Superior Company, The. (See Ward, Paul S., assignor.)

Lyttleton, Westcote R., Rakaia, New Zealand. Apparatus for turning the leaves of music and the like. No. 971,204; Sept. 27; Sp. p. 4401; Gaz. vol. 158; p. 772.

MaGee, Arline E. (See MaGee, Percy F. and A. E.)

MaGee, Percy F. and A. E., Janesville, Wis. Tobacco-box fastening. No. 969,550; Sept. 6; Sp. p. 861; Gaz. vol. 158; p. 136.

MacConnell, Phineas J., assignor of one-half to J. T. Creahan, Cincinnati, Ohio. Vehicle-wheel support. No. 970,841; Sept. 20; Sp. p. 3658; Gaz. vol. 158; p. 625.

MacDonald, Angus, Melrose, Mass. Invalid-bedstead No. 969,174; Sept. 6; Sp. p. 64; Gaz. vol. 158; p. 11.

MacIntosh, William, Hahns Peak, Colo. Visible warning attachment for barbed-wire fences. No. 970,524; Sept. 20; Sp. p. 2950; Gaz. vol. 158; p. 514.

Macdonald, Thomas A., Clifton, assignor of sixteen and one-third one-hundredths to Isaiah E. Zimmerman, Paterson, sixteen and one-third one-hundredths to William H. Castles, Kingsland, and sixteen and one-third one-hundredths to George Lentz, North Arlington, N. J. Hydraulic-power system. No. 969,967; Sept. 13; Sp. p. 1787; Gaz. vol. 158; p. 303.

Mack, Fred J. (See Packard, Albert, assignor.)

Mack, George E., Detroit, Mich. Pump-valve. No. 970,249; Sept. 13; Sp. p. 2381; Gaz. vol. 158; p. 401.

Mack, Mathias, assignor of one-half to H. Savage, Philadelphia, Pa Spike. No. 969,382; Sept. 6; Sp. p. 499; Gaz. vol. 158; p. 79.

Magna, Russell W., Holyoke, Mass., and L. G. W. Carpenter, Philadelphia, Pa. Blowpipe. No. 969,487; Sept. 6; Sp. p. 707; Gaz. vol. 158; p. 113.

Mahoney, Myles, Montreal, Quebec, Canada. Stay-bolt. No. 969,383; Sept. 6; Sp. p. 500; Gaz. vol. 158; p. 80.

Maier, Joseph, *et al.* (See Rademacher, Frank, assignor.)

Maley, Frederick M., Ridley Park, Pa. Foot-rest. No. 969,551; Sept. 6; Sp. p. 862; Gaz. vol. 158; p. 136.

Mallck, Henry, Belmont, W. Va. Ribbon-holding device. No. 970,446; Sept. 13; Sp. p. 2764; Gaz. vol. 158; p. 465.

Mallman, James, Sheboygan, Wis. Recording-calculator. No. 970,250; Sept. 13; Sp. p. 2382; Gaz. vol. 158; p. 401.

Malmros, Gustaf, and F. F. Adams, New York, N. Y. Spot-cleaner. No. 970,069; Sept. 13; Sp. p. 2007; Gaz. vol. 158; p. 340.

Malone, Frank, assignor of one-fourth to C. S. Beach and one-fourth to W. Knox, Frontier, Wyo. Railway-switch. No. 970,343; Sept. 13; Sp. p. 2555; Gaz. vol. 158; p. 431.

Malone, James F., Lawrence, Ark. Revolving meat-block. No. 971,389; Sept. 27; Sp. p. 4759; Gaz. vol. 158; p. 832.

Mambourg Glass Sheet Machine Company, The. (See Mambourg and Houze, assignors.)

Mambourg, Leopold, and U. Houze, assignors to The Mambourg Glass Sheet Machine Company, Mount Vernon, Ohio. Glass-drawing apparatus. No. 970,638; Sept. 20; Sp. p. 3207; Gaz. vol. 158; p. 552.

Manhattan Screw & Stamping Works. (See Stevens, Frederick M., assignor.)

Mann, Charles B., San Diego, Cal. Rotary snow-plow. No. 971,289; Sept. 27; Sp. p. 4567; Gaz. vol. 158; p. 799.

Mann, George H., Leeds, England. Valve and valve-gear for internal-combustion engines. No. 970,525; Sept. 20; Sp. p. 2951; Gaz. vol. 158; p. 514.

Mann, Samuel, Boston, Mass., assignor to Ideal Hat Frame Machine Company. Hat-frame machine. No. 970,935; Sept. 20; Sp. p. 3832; Gaz. vol. 158; p. 654.

Manson, Ray H., assignor to The Dean Electric Company, Elyria, Ohio. Telephone-meter and circuit connection therefor. No. 969,789; Sept. 13; Sp. p. 1385; Gaz. vol. 158; p. 243.

Mansor, Massoud, Orrville, Ohio. Ice-cream-can cover. No. 971,290; Sept. 27; Sp. p. 4567; Gaz. vol. 158; p. 799.

Marable, Richard P., Yuma, Ariz. Aerial navigation. No. 970,842; Sept. 20; Sp. p. 3659; Gaz. vol. 158; p. 625.

Marden, Aldis H., West Somerville, Mass. Signal-bell-cord hanger for cars. No. 971,291; Sept. 27; Sp. p. 4568; Gaz. vol. 158; p. 799.

Markham, William J. (See Berry and Markham.)

Marsh, Charles S. (See Chappel, James M., assignor.)

Marsh, Hugh M., Chicago, Ill. Broom. No. 970,843; Sept. 20; Sp. p. 3661; Gaz. vol. 158; p. 625.

Marshall, George H., Roanoke Rapids, N. C. Reducing fiber-yielding materials. No. 971,457; Sept. 27; Sp. p. 4873; Gaz. vol. 158; p. 854.

Marshall, Marrilla. (See Boutwell and Marshall.)

Martha, Léon A., Paris, France. Internal-combustion engine. No. 970,251; Sept. 13; Sp. p. 2387; Gaz. vol. 158; p. 402.

Martin, Clare W., Post Falls, Idaho. Automatic match-box. No. 969,384; Sept. 6; Sp. p. 501; Gaz. vol. 158; p. 80.

Martin, Frank, assignor to Wright Wire Company, Worcester, Mass. Fence. No. 969,175; Sept. 6; Sp. p. 66; Gaz. vol. 158; p. 12.

Martin, George F. (See Douglas, Robert B., assignor.)

Martin, Julian G., Drybranch, Ga. Belt-tightener. No. 969,968; Sept. 13; Sp. p. 1790; Gaz. vol. 158; p. 304.

Martin, William, Jeannette, Pa. Continuous window-glass-drawing machine. No. 969,385; Sept. 6; Sp. p. 502; Gaz. vol. 158; p. 80.

Martinez, Benjamin T., Petaca, N. Mex. Rail-joint. No. 969,713; Sept. 6; Sp. p. 1178; Gaz. vol. 158; p. 191.

Martz, Firm of Albert. (See Schnorr, Georg A., assignor.)

Mason, Frank N., Pittsburg, Pa. Piston-rod packing. No. 971,292; Sept. 27; Sp. p. 4569; Gaz. vol. 158; p. 800.

Mason, George N., assignor to Reading Hardware Company, Reading, Pa. Lock. No. 970,252; Sept. 13; Sp. p. 2389; Gaz. vol. 158; p. 402.

Matchett, Harry, Pittsburg, Pa. Box-closure. No. 970,844; Sept. 20; Sp. p. 3662; Gaz. vol. 158; p. 626.

Matchette, Frank J., Milwaukee, Wis. Dust-collector. No. 971,390; Sept. 27; Sp. p. 4760; Gaz. vol. 158; p. 832.

Matheson, Alexander E., Goderich, Ontario, Canada. Extension-table. No. 970,634; Sept. 20; Sp. p. 3209; Gaz. vol. 158; p. 552.

Matheson, Millard L., Virginia, Minn. Fly-screen. No. 969,644; Sept. 6; Sp. p. 1048; Gaz. vol. 158; p. 168.

Matters, Edward R., Neosho, Mo., assignor to American Optical Company. Eyeglass-chain attachment. No. 970,853; Sept. 20; Sp. p. 3683; Gaz. vol. 158; p. 629.

Matthes, Samuel S., Mansfield, Ohio. Hinge. No. 970,635; Sept. 20; Sp. p. 3211; Gaz. vol. 158; p. 552.

Matthews, George W., Chicago, Ill. Game apparatus. No. 970,070; Sept. 13; Sp. p. 2008; Gaz. vol. 158; p. 341.

Mattman, Emil, Norwood, Ohio, assignor to Allis-Chalmers Company and The Bullock Electric Manufacturing Company. Dynamo-electric machine. No. 969,790; Sept. 13; Sp. p. 1388; Gaz. vol. 158; p. 243.

Matzenik, Josef. (See Kostanjevic, Matzenik, and Gessl.)

Mauborgne, Francis J., New York, N. Y. Cotton opening and ginning machine. No. 969,176; Sept. 6; Sp. p. 67; Gaz. vol. 158; p. 12.

Mauger, Mathew, Chillicothe, and C. Schraw, Leesburg, Ohio. Corn-planter. No. 971,293; Sept. 27; Sp. p. 4571; Gaz. vol. 158; p. 800.

Mauser, Paul, Oberndorf-on-the-Neckar, Germany. Recoil-loader with fixed barrel. No. 971,061; Sept. 27; Sp. p. 4093; Gaz. vol. 158; p. 725.

Mautner, Stephan, Vienna, Austria-Hungary. Extensible table. No. 970,071; Sept. 13; Sp. p. 2009; Gaz. vol. 158; p. 341.

Mawdsley, Eliza, Alton, Ill. Sash lift and lock. No. 970,526; Sept. 20; Sp. p. 2954; Gaz. vol. 158; p. 515.

Maxon, Daniel M., St. Louis, Mo. Automatic water regulator and surface blow-off. No. 969,294; Sept. 6; Sp. p. 300; Gaz. vol. 158; p. 49.

Maxwell, William P., Unity, Pa. Draft appliance for vehicles. No. 969,645; Sept. 6; Sp. p. 1050; Gaz. vol. 158; p. 169.

Maynes, Hyla F., Gaines, Pa. Machine for applying labels. No. 971,133; Sept. 27; Sp. p. 4232; Gaz. vol. 158; p. 747.

Mayo, Henry, deceased, Norfolk, Va.; H. T. Mayo, administratrix. Shipping-box for cans. No. 969,386; Sept. 6; Sp. p. 505; Gaz. vol. 158; p. 80.

Mayo, Hulda T., administratrix. (See Mayo, Henry.)

McAdams, Nathaniel J., Smyrna, Tenn. Gate. No. 970,090; Sept. 13; Sp. p. 2040; Gaz. vol. 158; p. 346.

McAneny, Michael J., *et al.* (See McAneny, William A., assignor.)

McAneny, William A., Denver, Colo., assignor of one-third to I. A. McLaughlin and one-third to M. J. McAneny, St. Louis, Mo. Cigar cutter and lighter. No. 970,533; Sept. 20; Sp. p. 2903; Gaz. vol. 158; p. 516.

McArthur, Charles D., assignor to Blaw Collapsible Steel Centering Company, Pittsburg, Pa. Mold. No. 971,391; Sept. 27; Sp. p. 4762; Gaz. vol. 158; p. 832.

McBee, Charles F., Athens, Ohio. Temporary bookbinding. No. 971,294; Sept. 27; Sp. p. 4573; Gaz. vol. 158; p. 801.

McCabe, Anthony J. (See Hoff and McCabe.)

McCabe, Edward A. (See Rigby, Clark F., assignor.)

McCall, Charnock H., Atlanta, Ga. Heating attachment for open grates. No. 971,063; Sept. 27; Sp. p. 4099; Gaz. vol. 158; p. 725.

McCaskey Register Company, The. (See Dunning, William E., assignor.)

McCleary, Harry, assignor of one-half to J. Bendlon, Washington, D. C. Muffler cut-out for automobiles. No. 971,458; Sept. 27; Sp. p. 4876; Gaz. vol. 158; p. 854.

McClintock, Charles D., Fruitvale, assignor of one-half to S. R. Bogue, San Francisco, Cal. Power-transmitting mechanism. No. 970,640; Sept. 20; Sp. p. 3218; Gaz. vol. 158; p. 554.

McClintock, William G. (See Carleton, Charles A., assignor.)

McCormick, Henry D., Newark, N. J. Horseshoe. No. 971,138; Sept. 27; Sp. p. 4251; Gaz. vol. 158; p. 749.

McCulloch, Marsena P., Red Oak, Iowa. Irrigation system. No. 970,383; Sept. 13; Sp. p. 2636; Gaz. vol. 158; p. 445.

McCune, James W., New Albany, Miss. Combined cross-arm support and brace. No. 970,091; Sept. 13; Sp. p. 2042; Gaz. vol. 158; p. 347.

McCurdy, William H., *et al.* (See Light, Samuel E., assignor.)

McDonald, Charles D., assignor to McDonald Machine Company, Chicago, Ill. Automatic die-press. No. 970,092; Sept. 13; Sp. p. 2043; Gaz. vol. 158; p. 347.
McDonald, Hervey A., *et al.* (See Barnes, Ned E., assignor.)
McDonald, John A., Glace Bay, and W. L. Rennie, Dominion, Nova Scotia, Canada. Game. No. 970,257; Sept. 13; Sp. p. 2398; Gaz. vol. 158; p. 404.
McDonald Machine Company. (See McDonald, Charles D., assignor.)
McDonald Oil and Water Elevator Company, The. (See McDonald, Thomas H., assignor.)
McDonald, Thomas H., assignor to The McDonald Oil and Water Elevator Company, Tropico, Cal. Oil and water elevator. No. 970,003; Sept. 13; Sp. p. 2048; Gaz. vol. 158; p. 348.
McDonell, R. J. (See Hailey, Edward, assignor.)
McFadden, Laurence and W. A., Parkton, Md. Rail-joint. No. 969,648; Sept. 6; Sp. p. 1055; Gaz. vol. 158; p. 169.
McFadden, William A. (See McFadden, Laurence and W. A.)
McFarland, Edwin. (See O'Keefe, Daniel, assignor.)
McFarland, John A. (See Davis and McFarland.)
McGee, James L., La Junta, Colo., assignor to The McGee Six-Way Valve Company. Reverse-lever-operating mechanism for locomotives. No. 969,181; Sept. 6; Sp. p. 82; Gaz. vol. 158; p. 13.
McGee Six-Way Valve Company, The. (See McGee, James L., assignor.)
McGehee, George T., San Marcos, Tex. Root-puller. No. 971,459; Sept. 27; Sp. p. 4877; Gaz. vol. 158; p. 854.
McGilvary Company, The. (See McGilvary, Evander B., assignor.)
McGilvary, Evander B., assignor to The McGilvary Company, Madison, Wis. Stitch-removing device. No. 970,733; Sept. 20; Sp. p. 3408; Gaz. vol. 158; p. 585.
McGrane, John F., assignor of one-half to J. M. Morin, Pittsburg, Pa. Non-refillable bottle. No. 970,384; Sept. 13; Sp. p. 2637; Gaz. vol. 158; p. 445.
McKay, Joseph, assignor to Hall, Hartwell & Co., Troy, N. Y. Feeding mechanism for sewing-machines. No. 970,847; Sept. 20; Sp. p. 3670; Gaz. vol. 158; p. 627.
McKee, Robert, Philadelphia, Pa. Starting-lever for explosive-engines. No. 969,798; Sept. 13; Sp. p. 1401; Gaz. vol. 158; p. 246.
McKenzie, Albert E., Brandon, Manitoba, Canada. Seed-case. No. 970,454; Sept. 13; Sp. p. 2780; Gaz. vol. 158; p. 468.
McKinney, Charles B., Bourbon, Ind. Fire-escape. No. 970,534; Sept. 20; Sp. p. 2965; Gaz. vol. 158; p. 517.
McKnight, Stephen E., Colorado Springs, Colo. Potato cutting and planting machine. No. 971,064; Sept. 27; Sp. p. 4101; Gaz. vol. 158; p. 725.
McLaughlin, Ivy A., *et al.* (See McAneny, William A., assignor.)
McLennan, Alexander, London, England. Treatment of leather with india-rubber. No. 970,734; Sept. 20; Sp. p. 3417; Gaz. vol. 158; p. 585.
McLeod, Kenneth K., White Bear, Minn. Combined speed-indicator and faucet control. No. 971,139; Sept. 27; Sp. p. 4252; Gaz. vol. 158; p. 750.
McMillan, George. (See Klucking, Albin H., assignor.)
McNab, Norman S., Caulfield, and J. S. Link, Melbourne, Victoria, Australia. Automatic apparatus for lighting and extinguishing gas-lamps. No. 969,182; Sept. 6; Sp. p. 84; Gaz. vol. 158; p. 14.
McNair, John G., St. Louis, Mo. Shoe-tree. No. 971,210; Sept. 27; Sp. p. 4418; Gaz. vol. 158; p. 774.
McNaught, Harry W., assignor to Elevator Safety Equipment Company, Indianapolis, Ind. Elevator safety device. No. 969,296; Sept. 6; Sp. p. 304; Gaz. vol. 158; p. 50.
McNaull, William D., Toledo, Ohio. Vehicle-tire. No. 970,535; Sept. 20; Sp. p. 2966; Gaz. vol. 158; p. 517.
McNeil, Chester, assignor to United Special Machine Company, Chicago, Ill. Imitation buttonhole. No. 970,094; Sept. 13; Sp. p. 2050; Gaz. vol. 158; p. 348.
McNeil, Joseph H., East Saugus, Mass. Amalgamator. No. 970,536; Sept. 20; Sp. p. 2968; Gaz. vol. 158; p. 518.
McPheeters, George C. H., Palo Alto, Cal. Vacuum-wall hot-water tank. No. 970,095; Sept. 13; Sp. p. 2051; Gaz. vol. 158; p. 348.
McPhillips, Charles B., Suffern, N. Y. Forming castings. No. 970,096; Sept. 13; Sp. p. 2052; Gaz. vol. 158; p. 349.
McQuarrie, James L., Oak Park, assignor to Western Electric Company, Chicago, Ill. Private-branch intercommunicating telephone system. No. 969,799; Sept. 13; Sp. p. 1405; Gaz. vol. 158; p. 246.
McQuinn, James S., Newcastle, Ind. Kitchen-cabinet. No. 970,537; Sept. 20; Sp. p. 2971; Gaz. vol. 158; p. 518.
McVeety, Charles, Plainfield, N. J. Ventilator. No. 969,554; Sept. 6; Sp. p. 870; Gaz. vol. 158; p. 137.
Meahl, Philip J., Bayonne, N. J. Paper-feed mechanism. No. 969,295; Sept. 6; Sp. p. 302; Gaz. vol. 158; p. 49.
Meckbach, Ernst, Vohwinkel, near Elberfeld, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Yellow lake. No. 970,072; Sept. 13; Sp. p. 2010; Gaz. vol. 158; p. 341.
Meckbach, Ernst, Vohwinkel, near Elberfeld, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. New yellow lake. No. 970,073; Sept. 13; Sp. p. 2011; Gaz. vol. 158; p. 341.
Meem, James C., Brooklyn, assignor to John Simmons Company, New York, N. Y. Hot-water heater. No. 969,714; Sept. 6; Sp. p. 1181; Gaz. vol. 158; p. 192.
Meikle, John, Springfield, Ill. Hitching and releasing device. No. 970,936; Sept. 20; Sp. p. 3835; Gaz. vol. 158; p. 654.
Meisner, John G., Chicago, Ill. Elevator. No. 970,730; Sept. 20; Sp. p. 3404; Gaz. vol. 158; p. 584.
Meland, Rasmus J., and T. O. Moe, Lodi, Wis. Marking and trimming device. No. 971,460; Sept. 27; Sp. p. 4878; Gaz. vol. 158; p. 854.
Melchert, August L., assignor of one-half to W. F. Greenleaf, Santa Ana, Cal. Pipe-wrench. No. 970,731; Sept. 20; Sp. p. 3406; Gaz. vol. 158; p. 584.
Melson, William R., assignor of one-half to W. D. Perry, Mamie, N. C. Vine-cutting attachment for plows. No. 970,379; Sept. 13; Sp. p. 2631; Gaz. vol. 158; p. 443.
Ménager, André. (See Baillot and Ménager.)
Menear, Morgan D., and C. O. Shay, Independence, W. Va. Cut-off valve. No. 971,295; Sept. 27; Sp. p. 4575; Gaz. vol. 158; p. 801.
Menzenhauer, Frederick, Jersey City, N. J. Stringed musical instrument. No. 970,845; Sept. 20; Sp. p. 3663; Gaz. vol. 158; p. 626.
Meredith, Charles A., St. Louis, Mo. Vehicle-spring. No. 970,527; Sept. 20; Sp. p. 2956; Gaz. vol. 158; p. 515.
Meredith, James G., Lynchburg, Va. Electrical switching device. No. 969,646; Sept. 6; Sp. p. 1051; Gaz. vol. 158; p. 169.
Merkley, Stanley A., Buffalo, N. Y. Egg-marking device. No. 970,074; Sept. 13; Sp. p. 2011; Gaz. vol. 158; p. 341.
Merrell, Irving S., assignor to Merrell-Soule Company, Syracuse, N. Y. Apparatus for treating dried fruit. No. 969,969; Sept. 13; Sp. p. 1791; Gaz. vol. 158; p. 304.
Merrell-Soule Company. (See Merrell, Irving S., assignor.)
Merrett, Charles E. (See Merrett, Henry and C. E.)
Merrett, Henry, East Burwood, and C. E. Merrett, South Melbourne, Victoria, Australia, assignors to T. B. Simpson, London, England. Internal-combustion engine. No. 970,937; Sept. 20; Sp. p. 3836; Gaz. vol. 158; p. 654.
Merrill, Alfred H., Toledo, Ohio. Heater. No. 971,134; Sept. 27; Sp. p. 4237; Gaz. vol. 158; p. 748.
Merritt, Henry W., assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 970,076; Sept. 13; Sp. p. 2016; Gaz. vol. 158; p. 342.
Merz, William, New York, N. Y., assignor to Western Electric Company, Chicago, Ill. Fuse-mounting. No. 971,205; Sept. 27; Sp. p. 4404; Gaz. vol. 158; p. 772.
Mesinger, Frederick, New York, N. Y. Saddle for motor-cycles. No. 969,791; Sept. 13; Sp. p. 1389; Gaz. vol. 158; p. 244.
Messerschmidt, Christian W. V., Copenhagen, Denmark. Metal capsule. No. 970,077; Sept. 13; Sp. p. 2019; Gaz. vol. 158; p. 342.
Messerschmitt, Anton, assignor, by mesne assignments, to Internationale "Wasserstoff" Aktiengesellschaft, Frankfort-on-the-Main, Germany. Producing hydrogen. No. 971,206; Sept. 27; Sp. p. 4405; Gaz. vol. 158; p. 773.
Metal Stamping Company. (See Coney, Glenn E., assignor.)
Metcalf, Horace. (See Cox, Amos M., assignor.)
Metropolitan Sewing Machine Company. (See Wels, John P., assignor.)
Metz & Co., H. A. (See Reuter, Baptist, assignor.)
Metzger, John C. (See Beck, Joseph W., assignor.)
Meurling, John A., Chicago, Ill. Insulator. No. 970,078; Sept. 13; Sp. p. 2020; Gaz. vol. 158; p. 342.
Meyer, Arthur H. C., Fort Wayne, Ind. Variable-feed gearing. No. 969,895; Sept. 13; Sp. p. 1625; Gaz. vol. 158; p. 280.
Meyer, Ferdinand W., Kansas City, Mo. Boiler. No. 971,296; Sept. 27; Sp. p. 4576; Gaz. vol. 158; p. 801.
Michael, Anceal C., Goshen, assignor to S. D. Helm, W. Q. O'Neall, and C. E. Lacy, Crawfordsville, Ind. Watering-trough. No. 970,079; Sept. 13; Sp. p. 2021; Gaz. vol. 158; p. 343.
Michael, Francis M., Eaton, Ohio. Grid for storage batteries. No. 969,387; Sept. 6; Sp. p. 506; Gaz. vol. 158; p. 81.
Michel, Joseph E. A., Paris, France. Pressure-regulator for automatic brakes. No. 971,207; Sept. 27; Sp. p. 4407; Gaz. vol. 158; p. 773.
Micka, Louis J., St. Louis, Mo. Collar for decoy-ducks. No. 971,302; Sept. 27; Sp. p. 4764; Gaz. vol. 158; p. 833.
Mickey, Robert K., assignor of one-half to Novelty Incandescent Lamp Company, Emporium, Pa., and one-half to E. M. Dwyer, Lynn, Mass. Incandescent-lamp-stem centering and drawing tool. No. 970,038; Sept. 20; Sp. p. 3838; Gaz. vol. 158; p. 655.
Middlebrook, George, *et al.* (See Stanway, William, assignor.)
Mieden, Adam, Los Angeles, Cal. Safety-envelop. No. 971,401; Sept. 27; Sp. p. 4880; Gaz. vol. 158; p. 855.
Mieg, Walter. (See Thomaschewski, Raeder, Mieg, and Fischer.)
Mihills, Merrick A., Chicago, Ill. Razor-strop. No. 970,939; Sept. 20; Sp. p. 3841; Gaz. vol. 158; p. 655.
Milam, Thomas M., *et al.* (See Tiner, John F., assignor.)
Miles, Casper W., Cincinnati, Ohio. Machine-tool. No. 969,388; Sept. 6; Sp. p. 507; Gaz. vol. 158; p. 81.
Miles, John B., St. Davids, Pa. Treating air for use in metallurgical processes. No. 971,297; Sept. 27; Sp. p. 4578; Gaz. vol. 158; p. 801.
Miller, Burt H. (See Miller, Edgar S. and B. H.)
Miller, Carl H., Cleveland, Ohio. Stove. No. 969,792; Sept. 13; Sp. p. 1390; Gaz. vol. 158; p. 244.

Miller, Charles, Brooklyn, N. Y. Hydroextractor. No. 970,253; Sept. 13; Sp. p. 2390; Gaz. vol. 158; p. 402.
Miller, Charles H., Cleveland, Ohio. Combined gas and hard-fuel range. No. 969,793; Sept. 13; Sp. p. 1391; Gaz. vol. 158; p. 244.
Miller, Charles R., Whitesboro, Tex. Ant-trap. No. 970,528; Sept. 20; Sp. p. 2957; Gaz. vol. 158; p. 515.
Miller, Edgar S. and B. H., assignors to Industrial Engineering Company, Atchison, Kans. Can-labeling machine. No. 969,715; Sept. 6; Sp. p. 1183; Gaz. vol. 158; p. 192.
Miller, Franklin P., Bloomfield, N. J. Ice-cream machine. No. 970,846; Sept. 20; Sp. p. 3665; Gaz. vol. 158; p. 626.
Miller, John A., and H. Bingaman, Harding, S. D. Hayfork. No. 970,940; Sept. 20; Sp. p. 3842; Gaz. vol. 158; p. 656.
Miller, John J. A., Denver, Colo. Seal for car-doors, shipping-receptacles, &c. No. 970,529; Sept. 20; Sp. p. 2958; Gaz. vol. 158; p. 515.
Miller, Joseph C. (See Breckenkamp, Louis H., assignor.)
Miller, Max, New York, N. Y. Safety-belt for windows. No. 971,062; Sept. 27; Sp. p. 4098; Gaz. vol. 158; p. 725.
Miller, Philip C., Chicago, Ill. Tubular guard for dust-collectors. No. 970,530; Sept. 20; Sp. p. 2960; Gaz. vol. 158; p. 516.
Miller, Romle H., St. Louis, Mo. Mirror-support. No. 970,636; Sept. 20; Sp. p. 3212; Gaz. vol. 158; p. 553.
Miller, William J. (See Frayer and Miller.)
Millinery and Decorating Supply Company. (See Antonucci, Eugene, assignor.)
Mills, Edward N., assignor of one-third to C. E. Hallstone and one-third to F. M. Graham, San Francisco, Cal. Machine for shaping heavy tools. No. 971,208; Sept. 27; Sp. p. 4413; Gaz. vol. 158; p. 773.
Mills, Frank H., Edgewood, Cal. Stock-chute. No. 970,344; Sept. 13; Sp. p. 2557; Gaz. vol. 158; p. 431.
Mills, James W., assignor to Daniel W. Clark, Barboursville, Ky. Ironing-table. No. 971,462; Sept. 27; Sp. p. 4881; Gaz. vol. 158; p. 855.
Millspaugh, William H., assignor to The Sandusky Foundry & Machine Company, Sandusky, Ohio. Suction-box vacuum-regulator for paper-machines. No. 971,298; Sept. 27; Sp. p. 4580; Gaz. vol. 158; p. 802.
Milwaukee Casket Company. (See Swartz, Warren E., assignor.)
Mine and Smelter Supply Company, The. (See Wilfley, Arthur R., assignor.)
Miner, Charles T. J., Kansas City, Mo. Current-motor. No. 969,794; Sept. 13; Sp. p. 1392; Gaz. vol. 158; p. 244.
Minter, H. F. (See Damron, Frank E., assignor.)
Mirfield, George E., assignor to Youngstown Sheet & Tube Co., Youngstown, Ohio. Wire-fence-making machine. No. 969,552; Sept. 6; Sp. p. 863; Gaz. vol. 158; p. 136.
Mitchell, Cliff W., Floydada, Tex. Oil-burner. No. 969,647; Sept. 6; Sp. p. 1053; Gaz. vol. 158; p. 169.
Mitchell, Frederick G., Glencoe, Md. Wagon-tongue-yoke-attaching device. No. 970,254; Sept. 13; Sp. p. 2392; Gaz. vol. 158; p. 403.
Mixter, George W. (See Sklovsky and Mixter.)
Modlin, Frank, Sioux City, Iowa. Auto-tire. No. 969,380; Sept. 6; Sp. p. 509; Gaz. vol. 158; p. 81.
Moe, Theodore O. (See Meland and Moe.)
Moen, Nels L., Wrangel, Alaska, assignor of one-half to I. Handseth, Seattle, Wash. Floating fish-trap. No. 969,970; Sept. 13; Sp. p. 1793; Gaz. vol. 158; p. 304.
Moffett, Thomas S., Spokane, Wash. Draft device. No. 971,393; Sept. 27; Sp. p. 4764; Gaz. vol. 158; p. 838.
Molinari, José, *et al.* (See Cervelli, José, assignor.)
Moline Plow Company. (See Lindgren, Alexus C., assignor.)
Moller, Josephine, East Somerville, Mass. Sifting-shovel. No. 971,209; Sept. 27; Sp. p. 4581; Gaz. vol. 158; p. 802.
Monarch Typewriter Company, The. (See Merritt, Henry W., assignor.)
Monarch Typewriter Company, The. (See Steele, Herbert H., assignor.)
Monette, Joseph B., Providence, R. I. Counter-guard bracket. No. 971,300; Sept. 27; Sp. p. 4582; Gaz. vol. 158; p. 802.
Monnot, John F., assignor to Monnot Metallurgical Company, New York, N. Y. Producing compound metal bodies. No. 971,135; Sept. 27; Sp. p. 4238; Gaz. vol. 158; p. 748.
Monnot, John F., assignor to Duplex Metals Company, New York, N. Y. Producing compound metal bodies. No. 971,136; Sept. 27; Sp. p. 4240; Gaz. vol. 158; p. 748.
Monnot Metallurgical Company. (See Monnot, John F., assignor.)
Monot, Charles, Lyon, France. Producing designs on glass or other materials. No. 970,080; Sept. 13; Sp. p. 2023; Gaz. vol. 158; p. 343.
Monson, August A., North St. Paul, assignor to E. G. Kay, St. Paul, Minn. Automatic window-opener. No. 970,380; Sept. 13; Sp. p. 2632; Gaz. vol. 158; p. 444.
Montilli, Leonard, assignor of one-half to C. E. Heymann, New York, N. Y. Plume. No. 969,795; Sept. 13; Sp. p. 1395; Gaz. vol. 158; p. 245.
Moon, Richard D., San Angelo, Tex. Wheel. No. 971,463; Sept. 27; Sp. p. 4881; Gaz. vol. 158; p. 855.
Mooney & Crane. (See Pejchar, Josef, assignor.)
Moore, Adison, Helena, Okla. Stock-fountain. No. 969,177; Sept. 6; Sp. p. 73; Gaz. vol. 158; p. 12.
Moore, Andrew, *et al.* (See Hemphill, Henry B., assignor.)
Moore, Andy, *et al.* (See Hemphill, Henry B., assignor.)
Moore, John L., New York, N. Y. Pull-socket for electric incandescent lamps. No. 970,255; Sept. 13; Sp. p. 2393; Gaz. vol. 158; p. 403.
Moore, John W., Huntsville, Ala. Tire-casing. No. 971,301; Sept. 27; Sp. p. 4583; Gaz. vol. 158; p. 802.
Moore, Lewis L., Canton, Ohio. Pole-tip. No. 970,081; Sept. 13; Sp. p. 2024; Gaz. vol. 158; p. 343.
Moore, Ralph S., Westminster, London, England. Hot-blast stove. No. 970,941; Sept. 20; Sp. p. 3842; Gaz. vol. 158; p. 656.
Morehead, John, Detroit, Mich. Faucet. No. 970,082; Sept. 13; Sp. p. 2026; Gaz. vol. 158; p. 344.
Morehouse, Wilmot L. (See Weber, Joseph, assignor.)
Morgan Engineering Company, The. (See Taylor, Clarence L., assignor.)
Morgan, Frederick, Philadelphia, Pa., assignor to O. F. Wood, New York, N. Y. Amusement device. No. 970,531; Sept. 20; Sp. p. 2961; Gaz. vol. 158; p. 516.
Moriarty, Thomas H., *et al.* (See Cummings, Michael H., assignor.)
Morin, John M. (See McGrane, John F., assignor.)
Morler, Christian. (See Hutteball and Morler.)
Morrill, Byron F., Nashua, N. H. Indexing device. No. 971,464; Sept. 27; Sp. p. 4883; Gaz. vol. 158; p. 855.
Morris, Anthony S., Haverford, assignor to Kestner Evaporator Company, Philadelphia, Pa. Feeding device for evaporators. No. 971,394; Sept. 27; Sp. p. 4765; Gaz. vol. 158; p. 835.
Morris, Anthony S., Haverford, assignor to Kestner Evaporator Company, Philadelphia, Pa. Feeding device for evaporators. No. 971,395; Sept. 27; Sp. p. 4767; Gaz. vol. 158; p. 835.
Morris, Harry, Chicago, Ill. Hair-pin. No. 969,178; Sept 6; Sp. p. 75; Gaz. vol. 158; p. 13.
Morris, Johan, Sykesville, Pa. Table. No. 970,637; Sept. 20; Sp. p. 3214; Gaz. vol. 158; p. 553.
Morrison, Andrew M., Dubuque, Iowa. Boiler-riveting hammer. No. 969,553; Sept. 6; Sp. p. 869; Gaz. vol. 158; p. 136.
Morrison, Lewis E., Newark, N. J., assignor to Automatic Platen Press Company, New York, N. Y. Sheet-registering device. No. 970,256; Sept. 13; Sp. p. 2396; Gaz. vol. 158; p. 404.
Morrison, William E., La Fayette, Ind. Airship. No. 970,532; Sept. 20; Sp. p. 2962; Gaz. vol. 158; p. 516.
Morscher, Lawrence N., Lawrence, Kans., assignor to himself, and W. J. Ehrsam, Enterprise, Kans., cotrustees. Grader. No. 969,971; Sept. 13; Sp. p. 1794; Gaz. vol. 158; p. 306.
Morse Code Signal Co. (See Burnett, William S., assignor.)
Morse, William B., Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Awl-grinding machine. No. 969,896; Sept. 13; Sp. p. 1625; Gaz. vol. 158; p. 280.
Moses, William S., Tracy, Minn. Rotary engine. No. 970,942; Sept. 20; Sp. p. 3844; Gaz. vol. 158; p. 656.
Mosler Safe Company, The. (See Bartels, Carl, assignor.)
Moss, Archie Q. (See Moss, Marten D. and A. Q.)
Moss, Marten D. and A. Q., Elberton, Ga. Bridle-bit. No. 970,083; Sept. 13; Sp. p. 2028; Gaz. vol. 158; p. 344.
Moss, Sanford A., Lynn, Mass., assignor to General Electric Company. Gas-turbine. No. 969,760; Sept. 6; Sp. p. 1304; Gaz. vol. 158; p. 209.
Mueller, Wilhelm, Düsseldorf, Germany. Coke-furnace. No. 971,137; Sept. 27; Sp. p. 4248; Gaz. vol. 158; p. 749.
Muennink, George, *et al.* (See Cameron, George W., assignor.)
Muennink, John, *et al.* (See Cameron, George W., assignor.)
Mug, Edward T., Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company. Brush for dynamo-electric machines. No. 969,706; Sept. 13; Sp. p. 1396; Gaz. vol. 158; p. 245.
Mulholland, Mathew, Cleveland, Ohio. Hatch-fastener for vessels. No. 970,447; Sept. 13; Sp. p. 2766; Gaz. vol. 158; p. 465.
Mulkey, Ben W., Vale, Oreg. Record-book. No. 971,396; Sept. 27; Sp. p. 4768; Gaz. vol. 158; p. 834.
Mullendore, Erd C. (See Jacobs, Olaus B., assignor.)
Müller, Adam, Millvale, Pa. Footwear. No. 970,381; Sept. 13; Sp. p. 2634; Gaz. vol. 158; p. 444.
Müller, Otto M., Gelsenkirchen, Germany. Lamp-burner. No. 970,084; Sept. 13; Sp. p. 2028; Gaz. vol. 158; p. 344.
Müller, Oscar, New York, N. Y., M. Willnus and C. Weishaar, Elizabeth, N. J. Snow-melting machine. No. 969,716; Sept. 6; Sp. p. 1191; Gaz. vol. 158; p. 193.
Multoplex Filing Device Company, The. (See Eacrett, William, assignor.)
Mummelthey, Ferdinand, Coraopolis, assignor to Graham Nut Company, Pittsburg, Pa. Gas-burner. No. 970,382; Sept. 13; Sp. p. 2634; Gaz. vol. 158; p. 444.
Munsinger, Hiram S. and J. K., Howard, Kans. Gate-fastener. No. 970,845; Sept. 13; Sp. p. 2559; Gaz. vol. 158; p. 432.
Munsinger, Joseph K. (See Munsinger, Hiram S. and J. K.)
Murphy, Arthur, assignor to Frank and Dugan, Paterson, N. J. Warping-machine. No. 970,085; Sept. 13; Sp. p. 2029; Gaz. vol. 158; p. 345.
Murphy, Daniel H., New Castle, Pa. Means for scouring pipe. No. 969,179; Sept. 6; Sp. p. 76; Gaz. vol. 158; p. 13.
Murphy, Peter H., Pittsburg, Pa. Car-roof. No. 969,972; Sept. 13; Sp. p. 1796; Gaz. vol. 158; p. 305.

Murphy, William A. C., Springfield, Mo. Steam-cooker. No. 970,638; Sept. 20; Sp. p. 3215; Gaz. vol. 158; p. 553.
Murphy, William H., Albert Lea, Minn. Box-fastener. No. 970,639; Sept. 20; Sp. p. 3216; Gaz. vol. 158; p. 553.
Murphy, William R., Chicago, Ill. Sled-propeller. No. 971,302; Sept. 27; Sp. p. 4585; Gaz. vol. 158; p. 803.
Murray, Charles. (See Hagan, Alexander J., assignor.)
Murray, Thomas E., New York, N. Y. Base-ball-game apparatus. No. 970,086; Sept. 13; Sp. p. 2032; Gaz. vol. 158; p. 345.
Murray, Thomas E., New York, N. Y. Binding device for circuit-conductors. No. 970,087; Sept. 13; Sp. p. 2035; Gaz. vol. 158; p. 345.
Murray, Thomas E., New York, N. Y. Electric cut-out. No. 970,088; Sept. 13; Sp. p. 2036; Gaz. vol. 158; p. 346.
Murray, Thomas E., New York, N. Y. Binding-post. No. 970,089; Sept. 13; Sp. p. 2039; Gaz. vol. 158; p. 346.
Musk, Albert, Rochester, N. Y. Holder for spools. No. 971,209; Sept. 27; Sp. p. 4415; Gaz. vol. 158; p. 774.
Mustel, Alphonse L., assignor to Société Mustel et Cie., Paris, France. Tracker for automatic musical instruments or orchestrions. No. 971,465; Sept. 27; Sp. p. 4887; Gaz. vol. 158; p. 856.
Mustin, Herbert S., assignor to Austin Manufacturing Company, Chicago, Ill. Motor lawn-mower. No. 969,797; Sept. 13; Sp. p. 1398; Gaz. vol. 158; p. 245.
Muth, John. (See Jessup and Muth.)
Muther, Lorenz. (See Lautenschlager, William F., assignor.)
Myers, Charles H., Buffalo, N. Y. Display-cover. No. 970,732; Sept. 20; Sp. p. 3407; Gaz. vol. 158; p. 585.
Myers, Elmer E. (See Donaldson, Charles, assignor.)
Myers, Leopold, Birmingham, England. Key-ring. No. 969,180; Sept. 6; Sp. p. 81; Gaz. vol. 158; p. 13.
Myers, Nathaniel H. (See Smith, Alphonso D., assignor.)
Naber, Moses H., Chicago, Ill. Springwork. No. 969,390; Sept. 6; Sp. p. 511; Gaz. vol. 158; p. 81.
Nagle, William B., New York, N. Y. Manifolding device. No. 970,735; Sept. 20; Sp. p. 3419; Gaz. vol. 158; p. 586.
Nail, James N., Hornbeck, La. Churn. No. 971,466; Sept. 27; Sp. p. 4889; Gaz. vol. 158; p. 856.
Napier, Richard M. (See Cowan, Edward, assignor.)
Nash, Firmin T., Salem, Oreg. Chair or stool attachment. No. 970,385; Sept. 13; Sp. p. 2638; Gaz. vol. 158; p. 445.
Nash, John M., Wauwatosa, Wis. Abrading-machine. No. 969,183; Sept. 6; Sp. p. 83; Gaz. vol. 158; p. 14.
Nathurst, Jalmar G., Kingston, N. Y. Trinitrotoluene mixture for explosives. No. 971,211; Sept. 27; Sp. p. 4420; Gaz. vol. 158; p. 774.
National Brake & Electric Company. (See Richards, Walter J., assignor.)
National Carbon Company. (See Barron and Waitt, assignors.)
National Cash Protector Company. (See Hoffman, Fred, assignor.)
National Cash Register Company. (See Cleal, Joseph P., assignor.)
National Cash Register Company, The. (See Riddle, Robert H., assignor.)
National Hygenic Service Company. (See Jones, Alva D., assignor.)
National Malleable Castings Company, The. (See Pope, Henry F., assignor.)
National Malleable Castings Company, The. (See Tower, Clinton A., asignor.)
National Water Main Cleaning Company, The. (See Hill and Hodgman, assignors.)
National Waterproof Film Company. (See Thompson, Fredrick B., assignor.)
Naum, Harry D., Newburgh, N. Y. Bottle filling and capping apparatus. No. 969,391; Sept. 6; Sp. p. 512; Gaz. vol. 158; p. 82.
Neal, Spencer G., and J. M. Childress, Los Angeles, assignors to California Valve and Air Brake Company, Palms, Cal. Pressure-regulating apparatus. No. 970,736; Sept. 20; Sp. p. 3420; Gaz. vol. 158; p. 586.
Neal, Thomas S., Detroit, Mich. Machine for shaping paper tubes. No. 969,555; Sept. 6; Sp. p. 872; Gaz. vol. 158; p. 137.
Nederloe, Ole J., Mount Sterling, Wis. Wire-stretching clamp. No. 971,065; Sept. 27; Sp. p. 4104; Gaz. vol. 158; p. 726.
Neill, James, Sheffield, England. Machine for cutting files and the like. No. 971,066; Sept. 27; Sp. p. 4106; Gaz. vol. 158; p. 726.
Neisler, Oscar L., Indianapolis, Ind. Street-sweeper. No. 969,556; Sept. 6; Sp. p. 873; Gaz. vol. 158; p. 137.
Neller, Albert H., assignor to Louden Machinery Company, Fairfield, Iowa. Coupling for pipes, shafts, &c. No. 970,737; Sept. 20; Sp. p. 3425; Gaz. vol. 158; p. 587.
Nelson, Emil A., assignor to Hupp Motor Car Company, Detroit, Mich. Brake. No. 970,738; Sept. 20; Sp. p. 3426; Gaz. vol. 158; p. 587.
Nelson, Louis M., Pennington, N. J., assignor to Nelson Tire Company. Tire. No. 969,717; Sept. 6; Sp. p. 1194; Gaz. vol. 158; p. 193.
Nelson, Louise, Chicago, Ill. Coin-holder. No. 970,097; Sept. 13; Sp. p. 2054; Gaz. vol. 158; p. 349.
Nelson Tire Company. (See Nelson, Louis M., assignor.)
Neumann, Wilhelm, New York, N. Y. Screw-cutting-die head. No. 971,303; Sept. 27; Sp. p. 4586; Gaz. vol. 158; p. 803.
New Jersey Patent Company. (See Hibbard, Charles L., assignor.)
New Jersey Patent Company. (See Sheble, Horace, assignor.)
New, Luke M., Waco, Tex. Lock-mortiser. No. 969,897; Sept. 13; Sp. p. 1631; Gaz. vol. 158; p. 281.
Newark Gear Cutting Machine Company. (See Eberhardt, Elmer G., assignor.)
Newcomb, David L., San Diego, and H. A. Brooks, Los Angeles, Cal.; said Brooks assignor to said Newcomb. Mechanical ballot. No. 969,718; Sept. 6; Sp. p. 1196; Gaz. vol. 158; p. 193.
Newell, Peter S. H., Leonia, N. J. Illustrated book and pamphlet. No. 970,943; Sept. 20; Sp. p. 3846; Gaz. vol. 158; p. 657.
Newmann, John, Brooklyn, N. Y. Roller-bearing. No. 969,763; Sept. 6; Sp. p. 1323; Gaz. vol. 158; p. 210.
Newpher, Alfred H., Chicago, Ill., assignor to The Adams & Westlake Company. Window-screen. No. 971,304; Sept. 27; Sp. p. 4589; Gaz. vol. 158; p. 803.
Nicholls, Henry D., Philadelphia, Pa. Grinding and sharpening machine. No. 969,649; Sept. 6; Sp. p. 1057; Gaz. vol. 158; p. 170.
Nichols, Aaron S., New York, N. Y. Apparatus for oiling cauls. No. 971,397; Sept. 27; Sp. p. 4769; Gaz. vol. 158; p. 834.
Nickerson, Daniel S. (See Nickerson, George C., assignor.)
Nickerson, George C., assignor of one-half to D. S. Nickerson, Brewer, Me. Caster. No. 970,386; Sept. 13; Sp. p. 2639; Gaz. vol. 158; p. 445.
Niedringhaus, Alexander, St. Louis, Mo. Galvanizing apparatus. No. 969,392; Sept. 6; Sp. p. 514; Gaz. vol. 158; p. 82.
Nielsen, Ernest A., and F. C. Petersen, East Boston, Mass. Stamp-vending machine. No. 969,973; Sept. 13; Sp. p. 1798; Gaz. vol. 158; p. 305.
Nierth & Helbig. (See Helbig, Robert, assignor.)
Nikonow, John P., Evansville, Ind., assignor to The Westinghouse Machine Company. Turbine and regulating means therefor. (Reissue.) No. 13,153; Sept. 20; Sp. p. 3981; Gaz. vol. 158; p. 681.
Nilson, Axel H., and M. Olson, Bridgeport, Conn., assignors to The Premium Glass Company, Coffeyville, Kans. Wire-bending machine. No. 969,488; Sept. 6; Sp. p. 711; Gaz. vol. 158; p. 113.
Nixon, George W., assignor to Nixon Mining Drill Co., Chattanooga, Tenn. Mining-drill thread-box and support. No. 971,467; Sept. 27; Sp. p. 4891; Gaz. vol. 158; p. 856.
Nixon Mining Drill Co. (See Nixon, George W., assignor.)
Noad, James, East Ham, assignor of one-half to E. J. Townsend, London, England. Treatment of hydrocarbon oils and the like. No. 971,468; Sept. 27; Sp. p. 4892; Gaz. vol. 158; p. 857.
Noble, Donald, Bridgeport, Conn. Machine for covering or insulating wire with yarn or its equivalent. No. 970,098; Sept. 13; Sp. p. 2055; Gaz. vol. 158; p. 349.
Noble, Donald, Bridgeport, Conn., assignor to The Singer Manufacturing Company, Elizabethport, N. J. Crank hemstitch embroidering-machine. No. 971,140; Sept. 27; Sp. p. 4261; Gaz. vol. 158; p. 750.
Noble, Edward E. (See Wallau and Noble.)
Noble, James A., assignor to The Noble & Wood Machine Company, Hoosick Falls, N. Y. Paper-making machinery. No. 969,800; Sept. 13; Sp. p. 1411; Gaz. vol. 158; p. 247.
Noble, Thomas, Lakeside, Nebr. Horse-releaser. No. 970,346; Sept. 13; Sp. p. 2560; Gaz. vol. 158; p. 432.
Noble & Wood Machine Company, The. (See Noble, James A., assignor.)
Nock, Rupert A., Newark, N. J., assignor to The William B. Kerr Company. Case for cigars, cigarettes, &c. No. 970,258; Sept. 13; Sp. p. 2398; Gaz. vol. 158; p. 404.
Nolen, James G., assignor to J. E. Shepherd, Chicago, Ill. Combined telephone and protective alarm system. No. 969,393; Sept. 6; Sp. p. 515; Gaz. vol. 158; p. 82.
Norling, Reinhold A., assignor to Aurora Automatic Machinery Company, Aurora, Ill. Pneumatic drill. No. 969,394; Sept. 6; Sp. p. 521; Gaz. vol. 158; p. 83.
Norris, Albert F. and C. H., Boston, Mass. Pedal. No. 969,650; Sept. 6; Sp. p. 1059; Gaz. vol. 158; p. 170.
Norris, Albert F. and C. H., Boston, Mass. Pedal and toe-cap therefor. No. 969,651; Sept. 6; Sp. p. 1064; Gaz. vol. 158; p. 171.
Norris, Clifton H. (See Norris, Albert F. and C. H.)
Norris, Clyde B., East Chicago, Ill. Safety device for elevators. No. 969,557; Sept. 6; Sp. p. 875; Gaz. vol. 158; p. 138.
North Electric Company, The. (See Clement, Edward E., assignor.)
North and Judd Manufacturing Company, The. (See Smith, Clarence E., assignor.)
Northrup, Theodore H. (See Whitaker, David S., assignor.)
Novak, Julius J., Loma, Nebr. Manure-loader and like device. No. 970,259; Sept. 13; Sp. p. 2400; Gaz. vol. 158; p. 404.
Novelty Incandescent Lamp Company *et al.* (See Mickey, Robert K., assignor.)
Novelty Manufacturing Company. (See Boeck, Charles G., assignor.)
Nullmeyer, Frank H. (See Lewis and Nullmeyer.)
Nye and Fredick Company. (See Tiffany, Eli, assignor.)
Nydegger, Paul F., Elizabeth, N. J., assignor to The Singer Manufacturing Company. Turbine. No. 969,974; Sept. 13; Sp. p. 1799; Gaz. vol. 158; p. 306.

O. A. Miller Treeing Machine Company. (See Batchelder, Charles A., assignor.)
O-U-Handy Tool Company. (See Runner, John B., assignor.)
O'Brien, Patrick J., Torris Cove, Newfoundland. Bottle and jar closure. No. 970,538; Sept. 20; Sp. p. 2973; Gaz. vol. 158; p. 519.
O'Connor, James, assignor to Auto-Pneumatic Action Co., New York, N. Y. Tracker-board for mechanical musical instruments. No. 971,398; Sept. 27; Sp. p. 4770; Gaz. vol. 158; p. 834.
O'Donohoe, Maurice P., and C. P. Ellis, Nashville, Tenn. Gas-range attachment. No. 969,558; Sept. 6; Sp. p. 877; Gaz. vol. 158; p. 188.
O'Hanlon, James J., *et al.* (See Day, Charles E., assignor.)
O'Keefe, Daniel, Cincinnati, Ohio, assignor, by mesne assignments, to E. McFarland. Acetylene-gas generator. No. 970,100; Sept. 13; Sp. p. 2060; Gaz. vol. 158; p. 350.
O'Leary, Edgar P., Pueblo, Colo. Portable fire-escape. No. 969,559; Sept. 6; Sp. p. 878; Gaz. vol. 158; p. 138.
O'Maley, James, near Loogootee, Ind. Cultivator attachment. No. 970,743; Sept. 20; Sp. p. 3443; Gaz. vol. 158; p. 589.
O'Neall, William Q., *et al.* (See Michael, Anceal C., assignor.)
O'Neil, Frank J., New Britain, Conn. Combination T-square, scratch-gage, and compass. No. 970,641; Sept. 20; Sp. p. 3220; Gaz. vol. 158; p. 554.
O'Neil, George A., Chicago, Ill. Game apparatus. No. 969,560; Sept. 6; Sp. p. 880; Gaz. vol. 158; p. 139.
O'Neill, George, Moncton, New Brunswick, Canada. Furnace-door. No. 970,847; Sept. 13; Sp. p. 2562; Gaz. vol. 158; p. 432.
Ocumpaugh, Charles H., Rochester, N. Y. Interlocking mechanism for voting-machines. No. 970,260; Sept. 13; Sp. p. 2401; Gaz. vol. 158; p. 405.
Odatey, William G., Los Angeles, Cal. Fly-catcher. No. 970,944; Sept. 20; Sp. p. 3847; Gaz. vol. 158; p. 657.
Odquist, Victor, and H. H. Lyche, assignors to Torris Wold & Company, Chicago, Ill. Can-cap hemmer. No. 970,539; Sept. 20; Sp. p. 2975; Gaz. vol. 158; p. 519.
Oeink, John B., Fulda, Ohio. Ball-knocker. No. 969,489; Sept. 6; Sp. p. 719; Gaz. vol. 158; p. 114.
Ogilvie, David D., Lee, Nev. Guard. No. 970,099; Sept. 13; Sp. p. 2060; Gaz. vol. 158; p. 349.
Ohio Brass Company. (See Brown, John R., assignor.)
Old, Thomas W., Montreal, Quebec, Canada, assignor to The Carter-Crume Company, Limited, Niagara Falls, N. Y. Manifolding-pad. No. 970,739; Sept. 20; Sp. p. 3427; Gaz. vol. 158; p. 587.
Oldenburg, Charles, Halifax, Nova Scotia, Canada. Gasolene soldering-iron. No. 970,740; Sept. 20; Sp. p. 3429; Gaz. vol. 158; p. 588.
Oldham, Frederick C., Brooklyn, N. Y. Spring-wheel. No. 971,067; Sept. 27; Sp. p. 4108; Gaz. vol. 158; p. 727.
Olds Motor Works. (See Dunham, George W., assignor.)
Oliver Typewriter Company, The. (See Knapp, Theron L., assignor.)
Olley, Raymond H., assignor to Crouse-Hinds Company, Syracuse, N. Y. Panel-board cut-out and distributing mechanism. No. 970,741; Sept. 20; Sp. p. 3431; Gaz. vol. 158; p. 588.
Ollinger, Charles G. (See Kjilberg, John E., assignor.)
Olmsted, Bertrand C., Deer Creek, Okla. Shovel. No. 969,975; Sept. 13; Sp. p. 1802; Gaz. vol. 158; p. 306.
Olmsted, Clarence E. (See Spellman and Olmsted.)
Olsen, Martin J., *et al.* (See Henry, Charles J., assignor.)
Olson, Gustave R., and D. Hiatt, Plattsmouth, Nebr. Photographic-printing machine. No. 970,742; Sept. 20; Sp. p. 3434; Gaz. vol. 158; p. 589.
Olson, Mauritz. (See Nilson and Olson.)
Omalia, Michael, assignor of one-sixth to W. S. Robinson and one-sixth to W. W. Baylor, Scranton, Pa. Nut-lock. No. 970,101; Sept. 13; Sp. p. 2062; Gaz. vol. 158; p. 350.
Orange Machine and Manufacturing Company. (See Davis, Thomas, assignor.)
Orchard, Arthur L., assignor to Case Brothers Cutlery Co., Little Valley, N. Y. Scale-fastening for pocket-knives. No. 970,540; Sept. 20; Sp. p. 2984; Gaz. vol. 158; p. 519.
Országh, John. (See Országh, Joseph and J.)
Országh, Joseph and J., Ashtabula, Ohio. Trolley. No. 971,399; Sept. 27; Sp. p. 4772; Gaz. vol. 158; p. 835.
Ortiz, Daniel, Port Townsend, Wash. Egg-stamp. No. 969,898; Sept. 13; Sp. p. 1633; Gaz. vol. 158; p. 281.
Orton, George M. (See Fogg, Charles F., assignor.)
Orwig, Joseph R., Des Moines, Iowa. Corrugated metal culvert. No. 971,400; Sept. 27; Sp. p. 4774; Gaz. vol. 158; p. 835.
Osborn, Alden E. (See Carlson, Osborn, and Angelino.)
Osborn, Alden E., New York, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa. Transmission-gearing. No. 970,744; Sept. 20; Sp. p. 3444; Gaz. vol. 158; p. 589.
Osborn Manufacturing Company, The. (See Rice, Edward E., assignor.)
Osborne, William L., Chicago, Ill. Relief or safety valve. No. 970,348; Sept. 13; Sp. p. 2563; Gaz. vol. 158; p. 433.
Oskrit, Frank, Pittsfield, Mass. Bobbin-holder for spinning-spindles. No. 970,745; Sept. 20; Sp. p. 3450; Gaz. vol. 158; p. 590.
Ostermayer, Frederick, Elizabeth, N. J. Carbureting apparatus. No. 970,102; Sept. 13; Sp. p. 2063; Gaz. vol. 158; p. 350.
Otis Elevator Company. (See Chytraus, Emil F., assignor.)
Otten, Bennata, Lübeck, Germany. Controlling apparatus for libraries and the like. No. 969,395; Sept. 6; Sp. p. 527; Gaz. vol. 158; p. 83.
Oulton, George, C. Ablett, and W. E. Lightfoot, Liverpool, England. Sound recording and reproducing machine. No. 971,068; Sept. 27; Sp. p. 4109; Gaz. vol. 158; p. 727.
Owen, Matthew H., Chicago, Ill. Valve. No. 970,387; Sept. 13; Sp. p. 2641; Gaz. vol. 158; p. 445.
Owen, Walter W., Youngstown, Ohio. Engine-cranker mechanism. No. 970,261; Sept. 13; Sp. p. 2405; Gaz. vol. 158; p. 405.
Owin, Elijah J., assignor of one-fourth to T. B. Stubbs and one-fourth to J. G. Owin, Galveston, Tex. Crude-oil burner. No. 970,349; Sept. 13; Sp. p. 2566; Gaz. vol. 158; p. 433.
Owin, John G., *et al.* (See Owin, Elijah J., assignor.)
P. & F. Corbin. (See Arens, August, assignor.)
P. & F. Corbin. (See Henry, William K., assignor.)
Packard, Albert, assignor of one-half to F. J. Mack, Indianapolis, Ind. Vehicle-tire-locking device. No. 969,396; Sept. 6; Sp. p. 527; Gaz. vol. 158; p. 84.
Page, David, Topeka, Kans. Packer-platform. No. 969,490; Sept. 6; Sp. p. 720; Gaz. vol. 158; p. 114.
Palmer, Edward H., Reading, Mass. Calculating-machine. No. 969,801; Sept. 13; Sp. p. 1411; Gaz. vol. 158; p. 247.
Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Knockdown couch-hammock. No. 970,388; Sept. 13; Sp. p. 2642; Gaz. vol. 158; p. 446.
Palmer, Robert F. (See Pickett, Montgomery B., assignor.)
Pamer, John, Akron, Ohio. Drawing-pen. No. 970,541; Sept. 20; Sp. p. 2986; Gaz. vol. 158; p. 520.
Panyard, Thomas A., assignor to E. J. Purtell, Milwaukee, Wis. Grinder. No. 970,542; Sept. 20; Sp. p. 2987; Gaz. vol. 158; p. 520.
Parkas, Nick. (See Psareas and Parkas.)
Parker, Henry R., assignor of one-half to R. F. Parks, Trappe, Pa. Incubator. No. 971,212; Sept. 27; Sp. p. 4421; Gaz. vol. 158; p. 775.
Parker, Howard, Nashua, N. H. Press-roll. No. 969,652; Sept. 6; Sp. p. 1066; Gaz. vol. 158; p. 171.
Parkhurst, Lemuel W., Elma, Wash. Saw-set. No. 971,141; Sept. 27; Sp. p. 4263; Gaz. vol. 158; p. 751.
Parkhurst, Leon F., and H. G. Weeks, assignors to Diamond Electric Company, Binghamton, N. Y. Sad-iron. No. 969,976; Sept. 13; Sp. p. 1804; Gaz. vol. 158; p. 306.
Parks, Robert F. (See Parker, Henry R., assignor.)
Parrott, Richard D. A., New York, N. Y. Memorandum-rack. No. 970,103; Sept. 13; Sp. p. 2065; Gaz. vol. 158; p. 350.
Parseval, August von, Charlottenburg, Germany. Controlling device for airships. No. 970,262; Sept. 13; Sp. p. 2409; Gaz. vol. 158; p. 406.
Parsley, George T., Hornbrook, Cal. Combination-tool. No. 971,012; Sept. 20; Sp. p. 3971; Gaz. vol. 158; p. 679.
Parsons, Albert S., Berkeley, Cal. Railway power transmission. No. 970,543; Sept. 20; Sp. p. 2990; Gaz. vol. 158; p. 520.
Parsons, Charles A., G. G. Stoney, A. Q. Carnegie, and A. W. Bowerbank, Newcastle-upon-Tyne, England; said Stoney, Carnegie, and Bowerbank assignors to said Parsons. Controlling-valve for fluid-operated motors. No. 971,069; Sept. 27; Sp. p. 4113; Gaz. vol. 158; p. 727.
Parsons, Lewis E., Lewistown, Ill. Corn-harvester. No. 970,945; Sept. 20; Sp. p. 3849; Gaz. vol. 158; p. 657.
Partington, Susan C., Buffalo, N. Y. Protector for automobiles, &c. No. 969,899; Sept. 13; Sp. p. 1633; Gaz. vol. 158; p. 281.
Partridge, Alwyn H., Denver, Colo., assignor of one-fourth to S. N. Pond, Morgan Park, Ill. Nut-lock. No. 969,397; Sept. 6; Sp. p. 529; Gaz. vol. 158; p. 84.
Pascal, William W. (See Gloor and Pascal.)
Pascale, Orazio, New York, N. Y. Portable inclosure for photographic purposes. No. 970,104; Sept. 13; Sp. p. 2067; Gaz. vol. 158; p. 351.
Passman, Abraham, assignor to J. H. and I. Liederman and S. Soboroff, Chicago, Ill. Ear-protector. No. 970,544; Sept. 20; Sp. p. 2991; Gaz. vol. 158; p. 520.
Pate, John L., Madisonville, Ky. Scrubbing-brush. No. 969,184; Sept. 6; Sp. p. 90; Gaz. vol. 158; p. 14.
Patronaggio, Joseph, New York, N. Y. Collision shock-absorber for ships. No. 970,848; Sept. 20; Sp. p. 3672; Gaz. vol. 158; p. 627.
Patton, James A., Hanover, Pa. Flush-closing freight-car door. No. 971,305; Sept. 27; Sp. p. 4590; Gaz. vol. 158; p. 804.
Paul, Andrew G., Boston, Mass. Steam-heating system. No. 971,070; Sept. 27; Sp. p. 4118; Gaz. vol. 158; p. 728.
Paul, John W., Kittanning, Pa., assignor to Union Typewriter Company, Ilion, N. Y. Type-writer. No. 971,469; Sept. 27; Sp. p. 4893; Gaz. vol. 158; p. 857.
Paulson, Peter, Marshfield, Wis. Igniter for explosive-engines. No. 970,545; Sept. 20; Sp. p. 2992; Gaz. vol. 158; p. 521.
Paxton, Cyrus H., Oshkosh, Wis. Trunk. No. 969,900; Sept. 13; Sp. p. 1636; Gaz. vol. 158; p. 282.
Payne, Clarence C. (See Smith, Friend W., Jr., assignor.)
Payne, Jennie E., New York, N. Y. Shampoo protection device. No. 969,491; Sept. 6; Sp. p. 721; Gaz. vol. 158; p. 114.
Peall, Walter, Brighton, England. Game apparatus. No. 971,470; Sept. 27; Sp. p. 4898; Gaz. vol. 158; p. 857.

Pearsall-Traver Manufacturing Company. (See Traver, Philip C., assignor.)
Pedersen, Niele. (See Leich and Pedersen.)
Peeples, Oscar H., Kincaid, Miss. Plow. No. 970,105; Sept. 13; Sp. p. 2068; Gaz. vol. 158; p. 351.
Peeples, Sarah E., Washington, D. C. Insulated pipe-coupling. No. 969,492; Sept. 6; Sp. p. 723; Gaz. vol. 158; p. 114.
Peerless Auto Pull Co. (See Ritzman, Otto E., assignor.)
Pejchar, Josef, Cincinnati, Ohio, assignor to Mooney & Crane, Chicago, Ill. Cuff-button. No. 969,297; Sept. 6; Sp. p. 307; Gaz. vol. 158; p. 50.
Pelishek, Wenzel, Kewaunee, Wis. Table. No. 969,901; Sept. 13; Sp. p. 1639; Gaz. vol. 158; p. 282.
Pendleton, Oscar G., Girard, Ill. Locomotive. No. 970,389; Sept. 13; Sp. p. 2645; Gaz. vol. 158; p. 446.
Penhorwood, John H., Buckeye City, Ohio. Horseshoe. No. 970,946; Sept. 20; Sp. p. 3852; Gaz. vol. 158; p. 658.
Pennington, Harry E., and H. W. Raymond, North Abington, Mass. Trap-nest. No. 971,401; Sept. 27; Sp. p. 4776; Gaz. vol. 158; p. 835.
Pentecost, Jackson W., Nashville, Tenn. Surface condenser. No. 969,719; Sept. 6; Sp. p. 1201; Gaz. vol. 158; p. 194.
Perfect Sliding Door Company, The. (See Laughlin and Schuyler, assignors.)
Perkins Electric Switch Manufacturing Company, The. (See Thomas, George B., assignor.)
Perkins, Walter H., Cheshire, assignor to Waterbury Mfg. Co., Waterbury, Conn. Powder-box. No. 969,398; Sept. 6; Sp. p. 531; Gaz. vol. 158; p. 84.
Perry, William D. (See Melson, William R., assignor.)
Persoons, Alphonse. (See Persoons, Jules and A.)
Persoons, Jules and A., Childonck, near Louvain, Belgium. Liner for centrifugal separators. No. 969,390; Sept. 6; Sp. p. 532; Gaz. vol. 158; p. 85.
Persoons, Jules and A., Childonck, Belgium. Collecting-casing for cream-separators. No. 969,400; Sept. 6; Sp. p. 534; Gaz. vol. 158; p. 85.
Pete, Sarah S., Chicago, Ill. Toy. No. 969,185; Sept. 6; Sp. p. 91; Gaz. vol. 158; p. 15.
Peters, Gershom M., Cincinnati, Ohio. Blasting-cartridge. No. 969,186; Sept. 6; Sp. p. 93; Gaz. vol. 158; p. 15.
Peters, Hermann, Hamburg, Germany. Steam-turbine. No. 970,106; Sept. 13; Sp. p. 2069; Gaz. vol. 158; p. 352.
Peters, Joseph W., and D. I. Brown, Pittsburg, Pa. Briquet-machine. No. 970,546; Sept. 20; Sp. p. 2994; Gaz. vol. 158; p. 521.
Peters, Mathias, Benrath, near Dusseldorf, Germany. Rolling-mill for producing tubes. No. 970,263; Sept. 13; Sp. p. 2411; Gaz. vol. 158; p. 406.
Petersen, Cristian A., Laconia, N. H. Shock-absorber for automobiles. No. 970,390; Sept. 13; Sp. p. 2648; Gaz. vol. 158; p. 447.
Petersen, Frederick C. (See Nielsen and Petersen.)
Petersen, Henry, Chicago, Ill. Window-screen. No. 969,977; Sept. 13; Sp. p. 1805; Gaz. vol. 158; p. 307.
Petersen, Louis C., Des Moines, Iowa. Sash-lock. No. 970,350; Sept. 13; Sp. p. 2569; Gaz. vol. 158; p. 433.
Petersen, Peter H., Lead, S. D. Switch-throwing device. No. 969,653; Sept. 6; Sp. p. 1069; Gaz. vol. 158; p. 171.
Peterson, Axel W., Jamison, assignor of one-half to H. Peterson, Fresno, Cal. Bench-vise. No. 969,401; Sept. 6; Sp. p. 535; Gaz. vol. 158; p. 85.
Peterson, Herman. (See Peterson, Axel W., assignor.)
Peterson, Johann G., assignor to The Arrow Electric Company, Hartford, Conn. Door-switch. No. 970,264; Sept. 13; Sp. p. 2413; Gaz. vol. 158; p. 406.
Peterson, Raford W., and A. Schelling, Santa Rosa, Cal.; said Schelling assignor to said Peterson. Transmission and steering mechanism for traction-engines. No. 971,471; Sept. 27; Sp. p. 4901; Gaz. vol. 158; p. 858.
Pettit, Morgan, and L. S. Roll, Connersville, Ind. Child's vehicle. No. 970,849; Sept. 20; Sp. p. 3674; Gaz. vol. 158; p. 628.
Petty, Harry E., Neodesha, Kans. Stocking-supporter. No. 969,402; Sept. 6; Sp. p. 537; Gaz. vol. 158; p. 86.
Pfefferkorn, William L., A. P. Schloerb, and A. H. Hammetter, Milwaukee, Wis. Contouring articles of wooden furniture. No. 969,298; Sept. 6; Sp. p. 308; Gaz. vol. 158; p. 50.
Pfleghardt, Lewis H., Fayette City, Pa. Brush. No. 971,306; Sept. 27; Sp. p. 4592; Gaz. vol. 158; p. 804.
Pfluger, Frank X., Portland, Oreg. Barrel-hoop. No. 970,107; Sept. 13; Sp. p. 2070; Gaz. vol. 158; p. 352.
Phelps, Bennoni, Hawarden, Iowa. Picture-exhibitor. No. 970,947; Sept. 20; Sp. p. 3853; Gaz. vol. 158; p. 658.
Philadelphia Drying Machinery Company, The. (See Allsup, Sibson, and Hagar, assignors.)
Phillips, Bradford R., Cement, Tex. Liquid-fuel burner. No. 969,978; Sept. 13; Sp. p. 1806; Gaz. vol. 158; p. 307.
Phillips, Cornelius R., assignor of one-half to J. Cook and one-half to J. B. Felheimer, Philadelphia, Pa. Holder for telephone-receivers. No. 969,403; Sept. 6; Sp. p. 538; Gaz. vol. 158; p. 86.
Phillips, David, *et al.* (See Boyd, John, assignor.)
Phillips, Frank M. (See Hudgins, Charles F., assignor.)
Phillips, Franklin, Newark, N. J. Corliss valve-gear. No. 969,802; Sept. 13; Sp. p. 1426; Gaz. vol. 158; p. 248.
Pickett, Montgomery B., Maywood, assignor of one-half to R. F. Palmer, Chicago, Ill. Mechanism for crushing cans. No. 969,720; Sept. 6; Sp. p. 1202; Gaz. vol. 158; p. 194.
Pierce, George A. (See Pierce, William W. and G. A.)
Pierce, William W. and G. A., Philadelphia, Pa. Safety limit-switch. No. 971,307; Sept. 27; Sp. p. 4594; Gaz. vol. 158; p. 804.
Pierman, Alexander N., Newark, assignor of one-half to F. L. Dyer, Montclair, N. J. Drying-rack for photographic plates. No. 970,108; Sept. 13; Sp. p. 2072; Gaz. vol. 158; p. 352.
Pierson, Henry, Manchester, England, assignor to Westinghouse Electric & Manufacturing Company. Electromagnetic mechanism. No. 969,493; Sept. 6; Sp. p. 724; Gaz. vol. 158; p. 115.
Pignocco, John, La Salle, Ill. Wine-press. No. 970,391; Sept. 13; Sp. p. 2651; Gaz. vol. 158; p. 447.
Pike, Edwin B., Pike, N. H., and L. Hayne, Schenectady, N. Y., assignors to Pike Manufacturing Company, Pike, N. H. Grinding device. No. 970,351; Sept. 13; Sp. p. 2570; Gaz. vol. 158; p. 434.
Pike Manufacturing Company. (See Pike and Hayne, assignors.)
Pillig, John, Amsterdam, N. Y. Nut-lock. No. 969,404; Sept. 6; Sp. p. 540; Gaz. vol. 158; p. 86.
Pitman, Harry M., Oakland, Cal. Detachable automobile-tire tread. No. 969,722; Sept. 6; Sp. p. 1205; Gaz. vol. 158; p. 194.
Pitman, Harry M., assignor of two-thirds to I. Vaughan, Oakland, Cal. Detachable automobile-tire tread. No. 969,721; Sept. 6; Sp. p. 1205; Gaz. vol. 158; p. 194.
Pitner, Marion W., Chicago, Ill. Lamp. No. 970,948; Sept. 20; Sp. p. 3854; Gaz. vol. 158; p. 658.
Pitts, John W., Bisbee, Ariz. Mechanical movement. No. 969,561; Sept. 6; Sp. p. 882; Gaz. vol. 158; p. 130.
Platschick, Benvenuto, Paris, France. Apparatus for casting under pressure small metal pieces. No. 970,949; Sept. 20; Sp. p. 3858; Gaz. vol. 158; p. 659.
Platt, Arthur V., and W. B. Harlan, Como, Mont. Fruit-box-lid press. No. 970,547; Sept. 20; Sp. p. 2997; Gaz. vol. 158; p. 522.
Platt, Clarence D., Bridgeport, Conn. Push-button switch. No. 969,723; Sept. 6; Sp. p. 1206; Gaz. vol. 158; p. 195.
Platt, Henry, Suffern, N. Y. Plumb-level. No. 969,654; Sept. 6; Sp. p. 1071; Gaz. vol. 158; p. 172.
Plisnier, Albert, Jr., Stuttgart, Germany, assignor of one-half to A. Steinacker, Fiume, Austria-Hungary. Wireless telephony. No. 970,850; Sept. 20; Sp. p. 3675; Gaz. vol. 158; p. 628.
Plume & Atwood Manufacturing Co. (See Wirth, Charles E., assignor.)
Plummer, John T., Denver, Colo. Propelling mechanism for velocipedes. No. 970,109; Sept. 13; Sp. p. 2074; Gaz. vol. 158; p. 352.
Plunkett, Ambrose T. (See Gowing, Ernest T., assignor.)
Pocock, Henry, London, Ontario, Canada. Building-block machine. No. 971,213; Sept. 27; Sp. p. 4423; Gaz. vol. 158; p. 775.
Poince, John W., Dayton, Ohio. Automatic leaf-turner for sheet-music. No. 969,494; Sept. 6; Sp. p. 726; Gaz. vol. 158; p. 115.
Poirier, Joseph A., Woonsocket, R. I. Nut-lock. No. 969,655; Sept. 6; Sp. p. 1076; Gaz. vol. 158; p. 172.
Poirier, Joseph A., Woonsocket, R. I. Blind-hinge. No. 970,746; Sept. 20; Sp. p. 3451; Gaz. vol. 158; p. 590.
Pollak, Max, Waterbury, Conn. Cigarette-machine. No. 970,110; Sept. 13; Sp. p. 2076; Gaz. vol. 158; p. 353.
Polley, David, Vicksburg, Mich. Harrow. No. 970,747; Sept. 20; Sp. p. 3452; Gaz. vol. 158; p. 590.
Pollock, Thomas, Folkestone, assignor to The Dover Engineering Works, Limited, Dover, England. Stop-valve. No. 969,803; Sept. 13; Sp. p. 1428; Gaz. vol. 158; p. 248.
Pond, Samuel N. (See Partridge, Alwyn H., assignor.)
Pope, Allan M., Fort Ethan Allen, Vt. Game. No. 969,804; Sept. 13; Sp. p. 1429; Gaz. vol. 158; p. 248.
Pope, Henry F., assignor to The National Malleable Castings Company, Cleveland, Ohio. Draft-gear. No. 969,562; Sept. 6; Sp. p. 884; Gaz. vol. 158; p. 140.
Popp, Jonas L. T. (See Stöckel and Popp.)
Posson, Edward, Chicago, Ill., assignor to Grain Belt Car Specialty Company. Grain-door. No. 969,405; Sept. 6; Sp. p. 541; Gaz. vol. 158; p. 87.
Post Lock Register Co. (See Post, Truman W., assignor.)
Post, Truman W., New York, N. Y., assignor, by mesne assignments, to Post Lock Register Co. Taximeter fraud-preventive device. No. 970,748; Sept. 20; Sp. p. 3454; Gaz. vol. 158; p. 591.
Post, Truman W., New York, N. Y., assignor, by mesne assignments, to Post Lock Register Co. Taximeter. No. 970,749; Sept. 20; Sp. p. 3456; Gaz. vol. 158; p. 591.
Potter, Ellis M. (See Hartley, Harry C., assignor.)
Potter, Joseph L., Indianapolis, Ind. Excavating and conveying apparatus. No. 970,750; Sept. 20; Sp. p. 3458; Gaz. vol. 158; p. 592.
Potter, Robert J., Tuxedo Park, N. Y. Non-refillable bottle. No. 969,563; Sept. 6; Sp. p. 886; Gaz. vol. 158; p. 140.
Poulson, Paul O., Brigham, Utah. Valve mechanism for compound engines. No. 971,472; Sept. 27; Sp. p. 4902; Gaz. vol. 158; p. 858.
Poulter, Micajah L., Stockport, Iowa. Crumber. No. 969,187; Sept. 6; Sp. p. 95; Gaz. vol. 158; p. 15.
Poulter, Micajah L., Stockport, Iowa. Clutch. No. 970,548; Sept. 20; Sp. p. 2000; Gaz. vol. 158; p. 522.
Poultry Dust Bath Company. (See Lewis, Frank B., Jr., assignor.)
Powers, Burglar Proof Sash Lock Company, The. (See Jones, Theodore N., assignor.)

Practical Display Rack Company. (See Hughes, Frank J., assignor.)
Pranke, August, Halfway, Mich. Umbrella-support. No. 970,751; Sept. 20; Sp. p. 3462; Gaz. vol. 158; p. 593.
Pratt, Allison A., assignor of one-half to H. J. Hemmens, New York, N. Y. Safety-razor. No. 969,724; Sept. 6; Sp. p. 1209; Gaz. vol. 158; p. 195.
Pratt, Charles T., assignor to The Pratt Chuck Company, Frankfort, N. Y. Outlet-box. No. 969,805; Sept. 13; Sp. p. 1432; Gaz. vol. 158; p. 249.
Pratt Chuck Company, The. (See Pratt, Charles T., assignor.)
Pratt, Lucius S., Union Center, N. Y. Car-door hanger. No. 970,752; Sept. 20; Sp. p. 3463; Gaz. vol. 158; p. 593.
Precision Appliance Company. (See Krotz, Alvaro S., assignor.)
Premium Glass Company, The. (See Nilson and Olson, assignors.)
Pressed Steel Car Company. (See Lindström, Charles A., assignor.)
Price, Charles A. (See Gillmor, Horatio G., assignor.)
Price, Harry, Boston, Mass. Folding support for hammocks. No. 970,549; Sept. 20; Sp. p. 3001; Gaz. vol. 158; p. 522.
Priest, Curtis V. (See Felumlee, Cornelius S., assignor.)
Priest, George W., Newton, assignor to The Riverside Japannery, Inc., Mansfield, Mass. Apparatus for manufacturing varnish for coating leather. No. 971,071; Sept. 27; Sp. p. 4121; Gaz. vol. 158; p. 728.
Provost, Joseph A. H., Van Anda, Texada Island, British Columbia, Canada. Priming check-valve. No. 969,902; Sept. 13; Sp. p. 1640; Gaz. vol. 158; p. 282.
Pruitt, Norman, Washington, D. C. Damper. No. 969,188; Sept. 6; Sp. p. 96; Gaz. vol. 158; p. 16.
Psareas, Georje, and N. Parkas, Holyoke, Mass. Steam-engine. No. 971,402; Sept. 27; Sp. p. 4779; Gaz. vol. 158; p. 836.
Pulverized Manure Company, The. (See Hoskins, William, assignor.)
Punsky, Carl F., Valparaiso, Ind. Leather-working tool. No. 969,806; Sept. 13; Sp. p. 1433; Gaz. vol. 158; p. 249.
Puritan Manufacturing Company. (See Putnam and Livingston, assignors.)
Purtell, Edward J. (See Panyard, Thomas A., assignor.)
Purves, Edward W., Chicago, Ill. Boot-black stand. No. 970,265; Sept. 13; Sp. p. 2414; Gaz. vol. 158; p. 407.
Putnam, Fred A., Melrose, and L. L. Livingston, Abington, assignors to Puritan Manufacturing Company, Boston, Mass. Sewing-machine. No. 970,550; Sept. 20; Sp. p. 3003; Gaz. vol. 158; p. 523.
Quick, Roscoe H., Piatt, Ill. Hay-rack sill. No. 970,551; Sept. 20; Sp. p. 3005; Gaz. vol. 158; p. 523.
Quick, William B., St. Louis, Mo. Combined coal and wood box. No. 969,564; Sept. 6; Sp. p. 887; Gaz. vol. 158; p. 140.
Quinn, James H., Stoyestown, Pa. Antirefillable bottle. No. 970,392; Sept. 13; Sp. p. 2653; Gaz. vol. 158; p. 448.
Quinn, John P., assignor to M. J. Quinn, Chelmsford, Mass. Post. No. 970,552; Sept. 20; Sp. p. 3007; Gaz. vol. 158; p. 523.
Quinn, Martin J. (See Quinn, John P., assignor.)
Quinn, Thomas A. (See Bender, Nicholas A., assignor.)
R. Hoe and Co. (See Cooper, Ellis W., assignor.)
R. Hoe and Co. (See Read, George F., assignor.)
Rabeck, Guy O., Le Loup, Kans. Marker for planters. No. 969,656; Sept. 6; Sp. p. 1077; Gaz. vol. 158; p. 172.
Rabidean, Peter, Plattsburg, N. Y. Shade-bracket. No. 971,214; Sept. 27; Sp. p. 4427; Gaz. vol. 158; p. 775.
Racine Engine & Machy. Co. (See Woolf, Frank H., assignor.)
Rådberg, Erik G., Kristinehamn, Sweden. Grain-drill. No. 969,406; Sept. 6; Sp. p. 542; Gaz. vol. 158; p. 87.
Rademacher, Frank, assignor of one-half to J. Maier and G. Zobelein, Los Angeles, Cal. Treating oils for combustion purposes. No. 971,142; Sept. 27; Sp. p. 4265; Gaz. vol. 158; p. 751.
Rademacher, Frank A., Forks, N. Y. Wrench. No. 969,189; Sept. 6; Sp. p. 98; Gaz. vol. 158; p. 16.
Radoman, Peter, Red Lodge, Mont. Railway joint-chair. No. 971,308; Sept. 27; Sp. p. 4598; Gaz. vol. 158; p. 805.
Raeder, Heinrich. (See Thomaschewski, Raeder, Mieg, and Fischer.)
Ragan, Willis E. (See Small, Edward F., assignor.)
Rahn, Robert C., assignor to Textile Machine Works, Wyomissing, Pa. Braiding-machine. No. 971,403; Sept. 27; Sp. p. 4781; Gaz. vol. 158; p. 837.
Raht, William L., San Diego, Cal. Wave-motor. No. 969,903; Sept. 13; Sp. p. 1642; Gaz. vol. 158; p. 283.
Rakestraw, William H., Bloomington, Ill. Vacuum-cleaner. No. 971,215; Sept. 27; Sp. p. 4428; Gaz. vol. 158; p. 776.
Ramadell, Aubrey R. (See Craig and Ramsdell.)
Ramsey, Joseph, *et al.* (See Chartener, Victor, assignor.)
Ramstein-Gschwind, Carl, Basel, Switzerland. Color-screen for optical purposes. No. 970,111; Sept. 13; Sp. p. 2079; Gaz. vol. 158; p. 353.
Randall, Horatio C., San Francisco, Cal. Controlling mechanism for working cylinders. No. 971,143; Sept. 27; Sp. p. 4266; Gaz. vol. 158; p. 751.
Randolph, Guy P., Jennings, La. Valve mechanism and governor. No. 970,851; Sept. 20; Sp. p. 3676; Gaz. vol. 158; p. 628.
Randolph, Joseph S., Glencoe, Ohio. Kraut-cutter. No. 969,979; Sept. 13; Sp. p. 1808; Gaz. vol. 158; p. 308.
Rape, William F., Woodsboro, Tex. Broiler. No. 969,495; Sept. 6; Sp. p. 729; Gaz. vol. 158; p. 115.
Rasch, Gustave C., assignor of one-half to W. G. Rasch, Burlington, Wis. Fibrous fabric. No. 970,950; Sept. 20; Sp. p. 3861; Gaz. vol. 158; p. 659.
Rasch, William G. (See Rasch, Gustave C., assignor.)
Rast, Felix Q. (See Scheble, Eugene S., assignor.)
Rathbun, Henry E., Worcester, Mass. Loom for weaving short-weft fabric. No. 971,072; Sept. 27; Sp. p. 4125; Gaz. vol. 158; p. 729.
Rathbun, Lewis V., Rochester, N. Y. Apparatus for molding concrete burial-caskets. No. 969,299; Sept. 6; Sp. p. 309; Gaz. vol. 158; p. 51.
Raworth, Dickson B., Brownsville, Tenn. Corn-harvester. No. 970,266; Sept. 13; Sp. p. 2415; Gaz. vol. 158; p. 407.
Raymond, Edgar F., Rockland, assignor of one-half to C. O. Emerson, Brockton, Mass. Shoe. No. 970,393; Sept. 13; Sp. p. 2654; Gaz. vol. 158; p. 448.
Raymond, Herbert W. (See Pennington and Raymond.)
Read, George F., London, England, assignor, by mesne assignments, to R. Hoe and Co., New York, N. Y. Web-roll-tension device. No. 971,073; Sept. 27; Sp. p. 4130; Gaz. vol. 158; p. 729.
Reade, James, Huntington, N. Y. Spray-nozzle. No. 969,657; Sept. 6; Sp. p. 1078; Gaz. vol. 158; p. 173.
Reading Hardware Company. (See Mason, George N., assignor.)
Reading Saddle and Mf'g. Co., The. (See Ennis, John L., assignor.)
Reardon, Joseph P., Cleveland, Ohio. Towel-sterilizer. No. 969,904; Sept. 13; Sp. p. 1643; Gaz. vol. 158; p. 283.
Redden, Delbert H., and J. F. Cunningham, assignors of one-fourth to E. P. Le Compte and one-fourth to W. Doidge, Park City, Utah. Fly-trap. No. 971,404; Sept. 27; Sp. p. 4783; Gaz. vol. 158; p. 837.
Redlich, Alexander E., Chicago, Ill. Device for closing faucets. No. 971,473; Sept. 27; Sp. p. 4903; Gaz. vol. 158; p. 858.
Redmond, Edmond, Rochester, N. Y. Lightning-conductor. No. 970,642; Sept. 20; Sp. p. 3221; Gaz. vol. 158; p. 555.
Redpath, Robert C., Oxford township, Johnson county, Kans. Reel. No. 970,394; Sept. 13; Sp. p. 2655; Gaz. vol. 158; p. 448.
Reed, Charles J., Philadelphia, Pa. Separating heterogeneous substances and detinning scrap. No. 971,405; Sept. 27; Sp. p. 4784; Gaz. vol. 158; p. 837.
Reed, William S., Leominster, Mass. Cap for hydrants. No. 969,905; Sept. 13; Sp. p. 1645; Gaz. vol. 158; p. 284.
Rees, Edward B., Monett, Mo. Mortise-lock. No. 969,725; Sept. 6; Sp. p. 1211; Gaz. vol. 158; p. 196.
Reeves & Company. (See Clay, Harry C., assignor.)
Reid, Pettis A., Richmond, Ind. Fence-stretcher. No. 969,980; Sept. 13; Sp. p. 1809; Gaz. vol. 158; p. 308.
Reilly, James R. (See Fuller and Reilly.)
Reilly, Thomas A. (See Fuller and Reilly.)
Reim, Anton, Colorado Springs, Colo. Lady's hat-fastener. No. 971,474; Sept. 27; Sp. p. 4905; Gaz. vol. 158; p. 859.
Reitz, Heinrich, Griesheim-on-the-Main, assignor to Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main, Germany. Preparing caustic soda. No. 971,144; Sept. 27; Sp. p. 4269; Gaz. vol. 158; p. 752.
Reitz, Heinrich, Griesheim-on-the-Main, assignor to Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main, Germany. Preparing caustic potash. No. 971,145; Sept. 27; Sp. p. 4270; Gaz. vol. 158; p. 752.
Reitze, Bernard J. (See Watson, Anthony W., assignor.)
Reliance Elevator Company. (See Anderson, Carl A., assignor.)
Remington Typewriter Company. (See Woodward, Oscar, assignor.)
Remington Typewriter Company. (See Yaw, Clio B., assignor.)
Remlinger, Theodore, Elizabeth, N. J. Padlock. No. 971,406; Sept. 27; Sp. p. 4785; Gaz. vol. 158; p. 837.
Renard, Albert. (See Renard, Charles and A.)
Renard, Charles and A., Nonancourt, France. Loom for weaving oriental and other knot-stitch carpets. No. 969,565; Sept. 6; Sp. p. 889; Gaz. vol. 158; p. 141.
Renick, Joseph D., Loudonville, and K. C. Krick, Columbus, Ohio. Sheet-metal seal for pipe connections. No. 969,981; Sept. 13; Sp. p. 1811; Gaz. vol. 158; p. 308.
Rennen, Carl E., Oberhomburg, and W. Romeiser, Frankfort-on-the-Main, Germany. Spring suspension arrangement for vehicles. No. 971,475; Sept. 27; Sp. p. 4907; Gaz. vol. 158; p. 859.
Rennie, William L. (See McDonald and Rennie.)
Repp, Marion, Otsego, Mich. Slot-guard for paper-trimming machines. No. 971,146; Sept. 27; Sp. p. 4271; Gaz. vol. 158; p. 752.
Rettig, George W. (See Jargick, Peter P., assignor.)
Reubold, Karl, Linden, near Hanover, Germany. Boiler-feed regulator. No. 970,951; Sept. 20; Sp. p. 3862; Gaz. vol. 158; p. 659.
Reuter, Baptist, Höchst-on-the-Main, Germany, assignor, by mesne assignments, to H. A. Metz & Co., New York, N. Y. Making compounds of the active substance of suprarenal glands, and said compounds. No. 970,112; Sept. 13; Sp. p. 2080; Gaz. vol. 158; p. 353.
Revolving Stove Company, The. (See Ziganek, Ferdinand, assignor.)
Reynolds, Frank C., assignor of one-half to H. R. Kuhn, Columbus, Ohio. Car-coupling. No. 970,553; Sept. 20; Sp. p. 3008; Gaz. vol. 158; p. 524.

Reynolds, Jessee M. (See Henly, Thomas A., assignor.)
Reynolds, John F. (See Lewis and Reynolds.)
Reynolds, Thomas, Baraboo, Wis. Train-pipe coupling. No. 971,147; Sept. 27; Sp. p. 4273; Gaz. vol. 158; p. 752.
Rhein, Meyer L., New York, N. Y., and M. O. Anthony, Englewood, N. J. Powder holding and dispensing container. No. 969,190; Sept. 6; Sp. p. 99; Gaz. vol. 158; p. 16.
Rhodes, Arthur P., San Francisco, Cal. Hat-pin guide and hat protector and preserver. No. 969,407; Sept. 6; Sp. p. 544; Gaz. vol. 158; p. 87.
Rhodes, Harry A., assignor to The Universal Motor Company, Denver, Colo. Differential-speed motor. No. 971,148; Sept. 27; Sp. p. 4274; Gaz. vol. 158; p. 753.
Rial, John, Brenham, Tex. Molding device. No. 971,407; Sept. 27; Sp. p. 4787; Gaz. vol. 158; p. 838.
Rice, Edward E., New Durham, N. H., assignor to The Osborn Manufacturing Company, Cleveland, Ohio. Wire brush. No. 969,191; Sept. 6; Sp. p. 103; Gaz. vol. 158; p. 17.
Rice, Edward W., San Francisco, Cal. Laundry-tagging machine. No. 970,952; Sept. 20; Sp. p. 3863; Gaz. vol. 158; p. 660.
Rice, Richard H., Lynn, Mass., assignor to General Electric Company. Governing mechanism for turbines. No. 969,726; Sept. 6; Sp. p. 1213; Gaz. vol. 158; p. 196.
Rice, Walter H., Warwick, assignor of one-half to P. Wunderle, Cranston, R. I. Pin. No. 969,807; Sept. 13; Sp. p. 1435; Gaz. vol. 158; p. 249.
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, to American Typographic Corporation. Logotype, type-bar, and typographic form. No. 971,074; Sept. 27; Sp. p. 4133; Gaz. vol. 158; p. 729.
Richards, Orlando, Bristol, Wis. Sliding door. No. 969,192; Sept. 6; Sp. p. 105; Gaz. vol. 158; p. 17.
Richards, Walter J., assignor to National Brake & Electric Company, Milwaukee, Wis. Governor. No. 969,193; Sept. 6; Sp. p. 107; Gaz. vol. 158; p. 17.
Richards, Willard F., Lancaster, assignor to Gould Coupler Company, New York, N. Y. Car-coupling. No. 970,113; Sept. 13; Sp. p. 2081; Gaz. vol. 158; p. 354.
Richardson, John E., Grandview, W. Va. Window. No. 970,114; Sept. 13; Sp. p. 2083; Gaz. vol. 158; p. 354.
Richberger, George, assignor of one-half to H. E. Winterton, Memphis, Tenn. Shipping-tag. No. 969,658; Sept. 6; Sp. p. 1079; Gaz. vol. 158; p. 173.
Richey, Browne and Donald. (See Hofmann, Walter H., assignor.)
Rickard, Simeon H., Pittsburg, Pa. Power-transmitting mechanism. No. 970,753; Sept. 20; Sp. p. 3465; Gaz. vol. 158; p. 593.
Riddell, John, Schenectady, N. Y., assignor to General Electric Company. Milling attachment for bucket-cutting machines. No. 970,554; Sept. 20; Sp. p. 3010; Gaz. vol. 158; p. 524.
Riddle, Robert H, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 969,300; Sept. 6; Sp. p. 312; Gaz. vol. 158; p. 51.
Riddle, William N., Crowley, Tex. Pump-barrel attachment. No. 970,352; Sept. 13; Sp. p. 2572; Gaz. vol. 158; p. 434.
Rietzel, Adolph F., Charlestown, R. I., assignor to W. H. Rowe, Pittsburg, Pa. Reel. No. 970,986; Sept. 20; Sp. p. 3926; Gaz. vol. 158; p. 671.
Rigby, Clark F., Butler, assignor of one-half to E. A. McCabe, Pittsburg, Pa. Condiment-holder. No. 969,566; Sept. 6; Sp. p. 890; Gaz. vol. 158; p. 141.
Riley, Samuel L., assignor of one-half to E. M. Griggs, Palestine, Tex. Base for columns. No. 970,555; Sept. 20; Sp. p. 3013; Gaz. vol. 158; p. 525.
Rittenhouse, W. W. (See Tomlinson, John K., assignor.)
Ritter, Christopher H., Dixon, Ill. Lard-extractor. No. 971,408; Sept. 27; Sp. p. 4788; Gaz. vol. 158; p. 838.
Ritzmann, Otto E., assignor to Peerless Auto Pull Co., Detroit, Mich. Draft attachment for motor-vehicles. No. 971,075; Sept. 27; Sp. p. 4137; Gaz. vol. 158; p. 730.
Riva, Pedro, Buenos Ayres, Argentina. Retting flax. No. 971,076; Sept. 27; Sp. p. 4139; Gaz. vol. 158; p. 730.
Riverside Japannery, The. (See Priest, George W., assignor.)
Robbins, John E. (See Kirkpatrick, Robbins, and Kirkpatrick.)
Robert N. Bassett Company, The. (See Holden, Walter A., assignor.)
Roberts, Edwin C. (See Brayton and Roberts.)
Roberts, Elmer H., Norwalk, Conn. Pipe-hanger. No. 971,077; Sept. 27; Sp. p. 4140; Gaz. vol. 158; p. 730.
Roberts, Isaiah L., Lockport, N. Y. Oil or grease resistant article. No. 970,643; Sept. 20; Sp. p. 3222; Gaz. vol. 158; p. 555.
Roberts, J. W. (See Winkler, Ehregott T., assignor.)
Robertson, Fannie B., Lohn, Tex. Envelop. No. 969,982; Sept. 13; Sp. p. 1812; Gaz. vol. 158; p. 308.
Robinson, James, Buffalo, N. Y. Hitching and releasing device. No. 971,078; Sept. 27; Sp. p. 4141; Gaz. vol. 158; p. 730.
Robinson, Joshua, Lawrence, assignor to Draper Company, Hopedale, Mass. Filling-feeler for looms. No. 970,644; Sept. 20; Sp. p. 3224; Gaz. vol. 158; p. 555.
Robinson, Roy H., Chicago, Ill. Composite wall construction. No. 969,408; Sept. 6; Sp. p. 544; Gaz. vol. 158; p. 87.
Robinson, Vincent. (See Lisle, Myron C., assignor.)
Robinson, William C., Pittsburg, Pa. Fitting for electric conduits. No. 971,216; Sept. 27; Sp. p. 4430; Gaz. vol. 158; p. 776.
Robinson, William S., *et al.* (See Omalia, Michael, assignor.)
Rockwood, George I., Worcester, Mass. Apparatus for operating alarms or other devices. No. 970,963; Sept. 20; Sp. p. 3867; Gaz. vol. 158; p. 660.
Rodgers, Charles H. (See Thomas and Rodgers.)
Roed, Olaf A., Denver, Colo. Water-elevating apparatus. No. 969,727; Sept. 6; Sp. p. 1215; Gaz. vol. 158; p. 197.
Roelofsen, Jan A., Middlesbrough, England, assignor to The Actiengesellschaft fuer Kohlendestillation, Dusseldorf, Germany. Ammonia-saturator. No. 969,906; Sept. 13; Sp. p. 1647; Gaz. vol. 158; p. 284.
Roelofsen, Jan A., Middlesbrough, England, assignor to The Actiengesellschaft fuer Kohlendestillation, Dusseldorf, Germany. Recovering ammonia from coal-gases and the like. No. 969,907; Sept. 13; Sp. p. 1648; Gaz. vol. 158; p. 284.
Roesner, Siegmund, Chicago, Ill. Shutter-operating apparatus for photographic lenses. No. 969,194; Sept. 6; Sp. p. 110; Gaz. vol. 158; p. 18.
Roessel, Carl A. (See Ippers, John W., assignor.)
Roessler & Hasslacher Chemical Co. (See Liebknecht, Otto, assignor.)
Rogers, Elroy L., Springfield, Mass. Base-ball player's glove or mitt. No. 970,754; Sept. 20; Sp. p. 3468; Gaz. vol. 158; p. 594.
Rogers, Frank, Oakland, Cal. Combination furniture. No. 970,395; Sept. 13; Sp. p. 2656; Gaz. vol. 158; p. 449.
Rogers, Frank R. (See Vallone and Rogers.)
Rogers, Jesse, Provincetown, Mass. Saw-set. No. 971,079; Sept. 27; Sp. p. 4143; Gaz. vol. 158; p. 731.
Rogers Verybest Manufacturing Company. (See Bloch Pauline S., assignor.)
Rogers, Wilbert, Brookville, Ind. Egg-tester. No. 970,115; Sept. 13; Sp. p. 2085; Gaz. vol. 158; p. 354.
Roggenbuck, Theodore, San Francisco, Cal. Propeller. No. 971,409; Sept. 27; Sp. p. 4789; Gaz. vol. 158; p. 838.
Roll, Lewis S. (See Pettit and Roll.)
Rollman, George. (See Schultz, Frank A., assignor.)
Romeiser, Wilhelm. (See Rennen and Romeiser.)
Roop, William D., Marion, Ind. Gripping device. No. 971,080; Sept. 27; Sp. p. 4145; Gaz. vol. 158; p. 731.
Röschmann, Max, Flensburg, Germany. Horseshoe with exchangeable calk. No. 970,954; Sept. 20; Sp. p. 3870; Gaz. vol. 158; p. 661.
Rose, Fred. (See Elderkin and Rose.)
Rose, Henry. (See Rose, William and H.)
Rose, Richard C., Osceola, Ark. Watchman's clock. No. 971,309; Sept. 27; Sp. p. 4599; Gaz. vol. 158; p. 805.
Rose, Richard C., Osceola, Ark. Watchman's clock. No. 971,310; Sept. 27; Sp. p. 4602; Gaz. vol. 158; p. 805.
Rose, William and H., Gainsborough, England. Apparatus for applying labels or wrappers to blocks, packages, or tins, or other containers or material. No. 970,353; Sept. 13; Sp. p. 2573; Gaz. vol. 158; p. 434.
Rosenbeck, Andrew K., New Haven, Conn. Tool-holder and tool. No. 969,983; Sept. 13; Sp. p. 1814; Gaz. vol. 158; p. 309.
Rosenberg, Augustus, London, England. Electroplating. No. 970,755; Sept. 20; Sp. p. 3470; Gaz. vol. 158; p. 594.
Rosenberg, Augustus, London, England. Process of and means for depositing metals. No. 970,852; Sept. 20; Sp. p. 3680; Gaz. vol. 158; p. 629.
Rosenberger, Andrew F., Chicago, Ill. Lightning-protector. No. 970,556; Sept. 20; Sp. p. 3015; Gaz. vol. 158; p. 525.
Rosenfeld, Irvin, New York, assignor of one-half to C. G. Wirths, Woodhaven, N. Y. Change-making machine. No. 970,557; Sept. 20; Sp. p. 3017; Gaz. vol. 158; p. 525.
Rosenstock, William. (See Sullivan and Rosenstock.)
Rosier, Henri, La Prénlle-Herstal, Belgium. Automatic pistol. No. 970,645; Sept. 20; Sp. p. 3226; Gaz. vol. 158; p. 555.
Ross, Alexander. (See Schnelle, Ernest, assignor.)
Ross, Charles H. A. F. L., Quebec, Quebec, Canada. Means for lubricating and disengaging cutting-tools. No. 971,410; Sept. 27; Sp. p. 4790; Gaz. vol. 158; p. 838.
Rossman, John B., St. Paul, Minn. Rock-pulverizing machine. No. 971,311; Sept. 27; Sp. p. 4604; Gaz. vol. 158; p. 806.
Rostenberg, Jacob, White Plains, N. Y. Veil holder or retainer for bonnets. No. 971,476; Sept. 27; Sp. p. 4908; Gaz. vol. 158; p. 859.
Rothstein, Samuel, New York, N. Y. Device for hanging pictures and similar articles. No. 969,195; Sept. 6; Sp. p. 115; Gaz. vol. 158; p. 18.
Rothwell, William H. (See Forbes and Rothwell.)
Rousseau, Regis, *et al.* (See Day, Charles E., assignor.)
Rowe, Wallace H. (See Rietzel, Adolph F., assignor.)
Rowley, James F., Chicago, Ill. Ankle-joint for artificial limbs. No. 969,196; Sept. 6; Sp. p. 116; Gaz. vol. 158; p. 19.
Roxberg, Arived E., Brainerd, Minn. Hub-fastener. No. 970,646; Sept. 20; Sp. p. 3228; Gaz. vol. 158; p. 556.
Royalty, Charles H., Chattanooga, Tenn. Hair-dressing comb. No. 970,396; Sept. 13; Sp. p. 2657; Gaz. vol. 158; p. 449.
Royle, Vernon, Paterson, N. J. Ruling-machine. No. 969,496; Sept. 6; Sp. p. 730; Gaz. vol. 158; p. 115.
Rubes, Louis, Brooklyn, N. Y. Tubing. No. 970,955; Sept. 20; Sp. p. 3870; Gaz. vol. 158; p. 661.

Rubin, Joseph, New York, N. Y. Incandescent gas-lamp. No. 969,984; Sept. 13; Sp. p. 1815; Gaz. vol. 158; p. 309.
Rudd, Bertrand E., Harrison, Mich. Supporting-post. No. 970,116; Sept. 13; Sp. p. 2086; Gaz. vol. 158; p. 355.
Ruddell, Fredrick L., Georgetown, Ontario, Canada, assignor to The Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic stacker. No. 970,956; Sept. 20; Sp. p. 3871; Gaz. vol. 158; p. 661.
Ruff, Frederick A., Newark, N. J. Emergency antiskidding device. No. 971,312; Sept. 27; Sp. p. 4606; Gaz. vol. 158; p. 806.
Ruggles, Ellen S., administratrix. (See Ruggles, George W.)
Ruggles, George W., deceased, Charlotte, N. Y.; E. S. Ruggles, administratrix. Snow-plow. No. 970,451; Sept. 13; Sp. p. 2773; Gaz. vol. 158; p. 466.
Rugh, Harry O., assignor to Sandwich Electric Company, Sandwich, Ill. Signaling system. No. 969,985; Sept. 13; Sp. p. 1817; Gaz. vol. 158; p. 309.
Runion, Ace E., Chandler, Okla. Steel tie and clamp. No. 970,957; Sept. 20; Sp. p. 3872; Gaz. vol. 158; p. 661.
Runner, John B., assignor to O-U-Handy Tool Company, Indianapolis, Ind. Lifting-jack. No. 969,567; Sept. 6; Sp. p. 891; Gaz. vol. 158; p. 141.
Rush, Charles A., La Grange, Ill. Spark-arrester. No. 970,397; Sept. 13; Sp. p. 2658; Gaz. vol. 158; p. 449.
Russell, Edwin, Kansas City, Kans. Pneumatic-tire protector. No. 969,908; Sept. 13; Sp. p. 1649; Gaz. vol. 158; p. 285.
Russell, Frank J., Brooklyn, N. Y. High-voltage receptacle and plug. No. 969,409; Sept. 6; Sp. p. 548; Gaz. vol. 158; p. 88.
Ryan, James P., Indianapolis, Ind. Carbureter. No. 970,558; Sept. 20; Sp. p. 3019; Gaz. vol. 158; p. 526.
Ryan, Michael E., Fall River, Mass. Animal fiber for felting and preparing the same. No. 970,756; Sept. 20; Sp. p. 3474; Gaz. vol. 158; p. 594.
Ryan, William E., Mason, Nev. Automobile sled attachment. No. 970,354; Sept. 13; Sp. p. 2575; Gaz. vol. 158; p. 435.
"S. C." Regulator Company, The. (See Copley, Nolberto G., assignor.)
Saart, William H., Attleboro, Mass., assignor to The W. H. Saart Company. Chatelaine-bag. No. 971,411; Sept. 27; Sp. p. 4793; Gaz. vol. 158; p. 839.
Sabin, Walter H., Crookston, Minn. Hay-stacker. No. 969,197; Sept. 6; Sp. p. 117; Gaz. vol. 158; p. 19.
Sack, Adelheid, heir. (See Sack, Hugo.)
Sack, Hugo, deceased, Dusseldorf, Germany; A. Sack, sole heir. Rolling-mill plant. No. 970,559; Sept. 20; Sp. p. 3022; Gaz. vol. 158; p. 526.
Sackett, Hiram B., Chicago, Ill. Coal-screen. No. 969,659; Sept. 6; Sp. p. 1080; Gaz. vol. 158; p. 173.
Safety and Economy Damper Company. (See Arnold, Arthur W., assignor.)
Sager, James H., assignor to James H. Sager Company, Rochester, N. Y. Shock-absorber. No. 970,647; Sept. 20; Sp. p. 3230; Gaz. vol. 158; p. 556.
Saldin, Max, assignor to J. H. and H. R. Boyce, Brooklyn, N. Y. Lady's knit drawers. No. 969,808; Sept. 13; Sp. p. 1437; Gaz. vol. 158; p. 250.
Sallander, Anton W., Fort Madison, Iowa. Appliance for lifting-jacks. No. 971,217; Sept. 27; Sp. p. 4432; Gaz. vol. 158; p. 777.
Samuel Courtauld & Company. (See Wilson, Leonard P., assignor.)
Samnelson, Jacob, Healdsburg, Cal. Step-ladder. No. 970,560; Sept. 20; Sp. p. 3025; Gaz. vol. 158; p. 526.
Sands, Edwyn D., Elmira, N. Y. Steering mechanism for aerial trucks. No. 969,301; Sept. 6; Sp. p. 314; Gaz. vol. 158; p. 51.
Sandusky Foundry & Machine Company, The. (See Millspaugh, William H., assignor.)
Sandwich Electric Company. (See Rugh, Harry O., assignor.)
Sanford & Bennett Company. (See Sanford, William W., assignor.)
Sanford, William W., Newark, N. J., assignor to Sanford & Bennett Company, New York, N. Y. Reservoir-pen. No. 969,198; Sept. 6; Sp. p. 120; Gaz. vol. 158; p. 20.
Sapp, Casiah. (See Sapp, James E. and C.)
Sapp, James E. and C., Bainbridge, Ga. Bag-holder. No. 970,398; Sept. 13; Sp. p. 2659; Gaz. vol. 158; p. 449.
Sarchett, Harry P., Nowata, Okla. Sash-hanger. No. 971,313; Sept. 27; Sp. p. 4607; Gaz. vol. 158; p. 807.
Sargent, Alston, New York, N. Y. Cigar-chest. No. 970,648; Sept. 20; Sp. p. 3232; Gaz. vol. 158; p. 556.
Sargent, Frederick G., Westford, assignor to C. G. Sargent's Sons Corporation, Graniteville, Mass. Carrier for wool-washing machines. No. 970,118; Sept. 13; Sp. p. 2090; Gaz. vol. 158; p. 356.
Saunders, Charles, Saginaw, Mich. Combined skylight and automatic ventilator. No. 969,199; Sept. 6; Sp. p. 122; Gaz. vol. 158; p. 20.
Saunders, Harry E., and R. D. Croft, Toronto, Ontario, Canada. Control attachment for fountains of platen printing-presses. No. 970,355; Sept. 13; Sp. p. 2578; Gaz. vol. 158; p. 435.
Savage, Hermon. (See Mack, Mathias, assignor.)
Sawaya, Farris S., Baltimore, Md., assignor to J. W. Ivory, Philadelphia, Pa. Apparatus for making backings for artificial teeth. No. 969,986; Sept. 13; Sp. p. 1821; Gaz. vol. 158; p. 310.
Sawyer, Walter H., assignor of one-half to R. H. Battle, Denver, Colo. Menu-card holder. No. 970,399; Sept. 13; Sp. p. 2661; Gaz. vol. 158; p. 450.
Scaramuzza, Gino, assignor to Società Anonima per Frigorigeni e Motori "Motofrigor," Turin, Italy. Apparatus for the interchange of heat. No. 970,561; Sept. 20; Sp. p. 3026; Gaz. vol. 158; p. 527.
Schacht, Samuel, New York, N. Y. Door-lock. No. 971,314; Sept. 27; Sp. p. 4609; Gaz. vol. 158; p. 807.
Schad, Franz, West Hoboken, N. J. Switch-operating apparatus. No. 969,302; Sept. 6; Sp. p. 316; Gaz. vol. 158; p. 52.
Schaefer, Frederick J. (See Beyer, Emil, assignor.)
Schäller, Sigmund, Haddam, Conn. Rotary harrow. No. 971,218; Sept. 27; Sp. p. 4433; Gaz. vol. 158; p. 777.
Schantz, John A. (See Cappon and Schantz.)
Schatz, Herman W., assignor to The American Tool Works Company, Cincinnati, Ohio. Variable-speed mechanism. No. 971,219; Sept. 27; Sp. p. 4436; Gaz. vol. 158; p. 777.
Schebie, Eugene S., Cleburne, Tex., assignor of one-half to F. Q. Rast, Boston, Mass. Coin-controlled machine. No. 969,728; Sept. 6; Sp. p. 1217; Gaz. vol. 158; p. 197.
Schelber, Frederick C., New Douglas, Ill. Device for making concrete roofing-tiles. No. 969,410; Sept. 6; Sp. p. 550; Gaz. vol. 158; p. 88.
Scheibner, Emil, Philadelphia, Pa. Music-leaf turner. No. 970,400; Sept. 13; Sp. p. 2662; Gaz. vol. 158; p. 450.
Schelling, Alexander. (See Peterson and Schelling.)
Schick, Karl, Griesheim-on-the-Main, assignor to Chemische Fabrik Griesheim Electron, Frankfort-on-the-Main, Germany. Catalytic body and making same. No. 971,140; Sept. 27; Sp. p. 4277; Gaz. vol. 158; p. 753.
Schlater, Thomas W., Plaquemine, La. Draft-harness. No. 970,119; Sept. 13; Sp. p. 2091; Gaz. vol. 158; p. 356.
Schloerb, Albert P. (See Pfefferkorn, Schloerb, and Hammetter.)
Schloss & Co., Joseph W. (See Schloss, Joseph W., assignor.)
Schloss, Joseph W., assignor to J. W. Schloss & Co., New York, N. Y. Garment-supporter. No. 970,120; Sept. 13; Sp. p. 2092; Gaz. vol. 158; p. 356.
Schloss, Joseph W., assignor to J. W. Schloss & Co., New York, N. Y. Garment-supporter. No. 970,121; Sept. 13; Sp. p. 2094; Gaz. vol. 158; p. 356.
Schmidt, Franz, and A. Grundmann, Berlin, Germany. Flexible shaft. No. 969,660; Sept. 6; Sp. p. 1082; Gaz. vol. 158; p. 173.
Schmidt, Herbert. (See Schmidt, Ludwig and H.)
Schmidt, Kasseker & Co. (See Kasseker, Johann, assignor.)
Schmidt, Ludwig and H., Kaiserswerth, near Dusseldorf, Germany. Automatic gas cut-off. No. 970,122; Sept. 13; Sp. p. 2095; Gaz. vol. 158; p. 357.
Schmiechen, Reinhold, Ledyard, Iowa. Ocean airship. No. 969,200; Sept. 6; Sp. p. 124; Gaz. vol. 158; p. 20.
Schneider, Eugene, Le Creuzot, France. Fuse for explosive projectiles. No. 969,497; Sept. 6; Sp. p. 732; Gaz. vol. 158; p. 116.
Schneider, Hans, Hamburg, Germany. Generating formaldehyde. No. 969,661; Sept. 6; Sp. p. 1083; Gaz. vol. 158; p. 173.
Schnelle, Ernest, assignor of one-half to A. Ross, Rochester, N. Y. Nut-lock. No. 971,150; Sept. 27; Sp. p. 4278; Gaz. vol. 158; p. 753.
Schnellsetz-Maschinengesellschaft mit beschränkter Haftung. (See Drewell, Heinrich, assignor.)
Schnorr, Georg A., Ober-Esslingen, assignor to The Firm of Albert Martz, Stuttgart, Germany. Adjustable drawing-table. No. 971,081; Sept. 27; Sp. p. 4146; Gaz. vol. 158; p. 731.
Schofield, George V. A. (See Cater and Schofield.)
Schön, Ludwig, Vienna, Austria-Hungary, assignor to S. Herlinger, Venice, Cal. Pocket-igniter. No. 970,649; Sept. 20; Sp. p. 3233; Gaz. vol. 158; p. 557.
Schorik, Frank. (See Kriz and Schorik.)
Schrade, Jacob L. and W., Walden, N. Y. Pocket-knife. No. 969,909; Sept. 13; Sp. p. 1650; Gaz. vol. 158; p. 285.
Schrade, William. (See Schrade, Jacob L. and W.)
Schraw, Charles. (See Mauger and Schraw.)
Schroeder, Albert F., Cleveland, Ohio. Lock. No. 970,123; Sept. 13; Sp. p. 2097; Gaz. vol. 158; p. 357.
Schroeder, William H. (See Elliott and Schroeder.)
Schroyer, Charles A., Oak Park, assignor to American Steel Foundries, Chicago, Ill. Car-truck side frame. No. 970,757; Sept. 20; Sp. p. 3475; Gaz. vol. 158; p. 594.
Schubert, George, Fort Worth, Tex. Spring and power pull-back for hay-balers. No. 971,151; Sept. 27; Sp. p. 4282; Gaz. vol. 158; p. 754.
Schubert, George, Fort Worth, Tex. Spring and power pull-back for baling-presses. No. 971,152; Sept. 27; Sp. p. 4282; Gaz. vol. 158; p. 754.
Schuermann, Anton C., assignor to The H. Mueller Manufacturing Company, Decatur, Ill. Cock or faucet. No. 970,562; Sept. 20; Sp. p. 3027; Gaz. vol. 158; p. 527.
Schulherr, Isidor A., and B. I. Vincent, St. Louis, Mo. Glove. No. 970,958; Sept. 20; Sp. p. 3873; Gaz. vol. 158; p. 661.
Schultz, Frank A., assignor of one-half to G. Rollman, Wilkes-Barre, Pa. Circuit-closer for alarms. No. 970,124; Sept. 13; Sp. p. 2098; Gaz. vol. 158; p. 357.
Schultz, Reinhard J., Arco, Minn. Filtering device. No. 970,650; Sept. 20; Sp. p. 3235; Gaz. vol. 158; p. 557.
Schumacher, William, Readlyn, Iowa. Door-latch. No. 970,651; Sept. 20; Sp. p. 3236; Gaz. vol. 158; p. 557.
Schuster, George W. (See Keene and Schuster.)

Schuyler, Daniel. (See Laughlin and Schuyler.)
Schwab, John M., Marion, Mass. Shaft-coupling. No. 969,662; Sept. 6; Sp. p. 1085; Gaz. vol. 158; p. 174.
Schwalen, Peter C., Minneapolis, Minn. Window-cleaner. No. 970,563; Sept. 20; Sp. p. 3031; Gaz. vol. 158; p. 527.
Schwartz, Adolf and J., Baltimore, Md. Horseshoe. No. 970,267; Sept. 13; Sp. p. 2418; Gaz. vol. 158; p. 407.
Schwartz, Jacob. (See Schwartz, Adolf and J.)
Schwartz, Sigmund, assignor of one-half to Y. E. Britton, San Francisco, Cal. Meter-shelf. No. 970,854; Sept. 20; Sp. p. 3686; Gaz. vol. 158; p. 629.
Schwarz, Henry, Denver, Colo. Stuffing-box for roller-shafts. No. 970,564; Sept. 20; Sp. p. 3032; Gaz. vol. 158; p. 528.
Scott, Charles F., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Protective means for electrical circuits. No. 969,498; Sept. 6; Sp. p. 735; Gaz. vol. 158; p. 116.
Scott, Charles F., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Means for neutralizing induced disturbances in intelligence-transmission circuits. No. 969,499; Sept. 6; Sp. p. 737; Gaz. vol. 158; p. 117.
Scott, David J., *et al.*, executors. (See Scott, Walter.)
Scott, Isabella, *et al.*, executors. (See Scott, Walter.)
Scott, Jacob R., Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Leather-skiving machine. No. 969,987; Sept. 13; Sp. p. 1823; Gaz. vol. 158; p. 310.
Scott, Oliver M., Kokomo, Ind. Combined fishing rod and reel. No. 970,356; Sept. 13; Sp. p. 2579; Gaz. vol. 158; p. 436.
Scott, Walter, deceased, Plainfield, N. J.; I. and D. J. Scott, executors. Printing-machine. No. 970,125; Sept. 13; Sp. p. 2099; Gaz. vol. 158; p. 357.
Scott, Walter, deceased, Plainfield, N. J.; I. and D. J. Scott, executors. Printing-machine. No. 970,652; Sept. 20; Sp. p. 3238; Gaz. vol. 158; p. 558.
Scott, Walter, deceased, Plainfield, N. J.; I. and D. J. Scott, executors. Delivery mechanism. No. 971,220; Sept. 27; Sp. p. 4438; Gaz. vol. 158; p. 777.
Scullin-Gallagher Iron & Steel Company. (See Shallenberger, Charles S., assignor.)
Scullin, Harry, St. Louis, Mo. Vehicle-wheel. No. 970,126; Sept. 13; Sp. p. 2102; Gaz. vol. 158; p. 358.
Scureman, Joseph B., Nanticoke, Pa. Window-ventilator. No. 971,412; Sept. 27; Sp. p. 4794; Gaz. vol. 158; p. 839.
Seals, Charles, assignor of one-half to W. Livix, Lovilla, Iowa. Drill. No. 970,401; Sept. 13; Sp. p. 2665; Gaz. vol. 158; p. 450.
Searle, Robert M., Mount Vernon, N. Y. Water-gas apparatus. No. 969,411; Sept. 6; Sp. p. 553; Gaz. vol. 158; p. 89.
Searway, Alex A., Buffalo Creek, Colo. Manually-operated railway-brake. No. 970,402; Sept. 13; Sp. p. 2666; Gaz. vol. 158; p. 451.
Seay, Thomas N., Columbia, S. C. Cotton-planter. No. 970,268; Sept. 13; Sp. p. 2420; Gaz. vol. 158; p. 407.
Seeders, Zephaniah C., Pilot Point, Tex. Spring-motor. No. 969,201; Sept. 6; Sp. p. 130; Gaz. vol. 158; p. 21.
Seel, George. (See Jones and Seel.)
Seelye, Nelson H., Winchester, and W. H. Sneeston, Somerville, Mass.; said Sneeston assignor to said Seelye. Die-press. No. 969,412; Sept. 6; Sp. p. 554; Gaz. vol. 158; p. 89.
Seep, Joseph. (See Willey, Arthur R., assignor.)
Segesman, John G., and G. Bingrell, Salem, Ohio. Hospital or invalid's bed. No. 970,357; Sept. 13; Sp. p. 2581; Gaz. vol. 158; p. 436.
Segraves, George P., Perry, Kans. Switch mechanism for railways. No. 970,653; Sept. 20; Sp. p. 3241; Gaz. vol. 158; p. 558.
Seidel Machine Company. (See Seidel, William, assignor.)
Seidel, William, assignor to Seidel Machine Company, Chicago, Ill. Bottle-washing machine. No. 970,758; Sept. 20; Sp. p. 3477; Gaz. vol. 158; p. 595.
Seigle, William R., Nashua, N. H. Making plastic material. No. 969,202; Sept. 6; Sp. p. 131; Gaz. vol. 158; p. 21.
Seiner, George F., *et al.* (See Fay, Alphens, assignor.)
Selders, David E., Van Orin, Ill. Motion-transmitting device. No. 969,910; Sept. 13; Sp. p. 1655; Gaz. vol. 158; p. 285.
Selig, William N. (See Hoglund, Gustav E., assignor.)
Sell Horse Goods Company, The. (See Sell, William E., assignor.)
Sell, William E., assignor to The Sell Horse Goods Company, Canton, Ohio. Hopple. No. 969,203; Sept. 6; Sp. p. 133; Gaz. vol. 158; p. 21.
Sellers, Edgar E., *et al.* (See Kiely, Francis, assignor.)
Sellers, Fred A., *et al.* (See Kiely, Francis, assignor.)
Semet-Solvay Company. (See King, Eugene W., assignor.)
Seng Company. (See Luke, Richard, assignor.)
Sennstrom, John H., Chicago, Ill. Rack for wrapping-paper. No. 971,315; Sept. 27; Sp. p. 4611; Gaz. vol. 158; p. 807.
Sepulchre, François, Liege, Belgium. Purifying blast-furnace and other gases. No. 970,654; Sept. 20; Sp. p. 3243; Gaz. vol. 158; p. 558.
Service, William E., Bridgeton, N. J. Photographic-printing machine. No. 970,127; Sept. 13; Sp. p. 2102; Gaz. vol. 158; p. 358.
Sessions, Frank L., Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company. Circuit-breaker. No. 971,082; Sept. 27; Sp. p. 4148; Gaz. vol. 158; p. 732.
Sester, Charles P., Peoria, Ill. Awning attachment. No. 970,959; Sept. 20; Sp. p. 3874; Gaz. vol. 158; p. 662.
Severin, Walter E., St. Louis, Mo. Adjustable shade or curtain bracket. No. 970,855; Sept. 20; Sp. p. 3687; Gaz. vol. 158; p. 629.
Seymour, William E., assignor to G. Steinwachs, Buffalo, N. Y. Garbage-receptacle. No. 970,960; Sept. 20; Sp. p. 3878; Gaz. vol. 158; p. 662.
Shaffer, Liguoria A., Ridgeley, W. Va. Flask for casting horseshoes. No. 969,663; Sept. 6; Sp. p. 1086; Gaz. vol. 158; p. 174.
Shallenberger, Charles S., assignor to Scullin-Gallagher Iron & Steel Company, St. Louis, Mo. Underframe for railway-cars. No. 970,128; Sept. 13; Sp. p. 2106; Gaz. vol. 158; p. 359.
Shannon, Floyd, Wellsburg, W. Va. Envelop-seal. No. 971,316; Sept. 27; Sp. p. 4613; Gaz. vol. 158; p. 808.
Shapiro, Maurice I., Haverstraw, N. Y. Ventilating apparatus. No. 970,403; Sept. 13; Sp. p. 2668; Gaz. vol. 158; p. 451.
Sharlow, Thomas, New York, N. Y. Film-reel for moving-picture machines. No. 971,317; Sept. 27; Sp. p. 4614; Gaz. vol. 158; p. 808.
Shaver, George F., New York, N. Y., assignor to Hygienic Soap Granulator Company. Soap-dispensing machine. No. 969,204; Sept. 6; Sp. p. 134; Gaz. vol. 158; p. 21.
Shaw, Edwin C., assignor, by mesne assignments, to The United Rim Company, Akron, Ohio. Vehicle-wheel rim. No. 971,318; Sept. 27; Sp. p. 4616; Gaz. vol. 158; p. 808.
Shay, Charles O. (See Menear and Shay.)
Shearer, Thomas, Toledo, Ohio. Lamp-burner. No. 969,413; Sept. 6; Sp. p. 556; Gaz. vol. 158; p. 89.
Sheble, Horace, Philadelphia, Pa., assignor, by mesne assignments, to New Jersey Patent Company, Orange, N. J. Horn-supporting crane. No. 970,655; Sept. 20; Sp. p. 3245; Gaz. vol. 158; p. 559.
Sheetz, Thomas R., Goldfield, Nev. Ratchet-drill. No. 969,664; Sept. 6; Sp. p. 1088; Gaz. vol. 158; p. 174.
Sheidel Western X-Ray Coil Company. (See Hutton, Samuel T., assignor.)
Shepard, Emma F., administratrix. (See Shepard, Eugene H.)
Shepard, Eugene H., deceased, Phillips, Me.; Emma F. Shepard, administratrix. Bundle-carrier-making machine. No. 970,269; Sept. 13; Sp. p. 2421; Gaz. vol. 158; p. 408.
Shepard, Harry H., Providence, R. I. Cushion-cap for the keys of writing-machines. No. 971,221; Sept. 27; Sp. p. 4442; Gaz. vol. 158; p. 778.
Shepard, Robert L., Warwick, N. Y. Belt-punch and knife-blade. No. 969,303; Sept. 6; Sp. p. 317; Gaz. vol. 158; p. 52.
Shepherd, John E. (See Nolen, James G., assignor.)
Shepherd, John E., Chicago, Ill. Alarm signaling system. No. 969,414; Sept. 6; Sp. p. 557; Gaz. vol. 158; p. 90.
Sheppard, Erle R., New York, N. Y. Roller card-case. No. 971,319; Sept. 27; Sp. p. 4619; Gaz. vol. 158; p. 808.
Sherman, P. H., *et al.* (See Leavell, Thomas G., assignor.)
Sherrerd, John M., Easton, Pa. Ball-mill plate. No. 971,153; Sept. 27; Sp. p. 4283; Gaz. vol. 158; p. 754.
Shields, George, Brooklyn, assignor, by mesne assignments, to The Glass Enameled Package Co., Westchester county, N. Y. Barrel. No. 969,205; Sept. 6; Sp. p. 136; Gaz. vol. 158; p. 22.
Shinn, Edward E., Montrose, Colo. Wave-motor. No. 969,665; Sept. 6; Sp. p. 1090; Gaz. vol. 158; p. 175.
Shipley, Andy C., Speedwell, Tenn. Muffler for firearms. No. 971,083; Sept. 27; Sp. p. 4150; Gaz. vol. 158; p. 732.
Shoberg, David C., Avon, S. D. Flash-light apparatus. No. 970,358; Sept. 13; Sp. p. 2584; Gaz. vol. 158; p. 436.
Shobert, Frederic C., Pittsburg, Pa. Type-writer attachment. No. 969,206; Sept. 6; Sp. p. 137; Gaz. vol. 158; p. 22.
Short, Walter C., Denver, Colo. Stuffing-box. No. 969,207; Sept. 6; Sp. p. 139; Gaz. vol. 158; p. 22.
Shuman, Frank G., Chicago, Ill. Coin-holder. No. 971,154; Sept. 27; Sp. p. 4285; Gaz. vol. 158; p. 754.
Sibiski, John C., Baltimore, Md. Door check and buffer. No. 970,270; Sept. 13; Sp. p. 2423; Gaz. vol. 158; p. 408.
Sibson, Walter W. (See Allsop, Sibson, and Hagar.)
Siemens & Co. Gebruder. (See Egly, Georg, assignor.)
Silva, Luis M., Bogota, Colombia. Firearm. No. 969,500; Sept. 6; Sp. p. 740; Gaz. vol. 158; p. 117.
Simisky, Joseph A., Worcester, Mass. Pivotal-shackle permutation-padlock. No. 970,856; Sept. 20; Sp. p. 3688; Gaz. vol. 158; p. 630.
Simmerly, Anthony R., Cleveland, Ohio. Collet. No. 970,129; Sept. 13; Sp. p. 2108; Gaz. vol. 158; p. 359.
Simmons, George P., Utica, N. Y. Lubricating journal-box. No. 970,271; Sept. 13; Sp. p. 2424; Gaz. vol. 158; p. 408.
Simms, Erskine A., Belmont, Mass. Milk-top remover. No. 970,759; Sept. 20; Sp. p. 3480; Gaz. vol. 158; p. 595.
Simon, Arthur, assignor to The Cutler-Hammer Manufacturing Company, Milwaukee, Wis. Alternating-current magnet. No. 969,809; Sept. 13; Sp. p. 1438; Gaz. vol. 158; p. 250.
Simonet, William, *et al.* (See Edwards, Charles B., assignor.)
Simplex Motor Car Company, The. (See Gulick, Edward J., assignor.)
Simplex Telephone Equipment Company. (See Babcock, Garrison, assignor.)

Simpson, Thomas B. (See Merrett, Henry and C. E., assignors.)
Singer Manufacturing Company, The. (See De Voe, Albert H., assignor.)
Singer Manufacturing Company, The. (See Noble, Donald, assignor.)
Singer Manufacturing Company, The. (See Nydegger, Paul F., assignor.)
Single Service Package Corporation. (See Jenkins, Charles F., assignor.)
Skeith, Isaac L., Milwaukee, Wis. Saw-guide. No. 969,810; Sept. 13; Sp. p. 1441; Gaz. vol. 158; p. 250.
Sklovsky, Max, and G. W. Mixter, assignors to Deere & Company, Moline, Ill. Conveyer. No. 969,415; Sept. 6; Sp. p. 561; Gaz. vol. 158; p. 90.
Slaker, Helen M., Aurora, Ill. Curling-iron. No. 970,272; Sept. 13; Sp. p. 2426; Gaz. vol. 158; p. 409.
Sleeth, Montgomery, Wilmerding, assignor to Fort Pitt Bedding Company, Pittsburg, Pa. Bed-spring-supporting frame. No. 969,501; Sept. 6; Sp. p. 744; Gaz. vol. 158; p. 117.
Sleight, William H., St. Louis, Mo. Bed-bottom fabric. No. 969,568; Sept. 6; Sp. p. 893; Gaz. vol. 158; p. 142.
Sligar, James W., Weatherford, Tex. Coffee-mill. No. 971,084; Sept. 27; Sp. p. 4151; Gaz. vol. 158; p. 732.
Small, Edward F., assignor of one-half to W. E. Ragan, Atlanta, Ga. Abdominal and pelvic supporter. No. 970,961; Sept. 20; Sp. p. 3879; Gaz. vol. 158; p. 663.
Small, Henry J., San Francisco, Cal. Journal-brass. No. 971,085; Sept. 27; Sp. p. 4154; Gaz. vol. 158; p. 733.
Smith, Albert E., assignor to The Vitagraph Company of America, New York, N. Y. Moving-picture machine. No. 971,155; Sept. 27; Sp. p. 4286; Gaz. vol. 158; p. 755.
Smith, Alexander F., Reading, Pa. Sash-fastener. No. 969,208; Sept. 6; Sp. p. 141; Gaz. vol. 158; p. 23.
Smith, Alphonso D., assignor of one-half to N. H. Myers, Kents Store, Va. Dissolving stereopticon. No. 970,962; Sept. 20; Sp. p. 3880; Gaz. vol. 158; p. 663.
Smith, Anthony E., Camberwell, England. Apparatus for the automatic delivery of disinfectants to the flushing-water of water-closets, urinals, and the like. No. 969,729; Sept. 6; Sp. p. 1220; Gaz. vol. 158; p. 197.
Smith, Anton C., assignor of one-third to T. J. Holland, Winnipeg, Manitoba, Canada. Grain-car door. No. 969,730; Sept. 6; Sp. p. 1221; Gaz. vol. 158; p. 198.
Smith, Augustus, North Plainfield, N. J., assignor to Bergen Point Iron Works, New York, N. Y. Means for filling buckets, &c., from hoppers. No. 969,988; Sept. 13; Sp. p. 1828; Gaz. vol. 158; p. 311.
Smith, Augustus, North Plainfield, N. J., assignor to Bergen Point Iron Works, New York, N. Y. Pulley-block. No. 969,989; Sept. 13; Sp. p. 1830; Gaz. vol. 158; p. 311.
Smith, Benjamin, Utica, N. Y. Fire-escape. No. 969,209; Sept. 6; Sp. p. 142; Gaz. vol. 158; p. 23.
Smith, Calvin H., Bessemer, Ala. Burglar-alarm. No. 970,565; Sept. 20; Sp. p. 3034; Gaz. vol. 158; p. 528.
Smith, Charles G., Somerville, Mass. Strainer for driven wells. No. 971,156; Sept. 27; Sp. p. 4289; Gaz. vol. 158; p. 755.
Smith, Clarence E., assignor to The North and Judd Manufacturing Company, New Britain, Conn. Brooch. No. 969,666; Sept. 6; Sp. p. 1091; Gaz. vol. 158; p. 175.
Smith, Clayton A. (See Getley, William, assignor.)
Smith, Cuthbert C., Twickenham, England. Speed-indicator for motor-cars and other vehicles. No. 969,990; Sept. 13; Sp. p. 1831; Gaz. vol. 158; p. 311.
Smith, Donald H., near Curlewis, New South Wales, Australia. Reversible multifurrow disk plow. No. 971,157; Sept. 27; Sp. p. 4290; Gaz. vol. 158; p. 755.
Smith, Earle R., assignor to Triumph Flat Iron Company, Los Angeles, Cal. Laundry-iron. No. 969,991; Sept. 13; Sp. p. 1832; Gaz. vol. 158; p. 312.
Smith, Edward M. (See Smith, James K. and E. M.)
Smith, Elmer F., Marion, Mass. Turn-table. No. 970,857; Sept. 20; Sp. p. 3690; Gaz. vol. 158; p. 630.
Smith, Frank F., Newark, N. J. Transom-adjusting device. No. 970,656; Sept. 20; Sp. p. 3247; Gaz. vol. 158; p. 559.
Smith, Frank W., Portland, Me. Slitter for corn-cutters. No. 969,210; Sept. 6; Sp. p. 146; Gaz. vol. 158; p. 23.
Smith, Frank W., New York, N. Y., assignor to Sundh Electric Company. Electric switch. No. 970,963; Sept. 20; Sp. p. 3883; Gaz. vol. 158; p. 663.
Smith, Friend W., Jr., assignor to C. C. Payne, Bridgeport, Conn. Dust-collector for vacuum-cleaners. No. 971,013; Sept. 20; Sp. p. 3973; Gaz. vol. 158; p. 680.
Smith, George Z., Salt Lake City, Utah. Igniter for gas or other internal-combustion engines. No. 971,418; Sept. 27; Sp. p. 4795; Gaz. vol. 158; p. 839.
Smith, Harry C., Ainsworth, Nebr. Adjustable rim and tire. No. 969,416; Sept. 6; Sp. p. 565; Gaz. vol. 158; p. 91.
Smith, James. (See Kerr and Smith.)
Smith, James E., New York, N. Y. Making cigar-bunches. No. 969,992; Sept. 13; Sp. p. 1834; Gaz. vol. 158; p. 312.
Smith, James K. and E. M., Spencer, Ind. Digger. No. 969,569; Sept. 6; Sp. p. 894; Gaz. vol. 158; p. 142.
Smith, James M., assignor of one-half to W. D. C. Wright, Philadelphia, Pa. Current distributer and timer. No. 969,731; Sept. 6; Sp. p. 1223; Gaz. vol. 158; p. 198.
Smith, James T., Newark, N. J. Manufacturing leather. No. 969,570; Sept. 6; Sp. p. 898; Gaz. vol. 158; p. 142.
Smith, Jesse C., Kansas City, Mo. Automatic cut-off valve. No. 969,911; Sept. 13; Sp. p. 1656; Gaz. vol. 158; p. 286.
Smith, John S., Rea, Mo. Corn-planter attachment. No. 971,320; Sept. 27; Sp. p. 4620; Gaz. vol. 158; p. 809.
Smith, Johney E., De Lamere, N. D. Curtain-guide. No. 970,130; Sept. 13; Sp. p. 2109; Gaz. vol. 158; p. 359.
Smith, Karl, Sharpsville, Pa. Collapsible box. No. 970,858; Sept. 20; Sp. p. 3693; Gaz. vol. 158; p. 630.
Smith Manufacturing Company. (See Fitzgerald, Jeremiah C., assignor.)
Smith, Martin J., Brockton, Mass. Swinging support for window-shades. No. 971,414; Sept. 27; Sp. p. 4797; Gaz. vol. 158; p. 839.
Smith, Owen A., *et al.* (See Barnes, Ned E., assignor.)
Smith Premier Typewriter Company, The. (See Barr, John H., assignor.)
Smith, Theodore, Chicago, Ill. Shade-holder. No. 969,211; Sept. 6; Sp. p. 147; Gaz. vol. 158; p. 24.
Smith, Victor A., Mineral Wells, Tex. Clothes-boiler. No. 971,086; Sept. 27; Sp. p. 4155; Gaz. vol. 158; p. 733.
Smith & Wesson Incorporated. (See Clement, Charles P., assignor.)
Smith, William J., San Luis Obispo, Cal. Flume or conduit. No. 971,087; Sept. 27; Sp. p. 4156; Gaz. vol. 158; p. 733.
Smoot, Charles H., New York, N. Y. Regulating apparatus for engines. No. 971,088; Sept. 27; Sp. p. 4157; Gaz. vol. 158; p. 734.
Snee, William, West Elizabeth, Pa., assignor to American Power & Mfg. Co., Pittsburg, Pa. Fluid-actuated motor. No. 970,404; Sept. 13; Sp. p. 2669; Gaz. vol. 158; p. 451.
Sneeston, William H. (See Seelye and Sneeston.)
Snow, Isaac, and G. Stubbings, Lawrence, Mass. Shuttle for looms. No. 969,912; Sept. 13; Sp. p. 1658; Gaz. vol. 158; p. 286.
Snow, William J., Vilonia, Ark. Harrow. No. 970,964; Sept. 20; Sp. p. 3885; Gaz. vol. 158; p. 664.
Snyder, Frank M., Cresson, Pa. Friction draw-gear. No. 970,131; Sept. 13; Sp. p. 2111; Gaz. vol. 158; p. 359.
Snyder, Otho M., Hagerstown, Md. Car-fender. No. 969,667; Sept. 6; Sp. p. 1093; Gaz. vol. 158; p. 175.
Sobel, Ell, New York, W. Gold, Woodhaven, and J. Stretch, Freeport, N. Y. Monolithic construction. No. 969,212; Sept. 6; Sp. p. 149; Gaz. vol. 158; p. 24.
Sobel, Ell, New York, W. Gold, Woodhaven, and J. Stretch, Freeport, N. Y. Monolithic construction. No. 969,213; Sept. 6; Sp. p. 150; Gaz. vol. 158; p. 24.
Soboroff, Samuel, *et al.* (See Passman, Abraham, assignor.)
Società Anonima per Frigorigeni e Motori "Motofrigor." (See Scaramuzza, Gino, assignor.)
Società Anonima per Grigile e Forni Virgili. (See Virgili, Felicissimo, assignor.)
Société d'Electro-Chimie *et al.* (See Hulin, Paul L., assignor.)
Société Mustel et Cie. (See Mustel, Alphonse L., assignor.)
Sonnberg, Wilhelm, assignor to Deutsche Waffen- und Munitionsfabriken, Berlin, Germany. Ball-bearing. No. 970,132; Sept. 13; Sp. p. 2113; Gaz. vol. 158; p. 360.
Soos, Louis, Buffalo, N. Y. Sweeping-machine. No. 971,158; Sept. 27; Sp. p. 4295; Gaz. vol. 158; p. 756.
Sorrow, Joseph, Boise, Idaho. Door-fastener. No. 970,273; Sept. 13; Sp. p. 2427; Gaz. vol. 158; p. 409.
Southern Machine Works. (See Brantley, Thomas, assignor.)
Spang, George A., Butler, Pa. Rope-knife. No. 969,571; Sept. 6; Sp. p. 901; Gaz. vol. 158; p. 143.
Spang, George A., Butler, Pa. Apparatus for cutting well-pumping cables. No. 969,755; Sept. 6; Sp. p. 1296; Gaz. vol. 158; p. 208.
Spangler, J. W. (See Clay, John B., assignor.)
Sparks, S. Ed. (See Kramer, Henry H., assignor.)
Sparr, Benjamin F., New York, N. Y. Coupling. No. 971,321; Sept. 27; Sp. p. 4623; Gaz. vol. 158; p. 809.
Speakman, Charles W., Monongahela, Pa. Mine-insulator. No. 971,322; Sept. 27; Sp. p. 4624; Gaz. vol. 158; p. 810.
Speed, James B., assignor of one-half to A. M. Hunt, Berkeley, Cal. Measuring the flow of fluids. No. 970,965; Sept. 20; Sp. p. 3886; Gaz. vol. 158; p. 664.
Speer, Robert S., Sedgwick, Kans. Fifth-wheel. No. 969,668; Sept. 6; Sp. p. 1095; Gaz. vol. 158; p. 175.
Spelke, Abram. (See Davidoff, Louis, assignor.)
Spellman, Herbert W., and C. E. Olmsted, assignors to Landers, Frary and Clark, New Britain, Conn. Power-transmission mechanism. No. 969,214; Sept. 6; Sp. p. 152; Gaz. vol. 158; p. 25.
Spencer, Alfred G., London, England. Buffer and other spring constructed with india-rubber. No. 971,415; Sept. 27; Sp. p. 4798; Gaz. vol. 158; p. 840.
Spencer, Ira H., assignor to The Spencer Turbine Cleaner Company, Hartford, Conn. Cleaning-tool. No. 969,913; Sept. 13; Sp. p. 1660; Gaz. vol. 158; p. 286.
Spencer, Oliver H. P. G., assignor of one-third to W. D. Bresnahan and one-third to H. W. Boyer, Columbus, Ohio. Nut-lock. No. 970,274; Sept. 13; Sp. p. 2428; Gaz. vol. 158; p. 409.
Spencer, Robert B., Toledo, Ohio. Clothes-wringer. No. 970,566; Sept. 20; Sp. p. 3036; Gaz. vol. 158; p. 528.
Spencer, Thomas C., Wewahitchka, Fla. Penholder. No. 970,859; Sept. 20; Sp. p. 3695; Gaz. vol. 158; p. 631.

Spencer Turbine Cleaner Company, The. (See Spencer, Ira H., assignor.)
Spicer Brothers Limited. (See Warne, Albert T., assignor.)
Spicer, George W., Peru, assignor to G. N. Clymer, Rochester, Ind. Road-scraper. No. 970,966; Sept. 20; Sp. p. 3887; Gaz. vol. 158; p. 664.
Spindler, Joseph M., Shakopee, Minn. Coin-controlled apparatus. No. 969,914; Sept. 13; Sp. p. 1661; Gaz. vol. 158; p. 287.
Springer, Otto J., Edwardsville, Ill. Subsoil-cultivator. No. 970,760; Sept. 20; Sp. p. 3481; Gaz. vol. 158; p. 596.
Sprint, John W., Boyce, assignor of one-half to J. A. Dewar, Millwood, Va. Fender. No. 970,967; Sept. 20; Sp. p. 3889; Gaz. vol. 158; p. 665.
Spurgeon, Harry A. (See Humphrey and Spurgeon.)
Spyker, Jacobus, Amsterdam, Netherlands. Elastic wheel. No. 969,304; Sept. 6; Sp. p. 319; Gaz. vol. 158; p. 52.
St. John, Carlisle, Des Moines, Iowa. Hot-air heating apparatus. No. 970,117; Sept. 13; Sp. p. 2087; Gaz. vol. 158; p. 355.
Staahlgren, Karl A. A., New York, N. Y. Inverted incandescent gas-burner. No. 970,275; Sept. 13; Sp. p. 2429; Gaz. vol. 158; p. 409.
Staats, Mary L. (See Staats, William H., assignor.)
Staats, William H., assignor to M. L. Staats, Colonie, N. Y. Coin-changer. No. 969,417; Sept. 6; Sp. p. 567; Gaz. vol. 158; p. 91.
Stahl, Charles H., assignor to American Narrow Fabric Company, Worcester, Mass. Clasp. No. 970,567; Sept. 20; Sp. p. 3038; Gaz. vol. 158; p. 529.
Staley, Paul A. (See Krotz, Alvaro S., assignor.)
Stallings, Samuel, Fountain Inn, S. C. Cotton-chopper. No. 970,968; Sept. 20; Sp. p. 3890; Gaz. vol. 158; p. 665.
Stamm, Charles, assignor of one-third to J. Falbe, Milwaukee, Wis. Electric igniting device for gas-stoves. No. 969,993; Sept. 13; Sp. p. 1839; Gaz. vol. 158; p. 313.
Standard Car Truck Company. (See Barber, John C., assignor.)
Standard Electro-Utilities Company. (See Linder, Oscar, assignor.)
Stankiewicz, Tadius J., Chicago Heights, Ill. Automatic fire-extinguisher system. No. 971,089; Sept. 27; Sp. p. 4159; Gaz. vol. 158; p. 734.
Stanway, William, assignor to G. Middlebrook and A. E. Hill, London, England. Brick wall and the like. No. 971,159; Sept. 27; Sp. p. 4299; Gaz. vol. 158; p. 756.
Star Rubber Company. (See Farnam, George D., assignor.)
Starbuck, Calvin T., Birmingham, Ala. Screw-jack. No. 969,215; Sept. 6; Sp. p. 155; Gaz. vol. 158; p. 25.
Stark, John. (See Haldy, Henri, assignor.)
Stark, William, *et al.* (See Chartener, Victor, assignor.)
Starkey, William C., North East, Pa. Trolley-retriever. No. 969,994; Sept. 13; Sp. p. 1841; Gaz. vol. 158; p. 313.
Starrett, Laroy S., assignor to L. S. Starrett Company, Athol, Mass. Screw-clamp. No. 970,568; Sept. 20; Sp. p. 3039; Gaz. vol. 158; p. 529.
Stary, Emil P., Cedar Rapids, Iowa. Automatic flushing-tank. No. 969,305; Sept. 6; Sp. p. 321; Gaz. vol. 158; p. 53.
Staude, Edwin G., Minneapolis, Minn. Sectional color-press and blanker. No. 969,418; Sept. 6; Sp. p. 570; Gaz. vol. 158; p. 91.
Steadman, Samuel A., Manchester, Iowa. Neck-yoke center. No. 970,657; Sept. 20; Sp. p. 3249; Gaz. vol. 158; p. 560.
Steel Heddle Manufacturing Company. (See Fehr and Kaufmann, assignors.)
Steele, Herbert H., Marcellus, assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 969,915; Sept. 13; Sp. p. 1663; Gaz. vol. 158; p. 287.
Steen, Theodore J., assignor to W. B. Steen, St. Paul, Nebr. Blind-fastener for harness. No. 970,761; Sept. 20; Sp. p. 3483; Gaz. vol. 158; p. 596.
Steen, Walter B. (See Steen, Theodore J., assignor.)
Stehlik, Stephan, and J. Barilla, Derby, Conn. Match-receptacle. No. 969,016; Sept. 13; Sp. p. 1671; Gaz. vol. 158; p. 287.
Stein, Carl J., White Earth, N. D. Seeder. No. 971,090; Sept. 27; Sp. p. 4160; Gaz. vol. 158; p. 734.
Stein, Emil G. H., New York, N. Y. Phonograph, graphophone, and like instrument. No. 969,917; Sept. 13; Sp. p. 1673; Gaz. vol. 158; p. 288.
Steinacker, Arthur. (See Plisnier, Albert, Jr., assignor.)
Steinwachs, Gustave. (See Seymour, William E., assignor.)
Stenerson, Ole, Superior, Wis. Wrench. No. 970,762; Sept. 20; Sp. p. 3485; Gaz. vol. 158; p. 597.
Stephens, John H., Vernon, Tex. Hose-coupling. No. 969,216; Sept. 6; Sp. p. 156; Gaz. vol. 158; p. 25.
Sterling-Meaker Company. (See Gierding, Charles E., assignor.)
Sterling Wheelbarrow Company. (See Baker, Charles A., assignor.)
Stern, Rupert. (See Hartlett, George D., assignor.)
Sterne, Bernhard, *et al.* (See Lewy, Charles H., assignor.)
Stetson, Frank H., Lawrence, Mass., assignor to U. S. Bobbin & Shuttle Co., Providence, R. I. Loom-shuttle. No. 970,763; Sept. 20; Sp. p. 3487; Gaz. vol. 158; p. 597.
Stevens, Frederick M., assignor to Manhattan Screw & Stamping Works, New York, N. Y. Lamp. No. 971,323; Sept. 27; Sp. p. 4626; Gaz. vol. 158; p. 810.
Stevenson, John S., Crisfield, Md. Whip-socket. No. 970,658; Sept. 20; Sp. p. 3250; Gaz. vol. 158; p. 560.
Stewart, Andrew, Uhrichsville, Ohio. Furnace-regulator. No. 969,669; Sept. 6; Sp. p. 1006; Gaz. vol. 158; p. 176.
Stewart, Charles C., Oak Park, assignor to The Campbell Company, Chicago, Ill. Mailing-folder. No. 970,659; Sept. 20; Sp. p. 3252; Gaz. vol. 158; p. 560.
Stewart, William H., St. Louis, Mo. Street-flushing apparatus. No. 969,217; Sept. 6; Sp. p. 158; Gaz. vol. 158; p. 26.
Stickel, Harry C., Star Junction, Pa. Adjustable extension for piano-pedals. No. 969,670; Sept. 6; Sp. p. 1098; Gaz. vol. 158; p. 176.
Stickels, Edward H. (See Webb and Stickels.)
Stierheim, Arthur D., Charlestown, Ind. Wagon-standard. No. 969,218; Sept. 6; Sp. p. 160; Gaz. vol. 158; p. 26.
Stierle, Erwin. (See Kunsmann and Stierle.)
Stineman, William H. H., assignor of one-half to R. A. Taylor, Baltimore, Md. Stoker. No. 970,660; Sept. 20; Sp. p. 3254; Gaz. vol. 158; p. 561.
Stipp, Peter, Scranton, Pa. Furnace. No. 971,416; Sept. 27; Sp. p. 4801; Gaz. vol. 158; p. 840.
Stivers Automatic Cover Company, The. (See Stivers, Jake M., assignor.)
Stivers, Jake M., Oklahoma, Okla., assignor to The Stivers Automatic Cover Company. Coin-controlled game-table cover. No. 971,222; Sept. 27; Sp. p. 4443; Gaz. vol. 158; p. 778.
Stöckel, Frants C., and J. L. T. Popp, Copenhagen, Denmark. Machine for filling bottles. No. 969,572; Sept. 6; Sp. p. 903; Gaz. vol. 158; p. 143.
Stockford, Thomas E., Williams, Cal. Nut-lock. No. 969,306; Sept. 6; Sp. p. 322; Gaz. vol. 158; p. 53.
Stoddard, Maude R., New York, N. Y. Latch. No. 970,661; Sept. 20; Sp. p. 3256; Gaz. vol. 158; p. 561.
Stone, Richard W., assignor of fifty-one one-hundredths to D. D. Thomas, Lincoln, Nebr. Riding-saddle. No. 969,995; Sept. 13; Sp. p. 1844; Gaz. vol. 158; p. 314.
Stone, Thomas W., Fort Wayne, Ind. High-pressure gate-valve. No. 970,764; Sept. 20; Sp. p. 3488; Gaz. vol. 158; p. 597.
Stone and Webster. (See Buchanan, Leonard B., assignor.)
Stoner, Christian F., and F. B. Trout, Lancaster, Pa. Fly-paper holder. No. 969,219; Sept. 6; Sp. p. 162; Gaz. vol. 158; p. 27.
Stoney, George G. (See Parsons, Stoney, Carnegie, and Bowerbank.)
Stoops, Harry J., Houston, Tex. Cotton-picking machine. No. 969,419; Sept. 6; Sp. p. 573; Gaz. vol. 158; p. 92.
Storrs, Aaron P., Owego, N. Y. Needle-valve. No. 969,573; Sept. 6; Sp. p. 905; Gaz. vol. 158; p. 144.
Story, Leonard L., East Fairfield, Vt. Mechanical milker. No. 969,761; Sept. 6; Sp. p. 1308; Gaz. vol. 158; p. 210.
Stössel, Hugo. (See Genest and Stössel.)
Stott, Wellington, London, England. Advertising or amusement device. No. 971,091; Sept. 27; Sp. p. 4161; Gaz. vol. 158; p. 734.
Strang, Walter C., Yonkers, N. Y. Elevator safety actuating device. No. 969,811; Sept. 13; Sp. p. 1442; Gaz. vol. 158; p. 250.
Streitz, Jacob, Marine City, Mich. Seed-dropping mechanism. No. 969,918; Sept. 13; Sp. p. 1675; Gaz. vol. 158; p. 288.
Strepey, Jasper N. (See Strepey, Lindsay S., assignor.)
Strepey, Lindsay S., Victor, assignor of two-sevenths to J. N. Strepey, Buena Vista, Colo. Wheel-bearing. No. 971,417; Sept. 27; Sp. p. 4804; Gaz. vol. 158; p. 840.
Stretch, Joseph. (See Sobel, Gold, and Stretch.)
Strid, Sven J., assignor of one-half to R. G. Coburn, Chicago, Ill. Journal-box. No. 970,133; Sept. 13; Sp. p. 2115; Gaz. vol. 158; p. 360.
Strohhaecker, George A. (See Eddy, George W., assignor.)
Strube, Kristian K., Trenton, N. J. Wheel. No. 970,569; Sept. 20; Sp. p. 3040; Gaz. vol. 158; p. 529.
Stuart, Josie A. W., Minneapolis, Minn., assignor to D. Erb, Grand Rapids, Mich. Toilet article. (Reissue.) No. 13,140; Sept. 6; Sp. p. 1326; Gaz. vol. 158; p. 211.
Stubbings, George. (See Snow and Stubbings.)
Stubbs, Theodore B., *et al.* (See Owin, Elijah J., assignor.)
Stuip, Fred J., Muskegon, Mich. Hose and pipe mender. No. 969,919; Sept. 13; Sp. p. 1677; Gaz. vol. 158; p. 289.
Success Manufacturing Company. (See Bolger, Thomas F., assignor.)
Sullivan, John, and W. Rosenstock, U. S. Navy. Measuring apparatus. No. 970,765; Sept. 20; Sp. p. 3491; Gaz. vol. 158; p. 597.
Sulzberger, Nathan, New York, N. Y. Oleic-acid derivative of bodies of the terpene group. No. 969,420; Sept. 6; Sp. p. 578; Gaz. vol. 158; p. 92.
Sulzberger, Nathan, New York, N. Y. Oleic-acid derivatives containing a phenyl group. No. 970,662; Sept. 20; Sp. p. 3257; Gaz. vol. 158; p. 562.
Sumerlin, Henry C., Creston, Wash. Combination fork and shovel. No. 969,307; Sept. 6; Sp. p. 323; Gaz. vol. 158; p. 53.
Summerfield, C. R. (See Hitchcock, Martin L., assignor.)
Sunasack, B. M. (See Elsner, Abraham, assignor.)
Sundh Electric Company. (See Smith, Frank W., assignor.)
Sura, Thomas M., Racine, Wis. Umbrella. No. 970,663; Sept. 20; Sp. p. 3259; Gaz. vol. 158; p. 562.

Svanberg, Gustaf A., Fort Lee, N. J. Magazine. No. 969,574; Sept. 6; Sp. p. 906; Gaz. vol. 158; p. 144.
Swanson, Albert J., Stockport, Iowa. Automatic music-leaf turner. No. 970,766; Sept 20; Sp. p. 3493; Gaz. vol. 158; p. 598.
Swart, Fred M., Margaretville, N. Y. Stirrup. No. 970,664; Sept. 20; Sp. p. 3260; Gaz. vol. 158; p. 598.
Swartz, Warren E., assignor to Milwaukee Casket Company, Milwaukee, Wis. Burial-casket. No. 969,421; Sept. 6; Sp. p. 579; Gaz. vol. 158; p. 92.
Sweet, Olive. (See Anderson, Julius, assignor.)
Sweigart, Frank T., Kokomo, Ind. Gas-engine starter. No. 969,756; Sept. 6; Sp. p. 1298; Gaz. vol. 158; p. 208.
Swindell, Walter B., Raleigh, N. C. Motion-picture film-reel mechanism. No. 970,570; Sept. 20; Sp. p. 3041; Gaz. vol. 158; p. 530.
Swingle, Angeline L., Putney, S. D. Water-bottle. No. 970,767; Sept. 20; Sp. p. 3496; Gaz. vol. 158; p. 598.
Symons, Josiah E., Sheridan, Ind. Crushing-machine. No. 970,571; Sept. 20; Sp. p. 3045; Gaz. vol. 158; p. 530.
Szabo, George J., Portvue, assignor of one-half to J. Tomcsanyi, Homestead, Pa. Tin-plate-catching machine. No. 970,134; Sept. 13; Sp. p. 2117; Gaz. vol. 158; p. 360.
Talt, George W., administrator. (See Evans, William, assignor.)
Talbert, Edgar H., Washington, D. C., assignor of one-half to H. A. Hale, Johnson City, Tenn. Window-screen. No. 971,477; Sept. 27; Sp. p. 4910; Gaz. vol. 158; p. 859.
Tallouse, John, Oakland, Me. Stake-brace for lumber-cars. No. 969,671; Sept. 6; Sp. p. 1099; Gaz. vol. 158; p. 177.
Tanner, Julius R., Pittsburg, Pa., and D. B. Banks, Baltimore, Md. Pipe-joint. No. 969,422; Sept. 6; Sp. p. 581; Gaz. vol. 158; p. 92.
Tanner, Julius R., Pittsburg, Pa., and D. B. Banks, Baltimore, Md. Pipe-joint. No. 969,423; Sept. 6; Sp. p. 582; Gaz. vol. 158; p. 93.
Tannert, Charles C., Brooklyn, N. Y. Top-spinning device. No. 971,420; Sept. 27; Sp. p. 4808; Gaz. vol. 158; p. 841.
Tarvardian, Havakim, New Britain, Conn. Cane-rifle. No. 960,672; Sept. 6; Sp. p. 1100; Gaz. vol. 158; p. 177.
Taussig, John H., assignor to The United Gas Improvement Company, Philadelphia, Pa. Gas apparatus. No. 969,502; Sept. 6; Sp. p. 746; Gaz. vol. 158; p. 117.
Taussig, John H., assignor to The United Gas Improvement Company, Philadelphia, Pa. Vertical-retort coal-gas apparatus. No. 969,996; Sept. 13; Sp. p. 1846; Gaz. vol. 158; p. 314.
Taylor, Albert H., Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y. Hammer-drill. No. 971,223; Sept. 27; Sp. p. 4445; Gaz. vol. 158; p. 779.
Taylor, Clarence L., assignor to The Morgan Engineering Company, Alliance, Ohio. Bridge for overhead traveling cranes. No. 970,572; Sept. 20; Sp. p. 3048; Gaz. vol. 158; p. 530.
Taylor, Dorothy, Colfax, Cal. Egg and cream beater. No. 970,969; Sept. 20; Sp. p. 3891; Gaz. vol. 158; p. 665.
Taylor, Isaac L., Goltry, Okla. Storm-curtain. No. 970,135; Sept. 13; Sp. p. 2120; Gaz. vol. 158; p. 361.
Taylor, James P., Longbeach, assignor to Cycle Support Company, Los Angeles, Cal. Bicycle-support. No. 969,920; Sept. 13; Sp. p. 1678; Gaz. vol. 158; p. 289.
Taylor, John, administrator. (See Hysong, Charles H.)
Taylor, Leslie B., Bournbrook, near Birmingham, England. One-trigger mechanism for double-barrel breech-loading small-arms. No. 970,405; Sept. 13; Sp. p. 2671; Gaz. vol. 158; p. 451.
Taylor, Robert A. (See Stineman, William H. H., assignor.)
Taylor, Timothy E., Putnam, and J. A. Thomas, Thompson, Conn. Heel-spring. No. 970,270; Sept. 13; Sp. p. 2430; Gaz. vol. 158; p. 410.
Taylor, William E., Eastport, Me., assignor to American Can Company, New York, N. Y. Roll-side key-opening can. No. 969,220; Sept. 6; Sp. p. 162; Gaz. vol. 158; p. 27.
Tebyrica, Jose P. (See Tebyrica, Mario W., assignor.)
Tebyrica, Mario W., assignor of one-half to J. P. Tebyrica, São Paulo, Brazil. Surveying apparatus. No. 969,732; Sept. 6; Sp. p. 1235; Gaz. vol. 158; p. 199.
Tennent, Margaret, Chicago, Ill. Desk attachment. No. 970,970; Sept. 20; Sp. p. 3892; Gaz. vol. 158; p. 665.
Terhune, Rufus W. (See Wheeling, Landa A., assignor.)
Terriff, William W., Portland, Mich. Leg-lifting caster device for tubs, &c. No. 970,860; Sept. 20; Sp. p. 3696; Gaz. vol. 158; p. 631.
Teste, Etienne, Paris, France. Horn. No. 970,136; Sept. 13; Sp. p. 2121; Gaz. vol. 158; p. 361.
Teute, Ferdinand, Rochester, N. Y. Mount for entomological specimens. No. 970,665; Sept. 20; Sp. p. 3262; Gaz. vol. 158; p. 562.
Textile Machine Works. (See Rahm, Robert C., assignor.)
Thiem, Louis, Toledo, Ohio. Automatic cistern-cleaner. No. 969,997; Sept. 13; Sp. p. 1849; Gaz. vol. 158; p. 314.
Thiry, Jules, St. Servais, Belgium. Friction-coupling with expanding locking member. No. 970,573; Sept. 20; Sp. p. 3050; Gaz. vol. 158; p. 531.
Thoeni, Herman, Spokane, Wash. Weed-destroyer. No. 970,666; Sept. 20; Sp. p. 3263; Gaz. vol. 158; p. 563.
Thomas, D. D. (See Stone, Richard W., assignor.)
Thomas, Edwin E., Portland, Oreg. Wheel. No. 969,673; Sept. 6; Sp. p. 1103; Gaz. vol. 158; p. 178.
Thomas, Frank D., New York, N. Y. Stage effect. No. 971,418; Sept. 27; Sp. p. 4805; Gaz. vol. 158; p. 841.
Thomas Gas Light and Power Company, The. (See Thomas, Robert, assignor.)
Thomas, George B., assignor to The Perkins Electric Switch Manufacturing Company, Bridgeport, Conn. Electric switch. No. 971,419; Sept. 27; Sp. p. 4807; Gaz. vol. 158; p. 841.
Thomas, John A. (See Taylor and Thomas.)
Thomas, Robert, San Francisco, Cal., assignor to The Thomas Gas Light and Power Company, Tacoma, Wash. Manufacture of gas from garbage. No. 969,733; Sept. 6; Sp. p. 1238; Gaz. vol. 158; p. 199.
Thomas, William C. (See Hewitt and Thomas.)
Thomas, William H., and C. H. Rodgers, Algoma, Miss. Wheel-scraper. No. 970,277; Sept. 13; Sp. p. 2431; Gaz. vol. 158; p. 410.
Thomaschewski, Paul, H. Raeder, Vohwinkel, W. Mieg, and P. Fischer, Elberfeld, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Anthracene vat dye. No. 970,278; Sept. 13; Sp. p. 2433; Gaz. vol. 158; p. 410.
Thomaschewski, Paul, H. Raeder, Vohwinkel, W. Mieg and P. Fischer, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Bluish-gray vat dye. No. 971,224; Sept. 27; Sp. p. 4446; Gaz. vol 158; p. 779.
Thomaschewski, Paul, H. Raeder, Vohwinkel, W. Mieg, and P. Fischer, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Brown vat die. No. 971,225; Sept. 27; Sp. p. 4447; Gaz. vol. 158; p. 779.
Thomes, Frank E., Portland, Me. Hand-truck. No. 970,137; Sept. 13; Sp. p. 2123; Gaz. vol. 158; p. 361.
Thompson, Andrew J., Aneta, N. D. Engine. No. 969,221; Sept. 6; Sp. p. 164; Gaz. vol. 158; p. 27.
Thompson, Andrew L., Dayton, Ohio. Mold for forming concrete columns. No. 969,503; Sept. 6; Sp. p. 747; Gaz. vol. 158; p. 118.
Thompson, Erwin W., Charlotte, N. C. Manufacturing cotton-batting and product of the same. No. 970,971; Sept. 20; Sp. p. 3894; Gaz. vol. 158; p. 666.
Thompson, Fredrick B., assignor to National Waterproof Film Company, Chicago, Ill. Coating picture-films. No. 970,972; Sept. 20; Sp. p. 3896; Gaz. vol. 158; p. 666.
Thompson, Ora, Earl Park, Ind. Threshing-machine. No. 970,973; Sept. 20; Sp. p. 3898; Gaz. vol. 158; p. 666.
Thompson, William S., Wyanet, Ill. Hay-fork. No. 971,324; Sept. 27; Sp. p. 4629; Gaz. vol. 158; p. 810.
Thoms, William H., and H. W. Dummert, Carleton Place, Ontario, Canada. Side-play liner for locomotive-trucks. No. 970,138; Sept. 13; Sp. p. 2124; Gaz. vol. 158; p. 362.
Thomson, Elihu, Lynn, Mass., assignor to General Electric Company. Balancing means for turbines. No. 969,734; Sept. 6; Sp. p. 1239; Gaz. vol. 158; p. 199.
Thornber, James M., Fort Madison, Iowa. Vending-machine. No. 969,735; Sept. 6; Sp. p. 1241; Gaz. vol. 158; p. 200.
Thornton, James, St. Joseph, Mo. Strap-working machine. No. 969,308; Sept. 6; Sp. p. 324; Gaz. vol. 158; p. 54.
Thrasher, William E., Sheldon, Mo. Folding crate. No. 970,279; Sept. 13; Sp. p. 2434; Gaz. vol. 158; p. 410.
Thum, William, Hammond, Ind. Electrolytic apparatus. No. 969,921; Sept. 13; Sp. p. 1679; Gaz. vol. 158; p. 289.
Tiffany, Eli, Bennington, Vt., assignor to Nye and Fredick Company. Needle and jack structure for knitting-machines. No. 969,222; Sept. 6; Sp. p. 169; Gaz. vol. 158; p. 27.
Tilden, James A., Hyde Park, assignor to Hersey Manufacturing Company, South Boston, Mass. Meter system. No. 971,510; Sept. 27; Sp. p. 4972; Gaz. vol. 158; p. 871.
Tilmes, William C., and F. G. Kallmeyer, Cincinnati, Ohio. Base-ball-game board. No. 969,424; Sept. 6; Sp. p. 583; Gaz. vol. 158; p. 93.
Tim & Co. *et al.* (See Ferguson, Clarence W., assignor.)
Timms, James, Columbus, Ohio. Car-coupling. No. 969,674; Sept. 6; Sp. p. 1105; Gaz. vol. 158; p. 178.
Tindall, Chloa W., Denver, Colo. Cushion for handles of shears or scissors. No. 970,406; Sept. 13; Sp. p. 2674; Gaz. vol. 158; p. 452.
Tiner, John F., assignor of one-third to T. M. Milam and one-third to W. D. Kincaid, Uvalde, Tex. Pipe-wrench. No. 970,574; Sept. 20; Sp. p. 3051; Gaz. vol. 158; p. 531.
Titus, Edwin P., Mena, Ark. Rotary explosive-engine. No. 969,675; Sept. 6; Sp. p. 1108; Gaz. vol. 158; p. 178.
Togleson, Peter, Deepwater, Mo. Miner's lamp. No. 969,812; Sept. 13; Sp. p. 1447; Gaz. vol. 158; p. 251.
Tomcsanyi, Joseph. (See Szabo, George J., assignor.)
Tomlinson, John K., Pickaway, assignor of one-third to W. W. Rittenhouse, Ronceverte, W. Va. Telephone-line-wire detacher. No. 969,676; Sept. 6; Sp. p. 1111; Gaz. vol. 158; p. 179.
Tompkins, John D., Valatie, N. Y. Rough pulper. No. 969,998; Sept. 13; Sp. p. 1850; Gaz. vol. 158; p. 315.
Torbrand, Peter R., Denver, Colo. Flying-machine. No. 970,974; Sept. 20; Sp. p. 3901; Gaz. vol. 158; p. 667.
Torris Wold & Company. (See Odquist and Lyche, assignors.)
Tourtel, John M., London, England. Adding-machine. No. 969,223; Sept. 6; Sp. p. 171; Gaz. vol. 158; p. 28.
Tower, Clinton A., assignor to The National Malleable Castings Company, Cleveland, Ohio. Car-coupling. No. 969,575; Sept. 6; Sp. p. 909; Gaz. vol. 158; p. 144.

Townsend, Edward J. (See Noad, James, assignor.)
Townsend, Robert D., Chicago, Ill. Rail-supporting mechanism. No. 970,139; Sept. 13; Sp. p. 2125; Gaz. vol. 158; p. 362.
Tracy, William D., New York, N. Y. Dental appliance. No. 969,922; Sept. 13; Sp. p. 1832; Gaz. vol. 158; p. 290.
Trahin, Frank A., Gillespie, Ill. Wrench. No. 971,325; Sept. 27; Sp. p. 4630; Gaz. vol. 158; p. 811.
Trainer, Ernst, Langen, and W. Haage. Walsum, Germany. Manufacture of briquets. No. 969,504; Sept. 6; Sp. p. 748; Gaz. vol. 158; p. 118.
Traubenberg, Johann W. R. von, Reval, Russia. Rotary press. No. 970,575; Sept. 20; Sp. p. 3053; Gaz. vol. 158; p. 531.
Trautmann, Martha von, New York, N. Y. Atomizer. No. 970,576; Sept. 20; Sp. p. 3056; Gaz. vol. 158; p. 532.
Traver, Philip C., Far Rockaway, N. Y., assignor to Pearsall-Traver Manufacturing Company. Antiskidding device for wheel-tires. No. 969,425; Sept. 6; Sp. p. 585; Gaz. vol. 158; p. 93.
Traver, Philip C., Far Rockaway, N. Y., assignor to Pearsall-Traver Manufacturing Company. Antiskidding-device coupling. No. 969,426; Sept. 6; Sp. p. 587; Gaz. vol. 158; p. 94.
Triumph Flat Iron Company. (See Smith, Earle R., assignor.)
Trout, Frank B. (See Stoner and Trout.)
Trowbridge, Henry O., Millerton, Pa. Pitman-wheel for reaping and mowing machines. No. 970,140; Sept. 13; Sp. p. 2128; Gaz. vol. 158; p. 362.
True, Amos T., Strong, Me. Machine for finishing skewers. No. 970,667; Sept. 20; Sp. p. 3264; Gaz. vol. 158; p. 563.
Trussell, Emory A., Chicago, Ill. Binder. No. 969,923; Sept. 13; Sp. p. 1683; Gaz. vol. 158; p. 290.
Tuck, Gustave, London, and A. E. Kennedy, Leyton, England. Educational device. No. 969,309; Sept. 6; Sp. p. 327; Gaz. vol. 158; p. 54.
Tucker, George W., and E. Beach, Vernon, Kans.; said Beach assignor to said Tucker. Hay-press. No. 969,677; Sept. 6; Sp. p. 1114; Gaz. vol. 158; p. 179.
Tucker, John V. (See Creasey, Samuel E., assignor.)
Tully, Thomas J. (See Adamson, Nils F., assignor.)
Turek, Ferdinand, Cleveland, Ohio. Filter. No. 969,224; Sept. 6; Sp. p. 174; Gaz. vol. 158; p. 28.
Turman, William B., Waldron, Ark. Combined cotton gin and cleaner. No. 969,924; Sept. 13; Sp. p. 1685; Gaz. vol. 158; p. 290.
Turner, Albert, Denton, Manchester, England. Felt-hat-planking machine. No. 969,999; Sept. 13; Sp. p. 1852; Gaz. vol. 158; p. 315.
Turner, John, Colorado Springs, Colo. Valve-spring remover. No. 970,141; Sept. 13; Sp. p. 2130; Gaz. vol. 158; p. 363.
Turner, Joseph W., Des Moines, Iowa. Electroller. No. 971,226; Sept. 27; Sp. p. 4447; Gaz. vol. 158; p. 779.
Turner, Justice C., *et al.* (See Hurl, Charles W., assignor.)
Turner, Thomas, Philadelphia, Pa. Valve. No. 969,576; Sept. 6; Sp. p. 900; Gaz. vol. 158; p. 141.
Turner, Walter V., Edgewood, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Triple-valve device. No. 969,427; Sept. 6; Sp. p. 588; Gaz. vol. 158; p. 94.
Turner, Walter V., Wilkinsburg, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Air-brake protection-valve. No. 971,326; Sept. 27; Sp. p. 4631; Gaz. vol. 158; p. 811.
Turner, Walter V., Edgewood, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Triple-valve device. No. 971,327; Sept. 27; Sp. p. 4635; Gaz. vol. 158; p. 811.
Turner, Walter V., Wilkinsburg, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Graduated-release triple valve. No. 971,421; Sept. 27; Sp. p. 4809; Gaz. vol. 158; p. 842.
Twigg, Walter R. (See Davis and Twigg.)
Twombly, Alexander H., Summit, N. J., assignor to Gerard Ozone Process Company. Apparatus for sterilising and oxidizing liquids with ozone. No. 969,736; Sept. 6; Sp. p. 1243; Gaz. vol. 158; p. 200.
Tynes, Minor E., Gloster, Miss. Churn. No. 969,310; Sept. 6; Sp. p. 328; Gaz. vol. 158; p. 54.
Typewriting Telegraph Company. (See Crehore, Albert C., assignor.)
U. S. Bobbin & Shuttle Co. (See Stetson, Frank H., assignor.)
Ugrimoff, Boris von, Moscow, Russia. Cooling device for electrical sliding contacts. No. 970,407; Sept. 13; Sp. p. 2075; Gaz. vol. 158; p. 452.
Uhlemann, William R., Chicago, Ill. Eyeglass-mounting. No. 970,577; Sept. 20; Sp. p. 3057; Gaz. vol. 158; p. 532.
Uhlemann, William R., Chicago, Ill. Eyeglass-mounting. No. 970,578; Sept. 20; Sp. p. 3059; Gaz. vol. 158; p. 532.
Uhlemann, William R., Chicago, Ill. Eyeglass-mounting. No. 970,579; Sept. 20; Sp. p. 3060; Gaz. vol. 158; p. 533.
Uhlig, Richard W., Rutherford, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Typewriting machine. No. 970,668; Sept. 20; Sp. p. 3266; Gaz. vol. 158; p. 563.
Ulrich, Karl, Zweibrücken, Germany. Device for damping the air in closed rooms. No. 971,227; Sept. 27; Sp. p. 4449; Gaz. vol. 158; p. 779.
Underwood Typewriter Company. (See Hellstrom, Charles, assignor.)
Underwood Typewriter Company. (See Landa, Karl, assignor.)
Underwood Typewriter Company. (See Uhlig, Richard W., assignor.)
Union Telegraph Company, The. (See Hubbard, Bert S., assignor.)
Union Typewriter Company. (See Paul, John W., assignor.)
United Concrete Machinery Company. (See Larkin, William H., Jr., assignor.)
United Gas Improvement Company, The. (See Taussig, John H., assignor.)
United Rim Company, The. (See Gammeter, John R., assignor.)
United Rim Company, The. (See Shaw, Edwin C., assignor.)
United Shoe Machinery Company. (See Freeman, Edwin T., assignor.)
United Shoe Machinery Company. (See Goddu, George, assignor.)
United Shoe Machinery Company. (See Morse, William B., assignor.)
United Shoe Machinery Company. (See Scott, Jacob R., assignor.)
United Shoe Machinery Company. (See Winkley, Erastus E., assignor.)
United Special Machine Company. (See McNeil, Chester, assignor.)
United States Envelope Company. (See Williams, Harry J., assignor.)
United States Fibre Stopper Company. (See Ketcheson and Goeb, assignors.)
Universal Motor Company, The. (See Rhodes, Harry A., assignor.)
Upington, George. (See Lonney, Thomas F., assignor.)
Urbahns, Anthony, Minden, Iowa. Phonograph-reproducer. No. 970,142; Sept. 13; Sp. p. 2132; Gaz. vol. 158; p. 363.
Utt, Will, Jr., Bruceville, Ind. Knotter for grain-binders. No. 970,359; Sept. 13; Sp. p. 2587; Gaz. vol. 158; p. 437.
Utterback, George M., assignor to Utterback Manufacturing Company, Seattle, Wash. Toilet and dressing table. No. 970,143; Sept. 13; Sp. p. 2132; Gaz. vol. 158; p. 364.
Utterback Manufacturing Company. (See Utterback, George M., assignor.)
Vadeboncoeur, Antoine F. (See Latulip, Fred, assignor.)
Vail, Peter E. (See Douglass and Willett, assignors.)
Vallone, Charles, and F. R. Rogers, assignors to Barcalo Manufacturing Company, Buffalo, N. Y. Machine for inserting nuts or disks in tubes. No. 970,669; Sept. 20; Sp. p. 3271; Gaz. vol. 158; p. 564.
Van Aller, Tycho, Schenectady, N. Y., assignor to General Electric Company. Electric heating unit. No. 971,101; Sept. 27; Sp. p. 4182; Gaz. vol. 158; p. 738.
Van Houten, Frank H., assignor to Dutchess Tool Company, Fishkill-on-the-Hudson, N. Y. Dough-mixing machine. No. 969,311; Sept. 6; Sp. p. 330; Gaz. vol. 158; p. 55.
Van Houten, Frank H., and D. J. Hanna, assignors to Dutchess Tool Company, Fishkill-on-the-Hudson, N. Y. Door for bakers' ovens. No. 969,312; Sept. 6; Sp. p. 331; Gaz. vol. 158; p. 55.
Van Nostran, Joseph E., Upper Sandusky, Ohio. Stop-cock. No. 970,281; Sept. 13; Sp. p. 2438; Gaz. vol. 158; p. 411.
Van Sant, William S., Oakland, Cal. Amusement apparatus. No. 969,313; Sept. 6; Sp. p. 333; Gaz. vol. 158; p. 55.
Van Valkenburg, Hermon L., Norwood, Ohio, assignor to Allis-Chalmers Company and The Bullock Electric Manufacturing Company. Circuit-breaker. No. 969,813; Sept. 13; Sp. p. 1449; Gaz. vol. 158; p. 251.
Vance, George E., Springfield, Ohio. Combined tile and saggar. No. 971,160; Sept. 27; Sp. p. 4300; Gaz. vol. 158; p. 756.
Vance, George E., Springfield, Ohio. Combined tile and saggar. No. 971,228; Sept. 27; Sp. p. 4452; Gaz. vol. 158; p. 780.
Vandiver, Leslie A., Chicago, Ill. Coin-controlled mechanism for vending-machines. No. 970,280; Sept. 13; Sp. p. 2435; Gaz. vol. 158; p. 411.
Vanlandingham, William W. (See Frazer and Vanlandingham.)
Vaughan, Ira. (See Pitman, Harry M., assignor.)
Vaughan, Thomas M., Detroit, Mich., assignor to Box Office Ticket Printing Machine Company. Ticket-printing machine. No. 970,768; Sept. 20; Sp. p. 3498; Gaz. vol. 158; p. 599.
Vaughn, Ralph B., Wilkes-Barre, Pa. Cooling device for internal-combustion engines. No. 971,328; Sept. 27; Sp. p. 4640; Gaz. vol. 158; p. 812.
Veach, George J., Oil City, Pa. Table-pad. No. 970,861; Sept. 20; Sp. p. 3609; Gaz. vol. 158; p. 632.
Velie Motor Vehicle Company. (See Fuller, Lawson M., assignor.)
Ventura Alarm Company. (See Hamilton, John R., assignor.)
Vermilyea, Eugene, and R. Hamnersley, Waterford, N. Y. Knitting-machine. No. 970,282; Sept. 13; Sp. p. 2439; Gaz. vol. 158; p. 411.
Viertel, Hermann, Berlin, assignor to Gebrüder Siemens & Co., Lichtenberg, near Berlin, Germany. Searchlight, projector, and the like. No. 969,814; Sept. 13; Sp. p. 1457; Gaz. vol. 158; p. 252.
Vincent, Benjamin I. (See Schulherr and Vincent.)

Virgil, Almon K., New York, N. Y. Exercising-keyboard for musicians. No. 970,144; Sept. 13; Sp. p. 2134; Gaz. vol. 158; p. 364.
Virgili, Felicissimo, assignor to Società Anonima per Grigile e Forni Virgili, Genoa, Italy. Baking with quick heating and cooling. No. 970,862; Sept. 20; Sp. p. 3700; Gaz. vol. 158; p. 632.
Vitagraph Company of America, The. (See Smith, Albert E., assignor.)
Volkmann, Paul, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Greenish-yellow dye. No. 969,428; Sept. 6; Sp. p. 592; Gaz. vol. 158; p. 94.
Vollmer, Joseph, Berlin, Germany, assignor to General Electric Company. Frictional clutch or coupling. No. 969,577; Sept. 6; Sp. p. 911; Gaz. vol. 158; p. 145.
Vought, Henry H., Jr., New York, N. Y. Floor construction. No. 969,314; Sept. 6; Sp. p. 336; Gaz. vol. 158; p. 56.
Vrbsky, Charles, Cleveland, Ohio. Lock. No. 969,578; Sept. 6; Sp. p. 914; Gaz. vol. 158; p. 145.
W. H. Saart Company, The. (See Saart, William H., assignor.)
Wagner Electric Manufacturing Company. (See Wiemer, Otto, assignor.)
Wahlstrom, Verner J., New York, assignor of one-half to B. T. Burchardi, Brooklyn, N. Y. Drilling-machine and drill. No. 970,670; Sept. 20; Sp. p. 3275; Gaz. vol. 158; p. 564.
Waite, Fred, Otley, England. Rotary printing-machine. No. 970,000; Sept. 13; Sp. p. 1855; Gaz. vol. 158; p. 316.
Waitt, Walter G. (See Barron and Waitt.)
Walcutt, John M., New York, N. Y. Mechanical picture. No. 969,315; Sept. 6; Sp. p. 338; Gaz. vol. 158; p. 56.
Waldvogel, Constantin, Pittsburg, Pa. Surgical instrument. No. 969,579; Sept. 6; Sp. p. 917; Gaz. vol. 158; p. 146.
Waldvogel, Constantin, Pittsburg, Pa. Ice-crushing implement. No. 970,863; Sept. 20; Sp. p. 3703; Gaz. vol. 158; p. 632.
Walker, Frank H., Atwood, Kans. Starting device for internal-combustion engines. No. 969,815; Sept. 13; Sp. p. 1459; Gaz. vol. 158; p. 252.
Walker, Walter S., Helena, Mo. Road drag, grader, and scraper. No. 970,580; Sept. 20; Sp. p. 3062; Gaz. vol. 158; p. 533.
Walker, William H., Boston, Mass. Making formic acid. No. 970,145; Sept. 13; Sp. p. 2137; Gaz. vol. 158; p. 365.
Wallace, John N., La Crosse, Wis., and E. B. Craft, assignors to Western Electric Company, Chicago, Ill. Private-branch intercommunicating telephone system. No. 970,975; Sept. 20; Sp. p. 3903; Gaz. vol. 158; p. 667.
Wallau, Herman L., and E. E. Noble, Cleveland, Ohio. Terminal casing. No. 969,816; Sept. 13; Sp. p. 1460; Gaz. vol. 158; p. 252.
Waller, Carl R., Trenton, N. J., assignor to De Laval Steam Turbine Company, New York, N. Y. Elastic-fluid turbine. No. 971,092; Sept. 27; Sp. p. 4163; Gaz. vol. 158; p. 735.
Waller, Charles W. (See Conger and Waller.)
Waller, Thomas S., and E. B. Barnhill, assignors to Diamond Power Specialty Company, Detroit, Mich. Blower for water-tube boilers. No. 969,316; Sept. 6; Sp. p. 339; Gaz. vol. 158; p. 56.
Wallin, Gustaf E., assignor to Inland Manufacturing Company, Kansas City, Mo. Chute-spring for linotype-machines. No. 970,146; Sept. 13; Sp. p. 2138; Gaz. vol. 158; p. 365.
Walrath, Ervin, and F. W. Austin, Gloversville, N. Y. Window-screen. No. 971,422; Sept. 27; Sp. p. 4811; Gaz. vol. 158; p. 842.
Walsh, James A., assignor to The Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic stacker. No. 971,329; Sept. 27; Sp. p. 4642; Gaz. vol. 158; p. 812.
Walstrom, Axel M., Minneapolis, Minn. Muffler for explosive-engines. No. 969,225; Sept. 6; Sp. p. 176; Gaz. vol. 158; p. 28.
Walter, Earl N., assignor of one-half to H. Zimmerhackel, Denver, Colo. Music-leaf turner. No. 969,317; Sept. 6; Sp. p. 342; Gaz. vol. 158; p. 57.
Walter, Willard. (See Hayward and Walter.)
Walters, Frank, Spokane, Wash. Lock. No. 971,423; Sept. 27; Sp. p. 4812; Gaz. vol. 158; p. 842.
Walters, Willie H., Salt Lake City, Utah. Electric-light socket. No. 970,581; Sept. 20; Sp. p. 3064; Gaz. vol. 158; p. 534.
Walther, Herman, Davenport, Iowa. Actuating means for blowers. No. 970,448; Sept. 13; Sp. p. 2767; Gaz. vol. 158; p. 465.
Walton, Arthur G. (See Hartwell, Leslie L., assignor.)
Ward, Frank, and J. C. Hollingsworth, Dallas, Tex. Cardoor. No. 970,147; Sept. 13; Sp. p. 2140; Gaz. vol. 158; p. 365.
Ward, Marie L. B., London, England. Finger-protector. No. 971,093; Sept. 27; Sp. p. 4167; Gaz. vol. 158; p. 735.
Ward, Paul S., Covington, Ky., assignor to The Lynn Superior Company, Cincinnati, Ohio. Safety device. No. 969,318; Sept. 6; Sp. p. 346; Gaz. vol. 158; p. 57.
Warfield, John G., assignor of one-fourth to C. R. Harris, Los Angeles, Cal. Educational device. No. 969,429; Sept. 6; Sp. p. 592; Gaz. vol. 158; p. 94.
Waring, Arthur B., New York, N. Y. Hat-flanging machine. No. 971,094; Sept. 27; Sp. p. 4168; Gaz. vol. 158; p. 735.
Warne, Albert T., Leytonstone, assignor to Spicer Brothers Limited, London, England. Fitting for loose-leaf books. No. 970,582; Sept. 20; Sp. p. 3065; Gaz. vol. 158; p. 534.
Warner, Alonzo A., assignor to Landers, Frary and Clark, New Britain, Conn. Razor. No. 969,226; Sept. 6; Sp. p. 178; Gaz. vol. 158; p. 29.
Warner, William E., Houston, Tex. Floor surfacer, cleaner, and polisher. No. 970,583; Sept. 20; Sp. p. 3067; Gaz. vol. 158; p. 534.
Warren Steam Pump Company. (See Gage, Burt O., assignor.)
Warrenfeltz, Edward M., Funkstown, Md. Rotary manure-loader. No. 969,227; Sept. 6; Sp. p. 181; Gaz. vol. 158; p. 30.
Washburn, David S., Meriden, Conn. Vegetable-grater. No. 970,864; Sept. 20; Sp. p. 3704; Gaz. vol. 158; p. 633.
Watanabe, Kamejiro, Seattle, Wash. Extension for warming-closets. No. 969,580; Sept. 6; Sp. p. 918; Gaz. vol. 158; p. 146.
Waterbury Mfg. Co. (See Perkins, Walter H., assignor.)
Watson, Anthony W., assignor of one-half to B. J. Reitze, Jersey City, N. J. Refrigerator-car. No. 971,478; Sept. 27; Sp. p. 4911; Gaz. vol. 158; p. 860.
Watson, Robert M., Nickleville, Pa. Trace-fastener. No. 970,769; Sept. 20; Sp. p. 3500; Gaz. vol. 158; p. 599.
Waugh, Daniel S., assignor to The Denver Rock Drill & Machinery Company, Denver, Colo. Drill-feeding mechanism. No. 969,319; Sept. 6; Sp. p. 349; Gaz. vol. 158; p. 58.
Weathern, Benjamin F., West Farmington, Me. Harvester-cutter. No. 969,817; Sept. 13; Sp. p. 1465; Gaz. vol. 158; p. 253.
Webb, Hartwell W., Creskill, and E. H. Stickels, Edgewater, N. J., assignors to Gyrex Mfg. Co., New York, N. Y. Mixer for gaseous fluids. No. 971,332; Sept. 27; Sp. p. 4646; Gaz. vol. 158; p. 813.
Webb, Wilhelmina A. M. (See Hunter, Laura G., assignor.)
Weber, Charles W., McGregor, Tex. Cotton-chopper. No. 969,757; Sept. 6; Sp. p. 1209; Gaz. vol. 158; p. 208.
Weber Dental Manufacturing Company, The. (See Weber, Henry E., assignor.)
Weber, George, Mount Oliver, assignor of one-tenth to A. Kiefer, Pittsburg, Pa. Trolley. No. 970,865; Sept. 20; Sp. p. 3705; Gaz. vol. 158; p. 633.
Weber, Henry E., assignor to The Weber Dental Manufacturing Company, Canton, Ohio. Cuspidor. No. 970,148; Sept. 13; Sp. p. 2141; Gaz. vol. 158; p. 365.
Weber, Joseph, Liberty, assignor to W. L. Morehouse, Brooklyn, N. Y. Perforating or punching machine. No. 969,737; Sept. 6; Sp. p. 1246; Gaz. vol. 158; p. 201.
Webster, Benjamin C., Bridgeport, Conn. Electric switch. No. 969,581; Sept. 6; Sp. p. 920; Gaz. vol. 158; p. 147.
Weed, David W., Stamford, assignor to Eagle Lock Co., Terryville, Conn. Mortise door-lock. No. 971,333; Sept. 27; Sp. p. 4648; Gaz. vol. 158; p. 813.
Weeks, Harry G. (See Parkhurst and Weeks.)
Wegner, Frederick A., assignor, by mesne assignments, of one-half to H. C. Graham, Milwaukee, Wis. Device for regulating the discharge of grain-heaters. No. 971,479; Sept. 27; Sp. p. 4912; Gaz. vol. 158; p. 860.
Wegner, Frederick A., assignor, by meane assignments, of one-half to H. C. Graham, Milwaukee, Wis. Agitator for grain-heaters. No. 971,480; Sept. 27; Sp. p. 4913; Gaz. vol. 158; p. 860.
Weinberg, Robert, *et al.* (See Eytalis, Charles, assignor.)
Weinman, Louis, Atchison, Kans. Barrel-header. No. 969,430; Sept. 6; Sp. p. 593; Gaz. vol. 158; p. 95.
Weis, John P., Brooklyn, N. Y., assignor, by mesne assignments, to Metropolitan Sewing Machine Company. Stitch-forming mechanism for sewing-machines. No. 971,229; Sept. 27; Sp. p. 4454; Gaz. vol. 158; p. 780.
Weis, John P., assignor to Metropolitan Sewing Machine Company, Nyack, N. Y. Differential feeding mechanism for sewing-machines. No. 971,230; Sept. 27; Sp. p. 4458; Gaz. vol. 158; p. 780.
Weiscopf, Leopold, New York, N. Y. Bottle-rinsing machine. No. 971,231; Sept. 27; Sp. p. 4463; Gaz. vol. 158; p. 781.
Weishaar, Christian. (See Müller, Willnus, and Weishaar.)
Weiss, Alfred H., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone-drop. No. 969,818; Sept. 13; Sp. p. 1466; Gaz. vol. 158; p. 253.
Weiss, Morris Z. (See Greenwald, Blaustein, and Weiss.)
Welborn, John S., High Point, N. C. Flushing mechanism for closet-tanks. No. 970,866; Sept. 20; Sp. p. 3706; Gaz. vol. 158; p. 633.
Wells, Joel C., Southbridge, Mass. Eyeglasses. No. 969,819; Sept. 13; Sp. p. 1468; Gaz. vol. 158; p. 254.
Wells, John W., Everett, Mass. Drill-holder. No. 969,228; Sept. 6; Sp. p. 184; Gaz. vol. 158; p. 30.
Welsh, Archer, Bellmor, N. J. Machine for sowing seed. No. 971,331; Sept. 27; Sp. p. 4644; Gaz. vol. 158; p. 812.
Welty, Charles J., North Lima, Ohio. Machine for cleaning sand and gravel. No. 970,584; Sept. 20; Sp. p. 3070; Gaz. vol. 158; p. 535.
Wendel, Henry P., Niagara Falls, N. Y. Detachable horseshoe. No. 970,585; Sept. 20; Sp. p. 3072; Gaz. vol. 158; p. 535.
Wendler, Julius, Berlin, Germany. Door for hotel-entrances and the like. No. 969,582; Sept. 6; Sp. p. 923; Gaz. vol. 158; p. 147.
Wentworth, Henry A., Lynn, assignor to Huff Electrostatic Separator Company, Boston, Mass. Electrical separation. No. 960,001; Sept. 13; Sp. p. 1857; Gaz. vol. 158; p. 316.

Wentworth, Henry A., Lynn, assignor to Huff Electrostatic Separator Company, Boston, Mass. Process of separation. No. 970,002; Sept. 13; Sp. p. 1862; Gaz. vol. 158; p. 317.

Werner, Amelia L., Cincinnati, Ohio. Ventilating system. No. 971,161; Sept. 27; Sp. p. 4303; Gaz. vol. 158; p. 757.

Werner, John M., Hoboken, N. J. Muffler for internal-combustion engines. No. 971,424; Sept. 27; Sp. p. 4813; Gaz. vol. 158; p. 843.

Werth, Federico, Milan, Italy. Apparatus for galvanizing metal tubes, rods, &c. No. 970,149; Sept. 13; Sp. p. 2145; Gaz. vol. 158; p. 366.

West, George M., Lamont, Ark. Gate. No. 969,678; Sept. 6; Sp. p. 1118; Gaz. vol. 158; p. 180.

West, William H., Jr., Weston, Oreg. Window-pane fastener. No. 969,820; Sept. 13; Sp. p. 1469; Gaz. vol. 158; p. 254.

Western Book and Manufacturing Company. (See Larsen, Jacob N., assignor.)

Western Electric Company. (See Currier, Hiram D., assignor.)

Western Electric Company. (See Holmes and Craft, assignors.)

Western Electric Company. (See McQuarrie, James L., assignor.)

Western Electric Company. (See Merz, William, assignor.)

Western Electric Company. (See Wallace and Craft, assignors.)

Westinghouse Air Brake Company, The. (See Herr, Herbert T., assignor.)

Westinghouse Air Brake Company, The. (See Turner, Walter V., assignor.)

Westinghouse Electric and Manufacturing Company. (See Baker, Malcolm H., assignor.)

Westinghouse Electric and Manufacturing Company. (See Baerlocker, Robert F., assignor.)

Westinghouse Electric & Manufacturing Company. (See Barr, John M., assignor.)

Westinghouse Electric & Manufacturing Company. (See Beach, Howard L., assignor.)

Westinghouse Electric & Manufacturing Company. (See Bedell, Carl E., assignor.)

Westinghouse Electric & Manufacturing Company. (See Chapman, Frederick S., assignor.)

Westinghouse Electric & Manufacturing Company. (See Conrad, Frank, assignor.)

Westinghouse Electric & Manufacturing Company. (See Davis, Joseph L., assignor.)

Westinghouse Electric & Manufacturing Company. (See Hall, Fred C., assignor.)

Westinghouse Electric & Manufacturing Company. (See Kunkel, Fred R., assignor.)

Westinghouse Electric & Manufacturing Company. (See Pierson, Henry, assignor.)

Westinghouse Electric & Manufacturing Company. (See Scott, Charles F., assignor.)

Westinghouse, George, Pittsburg, Pa. Reëntrant turbine. No. 969,821; Sept. 13; Sp. p. 1470; Gaz. vol. 158; p. 254.

Westinghouse Lamp Company. (See Lederer, Anton, assignor.)

Westinghouse Machine Company, The. (See Clarke, Athol W., assignor.)

Westinghouse Machine Company, The. (See Hodgkinson, Francis, assignor.)

Westinghouse Machine Company, The. (See Lea, Henry I., assignor.)

Westinghouse Machine Company, The. (See London, William J. A., assignor.)

Westinghouse Machine Company, The. (See Nikonow, John P., assignor.) (Reissue.)

Wethall, Hans G., assignor of one-half to B. J. Dahl, Minneapolis, Minn. Floating decoy. No. 970,003; Sept. 13; Sp. p. 1866; Gaz. vol. 158; p. 317.

Wetmore, Harry A., Anthon, Iowa. Harrow. No. 971,425; Sept. 27; Sp. p. 4814; Gaz. vol. 158; p. 843.

Wetmore, Willis H., Oneida, N. Y. Mop-wringer. No. 969,229; Sept. 6; Sp. p. 185; Gaz. vol. 158; p. 30.

Whalen, John T., Brooklyn, N. Y. Controlling mechanism for vehicles. No. 971,334; Sept. 27; Sp. p. 4649; Gaz. vol. 158; p. 813.

Wharram, Mannie R., San Antonio, N. Mex. Railway-tie. No. 969,758; Sept. 6; Sp. p. 1301; Gaz. vol. 158; p. 209.

Wheat, Lyman A., Battle Creek, Mich. Printing-press. No. 970,671; Sept. 20; Sp. p. 3279; Gaz. vol. 158; p. 564.

Wheeler, George F. (See Woolnough and Wheeler.)

Wheeler, Raymond O., assignor to The Bankers Construction Company, Cincinnati, Ohio. Book-stack. No. 969,622; Sept. 13; Sp. p. 1472; Gaz. vol. 158; p. 254.

Wheeling, Landa A., assignor of one-half to R. W. Terhune, Whiteland, Ind. Gate. No. 969,025; Sept. 13; Sp. p. 1687; Gaz. vol. 158; p. 290.

Whigham, William H., California, Pa. Angle guide attachment for boring-tools. No. 970,360; Sept. 13; Sp. p. 2588; Gaz. vol. 158; p. 437.

Whigham, William H., California, Pa. Bit-brace. No. 970,361; Sept. 13; Sp. p. 2589; Gaz. vol. 158; p. 437.

Whilde, Thomas, Bellingham, Wash. Repair-patch. No. 969,431; Sept. 6; Sp. p. 594; Gaz. vol. 158; p. 95.

Whipps, Joshua M., Le Sueur Center, Minn. Barn-door hanger. No. 970,408; Sept. 13; Sp. p. 2676; Gaz. vol. 158; p. 452.

Whitaker, David S., assignor of one-half to T. H. Northrup, Denver, Colo. Work-holder. No. 970,586; Sept. 20; Sp. p. 3073; Gaz. vol. 158; p. 535.

White, Harold E., Schenectady, N. Y., assignor to General Electric Company. System of motor control. No. 969,583; Sept. 6; Sp. p. 924; Gaz. vol. 158; p. 147.

White, Harold E., Schenectady, N. Y., assignor to General Electric Company. Control of electrically-operated switches. No. 969,584; Sept. 6; Sp. p. 929; Gaz. vol. 158; p. 148.

White, Harold E., Schenectady, N. Y., assignor to General Electric Company. Control of electrically-operated switches. No. 969,738; Sept. 6; Sp. p. 1248; Gaz. vol. 158; p. 201.

White, Harold E., and E. R. Carichoff, Schenectady, N. Y., assignors to General Electric Company. Control of electrically-operated switches. No. 969,585; Sept. 6; Sp. p. 938; Gaz. vol. 158; p. 148.

White Sewing Machine Company, The. (See Colegrove, Charles E., assignor.)

White, William D., assignor to Holyoke Machine Company, Worcester, Mass. Stop for water-wheels. No. 971,095; Sept. 27; Sp. p. 4170; Gaz. vol. 158; p. 736.

Whitehead & Hoag Company, The. (See Jenkins, Walter S., assignor.)

Whitely, John W., Danbury, Conn. Clothes-washer. No. 971,232; Sept. 27; Sp. p. 4465; Gaz. vol. 158; p. 781.

Whiting, Milton V., Denver, Colo. Grasshopper-catcher. No. 970,004; Sept. 13; Sp. p. 1867; Gaz. vol. 158; p. 317.

Whitlock, Charles H., Chatham, England. Apparatus or device for piercing sausages and the like. No. 969,250; Sept. 6; Sp. p. 186; Gaz. vol. 158; p. 30.

Whitmore, John G., *et al.* (See Wilkins, Thomas M., assignor.)

Whitney, William H., Jr., and C. W. Griffin, Brooklyn, N. Y. Composition of matter used as an interior finish for walls or ceilings. No. 969,432; Sept. 6; Sp. p. 595; Gaz. vol. 158; p. 95.

Whittemore, John Q. A. (See Burke, Charles G., assignor.)

Whittier, Walter H., assignor to Grand Rapids Refrigerator Company, Grand Rapids, Mich. Refrigerator-lining. No. 970,672; Sept. 20; Sp. p. 3281; Gaz. vol. 158; p. 565.

Whittles, Jeremiah C., deceased; W. Evans, executor, assignor to G. W. Tait, Kearny, N. J., administrator of E. E. Whittles. Selvage-feed for cloth-tentering machines. No. 970,697; Sept. 20; Sp. p. 3337; Gaz. vol. 158; p. 573.

Wiard, Frederick H., Avon, N. Y. Washing-machine. No. 969,823; Sept. 13; Sp. p. 1474; Gaz. vol. 158; p. 255.

Wiedersheim, John A., Philadelphia, Pa. Fender for cars. No. 969,586; Sept. 6; Sp. p. 943; Gaz. vol. 158; p. 149.

Wiemer, Otto, assignor to Wagner Electric Manufacturing Company, St. Louis, Mo. Laminated transformer-core. No. 970,587; Sept. 20; Sp. p. 3074; Gaz. vol. 158; p. 536.

Wigglesworth, Albert W., Chicago, Ill. Turret-machine. No. 969,433; Sept. 6; Sp. p. 596; Gaz. vol. 158; p. 95.

Wightman, William T., Half Moon Bay, Cal. Hinge. No. 969,926; Sept. 13; Sp. p. 1689; Gaz. vol. 158; p. 291.

Wilcox & White Company, The. (See Hosley, Nelson D., assignor.)

Wildner, Valentine, Chicago, Ill. Demountable tire. No. 970,005; Sept. 13; Sp. p. 1868; Gaz. vol. 158; p. 318.

Wiley, Alvin H., and J. E. A. Banger, Linden, Tex. Clothes-pin. No. 970,867; Sept. 20; Sp. p. 3708; Gaz. vol. 158; p. 633.

Wildey, Arthur R., Denver, Colo., assignor of one-half to J. Seep, Scranton, Pa. Ore-roaster. No. 969,927; Sept. 13; Sp. p. 1690; Gaz. vol. 158; p. 291.

Wilfley, Arthur R., assignor to The Mine and Smelter Supply Company, Denver, Colo. Concentrating-table. No. 970,283; Sept. 13; Sp. p. 2445; Gaz. vol. 158; p. 412.

Wilfong, Andrew J., Knoxville, Iowa. Extensible mail-box support. No. 970,588; Sept. 20; Sp. p. 3075; Gaz. vol. 158; p. 536.

Wilkins, Thomas M., East Randolph, N. Y., assignor of five-sixteenths to W. E. Zierden, Johnsonburg, one-fourth to J. G. Whitmore, Ridgway, and seven-sixteenths to Ziermore Regulator Company, Johnsonburg, Pa. Fluid-pressure valve-regulator. No. 970,284; Sept. 13; Sp. p. 2446; Gaz. vol. 158; p. 412.

Wilkson, Gershom C., Rosewood, Ohio. Wire-fastener. No. 969,231; Sept. 6; Sp. p. 187; Gaz. vol. 158; p. 31.

Will, Hugo. (See Hansley and Will.)

Wille, Christian F., West Alton, Mo. Four-horse equalizer. No. 969,928; Sept. 13; Sp. p. 1693; Gaz. vol. 158; p. 291.

Willett, James F. (See Douglass and Willett.)

William B. Kerr Company, The. (See Nock, Rupert A., assignor.)

Williams, Bradford L., Camden, N. J. Stain or grease removing device. No. 970,673; Sept. 20; Sp. p. 3283; Gaz. vol. 158; p. 565.

Williams, Edward, *et al.* (See Anthony, David S., assignor.)

Williams, Forrest B., Columbus, N. C. Thill-support. No. 970,285; Sept. 13; Sp. p. 2448; Gaz. vol. 158; p. 412.

Williams, George A., Banner, Ark. Rail-joint. No. 969,679; Sept. 6; Sp. p. 1121; Gaz. vol. 158; p. 180.

Williams, Harry J., Meriden, Conn., assignor to United States Envelope Company, Springfield, Mass. Toilet-paper fixture. No. 970,150; Sept. 13; Sp. p. 2148; Gaz. vol. 158; p. 366.

Williams, Harry J., Meriden, Conn., assignor to United States Envelope Company, Springfield, Mass. Toilet-paper fixture. No. 970,151; Sept. 13; Sp. p. 2149; Gaz. vol. 158; p. 366.

Williams, Lynn A., *et al.* (See Birnfield, Jules A., assignor.)

Williams, Martin L., South Bend, Ind. Vehicle-rim. No. 969,929; Sept. 13; Sp. p. 1694; Gaz. vol. 158; p. 292.

Williams, Martin L., South Bend, Ind. Detachable vehicle-rim. No. 969,930; Sept. 13; Sp. p. 1695; Gaz. vol. 158; p. 292.

Williams, Roger F., assignor of two-thirds to M. L. Failing and A. J. Gray, Buffalo, N. Y. Lens-grinding machine. No. 970,674; Sept. 20; Sp. p. 3284; Gaz. vol. 158; p. 565.

Williams, William A., Olivet, S. D. Wind-motor. No. 969,587; Sept. 6; Sp. p. 945; Gaz. vol. 158; p. 149.

Williamson Bros. Co. (See Williamson, John D., Jr., assignor.)

Williamson, Glenn S., New York, N. Y. Electric switch. No. 969,824; Sept. 13; Sp. p. 1477; Gaz. vol. 158; p. 255.

Williamson, John D., Jr., assignor to Williamson Bros. Co., Philadelphia, Pa. Safety friction-clutch. No. 971,335; Sept. 27; Sp. p. 4652; Gaz. vol. 158; p. 814.

Willis, William J., Ocker Hill, Stafford, England. Calcining-kiln. No. 969,931; Sept. 13; Sp. p. 1697; Gaz. vol. 158; p. 292.

Williston, M. Brock, Detroit, Mich., assignor to The Adams & Westlake Company. Signal-lamp bracket. No. 970,770; Sept. 20; Sp. p. 3502; Gaz. vol. 158; p. 590.

Willits, George D., Adrian, Mich. Composite lamp-chimney. No. 969,932; Sept. 13; Sp. p. 1699; Gaz. vol. 158; p. 292.

Willner, Sigmund, Chicago, Ill. Apparatus for impregnating logs. No. 970,409; Sept. 13; Sp. p. 2677; Gaz. vol. 158; p. 453.

Willnus, Michael. (See Müller, Willnus, and Weishaar.)

Willson, Samuel T., Denver, Colo. Cooking appliance. No. 970,286; Sept. 13; Sp. p. 2449; Gaz. vol. 158; p. 413.

Wilshire, Arthur, Manilla, New South Wales, Australia. Adjustable seat for sulkies. No. 969,825; Sept. 13; Sp. p. 1479; Gaz. vol. 158; p. 255.

Wilson, Charley J., Roger, N. D. Funnel. No. 971,238; Sept. 27; Sp. p. 4466; Gaz. vol. 158; p. 782.

Wilson, John W., Boston, Mass. Flying-machine. No. 970,771; Sept. 20; Sp. p. 3503; Gaz. vol. 158; p. 600.

Wilson, Leonard P., Coventry, assignor to Samuel Courtauld & Company Limited, London, England. Manufacture of threads, filaments, strips, and films of cellulose. No. 970,589; Sept. 20; Sp. p. 3076; Gaz. vol. 158; p. 536.

Wilson, Loyd, Detroit, Mich. Circuit-switch. No. 970,410; Sept. 13; Sp. p. 2681; Gaz. vol. 158; p. 453.

Wilt, William A., Tyrone, Pa. Nut-lock. No. 969,434; Sept. 6; Sp. p. 603; Gaz. vol. 158; p. 96.

Winand, Paul, Cologne, Germany. Operating combustion-engines. No. 970,152; Sept. 13; Sp. p. 2151; Gaz. vol. 158; p. 366.

Winand, Paul, Cologne, Germany. Combustion-engine plant for submarine craft. No. 970,153; Sept. 13; Sp. p. 2153; Gaz. vol. 158; p. 367.

Winand, Paul, Cologne, Germany. Controlling combustion-engines. No. 970,154; Sept. 13; Sp. p. 2155; Gaz. vol. 158; p. 367.

Winkler, Ehregott T., assignor of one-half to J. W. Roberts, Kansas City, Mo. Refrigerating system. No. 971,162; Sept. 27; Sp. p. 4304; Gaz. vol. 158; p. 757.

Winkley, Erastus E., Lynn, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Presser-foot mechanism. No. 971,014; Sept. 20; Sp. p. 3975; Gaz. vol. 158; p. 680.

Winterfield, Abram W., St. Paul, Minn. Mold for cement blocks. No. 969,232; Sept. 6; Sp. p. 189; Gaz. vol. 158; p. 31.

Winterton, H. E. (See Richberger, George, assignor.)

Wirth, Charles E., assignor to Plume & Atwood Manufacturing Co., Waterbury, Conn. Lamp-burner. No. 969,588; Sept. 6; Sp. p. 948; Gaz. vol. 158; p. 149.

Wirths, Charles G. (See Rosenfeld, Irvin, assignor.)

Wittich, William F., Erie, Pa. Drilling mechanism. No. 969,233; Sept. 6; Sp. p. 191; Gaz. vol. 158; p. 31.

Witting, Albin G. (See Brassert and Witting.)

Witmauer, Emile J., New York, N. Y. Watchcase. No. 969,589; Sept. 6; Sp. p. 949; Gaz. vol. 158; p. 150.

Wohl, Maurice J. (See Low, Wohl, and Hertzberg.)

Wolcott, Dewey, Norwalk, Ohio. Holder for floor-coverings. No. 971,511; Sept. 27; Sp. p. 4974; Gaz. vol. 158; p. 871.

Wold, Carl O., assignor of one-half to E. E. Ellertson, Minneapolis, Minn. Culvert-pipe. No. 970,772; Sept. 20; Sp. p. 3510; Gaz. vol. 158; p. 600.

Wolf, Edmund T., assignor to F. L. Zabriskie, New York, N. Y. Removable mold for making piano-hammers. No. 969,826; Sept. 13; Sp. p. 1480; Gaz. vol. 158; p. 256.

Wolf, Edmund T., assignor to F. L. Zabriskie, New York, N. Y. Removable mold for making piano-hammers. No. 969,827; Sept. 13; Sp. p. 1485; Gaz. vol. 158; p. 256.

Wolfe, William G., C. E. Bissell, and W. J. Branstetter, Pittsburg, Kans. Indicator. No. 971,096; Sept. 27; Sp. p. 4171; Gaz. vol. 158; p. 736.

Wolff, August, New York, N. Y. Foot-rule pocket. No. 969,590; Sept. 6; Sp. p. 950; Gaz. vol. 158; p. 150.

Wollensak, Andrew, assignor to Wollensak Optical Company, Rochester, N. Y. Reel. No. 969,234; Sept. 6; Sp. p. 192; Gaz. vol. 158; p. 31.

Wollensak, Andrew, assignor to Wollensak Optical Company, Rochester, N. Y. Fishing-reel. No. 969,235; Sept. 6; Sp. p. 194; Gaz. vol. 158; p. 32.

Wollensak Optical Company. (See Wollensak, Andrew, assignor.)

Wolverine Supply & Manufacturing Company. (See Bain, Benjamin F., assignor.)

Wood, Bertram E., Colorado Springs, Colo. Magnetic separator. No. 971,163; Sept. 27; Sp. p. 4307; Gaz. vol. 158; p. 757.

Wood, James I., assignor to Woods Gas Engine Company, Salida, Colo. Explosive-engine. No. 970,976; Sept. 20; Sp. p. 3910; Gaz. vol. 158; p. 668.

Wood, Otis F. (See Morgan, Frederick, assignor.)

Wood, Wilfred R., London, England. Mechanical stoker. No. 970,868; Sept. 20; Sp. p. 3709; Gaz. vol. 158; p. 634.

Woodall, George, New York, N. Y. Valve mechanism for controlling fluid admission. No. 970,411; Sept. 13; Sp. p. 2682; Gaz. vol. 158; p. 453.

Woodfill, White W., Columbus, Ohio. Draft attachment for harness. No. 970,590; Sept. 20; Sp. p. 3077; Gaz. vol. 158; p. 536.

Woodruff, Horace W., New Orleans, La. Lock. No. 969,236; Sept. 6; Sp. p. 195; Gaz. vol. 158; p. 32.

Woods, Leonard G., Pittsburg, Pa. Journal-box. No. 969,933; Sept. 13; Sp. p. 1700; Gaz. vol. 158; p. 293.

Woods Gas Engine Company. (See Wood, James I., assignor.)

Woodward, Oscar, Montclair, N. J., assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 971,234; Sept. 27; Sp. p. 4467; Gaz. vol. 158; p. 782.

Woolf, Frank H., Indianapolis, Ind., assignor to Racine Engine & Machinery Co., Racine, Wis. Candy-machine. No. 971,097; Sept. 27; Sp. p. 4173; Gaz. vol. 158; p. 736.

Woolnough, Charles, and G. F. Wheeler, Montreal, Quebec, Canada. Sectional sprocket-wheel. No. 969,237; Sept. 6; Sp. p. 197; Gaz. vol. 158; p. 32.

Worley, Henry E., Redlands, Cal. Irrigating-pipe gate. No. 969,320; Sept. 6; Sp. p. 354; Gaz. vol. 158; p. 58.

Worrell, James K., Humble, Tex. Watchcase. No. 969,680; Sept. 6; Sp. p. 1122; Gaz. vol. 158; p. 181.

Wright, George E., Aberdeen, Md. Scalding and washing vegetables. No. 969,238; Sept. 6; Sp. p. 198; Gaz. vol. 158; p. 32.

Wright, John E., Chicago, Ill. Drag. No. 970,155; Sept. 13; Sp. p. 2156; Gaz. vol. 158; p. 367.

Wright, Mollie J. and W. L., Dunlap, Kans. Oil-burner. No. 970,156; Sept. 13; Sp. p. 2158; Gaz. vol. 158; p. 368.

Wright, Solomon A., Buckman, assignor of one-eighth to S. H. Davis, Santa Fe, N. M. Metallic railway-tie. No. 969,681; Sept. 6; Sp. p. 1123; Gaz. vol. 158; p. 181.

Wright, William L. (See Wright, Mollie J. and W. L.)

Wright, Wilson D. C. (See Smith, James M., assignor.)

Wright Wire Company. (See Martin, Frank, assignor.)

Wullschleger, Philip F., University Place, Nebr. Heating system. No. 971,336; Sept. 27; Sp. p. 4654; Gaz. vol. 158; p. 814.

Wunderle, Philip. (See Rice, Walter H., assignor.)

Wylie, Abraham P., Lawrenceburg, Tenn. Swing-saw. No. 969,505; Sept. 6; Sp. p. 749; Gaz. vol. 158; p. 118.

Wylie, Hamilton N., Edinburgh, Scotland. Jib-crane. No. 970,773; Sept. 20; Sp. p. 3512; Gaz. vol. 158; p. 601.

Wyman, Horace, Worcester, Mass., assignor to Crompton & Knowles Loom Works. Weft-replenishing mechanism for weft-replenishing looms. No. 970,591; Sept. 20; Sp. p. 3078; Gaz. vol. 158; p. 537.

Yaw, Clio B., Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 971,098; Sept. 27; Sp. p. 4177; Gaz. vol. 158; p. 737.

Ybarrondo, Vincent C. de, Los Angeles, Cal. Wireless transmission apparatus for controlling the movements of vessels. No. 970,592; Sept. 20; Sp. p. 3083; Gaz. vol. 158; p. 537.

Yeakel, William B., Coopersburg, Pa. Meat-chopper. No. 970,593; Sept. 20; Sp. p. 3086; Gaz. vol. 158; p. 537.

Yelton, Edgar A. (See Bacon, George W., assignor.)

Yorke, Horace M., Freeport, Me. Dentist's implement. No. 969,682; Sept. 6; Sp. p. 1125; Gaz. vol. 158; p. 181.

Young, George S., U. S. Army. Folding table. No. 970,774; Sept. 20; Sp. p. 3516; Gaz. vol. 158; p. 601.

Young, Ira J., assignor to Great Western Wire Fence & Mfg. Co., St. Louis, Mo. Woven-wire fence. No. 970,594; Sept. 20; Sp. p. 3088; Gaz. vol. 158; p. 538.

Young, Ira J., assignor to Great Western Wire Fence & Mfg. Co., St. Louis, Mo. Wire mat. No. 970,595; Sept. 20; Sp. p. 3089; Gaz. vol. 158; p. 538.

Young, Leonard A., Detroit, Mich. Border-wire reinforcement for spring-seat structures. No. 970,157; Sept. 13; Sp. p. 2159; Gaz. vol. 158; p. 368.

Young, Leonard A., Detroit, Mich. Spring-seat structure. No. 970,775; Sept. 20; Sp. p. 3518; Gaz. vol. 158; p. 602.

Youngren, France J., Renner, S. D. Folding shipping-crate. No. 970,362; Sept. 13; Sp. p. 2590; Gaz. vol. 158; p. 438.

Youngs, Fred E., Detroit, Mich., assignor to Equitable Meter Company, Pittsburg, Pa. Gas-controller. No. 971,099; Sept. 27; Sp. p. 4179; Gaz. vol. 158; p. 737.

Youngstown Sheet & Tube Co. (See Mirfield, George E., assignor.)

Youngstown Sheet & Tube Company, The. (See Lewis and Nullmeyer, assignors.)

Yoxall, Henry S., and J. Easthope, Birmingham, England. Wheel for roller-skates and the like. No. 971,164; Sept. 27; Sp. p. 4308; Gaz. vol. 158; p. 758.

Zabriskie, Frank L. (See Wolf, Edmund T., assignor.)

Zierden, W. E., *et al.* (See Wilkins, Thomas M., assignor.)
Ziermore Regulator Company *et al.* (See Wilkins, Thomas M., assignor.)
Ziganek, Ferdinand, assignor, by mesne assignments, to The Revolving Stove Company, Cleveland, Ohio. Oven for cooking-stoves. No. 969,828; Sept. 13; Sp. p. 1488; Gaz. vol. 158; p. 256.
Zimmerhackel, Harry. (See Walter, Earl N., assignor.)
Zimmerman, Charles M., Cincinnati, Ohio. Glue-faucet. No. 971,337; Sept. 27; Sp. p. 4655; Gaz. vol. 158; p. 814.
Zimmerman, Daniel S., North Water Gap, Pa. Suction-box. No. 970,776; Sept. 20; Sp. p. 3520; Gaz. vol. 158; p. 602.
Zimmerman, Isaiah E., *et al.* (See Macdonald, Thomas A., assignor.)
Zimmermann, Emil C., New York, N. Y. Insulated rail-joint. No. 970,860; Sept. 20; Sp. p. 3710; Gaz. vol. 158; p. 634.
Zobelein, George, *et al.* (See Rademacher, Frank, assignor.)

ALPHABETICAL LIST OF PATENTEES OF DESIGNS.

Ahrenfeldt, Charles J., New York, N. Y. China plate. No. 40,860; Sept. 6; Gaz. vol. 158; p. 212.
Bigelow Carpet Company. (See Elliott, William A., assignor.)
Bigelow Carpet Company. (See Forrester, Charles, assignor.)
Bigelow Carpet Company. (See Merry, John, assignor.)
Bigelow Carpet Company. (See Moffat, John B., assignor.)
Bigelow Carpet Company. (See Reith, William G., assignor.)
Bigelow Carpet Company. (See Sauer, Emil G., assignor.)
Bigelow Carpet Company. (See Spring, John, assignor.)
Bigelow Carpet Company. (See Spring, William A., assignor.)
Bigelow Carpet Company. (See Witzel, John H., assignor.)
Bigney, Sidney O., Attleboro, Mass. Coin-holder and vinaigrette. No. 40,858; Sept. 6; Gaz. vol. 158; p. 212.
Bigney, Sidney O., Attleboro, Mass. Locket and vinaigrette. No. 40,873; Sept. 6; Gaz. vol. 158; p. 215.
Bigney, Sidney O., Attleboro, Mass. Hat-pin. No. 40,885; Sept. 20; Gaz. vol. 158; p. 683.
Bliss, Walter B., Los Angeles, Cal. Puzzle-badge. No. 40,914; Sept. 27; Gaz. vol. 158; p. 871.
Booth, Kraft, assignor to Gillinder & Sons, Inc., Philadelphia, Pa. Artificial-light shade. Nos. 40,891–2; Sept. 20; Gaz. vol. 158; p. 684.
Boyle, Dad, Amarillo, Tex. Wagon-body. No. 40,878; Sept. 13; Gaz. vol. 158; p. 469.
Breitinger, Louis A., Philadelphia, Pa. Clock and hall stand. No. 40,921; Sept. 27; Gaz. vol. 158; p. 873.
C. Dorflinger & Sons. (See Northwood, Charles O., assignor.)
Carlson, Carl E. (See Silbert and Carlson.)
Cheney Brothers. (See Crownfield, Sophia L., assignor.)
Cheney Brothers. (See Gattiker, Robert, assignor.)
Cheney Brothers. (See Mouton, Paul, assignor.)
Cheney Brothers. (See Sins, Emile, assignor.)
Conover, Edwin K., Paterson, N. J. Standard and casing for lifting-jacks. No. 40,874; Sept. 6; Gaz. vol. 158; p. 215.
Consolidated Lamp & Glass Co. (See McAfee, Hugh, assignor.)
Crownfield, Sophia L., New York, N. Y., assignor to Cheney Brothers, South Manchester, Conn. Textile fabric. No. 40,898; Sept. 20; Gaz. vol. 158; p. 686.
Dean, John R., Wallingford, assignor to International Silver Co., Meriden, Conn. Spoon, fork, or similar article. No. 40,890; Sept. 20; Gaz. vol. 158; p. 684.
Elcome, William E., Philadelphia, Pa., assignor to Western Electric Company, New York, N. Y. Font of type. No. 40,862; Sept. 6; Gaz. vol. 158; p. 213.
Elliott, William A., Yonkers, N. Y., assignor to Bigelow Carpet Company. Carpet. No. 40,884; Sept. 13; Gaz. vol. 158; p. 470.
Fishel, Henry W., assignor to H. W. Fishel and T. H. Fishel, New York, N. Y. Jewelry ornament. Nos. 40,886–9; Sept. 20; Gaz. vol. 158; pp. 683–4.
Fishel, Theodore H., *et al.* (See Fishel, Henry W., assignor.)
Forrester, Charles, Jersey City, N. J., assignor to Bigelow Carpet Company. Rug. No. 40,864; Sept. 6; Gaz. vol. 158; p. 213.
Gair, Robert, New York, N. Y. Doily. No. 40,879; Sept. 13; Gaz. vol. 158; p. 469.
Gair, Robert, New York, N. Y. Box-mat. Nos. 40,916–17; Sept. 27; Gaz. vol. 158; p. 872.
Gattiker, Robert, Paris, France, assignor to Cheney Brothers, South Manchester, Conn. Textile fabric. Nos. 40,899–900; Sept. 20; Gaz. vol. 158; p. 686.
Gill & Company. (See Kappler, Jacob, assignor.)
Gillinder & Sons. (See Booth, Kraft, assignor.)
Heyl, Erik, Buffalo, N. Y. Automobile-body. No. 40,922; Sept. 27; Gaz. vol. 158; p. 873.
International Silver Co. (See Dean, John R., assignor.)
Jefferson Glass Company. (See Schnelbach, Harry A., assignor.)
Kappler, Jacob, assignor to Gill & Company, Philadelphia, Pa. Lamp shade or reflector. Nos. 40,919–20; Sept. 27; Gaz. vol. 158; p. 872.
Karpeles, Jacob, New York, N. Y. Muff. No. 40,918; Sept. 27; Gaz. vol. 158; p. 872.
Landcraft, Sydney P., Quincy, Ill. Stove. No. 40,897; Sept. 20; Gaz. vol. 158; p. 686.
Landcraft, Sydney P., Quincy, Ill. Stove. No. 40,923; Sept. 27; Gaz. vol. 158; p. 873.
Laridon, Louise B., New York, N. Y. Sewing-stand. No. 40,861; Sept. 6; Gaz. vol. 158; p. 212.
Lehman, Max R., Quincy, Ill. Stove. Nos. 40,924–5; Sept. 27; Gaz. vol. 158; p. 873.
McAfee, Hugh, Pittsburg, assignor to Consolidated Lamp & Glass Co., Coraopolis, Pa. Shade. No. 40,895; Sept. 20; Gaz. vol. 158; p. 685.
McCann, Felix H., New York, N. Y. Shrine. No. 40,857; Sept. 6; Gaz. vol. 158; p. 212.
Merry, John, New York, N. Y., assignor to Bigelow Carpet Company. Rug. Nos. 40,906–7; Sept. 20; Gaz. vol. 158; p. 688.
Moffat, John B., Lawrence Park, Bronxville, N. Y., assignor to Bigelow Carpet Company. Carpet. No. 40,869; Sept. 6; Gaz. vol. 158; p. 214.
Morton, William M., Darvel, Scotland. Carpet. Nos. 40,870–2; Sept. 6; Gaz. vol. 158; p. 214–15.
Mouton, Paul, Paris, France, assignor to Cheney Brothers, South Manchester, Conn. Textile fabric. Nos. 40,880–1; Sept. 13; Gaz. vol. 158; p. 469.
Mouton, Paul, Paris, France, assignor to Cheney Brothers, South Manchester, Conn. Textile fabric. Nos. 40,901–4; Sept. 20; Gaz. vol. 158; p. 687.
Neuwohner, Albert, San Francisco, Cal. Stamp. No. 40,875; Sept. 13; Gaz. vol. 158; p. 468.
Northwood, Charles O., assignor to C. Dorflinger & Sons, Incorporated, White Mills, Pa. Glass goblet or similar article. No. 40,876; Sept. 13; Gaz. vol. 158; p. 468.
Oakley, Clifford H., Trenton, N. J. Rubber binding for matting ends or similar articles. No. 40,863; Sept. 6; Gaz. vol. 158; p. 213.
Reith, William G., New York, N. Y., assignor to Bigelow Carpet Company. Rug. No. 40,865; Sept. 6; Gaz. vol. 158; p. 213.
Reith, William G., New York, N. Y., assignor to Bigelow Carpet Company. Rug. Nos. 40,908–9; Sept. 20; Gaz. vol. 158; p. 688.
Rock, George N., Branford, Conn. Game-board or similar article. No. 40,915; Sept. 27; Gaz. vol. 158; p. 871.
Sauer, Emil G., Richmond Hill, N. Y., assignor to Bigelow Carpet Company. Rug. No. 40,866; Sept. 6; Gaz. vol. 158; p. 213.
Sauer, Emil G., Richmond Hill, N. Y., assignor to Bigelow Carpet Company. Rug. No. 40,926; Sept. 27; Gaz. vol. 158; p. 874.
Schnelbach, Harry A., Crafton, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Lamp-shade. Nos. 40,893–4; Sept. 20; Gaz. vol. 158; p. 685.
Sheppard, Erle R., New York, N. Y. Card-case or similar article. No. 40,859; Sept. 6; Gaz. vol. 158; p. 212.
Silbert, Gustaf I., and C. E. Carlson, Chicago, Ill. Picture-frame. No. 40,877; Sept. 13; Gaz. vol. 158; p. 468.
Sins, Emile, Paris, France, assignor to Cheney Brothers, South Manchester, Conn. Textile fabric. No. 40,882; Sept. 13; Gaz. vol. 158; p. 469.
Sins, Emile, Paris, France, assignor to Cheney Brothers, South Manchester, Conn. Textile fabric. No. 40,905; Sept. 20; Gaz. vol. 158; p. 688.
Spring, John, New York, N. Y., assignor to Bigelow Carpet Company. Rug. No. 40,927; Sept. 27; Gaz. vol. 158; p. 874.
Spring, William A., Brooklyn, N. Y., assignor to Bigelow Carpet Company. Rug. No. 40,867; Sept. 6; Gaz. vol. 158; p. 214.
Spring, William A., New York, N. Y., assignor to Bigelow Carpet Company. Rug. No. 40,883; Sept. 13; Gaz. vol. 158; p. 470.
Spring, William A., Brooklyn, N. Y., assignor to Bigelow Carpet Company. Rug. Nos. 40,910–11; Sept. 20; Gaz. vol. 158; p. 689.
Wear, Frank F., San Francisco, Cal. Coffee-counter. No. 40,896; Sept. 20; Gaz. vol. 158; p. 685.
Western Electric Company. (See Elcome, William E., assignor.)
Witzel, John H., New York, N. Y., assignor to Bigelow Carpet Company. Rug. No. 40,868; Sept. 6; Gaz. vol. 158; p. 214.
Witzel, John H., New York, N. Y., assignor to Bigelow Carpet Company. Rug. Nos. 40,912–13; Sept. 20; Gaz. vol. 158; p. 689.

ALPHABETICAL LIST OF REGISTRANTS OF TRADE-MARKS.

A. Schrader's Son, Incorporated, New York, N. Y. Fluid-pressure gages, indicators, and regulators. No. 79,620; Sept. 20; Gaz. vol. 158; p. 699.

Abdulla & Co., Ld., London, England. Cigarettes and smoking-tobacco. No. 79,623; Sept. 20; Gaz. vol. 158; p. 699.

Absopure Baking Powder Company, San Francisco, Cal. Baking-powder. No. 79,542; Sept. 20; Gaz. vol. 158; p. 697.

Acme White Lead & Color Works, Detroit, Mich. Colors in oil. No. 79,637; Sept. 27; Gaz. vol. 158; p. 879.

Actien-Gesellschaft Hackerbräu, Munich, Germany. Beer. No. 79,420; Sept. 6; Gaz. vol. 158; p. 224.

Akron Belting Company, The, Akron, Ohio. Leather belting. No. 79,459; Sept. 13; Gaz. vol. 158; p. 477.

Aktiebolaget B. A. Hjorth & Co., Stockholm, Sweden. Furnaces, forges, lamps, boilers, and similar articles. No. 79,424; Sept. 6; Gaz. vol. 158; p. 224.

Albert Dickinson Company, The, Chicago, Ill. Bean and pea seed, field and grass seeds, and seed-grains. No. 79,655; Sept. 27; Gaz. vol. 158; p. 879.

Allen & Wheeler Company, The, Troy, Ohio. Wheat-flour. No. 79,544; Sept. 20; Gaz. vol. 158; p. 697.

Allyne Brass Foundry Company, The, Cleveland, Ohio. Metal-purifying compositions. No. 79,383; Sept. 6; Gaz. vol. 158; p. 223.

American Caramel Company. (See Schopf, Abraham, assignor.)

American Road Machine Company, Kennett Square, Pa. Certain machinery. No. 79,545; Sept. 20; Gaz. vol. 158; p. 697.

American Writing Paper Company, Holyoke, Mass. Writing and printing paper. Nos. 79,384–5; Sept. 6; Gaz. vol. 158; p. 223.

American Writing Paper Company, Holyoke, Mass. Writing and printing paper. No. 79,460; Sept. 13; Gaz. vol. 158; p. 477.

American Writing Paper Company, Holyoke, Mass. Cover-paper. No. 79,546; Sept. 20; Gaz. vol. 158; p. 697.

American Writing Paper Company, Holyoke, Mass. Writing and printing paper. No. 79,638; Sept. 27; Gaz. vol. 158; p. 879.

Aquidneck Manufacturing Co., Newport, R. I. Soap. No. 79,639; Sept. 27; Gaz. vol. 158; p. 879.

Ashland Manufacturing Company, Hillsdale, Md. Cotton duck. No. 79,386; Sept. 6; Gaz. vol. 158; p. 223.

Augusta Brewing Co., Augusta, Ga. Beer. No. 79,388; Sept. 6; Gaz. vol. 158; p. 223.

B. F. Goodrich Company, The, Akron, Ohio. Belting. No. 79,667; Sept. 27; Gaz. vol. 158; p. 879.

B. T. Babbitt, Jersey City, N. J., and New York, N. Y. Cleanser for household purposes, &c. No. 79,389; Sept. 6; Gaz. vol. 158; p. 223.

B. T. Babbitt, Jersey City, N. J., and New York, N. Y. Soap. No. 79,390; Sept. 6; Gaz. vol. 158; p. 223.

Bailey, Ernest A., Washington, D. C. Gameboard. No. 79,461; Sept. 13; Gaz. vol. 158; p. 477.

Baltimore Bargain House, Baltimore, Md. Piece goods, lace, towels, ribbons, and other articles. No. 79,392; Sept. 6; Gaz. vol. 158; p. 223.

Baltimore Bargain House, Baltimore, Md. Jewelry, hollow, flat, and table ware, handles, and jewel-settings. No. 79,393; Sept. 6; Gaz. vol. 158; p. 223.

Baltimore Bargain House, Baltimore, Md. Crockery, porcelain, and earthenware. No. 79,394; Sept. 6; Gaz. vol. 158; p. 223.

Baltimore Bargain House, Baltimore, Md. Certain stationery and toilet articles. No. 79,395; Sept. 6; Gaz. vol. 158; p. 223.

Baltimore Bargain House, Baltimore, Md. Fancy goods and notions. No. 79,396; Sept. 6; Gaz. vol. 158; p. 223.

Baltimore Bargain House, Baltimore, Md. Glassware. No. 79,397; Sept. 6; Gaz. vol. 158; p. 223.

Baltimore Bargain House, Baltimore, Md. Certain named clothing. No. 79,398; Sept. 6; Gaz. vol. 158; p. 223.

Bausch & Lomb Optical Co., Rochester, N. Y. Gun-sights. No. 79,463; Sept. 13; Gaz. vol. 158; p. 477.

Bausch & Lomb Optical Co., Rochester, N. Y. Head, throat, and dental mirrors. No. 79,625; Sept. 20; Gaz. vol. 158; p. 699.

Betz & van Heijst, Vaardingen, Netherlands. Salted herring. No. 79,465; Sept. 13; Gaz. vol. 158; p. 477.

Beyerle, Jacob, New York, N. Y. Dress-shields. No. 79,399; Sept. 6; Gaz. vol. 158; p. 223.

Bindley Hardware & Mfg. Co., Pittsburg, Pa. Varnish-stains and enamels. No. 79,548; Sept. 20; Gaz. vol. 158; p. 697.

Bird-Archer Company, New York, N. Y. Certain chemical compounds. No. 79,549; Sept. 20; Gaz. vol. 158; p. 697.

Block, Isaac E., Chicago, Ill. Candles. No. 79,551; Sept. 20; Gaz. vol. 158; p. 697.

Bond Foundry and Machine Company, Manheim, Pa. Shaft-couplings. No. 79,400; Sept. 6; Gaz. vol. 158; p. 223.

Booth's Distillery Limited, London, England. Orange-bitters. No. 79,552; Sept. 20; Gaz. vol. 158; p. 697.

Boott Mills, Lowell, Mass. Cotton piece goods. Nos. 79,401–5; Sept. 6; Gaz. vol. 158; p. 223.

Boott Mills, Lowell, Mass. Cotton piece goods. Nos. 79,643–4; Sept. 27; Gaz. vol. 158; p. 879.

Bowser, Augustus, Fort Wayne, Ind. Lubricating appliances for machinery. No. 79,645; Sept. 27; Gaz. vol. 158; p. 879.

Bradbury, Fred R., East Brownfield, Me. Leather-dressing. No. 79,406; Sept. 6; Gaz. vol. 158; p. 223.

Brentano's, New York, N. Y. Books of a literary nature. No. 79,553; Sept. 20; Gaz. vol. 158; p. 697.

Brey, William F., Philadelphia, Pa. Wheat-flour. No. 79,466; Sept. 13; Gaz. vol. 158; p. 477.

Brotherhood of Locomotive Firemen and Enginemen, Peoria, Ill., and Indianapolis, Ind. Instruction-books and printed pamphlets. No. 79,407; Sept. 6; Gaz. vol. 158; p. 223.

Brown Company, The, Syracuse, N. Y. Repairman's truck. No. 79,554; Sept. 20; Gaz. vol. 158; p. 697.

Brown Durrell Co., Boston, Mass. Hosiery. No. 79,555; Sept. 20; Gaz. vol. 158; p. 697.

Brown, Edward G., Tampico, Mexico. Pills. No. 79,408; Sept. 6; Gaz. vol. 158; p. 223.

Burckhardt Company, The, Cincinnati, Ohio. Soap. No. 79,647; Sept. 27; Gaz. vol. 158; p. 879.

Burnham, Edward, Chicago, Ill. Toilet preparations. No. 79,556; Sept. 20; Gaz. vol. 158; p. 697.

Burt and Packard Company, Brockton, Mass. Leather boots and shoes. No. 79,409; Sept. 6; Gaz. vol. 158; p. 223.

Bushnell, Charles B., Mansfield, Ohio. Mop-wringer pail. No. 79,557; Sept. 20; Gaz. vol. 158; p. 697.

C. A. Edgarton Mfg. Co., The, Shirley, Mass. Suspenders and garters. No. 79,563; Sept. 20; Gaz. vol. 158; p. 697.

C. F. Simmons Medicine Company, Incorporated, St. Louis, Mo. Certain remedies. No. 79,527; Sept. 13; Gaz. vol. 158; p. 479.

Cabell Company, The, Baltimore, Md. Baking-powder. No. 79,541; Sept. 13; Gaz. vol. 158; p. 479.

Capewell Horse Nail Company, Hartford, Conn. Horse-nails. No. 79,410; Sept. 6; Gaz. vol. 158; p. 223.

Capewell Horse Nail Company, The, Hartford, Conn. Horse-nails. No. 79,421; Sept. 6; Gaz. vol. 158; p. 224.

Carson, Pirie, Scott & Co., Chicago, Ill. Percales. No. 79,467; Sept. 13; Gaz. vol. 158; p. 477.

Central Dry Plate Company, St. Louis, Mo. Photographic dry-plates. No. 79,411; Sept. 6; Gaz. vol. 158; p. 223.

Charles H. Besly Company, Chicago, Ill. Lubricating oil and grease. No. 79,640; Sept. 27; Gaz. vol. 158; p. 879.

Charles Kohlman & Co. Inc., New York, N. Y. Cotton piece goods. No. 79,677; Sept. 27; Gaz. vol. 158; p. 880.

Chas. S. Boyd Paper Company, Appleton, Wis. Cover-paper. No. 79,646; Sept. 27; Gaz. vol. 158; p. 879.

Chillington Tool Company, Limited, The, Wolverhampton, England. Metal hoes and shovels. No. 79,468; Sept. 13; Gaz. vol. 158; p. 477.

Claycraft Brick Company, The, Columbus, Ohio. Brick. No. 79,469; Sept. 13; Gaz. vol. 158; p. 477.

Cleal, Oscar W., Syracuse, N. Y. Wheat-flour. No. 79,649; Sept. 27; Gaz. vol. 158; p. 879.

Cleveland Fillet Company, The, Cleveland, Ohio. Wood and leather fillet. No. 79,470; Sept. 13; Gaz. vol. 158; p. 477.

Cleveland Macaroni Company, The, Cleveland, Ohio. Macaroni paste foods. No. 79,650; Sept. 27; Gaz. vol. 158; p. 879.

Closset & Devers, Portland, Oreg. Spices, flavoring extracts, and bird-seed. No. 79,422; Sept. 6; Gaz. vol. 158; p. 224.

Clyde Produce Company, The, Clyde, Ohio. Canned sauerkraut. No. 79,471; Sept. 13; Gaz. vol. 158; p. 477.

Colgan Gum Co., Louisville, Ky. Chewing-gum. No. 79,558; Sept. 20; Gaz. vol. 158; p. 697.

Colonial Works, Brooklyn, N. Y. Paints. No. 79,412; Sept. 6; Gaz. vol. 158; p. 223.

Continental Rubber Company of New York, New York, N. Y. Rubber and rubber gums. No. 79,472; Sept. 13; Gaz. vol. 158; p. 477.

Coors Company, Adolph, near Golden and Denver, Colo. Beers and malt extracts. No. 79,624; Sept. 20; Gaz. vol. 158; p. 699.

Coulehan & Hogan, Baltimore, Md. Canned herring-roe. No. 79,559; Sept. 20; Gaz. vol. 158; p. 697.

Crescent Paste Co., Penn township, Allegheny county, Pa. Grease compound for filling pits in cylinders. No. 79,651; Sept. 27; Gaz. vol. 158; p. 879.
Crookston Milling Company, Crookston, Minn. Wheat-flour. No. 79,473; Sept. 13; Gaz. vol. 158; p. 477.
Cunningham, Frank O., New Bedford, Mass. Scrap-files. No. 79,560; Sept. 20; Gaz. vol. 158; p. 697.
Davis and Lawrence Co., New York, N. Y. Remedy for malaria. No. 79,652; Sept. 27; Gaz. vol. 158; p. 879.
Dayton Art Marble and Construction Co., The, Dayton, Ohio. Artificial stone. No. 79,474; Sept. 13; Gaz. vol. 158; p. 477.
De la Prida, Baldomero, Mexico, Mexico. Hair-tonics. No. 79,693; Sept. 27; Gaz. vol. 158; p. 880.
De la Teyssonnière, Albéric, Pau, France. Remedies for diseases of dogs. No. 79,451; Sept. 6; Gaz. vol. 158; p. 225.
Dean, Teresa, New York, N. Y. Weekly magazines. No. 79,653; Sept. 27; Gaz. vol. 158; p. 879.
Delacour Brothers Limited, London, England. Brier-wood tobacco-pipes. No. 79,654; Sept. 27; Gaz. vol. 158; p. 879.
Diamond Point Pen Company, New York, N. Y. Fountain-pens and pen-points. No. 79,475; Sept. 13; Gaz. vol. 158; p. 477.
Dienstfertig, Max, Fraustadt, Germany. Remedy for diseases of swine. No. 79,656; Sept. 27; Gaz. vol. 158; p. 879.
Doughty, George R., Cleveland, Ohio. Sweetened food composition. No. 79,561; Sept. 20; Gaz. vol. 158; p. 697.
Driscoll, Church & Hall, New Bedford, Mass. Canned vegetables. No. 79,476; Sept. 13; Gaz. vol. 158; p. 477.
Dudley, Charles H., Hanover, N. H. Certain clothing. No. 79,657; Sept. 27; Gaz. vol. 158; p. 879.
Duran, Andrew J., South Boston, Mass. Magazine. No. 79,658; Sept. 27; Gaz. vol. 158; p. 879.
E. R. Thomas Motor Company, Buffalo, N. Y. Automobiles. No. 79,534; Sept. 13; Gaz. vol. 158; p. 479.
Eckes, John T., Minneapolis, Minn. Toilet preparations and medicines. No. 79,562; Sept. 20; Gaz. vol. 158; p. 697.
Electr. Signal- und Kraftanlagen Walter Blut, Berlin, Germany. Electric apparatus and supplies. No. 79,564; Sept. 20; Gaz. vol. 158; p. 697.
Elefritz, John, St. Louis, Mo. Remedy for piles. No. 79,565; Sept. 20; Gaz. vol. 158; p. 697.
Ellet-Kendall Shoe Company, Kansas City, Mo. Leather boots, shoes, and leggings. No. 79,659; Sept. 27; Gaz. vol. 158; p. 879.
Ellsworth and Thayer Manufacturing Company, Milwaukee, Wis. Gloves, mittens, and fur coats. No. 79,566; Sept. 20; Gaz. vol. 158; p. 697.
Ely & Walker Dry Goods Co., St. Louis, Mo. Denims. No. 79,477; Sept. 13; Gaz. vol. 158; p. 477.
Emerson Drug Co., Baltimore, Md. Toilet preparation. No. 79,567; Sept. 20; Gaz. vol. 158; p. 697.
Empire Soap Company, New York, N. Y. Cleansing compounds and soaps. No. 79,413; Sept. 6; Gaz. vol. 158; p. 223.
Etherton, John C., East St. Louis, Ill. Remedy for hemorrhoids. No. 79,661; Sept. 27; Gaz. vol. 158; p. 879.
F. B. Chamberlain Company, St. Louis, Mo. Self-raising pancake-flour. No. 79,648; Sept. 27; Gaz. vol. 158; p. 879.
Faber, A. W., Stein, near Nuremberg, and Berlin, Germany. Rubber bands. No. 79,662; Sept. 27; Gaz. vol. 158; p. 879.
Famel, Pierre, Paris, France. Medicine. No. 79,568; Sept. 20; Gaz. vol. 158; p. 697.
Farmers Milling & Mercantile Company, The, Berthoud, Colo. Wheat-flour. No. 79,478; Sept. 13; Gaz. vol. 158; p. 477.
Fellows & Co., Boston, Mass. Bed and couch hammocks. No. 79,479; Sept. 13; Gaz. vol. 158; p. 477.
Fernald, Frederick K., Elkhart, Ind. Laxative foods. No. 79,663; Sept. 27; Gaz. vol. 158; p. 879.
Ficini, Giuseppe S., Chicago, Ill. Remedies for malaria. No. 79,480; Sept. 13; Gaz. vol. 158; p. 477.
Fidalgo Island Packing Co., Anacortes, Wash. Canned salmon. No. 79,414; Sept. 6; Gaz. vol. 158; p. 224.
Fidalgo Island Packing Co., Anacortes, Wash. Canned salmon. Nos. 79,482–4; Sept. 13; Gaz. vol. 158; p. 477.
Fidalgo Island Packing Co., Anacortes, Wash. Canned salmon. No. 79,664; Sept. 27; Gaz. vol. 158; p. 879.
Finlay, Dicks & Co. Ltd., New Orleans, La. Smelling-salts, toilet preparations, and perfumes. No. 79,569; Sept. 20; Gaz. vol. 158; p. 697.
Fort Wayne Drug Company, Fort Wayne, Ind. Whisky. No. 79,485; Sept. 13; Gaz. vol. 158; p. 477.
Francis H. Leggett & Company, New York, N. Y. Soap. No. 79,430; Sept. 6; Gaz. vol. 158; p. 224.
Francis H. Leggett & Co., New York, N. Y. Brooms. No. 79,680; Sept. 27; Gaz. vol. 158; p. 880.
Frederick F. Ingram Co., Detroit, Mich. Toilet preparations. No. 79,583; Sept. 20; Gaz. vol. 158; p. 698.
Fremont Candy Company, The, Fremont, Ohio. Candies. No. 79,581; Sept. 20; Gaz. vol. 158; p. 698.
Friend, Fred I., Providence, R. I. Remedy for diseases of the eye. No. 79,486; Sept. 13; Gaz. vol. 158; p. 477.
G. A. Stafford & Co., Greenwich, Conn., and New York, N. Y. Ginghams, shirtings, and chambrays. No. 79,529; Sept. 13; Gaz. vol. 158; p. 479.
Gas Machinery Co., The, Cleveland, Ohio. Certain apparatus and parts thereof. No. 79,415; Sept. 6; Gaz. vol. 158; p. 224.
Gautret, J., fils, Jonzac, France. Brandy. Nos. 79,626–8; Sept. 20; Gaz. vol. 158; p. 699.
Gill, Paul C., Los Angeles, Cal. Scalp and foot lotions and hair-dressings. No. 79,570; Sept. 20; Gaz. vol. 158; p. 697.
Gillham, Robert J., Orlando, Fla. Preparation for making a tonic beverage. No. 79,488; Sept. 13; Gaz. vol. 158; p. 477.
Glynn & Co., W. F., Crescent City, Fla. Oranges. No. 79,416; Sept. 6; Gaz. vol. 158; p. 224.
Golden State Asparagus Co., San Francisco, Cal. Canned asparagus. No. 79,417; Sept. 6; Gaz. vol. 158; p. 224.
Gordon, Walter I., Sr., Cleveland, Ohio. Vegetable butter. No. 79,571; Sept. 20; Gaz. vol. 158; p. 697.
Grand Rapids Refrigerator Company, Grand Rapids, Mich. Refrigerators. No. 79,418; Sept. 6; Gaz. vol. 158; p. 224.
Grisser, Louis, Zwickau, Germany. Kid gloves. No. 79,419; Sept. 6; Gaz. vol. 158; p. 224.
Greek American Confectionery Co., New York, N. Y., assignor to Novelty Candy & Chocolate Co. Candy. No. 79,572; Sept. 20; Gaz. vol. 158; p. 697.
Gudebrod Bros. Co., New York, N. Y. Silk, cotton, mercerized, and machine sewing-threads. Nos. 79,489–90; Sept. 13; Gaz. vol. 158; p. 478.
Gudebrod Bros. Co., New York, N. Y. Silk, cotton, mercerized, and machine sewing-threads. No. 79,574; Sept. 20; Gaz. vol. 158; p. 698.
Gurney Refrigerator Company, Limited, Fond du Lac, Wis. Refrigerators. No. 79,491; Sept. 13; Gaz. vol. 158; p. 478.
H. D. Lee Mercantile Company, The, Salina, Kans. Blended coffee. No. 79,590; Sept. 20; Gaz. vol. 158; p. 698.
Haefner Remedy Co., St. Louis, Mo. Foot-powder. No. 79,575; Sept. 20; Gaz. vol. 158; p. 698.
Hamlin, John H., Salt Lake City, Utah. Chemical compound for coating stone and other materials. No. 79,492; Sept. 13; Gaz. vol. 158; p. 478.
Harris, Paul M., Dallas, Tex. Flavoring-syrup for a soda-fountain drink. No. 79,423; Sept. 6; Gaz. vol. 158; p. 224.
Hartman Drug Company, The, Fort Wayne, Ind. Remedies for certain diseases. No. 79,660; Sept. 27; Gaz. vol. 158; p. 880.
Herbert Frood Company, Limited, The, Chapel-en-le-Frith, England. Brake-blocks. No. 79,487; Sept. 13; Gaz. vol. 158; p. 477.
Hill, William F., Richmond, Ind. Remedy for diseases of the blood. No. 79,576; Sept. 20; Gaz. vol. 158; p. 698.
Hills Brothers Company, The, New York, N. Y. Currants. No. 79,670; Sept. 27; Gaz. vol. 158; p. 880.
Hoffmann-La Roche Chemical Works, The, assignor, by mesne assignments, to Sirolin Co., New York, N. Y. Remedy for certain diseases. No. 79,577; Sept. 20; Gaz. vol. 158; p. 698.
Holbrooks Limited, Birmingham, London, and Manchester, England. Sauce for seasoning foods. No. 79,578; Sept. 20; Gaz. vol. 158; p. 698.
Hollander, Charles S., St. Louis, Mo. Acid pyrogallic crystals. No. 79,579; Sept. 20; Gaz. vol. 158; p. 698.
Holliway, John P., St. Joseph, Mo. Medicines for piles. No. 79,580; Sept. 20; Gaz. vol. 158; p. 698.
Holt & Company, New York, N. Y. Wheat-flour. No. 79,672; Sept. 27; Gaz. vol. 158; p. 880.
Holz Manufacturing Co., The, Cleveland, Ohio. Bottle-holder. No. 79,582; Sept. 20; Gaz. vol. 158; p. 698.
Home Treatment Remedy Co., The, Sault Ste. Marie, Mich. Medicinal suppositories, &c. No. 79,493; Sept. 13; Gaz. vol. 158; p. 478.
Hopewell Brothers, Newton, Mass. Soap. No. 79,673; Sept. 27; Gaz. vol. 158; p. 880.
Hopewell Brothers, Newton, Mass. Metal-polish. No. 79,674; Sept. 27; Gaz. vol. 158; p. 880.
Houseweiler, Joseph, Albany, N. Y. Remedy for headaches, neuralgia, and heartburn. No. 79,675; Sept. 27; Gaz. vol. 158; p. 880.
Hyde & Chappel, Rochester, N. Y. Chewing-gum. No. 79,425; Sept. 6; Gaz. vol. 158; p. 224.
Illinois Watch Case Co., Elgin, Ill. Watch cases and movements. No. 79,494; Sept. 13; Gaz. vol. 158; p. 478.
Illinois Watch Case Co., Elgin, Ill. Watch cases and movements. No. 79,676; Sept. 27; Gaz. vol. 158; p. 880.
Initial Company, Inc., The, Wytheville, Va. Embroidery-patterns. No. 79,584; Sept. 20; Gaz. vol. 158; p. 698.
Irwin & Company, A. P., Philadelphia, Pa., and New York, N. Y. Tea. No. 79,495; Sept. 13; Gaz. vol. 158; p. 478.
Isaac Harter Milling Company, The, Toledo and Fostoria, Ohio. Wheat-flour. No. 79,668; Sept. 27; Gaz. vol. 158; p. 879.
Isern, Evaristo R., Granja de Escarpe and Castellvell y Vilar, Spain. Remedy for seasickness. No. 79,496; Sept. 13; Gaz. vol. 158; p. 478.
J. C. Blair Company, Huntingdon, Pa. Paper, envelops, and blank books. Nos. 79,641–2; Sept. 27; Gaz. vol. 158; p. 879.
J. & E. Atkinson, Limited, London, England. Perfume, toilet powder and wash, and hair-lotion. No. 79,387; Sept. 6; Gaz. vol. 158; p. 223.
J. H. Williams & Co., Brooklyn, N. Y. Metal forgings. No. 79,618; Sept. 20; Gaz. vol. 158; p. 699.

J. H. Zeilin & Company, Inc., Philadelphia, Pa. Menthol, glycerin, and gum-arabic tablets. No. 79,456; Sept. 6; Gaz. vol. 158; p. 225.
J. H. Zeilin & Company, Inc., Philadelphia, Pa. Medicine for certain diseases. No. 79,457; Sept. 6; Gaz. vol. 158; p. 225.
J. H. Zeilin & Company, Inc., Philadelphia, Pa. Remedy for certain diseases. No. 79,711; Sept. 27; Gaz. vol. 158; p. 881.
J. T. Polk Company, Greenwood, Ind. Canned vegetables, sauer-kraut, &c. No. 79,691; Sept. 27; Gaz. vol. 158; p. 880.
Janitors & Porters Supply Company, St. Louis, Mo. Sweeping compound. No. 79,426; Sept. 6; Gaz. vol. 158; p. 224.
Jas. H. Forbes Tea & Coffee Company, St. Louis, Mo. Coffee. No. 79,666; Sept. 27; Gaz. vol. 158; p. 879.
Johann Hoff, New York, N. Y. Malted soda. No. 79,671; Sept. 27; Gaz. vol. 158; p. 880.
John Pilling Shoe Company, Lowell, Mass. Leather boots and shoes. No. 79,689; Sept. 27; Gaz. vol. 158; p. 880.
John Wilsons' Successors, Ltd., London, England. Linen and hemp piece goods. No. 79,455; Sept. 6; Gaz. vol. 158; p. 225.
K. k. landespriv. Milly-Kerzen-, Seifen- und Glycerin Fabrik von F. A. Sarg's Sohn & Cie., Vienna, Austria-Hungary. Perfumery and other toilet preparations. No. 79,448; Sept. 6; Gaz. vol. 158; p. 224.
Kahn Tailoring Company, Indianapolis, Ind. Men's and boys' suits and overcoats. No. 79,497; Sept. 13; Gaz. vol. 158; p. 478.
Kamenstein, Myer, New York, N. Y. Washboilers. No. 79,586; Sept. 20; Gaz. vol. 158; p. 698.
Kelly-Steinmetz Liquor Co., The, Minneapolis, Minn. Whisky. No. 79,629; Sept. 20; Gaz. vol. 158; p. 699.
Kiggins & Tooker Co., New York, N. Y. Blank books. No. 79,587; Sept. 20; Gaz. vol. 158; p. 698.
King Light Co., Peoria, Ill. Vapor-lamps and parts, gas-burners, and incandescent mantles. No. 79,427; Sept. 6; Gaz. vol. 158; p. 224.
Kraft & Cutter, New York, N. Y. Cotton piece goods. No. 79,678; Sept. 27; Gaz. vol. 158; p. 880.
Kreuger, Fredrik E., London, England. Matches. No. 79,428; Sept. 6; Gaz. vol. 158; p. 224.
Kreuger, Fredrik E., London, England. Matches. Nos. 79,498–500; Sept. 13; Gaz. vol. 158; p. 478.
Kreuger, Fredrik E., London, England. Matches. No. 79,588; Sept. 20; Gaz. vol. 158; p. 698.
Kroger Grocery & Baking Company, The, Cincinnati, Ohio. Canned corn. No. 79,589; Sept. 20; Gaz. vol. 158; p. 698.
Krueger, Richard G., New York, N. Y. Clothes-trees. No. 79,679; Sept. 27; Gaz. vol. 158; p. 880.
Langhorne, William S., Jr., Portsmouth, Va. Remedy for certain named diseases. No. 79,429; Sept. 6; Gaz. vol. 158; p. 224.
Leather and Rubber Vitalizing Co., San Francisco, Cal. Preservative compositions for leather and rubber goods. No. 79,630; Sept. 20; Gaz. vol. 158; p. 699.
Lehn & Fink, New York, N. Y. Soap. No. 79,431; Sept. 6; Gaz. vol. 158; p. 224.
Levi Strauss & Co., San Francisco, Cal. Certain clothing. No. 79,707; Sept. 27; Gaz. vol. 158; p. 881.
Liddle, James S., Lockport, N. Y. Brooms. No. 79,432; Sept. 6; Gaz. vol. 158; p. 224.
Lilly, Dungan & Co., Baltimore, Md. Cigars, little cigars, cigarettes, and smoking-tobacco. No. 79,433; Sept. 6; Gaz. vol. 158; p. 224.
Lilly, Dungan & Co., Baltimore, Md. Cigars, cigarettes, and tobacco. No. 79,501; Sept. 13; Gaz. vol. 158; p. 478.
Little & Company, A. E., Lynn, Mass. Boots and shoes. No. 79,681; Sept. 27; Gaz. vol. 158; p. 880.
Longman & Martinez, New York, N. Y. Paints, varnishes, oils, &c. Nos. 79,434–5; Sept. 6; Gaz. vol. 158; p. 224.
Louis Metzger & Co., New York, N. Y. Artificial plumes. No. 79,593; Sept. 20; Gaz. vol. 158; p. 698.
Ludewig & Co., Frederick, New York, N. Y. Hair-nets. No. 79,502; Sept. 13; Gaz. vol. 158; p. 478.
Ludlow-Saylor Wire Company, St. Louis, Mo. Woven-wire fence. No. 79,682; Sept. 27; Gaz. vol. 158; p. 880.
Marshall Field & Company, Chicago, Ill. Hosiery. No. 79,481; Sept. 13; Gaz. vol. 158; p. 477.
Martin Sons and Company, Limited, Huddersfield, England. Worsted piece goods. No. 79,591; Sept. 20; Gaz. vol. 158; p. 698.
Martinez & Bros., W. J., New Orleans, La. Leather boots and shoes. No. 79,436; Sept. 6; Gaz. vol. 158; p. 224.
May, S. Elwood, Philadelphia, Pa. Blended tea. Nos. 79,503–4; Sept. 13; Gaz. vol. 158; p. 478.
Meehan, David C., Columbus, Ohio. Fire doors and shutters and frames therefor. No. 79,592; Sept. 20; Gaz. vol. 158; p. 698.
Meier Dental Manufacturing Company, The, St. Louis, Mo. Dental regulating appliances. No. 79,437; Sept. 6; Gaz. vol. 158; p. 224.
Merck & Co., New York, N. Y. Coffee. No. 79,438; Sept. 6; Gaz. vol. 158; p. 224.
Meyer & Co., John C., Lowell, Mass. Thread and yarn. No. 79,594; Sept. 20; Gaz. vol. 158; p. 698.
Meyrowitz Manufacturing Co., The, New York, N. Y. Mountings for eyeglasses and spectacles. Nos. 79,505–6; Sept. 13; Gaz. vol. 158; p. 478.
Michau & Co., Th., Paris, France, and New York, N. Y. Mixture of silk and wool dress goods. No. 79,507; Sept. 13; Gaz. vol. 158; p. 478.
Milam Medicine Company, Inc., Danville, Va. Blood remedy and tonic. Nos. 79,683–4; Sept. 27; Gaz. vol. 158; p. 880.
Mill & Mine Supply Co., Seattle, Wash. Wire rope. No. 79,508; Sept. 13; Gaz. vol. 158; p. 478.
Miller, Oliver D., Nevada, Iowa. Remedy for coughs and colds. No. 79,685; Sept. 27; Gaz. vol. 158; p. 880.
Miro-Dena Company, Syracuse, N. Y. Perfume. No. 79,686; Sept. 27; Gaz. vol. 158; p. 880.
Moki, Shichiroemon, Higashi-Katsushikagun, Chiba, Japan. Shoyu or soy. No. 79,439; Sept. 6; Gaz. vol. 158; p. 224.
Mossant, Vallon & Argod, Bourg-de-Peage, France. Felt hats. No. 79,440; Sept. 6; Gaz. vol. 158; p. 224.
N. Erlanger, Blumgart & Co., New York, N. Y. Cotton, velvet, and fustian piece goods. No. 79,660; Sept. 27; Gaz. vol. 158; p. 879.
Nath'l Fisher & Co., New York, N. Y. Boots, shoes, and slippers. No. 79,665; Sept. 27; Gaz. vol. 158; p. 879.
National Chemical Company, Memphis, Tenn. Remedy for local application and inhalation. No. 79,687; Sept. 27; Gaz. vol. 158; p. 880.
National Cycle Manufacturing Company, Bay City, Mich. Bicycles and tricycles. No. 79,595; Sept. 20; Gaz. vol. 158; p. 698.
Nelson Brothers Fruit Company, Paonia, Colo. Fresh or green apples. No. 79,509; Sept. 13; Gaz. vol. 158; p. 478.
Nelson Valve Company, Wyndmoor, Pa. Valves. No. 79,510; Sept. 13; Gaz. vol. 158; p. 478.
Nicholson, John C., Stratford, England. Liquid paints and varnishes. No. 79,511; Sept. 13; Gaz. vol. 158; p. 478.
North & Judd Manufacturing Company, New Britain, Conn. Certain horse equipments. No. 79,441; Sept. 6; Gaz. vol. 158; p. 224.
Northern Bag & Plate Co., The, Carthage, N. Y. Paper bags. No. 79,512; Sept. 13; Gaz. vol. 158; p. 478.
Norvell-Shapleigh Hardware Company, St. Louis, Mo. Certain tools. No. 79,631; Sept. 20; Gaz. vol. 158; p. 699.
Novelty Candy & Chocolate Co. (See Greek American Confectionery Co., assignor.)
Oakley, Clifford H., Trenton, N. J. Rubber soles and heels. No. 79,596; Sept. 20; Gaz. vol. 158; p. 698.
Oakley, Clifford H., Trenton, N. J. Rubber quoits and croquet-balls. No. 79,597; Sept. 20; Gaz. vol. 158; p. 698.
Oneida Community Limited, Oneida, N. Y. Animal-traps. No. 79,513; Sept. 13; Gaz. vol. 158; p. 478.
Oshkosh Brewing Company, The, Oshkosh, Wis. Beer. No. 79,442; Sept. 6; Gaz. vol. 158; p. 224.
P. Ballantine & Sons, Newark, N. J. Ale, beer, porter, stout, &c. No. 79,391; Sept. 6; Gaz. vol. 158; p. 223.
P. Ballantine & Sons, Newark, N. J. Ale, beer, porter, stout, &c. No. 79,462; Sept. 13; Gaz. vol. 158; p. 477.
Parkes Machine Company, Brooklyn, N. Y. Certain textiles. No. 79,598; Sept. 20; Gaz. vol. 158; p. 698.
Parlin & Orendorff Co., Canton, Ill. Plows. No. 79,443; Sept. 6; Gaz. vol. 158; p. 224.
Paul F. Beich Company, Bloomington, Ill. Candy. No. 79,547; Sept. 20; Gaz. vol. 158; p. 697.
Penn Manufacturing Co., Philadelphia, Pa. Furniture-polishes. No. 79,516; Sept. 13; Gaz. vol. 158; p. 478.
People's Outfitting Company, Detroit, Mich. Rugs. No. 79,688; Sept. 27; Gaz. vol. 158; p. 880.
Phenix Cheese Company, South Edmeston and New York, N. Y. Cream-cheese. No. 79,517; Sept. 13; Gaz. vol. 158; p. 478.
Philadelphia Quartz Company, Philadelphia, Pa. Silicate of soda. Nos. 79,518–19; Sept. 13; Gaz. vol. 158; p. 478.
Piqua Hosiery Company, The, Piqua, Ohio. Knitted undershirts, drawers, and union suits. No. 79,690; Sept. 27; Gaz. vol. 158; p. 880.
Pittsburgh Dry Goods Company, The, Pittsburg, Pa. Certain notions. No. 79,444; Sept. 6; Gaz. vol. 158; p. 224.
Porzellanfabrik Weiden, Gebr. Bauscher, G. m. b. H., Weiden, Germany. Porcelain ware. No. 79,599; Sept. 20; Gaz. vol. 158; p. 698.
Powers Paper Company, Associates, Springfield, Mass., and New York, N. Y. Certain named paper, envelops, and tablets. No. 79,445; Sept. 6; Gaz. vol. 158; p. 224.
Pratt & Lambert, Inc., Buffalo, N. Y. Varnish. No. 79,446; Sept. 6; Gaz. vol. 158; p. 224.
Pratt & Lambert, Inc., Buffalo, N. Y. Varnish. Nos. 79,520–1; Sept. 13; Gaz. vol. 158; p. 478.
Pratt & Lambert, Inc., Buffalo, N. Y. Liquid drier. No. 79,522; Sept. 13; Gaz. vol. 158; p. 479.
Prentiss Vise Company, New York, N. Y. Vises. No. 79,692; Sept. 27; Gaz. vol. 158; p. 880.
Printz, Biederman Co., Cleveland, Ohio. Interlining. No. 79,694; Sept. 27; Gaz. vol. 158; p. 880.
Protal Company, Portland, Me., and New York, N. Y. Plastic material. Nos. 79,632–5; Sept. 20; Gaz. vol. 158; p. 699.
Pulvermacher und Bremermann, Gesellschaft mit beschränkter Haftung, Schöneberg, near Berlin, Germany. Molding and modeling machines. No. 79,447; Sept. 6; Gaz. vol. 158; p. 224.

Purity Laboratories, New York, N. Y. Foot-powder. No. 79,695; Sept. 27; Gaz. vol. 158; p. 880.
Rausch, August M., Pittsburg, Pa. Paint and varnish cleaning compound. No. 79,636; Sept. 20; Gaz. vol. 158; p. 699.
Reed, John T., Baltimore, Md. Candles. No. 79,696; Sept. 27; Gaz. vol. 158; p. 880.
Ribo-Werke, G. m. b. H., Bremen, Germany. Certain foods. No. 79,600; Sept. 20; Gaz. vol. 158; p. 698.
Rich & Co., N. J., Cleveland, Ohio. Knit scarfs and mufflers. Nos. 79,601–2; Sept. 20; Gaz. vol. 158; p. 698.
Ricketson & Schwarz, Milwaukee, Wis. Brick. No. 79,523; Sept. 13; Gaz. vol. 158; p. 479.
Ridgway Brick Co., Ridgway, Pa. Bricks. No. 79,697; Sept. 27; Gaz. vol. 158; p. 880.
Robertson, John W., Rector, Ark. Preparation for treating blight. No. 79,603; Sept. 20; Gaz. vol. 158; p. 698.
Robinson & Co., Richmond, Ind. Grain-separators and threshing-machines. No. 79,698; Sept. 27; Gaz. vol. 158; p. 880.
Rockwell Furnace Co., New York, N. Y. Oil, coal, and gas furnaces and parts thereof. No. 79,524; Sept. 13; Gaz. vol. 158; p. 478.
Rogers & Thompson, West New York, N. J., and New York, N. Y. Certain piece goods. No. 79,604; Sept. 20; Gaz. vol. 158; p. 698.
Rolka & Klein, New York, N. Y. Certain cutlery. No. 79,525; Sept. 13; Gaz. vol. 158; p. 479.
Rouse, Hempstone & Co., Baltimore, Md. Suspenders, belts, and embroideries. No. 79,605; Sept. 20; Gaz. vol. 158; p. 698.
Rouse, Hempstone & Co., Baltimore, Md. Neckties, cravats, scarfs, &c. No. 79,606; Sept. 20; Gaz. vol. 158; p. 698.
Royal Health Medicine Co., Middlesboro, Ky. Remedies for certain diseases. No. 79,607; Sept. 20; Gaz. vol. 158; p. 698.
S. Allcock & Co., Limited, Redditch, England. Fish-hooks. No. 79,543; Sept. 20; Gaz. vol. 158; p. 697.
Sahlin Company, The, Chicago, Ill. Corsets. No. 79,608; Sept. 20; Gaz. vol. 158; p. 698.
Schaeffer, John S., Irvington, N. J. Ash-sifters. No. 79,526; Sept. 13; Gaz. vol. 158; p. 479.
Schopf, Abraham, Philadelphia, assignor to American Caramel Company, York, Pa. Chocolate drops. No. 79,609; Sept. 20; Gaz. vol. 158; p. 699.
Schwalbe, Abe, New York, N. Y. Leather shoes. No. 79,699; Sept. 27; Gaz. vol. 158; p. 880.
Seminole Condensed Milk Co., Holland Patent, N. Y. Evaporated milk. No. 79,458; Sept. 6; Gaz. vol. 158; p. 225.
Serum-Laboratorium Ruete-Enoch, Hamburg, Germany. Animal-serum. No. 79,700; Sept. 27; Gaz. vol. 158; p. 880.
Sharp & Dohme, Baltimore, Md. Remedy for the treatment of malaria. No. 79,610; Sept. 20; Gaz. vol. 158; p. 699.
Sims, Pleasant M., Augusta, Ga. Hair-tonic. No. 79,701; Sept. 27; Gaz. vol. 158; p. 880.
Sirolin Co. (See Hoffmann-La Roche Chemical Works, assignor.)
Skidoo Remedy Company (by change of name now Lee Remedy Company), Seattle, Wash. Remedy for chills, fever, and ague. No. 79,611; Sept. 20; Gaz. vol. 158; p. 699.
Slaker, William V., Chicago, Ill. Foot remedy. No. 79,528; Sept. 13; Gaz. vol. 158; p. 479.
Smysor, Abraham C., Cincinnati, Ohio. Tooth-wash. No. 79,702; Sept. 27; Gaz. vol. 158; p. 880.
Snyder-Chaffee Co., The, Columbus, Ohio. Chocolate candies. No. 79,449; Sept. 6; Gaz. vol. 158; p. 225.
Società Prodtl. Chimco. Farmacci. A. Bertelli & C., Milan, Italy. Cod-liver and tar oil. No. 79,464; Sept. 13; Gaz. vol. 158; p. 477.
Square Paint Company, The, New Orleans, La. Ready-mixed paints. No. 79,703; Sept. 27; Gaz. vol. 158; p. 880.
Standard Compressed Yeast Company, Baltimore, Md. Compressed yeast. No. 79,704; Sept. 27; Gaz. vol. 158; p. 880.
Standard Sewing Machine Company, The, Cleveland, Ohio. Sewing-machines and attachments. No. 79,530; Sept. 13; Gaz. vol. 158; p. 479.
Stearns & Foster, The, Cincinnati, Ohio. Cotton wadding and batting. Nos. 79,705–6; Sept. 27; Gaz. vol. 158; p. 881.
Stephenson, John W., Little Falls, Minn. Wheat-flour. No. 79,531; Sept. 13; Gaz. vol. 158; p. 479.
Suffolk Peanut Company, The, Suffolk, Va. Peanuts. No. 79,532; Sept. 13; Gaz. vol. 158; p. 479.
Sugar Beet Products Co., Caro, Mich. Compound for the removal of scale from boilers. No. 79,450; Sept. 6; Gaz. vol. 158; p. 225.
Swedish Iron & Steel Corporation, New York, N. Y., and New Orleans, La. Bar-steel. No. 79,612; Sept. 20; Gaz. vol. 158; p. 699.
Synvita Medicine Co., Lima, Ohio. Remedies for coughs, colds, grippe, and certain other affections. No. 79,533; Sept. 13; Gaz. vol. 158; p. 479.
Terre Haute Pure Milk and Ice Cream Company, Terre Haute, Ind. Ice-cream and ices. No. 79,708; Sept. 27; Gaz. vol. 158; p. 881.
Texas Company, The, Houston, Tex., and New York, N. Y. Lubricating-oil. No. 79,613; Sept. 20; Gaz. vol. 158; p. 699.
Thornton, Cleveland, Cleveland, Ohio. Preparation for cleaning glass and metal. No. 79,535; Sept. 13; Gaz. vol. 158; p. 479.
Townsend & Co., E. M., New York, N. Y. Hosiery. No. 79,614; Sept. 20; Gaz. vol. 158; p. 699.
Treinis Bros., New York, N. Y. Certain athletic garments. No. 79,452; Sept. 6; Gaz. vol. 158; p. 225.
Trio Medicine Company, The, Point, Tex. Remedy for fits and nervous troubles. No. 79,536; Sept. 13; Gaz. vol. 158; p. 479.
True, Hiram L., McConnellsville, Ohio. Remedies for certain diseases. No. 79,453; Sept. 6; Gaz. vol. 158; p. 225.
Twohy-Elmon Mercantile Company, Superior, Wis. Canned fruits and vegetables. No. 79,537; Sept. 13; Gaz. vol. 158; p. 479.
Ulmann & Co., Bernhard, New York, N. Y. Worsted yarn wound with mercerized cotton. No. 79,538; Sept. 13; Gaz. vol. 158; p. 479.
Union Card & Paper Co., New York, N. Y. Writing and printing paper. No. 79,616; Sept. 20; Gaz. vol. 158; p. 699.
Urben, Joseph P., Pittsburg, Pa. Salve for the face, chapped hands, and burns. No. 79,617; Sept. 20; Gaz. vol. 158; p. 699.
Victor Auto Supply M'f'g Co., New York, N. Y. Certain automobile accessories. No. 79,539; Sept. 13; Gaz. vol. 158; p. 479.
W. S. Tyler Company, The, Cleveland, Ohio. Woven-wire fabrics for screens. No. 79,615; Sept. 20; Gaz. vol. 158; p. 699.
Wheeling Corrugating Company, Wheeling, W. Va. Metal plates, moldings, fillers, &c. No. 79,454; Sept. 6; Gaz. vol. 158; p. 225.
William Jessop & Sons, Limited, Sheffield, England. Metal castings and forgings. No. 79,585; Sept. 20; Gaz. vol. 158; p. 698.
Wisconsin Milling Company, Menomonie, Wis. Wheat-flour. No. 79,709; Sept. 27; Gaz. vol. 158; p. 881.
Wolf & Sons, H., Cincinnati, Ohio. Hosiery, undershirts, drawers, and union suits. No. 79,710; Sept. 27; Gaz. vol. 158; p. 881.
Wood & Co., Thomas, Boston, Mass. Coffee. No. 79,619; Sept. 20; Gaz. vol. 158; p. 699.
Y. Pendas & Alvarez, New York, N. Y. Cigars. No. 79,515; Sept. 13; Gaz. vol. 158; p. 478.
Young, Al M., Providence, R. I. Animal-traps. No. 79,540; Sept. 13; Gaz. vol. 158; p. 479.
Zierden, William E., Johnsonburg, Pa. Valves and parts of valves. No. 79,621; Sept. 20; Gaz. vol. 158; p. 699.
Zymole Company, The, New York, N. Y. Antiseptic and astringent mouth-wash. No. 79,622; Sept. 20; Gaz. vol. 158; p. 699.
Zymole Company, The, New York, N. Y. Laxatives and purgatives. No. 79,712; Sept. 27; Gaz. vol. 158; p. 881.

ALPHABETICAL LIST OF REGISTRANTS OF LABELS.

Breen, Thomas G., Boston, Mass. "Breen's British Blend." (For Blended Tea.) No. 15,331; Sept. 27; Gaz. vol. 158; p. 882.
Burton Bros. & Co., New York, N. Y. "Oxidized." (For Cotton Piece Goods.) No. 15,326; Sept. 20; Gaz. vol. 158; p. 700.
Closset & Devers, Portland, Oreg. "Tavern." (For Blended Coffee.) No. 15,330; Sept. 27; Gaz. vol. 158; p. 882.
Colgan Gum Co., Louisville, Ky. "Violet Chips." (For Chewing-Gum.) No. 15,315; Sept. 6; Gaz. vol. 158; p. 227.
Colgan Gum Co., Louisville, Ky. "Mint Chips." (For Chewing-Gum.) No. 15,316; Sept. 6; Gaz. vol. 158; p. 227.
Freirich & Mansell, New York, N. Y. "Sellrich Bath Sponge." (For Bath-Sponges.) No. 15,334; Sept. 27; Gaz. vol. 158; p. 882.
Gonzalez, Jose, New York, N. Y. "Mineola." (For Cigars.) No. 15,327; Sept. 27; Gaz. vol. 158; p. 882.
Hayes, Chas. R., Detroit, Mich. "Seyah." (For Cigars.) No. 15,323; Sept. 20; Gaz. vol. 158; p. 700.
Imperial Remedy Co., Buffalo, N. Y. "So-Ezy." (For Foot-Powder.) No. 15,333; Sept. 27; Gaz. vol. 158; p. 882.
Independent Bakery Co., St. Louis, Mo. "Independent Bakery Co. Eagle Bread." (For Bread.) No. 15,332; Sept. 27; Gaz. vol. 158; p. 882.
Lowry, Homer T., San Diego, Cal. "Lowry's Besti Water." (For Eye-Water.) No. 15,317; Sept. 6; Gaz. vol. 158; p. 227.
Meharry, Harry L., San Francisco, Cal. "White Rose Sunkist Brand." (For Honey.) No. 15,314; Sept. 6; Gaz. vol. 158; p. 227.
Nicholson, Jacob H., Baltimore, Md. "Limko Extract." (For an Extract for Making Beverages.) No. 15,329; Sept. 27; Gaz. vol. 158; p. 882.
Ormiston, Guy A., Arkansas City, Kans. "Step-Into Shoe." (For Shoes.) No. 15,335; Sept. 27; Gaz. vol. 158; p. 882.
Prym Company, The William, New York, N. Y. "Prym's See Its Spring." (For Dress-Fasteners.) No. 15,318; Sept. 6; Gaz. vol. 158; p. 227.
Schmidt & Co., New York, N. Y. "Regalia Imperial." (For Cigars.) No. 15,313; Sept. 6; Gaz. vol. 158; p. 227.
Sears, Roebuck and Co., Chicago, Ill. "Magic Rawhide." (For Whips.) No. 15,319; Sept. 13; Gaz. vol. 158; p. 480.
Sears, Roebuck and Co., Chicago, Ill. "Gladstone Rawhide." (For Whips.) No. 15,320; Sept. 13; Gaz. vol. 158; p. 480.
Sears, Roebuck and Co., Chicago, Ill. "Remington Rawhide." (For Whips.) No. 15,321; Sept. 13; Gaz. vol. 158; p. 480.
Sears, Roebuck and Co., Chicago, Ill. "Hindoo Through Rawhide." (For Whips.) No. 15,322; Sept. 13; Gaz. vol. 158; p. 480.
Stone Hill Wine Co., St. Louis, Mo. "Stone Hill Wine Co." (For Brandy, Cognac Style.) No. 15,328; Sept. 27; Gaz. vol. 158; p. 882.
Wendell & Co., Chicago, Ill. "The W. Co. Scientific White Sapphire." (For Artificially-Made White Sapphires.) No. 15,324; Sept. 20; Gaz. vol. 158; p. 700.
Wendell & Co., Chicago, Ill. "The W. Co. Scientific Sapphire." (For Artificially-Made Sapphires.) No. 15,325; Sept. 20; Gaz. vol. 158; p. 700.

PRINTS.

Cream of Wheat Co., Minneapolis, Minn. "Becky, I Know Him." (For Wheat Breakfast Food.) No. 2,642; Sept. 20; Gaz. vol. 158; p. 700.
Harris, Mark G., Chicago, Ill. "The Mark G. Harris Easy Sleeve." (For Coats.) No. 2,640; Sept. 13; Gaz. vol. 158; p. 480.
Hersch, William A., Parkersburg, W. Va. "All Suits All Overcoats $15 No More No Less." (For Suits and Overcoats.) No. 2,637; Sept. 6; Gaz. vol. 158; p. 227.
Schumann Piano Company, Rockford, Ill. "Built Like a Violin." (For Pianos.) No. 2,641; Sept. 13; Gaz. vol. 158; p. 480.
Smith & Agnew Disinfectant Co., New York, N. Y. "Anti Germ Disinfectant Powder." (For Carbolic Disinfectant-Powder.) No. 2,639; Sept. 13; Gaz. vol. 158; p. 480.
Washburn Crosby Company, Minneapolis, Minn. "The Foundation of Successful Baking." (For Flour.) No. 2,638; Sept. 13; Gaz. vol. 158; p. 480.

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED DURING THE MONTH OF SEPTEMBER, 1910.

[Abbreviations: "Sp."—Monthly Volume of Specifications: "Gaz."—Official Gazette.]

Abdominal and pelvic supporter. E. F. Small. No. 970,961; Sept. 20; Sp. p. 3879; Gaz. vol. 158; p. 663.
Abrading-block and carrier therefor. R. Gardner. No. 970,619; Sept. 20; Sp. p. 3137; Gaz. vol. 158; p. 547.
Abrading-machine. J. M. Nash. No. 969,183; Sept. 6; Sp. p. 88; Gaz. vol. 158; p. 14.
Abrading-wheel. R. Gardner. No. 970,618; Sept. 20; Sp. p. 3136; Gaz. vol. 158; p. 547.
Abrading-wheels, Tool for truing. O. H. Collmer. No. 970,992; Sept. 20; Sp. p. 3936; Gaz. vol. 158; p. 673.
Absorber. N. H. Hiller. No. 970,050; Sept. 13; Sp. p. 1963; Gaz. vol. 158; p. 333.
Accumulator, Steam regenerative. E. Eckmann. No. 969,257; Sept. 6; Sp. p. 230; Gaz. vol. 158; p. 37.
Acetylene-generator. C. W. Beck. No. 971,346; Sept. 27; Sp. p. 4676; Gaz. vol. 158; p. 818.
Acid derivative of bodies of the terpene group, Oleic-. N. Sulzberger. No. 969,420; Sept. 6; Sp. p. 578; Gaz. vol. 158; p. 92.
Acid derivatives containing a phenyl group, Oleic-. N. Sulzberger. No. 970,662; Sept. 20; Sp. p. 3257; Gaz. vol. 158; p. 562.
Acid, Making formic. W. H. Walker. No. 970,145; Sept. 13; Sp. p. 2137; Gaz. vol. 158; p. 365.
Adding-machine. J. M. Tourtel. No. 969,223; Sept. 6; Sp. p. 171; Gaz. vol. 158; p. 28.
Adhesive substance and preparing same. P. W. Blake. No. 969,449; Sept. 6; Sp. p. 625; Gaz. vol. 158; p. 100.
Advertising-card. C. F. Alsop. No. 969,831; Sept. 13; Sp. p. 1496; Gaz. vol. 158; p. 258.
Advertising device. T. J. Burke. No. 970,301; Sept. 13; Sp. p. 2480; Gaz. vol. 158; p. 418.
Advertising or amusement device. W. Stott. No. 971,091; Sept. 27; Sp. p. 4161; Gaz. vol. 158; p. 734.
Aerial machine. L. E. Clawson. No. 971,358; Sept. 27; Sp. p. 4705; Gaz. vol. 158; p. 822.
Aerial navigation. R. P. Marable. No. 970,842; Sept. 20; Sp. p. 3659; Gaz. vol. 158; p. 625.
Aerial trucks, Steering mechanism for. E. D. Sands. No. 969,301; Sept. 6; Sp. p. 314; Gaz. vol. 158; p. 51.
Aeriform environments, Producing pure or mixed. H. J. B. Hemming. No. 970,623; Sept. 20; Sp. p. 3177; Gaz. vol. 158; p. 548.
Aeroplane. A. A. Heil. No. 969,865; Sept. 13; Sp. p. 1563; Gaz. vol. 158; p. 269.
Aeroplane. W. H. Fauber. No. 971,030; Sept. 27; Sp. p. 4023; Gaz. vol. 158; p. 714.
Aeroplane, Cable-propelled. G. C. Luther. No. 969,643; Sept. 6; Sp. p. 1046; Gaz. vol. 158; p. 168.
Agricultural implement. H. H. Boenker. No. 970,783; Sept. 20; Sp. p. 3532; Gaz. vol. 158; p. 604.
Air and gas mixing device. S. H. Hale. No. 970,919; Sept. 20; Sp. p. 3804; Gaz. vol. 158; p. 649.
Air-brake apparatus, Cut-out and release for. S. P. Cota. No. 969,344; Sept. 6; Sp. p. 407; Gaz. vol. 158; p. 66.
Air-brake system. O. Johnson. No. 969,877; Sept. 13; Sp. p. 1591; Gaz. vol. 158; p. 273.
Air-compressing apparatus. L. B. De Camp. No. 971,175; Sept. 27; Sp. p. 4345; Gaz. vol. 158; p. 762.
Air-compressor. J. W. Gardner. No. 970,487; Sept. 20; Sp. p. 2863; Gaz. vol. 158; p. 501.
Air, Extracting moisture from. J. Gayley. No. 970,453; Sept. 13; Sp. p. 2778; Gaz. vol. 158; p. 467.
Air for use in metallurgical processes, Treating. J. B. Miles. No. 971,297; Sept. 27; Sp. p. 4578; Gaz. vol. 158; p. 801.
Air in closed rooms, Device for damping the. K. Ulrich. No. 971,227; Sept. 27; Sp. p. 4449; Gaz. vol. 158; p. 779.
Air, steam, or hot-water coupling. G. N. Knapp. No. 969,637; Sept. 6; Sp. p. 1037; Gaz. vol. 158; p. 166.
Air-washing apparatus. J. H. Kinealy. No. 969,287; Sept. 6; Sp. p. 288; Gaz. vol. 158; p. 47.
Airship. W. E. Morrison. No. 970,532; Sept. 20; Sp. p. 2962; Gaz. vol. 158; p. 516.
Airship. D. Hillis. No. 971,379; Sept. 27; Sp. p. 4741; Gaz. vol. 158; p. 828.
Airship-controlling device. A. von Parseval. No. 970,262; Sept. 13; Sp. p. 2409; Gaz. vol. 158; p. 406.
Airship, Ocean. R. Schmiechen. No. 969,200; Sept. 6; Sp. p. 124; Gaz. vol. 158; p. 20.
Airship propelling and steering device. E. Hoult. No. 969,627; Sept. 6; Sp. p. 1015; Gaz. vol. 158; p. 162.
Alarm: *See* Burglar-alarm.
Alarms, Circuit-closer for. F. A. Schultz. No. 970,124; Sept. 13; Sp. p. 2098; Gaz. vol. 158; p. 357.
Alarms or other devices, Apparatus for operating. G. I. Rockwood. No. 970,953; Sept. 20; Sp. p. 3867; Gaz. vol. 158; p. 660.
Alfalfa and like materials, Machine for comminuting. A. M. Allen. No. 969,739; Sept. 6; Sp. p. 1257; Gaz. vol. 158; p. 202.
Alfalfa feed mixture. E. Gloor and W. W. Pascal. No. 969,267; Sept. 6; Sp. p. 248; Gaz. vol. 158; p. 40.
Alloys and the separation of metals, Producing. P. F. Cowing. No. 969,773; Sept. 13; Sp. p. 1350; Gaz. vol. 158; p. 237.
Amalgam, Making liquid sodium. H. P. Ewell. No. 969,853; Sept. 13; Sp. p. 1541; Gaz. vol. 158; p. 265.
Amalgamator. J. H. McNeil. No. 970,536; Sept. 20; Sp. p. 2968; Gaz. vol. 158; p. 518.
Aminoacetylpyrocatechin, Producing. W. Gruettefien. No. 970,217; Sept. 13; Sp. p. 2318; Gaz. vol. 158; p. 390.
Aminoacidylpyrocatechin and making same. W. Grüttefien. No. 970,042; Sept. 13; Sp. p. 1945; Gaz. vol. 158; p. 330.
Ammonia from coal-gases and the like, Recovering. J. A. Roelofsen. No. 969,907; Sept. 13; Sp. p. 1648; Gaz. vol. 158; p. 284.
Ammonia, Obtaining. N. Caro. No. 970,883; Sept. 20; Sp. p. 3731; Gaz. vol. 158; p. 638.
Ammonia, Production of. F. Haber and R. Le Rossignol. No. 971,501; Sept. 27; Sp. p. 4957; Gaz. vol. 158; p. 863.
Ammonia-saturator. J. A. Roelofsen. No. 969,906; Sept. 13; Sp. p. 1647; Gaz. vol. 158; p. 284.
Ammonium chlorid, Making. F. A. Freeth and H. E. Cocksedge. No. 970,909; Sept. 20; Sp. p. 3784; Gaz. vol. 158; p. 646.
Amusement apparatus. W. S. Van Sant. No. 969,313; Sept. 6; Sp. p. 333; Gaz. vol. 158; p. 55.
Amusement apparatus. T. F. Gilbride. No. 971,003; Sept. 20; Sp. p. 3955; Gaz. vol. 158; p. 676.
Amusement device. F. Morgan. No. 970,531; Sept. 20; Sp. p. 2961; Gaz. vol. 158; p. 516.
Andirons and fender. M. B. and J. K. Heller. No. 969,953; Sept. 13; Sp. p. 1744; Gaz. vol. 158; p. 299.
Animal-shelter. C. J. Bear. No. 970,873; Sept. 20; Sp. p. 3716; Gaz. vol. 158; p. 635.
Ankle-joint for artificial limbs. J. F. Rowley. No. 969,196; Sept. 6; Sp. p. 116; Gaz. vol. 158; p. 19.
Ant-trap. C. R. Miller. No. 970,528; Sept. 20; Sp. p. 2957; Gaz. vol. 158; p. 515.
Anthracene compound and making same. F. Kacer. No. 970,340; Sept. 13; Sp. p. 2551; Gaz. vol. 158; p. 430.
Antiskidding-device coupling. P. C. Traver. No. 969,426; Sept. 6; Sp. p. 587; Gaz. vol. 158; p. 94.
Antiskidding device, Emergency. F. A. Ruff. No. 971,312; Sept. 27; Sp. p. 4606; Gaz. vol. 158; p. 806.
Antiskidding device for wheel-tires. P. C. Traver. No. 969,425; Sept. 6; Sp. p. 585; Gaz. vol. 158; p. 93.
Antiskidding protector. G. W. Bierer. No. 969,744; Sept. 6; Sp. p. 1274; Gaz. vol. 158; p. 204.
Apparel, Ornamenting wearing-. J. Luner. No. 971,388; Sept. 27; Sp. p. 4758; Gaz. vol. 158; p. 831.
Atomizer. M. von Trautmann. No. 970,576; Sept. 20; Sp. p. 3056; Gaz. vol. 158; p. 532.
Auto-wheel. A. L. Blalock. No. 969,503; Sept. 6; Sp. p. 956; Gaz. vol. 158; p. 151.
Autographic registers and type-writers, Means for combining. E. J. Barker. No. 970,780; Sept. 20; Sp. p. 3525; Gaz. vol. 158; p. 603.
Automatic time-switch. H. C. Calvin. No. 970,882; Sept. 20; Sp. p. 3729; Gaz. vol. 158; p. 638.
Automatically-locking lock for doors and the like. A. Leistler. No. 970,628; Sept. 20; Sp. p. 3199; Gaz. vol. 158; p. 550.
Automobile-fender. G. E. Coney. No. 970,309; Sept. 13; Sp. p. 2496; Gaz. vol. 158; p. 420.
Automobile-fender. Y. M. Créchriou. No. 970,892; Sept. 20; Sp. p. 3757; Gaz. vol. 158; p. 641.
Automobile-horn. L. B. Buchanan. No. 971,169; Sept. 27; Sp. p. 4327; Gaz. vol. 158; p. 759.
Automobile-radiator. C. G. Boeck. No. 970,297; Sept. 13; Sp. p. 2472; Gaz. vol. 158; p. 416.
Automobile-radiator. F. G. Garrison. No. 971,127; Sept. 27; Sp. p. 4221; Gaz. vol. 158; p. 746.

Automobile shock-absorber. C. A. Petersen. No. 970,390; Sept. 13; Sp. p. 2648; Gaz. vol. 158; p. 447.
Automobile sled. O. A. Arnet. No. 970,008; Sept. 13; Sp. p. 1873; Gaz. vol. 158; p. 319.
Automobile sled attachment. W. E. Ryan. No. 970,354; Sept. 13; Sp. p. 2575; Gaz. vol. 158; p. 435.
Automobiles, Muffler cut-out for. H. McCleary. No. 971,458; Sept. 27; Sp. p. 4876; Gaz. vol. 158; p. 854.
Automobiles, &c., Protector for. S. C. Partington. No. 969,899; Sept. 13; Sp. p. 1683; Gaz. vol. 158; p. 281.
Automobile tool-box. F. Hengel and J. Addis. No. 969,620; Sept. 6; Sp. p. 1004; Gaz. vol. 158; p. 160.
Awning attachment. C. P. Sester. No. 970,959; Sept. 20; Sp. p. 3874; Gaz. vol. 158; p. 662.
Awning or window-tent. I. Farlin. No. 969,687; Sept. 6; Sp. p. 1132; Gaz. vol. 158; p. 183.
Bag: *See* Chatelaine-bag; Feed-bag.
Bag. O. A. Lehman. No. 971,284; Sept. 27; Sp. p. 4568; Gaz. vol. 158; p. 797.
Bag-holder. J. E. and C. Sapp. No. 970,398; Sept. 13; Sp. p. 2650; Gaz. vol. 158; p. 449.
Bags and other hollow rubber articles, Apparatus for forming hot-water. G. D. Farnam. No. 969,464; Sept. 6; Sp. p. 647; Gaz. vol. 158; p. 104.
Bait, Artificial. C. Grove. No. 970,216; Sept. 13; Sp. p. 2317; Gaz. vol. 158; p. 389.
Baking with quick heating and cooling. F. Virgili. No. 970,862; Sept. 20; Sp. p. 3700; Gaz. vol. 158; p. 632.
Bale-tying mechanism. C. A. Johnson. No. 969,284; Sept. 6; Sp. p. 279; Gaz. vol. 158; p. 46.
Bales or packages, Tying device for hay. W. H. Leavitt. No. 970,065; Sept. 13; Sp. p. 2000; Gaz. vol. 158; p. 339.
Balers, Spring and power pull-back for hay-. G. Schubert. No. 971,151; Sept. 27; Sp. p. 4280; Gaz. vol. 158; p. 754.
Baling-presses, Spring and power pull-back for. G. Schubert. No. 971,152; Sept. 27; Sp. p. 4282; Gaz. vol. 158; p. 754.
Ball-knocker. J. B. Oelnk. No. 969,489; Sept. 6; Sp. p. 719; Gaz. vol. 158; p. 114.
Ball-mill or comminuter plate. H. D. Hibbard. No. 971,196; Sept. 27; Sp. p. 4383; Gaz. vol. 158; p. 769.
Ball-mill plate. J. M. Sherrerd. No. 971,153; Sept. 27; Sp. p. 4283; Gaz. vol. 158; p. 754.
Ballot, Mechanical. D. L. Newcomb and H. A. Brooks. No. 969,718; Sept. 6; Sp. p. 1196; Gaz. vol. 158; p. 193.
Band-brake. B. B. Bachman. No. 971,103; Sept. 27; Sp. p. 4185; Gaz. vol. 158; p. 739.
Band-cutter. J. Karmann, Jr. No. 970,624; Sept. 20; Sp. p. 3194; Gaz. vol. 158; p. 549.
Bandage, Hot-water. J. E. Forbes and B. A. Darr. No. 970,907; Sept. 20; Sp. p. 3777; Gaz. vol. 158; p. 645.
Bar: *See* Commutator-bar; Splice-bar.
Barrel. G. Shields. No. 969,205; Sept. 6; Sp. p. 136; Gaz. vol. 158; p. 22.
Barrel-beader. L. Weinman. No. 969,430; Sept. 6; Sp. p. 593; Gaz. vol. 158; p. 95.
Barrel-hoop. F. X. Pfluger. No. 970,107; Sept. 13; Sp. p. 2070; Gaz. vol. 158; p. 352.
Barrel, Metal. W. B. Goddard. No. 971,439; Sept. 27; Sp. p. 4841; Gaz. vol. 158; p. 847.
Bath-spray. J. J. Lawler. No. 969,292; Sept. 6; Sp. p. 297; Gaz. vol. 158; p. 49.
Battery: *See* Primary battery; Secondary battery; Storage battery.
Battery-charging apparatus, Storage-. A. S. Krotz. No. 969,542; Sept. 6; Sp. p. 841; Gaz. vol. 158; p. 132.
Battery grid, Storage-. F. M. Michael. No. 969,387; Sept. 6; Sp. p. 506; Gaz. vol. 158; p. 81.
Battery-transfer mechanism. T. V. Buckwalter. No. 969,154; Sept. 6; Sp. p. 7; Gaz. vol. 158; p. 4.
Bearing, Ball-. W. Sonnberg. No. 970,132; Sept. 13; Sp. p. 2113; Gaz. vol. 158; p. 360.
Bearing, Roller-. J. Newmann. No. 969,763; Sept. 6; Sp. p. 1323; Gaz. vol. 158; p. 210.
Bearing, Wheel-. L. S. Strepey. No. 971,417; Sept. 27; Sp. p. 4804; Gaz. vol. 158; p. 841.
Beater and scraper, Flexible. J. W. Kohlhepp. No. 971,049; Sept. 27; Sp. p. 4072; Gaz. vol. 158; p. 721.
Bed attachment. J. D. and H. E. Estes. No. 969,581; Sept. 6; Sp. p. 813; Gaz. vol. 158; p. 128.
Bed-bottom fabric. W. H. Sleight. No. 969,568; Sept. 6; Sp. p. 893; Gaz. vol. 158; p. 142.
Bed, Hospital or invalid's. J. G. Segesman and G. Binggeli. No. 970,357; Sept. 13; Sp. p. 2581; Gaz. vol. 158; p. 436.
Bed, Invalid-. J. M. Keller. No. 971,381; Sept. 27; Sp. p. 4745; Gaz. vol. 158; p. 829.
Bed-rest, Invalid's. O. La Dow. No. 969,351; Sept. 6; Sp. p. 423; Gaz. vol. 158; p. 68.
Bed, Sofa or davenport. E. M. Hulse. No. 971,008; Sept. 20; Sp. p. 3963; Gaz. vol. 158; p. 678.
Bed-spring-supporting frame. M. Sleeth. No. 969,501; Sept. 6; Sp. p. 744; Gaz. vol. 158; p. 117.
Bed, Window-. L. P. Armstrong. No. 971,016; Sept. 27; Sp. p. 3990; Gaz. vol. 158; p. 700.
Bedstead, Folding. E. L. Elliott and W. H. Schroeder. No. 971,433; Sept. 27; Sp. p. 4831; Gaz. vol. 158; p. 845.
Bedstead, Invalid-. A. MacDonald. No. 969,174; Sept. 6; Sp. p. 64; Gaz. vol. 158; p. 11.
Beer-case attachment. G. C. Kerkow. No. 970,237; Sept. 13; Sp. p. 2351; Gaz. vol. 158; p. 396.
Beer-dispensing apparatus. A. D. Jones. No. 970,927; Sept. 20; Sp. p. 3817; Gaz. vol. 158; p. 651.
Beet-digger. A. Clark. No. 971,253; Sept. 27; Sp. p. 4507; Gaz. vol. 158; p. 788.
Bell-ringer, Mechanical. G. J. Gollmar. No. 970,703; Sept. 20; Sp. p. 3351; Gaz. vol. 158; p. 575.
Bell, Signal-. E. P. Gray. No. 969,270; Sept. 6; Sp. p. 255; Gaz. vol. 158; p. 41.
Belt for windows, Safety-. M. Miller. No. 971,062; Sept. 27; Sp. p. 4098; Gaz. vol. 158; p. 725.
Belt-tightener. J. G. Martin. No. 969,068; Sept. 13; Sp. p. 1790; Gaz. vol. 158; p. 304.
Bib-relief, Safety compression. J. J. Divekey. No. 970,102; Sept. 13; Sp. p. 2238; Gaz. vol. 158; p. 381.
Bicycle-support. J. P. Taylor. No. 969,920; Sept. 13; Sp. p. 1078; Gaz. vol. 158; p. 289.
Bill. J. C. Bell. No. 971,106; Sept. 27; Sp. p. 4189; Gaz. vol. 158; p. 739.
Billiard-cue. O. D. Bloom and J. H. Hill. No. 970,172; Sept. 13; Sp. p. 2198; Gaz. vol. 158; p. 374.
Binder. E. A. Trussell. No. 969,923; Sept. 13; Sp. p. 1683; Gaz. vol. 158; p. 290.
Binder, Leaf-. H. G. Buchan. No. 969,936; Sept. 13; Sp. p. 1706; Gaz. vol. 158; p. 294.
Binder, Loose-leaf. B. S. Hubbard. No. 971,007; Sept. 20; Sp. p. 3962; Gaz. vol. 158; p. 678.
Binder, Loose-leaf. J. N. Larsen. No. 971,202; Sept. 27; Sp. p. 4390; Gaz. vol. 158; p. 771.
Binder-posts, Attachment means for. R. Krumming. No. 970,510; Sept. 20; Sp. p. 2914; Gaz. vol. 158; p. 508.
Binder, Temporary. C. D. Graves. No. 971,441; Sept. 27; Sp. p. 4844; Gaz. vol. 158; p. 848.
Binding-post. T. E. Murray. No. 970,089; Sept. 13; Sp. p. 2039; Gaz. vol. 158; p. 346.
Bit: *See* Bridle-bit; Expansible bit.
Bit-brace. W. H. Whigham. No. 970,361; Sept. 13; Sp. p. 2589; Gaz. vol. 158; p. 437.
Blanks, Machine for making skived. L. L. Hartwell. No. 970,499; Sept. 20; Sp. p. 2886; Gaz. vol. 158; p. 504.
Blasting-barrel. E. R. Harkins. No. 970,372; Sept. 13; Sp. p. 2610; Gaz. vol. 158; p. 441.
Blasting-plug. F. A. Goodrow and E. F. Gooding. No. 971,264; Sept. 27; Sp. p. 4525; Gaz. vol. 158; p. 791.
Block: *See* Abrading-block; Meat-block; Pulley-block; Tool-holding block.
Blower-actuating means. H. Walther. No. 970,448; Sept. 13; Sp. p. 2767; Gaz. vol. 158; p. 465.
Blower for water-tube boilers. T. S. Waller and E. B. Barnhill. No. 969,316; Sept. 6; Sp. p. 339; Gaz. vol. 158; p. 56.
Blowpipe. R. W. Magna and L. G. W. Carpenter. No. 969,487; Sept. 6; Sp. p. 707; Gaz. vol. 158; p. 113.
Board: *See* Bulletin-board; Drawing-board; Game-board; Ironing-board.
Boat-cover fastening, Life-. C. F. Hudgins. No. 969,628; Sept. 6; Sp. p. 1017; Gaz. vol. 158; p. 163.
Boat, Hydroplane. W. H. Fauber. No. 971,029; Sept. 27; Sp. p. 4018; Gaz. vol. 158; p. 713.
Boat, Submarine. S. Lake. No. 970,064; Sept. 13; Sp. p. 1995; Gaz. vol. 158; p. 338.
Boat, Submarine torpedo-. A. M. Fuller. No. 970,210; Sept. 13; Sp. p. 2288; Gaz. vol. 158; p. 387.
Bobbin-boring machine. L. C. Baldwin. No. 970,601; Sept. 20; Sp. p. 3102; Gaz. vol. 158; p. 541.
Bobbin-holder for spinning-spindles. F. Oskrit. No. 970,745; Sept. 20; Sp. p. 3450; Gaz. vol. 158; p. 590.
Body-forming machine. C. W. Graham. No. 970,620; Sept. 20; Sp. p. 3139; Gaz. vol. 158; p. 547.
Boiler: *See* Clothes-boiler; Heating-boiler; Washboiler.
Boiler. H. C. Clay. No. 969,746; Sept. 6; Sp. p. 1277; Gaz. vol. 158; p. 204.
Boiler. F. W. Meyer. No. 971,296; Sept. 27; Sp. p. 4576; Gaz. vol. 158; p. 801.
Boiler-flue cleaner. A. Connor. No. 969,461; Sept. 6; Sp. p. 641; Gaz. vol. 158; p. 103.
Boiler-furnace. G. de Grahl. No. 969,250; Sept. 6; Sp. p. 220; Gaz. vol. 158; p. 36.
Bolt: *See* Door-bolt; Stay-bolt.
Book and file case, Revolving. T. H. Knight. No. 969,959; Sept. 13; Sp. p. 1773; Gaz. vol. 158; p. 301.
Book and pamphlet, Illustrated. P. S. H. Newell. No. 970,943; Sept. 20; Sp. p. 3846; Gaz. vol. 158; p. 657.
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Book or pad, Triplicate manifolding. F. J. Krueger. No. 971,283; Sept. 27; Sp. p. 4550; Gaz. vol. 158; p. 797.
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Book-stack. R. O. Wheeler. No. 969,822; Sept. 13; Sp. p. 1472; Gaz. vol. 158; p. 254.
Books, Fitting for loose-leaf. A. T. Warne. No. 970,582; Sept. 20; Sp. p. 3065; Gaz. vol. 158; p. 534.
Books, Making invoice and scrap. W. G. Butler. No. 970,682; Sept. 20; Sp. p. 3306; Gaz. vol. 158; p. 568.
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Boot and shoe tree. C. A. Batchelder. No. 970,165; Sept. 13; Sp. p. 2177; Gaz. vol. 158; p. 371.
Boot-black stand. E. W. Purves. No. 970,265; Sept. 13; Sp. p. 2414; Gaz. vol. 158; p. 407.
Boring-machine. L. W. Jones. No. 969,632; Sept. 6; Sp. p. 1023; Gaz. vol. 158; p. 164.
Boring-tools, Angle guide attachment for. W. H. Whigham. No. 970,360; Sept. 13; Sp. p. 2588; Gaz. vol. 158; p. 437.
Bottle and jar closure. P. J. O'Brien. No. 970,538; Sept. 20; Sp. p. 2973; Gaz. vol. 158; p. 519.
Bottle, Antirefillable. J. H. Quinn. No. 970,392; Sept. 13; Sp. p. 2653; Gaz. vol. 158; p. 448.

Bottle-closure. G. M. Donaldson. No. 969,350; Sept. 6; Sp. p. 422; Gaz. vol. 158; p. 68.
Bottle-closure. C. J. Henry. No. 969,621; Sept. 6; Sp. p. 1006; Gaz. vol. 158; p. 160.
Bottle-closure. F. E. Joselin. No. 970,234; Sept. 13; Sp. p. 2346; Gaz. vol. 158; p. 396.
Bottle filling and capping apparatus. H. D. Naum. No. 969,891; Sept. 6; Sp. p. 512; Gaz. vol. 158; p. 82.
Bottle-filling machine. F. C. Stöckel and J. L. T. Popp. No. 969,572; Sept. 6; Sp. p. 903; Gaz. vol. 158; p. 143.
Bottle, Non-refillable. R. J. Potter. No. 969,563; Sept. 6; Sp. p. 886; Gaz. vol. 158; p. 140.
Bottle, Non-refillable. C. D. Hudson. No. 969,697; Sept. 6; Sp. p. 1150; Gaz. vol. 158; p. 186.
Bottle, Non-refillable. J. F. McGrane. No. 970,384; Sept. 13; Sp. p. 2637; Gaz. vol. 158; p. 445.
Bottle, Non-refillable. L. G. Bugnon. No. 971,488; Sept. 27; Sp. p. 4933; Gaz. vol. 158; p. 884.
Bottle-rinsing machine. L. Weiscopf. No. 971,231; Sept. 27; Sp. p. 4463; Gaz. vol. 158; p. 781.
Bottle-washing machine. W. Seidel. No. 970,758; Sept. 20; Sp. p. 3477; Gaz. vol. 158; p. 595.
Bottle, Water-. A. L. Swingle. No. 970,767; Sept. 20; Sp. p. 3496; Gaz. vol. 158; p. 598.
Box: *See* Automobile tool-box; Can-shipping box; Coal and wood box; Collapsible box; Fare-box; Folding box; Gum-box; Junction-box; Mail-box; Match-box; Miter-box; Outlet-box; Pen and pencil box; Powder-box; Shipping-box; Shipping and display box; Signal-box; Stuffing-box; Suction-box.
Box-closure. H. Matchett. No. 970,844; Sept. 20; Sp. p. 3662; Gaz. vol. 158; p. 626.
Box-fastener. W. H. Murphy. No. 970,639; Sept. 20; Sp. p. 3216; Gaz. vol. 158; p. 552.
Box-making apparatus. L. D. Lewis. No. 971,455; Sept. 27; Sp. p. 4869; Gaz. vol. 158; p. 853.
Brace: *See* Bit-brace; Drill-brace.
Bracket: *See* Counter-guard bracket; Lamp-bracket; Shade-bracket; Shade or curtain bracket.
Braiding-machine. R. C. Rahm. No. 971,403; Sept. 27; Sp. p. 4781; Gaz. vol. 158; p. 837.
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Brake. J. A. Landers. No. 969,167; Sept. 6; Sp. p. 37; Gaz. vol. 158; p. 9.
Brake. E. A. Nelson. No. 970,738; Sept. 20; Sp. p. 3426; Gaz. vol. 158; p. 587.
Brake-beam. B. Haskell. No. 969,861; Sept. 13; Sp. p. 1557; Gaz. vol. 158; p. 268.
Brake-hanger. W. H. Kaldrider. No. 969,704; Sept. 6; Sp. p. 1162; Gaz. vol. 158; p. 188.
Brake-shoe. W. H. Kaldrider. No. 969,705; Sept. 6; Sp. p. 1164; Gaz. vol. 158; p. 189.
Brakes, Pressure-regulator for automatic. J. E. A. Michel. No. 971,207; Sept. 27; Sp. p. 4407; Gaz. vol. 158; p. 773.
Bridle-bit. M. D. and A. Q. Moss. No. 970,083; Sept. 13; Sp. p. 2028; Gaz. vol. 158; p. 344.
Briquet-machine. G. Komarek. No. 969,540; Sept. 6; Sp. p. 833; Gaz. vol. 158; p. 132.
Briquet-machine. J. W. Peters and D. I. Brown. No. 970,546; Sept. 20; Sp. p. 2994; Gaz. vol. 158; p. 521.
Briquets, Manufacture of. E. Trainer and W. Haage. No. 969,504; Sept. 6; Sp. p. 748; Gaz. vol. 158; p. 118.
Broiler. W. F. Rape. No. 969,495; Sept. 6; Sp. p. 729; Gaz. vol. 158; p. 115.
Brooch. C. E. Smith. No. 969,666; Sept. 6; Sp. p. 1091; Gaz. vol. 158; p. 175.
Brooder. R. J. Lore. No. 969,710; Sept. 6; Sp. p. 1172; Gaz. vol. 158; p. 190.
Broom. H. M. Marsh. No. 970,843; Sept. 20; Sp. p. 3661; Gaz. vol. 158; p. 625.
Broom. G. Dieckmann. No. 971,362; Sept. 27; Sp. p. 4710; Gaz. vol. 158; p. 823.
Brush. T. Brantley. No. 969,456; Sept. 6; Sp. p. 634; Gaz. vol. 158; p. 101.
Brush. L. H. Pfieghardt. No. 971,306; Sept. 27; Sp. p. 4592; Gaz. vol. 158; p. 804.
Brush-holders and similar devices, Manufacturing parts of. J. M. Barr. No. 969,511; Sept. 6; Sp. p. 760; Gaz. vol. 158; p. 120.
Brush, Scrubbing-. J. L. Pate. No. 969,184; Sept. 6; Sp. p. 90; Gaz. vol. 158; p. 14.
Brush, Tooth-. L. Langh. No. 969,639; Sept. 6; Sp. p. 1040; Gaz. vol. 158; p. 167.
Brush, Wire. E. E. Rice. No. 969,101; Sept. 6; Sp. p. 103; Gaz. vol. 158; p. 17.
Bucket-cutting machines, Milling attachment for. J. Riddell. No. 970,554; Sept. 20; Sp. p. 3010; Gaz. vol. 158; p. 524.
Buckle. W. A. Holden. No. 970,374; Sept. 13; Sp. p. 2624; Gaz. vol. 158; p. 442.
Buckle and strap loop. F. Conway. No. 970,184; Sept. 13; Sp. p. 2222; Gaz. vol. 158; p. 378.
Building-block machine. H. Pocock. No. 971,213; Sept. 27; Sp. p. 4423; Gaz. vol. 158; p. 775.
Building construction. T. J. George. No. 971,035; Sept. 27; Sp. p. 4040; Gaz. vol. 158; p. 716.
Bulletin-board. J. M. Johnson. No. 969,708; Sept. 6; Sp. p. 1161; Gaz. vol. 158; p. 188.
Buoy, Mooring-. W. P. Jordan. No. 970,339; Sept. 13; Sp. p. 2550; Gaz. vol. 158; p. 430.
Burglar-alarm. W. H. Cook. No. 970,468; Sept. 20; Sp. p. 2827; Gaz. vol. 158; p. 494.
Burglar-alarm. C. H. Smith. No. 970,565; Sept. 20; Sp. p. 3034; Gaz. vol. 158; p. 528.
Burner: *See* Gas-burner; Hydrocarbon-burner; Kerosene-burner; Lamp-burner; Liquid-fuel burner; Oil-burner; Oil and gas burner; Oil or gas burner; Sawmill-refuse burner; Welding-burner.
Burner for fire-pots, blow-torches, and the like. E. Beyer. No. 970,416; Sept. 13; Sp. p. 2691; Gaz. vol. 158; p. 455.
Burning cement and other materials. P. T. Lindhard. No. 969,160; Sept. 6; Sp. p. 43; Gaz. vol. 158; p. 10.
Butter-cutting tool. C. Glaus. No. 969,047; Sept. 13; Sp. p. 1733; Gaz. vol. 158; p. 298.
Butter-spade. R. B. Disbrow. No. 969,528; Sept. 6; Sp. p. 807; Gaz. vol. 158; p. 126.
Button, Cuff-. J. Pejchar. No. 969,297; Sept. 6; Sp. p. 307; Gaz. vol. 158; p. 50.
Buttonhole, Imitation. C. McNeil. No. 970,094; Sept. 13; Sp. p. 2050; Gaz. vol. 158; p. 348.
Cabinet, Kitchen-. G. W. Drullner. No. 970,025; Sept. 13; Sp. p. 1912; Gaz. vol. 158; p. 325.
Cabinet, Kitchen-. J. S. McQuinn. No. 970,537; Sept. 20; Sp. p. 2971; Gaz. vol. 158; p. 518.
Cabinets, &c., Flexible closure for. T. M. Jones and G. Seel. No. 970,832; Sept. 20; Sp. p. 3646; Gaz. vol. 158; p. 622.
Cable-operating drum. J. N. Anderson. No. 969,438; Sept. 6; Sp. p. 608; Gaz. vol. 158; p. 97.
Cable-terminal, Sleeve. R. S. Donaldson and V. E. Furnas. No. 970,194; Sept. 13; Sp. p. 2241; Gaz. vol. 158; p. 381.
Cableway. J. J. Fitzgerald. No. 969,356; Sept. 6; Sp. p. 434; Gaz. vol. 158; p. 70.
Cake machine, Wire-cut soft-. T. L. Green. No. 970,370; Sept. 13; Sp. p. 2611; Gaz. vol. 158; p. 441.
Calcining-kiln. W. J. Willis. No. 969,931; Sept. 13; Sp. p. 1697; Gaz. vol. 158; p. 292.
Calculating-machine. E. H. Palmer. No. 969,801; Sept. 13; Sp. p. 1411; Gaz. vol. 158; p. 247.
Calculator. G. W. Goss. No. 970,038; Sept. 13; Sp. p. 1939; Gaz. vol. 158; p. 329.
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Calipers. W. H. Harris. No. 970,817; Sept. 20; Sp. p. 3615; Gaz. vol. 158; p. 617.
Camera-finder. G. F. Hammond. No. 970,443; Sept. 13; Sp. p. 2757; Gaz. vol. 158; p. 464.
Cameras, Positioning and focusing indicator for enlarging and reducing. A. Fruwirth. No. 971,367; Sept. 27; Sp. p. 4720; Gaz. vol. 158; p. 824.
Cameras, Winding-key for. C. Bornmann. No. 970,603; Sept. 20; Sp. p. 3109; Gaz. vol. 158; p. 541.
Can: *See* Key-opening can.
Can-bodies, Making. C. W. Graham. No. 970,622; Sept. 20; Sp. p. 3173; Gaz. vol. 158; p. 548.
Can-body-making machine. O. J. Johnson. No. 971,278; Sept. 27; Sp. p. 4549; Gaz. vol. 158; p. 795.
Can-cap hemmer. V. Odquist and H. H. Lyche. No. 970,539; Sept. 20; Sp. p. 2975; Gaz. vol. 158; p. 519.
Can-cleaning machine. C. W. Graham. No. 969,949; Sept. 13; Sp. p. 1736; Gaz. vol. 158; p. 298.
Can cover, Ice-cream-. M. Manser. No. 971,290; Sept. 27; Sp. p. 4567; Gaz. vol. 158; p. 799.
Can-crushing mechanism. M. B. Pickett. No. 969,720; Sept. 6; Sp. p. 1202; Gaz. vol. 158; p. 194.
Can-heading machine. C. W. Graham. No. 969,470; Sept. 6; Sp. p. 660; Gaz. vol. 158; p. 106.
Can lock, Milk-. J. F. Billy. No. 971,349; Sept. 27; Sp. p. 4684; Gaz. vol. 158; p. 819.
Can-making apparatus. C. W. Graham. No. 970,704; Sept. 20; Sp. p. 3354; Gaz. vol. 158; p. 576.
Can-opener. E. W. Bishop. No. 970,170; Sept. 13; Sp. p. 2195; Gaz. vol. 158; p. 373.
Can-opener. H. G. Hill. No. 970,331; Sept. 13; Sp. p. 2538; Gaz. vol. 158; p. 428.
Can-shipping box. H. Mayo. No. 969,386; Sept. 6; Sp. p. 505; Gaz. vol. 158; p. 80.
Can spout, Powder-. D. Locandro. No. 971,055; Sept. 27; Sp. p. 4083; Gaz. vol. 158; p. 723.
Can-testing machine. C. W. Graham. No. 970,621; Sept. 20; Sp. p. 3168; Gaz. vol. 158; p. 547.
Cans and like receptacles, Machine for closing. C. T. Lack. No. 969,166; Sept. 6; Sp. p. 33; Gaz. vol. 158; p. 8.
Canning green corn. A. J. Judge. No. 970,058; Sept. 13; Sp. p. 1982; Gaz. vol. 158; p. 336.
Canning-machine marking attachment. G. J. Lange. No. 970,839; Sept. 20; Sp. p. 3655; Gaz. vol. 158; p. 624.
Candle-holder. H. Berg. No. 969,767; Sept. 13; Sp. p. 1333; Gaz. vol. 158; p. 236.
Candy-machine. F. H. Woolf. No. 971,097; Sept. 27; Sp. p. 4173; Gaz. vol. 158; p. 736.
Cane-loading machine. W. F. Johnstone. No. 969,164; Sept. 6; Sp. p. 26; Gaz. vol. 158; p. 7.
Cane-rifle. H. Tarvardian. No. 969,672; Sept. 6; Sp. p. 1100; Gaz. vol. 158; p. 177.
Canopy attachments for cots or the like, Collapsible. A. G. Cole. No. 969,342; Sept. 6; Sp. p. 399; Gaz. vol. 158; p. 65.
Capsule, Metal. C. W. V. Messerschmidt. No. 970,077; Sept. 13; Sp. p. 2019; Gaz. vol. 158; p. 342.
Car and brake wheel, Combined. C. A. Lindström. No. 970,378; Sept. 13; Sp. p. 2630; Gaz. vol. 158; p. 443.
Car center-bearing. J. C. Barber. No. 969,444; Sept. 6; Sp. p. 618; Gaz. vol. 158; p. 98.
Car connection, Electric-. J. V. Doyle. No. 971,363; Sept. 27; Sp. p. 4711; Gaz. vol. 158; p. 823.
Car construction. J. B. Heverling. No. 969,278; Sept. 6; Sp. p. 268; Gaz. vol. 158; p. 44.

Car-coupling. C. A. Tower. No. 969,575; Sept. 6; Sp. p. 900; Gaz. vol. 158; p. 144.
Car-coupling. J. Timma. No. 969,674; Sept. 6; Sp. p. 1105; Gaz. vol. 158; p. 178.
Car-coupling. W. F. Richards. No. 970,118; Sept. 13; Sp. p. 2081; Gaz. vol. 158; p. 354.
Car-coupling. F. C. Reynolds. No. 970,553; Sept. 20; Sp. p. 3008; Gaz. vol. 158; p. 524.
Car-door. A. G. Lott. No. 969,711; Sept. 6; Sp. p. 1174; Gaz. vol. 158; p. 191.
Car-door. B. D. Jones. No. 969,878; Sept. 13; Sp. p. 1593; Gaz. vol. 158; p. 274.
Car-door. F. Ward and J. C. Hollingsworth. No. 970,147; Sept. 13; Sp. p. 2140; Gaz. vol. 158; p. 365.
Car-door closure. A. Faget. No. 970,806; Sept. 20; Sp. p. 3589; Gaz. vol. 158; p. 613.
Car door, Flush-closing freight-. J. A. Patton. No. 971,805; Sept. 27; Sp. p. 4590; Gaz. vol. 158; p. 804.
Car door, Freight-. F. L. Lane. No. 970,837; Sept. 20; Sp. p. 3653; Gaz. vol. 158; p. 624.
Car door, Grain-. W. G. Craig and A. R. Ramsdell. No. 969,604; Sept. 6; Sp. p. 974; Gaz. vol. 158; p. 154.
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Car-door hanger. L. S. Pratt. No. 970,752; Sept. 20; Sp. p. 3463; Gaz. vol. 158; p. 593.
Car, Dump-. R. W. Davies. No. 969,462; Sept. 6; Sp. p. 644; Gaz. vol. 158; p. 103.
Car-fender. J. A. Wiedersheim. No. 969,536; Sept. 6; Sp. p. 943; Gaz. vol. 158; p. 149.
Car-fender. O. M. Snyder. No. 969,667; Sept. 6; Sp. p. 1093; Gaz. vol. 158; p. 175.
Car-fender. G. Frey and S. Lotz. No. 970,099; Sept. 20; Sp. p. 3340; Gaz. vol. 158; p. 574.
Car-fender, Automatic. A. J. Hagan. No. 969,753; Sept. 6; Sp. p. 1293; Gaz. vol. 158; p. 207.
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Car, Passenger-. S. T. Bole. No. 970,010; Sept. 13; Sp. p. 1877; Gaz. vol. 158; p. 320.
Car, Railway-. A. Hansen. No. 970,047; Sept. 13; Sp. p. 1958; Gaz. vol. 158; p. 332.
Car-roof. P. H. Murphy. No. 969,972; Sept. 13; Sp. p. 1796; Gaz. vol. 158; p. 305.
Car safety device, Railway-. W. S. Jackson. No. 970,231; Sept. 13; Sp. p. 2339; Gaz. vol. 158; p. 394.
Car-seat head-rest. H. W. Bowman. No. 971,428; Sept. 27; Sp. p. 4822; Gaz. vol. 158; p. 844.
Car-step, Auxiliary. L. I. Gregg and E. A. De Voss. No. 969,362; Sept. 6; Sp. p. 449; Gaz. vol. 158; p. 72.
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Car underframe, Railway-. C. S. Shallenberger. No. 970,128; Sept. 13; Sp. p. 2106; Gaz. vol. 158; p. 359.
Car-wheel, Noiseless. P. P. Cookingham. No. 970,185; Sept. 13; Sp. p. 2223; Gaz. vol. 158; p. 378.
Car-wheels, Reworking. J. M. Hansen. No. 969,275; Sept. 6; Sp. p. 263; Gaz. vol. 158; p. 45.
Cars, Bolster construction for railway-. J. R. Carmer. No. 970,302; Sept. 13; Sp. p. 2482; Gaz. vol. 158; p. 418.
Cars, Bolster construction for railway-. J. R. Carmer. No. 970,303; Sept. 13; Sp. p. 2483; Gaz. vol. 158; p. 418.
Cars, Signal-bell-cord hanger for. A. H. Marden. No. 971,291; Sept. 27; Sp. p. 4568; Gaz. vol. 158; p. 799.
Cars, Sill-protector, bolster-stop, and truss-rod support for. J. Erickson. No. 970,900; Sept. 20; Sp. p. 3769; Gaz. vol. 158; p. 643.
Cars, Stake-brace for lumber-. J. Tallouse. No. 969,671; Sept. 6; Sp. p. 1099; Gaz. vol. 158; p. 177.
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Carbureters, Air-intake for. L. M. Fuller. No. 971,034; Sept. 27; Sp. p. 4038; Gaz. vol. 158; p. 715.
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Carpet-cleaning machine. A. S. Horlacher and H. C. Base. No. 970,228; Sept. 13; Sp. p. 2335; Gaz. vol. 158; p. 393.
Carrier-making machine, Bundle-. E. H. Shepard. No. 970,269; Sept. 13; Sp. p. 2421; Gaz. vol. 158; p. 408.
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Carton. F. W. Handschy. No. 970,220; Sept. 13; Sp. p. 2322; Gaz. vol. 158; p. 390.
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Cash-register. R. H. Riddle. No. 969,300; Sept. 6; Sp. p. 312; Gaz. vol. 158; p. 51.
Cash-register. J. P. Cleal. No. 970,798; Sept. 20; Sp. p. 3567; Gaz. vol. 158; p. 610.
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Caster. G. C. Nickerson. No. 970,386; Sept. 13; Sp. p. 2630; Gaz. vol. 158; p. 445.
Caster device for tubs, &c., Leg-lifting. W. W. Terriff. No. 970,860; Sept. 20; Sp. p. 3696; Gaz. vol. 158; p. 631.
Casting apparatus. F. T. Kitchen. No. 969,539; Sept. 6; Sp. p. 831; Gaz. vol. 158; p. 131.
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Castings, Forming. C. B. McPhillips. No. 970,096; Sept. 13; Sp. p. 2052; Gaz. vol. 158; p. 349.
Catalytic body and making same. K. Schick. No. 971,149; Sept. 27; Sp. p. 4277; Gaz. vol. 158; p. 753.
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Cement-block mold. A. W. Winterfield. No. 969,232; Sept. 6; Sp. p. 189; Gaz. vol. 158; p. 31.
Centering-machine. G. B. Brenneisen. No. 970,679; Sept. 20; Sp. p. 3298; Gaz. vol. 158; p. 507.
Centrifugal screen. W. R. Cunningham. No. 971,174; Sept. 27; Sp. p. 4341; Gaz. vol. 158; p. 761.
Centrifugal separator. F. R. Abeel. No. 969,591; Sept. 6; Sp. p. 952; Gaz. vol. 158; p. 150.
Chain attachment, Eyeglass-. E. R. Matters. No. 970,853; Sept. 20; Sp. p. 3683; Gaz. vol. 158; p. 629.
Chain, Open-link. G. L. Lamb. No. 970,242; Sept. 13; Sp. p. 2365; Gaz. vol. 158; p. 398.
Chain, Power-. C. W. Levalley. No. 971,454; Sept. 27; Sp. p. 4866; Gaz. vol. 158; p. 853.
Chair: *See* Railway joint-chair; Reclining-chair.
Chair or stool attachment. F. T. Nash. No. 970,385; Sept. 13; Sp. p. 2635; Gaz. vol. 158; p. 445.
Chandelier for gas-lamps. G. W. Cassidy. No. 971,020; Sept. 27; Sp. p. 3996; Gaz. vol. 158; p. 710.
Change-making machine. I. Rosenfeld. No. 970,557; Sept. 20; Sp. p. 3017; Gaz. vol. 158; p. 525.
Chatelaine-bag. W. H. Saart. No. 971,411; Sept. 27; Sp. p. 4793; Gaz. vol. 158; p. 839.
Check. J. C. Bell. No. 971,107; Sept. 27; Sp. p. 4191; Gaz. vol. 158; p. 740.
Check-identifying machine. F. Hoffman. No. 971,197; Sept. 27; Sp. p. 4386; Gaz. vol. 158; p. 770.
Check or draft protector. F. O. Kucera. No. 970,341; Sept. 13; Sp. p. 2552; Gaz. vol. 158; p. 430.
Cheese-curd mill. C. Junker. No. 971,506; Sept. 27; Sp. p. 4966; Gaz. vol. 158; p. 869.
Chemical compound. A. Eklund. No. 970,898; Sept. 20; Sp. p. 3767; Gaz. vol. 158; p. 643.
Chest: *See* Cigar-chest.
Chopper: *See* Cotton-chopper; Meat-chopper.
Chuck, Drill-. E. E. Cogswell. No. 969,341; Sept. 6; Sp. p. 396; Gaz. vol. 158; p. 64.
Chuck, Planer-. W. Honscheid. No. 970,710; Sept. 20; Sp. p. 3372; Gaz. vol. 158; p. 578.
Churn. M. E. Tynes. No. 969,310; Sept. 6; Sp. p. 328; Gaz. vol. 158; p. 54.
Churn. W. C. Kinser. No. 970,061; Sept. 13; Sp. p. 1986; Gaz. vol. 158; p. 337.
Churn. W. C. Irvine. No. 970,230; Sept. 13; Sp. p. 2338; Gaz. vol. 158; p. 394.
Churn. J. T. Anthony. No. 970,676; Sept. 20; Sp. p. 3291; Gaz. vol. 158; p. 566.
Churn. J. H. Hopkins. No. 970,823; Sept. 20; Sp. p. 3631; Gaz. vol. 158; p. 619.
Churn. J. N. Nail. No. 971,466; Sept. 27; Sp. p. 4889; Gaz. vol. 158; p. 856.
Churn and butter-worker, Combined. L. A. Disbrow. No. 971,178; Sept. 27; Sp. p. 4351; Gaz. vol. 158; p. 763.
Churns, Butter-collecting appliance for. S. Hartmann. No. 971,041; Sept. 27; Sp. p. 4056; Gaz. vol. 158; p. 718.
Chute, Stock-. F. H. Mills. No. 970,344; Sept. 13; Sp. p. 2557; Gaz. vol. 158; p. 431.
Cigar-bunches, Making. J. E. Smith. No. 969,992; Sept. 13; Sp. p. 1834; Gaz. vol. 158; p. 312.
Cigar-chest. A. Sargent. No. 970,648; Sept. 20; Sp. p. 3232; Gaz. vol. 158; p. 556.
Cigar cutter and lighter. W. A. McAneny. No. 970,533; Sept. 20; Sp. p. 2983; Gaz. vol. 158; p. 516.
Cigar-lighter. F. M. D'Arsi. No. 969,346; Sept. 6; Sp. p. 417; Gaz. vol. 158; p. 67.

Cigar-rolling machine. O. Hammerstein. No. 969,274; Sept. 6; Sp. p. 260; Gaz. vol. 158; p. 43.
Cigars, cigarettes, &c., Case for. R. A. Nock. No. 970,258; Sept. 13; Sp. p. 2398; Gaz. vol. 158; p. 404.
Cigarette and cigar holder. J. D. Etcheverry and P. P. Figueroa. No. 971,497; Sept. 27; Sp. p. 4947; Gaz. vol. 158; p. 866.
Cigarette-machine. M. Pollak. No. 970,110; Sept. 13; Sp. p. 2076; Gaz. vol. 158; p. 353.
Cigarette-machine, Portable. G. H. Carter. No. 970,016; Sept. 13; Sp. p. 1890; Gaz. vol. 158; p. 321.
Cigarette-tipping machine. A. Boucher. No. 970,011; Sept. 13; Sp. p. 1878; Gaz. vol. 158; p. 320.
Circuit-breaker. H. L. Van Valkenburg. No. 969,813; Sept. 13; Sp. p. 1449; Gaz. vol. 158; p. 251.
Circuit-breaker. F. L. Sessions. No. 971,082; Sept. 27; Sp. p. 4148; Gaz. vol. 158; p. 732.
Circuit-conductors, Binding device for. T. E. Murray. No. 970,087; Sept. 13; Sp. p. 2035; Gaz. vol. 158; p. 345.
Circuit-controller. K. L. Curtis. No. 969,607; Sept. 6; Sp. p. 979; Gaz. vol. 158; p. 155.
Circuit-controlling device. P. Dunning. No. 970,478; Sept. 20; Sp. p. 2846; Gaz. vol. 158; p. 497.
Circuit-controlling device. J. K. Lux. No. 970,523; Sept. 20; Sp. p. 2944; Gaz. vol. 158; p. 513.
Circuit-controlling mechanism. W. A. Atwood. No. 970,600; Sept. 20; Sp. p. 3098; Gaz. vol. 158; p. 540.
Circuit-protecting apparatus. J. E. Graybill. No. 969,361; Sept. 6; Sp. p. 446; Gaz. vol. 158; p. 72.
Circuit-switch. L. Wilson. No. 970,410; Sept. 13; Sp. p. 2681; Gaz. vol. 158; p. 453.
Circuits, Means for neutralizing induced disturbances in intelligence-transmission. C. F. Scott. No. 969,499; Sept. 6; Sp. p. 737; Gaz. vol. 158; p. 117.
Cistern-cleaner, Automatic. L. Thiem. No. 969,997; Sept. 13; Sp. p. 1849; Gaz. vol. 158; p. 314.
Clamp: *See* Razor-strop clamp; Screw-clamp; Testing-clamp; Wire-stretching clamp.
Clamp. G. E. Browne. No. 969,771; Sept. 13; Sp. p. 1341; Gaz. vol. 158; p. 237.
Clamp. F. C. Gillitt. No. 971,438; Sept. 27; Sp. p. 4840; Gaz. vol. 158; p. 847.
Clamp. C. H. Stahl. No. 970,567; Sept. 20; Sp. p. 3038; Gaz. vol. 158; p. 529.
Cleaner: *See* Boiler-flue cleaner; Cistern-cleaner; Spot-cleaner; Vacuum-cleaner; Window-cleaner.
Cleaning device. G. Clements and J. M. Hostler. No. 970,466; Sept. 20; Sp. p. 2821; Gaz. vol. 158; p. 493.
Cleaning-tool. I. H. Spencer. No. 969,913; Sept. 13; Sp. p. 1060; Gaz. vol. 158; p. 286.
Clip: *See* Paper-clip; Pencil-clip.
Clock. E. E. Dungan. No. 970,198; Sept. 13; Sp. p. 2261; Gaz. vol. 158; p. 383.
Clock-synchronizing system. H. C. Korfhage. No. 970,241; Sept. 13; Sp. p. 2358; Gaz. vol. 158; p. 398.
Clock, Watchman's. R. C. Rose. No. 971,309; Sept. 27; Sp. p. 4599; Gaz. vol. 158; p. 805.
Clock, Watchman's. R. C. Rose. No. 971,310; Sept. 27; Sp. p. 4602; Gaz. vol. 158; p. 805.
Clockwork-globe. E. de Gounevitch and A. Couailliet. No. 970,040; Sept. 13; Sp. p. 1941; Gaz. vol. 158; p. 329.
Closet extension, Warming-. K. Watanabe. No. 969,580; Sept. 6; Sp. p. 918; Gaz. vol. 158; p. 146.
Closure and locking means, Combined. W. H. Klemm. No. 969,881; Sept. 13; Sp. p. 1598; Gaz. vol. 158; p. 275.
Cloth sponging and refinishing machine. G. Hatt. No. 969,864; Sept. 13; Sp. p. 1561; Gaz. vol. 158; p. 269.
Cloth-stretching machine. G. Durrant. No. 971,123; Sept. 27; Sp. p. 4216; Gaz. vol. 158; p. 745.
Cloth-tentering machines, Selvage-feed for. J. C. Whitties. No. 970,697; Sept. 20; Sp. p. 3337; Gaz. vol. 158; p. 573.
Clothes-boiler. V. A. Smith. No. 971,086; Sept. 27; Sp. p. 4155; Gaz. vol. 158; p. 733.
Clothes-drier, Centrifugal. F. A. Dinsmore. No. 970,022; Sept. 13; Sp. p. 1906; Gaz. vol. 158; p. 324.
Clothes-line reel. G. W. Buttles. No. 969,598; Sept. 6; Sp. p. 964; Gaz. vol. 158; p. 153.
Clothes-pin. A. H. Wiley and J. E. A. Banger. No. 970,867; Sept. 20; Sp. p. 3708; Gaz. vol. 158; p. 633.
Clothes-washer. J. W. Whitely. No. 971,232; Sept. 27; Sp. p. 4465; Gaz. vol. 158; p. 781.
Clothes-wringer. E. Firth. No. 970,317; Sept. 13; Sp. p. 2510; Gaz. vol. 158; p. 423.
Clothes-wringer. R. B. Spencer. No. 970,566; Sept. 20; Sp. p. 3036; Gaz. vol. 158; p. 528.
Clutch. M. L. Poulter. No. 970,548; Sept. 20; Sp. p. 3000; Gaz. vol. 158; p. 522.
Clutch, Friction-. C. F. Bledsoe. No. 970,459; Sept. 20; Sp. p. 2791; Gaz. vol. 158; p. 490.
Clutch, Friction disk. G. F. Bowdle. No. 971,168; Sept. 27; Sp. p. 4326; Gaz. vol. 158; p. 759.
Clutch or coupling, Frictional. J. Vollmer. No. 969,577; Sept. 6; Sp. p. 911; Gaz. vol. 158; p. 145.
Clutch, Safety friction-. J. D. Williamson, Jr. No. 971,335; Sept. 27; Sp. p. 4652; Gaz. vol. 158; p. 814.
Coal and wood box, Combined. W. B. Quick. No. 969,564; Sept. 6; Sp. p. 857; Gaz. vol. 158; p. 140.
Coal-gas apparatus, Vertical-retort. J. H. Taussig. No. 969,996; Sept. 13; Sp. p. 1846; Gaz. vol. 158; p. 314.
Coal-hod. J. L. Hair. No. 970,218; Sept. 13; Sp. p. 2320; Gaz. vol. 158; p. 390.
Coal-screen. H. B. Sackett. No. 969,659; Sept. 6; Sp. p. 1080; Gaz. vol. 158; p. 173.
Cock and the like. R. Klinger. No. 970,834; Sept. 20; Sp. p. 3648; Gaz. vol. 158; p. 623.
Cock, Gage-. J. R. Brown. No. 969,770; Sept. 13; Sp. p. 1339; Gaz. vol. 158; p. 237.
Cock or faucet. A. C. Schuermann. No. 970,562; Sept. 20; Sp. p. 3027; Gaz. vol. 158; p. 527.
Cock, Stop-. J. E. Van Nostran. No. 970,281; Sept. 13; Sp. p. 2438; Gaz. vol. 158; p. 411.
Code system, Cable-. C. H. Keehn. No. 970,716; Sept. 20; Sp. p. 3381; Gaz. vol. 158; p. 580.
Coffee-mill. J. W. Sliger. No. 971,084; Sept. 27; Sp. p. 4151; Gaz. vol. 158; p. 732.
Coin-changer. W. H. Staats. No. 969,417; Sept. 6; Sp. p. 567; Gaz. vol. 158; p. 91.
Coin-controlled apparatus. J. M. Spendler. No. 969,914; Sept. 13; Sp. p. 1661; Gaz. vol. 158; p. 287.
Coin-controlled machine. E. S. Scheble. No. 969,728; Sept. 6; Sp. p. 1217; Gaz. vol. 158; p. 197.
Coin-controlled slide. R. P. Hammond. No. 970,045; Sept. 13; Sp. p. 1955; Gaz. vol. 158; p. 331.
Coin-holder. L. Nelson. No. 970,097; Sept. 13; Sp. p. 2054; Gaz. vol. 158; p. 349.
Coin-holder. F. G. Shuman. No. 971,154; Sept. 27; Sp. p. 4285; Gaz. vol. 158; p. 754.
Coke-furnace. W. Mueller. No. 971,137; Sept. 27; Sp. p. 4248; Gaz. vol. 158; p. 749.
Coke-ovens, Heating arrangement for retort. E. W. King. No. 970,720; Sept. 20; Sp. p. 3389; Gaz. vol. 158; p. 581.
Collapsible box. K. Smith. No. 970,858; Sept. 20; Sp. p. 3693; Gaz. vol. 158; p. 630.
Collar. C. W. Ferguson. No. 971,031; Sept. 27; Sp. p. 4034; Gaz. vol. 158; p. 714.
Collar and cuff fastener, Detachable. M. J. Dahill, Jr. No. 969,846; Sept. 13; Sp. p. 1532; Gaz. vol. 158; p. 263.
Collar attachment. E. M. Crane. No. 970,801; Sept. 20; Sp. p. 3755; Gaz. vol. 158; p. 641.
Collar for decoy-ducks. L. J. Micka. No. 971,392; Sept. 27; Sp. p. 4764; Gaz. vol. 158; p. 833.
Collar holder or retainer. A. L. A. Biddeloo. No. 971,017; Sept. 27; Sp. p. 3992; Gaz. vol. 158; p. 709.
Collar, Horse-. E. Brown. No. 969,837; Sept. 13; Sp. p. 1512; Gaz. vol. 158; p. 259.
Collet. A. R. Simmerly. No. 970,129; Sept. 13; Sp. p. 2108; Gaz. vol. 158; p. 359.
Color-press and blanker, Sectional. E. G. Staude. No. 969,418; Sept. 6; Sp. p. 570; Gaz. vol. 158; p. 91.
Column-base. S. L. Riley. No. 970,555; Sept. 20; Sp. p. 3013; Gaz. vol. 158; p. 525.
Comb: *See* Currycomb; Fountain-comb; Hair-dressing comb.
Combination-lock. M. L. Hitchcock. No. 970,924; Sept. 20; Sp. p. 3813; Gaz. vol. 158; p. 650.
Commutator bar and lead. C. E. Lord. No. 969,892; Sept. 13; Sp. p. 1618; Gaz. vol. 158; p. 279.
Commutator construction. F. Jeffrey. No. 970,233; Sept. 13; Sp. p. 2344; Gaz. vol. 158; p. 395.
Commutators of dynamos and motors, Machine for grinding. W. H. Jordan. No. 969,633; Sept. 6; Sp. p. 1025; Gaz. vol. 158; p. 164.
Compounds of the active substance of suprarenal glands, and said compounds, Making. B. Reuter. No. 970,112; Sept. 13; Sp. p. 2080; Gaz. vol. 158; p. 353.
Concentrating-table. A. R. Willey. No. 970,283; Sept. 13; Sp. p. 2445; Gaz. vol. 158; p. 412.
Concentrator or separator. G. W. Dennis. No. 971,025; Sept. 27; Sp. p. 4007; Gaz. vol. 158; p. 712.
Concrete burial-caskets, Apparatus for molding. L. V. Rathbun. No. 969,299; Sept. 6; Sp. p. 309; Gaz. vol. 158; p. 51.
Concrete-column mold. A. L. Thompson. No. 969,503; Sept. 6; Sp. p. 747; Gaz. vol. 158; p. 118.
Concrete-mixing machine. L. W. Cargill. No. 970,419; Sept. 13; Sp. p. 2701; Gaz. vol. 158; p. 456.
Concrete-mixing machine. H. J. J. Alexander. No. 970,870; Sept. 20; Sp. p. 3711; Gaz. vol. 158; p. 634.
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Concrete receptacles, Adjustable frame for making. H. M. Amos. No. 969,436; Sept. 6; Sp. p. 606; Gaz. vol. 158; p. 96.
Concrete roofing-tiles, Device for making. F. C. Scheiber. No. 969,410; Sept. 6; Sp. p. 550; Gaz. vol. 158; p. 88.
Concrete-shingle-molding machine. F. Latulip. No. 970,243; Sept. 13; Sp. p. 2366; Gaz. vol. 158; p. 399.
Concrete structures, Form for building. D. M. Duller. No. 970,998; Sept. 20; Sp. p. 3948; Gaz. vol. 158; p. 675.
Concrete structures, Reinforcement for. G. A. Brayton and E. C. Roberts. No. 971,353; Sept. 27; Sp. p. 4692; Gaz. vol. 158; p. 820.
Concrete-wall mold. G. B. Davis and J. A. MacFarland. No. 969,248; Sept. 6; Sp. p. 216; Gaz. vol. 158; p. 35.
Condenser, Steam-. H. L. Brandon. No. 971,486; Sept. 27; Sp. p. 4029; Gaz. vol. 158; p. 862.
Condenser, Surface. J. W. Pentecost. No. 969,719; Sept. 6; Sp. p. 1201; Gaz. vol. 158; p. 194.
Condensers, Apparatus for removing gases and vapors from surface. E. Josse and W. Gensecke. No. 971,505; Sept. 27; Sp. p. 4965; Gaz. vol. 158; p. 869.
Condiment-holder. C. F. Rigby. No. 969,566; Sept. 6; Sp. p. 890; Gaz. vol. 158; p. 141.
Container-closure. J. R. Harbeck. No. 970,496; Sept. 20; Sp. p. 2882; Gaz. vol. 158; p. 504.
Controller-handle. F. E. Case. No. 970,684; Sept. 20; Sp. p. 3309; Gaz. vol. 158; p. 569.

Conveyer. M. Sklovsky and G. W. Mixter. No. 969,415; Sept. 6; Sp. p. 561; Gaz. vol. 158; p. 90.
Cooker, Fireless. J. W. Flory. No. 971,260; Sept. 27; Sp. p. 4518; Gaz. vol. 158; p. 790.
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Cooking appliance. S. T. Wilson. No. 970,286; Sept. 13; Sp. p. 2449; Gaz. vol. 158; p. 413.
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Cooling-tower. J. W. Beck. No. 969,743; Sept. 6; Sp. p. 1270; Gaz. vol. 158; p. 203.
Coop, Poultry-. A. T. Keipper. No. 969,285; Sept. 6; Sp. p. 285; Gaz. vol. 158; p. 46.
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Corn-cutter slitter. F. W. Smith. No. 969,210; Sept. 6; Sp. p. 146; Gaz. vol. 158; p. 23.
Corn-popper. A. Danison. No. 971,255; Sept. 27; Sp. p. 4510; Gaz. vol. 158; p. 789.
Corset. J. E. Doolittle. No. 970,997; Sept. 20; Sp. p. 3947; Gaz. vol. 158; p. 674.
Cotton-batting and product of the same, Manufacturing. E. W. Thompson. No. 970,971; Sept. 20; Sp. p. 3894; Gaz. vol. 158; p. 666.
Cotton-chopper. C. W. Weber. No. 969,757; Sept. 6; Sp. p. 1290; Gaz. vol. 158; p. 208.
Cotton-chopper. S. Stallings. No. 970,968; Sept. 20; Sp. p. 3890; Gaz. vol. 158; p. 665.
Cotton cleaning and separating machine. J. S. Lyle. No. 969,762; Sept. 6; Sp. p. 1322; Gaz. vol. 158; p. 210.
Cotton from the boll, Apparatus for picking. C. C. Earle. No. 970,695; Sept. 20; Sp. p. 3333; Gaz. vol. 158; p. 572.
Cotton-gin. T. D. Fallon. No. 970,482; Sept. 20; Sp. p. 2856; Gaz. vol. 158; p. 490.
Cotton gin and cleaner, Combined. W. B. Turman. No. 969,924; Sept. 13; Sp. p. 1635; Gaz. vol. 158; p. 290.
Cotton opening and ginning machine. F. J. Mauborgne. No. 969,176; Sept. 6; Sp. p. 67; Gaz. vol. 158; p. 12.
Cotton-picking machine. H. J. Stoops. No. 969,419; Sept. 6; Sp. p. 573; Gaz. vol. 158; p. 92.
Counter-guard bracket. J. B. Monette. No. 971,300; Sept. 27; Sp. p. 4582; Gaz. vol. 158; p. 802.
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Coupling. B. F. Sparr. No. 971,321; Sept. 27; Sp. p. 4623; Gaz. vol. 158; p. 800.
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Crate, Folding. W. E. Thrasher. No. 970,279; Sept. 13; Sp. p. 2434; Gaz. vol. 158; p. 410.
Crate, Folding. F. D. Brockman and E. D. Hoffman. No. 971,354; Sept. 27; Sp. p. 4693; Gaz. vol. 158; p. 820.
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Crate or case, Folding. A. Braen. No. 969,455; Sept. 6; Sp. p. 633; Gaz. vol. 158; p. 101.
Cream-separators, Collecting-casing for. J. and A. Persoons. No. 969,400; Sept. 6; Sp. p. 534; Gaz. vol. 158; p. 85.
Creaming and beating machine. H. M. Bachman. No. 969,324; Sept. 6; Sp. p. 364; Gaz. vol. 158; p. 59.
Crib-hook. R. Luke. No. 971,068; Sept. 27; Sp. p. 4089; Gaz. vol. 158; p. 724.
Cross-arm support and brace, Combined. J. W. McCune. No. 970,091; Sept. 13; Sp. p. 2042; Gaz. vol. 158; p. 347.
Crumber. M. L. Poulter. No. 969,187; Sept. 6; Sp. p. 95; Gaz. vol. 158; p. 15.
Crushing-machine. J. E. Symons. No. 970,571; Sept. 20; Sp. p. 3045; Gaz. vol. 158; p. 530.
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Cultivator, Subsoil-. O. J. Springer. No. 970,760; Sept. 20; Sp. p. 3481; Gaz. vol. 158; p. 596.
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Culvert-pipe. C. O. Wold. No. 970,772; Sept. 20; Sp. p. 3510; Gaz. vol. 158; p. 600.
Culvert, Road-. W. F. Looker. No. 971,456; Sept. 27; Sp. p. 4871; Gaz. vol. 158; p. 853.
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Curling-iron. H. M. Slaker. No. 970,272; Sept. 13; Sp. p. 2426; Gaz. vol. 158; p. 409.
Current distributer and timer. J. M. Smith. No. 969,781; Sept. 6; Sp. p. 1223; Gaz. vol. 158; p. 198.
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Currycomb. J. S. Campbell. No. 971,171; Sept. 27; Sp. p. 4333; Gaz. vol. 158; p. 760.
Curtain and shade hanger. E. Hayward and W. Walter. No. 969,534; Sept. 6; Sp. p. 819; Gaz. vol. 158; p. 120.
Curtain-guide. J. E. Smith. No. 970,130; Sept. 13; Sp. p. 2100; Gaz. vol. 158; p. 359.
Curtain-holder. P. Heffler. No. 970,819; Sept. 20; Sp. p. 3618; Gaz. vol. 158; p. 618.
Curtain-ring. E. Gilmore. No. 971,263; Sept. 27; Sp. p. 4524; Gaz. vol. 158; p. 791.
Curtain, Storm-. I. L. Taylor. No. 970,135; Sept. 13; Sp. p. 2120; Gaz. vol. 158; p. 361.
Cushion: *See* Heel-cushion; Pneumatic cushion.
Cushion-wheel. R. E. Boring. No. 969,596; Sept. 6; Sp. p. 961; Gaz. vol. 158; p. 152.
Cuspidor. P. Baré. No. 969,742; Sept. 6; Sp. p. 1268; Gaz. vol. 158; p. 203.
Cuspidor. H. E. Weber. No. 970,148; Sept. 13; Sp. p. 2141; Gaz. vol. 158; p. 365.
Cutter: *See* Band-cutter; Cigar-cutter; Cork and bung cutter; Harvester-cutter; Kraut-cutter; Pipe and the like cutter; Sage-brush cutter; Stalk-cutter; Threshing-machine band-cutter; Tire-bolt cutter; Tube-cutter; Wire-cutter.
Cutting mechanism. E. W. Cooper. No. 971,022; Sept. 27; Sp. p. 3999; Gaz. vol. 158; p. 711.
Cutting-tools, Adjustable reversing attachment and feed for. J. H. Gebhardt. No. 971,262; Sept. 27; Sp. p. 4522; Gaz. vol. 158; p. 791.
Cycle, Motor-. F. F. Bingham. No. 971,166; Sept. 27; Sp. p. 4311; Gaz. vol. 158; p. 758.
Cycle saddle, Motor-. F. Mesinger. No. 969,791; Sept. 13; Sp. p. 1380; Gaz. vol. 158; p. 244.
Cycles, &c., Saddle-support for motor-. C. E. Becker. No. 970,458; Sept. 20; Sp. p. 2789; Gaz. vol. 158; p. 490.
Cylinders, Controlling mechanism for working. H. C. Randall. No. 971,143; Sept. 27; Sp. p. 4266; Gaz. vol. 158; p. 751.
Dampening-machine. A. T. Hagen and D. M. Cooper. No. 969,688; Sept. 6; Sp. p. 1135; Gaz. vol. 158; p. 183.
Damper. N. Pruitt. No. 969,188; Sept. 6; Sp. p. 96; Gaz. vol. 158; p. 16.
Damper, Air-pipe. W. Leo and J. C. Bayer. No. 971,285; Sept. 27; Sp. p. 4559; Gaz. vol. 158; p. 797.
Damper, Automatic. A. W. Arnold. No. 970,508; Sept. 20; Sp. p. 3094; Gaz. vol. 158; p. 539.
Damper-regulator. J. A. Collins. No. 969,939; Sept. 13; Sp. p. 1714; Gaz. vol. 158; p. 295.
Decoy, Floating. H. G. Wethall. No. 970,003; Sept. 13; Sp. p. 1866; Gaz. vol. 158; p. 317.
Delivery mechanism. W. Scott. No. 971,220; Sept. 27; Sp. p. 4488; Gaz. vol. 158; p. 777.
Dental appliance. W. D. Tracy. No. 969,922; Sept. 13; Sp. p. 1682; Gaz. vol. 158; p. 290.
Dental flask. D. Folb. No. 969,263; Sept. 6; Sp. p. 244; Gaz. vol. 158; p. 39.
Dental instrument. J. L. Kelly. No. 971,382; Sept. 27; Sp. p. 4748; Gaz. vol. 158; p. 820.
Dentist's implement. H. M. Yorke. No. 969,682; Sept. 6; Sp. p. 1125; Gaz. vol. 158; p. 181.
Designs on glass or other materials, Producing. C. Monot. No. 970,080; Sept. 13; Sp. p. 2023; Gaz. vol. 158; p. 343.
Desk. H. M. Leese. No. 970,933; Sept. 20; Sp. p. 3829; Gaz. vol. 158; p. 653.
Desk attachment. M. Tennent. No. 970,970; Sept. 20; Sp. p. 3802; Gaz. vol. 158; p. 665.
Desk-pad. J. Goerk. No. 970,811; Sept. 20; Sp. p. 3607; Gaz. vol. 158; p. 615.
Die-holder, Adjustable. P. J. Conboy. No. 970,888; Sept. 20; Sp. p. 3750; Gaz. vol. 158; p. 640.
Die-press. N. H. Seelye and W. H. Sneeston. No. 969,412; Sept. 6; Sp. p. 554; Gaz. vol. 158; p. 89.
Die-press, Automatic. C. D. McDonald. No. 970,092; Sept. 13; Sp. p. 2043; Gaz. vol. 158; p. 347.
Differential-speed motor. H. A. Rhodes. No. 971,148; Sept. 27; Sp. p. 4274; Gaz. vol. 158; p. 753.
Digger: *See* Beet-digger; Potato-digger.
Digger. J. K. and E. M. Smith. No. 969,569; Sept. 6; Sp. p. 894; Gaz. vol. 158; p. 142.
Digger. L. Ferris. No. 969,613; Sept. 6; Sp. p. 990; Gaz. vol. 158; p. 157.
Dish-washing apparatus. A. Babcock. No. 970,872; Sept. 20; Sp. p. 3715; Gaz. vol. 158; p. 635.
Display-cover. C. H. Myers. No. 970,732; Sept. 20; Sp. p. 3407; Gaz. vol. 158; p. 585.
Display-rack. W. H. Crane. No. 971,403; Sept. 27; Sp. p. 4941; Gaz. vol. 158; p. 865.
Display-stand. F. J. Hughes. No. 969,698; Sept. 6; Sp. p. 1151; Gaz. vol. 158; p. 186.
Distillation of wood, Separating the products of the destructive. T. H. Kennedy and F. J. Heckel. No. 969,635; Sept. 6; Sp. p. 1031; Gaz. vol. 158; p. 165.
Distillation system, Water-. A. Faget. No. 971,183; Sept. 27; Sp. p. 4360; Gaz. vol. 158; p. 765.
Distilling coal. J. W. Aylsworth and F. L. Dyer. No. 970,364; Sept. 13; Sp. p. 2594; Gaz. vol. 158; p. 438.
Ditch-gate. A. J. Collar. No. 970,308; Sept. 13; Sp. p. 2494; Gaz. vol. 158; p. 420.

Dividing apparatus. R. Hoyt. No. 970,826; Sept. 20; Sp. p. 3635; Gaz. vol. 158; p. 620.
Dog-governor, Slubber, intermediate, and fine frame. G. R. Kindrick. No. 970,060; Sept. 13; Sp. p. 1984; Gaz. vol. 158; p. 336.
Dolomite, Treating. J. J. Gathy. No. 971,368; Sept. 27; Sp. p. 4721; Gaz. vol. 158; p. 825.
Door and the like checking device. K. Kramp. No. 969,882; Sept. 13; Sp. p. 1599; Gaz. vol. 158; p. 275.
Door bolt, Double-. A. M. Hoes. No. 969,624; Sept. 6; Sp. p. 1010; Gaz. vol. 158; p. 161.
Door-check. W. K. Henry. No. 970,445; Sept. 13; Sp. p. 2761; Gaz. vol. 158; p. 464.
Door check and buffer. J. C. Sibiski. No. 970,270; Sept. 13; Sp. p. 2423; Gaz. vol. 158; p. 408.
Door check and closer. F. E. Andersen. No. 969,150; Sept. 6; Sp. p. 1; Gaz. vol. 158; p. 3.
Door-fastener. J. Sorrow. No. 970,273; Sept. 13; Sp. p. 2427; Gaz. vol. 158; p. 409.
Door-fastener. C. Eytalis. No. 971,498; Sept. 27; Sp. p 4949; Gaz. vol. 158; p. 867.
Door, Flush-closing. F. B. Houser. No. 970,337; Sept. 13; Sp. p. 2546; Gaz. vol. 158; p. 429.
Door for hotel-entrances and the like. J. Wendler. No. 969,582; Sept. 6; Sp. p. 923; Gaz. vol. 158; p. 147.
Door, Grain-. E. Posson. No. 969,405; Sept. 6; Sp. p. 541; Gaz. vol. 158; p. 87.
Door hanger, Barn-. J. M. Whipps. No. 970,408; Sept. 13; Sp. p. 2676; Gaz. vol. 158; p. 452.
Door-lock. S. Schacht. No. 971,314; Sept. 27; Sp. p. 4609; Gaz. vol. 158; p. 807.
Door lock, Entrance-. A. Arens. No. 971,340; Sept. 27; Sp. p. 4663; Gaz. vol. 158; p. 815.
Door-lock, Mortise. D. W. Weed. No. 971,333; Sept. 27; Sp. p. 4648; Gaz. vol. 158; p. 813.
Door, Metal. G. Carlson. No. 970,085; Sept. 20; Sp. p. 3924; Gaz. vol. 158; p. 671.
Door, Metallic. F. M. Brinckerhoff. No. 969,518; Sept. 6; Sp. p. 779; Gaz. vol. 158; p. 122.
Door-securer. C. H. Johnson. No. 969,631; Sept. 6; Sp. p. 1021; Gaz. vol. 158; p. 163.
Door, Sliding. O. Richards. No. 969,192; Sept. 6; Sp. p. 105; Gaz. vol. 158; p. 17.
Door-stop brace and fastener, Combined. W. J. Bohan. No. 970,602; Sept. 20; Sp. p. 3108; Gaz. vol. 158; p. 541.
Door suitable for closing openings in ships' bulkheads and other purposes. F. L. Lane. No. 970,838; Sept. 20; Sp. p. 3654; Gaz. vol. 158; p. 624.
Door-switch. J. G. Peterson. No. 970,264; Sept. 13; Sp. p. 2413; Gaz. vol. 158; p. 406.
Doors, Air-check for sliding. H. Laughlin, Jr., and D. Schuyler. No. 969,641; Sept. 6; Sp. p. 1042; Gaz. vol. 158; p. 167.
Dough-mixing machine. F. H. Van Houten. No. 969,811; Sept. 6; Sp. p. 330; Gaz. vol. 158; p. 55.
Dough-raiser. J. C. Grant. No. 969,533; Sept. 6; Sp. p. 817; Gaz. vol. 158; p. 129.
Draft device. T. S. Moffett. No. 971,393; Sept. 27; Sp. p. 4764; Gaz. vol. 158; p. 833.
Draft-gear. H. F. Pope. No. 969,562; Sept. 6; Sp. p. 884; Gaz. vol. 158; p. 140.
Draft-gear. J. F. Courson. No. 970,802; Sept. 20; Sp. p. 3580; Gaz. vol. 158; p. 612.
Drag. J. E. Wright. No. 970,155; Sept. 13; Sp. p. 2156; Gaz. vol. 158; p. 367.
Drag, grader, and scraper, Road. W. S. Walker. No. 970,580; Sept. 20; Sp. p. 3062; Gaz. vol. 158; p. 533.
Drag, Road-. F. Boeckmann. No. 971,113; Sept. 27; Sp. p. 4199; Gaz. vol. 158; p. 741.
Drawing-board. G. B. Lambert. No. 969,638; Sept. 6; Sp. p. 1038; Gaz. vol. 158; p. 166.
Drawing-table, Adjustable. G. A. Schnorr. No. 971,081; Sept. 27; Sp. p. 4146; Gaz. vol. 158; p. 731.
Dredging-machine, Universal. T. F. Lonney. No. 969,171; Sept. 6; Sp. p. 45; Gaz. vol. 158; p. 10.
Drenching device. T. N. Jones. No. 969,482; Sept. 6; Sp. p. 697; Gaz. vol. 158; p. 110.
Drier: *See* Clothes-drier.
Drill: *See* Grain-drill; Pneumatic drill; Railway-track drill; Ratchet-drill.
Drill. C. Seals. No. 970,401; Sept. 13; Sp. p. 2665; Gaz. vol. 158; p. 450.
Drill-brace. J. S. Glenn. No. 971,037; Sept. 27; Sp. p. 4047; Gaz. vol. 158; p. 717.
Drill-feeding mechanism. D. S. Waugh. No. 969,319; Sept. 6; Sp. p. 349; Gaz. vol. 158; p. 58.
Drill-holder. J. W. Wells. No. 969,228; Sept. 6; Sp. p. 184; Gaz. vol. 158; p. 30.
Drills, Hoe attachment for. T. J. Boozer. No. 970,298; Sept. 13; Sp. p. 2476; Gaz. vol. 158; p. 417.
Drilling-machine and drill. V. J. Wahlstrom. No. 970,670; Sept. 20; Sp. p. 3275; Gaz. vol. 158; p. 564.
Drilling mechanism. W. F. Wittich. No. 969,238; Sept. 6; Sp. p. 191; Gaz. vol. 158; p. 31.
Drinking-fountain, Sanitary. J. Goebel. No. 970,213; Sept. 13; Sp. p. 2310; Gaz. vol. 158; p. 388.
Driving mechanism. J. Dultch. No. 971,364; Sept. 27; Sp. p. 4713; Gaz. vol. 158; p. 823.
Dropper: *See* Corn-dropper.
Dry cell. A. N. Barron and W. G. Waitt. No. 969,512; Sept. 6; Sp. p. 761; Gaz. vol. 158; p. 120.
Drying-machine. T. F. Dexter. No. 971,176; Sept. 27; Sp. p. 4347; Gaz. vol. 158; p. 762.
Drying-machine. T. F. Dexter. No. 971,177; Sept. 27; Sp. p. 4349; Gaz. vol. 158; p. 762.
Dumb-waiter. C. H. Gray. No. 969,269; Sept. 6; Sp. p. 251; Gaz. vol. 158; p. 41.
Dust-collector. F. J. Matchette. No. 971,390; Sept. 27; Sp. p. 4760; Gaz. vol. 158; p. 832.
Dust-collectors, Tubular guard for. P. C. Miller. No. 970,530; Sept. 20; Sp. p. 2960; Gaz. vol. 158; p. 516.
Dust-remover. H. J. S. Lewis and J. F. Reynolds. No. 971,054; Sept. 27; Sp. p. 4082; Gaz. vol. 158; p. 722.
Dusting-machine. U. C. Davis. No. 969,609; Sept. 6; Sp. p. 983; Gaz. vol. 158; p. 156.
Dye and making same, Vat. R. Bohn. No. 970,878; Sept. 20; Sp. p. 3722; Gaz. vol. 158; p. 636.
Dye, Anthracene vat. P. Thomaschewski, H. Raeder, W. Mieg, and P. Fischer. No. 970,278; Sept. 13; Sp. p. 2433; Gaz. vol. 158; p. 410.
Dye, Azo. A. Blank and K. Heusner. No. 969,450; Sept. 6; Sp. p. 627; Gaz. vol. 158; p. 100.
Dye, Bluish-gray vat. P. Thomaschewski, H. Raeder, W. Mieg, and P. Fischer. No. 971,224; Sept. 27; Sp. p. 4446; Gaz. vol. 158; p. 779.
Dye, Brown vat. P. Thomaschewski, H. Raeder, W. Mieg, and P. Fischer. No. 971,225; Sept. 27; Sp. p. 4447; Gaz. vol. 158; p. 779.
Dye, Greenish-yellow. P. Volkmann. No. 969,428; Sept. 6; Sp. p. 592; Gaz. vol. 158; p. 94.
Dye, Trisazo. A. Blank and W. Bergdolt. No. 971,111; Sept. 27; Sp. p. 4197; Gaz. vol. 158; p. 741.
Dye, Trisazo. A. Blank and W. Bergdolt. No. 971,112; Sept. 27; Sp. p. 4198; Gaz. vol. 158; p. 741.
Dynamo. L. A. Herdt. No. 969,161; Sept. 6; Sp. p. 19; Gaz. vol. 158; p. 6.
Ear-protector. A. Passman. No. 970,544; Sept. 20; Sp. p. 2991; Gaz. vol. 158; p. 520.
Educational appliance. L. T. Freeman, Sr. No. 971,185; Sept. 27; Sp. p. 4365; Gaz. vol. 158; p. 766.
Educational device. G. Tuck and A. E. Kennedy. No. 969,309; Sept. 6; Sp. p. 327; Gaz. vol. 158; p. 54.
Educational device. J. G. Warfield. No. 969,429; Sept. 6; Sp. p. 592; Gaz. vol. 158; p. 94.
Egg and cream beater. D. Taylor. No. 970,969; Sept. 20; Sp. p. 3891; Gaz. vol. 158; p. 665.
Egg-marking device. S. A. Merkley. No. 970,074; Sept. 13; Sp. p. 2011; Gaz. vol. 158; p. 341.
Egg-packing device. R. C. Holmes. No. 969,954; Sept. 13; Sp. p. 1745; Gaz. vol. 158; p. 300.
Egg-stamp. D. Ortiz. No. 969,898; Sept. 13; Sp. p. 1633; Gaz. vol. 158; p. 281.
Egg-tester. W. Rogers. No. 970,115; Sept. 13; Sp. p. 2085; Gaz. vol. 158; p. 354.
Elastic wheel. J. Spyker. No. 969,304; Sept. 6; Sp. p. 319; Gaz. vol. 158; p. 52.
Electric-conduit fitting. W. C. Robinson. No. 971,216; Sept. 27; Sp. p. 4430; Gaz. vol. 158; p. 776.
Electric-controller plug. B. F. Gardner. No. 969,265; Sept. 6; Sp. p. 245; Gaz. vol. 158; p. 40.
Electric cut-out. T. E. Murray. No. 970,088; Sept. 13; Sp. p. 2036; Gaz. vol. 158; p. 346.
Electric-drop-light fixture, Adjustable. H. W. Lawrence. No. 971,203; Sept. 27; Sp. p. 4399; Gaz. vol. 158; p. 772.
Electric furnace. J. E. Hewes. No. 969,622; Sept. 6; Sp. p. 1007; Gaz. vol. 158; p. 161.
Electric furnace for transforming pig-iron into steel. G. Gin. No. 970,700; Sept. 20; Sp. p. 3342; Gaz. vol. 158; p. 574.
Electric heater, Portable. F. L. Dyer. No. 969,849; Sept. 13; Sp. p. 1536; Gaz. vol. 158; p. 264.
Electric-light-globe holder. A. I. Chandler. No. 971,490; Sept. 27; Sp. p. 4937; Gaz. vol. 158; p. 864.
Electric light, Portable. J. Block. No. 971,241; Sept. 27; Sp. p. 4483; Gaz. vol. 158; p. 784.
Electric-light socket. W. H. Walters. No. 970,581; Sept. 20; Sp. p. 3064; Gaz. vol. 158; p. 534.
Electric-light support. T. Gray. No. 971,192; Sept. 27; Sp. p. 4376; Gaz. vol. 158; p. 768.
Electric-machine brush, Dynamo-. E. T. Mug. No. 969,796; Sept. 13; Sp. p. 1396; Gaz. vol. 158; p. 245.
Electric machine, Dynamo-. F. C. Hall. No. 969,472; Sept. 6; Sp. p. 678; Gaz. vol. 158; p. 107.
Electric machine, Dynamo-. J. L. Davis. No. 969,608; Sept. 6; Sp. p. 982; Gaz. vol. 158; p. 156.
Electric machine, Dynamo-. E. Mattman. No. 969,790; Sept. 13; Sp. p. 1388; Gaz. vol. 158; p. 243.
Electric machine, Dynamo-. A. J. Brown. No. 970,786; Sept. 20; Sp. p. 3539; Gaz. vol. 158; p. 605.
Electric machine, Dynamo-. A. S. Hubbard. No. 970,827; Sept. 20; Sp. p. 3638; Gaz. vol. 158; p. 621.
Electric meter. J. Harris. No. 970,498; Sept. 20; Sp. p. 2884; Gaz. vol. 158; p. 504.
Electric motor. E. Arnold and J. L. La Cour. No. 970,412; Sept. 13; Sp. p. 2685; Gaz. vol. 158; p. 454.
Electric switch. B. C. Webster. No. 969,581; Sept. 6; Sp. p. 920; Gaz. vol. 158; p. 147.
Electric switch. G. S. Williamson. No. 969,824; Sept. 13; Sp. p. 1477; Gaz. vol. 158; p. 255.
Electric switch. F. W. Smith. No. 970,963; Sept. 20; Sp. p. 3883; Gaz. vol. 158; p. 663.
Electric switch. G. B. Thomas. No. 971,410; Sept. 27; Sp. p. 4807; Gaz. vol. 158; p. 841.
Electrical circuits, Protective means for. C. F. Scott. No. 969,498; Sept. 6; Sp. p. 735; Gaz. vol. 158; p. 116.
Electrical conductors, Making armored. G. A. Luts. No. 969,712; Sept. 6; Sp. p. 1176; Gaz. vol. 158; p. 191.
Electrical controller. C. E. Bedell. No. 969,515; Sept 6; Sp. p. 771; Gaz. vol. 158; p. 121.

Electrical-distribution system. F. S. Culver. No. 969,345; Sept. 6; Sp. p. 409; Gaz. vol. 158; p. 66.
Electrical protective apparatus. J. A. Brasfield. No. 970,169; Sept. 13; Sp. p. 2190; Gaz. vol. 158; p. 373.
Electrical separation. H. A. Wentworth. No. 970,001; Sept. 13; Sp. p. 1857; Gaz. vol. 158; p. 316.
Electrical sliding contacts, Cooling device for. B. von Ugrimoff. No. 970,407; Sept. 13; Sp. p. 2675; Gaz. vol. 158; p. 452.
Electricity, Apparatus for use in exercising, and developing and applying static. M. M. Hitt. No. 970,332; Sept. 13; Sp. p. 2540; Gaz. vol. 158; p. 428.
Electroller. J. W. Turner. No. 971,226; Sept. 27; Sp. p. 4447; Gaz. vol. 158; p. 779.
Electroller-fixture. H. F. Hutchinson. No. 969,283; Sept. 6; Sp. p. 277; Gaz. vol. 158; p. 45.
Electrolytic apparatus. W. Thum. No. 969,921; Sept. 13; Sp. p. 1679; Gaz. vol. 158; p. 289.
Electromagnetic device. W. S. Burnett. No. 970,180; Sept. 13; Sp. p. 2211; Gaz. vol. 158; p. 376.
Electromagnetic mechanism. H. Pierson. No. 969,493; Sept. 6; Sp. p. 724; Gaz. vol. 158; p. 115.
Electroplating. A. Rosenberg. No. 970,755; Sept. 20; Sp. p. 3470; Gaz. vol. 158; p. 594.
Elevator: *See* Grain-elevator; Oil and water elevator.
Elevator. J. G. Meisner. No. 970,730; Sept. 20; Sp. p. 3404; Gaz. vol. 158; p. 584.
Elevator attachment. W. H. Ingle. No. 970,925; Sept. 30; Sp. p. 3815; Gaz. vol. 158; p. 651.
Elevator safety actuating device. W. C. Strang. No. 969,811; Sept. 13; Sp. p. 1442; Gaz. vol. 158; p. 250.
Elevator safety device. H. W. McNaught. No. 969,296; Sept. 6; Sp. p. 304; Gaz. vol. 158; p. 50.
Elevator safety device. C. B. Norris. No. 969,557; Sept. 6; Sp. p. 875; Gaz. vol. 158; p. 138.
Elevators, Cable-hitch for. C. A. Anderson. No. 969,322; Sept. 6; Sp. p. 359; Gaz. vol. 158; p. 59.
Embossing mill, Sheet-. V. Chartener. No. 969,460; Sept. 6; Sp. p. 639; Gaz. vol. 158; p. 102.
Embroidering-machine, Crank hematitch. D. Noble. No. 971,140; Sept. 27; Sp. p. 4261; Gaz. vol. 158; p. 750.
Emery-wheel dressers, Attachment for. H. G. Butcher. No. 970,681; Sept. 20; Sp. p. 3304; Gaz. vol. 158; p. 568.
Engine: *See* Explosive-engine; Internal-combustion engine; Railway-engine; Rotary engine; Rotary explosive-engine; Steam-engine; Traction-engine.
Engine. A. J. Thompson. No. 969,221; Sept. 6; Sp. p. 164; Gaz. vol. 158; p. 27.
Engine cooling device, Internal-combustion-. R. B. Vaughn. No. 971,328; Sept. 27; Sp. p. 4640; Gaz. vol. 158; p. 812.
Engine-cranker mechanism. W. W. Owen. No. 970,261; Sept. 13; Sp. p. 2405; Gaz. vol. 158; p. 405.
Engine gearing, Traction-gas-. E. C. Grizzell. No. 970,493; Sept. 20; Sp. p. 2876; Gaz. vol. 158; p. 502.
Engine igniter, Explosive-. P. Paulson. No. 970,545; Sept. 20; Sp. p. 2902; Gaz. vol. 158; p. 521.
Engine igniter, Gas or other internal-combustion. G. Z. Smith. No. 971,413; Sept. 27; Sp. p. 4795; Gaz. vol. 158; p. 839.
Engine muffler, Explosive-. A. M. Walstrom. No. 969,225; Sept. 6; Sp. p. 176; Gaz. vol. 158; p. 28.
Engine muffler, Internal-combustion-. J. M. Werner. No. 971,424; Sept. 27; Sp. p. 4813; Gaz. vol. 158; p. 843.
Engine plant for submarine craft, Combustion-. P. Winand. No. 970,153; Sept. 13; Sp. p. 2153; Gaz. vol. 158; p. 367.
Engine regulating apparatus. C. H. Smoot. No. 971,088; Sept. 27; Sp. p. 4157; Gaz. vol. 158; p. 734.
Engine starter, Gas-. F. T. Swelgart. No. 969,756; Sept. 6; Sp. p. 1298; Gaz. vol. 158; p. 208.
Engine starter, Internal-combustion-. D. S. Anthony. No. 971,482; Sept. 27; Sp. p. 4916; Gaz. vol. 158; p. 861.
Engine-starting device. P. W. Hodgkinson. No. 969,162; Sept. 6; Sp. p. 20; Gaz. vol. 158; p. 7.
Engine starting device, Internal-combustion-. F. H. Walker. No. 969,815; Sept. 13; Sp. p. 1450; Gaz. vol. 158; p. 252.
Engine starting-lever, Explosive. R. McKee. No. 969,798; Sept. 13; Sp. p. 1401; Gaz. vol. 158; p. 246.
Engines, Apparatus for starting motor-car or the like. S. H. Boswell. No. 970,604; Sept. 20; Sp. p. 3112; Gaz. vol. 158; p. 542.
Engines, Compression-regulator for gas-. J. B. Brown. No. 970,462; Sept. 20; Sp. p. 2808; Gaz. vol. 158; p. 491.
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Evaporation, Method of and apparatus for. N. H. Hiller. No. 970,051; Sept. 13; Sp. p. 1965; Gaz. vol. 158; p. 334.
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Excavating-machine. T. F. Lonney. No. 969,172; Sept. 6; Sp. p. 45; Gaz. vol. 158; p. 10.
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Eyeglass-mounting. L. F. Adt. No. 970,160; Sept. 13; Sp. p. 2163; Gaz. vol. 158; p. 369.
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Eyeglasses, Finger-piece. E. C. Bernheim. No. 969,447; Sept. 6; Sp. p. 621; Gaz. vol. 158; p. 99.
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Facial lines and defects, Device for removing. E. Hannig. No. 971,373; Sept. 27; Sp. p. 4730; Gaz. vol. 158; p. 826.
Facing-mold. N. F. Adamson. No. 969,435; Sept. 6; Sp. p. 604; Gaz. vol. 158; p. 96.
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Faucet. J. Morehead. No. 970,082; Sept. 13; Sp. p. 2026; Gaz. vol. 158; p. 344.
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Faucet, Glue-. C. M. Zimmerman. No. 971,337; Sept. 27; Sp. p. 4655; Gaz. vol. 158; p. 814.
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Fence. F. Martin. No. 969,175; Sept. 6; Sp. p. 66; Gaz. vol. 158; p. 12.
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Fence-post. W. Hooper. No. 971,270; Sept. 27; Sp. p. 4535; Gaz. vol. 158; p. 793.
Fence-stretcher. P. A. Reid. No. 969,080; Sept. 13; Sp. p. 1809; Gaz. vol. 158; p. 308.

Fence-stretcher. G. W. Hammond. No. 970,495; Sept. 20; Sp. p. 2881; Gaz. vol. 158; p. 503.
Fence, Woven-wire. I. J. Young. No. 970,594; Sept. 20; Sp. p. 3088; Gaz. vol. 158; p. 538.
Fences, Visible warning attachment for barbed-wire. W. Macintosh. No. 970,524; Sept. 20; Sp. p. 2950; Gaz. vol. 158; p. 514.
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Fender. J. W. Sprint. No. 970,967; Sept. 20; Sp. p. 3889; Gaz. vol. 158; p. 665.
Fertilizer-distributer and seeder, Combined. W. J. Adams. No. 971,338; Sept. 27; Sp. p. 4657; Gaz. vol. 158; p. 815.
Fiber for felting and preparing the same, Animal. M. E. Ryan. No. 970,756; Sept. 20; Sp. p. 3474; Gaz. vol. 158; p. 594.
Fiber-yielding materials, Reducing. G. H. Marshall. No. 971,457; Sept. 27; Sp. p. 4873; Gaz. vol. 158; p. 854.
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Filament, Metallic. I. Kitsee. No. 971,385; Sept. 27; Sp. p. 4753; Gaz. vol. 158; p. 830.
Filament, Metallic incandescent. A. Lederer. No. 971,452; Sept. 27; Sp. p. 4864; Gaz. vol. 158; p. 852.
File-case, Automatically-closing. C. F. Fogg. No. 969,262; Sept. 6; Sp. p. 243; Gaz. vol. 158; p. 39.
File, Document-. A. G. Clarke. No. 970,989; Sept. 20; Sp. p. 3932; Gaz. vol. 158; p. 672.
Files and the like, Machine for cutting. J. Neill. No. 971,066; Sept. 27; Sp. p. 4106; Gaz. vol. 158; p. 726.
Filing device, Credit-account-. W. Eacrett. No. 971,495; Sept. 27; Sp. p. 4943; Gaz. vol. 158; p. 866.
Filling buckets, &c., from hoppers, Means for. A. Smith. No. 969,988; Sept. 13; Sp. p. 1828; Gaz. vol. 158; p. 311.
Filter. F. Turek. No. 969,224; Sept. 6; Sp. p. 174; Gaz. vol. 158; p. 28.
Filter. J. H. Clark. No. 969,245; Sept. 6; Sp. p. 208; Gaz. vol. 158; p. 34.
Filtering device. R. J. Schultz. No. 970,650; Sept. 20; Sp. p. 3235; Gaz. vol. 158; p. 557.
Finger-protector. M. L. B. Ward. No. 971,093; Sept 27; Sp. p. 4167; Gaz. vol. 158; p. 735.
Fire-boat. C. B. Askew. No. 969,440; Sept. 6; Sp. p. 610; Gaz. vol. 158; p. 97.
Fire-escape. B. Smith. No. 969,209; Sept. 6; Sp. p. 142; Gaz. vol. 158; p. 23.
Fire-escape. C. B. McKinney. No. 970,534; Sept. 20; Sp. p. 2965; Gaz. vol. 158; p. 517.
Fire-escape. G. H. Johnson. No. 971,276; Sept. 27; Sp. p. 4546; Gaz. vol. 158; p. 795.
Fire-escape, Portable. E. P. O'Leary. No. 969,559; Sept. 6; Sp. p. 878; Gaz. vol. 158; p. 138.
Fire-extinguisher system, Automatic. T. J. Stanklewicz. No. 971,089; Sept. 27; Sp. p. 4159; Gaz. vol. 158; p. 734.
Fire-extinguishers, Chemical-tank for. J. T. Lally. No. 971,386; Sept. 27; Sp. p. 4755; Gaz. vol. 158; p. 831.
Fire-governor, Automatic. A. W. Arnold. No. 970,599; Sept. 20; Sp. p. 3096; Gaz. vol. 158; p. 540.
Fire-pot. I. G. Huston. No. 969,373; Sept. 6; Sp. p. 485; Gaz. vol. 158; p. 77.
Fire-pump governor. N. C. Locke. No. 970,630; Sept. 20; Sp. p. 3203; Gaz. vol. 158; p. 551.
Firearm. L. M. Silva. No. 969,500; Sept. 6; Sp. p. 740; Gaz. vol. 158; p. 117.
Firearm. M. C. Lisle. No. 970,248; Sept. 13; Sp. p. 2378; Gaz. vol. 158; p. 401.
Firearm-muffler. A. C. Shipley. No. 971,083; Sept. 27; Sp. p. 4150; Gaz. vol. 158; p. 732.
Firearm-sight. H. L. Lovejoy. No. 971,287; Sept. 27; Sp. p. 4563; Gaz. vol. 158; p. 798.
Fireproof floor construction. H. L. Hinton. No. 970,500; Sept. 20; Sp. p. 2888; Gaz. vol. 158; p. 505.
Fish-screen and sluice-box. A. J. Collar. No. 971,492; Sept. 27; Sp. p. 4939; Gaz. vol. 158; p. 865.
Fish-trap, Floating. N. L. Moen. No. 969,970; Sept. 13; Sp. p. 1793; Gaz. vol. 158; p. 304.
Fishing-reel. A. Wollensak. No. 969,235; Sept. 6; Sp. p. 194; Gaz. vol. 158; p. 32.
Fishing rod and reel, Combined. O. M. Scott. No. 970,356; Sept. 13; Sp. p. 2579; Gaz. vol. 158; p. 436.
Flash-light apparatus. D. C. Shoberg. No. 970,358; Sept. 13; Sp. p. 2584; Gaz. vol. 158; p. 436.
Flask: *See* Dental flask.
Flat-iron heater. S. G. Buskard. No. 970,013; Sept. 13; Sp. p. 1886; Gaz. vol. 158; p. 321.
Flax, Retting. P. Riva. No. 971,076; Sept. 27; Sp. p. 4139; Gaz. vol. 158; p. 730.
Floor construction. H. H. Vought, Jr. No. 969,314; Sept. 6; Sp. p. 336; Gaz. vol. 158; p. 56.
Floor-covering holder. D. Wolcott. No. 971,511; Sept. 27; Sp. p. 4974; Gaz. vol. 158; p. 871.
Floor-dressing machine. G. F. Hall. No. 971,443; Sept. 27; Sp. p. 4846; Gaz. vol. 158; p. 849.
Floor leveling and surfacing machine. G. F. Hall. No. 970,043; Sept. 13; Sp. p. 1947; Gaz. vol. 158; p. 330.
Floor surfacer, cleaner, and polisher. W. E. Warner. No. 970,583; Sept. 20; Sp. p. 3067; Gaz. vol. 158; p. 534.
Floor-sweep. F. H. Day. No. 969,157; Sept. 6; Sp. p. 12; Gaz. vol. 158; p. 5.
Flour-mill feed-regulator. G. H. Hottel. No. 969,372; Sept. 6; Sp. p. 484; Gaz. vol. 158; p. 77.
Flower, Artificial. E. Antonucci. No. 970,413; Sept. 13; Sp. p. 2688; Gaz. vol. 158; p. 454.
Fluid-actuated motor. W. Snee. No. 970,404; Sept. 13; Sp. p. 2660; Gaz. vol. 158; p. 451.
Fluid-pressure regulator. M. Jaspersen. No. 971,275; Sept. 27; Sp. p. 4542; Gaz. vol. 158; p. 794.
Fluid-pressure system. C. E. Lord. No. 969,788; Sept. 13; Sp. p. 1384; Gaz. vol. 158; p. 242.
Fluid pulsating apparatus. C. C. Glidden. No. 969,782; Sept. 13; Sp. p. 1373; Gaz. vol. 158; p. 241.
Flume or conduit. W. J. Smith. No. 971,087; Sept. 27; Sp. p. 4156; Gaz. vol. 158; p. 733.
Flushing apparatus, Closet-. W. S. Graham. No. 970,214; Sept. 13; Sp. p. 2312; Gaz. vol. 158; p. 389.
Flushing apparatus, Street-. W. H. Stewart. No. 969,217; Sept. 6; Sp. p. 158; Gaz. vol. 158; p. 26.
Flushing mechanism for closet-tanks. J. S. Welborn. No. 970,866; Sept. 20; Sp. p. 3706; Gaz. vol. 158; p. 633.
Flushing-tank. G. H. Bailey. No. 969,442; Sept. 6; Sp. p. 614; Gaz. vol. 158; p. 98.
Flushing-tank, Automatic. E. P. Stary. No. 969,305; Sept. 6; Sp. p. 321; Gaz. vol. 158; p. 53.
Fly-catcher. W. G. Odatey. No. 970,944; Sept. 20; Sp. p. 3847; Gaz. vol. 158; p. 657.
Fly-escape for window-screens. J. Kress. No. 970,723; Sept. 20; Sp. p. 3393; Gaz. vol. 158; p. 582.
Fly-frightener. A. W. Grove. No. 969,857; Sept. 13; Sp. p. 1552; Gaz. vol. 158; p. 266.
Fly-paper holder. C. F. Stoner and F. B. Trout. No. 969,219; Sept. 6; Sp. p. 162; Gaz. vol. 158; p. 27.
Fly-screen. M. L. Matheson. No. 969,644; Sept. 6; Sp. p. 1048; Gaz. vol. 158; p. 168.
Fly-screen. H. L. Franke. No. 969,777; Sept. 13; Sp. p. 1361; Gaz. vol. 158; p. 239.
Fly-trap. R. Griswold. No. 969,363; Sept. 6; Sp. p. 452; Gaz. vol. 158; p. 73.
Fly-trap. D. H. Redden and J. F. Cunningham. No. 971,404; Sept. 27; Sp. p. 4783; Gaz. vol. 158; p. 837.
Flying-machine. T. A. Edison. No. 970,616; Sept. 20; Sp. p. 3133; Gaz. vol. 158; p. 546.
Flying-machine. J. W. Wilson. No. 970,771; Sept. 20; Sp. p. 3503; Gaz. vol. 158; p. 600.
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Flying-machine. M. Ackerman. No. 971,235; Sept. 27; Sp. p. 4470; Gaz. vol. 158; p. 782.
Folding box and crate. H. M. Johnston and A. K. Bowman. No. 971,279; Sept. 27; Sp. p. 4551; Gaz. vol. 158; p. 796.
Folding machinery. E. H. Cottrell. No. 970,688; Sept. 20; Sp. p. 3318; Gaz. vol. 158; p. 570.
Folding seat. M. Ackerman. No. 970,777; Sept. 20; Sp. p. 3522; Gaz. vol. 158; p. 602.
Folding table. G. S. Young. No. 970,774; Sept. 20; Sp. p. 3516; Gaz. vol. 158; p. 601.
Food product. J. L. Loose. No. 969,173; Sept. 6; Sp. p. 63; Gaz. vol. 158; p. 11.
Food products, Apparatus for preparing. H. L. Holt. No. 969,955; Sept. 13; Sp. p. 1746; Gaz. vol. 158; p. 300.
Foot and leg rest. J. A. Gaertner. No. 971,437; Sept. 27; Sp. p. 4839; Gaz. vol. 158; p. 847.
Foot-rest. F. M. Maley. No. 969,551; Sept. 6; Sp. p. 862; Gaz. vol. 158; p. 136.
Foot-support. A. D. French. No. 970,910; Sept. 20; Sp. p. 3785; Gaz. vol. 158; p. 646.
Footwear. A. Müller. No. 970,381; Sept. 13; Sp. p. 2634; Gaz. vol. 158; p. 444.
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Fork and shovel, Combination. H. C. Sumerlin. No. 969,307; Sept. 6; Sp. p. 323; Gaz. vol. 158; p. 53.
Formaldehyde, Generating. H. Schneider. No. 969,661; Sept. 6; Sp. p. 1083; Gaz. vol. 158; p. 173.
Formates and formic acid, Making. H. Howard. No. 970,825; Sept. 20; Sp. p. 3634; Gaz. vol. 158; p. 620.
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Fountain-comb. G. M. Charles. No. 971,250; Sept. 27; Sp. p. 4504; Gaz. vol. 158; p. 788.
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Friction-coupling with expanding locking member. J. Thiry. No. 970,573; Sept. 20; Sp. p. 3050; Gaz. vol. 158; p. 531.
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Fruit-box-lid press. A. V. Platt and W. B. Harlan. No. 970,547; Sept. 20; Sp. p. 2997; Gaz. vol. 158; p. 522.
Fruit-jar. G. W. Druhe. No. 970,896; Sept. 20; Sp. p. 3765; Gaz. vol. 158; p. 642.
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Fruit-treating apparatus, Dried-. I. S. Merrell. No. 969,969; Sept. 13; Sp. p. 1791; Gaz. vol. 158; p. 304.
Funnel. C. J. Wilson. No. 971,233; Sept. 27; Sp. p. 4466; Gaz. vol. 158; p. 782.
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Furnace. M. D. Hoff and A. J. McCabe. No. 969,279; Sept. 6; Sp. p. 270; Gaz. vol. 158; p. 44.
Furnace. C. A. Carleton. No. 969,745; Sept. 6; Sp. p. 1275; Gaz. vol. 158; p. 204.
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Furnace-casing. W. F. Hansen. No. 971,269; Sept. 27; Sp. p. 4533; Gaz. vol. 158; p. 793.
Furnace-cooling apparatus, Blast-. J. Kennedy. No. 970,376; Sept. 13; Sp. p. 2026; Gaz. vol. 158; p. 442.
Furnace-deflector. M. Green. No. 969,752; Sept. 6; Sp. p. 1291; Gaz. vol. 158; p. 207.
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Furnace-door. G. de Grahl. No. 971,266; Sept. 27; Sp. p. 4528; Gaz. vol. 158; p. 792.
Furnace-grate. A. Baillot and A. Ménager. No. 971,104; Sept. 27; Sp. p. 4187; Gaz. vol. 158; p. 739.
Furnace-regulator. A. Stewart. No. 969,669; Sept. 6; Sp. p. 1096; Gaz. vol. 158; p. 176.
Furnaces, Apparatus for charging the retorts of zinc and other analogous. E. Dor-Delattre. No. 969,254; Sept. 6; Sp. p. 226; Gaz. vol. 158; p. 37.
Furnaces, Automatic fuel-feed mechanism for. G. Dinkel. No. 970,191; Sept. 13; Sp. p. 2235; Gaz. vol. 158; p. 380.
Furnaces, Automatic fuel-feed mechanism for. G. Dinkel. No. 970,432; Sept. 13; Sp. p. 2724; Gaz. vol. 158; p. 460.
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Furniture, Combination. F. Rogers. No. 970,395; Sept. 13; Sp. p. 2656; Gaz. vol. 158; p. 449.
Furniture, Contouring articles of wooden. W. L. Pfefferkorn, A. P. Schloerb, and A. H. Hammetter. No. 969,298; Sept. 6; Sp. p. 308; Gaz. vol. 158; p. 50.
Furniture, Elastic support for upholstered. G. Laa. No. 969,063; Sept. 13; Sp. p. 1781; Gaz. vol. 158; p. 302.
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Fuse-igniter. R. Conings. No. 970,889; Sept. 20; Sp. p. 3751; Gaz. vol. 158; p. 640.
Fuse-mounting. W. Merz. No. 971,205; Sept. 27; Sp. p. 4404; Gaz. vol. 158; p. 772.
Fuse, Protected or armor-clad electric-switch. H. H. Berry and W. J. Markham. No. 970,296; Sept. 13; Sp. p. 2470; Gaz. vol. 158; p. 416.
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Galvanizing apparatus. A. Niedringhaus. No. 969,392; Sept. 6; Sp. p. 514; Gaz. vol. 158; p. 82.
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Game. A. M. Pope. No. 969,804; Sept. 13; Sp. p. 1429; Gaz. vol. 158; p. 248.
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Game apparatus. G. A. O'Neil. No. 969,560; Sept. 6; Sp. p. 880; Gaz. vol. 158; p. 139.
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Game apparatus. S. E. Creasey. No. 971,024; Sept. 27; Sp. p. 4004; Gaz. vol. 158; p. 712.
Game apparatus. W. Peall. No. 971,470; Sept. 27; Sp. p. 4898; Gaz. vol. 158; p. 857.
Game apparatus, Base-ball-. T. E. Murray. No. 970,086; Sept. 13; Sp. p. 2032; Gaz. vol. 158; p. 345.
Game apparatus, Planchette-. D. Blaikley. No. 969,935; Sept. 13; Sp. p. 1705; Gaz. vol. 158; p. 294.
Game board, Base-ball-. W. C. Tilmes and F. G. Kallmeyer. No. 969,424; Sept. 6; Sp. p. 583; Gaz. vol. 158; p. 93.
Game-table cover, Coin-controlled. J. M. Stivers. No. 971,222; Sept. 27; Sp. p. 4443; Gaz. vol. 158; p. 778.
Game-trap. G. L. Johnson. No. 969,958; Sept. 13; Sp. p. 1772; Gaz. vol. 158; p. 301.
Garbage-receptacle. W. E. Seymour. No. 970,960; Sept. 20; Sp. p. 3878; Gaz. vol. 158; p. 662.
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Garment-holder. B. J. Buckingham. No. 969,520; Sept. 6; Sp. p. 788; Gaz. vol. 158; p. 123.
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Garment, Storm-. I. V. Benoit. No. 971,110; Sept. 27; Sp. p. 4196; Gaz. vol. 158; p. 741.
Garment-supporter. J. W. Schloss. No. 970,120; Sept. 13; Sp. p. 2092; Gaz. vol. 158; p. 356.
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Garment-worker's table. S. G. Buskard. No. 970,014; Sept. 13; Sp. p. 1888; Gaz. vol. 158; p. 321.
Gas apparatus. J. H. Taussig. No. 969,502; Sept. 6; Sp. p. 746; Gaz. vol. 158; p. 117.
Gas apparatus. J. Cappon and J. A. Schantz. No. 971,019; Sept. 27; Sp. p. 3994; Gaz. vol. 158; p. 710.
Gas apparatus, Water-. R. M. Searle. No. 969,411; Sept. 6; Sp. p. 553; Gaz. vol. 158; p. 80.
Gas-burner. W. H. Hurley. No. 970,056; Sept. 13; Sp. p. 1979; Gaz. vol. 158; p. 335.
Gas-burner. F. Mummelthey. No. 970,382; Sept. 13; Sp. p. 2634; Gaz. vol. 158; p. 444.
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Gas-burner for heating purposes. G. B. Damon. No. 971,429; Sept. 27; Sp. p. 4823; Gaz. vol. 158; p. 844.
Gas-burner, Inverted incandescent. K. A. A. Staahlgren. No. 970,275; Sept. 13; Sp. p. 2429; Gaz. vol. 158; p. 409.
Gas-cleaning apparatus. D. S. Anthony. No. 971,481; Sept. 27; Sp. p. 4914; Gaz. vol. 158; p. 861.
Gas-cleaning method and apparatus. H. A. Brassert and A. G. Witting. No. 969,769; Sept. 13; Sp. p. 1336; Gaz. vol. 158; p. 236.
Gas-controller. F. E. Youngs. No. 971,099; Sept. 27; Sp. p. 4179; Gaz. vol. 158; p. 737.
Gas cut-off, Automatic. L. and H. Schmidt. No. 970,122; Sept. 13; Sp. p. 2095; Gaz. vol. 158; p. 357.
Gas from garbage, Manufacture of. R. Thomas. No. 969,733; Sept. 6; Sp. p. 1238; Gaz. vol. 158; p. 199.
Gas generator, Acetylene-. D. O'Keefe. No. 970,100; Sept. 13; Sp. p. 2060; Gaz. vol. 158; p. 350.
Gas-lighting device, Electric. R. A. Jewett. No. 971,010; Sept. 20; Sp. p. 3965; Gaz. vol. 158; p. 678.
Gas-mantle support. G. H. Huston. No. 969,630; Sept. 6; Sp. p. 1020; Gaz. vol. 158; p. 163.
Gas-meter. C. and R. W. Lawson. No. 970,627; Sept. 20; Sp. p. 3197; Gaz. vol. 158; p. 550.
Gas-producer. G. J. Hagan. No. 969,273; Sept. 6; Sp. p. 259; Gaz. vol. 158; p. 42.
Gas-producer. E. Jones. No. 969,375; Sept. 6; Sp. p. 488; Gaz. vol. 158; p. 77.
Gas-producer. W. B. Chapman. No. 970,017; Sept. 13; Sp. p. 1891; Gaz. vol. 158; p. 322.
Gas-producer. W. B. Hughes. No. 971,271; Sept. 27; Sp. p. 4536; Gaz. vol. 158; p. 793.
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Gas-regulator. J. Doyle. No. 970,895; Sept. 20; Sp. p. 3763; Gaz. vol. 158; p. 642.
Gas-supply-connection safety device. W. Getley. No. 970,490; Sept. 20; Sp. p. 2800; Gaz. vol. 158; p. 501.
Gases, Purifying blast-furnace and other. F. Sepulchre. No. 970,654; Sept. 20; Sp. p. 3243; Gaz. vol. 158; p. 558.
Gases, Separating dust from. H. Howard. No. 970,053; Sept. 13; Sp. p. 1973; Gaz. vol. 158; p. 335.
Gases, Treating burner-. J. B. F. Herreshoff. No. 969,868; Sept. 13; Sp. p. 1572; Gaz. vol. 158; p. 270.
Gaseous-fluid mixer. H. W. Webb and E. H. Stickels. No. 971,332; Sept. 27; Sp. p. 4646; Gaz. vol. 158; p. 813.
Gaseous mixtures, Means for measuring or analyzing. B. C. Hinman. No. 970,923; Sept. 20; Sp. p. 3811; Gaz. vol. 158; p. 650.
Gate: *See* Ditch-gate; Irrigating-pipe gate; Railway-gate.
Gate. G. M. West. No. 969,678; Sept. 6; Sp. p. 1118; Gaz. vol. 158; p. 180.
Gate. L. A. Wheeling. No. 969,925; Sept. 13; Sp. p. 1687; Gaz. vol. 158; p. 290.
Gate. N. J. McAdams. No. 970,090; Sept. 13; Sp. p. 2040; Gaz. vol. 158; p. 346.
Gate-fastener. H. S. and J. K. Munsinger. No. 970,345; Sept. 13; Sp. p. 2559; Gaz. vol. 158; p. 432.
Gear, Friction draw-. F. M. Snyder. No. 970,131; Sept. 13; Sp. p. 2111; Gaz. vol. 158; p. 359.
Gear mechanism, Transmission-. R. W. Coffee. No. 970,467; Sept. 20; Sp. p. 2822; Gaz. vol. 158; p. 493.
Gearing. W. O. Hancock. No. 970,328; Sept. 13; Sp. p. 2528; Gaz. vol. 158; p. 427.
Gearing, Friction-. W. K. Blackburn. No. 969,448; Sept. 6; Sp. p. 623; Gaz. vol. 158; p. 99.
Gearing, Friction transmission-. A. A. De Loach. No. 970,190; Sept. 13; Sp. p. 2231; Gaz. vol. 158; p. 380.
Gearing, Safety yieldable. E. M. Cobb. No. 970,991; Sept. 20; Sp. p. 3934; Gaz. vol. 158; p. 672.
Gearing, Transmission-. D. H. Haywood. No. 970,706; Sept. 20; Sp. p. 3359; Gaz. vol. 158; p. 578.
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Gearing, Transmission-. C. A. Carlson. No. 970,792; Sept. 20; Sp. p. 3554; Gaz. vol. 158; p. 608.
Gearing, Variable-feed. A. H. C. Meyer. No. 969,895; Sept. 13; Sp. p. 1625; Gaz. vol. 158; p. 280.
Gearing, Variable-speed transmission-. B. Borgman. No. 970,879; Sept. 20; Sp. p. 3723; Gaz. vol. 158; p. 636.
Gearings, Controlling mechanism for change-speed. M. Lamort. No. 970,836; Sept. 20; Sp. p. 3651; Gaz. vol. 158; p. 623.
Generator: *See* Acetylene-generator; Gas-generator.
Gin-feed-actuating device. T. N. Camp. No. 969,337; Sept. 6; Sp. p. 390; Gaz. vol. 158; p. 63.
Glass-beveling machine. E. Homan. No. 970,227; Sept. 13; Sp. p. 2332; Gaz. vol. 158; p. 392.
Glass-drawing apparatus. L. Mambourg and U. House. No. 970,633; Sept. 20; Sp. p. 3207; Gaz. vol. 158; p. 552.
Glass-drawing machine, Continuous window-. W. Martin. No. 969,385; Sept. 6; Sp. p. 502; Gaz. vol. 158; p. 80.
Glass grinding and polishing apparatus. A. W. Hornig. No. 969,871; Sept. 13; Sp. p. 1578; Gaz. vol. 158; p. 271.

Glass-making machinery, Die-holder for. T. J. Holden. No. 969,280; Sept. 6; Sp. p. 272; Gaz. vol. 158; p. 44.
Glass, Means for drawing sheet-. I. W. Colburn. No. 970,182; Sept. 13; Sp. p. 2215; Gaz. vol. 158; p. 377.
Glass-tube-grinding machine. J. J. Chaloux. No. 970,987; Sept. 20; Sp. p. 3927; Gaz. vol. 158; p. 671.
Glove. I. A. Schulherr and B. I. Vincent. No. 970,958; Sept. 20; Sp. p. 3873; Gaz. vol. 158; p. 661.
Glove or mitt, Base-ball-player's. E. L. Rogers. No. 970,754; Sept. 20; Sp. p. 3468; Gaz. vol. 158; p. 594.
Glycerin, Treating. S. H. Fleming. No. 969,159; Sept. 6; Sp. p. 15; Gaz. vol. 158; p. 6.
Governing means for internal-combustion engines. C. A. Carlson. No. 970,794; Sept. 20; Sp. p. 3558; Gaz. vol. 158; p. 609.
Governor. W. J. Richards. No. 969,193; Sept. 6; Sp. p. 107; Gaz. vol. 158; p. 17.
Governor, Engine-. C. B. Edwards. No. 971,431; Sept. 27; Sp. p. 4826; Gaz. vol. 158; p. 845.
Grader. L. N. Morscher. No. 969,971; Sept. 13; Sp. p. 1794; Gaz. vol. 158; p. 305.
Grain-binder knotter. W. Utt, Jr. No. 970,359; Sept. 13; Sp. p. 2587; Gaz. vol. 158; p. 437.
Grain-drill. E. G. Rådberg. No. 969,406; Sept. 6; Sp. p. 542; Gaz. vol. 158; p. 87.
Grain-elevator, Portable. W. A. Caldwell. No. 970,464; Sept. 20; Sp. p. 2814; Gaz. vol. 158; p. 492.
Grain-heater, agitator. A. J. Koegler. No. 971,048; Sept. 27; Sp. p. 4071; Gaz. vol. 158; p. 721.
Grain-heater agitator. F. A. Wegner. No. 971,480; Sept. 27; Sp. p. 4913; Gaz. vol. 158; p. 860.
Grain-heater, Sectional. A. J. Koegler. No. 969,484; Sept. 6; Sp. p. 701; Gaz. vol. 158; p. 111.
Grain-heaters, Device for regulating the discharge of. F. A. Wegner. No. 971,479; Sept. 27; Sp. p. 4912; Gaz. vol. 158; p. 860.
Grape, &c., picker. C. A. Freitag. No. 971,186; Sept. 27; Sp. p. 4365; Gaz. vol. 158; p. 766.
Grasshopper-catcher. M. V. Whiting. No. 970,004; Sept. 13; Sp. p. 1867; Gaz. vol. 158; p. 317.
Grate, Revolving. H. J. Corrigan. No. 970,890; Sept. 20; Sp. p. 3753; Gaz. vol. 158; p. 640.
Grates, Heating attachment for open. C. H. McCall. No. 971,063; Sept. 27; Sp. p. 4009; Gaz. vol. 158; p. 725.
Grater, Vegetable-. D. S. Washburn. No. 970,864; Sept. 20; Sp. p. 3704; Gaz. vol. 158; p. 633.
Grinder. W. H. Archer. No. 969,741; Sept. 6; Sp. p. 1267; Gaz. vol. 158; p. 203.
Grinder. T. A. Panyard. No. 970,542; Sept. 20; Sp. p. 2987; Gaz. vol. 158; p. 520.
Grinder, Sickle-. J. P. Kine. No. 971,449; Sept. 27; Sp. p. 4860; Gaz. vol. 158; p. 851.
Grinding and sharpening machine. H. D. Nicholls. No. 969,649; Sept. 6; Sp. p. 1057; Gaz. vol. 158; p. 170.
Grinding-barrel. D. C. Demarest. No. 970,020; Sept. 13; Sp. p. 1904; Gaz. vol. 158; p. 323.
Grinding device. E. B. Pike and L. Hayne. No. 970,351; Sept. 13; Sp. p. 2570; Gaz. vol. 158; p. 434.
Grinding-machine. L. N. Davis. No. 970,691; Sept. 20; Sp. p. 3324; Gaz. vol. 158; p. 571.
Grinding-machine. W. J. Bell. No. 971,108; Sept. 27; Sp. p. 4193; Gaz. vol. 158; p. 740.
Grinding machine, Awl-. W. B. Morse. No. 969,896; Sept. 13; Sp. p. 1627; Gaz. vol. 158; p. 280.
Gripping device. W. D. Roop. No. 971,080; Sept. 27; Sp. p. 4145; Gaz. vol. 158; p. 731.
Grizzly. H. A. Corliss. No. 969,603; Sept. 6; Sp. p. 973; Gaz. vol. 158; p. 154.
Ground-connector. J. L. Donald. No. 970,693; Sept. 20; Sp. p. 3327; Gaz. vol. 158; p. 572.
Guard. D. D. Ogilvie. No. 970,099; Sept. 13; Sp. p. 2060; Gaz. vol. 158; p. 349.
Gum-box. O. W. Blake. No. 969,329; Sept. 6; Sp. p. 374; Gaz. vol. 158; p. 61.
Gum, Chewing-. O. J. Buck. No. 969,458; Sept. 6; Sp. p. 637; Gaz. vol. 158; p. 102.
Hair-dressing comb. C. H. Royalty. No. 970,396; Sept. 13; Sp. p. 2657; Gaz. vol. 158; p. 449.
Hair-pin. H. Morris. No. 969,178; Sept. 6; Sp. p. 75; Gaz. vol. 158; p. 13.
Hammer, Boiler-riveting. A. M. Morrison. No. 969,553; Sept. 6; Sp. p. 869; Gaz. vol. 158; p. 136.
Hammer-drill. A. H. Taylor. No. 971,223; Sept. 27; Sp. p. 4445; Gaz. vol. 158; p. 779.
Hammock, Knockdown couch-. I. E. Palmer. No. 970,888; Sept. 13; Sp. p. 2642; Gaz. vol. 158; p. 446.
Hammock-support, Folding. H. Price. No. 970,549; Sept. 20; Sp. p. 3001; Gaz. vol. 158; p. 522.
Hammocks, Canopy attachment for. C. S. Huffman. No. 969,956; Sept. 13; Sp. p. 1749; Gaz. vol. 158; p. 300.
Handkerchiefs and like articles, Machine for folding. R. Cunningham. No. 970,424; Sept. 13; Sp. p. 2709; Gaz. vol. 158; p. 457.
Handle: *See* Controller-handle; Tool throttle-handle.
Handle-making machine. M. Kamenstein. No. 970,059; Sept. 13; Sp. p. 1983; Gaz. vol. 158; p. 336.
Hanger: *See* Brake-hanger; Car-door hanger; Curtain and shade hanger; Door-hanger; Pipe-hanger; Sash-hanger; Shade-hanger; Trousers-hanger.
Harness. W. D. Beidelman. No. 969,328; Sept. 6; Sp. p. 373; Gaz. vol. 158; p. 61.
Harness. J. O. Adams. No. 971,426; Sept. 27; Sp. p. 4816; Gaz. vol. 158; p. 843.
Harness attachment. E. Cowan. No. 970,810; Sept. 13; Sp. p. 2497; Gaz. vol. 158; p. 421.
Harness blind-fastener. T. J. Steen. No. 970,761; Sept. 20; Sp. p. 3483; Gaz. vol. 158; p. 596.
Harness, Draft-. T. W. Schlater. No. 970,119; Sept. 13; Sp. p. 2091; Gaz. vol. 158; p. 356.
Harness draft attachment. W. W. Woodfill. No. 970,590; Sept. 20; Sp. p. 3077; Gaz. vol. 158; p. 536.
Harpooning device. S. Coleman. No. 970,018; Sept. 13; Sp. p. 1898; Gaz. vol. 158; p. 322.
Harrow. D. Polley. No. 970,747; Sept. 20; Sp. p. 3452; Gaz. vol. 158; p. 590.
Harrow. W. J. Snow. No. 970,964; Sept. 20; Sp. p. 3885; Gaz. vol. 158; p. 664.
Harrow. H. A. Wetmore. No. 971,425; Sept. 27; Sp. p. 4814; Gaz. vol. 158; p. 843.
Harrow, Lever-. H. Hecht. No. 970,921; Sept. 20; Sp. p. 3808; Gaz. vol. 158; p. 650.
Harrow, Rotary. S. Schiller. No. 971,218; Sept. 27; Sp. p. 4433; Gaz. vol. 158; p. 777.
Harvester. F. Bossen. No. 969,331; Sept. 6; Sp. p. 376; Gaz. vol. 158; p. 61.
Harvester and other comb-machine, Stripper-. B. B. Douglas. No. 971,180; Sept. 27; Sp. p. 4354; Gaz. vol. 158; p. 764.
Harvester, Corn-. D. B. Raworth. No. 970,266; Sept. 13; Sp. p. 2415; Gaz. vol. 158; p. 407.
Harvester, Corn-. L. E. Parsons. No. 970,945; Sept. 20; Sp. p. 3840; Gaz. vol. 158; p. 657.
Harvester-cutter. B. F. Weathern. No. 969,817; Sept. 13; Sp. p. 1465; Gaz. vol. 158; p. 253.
Harvester windrow attachment, Beet-. A. Clark. No. 971,254; Sept. 27; Sp. p. 4508; Gaz. vol. 158; p. 788.
Hat-fastener, Lady's. A. Reim. No. 971,474; Sept. 27; Sp. p. 4905; Gaz. vol. 158; p. 859.
Hat-flanging machine. A. B. Waring. No. 971,004; Sept. 27; Sp. p. 4168; Gaz. vol. 158; p. 735.
Hat-frame machine. S. Mann. No. 970,935; Sept. 20; Sp. p. 3832; Gaz. vol. 158; p. 654.
Hat-pin guide and hat protector and preserver. A. P. Rhodes. No. 969,407; Sept. 6; Sp. p. 544; Gaz. vol. 158; p. 87.
Hat-pin holder. G. C. Bassett. No. 971,484; Sept. 27; Sp. p. 4927; Gaz. vol. 158; p. 862.
Hat-planking machine, Felt-. A. Turner. No. 969,999; Sept. 13; Sp. p. 1852; Gaz. vol. 158; p. 315.
Hat sweat-bands, Composition for treating. W. A. Kress. No. 970,724; Sept. 20; Sp. p. 3394; Gaz. vol. 158; p. 583.
Hat-ventilator. J. M. Davies. No. 970,894; Sept. 20; Sp. p. 3762; Gaz. vol. 158; p. 642.
Hatch-fastener for vessels. M. Mulholland. No. 970,447; Sept. 13; Sp. p. 2766; Gaz. vol. 158; p. 465.
Hay-fork. J. A. Miller and H. Bingaman. No. 970,940; Sept. 20; Sp. p. 3842; Gaz. vol. 158; p. 656.
Hay-fork. W. S. Thompson. No. 971,324; Sept. 27; Sp. p. 4620; Gaz. vol. 158; p. 810.
Hay-fork attachment. T. S. Barbour. No. 970,415; Sept. 13; Sp. p. 2691; Gaz. vol. 158; p. 455.
Hay-loader attachment. A. B. Jones. No. 970,928; Sept. 20; Sp. p. 3821; Gaz. vol. 158; p. 652.
Hay-press. G. W. Tucker and E. Beach. No. 969,677; Sept. 6; Sp. p. 1114; Gaz. vol. 158; p. 179.
Hay-press attachment. B. Kingham. No. 970,930; Sept. 20; Sp. p. 3826; Gaz. vol. 158; p. 652.
Hay-rack sill. R. H. Quick. No. 970,551; Sept. 20; Sp. p. 3005; Gaz. vol. 158; p. 523.
Head-rest. J. Denzer. No. 969,251; Sept. 6; Sp. p. 222; Gaz. vol. 158; p. 30.
Headlight, Vehicle-. B. R. Gover. No. 971,265; Sept. 27; Sp. p. 4527; Gaz. vol. 158; p. 792.
Heat, Apparatus for the interchange of. G. Scaramuzza. No. 970,561; Sept. 20; Sp. p. 3026; Gaz. vol. 158; p. 527.
Heat control, Automatic electric. H. G. Geissinger. No. 969,781; Sept. 13; Sp. p. 1370; Gaz. vol. 158; p. 240.
Heater: *See* Electric heater; Flat-iron heater; Grain-heater; Hot-water heater; Incubator-heater; Orchard-heater; Vehicle-heater; Water-heater.
Heater. C. E. De Forrest. No. 969,749; Sept. 6; Sp. p. 1281; Gaz. vol. 158; p. 205.
Heater. C. H. Hysong. No. 970,450; Sept. 13; Sp. p. 2770; Gaz. vol. 158; p. 466.
Heater. A. H. Merrill. No. 971,134; Sept. 27; Sp. p. 4237; Gaz. vol. 158; p. 748.
Heater and radiator, Combined. E. V. Bentley. No. 971,347; Sept. 27; Sp. p. 4681; Gaz. vol. 158; p. 818.
Heater safety device. I. Filson. No. 969,466; Sept. 6; Sp. p. 650; Gaz. vol. 158; p. 105.
Heating apparatus. J. A. Almirall. No. 971,165; Sept. 27; Sp. p. 4309; Gaz. vol. 158; p. 758.
Heating apparatus, Hot-air. C. St. John. No. 970,117; Sept. 13; Sp. p. 2087; Gaz. vol. 158; p. 355.
Heating boiler, House-. M. F. Kenely. No. 970,833; Sept. 20; Sp. p. 3647; Gaz. vol. 158; p. 622.
Heating system. P. F. Wullschleger. No. 971,336; Sept. 27; Sp. p. 4654; Gaz. vol. 158; p. 814.
Heating system, Steam-. A. G. Paul. No. 971,070; Sept. 27; Sp. p. 4118; Gaz. vol. 158; p. 728.
Heating unit, Electric. T. Van Aller. No. 971,101; Sept. 27; Sp. p. 4182; Gaz. vol. 158; p. 738.
Heddle-making machine. W. Fehr and J. Kaufmann. No. 970,808; Sept. 20; Sp. p. 3592; Gaz. vol. 158; p. 614.
Heel-cushion. M. Byrne. (Reissue.) No. 13,150; Sept. 6; Sp. p. 1327; Gaz. vol. 158; p. 211.
Heel plate and frame. A. H. Devin. No. 970,313; Sept. 13; Sp. p. 2502; Gaz. vol. 158; p. 422.
Heel-protector. R. J. Dearborn. No. 970,692; Sept. 20; Sp. p. 3326; Gaz. vol. 158; p. 571.

Heel-spring. T. E. Taylor and J. A. Thomas. No. 970,276; Sept. 13; Sp. p. 2430; Gaz. vol. 158; p. 410.
Hide-treating apparatus. C. J. Glasel. No. 970,701; Sept. 20; Sp. p. 3344; Gaz. vol. 158; p. 574.
Hides, Apparatus for treating, dehairing, swelling, and tanning. A. Fay. No. 971,126; Sept. 27; Sp. p. 4220; Gaz. vol. 158; p. 745.
High-voltage receptacle and plug. F. J. Russell. No. 969,409; Sept. 6; Sp. p. 548; Gaz. vol. 158; p. 88.
Hinge. W. T. Wightman. No. 969,926; Sept. 13; Sp. p. 1680; Gaz. vol. 158; p. 201.
Hinge. S. S. Matthes. No. 970,635; Sept. 20; Sp. p. 3211; Gaz. vol. 158; p. 552.
Hinge, Blind-. J. A. Poirier. No. 970,746; Sept. 20; Sp. p. 3451; Gaz. vol. 158; p. 590.
Hinge, Spring-. W. J. Keene and G. W. Schuster. No. 971,281; Sept. 27; Sp. p. 4554; Gaz. vol. 158; p. 796.
Hitching and releasing device. J. Meikle. No. 970,936; Sept. 20; Sp. p. 3835; Gaz. vol. 158; p. 654.
Hitching and releasing device. J. Robinson. No. 971,078; Sept. 27; Sp. p. 4141; Gaz. vol. 158; p. 730.
Hog-holding machine. G. W. Cox. No. 970,187; Sept. 13; Sp. p. 2226; Gaz. vol. 158; p. 379.
Hoist-brake and clutch adjuster, Automatic. H. T. Herr. No. 971,377; Sept. 27; Sp. p. 4736; Gaz. vol. 158; p. 827.
Hoisting-device brake. A. Bolzani. No. 969,834; Sept. 13; Sp. p. 1500; Gaz. vol. 158; p. 258.
Hollow-article mold. E. Kerr and J. Smith. No. 971,045; Sept. 27; Sp. p. 4064; Gaz. vol. 158; p. 719.
Hook: *See* Crib-hook; Poultry-hook; Sister-hook.
Hoop: *See* Barrel-hoop.
Hopple. W. E. Sell. No. 969,203; Sept. 6; Sp. p. 133; Gaz. vol. 158; p. 21.
Horizon, Artificial. J. W. Gille. No. 971,189; Sept. 27; Sp. p. 4372; Gaz. vol. 158; p. 767.
Horn. E. Teste. No. 970,136; Sept. 13; Sp. p. 2121; Gaz. vol. 158; p. 361.
Horn-supporting crane. H. Sheble. No. 970,655; Sept. 20; Sp. p. 3245; Gaz. vol. 158; p. 559.
Horse, Adjustable. C. Kamrath. No. 970,508; Sept. 20; Sp. p. 2906; Gaz. vol. 158; p. 508.
Horse-releaser. T. Noble. No. 970,346; Sept. 13; Sp. p. 2560; Gaz. vol. 158; p. 432.
Horseshoe. A. and J. Schwartz. No. 970,267; Sept. 13; Sp. p. 2418; Gaz. vol. 158; p. 407.
Horseshoe. J. H. Penhorwood. No. 970,946; Sept. 20; Sp. p. 3852; Gaz. vol. 158; p. 658.
Horseshoe. H. D. McCormick. No. 971,138; Sept. 27; Sp. p. 4251; Gaz. vol. 158; p. 749.
Horseshoe attachment. N. A. Bender. No. 971,109; Sept. 27; Sp. p. 4195; Gaz. vol. 158; p. 740.
Horseshoe, Detachable. H. P. Wendel. No. 970,585; Sept. 20; Sp. p. 3072; Gaz. vol. 158; p. 535.
Horseshoe with exchangeable calk. M. Röschmann. No. 970,954; Sept. 20; Sp. p. 3870; Gaz. vol. 158; p. 661.
Horseshoes, Flask for casting. L. A. Shaffer. No. 969,663; Sept. 6; Sp. p. 1086; Gaz. vol. 158; p. 174.
Hose and pipe mender. F. J. Stulp. No. 969,919; Sept. 13; Sp. p. 1677; Gaz. vol. 158; p. 289.
Hose-coupling. J. H. Hardy. No. 969,160; Sept. 6; Sp. p. 17; Gaz. vol. 158; p. 6.
Hose-coupling. J. H. Stephens. No. 969,216; Sept. 6; Sp. p. 156; Gaz. vol. 158; p. 25.
Hose-coupling, Automatic safety. A. H. Harris. No. 969,276; Sept. 6; Sp. p. 266; Gaz. vol. 158; p. 43.
Hose-rack, Self-releasing. S. L. Crossing. No. 970,188; Sept. 13; Sp. p. 2229; Gaz. vol. 158; p. 379.
Hose-support. J. E. Austin. No. 970,164; Sept. 13; Sp. p. 2176; Gaz. vol. 158; p. 371.
Hot-water heater. J. C. Meem. No. 969,714; Sept. 6; Sp. p. 1181; Gaz. vol. 158; p. 192.
Hub-fastener. A. E. Roxberg. No. 970,646; Sept. 20; Sp. p. 3228; Gaz. vol. 158; p. 556.
Humidifier. J. W. Fries. No. 969,854; Sept. 13; Sp. p. 1542; Gaz. vol. 158; p. 265.
Humidifying apparatus. W. H. Carrier. No. 971,248; Sept. 27; Sp. p. 4498; Gaz. vol. 158; p. 787.
Husking-roll. C. C. Crum. No. 970,610; Sept. 20; Sp. p. 3121; Gaz. vol. 158; p. 544.
Hydrant-cap. W. S. Reed. No. 969,905; Sept. 13; Sp. p. 1645; Gaz. vol. 158; p. 284.
Hydraulic-power plant. J. T. Dougine. No. 970,196; Sept. 13; Sp. p. 2256; Gaz. vol. 158; p. 382.
Hydraulic-power system. T. A. Macdonald. No. 969,967; Sept. 13; Sp. p. 1787; Gaz. vol. 158; p. 303.
Hydrocarbon-burner. W. W. Case, Sr. No. 971,489; Sept. 27; Sp. p. 4934; Gaz. vol. 158; p. 864.
Hydroextractor. C. Miller. No. 970,253; Sept. 13; Sp. p. 2300; Gaz. vol. 158; p. 402.
Hydrogen, Producing. A. Messerschmitt. No. 971,206; Sept. 27; Sp. p. 4405; Gaz. vol. 158; p. 773.
Ice-cream freezer. C. K. Greaves. No. 970,369; Sept. 13; Sp. p. 2609; Gaz. vol. 158; p. 440.
Ice-cream machine. F. P. Miller. No. 970,846; Sept. 20; Sp. p. 3665; Gaz. vol. 158; p. 626.
Ice-crushing implement. C. Waldvogel. No. 970,863; Sept. 20; Sp. p. 3703; Gaz. vol. 158; p. 632.
Ice-making apparatus. J. B. Howe. No. 969,696; Sept. 6; Sp. p. 1145; Gaz. vol. 158; p. 185.
Igniter, Pocket-. H. F. Jones. No. 970,506; Sept. 20; Sp. p. 2903; Gaz. vol. 158; p. 507.
Igniter, Pocket-. L. Schön. No. 970,649; Sept. 20; Sp. p. 3233; Gaz. vol. 158; p. 557.
Incubator. G. M. Curtis. No. 970,311; Sept. 13; Sp. p. 2490; Gaz. vol. 158; p. 421.
Incubator. H. R. Parker. No. 971,212; Sept. 27; Sp. p. 4421; Gaz. vol. 158; p. 775.
Incubator-heater. M. M. Johnson. No. 970,057; Sept. 13; Sp. p. 1980; Gaz. vol. 158; p. 335.
Incubators, Egg-turner for. H. Hartlieb and F. Lind. No. 969,277; Sept. 6; Sp. p. 267; Gaz. vol. 158; p. 44.
Indexing device. B. F. Morrill. No. 971,464; Sept. 27; Sp. p. 4883; Gaz. vol. 158; p. 855.
Indicator: *See* Speed-indicator; Station-indicator.
Indicator. C. Emsheimer. No. 970,200; Sept. 13; Sp. p. 2264; Gaz. vol. 158; p. 384.
Indicator. T. G. Leavell. No. 971,052; Sept. 27; Sp. p. 4077; Gaz. vol. 158; p. 722.
Indicator. W. G. Wolfe, C. E. Bissell, and W. J. Branstetter. No. 971,096; Sept. 27; Sp. p. 4171; Gaz. vol. 158; p. 736.
Indicator or bulletin. N. E. Barnes. No. 969,592; Sept. 6; Sp. p. 955; Gaz. vol. 158; p. 151.
Induction-motor, Synchronous. C. A. Lohr. No. 971,056; Sept. 27; Sp. p. 4084; Gaz. vol. 158; p. 723.
Ingot-stripper. D. Kendall. No. 969,634; Sept. 6; Sp. p. 1028; Gaz. vol. 158; p. 165.
Ink. W. G. Fuerth. No. 970,439; Sept. 13; Sp. p. 2743; Gaz. vol. 158; p. 462.
Ink for ceramic transfer-pictures. J. Kasseker. No. 971,280; Sept. 27; Sp. p. 4553; Gaz. vol. 158; p. 796.
Inking mechanism. J. S. Duncan. No. 970,027; Sept. 13; Sp. p. 1914; Gaz. vol. 158; p. 326.
Insect-catcher. F. M. Carter. No. 970,181; Sept. 13; Sp. p. 2214; Gaz. vol. 158; p. 377.
Insect collector and destroyer. W. J. Greer. No. 971,193; Sept. 27; Sp. p. 4379; Gaz. vol. 158; p. 769.
Insect-trap, especially for flies. E. Böhm. No. 970,784; Sept. 20; Sp. p. 3536; Gaz. vol. 158; p. 605.
Insecticide and disinfectant. J. C. Dooley. No. 970,434; Sept. 13; Sp. p. 2736; Gaz. vol. 158; p. 461.
Insole for shoes. H. B. Hemphill. No. 969,691; Sept. 6; Sp. p. 1140; Gaz. vol. 158; p. 184.
Insulation-applying device. J. A. Cates. No. 969,599; Sept. 6; Sp. p. 966; Gaz. vol. 158; p. 153.
Insulation from conductors, Device for cutting. E. F. Chytraus. No. 969,339; Sept. 6; Sp. p. 393; Gaz. vol. 158; p. 64.
Insulator. J. A. Meurling. No. 970,078; Sept. 13; Sp. p. 2020; Gaz. vol. 158; p. 342.
Insulator, Mine-. C. W. Speakman. No. 971,322; Sept. 27; Sp. p. 4624; Gaz. vol. 158; p. 810.
Internal-combustion engine. S. Lake. No. 970,063; Sept. 13; Sp. p. 1990; Gaz. vol. 158; p. 338.
Internal-combustion engine. L. A. Martha. No. 970,251; Sept. 13; Sp. p. 2387; Gaz. vol. 158; p. 402.
Internal-combustion engine. H. and C. E. Merrett. No. 970,937; Sept. 20; Sp. p. 3836; Gaz. vol. 158; p. 654.
Iron: *See* Curling-iron; Laundry-iron; Sad-iron; Smoothing-iron; Soldering-iron.
Ironing-board. O. M. Cline. No. 969,684; Sept. 6; Sp. p. 1128; Gaz. vol. 158; p. 182.
Ironing-cabinet. C. D. Booton. No. 970,174; Sept. 13; Sp. p. 2200; Gaz. vol. 158; p. 374.
Ironing-table. L. Frederick. No. 969,615; Sept. 6; Sp. p. 992; Gaz. vol. 158; p. 158.
Ironing-table. G. Foster. No. 970,207; Sept. 13; Sp. p. 2284; Gaz. vol. 158; p. 386.
Ironing-table. J. W. Mills. No. 971,462; Sept. 27; Sp. p. 4881; Gaz. vol. 158; p. 855.
Irrigating-pipe gate. H. E. Worley. No. 969,320; Sept. 6; Sp. p. 354; Gaz. vol. 158; p. 58.
Irrigation system. M. P. McCulloch. No. 970,383; Sept. 13; Sp. p. 2636; Gaz. vol. 158; p. 445.
Jack: *See* Lifting-jack; Screw-jack.
Jar: *See* Fruit-jar.
Jar-holder. B. F. Bain. No. 970,365; Sept. 13; Sp. p. 2596; Gaz. vol. 158; p. 439.
Jewelry, &c., Machine for drying. F. P. Boland. No. 969,453; Sept. 6; Sp. p. 630; Gaz. vol. 158; p. 100.
Joint: *See* Ankle-joint; Pipe-joint; Rail-joint.
Journal and bearing. A. J. Fisher. No. 970,030; Sept. 13; Sp. p. 1923; Gaz. vol. 158; p. 326.
Journal-box. L. G. Woods. No. 969,933; Sept. 13; Sp. p. 1700; Gaz. vol. 158; p. 293.
Journal-box. S. J. Strid. No. 970,133; Sept. 13; Sp. p. 2115; Gaz. vol. 158; p. 360.
Journal-box, Lubricating. G. P. Simmons. No. 970,271; Sept. 13; Sp. p. 2424; Gaz. vol. 158; p. 408.
Journal-brass. H. J. Small. No. 971,085; Sept. 27; Sp. p. 4154; Gaz. vol. 158; p. 733.
Journal-lubricator. E. B. Brown. No. 969,838; Sept. 13; Sp. p. 1514; Gaz. vol. 158; p. 260.
Junction-box. M. Laux. No. 970,377; Sept. 13; Sp. p. 2628; Gaz. vol. 158; p. 443.
Kerosene-burner. H. Lemp. No. 969,545; Sept. 6; Sp. p. 848; Gaz. vol. 158; p. 133.
Key-cutting machine. C. E. Johnson. No. 969,702; Sept. 6; Sp. p. 1159; Gaz. vol. 158; p. 188.
Key-lever cup. K. Landa. No. 971,050; Sept. 27; Sp. p. 4074; Gaz. vol. 158; p. 721.
Key-opening can, Roll-side. W. E. Taylor. No. 969,220; Sept. 6; Sp. p. 162; Gaz. vol. 158; p. 27.
Key-ring. L. Myers. No. 969,180; Sept. 6; Sp. p. 81; Gaz. vol. 158; p. 13.
Keyboard. F. Clutsam. No. 971,172; Sept. 27; Sp. p. 4336; Gaz. vol. 158; p. 760.
Keyboard, Musician's exercising-. A. K. Virgil. No. 970,144; Sept. 13; Sp. p. 2134; Gaz. vol. 158; p. 364.

Keyhole-guard. G. M. Dunlevy. No. 971,122; Sept. 27; Sp. p. 4215; Gaz. vol. 158; p. 744.
Keyhole-illuminating device. C. Eyton. No. 970,698; Sept. 20; Sp. p. 3338; Gaz. vol. 158; p. 573.
Kiln: *See* Calcining-kiln.
Kneading and mixing machine. J. Lips. No. 971,887; Sept. 27; Sp. p. 4757; Gaz. vol. 158; p. 831.
Knife: *See* Pocket-knife.
Knife. W. C. Lockhart. No. 970,517; Sept. 20; Sp. p. 2934; Gaz. vol. 158; p. 511.
Knife or tool for tapping rubber and other gum trees. R. W. Cater and G. V. A. Schofield. No. 971,021; Sept. 27; Sp. p. 3997; Gaz. vol. 158; p. 710.
Knives, Scale-fastening for pocket-. A. L. Orchard. No. 970,540; Sept. 20; Sp. p. 2984; Gaz. vol. 158; p. 519.
Knit drawers, Lady's. M. Saldin. No. 969,808; Sept. 13; Sp. p. 1437; Gaz. vol. 158; p. 250.
Knitting-machine. E. Vermilyea and R. Hammersley. No. 970,282; Sept. 13; Sp. p. 2439; Gaz. vol. 158; p. 411.
Knitting-machine needle and jack structure. E. Tiffany. No. 969,222; Sept. 6; Sp. p. 169; Gaz. vol. 158; p. 27.
Knob and bell, Combined door. R. Hazelrigg. No. 970,222; Sept. 13; Sp. p. 2324; Gaz. vol. 158; p. 391.
Knobs to roses, Securing thumb-. H. S. Lockwood. No. 970,518; Sept. 20; Sp. p. 2935; Gaz. vol. 158; p. 512.
Knockdown seat. W. A. Kirkpatrick, J. E. Robbins, and C. P. Kirkpatrick. No. 970,721; Sept. 20; Sp. p. 3391; Gaz. vol. 158; p. 582.
Kraut-cutter. J. S. Randolph. No. 969,979; Sept. 13; Sp. p. 1808; Gaz. vol. 158; p. 308.
Label-applying machine. H. F. Maynes. No. 971,133; Sept. 27; Sp. p. 4232; Gaz. vol. 158; p. 747.
Labels or wrappers to blocks, packages, or tins, or other containers of material, Apparatus for applying. W. and H. Rose. No. 970,353; Sept. 13; Sp. p. 2573; Gaz. vol. 158; p. 434.
Labeling machine, Can-. E. S. and B. H. Miller. No. 969,715; Sept. 6; Sp. p. 1183; Gaz. vol. 158; p. 192.
Ladder attachment. E. J. Curran. No. 970,425; Sept. 13; Sp. p. 2713; Gaz. vol. 158; p. 458.
Ladder, Double-wheeled step-. C. G. Davis. No. 970,690; Sept. 20; Sp. p. 3322; Gaz. vol. 158; p. 571.
Ladder, Step-. J. Samuelson. No. 970,560; Sept. 20; Sp. p. 3025; Gaz. vol. 158; p. 526.
Lamp. M. W. Pitner. No. 970,948; Sept. 20; Sp. p. 3854; Gaz. vol. 158; p. 658.
Lamp. F. M. Stevens. No. 971,323; Sept. 27; Sp. p. 4626; Gaz. vol. 158; p. 810.
Lamp and lantern extinguisher. B. Kovacic. No. 971,282; Sept. 27; Sp. p. 4555; Gaz. vol. 158; p. 797.
Lamp, Berth-. W. J. Bohan. No. 971,351; Sept. 27; Sp. p. 4686; Gaz. vol. 158; p. 819.
Lamp-bracket. H. C. Engelberg. No. 970,809; Sept. 20; Sp. p. 3768; Gaz. vol. 158; p. 643.
Lamp bracket, Signal-. M. B. Williston. No. 970,770; Sept. 20; Sp. p. 3502; Gaz. vol. 158; p. 599.
Lamp-burner. T. Shearer. No. 969,413; Sept. 6; Sp. p. 556; Gaz. vol. 158; p. 89.
Lamp-burner. C. E. Wirth. No. 969,588; Sept. 6; Sp. p. 948; Gaz. vol. 158; p. 149.
Lamp-burner. O. M. Müller. No. 970,084; Sept. 13; Sp. p. 2028; Gaz. vol. 158; p. 344.
Lamp-burner, Safety. O. O. Berguam. No. 970,782; Sept. 20; Sp. p. 3531; Gaz. vol. 158; p. 604.
Lamp-chimney, Composite. G. D. Willits. No. 969,932; Sept. 13; Sp. p. 1699; Gaz. vol. 158; p. 293.
Lamp-extinguisher. I. Greenwald, J. Blaustein, and M. Z. Weiss. No. 970,813; Sept. 20; Sp. p. 3609; Gaz. vol. 158; p. 616.
Lamp-holder. O. Krug. No. 971,131; Sept. 27; Sp. p. 4231; Gaz. vol. 158; p. 747.
Lamp-holding device, Cluster-. R. B. Benjamin. No. 970,678; Sept. 20; Sp. p. 3294; Gaz. vol. 158; p. 567.
Lamp-igniter. W. D. Jones. No. 970,715; Sept. 20; Sp. p. 3380; Gaz. vol. 158; p. 580.
Lamp, Incandescent electric. A. Lederer. No. 971,453; Sept. 27; Sp. p. 4865; Gaz. vol. 158; p. 852.
Lamp, Incandescent gas-. J. Rubin. No. 969,984; Sept. 13; Sp. p. 1815; Gaz. vol. 158; p. 309.
Lamp, Miner's. P. Togleson. No. 969,812; Sept. 13; Sp. p. 1447; Gaz. vol. 158; p. 251.
Lamp, Projecting-. G. A. H. Kellner. No. 969,785; Sept. 13; Sp. p. 1379; Gaz. vol. 158; p. 242.
Lamp, Self-regulating arc-. M. H. Baker. No. 969,510; Sept. 6; Sp. p. 758; Gaz. vol. 158; p. 120.
Lamp-stem centering and drawing tool, Incandescent-. R. K. Mickey. No. 970,938; Sept. 20; Sp. p. 3838; Gaz. vol. 158; p. 655.
Lamp, Vehicle-. H. W. Beebe. No. 969,445; Sept. 6; Sp. p. 619; Gaz. vol. 158; p. 99.
Lamps, Automatic apparatus for lighting and extinguishing gas-. N. S. McNab and J. S. Link. No. 969,182; Sept. 6; Sp. p. 84; Gaz. vol. 158; p. 14.
Lamps, Heater attachment for gas-. H. F. Bloom. No. 971,242; Sept. 27; Sp. p. 4484; Gaz. vol. 158; p. 785.
Lamps, Key-socket for electric incandescent. G. W. Goodridge. No. 969,617; Sept. 6; Sp. p. 998; Gaz. vol. 158; p. 159.
Lamps, Pull-socket for electric incandescent. J. L. Moore. No. 970,255; Sept. 13; Sp. p. 2393; Gaz. vol. 158; p. 403.
Lantern. W. S. Hamm. No. 970,815; Sept. 20; Sp. p. 3612; Gaz. vol. 158; p. 616.
Lantern-holder. N. D. Bjorklund. No. 970,171; Sept. 13; Sp. p. 2197; Gaz. vol. 158; p. 373.
Lantern-holder. A. C. Hewitt. No. 971,378; Sept. 27; Sp. p. 4740; Gaz. vol. 158; p. 828.
Lard-extractor. C. H. Ritter. No. 971,408; Sept. 27; Sp. p. 4788; Gaz. vol. 158; p. 838.
Last. R. Carl. No. 969,244; Sept. 6; Sp. p. 204; Gaz. vol. 158; p. 34.
Lasts, Latch for hinged. F. W. Kittlinger. No. 971,200; Sept. 27; Sp. p. 4393; Gaz. vol. 158; p. 771.
Latch. F. C. Altmann. No. 970,007; Sept. 13; Sp. p. 1872; Gaz. vol. 158; p. 319.
Latch. M. R. Stoddard. No. 970,661; Sept. 20; Sp. p. 3256; Gaz. vol. 158; p. 561.
Latch, Door-. W. Schumacher. No. 970,651; Sept. 20; Sp. p. 3236; Gaz. vol. 158; p. 557.
Lathe. G. O. Gridley. No. 971,370; Sept. 27; Sp. p. 4724; Gaz. vol. 158; p. 825.
Lathe tool-post. H. Haldy. No. 970,219; Sept. 13; Sp. p. 2320; Gaz. vol. 158; p. 390.
Lathes, Relieving attachment for. E. W. Blum, W. T. S. Johnson, and F. Kropf. No. 971,243; Sept. 27; Sp. p. 4486; Gaz. vol. 158; p. 785.
Laundry-iron. E. R. Smith. No. 969,991; Sept. 13; Sp. p. 1832; Gaz. vol. 158; p. 312.
Lawn-trimming implement. W. S. S. Fleming. No. 971,000; Sept. 20; Sp. p. 3951; Gaz. vol. 158; p. 675.
Lead, Making basic sulfate of. A. Hileman. No. 969,474; Sept. 6; Sp. p. 680; Gaz. vol. 158; p. 108.
Leather and product thereof, Coloring. M. M. Gregg. No. 970,326; Sept. 13; Sp. p. 2526; Gaz. vol. 158; p. 426.
Leather, Manufacturing. J. T. Smith. No. 969,570; Sept. 6; Sp. p. 898; Gaz. vol. 158; p. 142.
Leather-skiving machine. J. R. Scott. No. 969,987; Sept. 13; Sp. p. 1823; Gaz. vol. 158; p. 310.
Leather with india-rubber, Treatment of. A. McLennan. No. 970,734; Sept. 20; Sp. p. 3417; Gaz. vol. 158; p. 585.
Leather-working machinery, Spraying device for. J. Elderkin and F. Rose. No. 971,365; Sept. 27; Sp. p. 4714; Gaz. vol. 158; p. 824.
Leather-working tool. C. F. Punsky. No. 969,806; Sept. 13; Sp. p. 1433; Gaz. vol. 158; p. 249.
Lens-grinding machine. R. F. Williams. No. 970,674; Sept. 20; Sp. p. 3284; Gaz. vol. 158; p. 565.
Level. H. O. Earman. No. 970,897; Sept. 20; Sp. p. 3766; Gaz. vol. 158; p. 643.
Level, Adjustable. H. A. E. Coy. No. 971,360; Sept. 27; Sp. p. 4708; Gaz. vol. 158; p. 822.
Level attachment, Plumb-. W. A. Goble. No. 969,855; Sept. 13; Sp. p. 1547; Gaz. vol. 158; p. 265.
Level, Grade-. J. E. De Bisschop. No. 970,472; Sept. 20; Sp. p. 2835; Gaz. vol. 158; p. 495.
Level, Plumb-. H. Platt. No. 969,654; Sept. 6; Sp. p. 1071; Gaz. vol. 158; p. 172.
Level, Protractor-. W. P. James. No. 970,714; Sept. 20; Sp. p. 3379; Gaz. vol. 158; p. 580.
Level, Spirit-. G. W. Lingle. No. 970,729; Sept. 20; Sp. p. 3402; Gaz. vol. 158; p. 584.
Libraries and the like, Controlling apparatus for. B. Otten. No. 969,395; Sept. 6; Sp. p. 527; Gaz. vol. 158; p. 83.
Life-saving apparatus. J. A. Jakobsen. No. 971,273; Sept. 27; Sp. p. 4539; Gaz. vol. 158; p. 794.
Lifting-jack. J. B. Runner. No. 969,567; Sept. 6; Sp. p. 891; Gaz. vol. 158; p. 141.
Lifting-jack. I. Key. No. 970,239; Sept. 13; Sp. p. 2354; Gaz. vol. 158; p. 397.
Lifting-jack. C. E. Loetzer and W. T. Goodnow. No. 971,286; Sept. 27; Sp. p. 4560; Gaz. vol. 158; p. 798.
Lifting-jack appliance. A. W. Sallander. No. 971,217; Sept. 27; Sp. p. 4432; Gaz. vol. 158; p. 777.
Light: *See* Electric light.
Light from hydrocarbons, Process and apparatus for producing. C. K. Harding. No. 969,368; Sept. 6; Sp. p. 460; Gaz. vol. 158; p. 75.
Light-striker. R. von Horváth. No. 971,380; Sept. 27; Sp. p. 4744; Gaz. vol. 158; p. 829.
Lighter, Automatic. S. B. Battey. No. 970,294; Sept. 13; Sp. p. 2464; Gaz. vol. 158; p. 415.
Lightning-arrester. F. M. Butler. No. 969,336; Sept. 6; Sp. p. 389; Gaz. vol. 158; p. 63.
Lightning-conductor. E. Redmond. No. 970,642; Sept. 20; Sp. p. 3221; Gaz. vol. 158; p. 555.
Lightning-protector. A. F. Rosenberger. No. 970,556; Sept. 20; Sp. p. 3015; Gaz. vol. 158; p. 525.
Linotype-machines, Chute-spring for. G. E. Wallin. No. 970,146; Sept. 13; Sp. p. 2138; Gaz. vol. 158; p. 365.
Lint-packing apparatus. G. W. Cameron. No. 969,841; Sept. 13; Sp. p. 1520; Gaz. vol. 158; p. 261.
Liquid-actuating apparatus. R. Conrader. No. 969,940; Sept. 13; Sp. p. 1716; Gaz. vol. 158; p. 295.
Liquid-concentrating apparatus. P. Kestner. No. 971,383; Sept. 27; Sp. p. 4749; Gaz. vol. 158; p. 829.
Liquid-fuel burner. B. R. Phillips. No. 969,978; Sept. 13; Sp. p. 1806; Gaz. vol. 158; p. 307.
Liquid-fuel burner. J. P. Hollenbeck. No. 970,335; Sept. 13; Sp. p. 2544; Gaz. vol. 158; p. 429.
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Loom, Pile-fabric. J. Buckler. No. 970,463; Sept. 20; Sp. p. 2812; Gaz. vol. 158; p. 492.
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Lubricator. J. Huverstuhl. No. 969,699; Sept. 6; Sp. p. 1153; Gaz. vol. 158; p. 187.
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Mail-box. O. J. W. Gleason. No. 969,948; Sept. 13; Sp. p. 1734; Gaz. vol. 158; p. 298.
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Mail-box support, Extensible. A. J. Wilfong. No. 970,588; Sept. 20; Sp. p. 3075; Gaz. vol. 158; p. 536.
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Manure, Treatment of. W. Hoskins. No. 970,711; Sept. 20; Sp. p. 3374; Gaz. vol. 158; p. 579.
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Match-box, Automatic. C. W. Martin. No. 969,384; Sept. 6; Sp. p. 501; Gaz. vol. 158; p. 80.
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Meat-chopper. W. B. Yeakel. No. 970,593; Sept. 20; Sp. p. 3086; Gaz. vol. 158; p. 537.
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Memorandum-rack. R. D. A. Parrott. No. 970,103; Sept. 13; Sp. p. 2065; Gaz. vol. 158; p. 350.
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Meter-shelf. S. Schwartz. No. 970,854; Sept. 20; Sp. p. 3686; Gaz. vol. 158; p. 629.
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Mirror-support. R. H. Miller. No. 970,636; Sept. 20; Sp. p. 3212; Gaz. vol. 158; p. 553.

Miter-box. J. J. Gregory. No. 970,327; Sept. 13; Sp. p. 2527; Gaz. vol. 158; p. 426.
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Mixer. W. H. Larkin, Jr. No. 971,051; Sept. 27; Sp. p. 4075; Gaz. vol. 158; p. 721.
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Mop-wringer. W. H. Wetmore. No. 969,229; Sept. 6; Sp. p. 185; Gaz. vol. 158; p. 30.
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Pad-holder. W. E. Dunning. No. 969,775; Sept. 13; Sp. p. 1358; Gaz. vol. 158; p. 238.
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Paper dishes, Machine for making. I. Bertin. No. 970,168; Sept. 13; Sp. p. 2186; Gaz. vol. 158; p. 372.
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Perambulator, Foldable. C. E. Fanning. No. 970,202; Sept. 13; Sp. p. 2270; Gaz. vol. 158; p. 384.
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Perfume. C. O. Kleber. No. 969,636; Sept. 6; Sp. p. 1036; Gaz. vol. 158; p. 166.
Petticoat-band-adjusting device. C. H. Lewy. No. 970,068; Sept. 13; Sp. p. 2005; Gaz. vol. 158; p. 340.
Phonograph-controlling device. C. L. Hibbard. No. 970,223; Sept. 13; Sp. p. 2326; Gaz. vol. 158; p. 391.
Phonograph, graphophone and like instrument. E. G. H. Stein. No. 969,917; Sept. 13; Sp. p. 1673; Gaz. vol. 158; p. 288.
Phonograph-record ejector. E. Gilbert. No. 969,946; Sept. 13; Sp. p. 1732; Gaz. vol. 158; p. 297.
Phonograph-reproducer. A. Urbahns. No. 970,142; Sept. 13; Sp. p. 2132; Gaz. vol. 158; p. 363.
Photographer's extension-rack. P. M. Grandperrin. No. 970,491; Sept. 20; Sp. p. 2871; Gaz. vol. 158; p. 502.
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Photographic plates, Drying-rack for. A. N. Pierman. No. 970,108; Sept. 13; Sp. p. 2072; Gaz. vol. 158; p. 352.
Photographic-printing machine. W. E. Service. No. 970,127; Sept. 13; Sp. p. 2102; Gaz. vol. 158; p. 358.
Photographic-printing machine. G. R. Olson and D. Hiatt. No. 970,742; Sept. 20; Sp. p. 3434; Gaz. vol. 158; p. 589.
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Piano-hammers, Removable mold for making. E. T. Wolf. No. 969,826; Sept. 13; Sp. p. 1480; Gaz. vol. 158; p. 256.
Piano-hammers, Removable mold for making. E. T. Wolf. No. 969,827; Sept. 13; Sp. p. 1485; Gaz. vol. 158; p. 256.
Piano-pedal extension, Adjustable. H. C. Stickel. No. 969,670; Sept. 6; Sp. p. 1098; Gaz. vol. 158; p. 176.
Picker: *See* Fruit-picker; Grape, &c., picker.
Picker-stick. T. F. Arst. No. 970,979; Sept. 20; Sp. p. 3915; Gaz. vol. 158; p. 669.
Picture-card, Mechanical. J. M. Walcutt. No. 969,315; Sept. 6; Sp. p. 338; Gaz. vol. 158; p. 56.
Picture-exhibitor. B. Phelps. No. 970,947; Sept. 20; Sp. p. 3853; Gaz. vol. 158; p. 658.
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Picture machines, Film-reel for moving-. T. Sharlow. No. 971,317; Sept. 27; Sp. p. 4614; Gaz. vol. 158; p. 808.
Pictures and similar articles, Device for hanging. S. Rothstein. No. 969,195; Sept. 6; Sp. p. 115; Gaz. vol. 158; p. 18.
Pictures or characters, Apparatus for reproducing. G. E. Hoglund. No. 970,820; Sept. 20; Sp. p. 3619; Gaz. vol. 158; p. 618.
Pictures, Screen for displaying projected. M. Ganzini. No. 970,913; Sept. 20; Sp. p. 3790; Gaz. vol. 158; p. 647.
Piling, Composite. C. C. Conkling. No. 969,343; Sept. 6; Sp. p. 402; Gaz. vol. 158; p. 65.
Pin: *See* Clothes-pin; Hair-pin.
Pin. W. H. Rice. No. 969,807; Sept. 13; Sp. p. 1435; Gaz. vol. 158; p. 249.
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Pipe and the like cutter. J. R. Hamilton. No. 969,858; Sept. 13; Sp. p. 1553; Gaz. vol. 158; p. 267.
Pipe-cleaning apparatus, Water-. N. S. Hill, Jr., and B. B. Hodgman. No. 971,042; Sept. 27; Sp. p. 4058; Gaz. vol. 158; p. 719.
Pipe-coupling. J. N. Goodall. No. 969,358; Sept. 6; Sp. p. 438; Gaz. vol. 158; p. 71.
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Pipe-coupling, Insulated. S. E. Peeples. No. 969,402; Sept. 6; Sp. p. 723; Gaz. vol. 158; p. 114.
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Pipe-hanger. E. H. Roberts. No. 971,077; Sept. 27; Sp. p. 4140; Gaz. vol. 158; p. 730.
Pipe-joint. J. R. Tanner and D. B. Banks. No. 969,422; Sept. 6; Sp. p. 581; Gaz. vol. 158; p. 92.
Pipe-joint. J. R. Tanner and D. B. Banks. No. 969,423; Sept. 6; Sp. p. 582; Gaz. vol. 158; p. 93.
Pipe-machine. W. Barnett. No. 970,677; Sept. 20; Sp. p. 3292; Gaz. vol. 158; p. 567.
Pipe-puller. J. Anderson. No. 969,508; Sept. 6; Sp. p. 755; Gaz. vol. 158; p. 119.
Pipe-scouring means. D. H. Murphy. No. 969,179; Sept. 6; Sp. p. 76; Gaz. vol. 158; p. 13.
Pipe-wrench. J. F. Tiner. No. 970,574; Sept. 20; Sp. p. 3051; Gaz. vol. 158; p. 531.
Pipe-wrench. A. L. Meichert. No. 970,731; Sept. 20; Sp. p. 3400; Gaz. vol. 158; p. 584.
Pipes, Covering. E. A. Kellam. No. 970,235; Sept. 13; Sp. p. 2347; Gaz. vol. 158; p. 396.
Pipes, Roof-collar for vent-. C. L. Holt. No. 969,476; Sept. 6; Sp. p. 683; Gaz. vol. 158; p. 108.
Pipes, shafts, &c., Coupling for. A. H. Neller. No. 970,737; Sept. 20; Sp. p. 3425; Gaz. vol. 158; p. 587.
Pistol, Automatic. C. P. Clément. No. 970,307; Sept. 13; Sp. p. 2492; Gaz. vol. 158; p. 420.
Pistol, Automatic. H. Rosier. No. 970,645; Sept. 20; Sp. p. 3226; Gaz. vol. 158; p. 555.
Pitman. J. T. Kilby. No. 970,929; Sept. 20; Sp. p. 3824; Gaz. vol. 158; p. 652.
Planter. C. F. Jaynes. No. 969,701; Sept. 6; Sp. p. 1158; Gaz. vol. 158; p. 187.

Planter attachment, Corn-. J. S. Smith. No. 971,320; Sept. 27; Sp. p. 4620; Gaz. vol. 158; p. 800.
Planter, Corn-. T. N. Seay. No. 970,268; Sept. 13; Sp. p. 2420; Gaz. vol. 158; p. 407.
Planter, Corn-. H. F. Carter. No. 971,116; Sept. 27; Sp. p. 4204; Gaz. vol. 158; p. 742.
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Planter, Cotton-. G. W. Copeland. No. 970,186; Sept. 13; Sp. p. 2225; Gaz. vol. 158; p. 378.
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Planters, Gage-lifting attachment for corn-. V. C. Bowser. No. 970,605; Sept. 20; Sp. p. 3113; Gaz. vol. 158; p. 542.
Plastic material, Making. W. R. Seigle. No. 969,202; Sept. 6; Sp. p. 131; Gaz. vol. 158; p. 21.
Plotter. G. H. Grove. No. 970,918; Sept. 20; Sp. p. 3803; Gaz. vol. 158; p. 649.
Plow. J. T. Boyd. No. 969,243; Sept. 6; Sp. p. 203; Gaz. vol. 158; p. 33.
Plow. G. A. Knox. No. 969,377; Sept. 6; Sp. p. 491; Gaz. vol. 158; p. 78.
Plow. O. H. Peeples. No. 970,105; Sept. 13; Sp. p. 2068; Gaz. vol. 158; p. 351.
Plow. C. R. Harryman. No. 970,818; Sept. 20; Sp. p. 3616; Gaz. vol. 158; p. 617.
Plow. R. M. Kemp. No. 971,448; Sept. 27; Sp. p. 4859; Gaz. vol. 158; p. 851.
Plow, Reversible multifurrow disk. D. H. Smith. No. 971,157; Sept. 27; Sp. p. 4290; Gaz. vol. 158; p. 755.
Plow vine-cutting attachment. W. R. Melson. No. 970,379; Sept. 13; Sp. p. 2631; Gaz. vol. 158; p. 443.
Plug-switch. H. E. Leppert. No. 969,787; Sept. 13; Sp. p. 1382; Gaz. vol. 158; p. 242.
Plume. L. Montilli. No. 969,795; Sept. 13; Sp. p. 1395; Gaz. vol. 158; p. 245.
Pneumatic cushion, Pocket. C. B. Archer. No. 969,439; Sept. 6; Sp. p. 609; Gaz. vol. 158; p. 97.
Pneumatic drill. R. A. Norling. No. 969,394; Sept. 6; Sp. p. 521; Gaz. vol. 158; p. 83.
Pocket, Foot-rule. A. Wolff. No. 969,590; Sept. 6; Sp. p. 950; Gaz. vol. 158; p. 150.
Pocket-knife. J. L. and W. Schrade. No. 969,909; Sept. 13; Sp. p. 1650; Gaz. vol. 158; p. 285.
Poke or yoke, Animal. H. D. Floyd. No. 970,484; Sept. 20; Sp. p. 2859; Gaz. vol. 158; p. 500.
Pole-tip. L. L. Moore. No. 970,081; Sept. 13; Sp. p. 2024; Gaz. vol. 158; p. 343.
Pool-ball rack. G. F. Goss. No. 971,128; Sept. 27; Sp. p. 4222; Gaz. vol. 158; p. 746.
Porous articles, Apparatus for impregnating. J. H. Ketcheson and R. W. Goeb. No. 970,509; Sept. 20; Sp. p. 2908; Gaz. vol. 158; p. 508.
Post: *See* Binding-post; Fence-post; Lathe tool-post; Supporting-post.
Post. J. P. Quinn. No. 970,552; Sept. 20; Sp. p. 3007; Gaz. vol. 158; p. 523.
Post-mold. G. H. Fenske. No. 970,904; Sept. 20; Sp. p. 3774; Gaz. vol. 158; p. 644.
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Potash, Preparing caustic. H. Reitz. No. 971,145; Sept. 27; Sp. p. 4270; Gaz. vol. 158; p. 752.
Potato cutting and planting machine. S. E. McKnight. No. 971,064; Sept. 27; Sp. p. 4101; Gaz. vol. 158; p. 725.
Potato-digger. W. F. Headland. No. 969,690; Sept. 6; Sp. p. 1138; Gaz. vol. 158; p. 184.
Poultry drinking-fountain. F. Enos, Jr. No. 969,852; Sept. 13; Sp. p. 1540; Gaz. vol. 158; p. 264.
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Powder-box. W. H. Perkins. No. 969,308; Sept. 6; Sp. p. 531; Gaz. vol. 158; p. 84.
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Power in precooling plants, Apparatus for economizing. A. Faget. No. 970,807; Sept. 20; Sp. p. 3591; Gaz. vol. 158; p. 614.
Power mechanism. T. R. Cook. No. 970,609; Sept. 20; Sp. p. 3119; Gaz. vol. 158; p. 543.
Power-transmission mechanism. H. W. Spellman and C. E. Olmsted. No. 969,214; Sept. 6; Sp. p. 152; Gaz. vol. 158; p. 25.
Power-transmission mechanism. B. D. Fuller, J. R. and T. A. Reilly. No. 970,440; Sept. 13; Sp. p. 2745; Gaz. vol. 158; p. 462.
Power-transmission mechanism. T. C. Dill. No. 970,995; Sept. 20; Sp. p. 3944; Gaz. vol. 158; p. 674.
Power-transmitting mechanism. C. D. McClintock. No. 970,640; Sept. 20; Sp. p. 3218; Gaz. vol. 158; p. 554.
Power-transmitting mechanism. S. H. Rickard. No. 970,753; Sept. 20; Sp. p. 3465; Gaz. vol. 158; p. 593.
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Press-roll. H. Parker. No. 969,652; Sept. 6; Sp. p. 1066; Gaz. vol. 158; p. 171.
Presser-foot mechanism. E. E. Winkley. No. 971,014; Sept. 20; Sp. p. 3975; Gaz. vol. 158; p. 680.
Pressing, punching, and cutting machines, &c., Protecting mechanism for. G. Kramer. No. 969,961; Sept. 13; Sp. p. 1777; Gaz. vol. 158; p. 302.
Pressure-regulating apparatus. S. G. Neal and J. M. Childress. No. 970,736; Sept. 20; Sp. p. 3420; Gaz. vol. 158; p. 586.
Pressure-regulator. J. R. Brown. No. 969,519; Sept. 6; Sp. p. 781; Gaz. vol. 158; p. 123.
Primary battery. E. G. Dodge. No. 969,349; Sept. 6; Sp. p. 421; Gaz. vol. 158; p. 68.
Print, Sensitive safety-. H. W. F. Lorenz. No. 969,549; Sept. 6; Sp. p. 857; Gaz. vol. 158; p. 135.
Printing-machine. W. Scott. No. 970,125; Sept. 13; Sp. p. 2099; Gaz. vol. 158; p. 357.
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Printing machine, Ticket-. T. M. Vaughan. No. 970,768; Sept. 20; Sp. p. 3498; Gaz. vol. 158; p. 599.
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Printing-press rolls, Stand for holding. E. J. Hampton. No. 970,046; Sept. 13; Sp. p. 1956; Gaz. vol. 158; p. 332.
Printing-presses, Automatic feeder for platen. H. Honigmann. No. 970,822; Sept. 20; Sp. p. 3626; Gaz. vol. 158; p. 619.
Printing-presses, Control attachment for fountains of platen. H. E. Saunders and R. D. Croft. No. 970,355; Sept. 13; Sp. p. 2578; Gaz. vol. 158; p. 435.
Printing-presses, Paper-stripping device for. H. C. Gammeter. No. 970,441; Sept. 13; Sp. p. 2749; Gaz. vol. 158; p. 463.
Printing-rollers, Making engraved. J. W. Ippers. No. 971,009; Sept. 20; Sp. p. 3964; Gaz. vol. 158; p. 678.
Printing-rollers, Manufacturing. C. Jaek. No. 970,830; Sept. 20; Sp. p. 3644; Gaz. vol. 158; p. 622.
Projectiles, Manufacture of hardened-steel. C. Davis. No. 970,428; Sept. 13; Sp. p. 2718; Gaz. vol. 158; p. 459.
Propeller. L. R. Fulda. No. 970,319; Sept. 13; Sp. p. 2514; Gaz. vol. 158; p. 424.
Propeller. T. Roggenbuck. No. 971,409; Sept. 27; Sp. p. 4789; Gaz. vol. 158; p. 838.
Propelling and driving mechanism. J. Cervelli. No. 970,607; Sept. 20; Sp. p. 3116; Gaz. vol. 158; p. 543.
Protective screen for apparatus which are exposed to high temperatures. G. Egly. No. 971,124; Sept. 27; Sp. p. 4218; Gaz. vol. 158; p. 745.
Pug-mill and stone-separator. C. W. Kilborn. No. 970,240; Sept. 13; Sp. p. 2356; Gaz. vol. 158; p. 397.
Puller: *See* Pipe-puller; Root-puller.
Puller. F. E. Buxton. No. 971,356; Sept. 27; Sp. p. 4607; Gaz. vol. 158; p. 821.
Pulley-block. A. Smith. No. 969,989; Sept. 13; Sp. p. 1830; Gaz. vol. 158; p. 311.
Pulley-block. C. Andersen. No. 970,978; Sept. 20; Sp. p. 3914; Gaz. vol. 158; p. 669.
Pulley brake and grip. C. H. Boutwell and M. Marshall. No. 969,835; Sept. 13; Sp. p. 1503; Gaz. vol. 158; p. 259.
Pulper, Rough. J. D. Tompkins. No. 969,998; Sept. 13; Sp. p. 1850; Gaz. vol. 158; p. 315.
Pump. B. O. Gage. No. 969,616; Sept. 6; Sp. p. 994; Gaz. vol. 158; p. 158.
Pump. G. J. Dourte. No. 970,435; Sept. 13; Sp. p. 2737; Gaz. vol. 158; p. 461.
Pump-barrel attachment. W. N. Riddle. No. 970,352; Sept. 13; Sp. p. 2572; Gaz. vol. 158; p. 434.
Pump, Hydropneumatic. J. B. Garber. No. 970,014; Sept. 20; Sp. p. 3790; Gaz. vol. 158; p. 647.
Pump, Liquid-measuring. A. B. Griffen. No. 969,271; Sept. 6; Sp. p. 255; Gaz. vol. 158; p. 42.
Pump or air-compressor, Rotary. C. R. Gether. No. 971,188; Sept. 27; Sp. p. 4368; Gaz. vol. 158; p. 766.
Pump, Pneumatic. T. Davis. No. 969,847; Sept. 13; Sp. p. 1533; Gaz. vol. 158; p. 263.
Pump, Rotary. I. B. Humphreys. No. 969,478; Sept. 6; Sp. p. 688; Gaz. vol. 158; p. 109.
Pump-valve. G. E. Mack. No. 970,249; Sept. 13; Sp. p. 2381; Gaz. vol. 158; p. 401.
Pumping cables, Apparatus for cutting well-. G. A. Spang. No. 969,755; Sept. 6; Sp. p. 1296; Gaz. vol. 158; p. 208.
Punch and knife-blade, Belt-. R. L. Shepard. No. 969,303; Sept. 6; Sp. p. 317; Gaz. vol. 158; p. 52.
Push-button switch. C. D. Platt. No. 969,723; Sept. 6; Sp. p. 1206; Gaz. vol. 158; p. 195.
Puzzle. W. S. Jenkins. No. 969,481; Sept. 6; Sp. p. 695; Gaz. vol. 158; p. 110.
Pyrotechnic compound. B. J. Dever and B. J. Delzeit. No. 969,252; Sept. 6; Sp. p. 224; Gaz. vol. 158; p. 36.
Quicksilver apparatus. I. Hageman. No. 970,705; Sept. 20; Sp. p. 3356; Gaz. vol. 158; p. 576.
Rack: *See* Display-rack; Hose-rack; Memorandum-rack; Paper-rack; Photographer's extension-rack; Pool-ball rack.
Radiator or other heating-stove heated by gaseous fuel. H. N. Davis and W. R. Twigg. No. 971,119; Sept. 27; Sp. p. 4210; Gaz. vol. 158; p. 743.
Radiator, Stove or furnace. F. Fiebeger. No. 970,483; Sept. 20; Sp. p. 2857; Gaz. vol. 158; p. 499.
Radius-rod. H. E. Coffin. No. 969,748; Sept. 6; Sp. p. 1280; Gaz. vol. 158; p. 205.

Rail-anchor. C. F. Clawson. No. 970,306; Sept. 13; Sp. p. 2490; Gaz. vol. 158; p. 419.
Rail-breaking device. J. Durie. No. 969,256; Sept. 6; Sp. p. 229; Gaz. vol. 158; p. 37.
Rail-joint. L. and W. A. McFadden. No. 969,648; Sept. 6; Sp. p. 1055; Gaz. vol. 158; p. 169.
Rail-joint. G. A. Williams. No. 969,679; Sept. 6; Sp. p. 1121; Gaz. vol. 158; p. 180.
Rail-joint. B. T. Martinez. No. 969,713; Sept. 6; Sp. p. 1178; Gaz. vol. 158; p. 191.
Rail-joint. P. O. Adams. No. 970,158; Sept. 13; Sp. p. 2160; Gaz. vol. 158; p. 388.
Rail-joint. P. O. Adams. No. 970,159; Sept. 13; Sp. p. 2162; Gaz. vol. 158; p. 389.
Rail-joint. J. R. Keller. No. 970,236; Sept. 13; Sp. p. 2348; Gaz. vol. 158; p. 396.
Rail-joint, Insulated. L. Griffith. No. 969,856; Sept. 13; Sp. p. 1548; Gaz. vol. 158; p. 266.
Rail-joint, Insulated. E. C. Zimmermann. No. 970,869; Sept. 20; Sp. p. 3710; Gaz. vol. 158; p. 634.
Rail-joints, Means of forming. H. G. Gillmor. No. 970,810; Sept. 20; Sp. p. 3597; Gaz. vol. 158; p. 615.
Rail-supporting mechanism. R. D. Townsend. No. 970,139; Sept. 13; Sp. p. 2125; Gaz. vol. 158; p. 362.
Rail-tie and rail-fastener. I. C. Catton. No. 971,118; Sept. 27; Sp. p. 4208; Gaz. vol. 158; p. 743.
Rails, Device for preventing the creeping of. J. T. Bluff. No. 970,418; Sept. 13; Sp. p. 2700; Gaz. vol. 158; p. 456.
Railway-brake, Manually-operated. A. A. Searway. No. 970,402; Sept. 13; Sp. p. 2666; Gaz. vol. 158; p. 451.
Railway cross, bridge, and switch tie and fastening, Metallic. J. W. Clubb. No. 971,491; Sept. 27; Sp. p. 4938; Gaz. vol. 158; p. 864.
Railway, Electric. G. P. Horton. No. 971,006; Sept. 20; Sp. p. 3959; Gaz. vol. 158; p. 677.
Railway-engine for cars and locomotives. J. D. Donovan. No. 969,750; Sept. 6; Sp. p. 1284; Gaz. vol. 158; p. 206.
Railway-frog. A. Hollinger. No. 971,129; Sept. 27; Sp. p. 4227; Gaz. vol. 158; p. 746.
Railway-gate. F. Clark. No. 970,305; Sept. 13; Sp. p. 2489; Gaz. vol. 158; p. 419.
Railway joint-chair. P. Radoman. No. 971,308; Sept. 27; Sp. p. 4598; Gaz. vol. 158; p. 805.
Railway power transmission. A. S. Parsons. No. 970,543; Sept. 20; Sp. p. 2990; Gaz. vol. 158; p. 520.
Railway safety system, Electric. A. Casale. No. 971,249; Sept. 27; Sp. p. 4501; Gaz. vol. 158; p. 787.
Railway-signal-operating apparatus. W. K. Howe. No. 969,281; Sept. 6; Sp. p. 273; Gaz. vol. 158; p. 45.
Railway-switch. F. Malone. No. 970,343; Sept. 13; Sp. p. 2555; Gaz. vol. 158; p. 431.
Railway-switch. F. P. Ahman. No. 971,236; Sept. 27; Sp. p. 4473; Gaz. vol. 158; p. 783.
Railway switch mechanism. G. P. Segraves. No. 970,653; Sept. 20; Sp. p. 3241; Gaz. vol. 158; p. 558.
Railway-tie. B. F. Campbell. No. 969,459; Sept. 6; Sp. p. 638; Gaz. vol. 158; p. 102.
Railway-tie. M. R. Wharram. No. 969,758; Sept. 6; Sp. p. 1301; Gaz. vol. 158; p. 209.
Railway-tie. C. Livingood. No. 971,132; Sept. 27; Sp. p. 4231; Gaz. vol. 158; p. 747.
Railway-tie. J. Dematteis. No. 971,256; Sept. 27; Sp. p. 4512; Gaz. vol. 158; p. 789.
Railway-tie and rail-fastening. W. P. Day. No. 969,611; Sept. 6; Sp. p. 986; Gaz. vol. 158; p. 157.
Railway-tie, Metallic. S. A. Wright. No. 969,681; Sept. 6; Sp. p. 1123; Gaz. vol. 158; p. 181.
Railway-track construction. J. W. Blower. No. 969,152; Sept. 6; Sp. p. 4; Gaz. vol. 158; p. 3.
Railway-track drill. F. E. Damron. No. 970,312; Sept. 13; Sp. p. 2500; Gaz. vol. 158; p. 421.
Range attachment, Gas-. M. P. O'Donohoe and C. P. Ellis. No. 969,558; Sept. 6; Sp. p. 877; Gaz. vol. 158; p. 138.
Range, Combined gas and hard-fuel. C. H. Miller. No. 969,793; Sept. 13; Sp. p. 1391; Gaz. vol. 158; p. 244.
Ratchet-drill. T. R. Sheetz. No. 969,664; Sept. 6; Sp. p. 1088; Gaz. vol. 158; p. 174.
Ratchet-wrench. A. M. Fulkerson. No. 970,320; Sept. 13; Sp. p. 2516; Gaz. vol. 158; p. 424.
Rattler. G. P. Hemstreet. No. 970,373; Sept. 13; Sp. p. 2620; Gaz. vol. 158; p. 442.
Razor. A. A. Warner. No. 969,226; Sept. 6; Sp. p 178; Gaz. vol. 158; p. 26.
Razor-blade holder. J. E. Dubé. No. 971,257; Sept. 27; Sp. p. 4513; Gaz. vol. 158; p. 789.
Razor, Safety-. A. A. Pratt. No. 969,724; Sept. 6; Sp. p. 1209; Gaz. vol. 158; p. 195.
Razor-strop. M. A. Mihilis. No. 970,939; Sept. 20; Sp. p. 3841; Gaz. vol. 158; p. 655.
Razor-strop clamp. A. Elsner. No. 971,432; Sept. 27; Sp. p. 4880; Gaz. vol. 158; p. 845.
Reaping and mowing machine pitman-wheel. H. O. Trowbridge. No. 970,140; Sept. 13; Sp. p. 2128; Gaz. vol. 158; p. 362.
Receptacle-closure. E. N. Gilfillan. No. 970,037; Sept. 13; Sp. p. 1937; Gaz. vol. 158; p. 328.
Receptacle-closure. C. F. Jenkins. No. 970,026; Sept. 20; Sp. p. 3816; Gaz. vol. 158; p. 651.
Receptacle-cover. B. F. Kramer. No. 971,509; Sept. 27; Sp. p. 4971; Gaz. vol. 158; p. 871.
Reclining-chair, Adjustable. A. D. Luedders. No. 971,288; Sept. 27; Sp. p. 4565; Gaz. vol. 158; p. 799.
Recoil-loader with fixed barrel. P. Mauser. No. 971,061; Sept. 27; Sp. p. 4093; Gaz. vol. 158; p. 725.
Recorder: *See* Time-recorder.
Reel: *See* Clothes-line reel; Fishing-reel.
Reel. A. Wollensak. No. 969,234; Sept. 6; Sp. p. 192; Gaz. vol. 158; p. 31.
Reel. R. C. Redpath. No. 970,394; Sept. 13; Sp. p. 2655; Gaz. vol. 158; p. 448.
Reel. A. F. Rietzel. No. 970,986; Sept. 20; Sp. p. 3926; Gaz. vol. 158; p. 671.
Reel-cradle. H. B. Carter. No. 970,884; Sept. 20; Sp. p. 3733; Gaz. vol. 158; p. 638.
Refrigerating system. E. T. Winkler. No. 971,162; Sept. 27; Sp. p. 4304; Gaz. vol. 158; p. 757.
Refrigerating system. A. Faget. No. 971,182; Sept. 27; Sp. p. 4358; Gaz. vol. 158; p. 764.
Refrigerator-car. A. W. Watson. No. 971,478; Sept. 27; Sp. p. 4911; Gaz. vol. 158; p. 860.
Refrigerator drip-alarm device. E. J. Brophy. No. 969,153; Sept. 6; Sp. p. 5; Gaz. vol. 158; p. 3.
Refrigerator-lining. W. H. Whittier. No. 970,672; Sept. 20; Sp. p. 3281; Gaz. vol. 158; p. 565.
Refrigerator-mounting. F. Lutz. No. 971,059; Sept. 27; Sp. p. 4090; Gaz. vol. 158; p. 724.
Register: *See* Cash-register.
Regulator: *See* Damper-regulator; Feed-regulator; Feed-water regulator; Flour-mill feed-regulator; Fluid-pressure regulator; Furnace-regulator; Gas-regulator; Pressure-regulator; Temperature-regulator; Valve-regulator; Voltage-regulator; Water-regulator; Water-level regulator; Windmill-regulator.
Relay, Electrical. E. E. Clement. No. 969,759; Sept. 6; Sp. p. 1302; Gaz. vol. 158; p. 209.
Resilient wheel. W. S. Houser. No. 970,229; Sept. 13; Sp. p. 2337; Gaz. vol. 158; p. 393.
Revolving self-cleaning screen. L. T. Grootenhuis. No. 969,364; Sept. 6; Sp. p. 455; Gaz. vol. 158; p. 74.
Ribbon-feeding mechanism. J. S. Duncan. No. 970,028; Sept. 13; Sp. p. 1917; Gaz. vol. 158; p. 326.
Ribbon-holding device. H. Malick. No. 970,446; Sept. 13; Sp. p. 2764; Gaz. vol. 158; p. 465.
Rim and tire, Adjustable. H. C. Smith. No. 969,416; Sept. 6; Sp. p. 565; Gaz. vol. 158; p. 91.
Rim-bearing wheel. E. J. Baisden. No. 970,291; Sept. 13; Sp. p. 2460; Gaz. vol. 158; p. 414.
Ring: *See* Curtain-ring; Key-ring.
Rivers, System to prevent the overflowing of. J. Bryan. No. 969,334; Sept. 6; Sp. p. 386; Gaz. vol. 158; p. 62.
Riveting-machine. W. Baker. No. 971,483; Sept. 27; Sp. p. 4918; Gaz. vol. 158; p. 862.
Rivets, Making. D. G. Clark. No. 970,087; Sept. 20; Sp. p. 3316; Gaz. vol. 158; p. 570.
Road-bed. S. W. Lyman. No. 969,966; Sept. 13; Sp. p. 1785; Gaz. vol. 158; p. 303.
Road-dressers, Retaining means for teeth of. H. L. Eggleston. No. 969,850; Sept. 13; Sp. p. 1538; Gaz. vol. 158; p. 264.
Roaster: *See* Ore-roaster.
Rock-pulverizing machine. J. B. Rossman. No. 971,311; Sept. 27; Sp. p. 4604; Gaz. vol. 158; p. 806.
Rod: *See* Fishing-rod; Radius-rod; Valve-actuating rod.
Roentgen rays, Preparation impermeable for. O. Gros. No. 970,215; Sept. 13; Sp. p. 2317; Gaz. vol. 158; p. 389.
Roller: *See* Screen-roller.
Rolling and seaming machine. P. E. Deaton. No. 969,249; Sept. 6; Sp. p. 217; Gaz. vol. 158; p. 35.
Rolling-mill for producing tubes. M. Peters. No. 970,263; Sept. 13; Sp. p. 2411; Gaz. vol. 158; p. 406.
Rolling-mill plant. H. Sack. No. 970,559; Sept. 20; Sp. p. 3022; Gaz. vol. 158; p. 526.
Rolling out hollow billets to form seamless tubes. O. Briede. No. 969,333; Sept. 6; Sp. p. 381; Gaz. vol. 158; p. 62.
Root-puller. G. T. McGehee. No. 971,459; Sept. 27; Sp. p. 4877; Gaz. vol. 158; p. 854.
Rope-knife. G. A. Spang. No. 969,571; Sept. 6; Sp. p. 901; Gaz. vol. 158; p. 143.
Rotary engine. G. R. Evans. No. 969,353; Sept. 6; Sp. p. 428; Gaz. vol. 158; p. 69.
Rotary engine. O. B. Jacobs. No. 969,957; Sept. 13; Sp. p. 1750; Gaz. vol. 158; p. 300.
Rotary engine. T. H. Frazer and W. W. Vanlandingham. No. 970,035; Sept. 13; Sp. p. 1934; Gaz. vol. 158; p. 328.
Rotary engine. W. S. Moses. No. 970,042; Sept. 20; Sp. p. 3844; Gaz. vol. 158; p. 656.
Rotary engine. W. M. Hoffman. No. 971,043; Sept. 27; Sp. p. 4062; Gaz. vol. 158; p. 719.
Rotary explosive-engine. E. P. Titus. No. 969,675; Sept. 6; Sp. p. 1108; Gaz. vol. 158; p. 178.
Rotary press. J. W. R. von Traubenberg. No. 970,575; Sept. 20; Sp. p. 3053; Gaz. vol. 158; p. 531.
Rotating furnace, Annular. W. B. Bary. No. 970,293; Sept. 13; Sp. p. 2462; Gaz. vol. 158; p. 415.
Rudder. W. R. Bennett. No. 971,240; Sept. 27; Sp. p. 4483; Gaz. vol. 158; p. 784.
Ruling-machine. V. Royle. No. 969,496; Sept. 6; Sp. p. 730; Gaz. vol. 158; p. 115.
Sad-iron. L. F. Parkhurst and H. G. Weeks. No. 969,976; Sept. 13; Sp. p. 1804; Gaz. vol. 158; p. 306.
Sad-iron. J. L. Ennis. No. 971,125; Sept. 27; Sp. p. 4219; Gaz. vol. 158; p. 745.
Sad-iron shoe. C. H. Burk. No. 969,335; Sept. 6; Sp. p. 388; Gaz. vol. 158; p. 63.
Saddle, Riding-. R. W. Stone. No. 969,995; Sept. 13; Sp. p. 1844; Gaz. vol. 158; p. 314.

Safe having coin-operated lock. M. Emer. No. 971,366; Sept. 27; Sp. p. 4717; Gaz. vol. 158; p. 824.
Safe or vault. C. Bartels. No. 971,344; Sept. 27; Sp. p. 4672; Gaz. vol. 158; p. 817.
Safety device. P. S. Ward. No. 969,318; Sept. 6; Sp. p. 346; Gaz. vol. 158; p. 57.
Safety limit-switch. W. W. and G. A. Pierce. No. 971,307; Sept. 27; Sp. p. 4594; Gaz. vol. 158; p. 804.
Sage-brush cutter. R. G. Gosc. No. 969,460; Sept. 6; Sp. p. 650; Gaz. vol. 158; p. 106.
Salts, Production of ferric. A. G. Betts. No. 969,833; Sept. 13; Sp. p. 1499; Gaz. vol. 158; p. 258.
Sand and gravel cleaning machine. C. J. Welty. No. 970,584; Sept. 20; Sp. p. 3070; Gaz. vol. 158; p. 535.
Sandpapering-machine. L. H. Breckenkamp. No. 971,114; Sept. 27; Sp. p. 4200; Gaz. vol. 158; p. 741.
Sash, Air-tight revolving window-. L. Bofird. No. 970,173; Sept. 13; Sp. p. 2199; Gaz. vol. 158; p. 374.
Sash-closing mechanism. E. Georgeff. No. 970,036; Sept. 13; Sp. p. 1936; Gaz. vol. 158; p. 328.
Sash construction, Metal. W. R. Kinnear. No. 971,011; Sept. 20; Sp. p. 3967; Gaz. vol. 158; p. 679.
Sash-fastener. A. F. Smith. No. 969,208; Sept. 6; Sp. p. 141; Gaz. vol. 158; p. 23.
Sash-fastener. H. W. Holmes. No. 969,870; Sept. 13; Sp. p. 1576; Gaz. vol. 158; p. 271.
Sash-hanger. H. P. Sarchett. No. 971,313; Sept. 27; Sp. p. 4607; Gaz. vol. 158; p. 807.
Sash lift and lock. E. Mawdsley. No. 970,526; Sept. 20; Sp. p. 2954; Gaz. vol. 158; p. 515.
Sash-lock. L. C. Petersen. No. 970,350; Sept. 13; Sp. p. 2569; Gaz. vol. 158; p. 433.
Sash-lock. T. N. Jones. No. 970,507; Sept. 20; Sp. p. 2904; Gaz. vol. 158; p. 507.
Sash-lock. E. Blossfeld. No. 971,350; Sept. 27; Sp. p. 4685; Gaz. vol. 158; p. 819.
Sash, Puttyless window-. R. Friedel. No. 970,438; Sept. 13; Sp. p. 2742; Gaz. vol. 158; p. 462.
Sash-weight, Sectional. C. R. Brown. No. 970,176; Sept. 13; Sp. p. 2203; Gaz. vol. 158; p. 375.
Sausages and the like, Apparatus or device for piercing. C. H. Whitlock. No. 969,230; Sept. 6; Sp. p. 186; Gaz. vol. 158; p. 30.
Saw-guide. I. L. Skeith. No. 969,810; Sept. 13; Sp. p. 1441; Gaz. vol. 158; p. 250.
Saw guiding and feeding device. G. H. M. Baker. No. 969,240; Sept. 6; Sp. p. 200; Gaz. vol. 158; p. 33.
Saw-set. J. Rogers. No. 971,079; Sept. 27; Sp. p. 4143; Gaz. vol. 158; p. 731.
Saw-set. L. W. Parkhurst. No. 971,141; Sept. 27; Sp. p. 4263; Gaz. vol. 158; p. 751.
Saw, Swing-. A. P. Wylie. No. 969,505; Sept. 6; Sp. p. 749; Gaz. vol. 158; p. 118.
Sawmill-refuse burner. A. B. Diplock. No. 969,158; Sept. 6; Sp. p. 14; Gaz. vol. 158; p. 5.
Scabbard. B. J. Condon. No. 969,524; Sept. 6; Sp. p. 795; Gaz. vol. 158; p. 125.
Scaffold, Window-. A. R. Byrd. No. 969,521; Sept. 6; Sp. p. 789; Gaz. vol. 158; p. 124.
Scale. H. S. Hallwood. No. 970,442; Sept. 13; Sp. p. 2751; Gaz. vol. 158; p. 463.
Scraper. D. J. Arpin. No. 969,764; Sept. 13; Sp. p. 1329; Gaz. vol. 158; p. 235.
Scraper. R. C. Glise. No. 970,323; Sept. 13; Sp. p. 2520; Gaz. vol. 158; p. 425.
Scraper, Road-. G. W. Spicer. No. 970,966; Sept. 20; Sp. p. 3887; Gaz. vol. 158; p. 664.
Scraper, Wheel-. W. H. Thomas and C. H. Rodgers. No. 970,277; Sept. 13; Sp. p. 2431; Gaz. vol. 158; p. 410.
Screen: *See* Centrifugal screen; Coal-screen; Fish-screen; Fly-screen; Protective screen; Revolving self-cleaning screen; Window-screen.
Screen-frame. S. T. Ashbaugh. No. 970,162; Sept. 13; Sp. p. 2171; Gaz. vol. 158; p. 370.
Screen-roller. J. D. Augsberger. No. 970,456; Sept. 20; Sp. p. 2785; Gaz. vol. 158; p. 489.
Screw-clamp. L. S. Starrett. No. 970,568; Sept. 20; Sp. p. 3039; Gaz. vol. 158; p. 520.
Screw-cutting-die head. W. Neumann. No. 971,303; Sept. 27; Sp. p. 4586; Gaz. vol. 158; p. 803.
Screw-drivers, wrenches, &c., Ratchet mechanism for. W. B. Lane. No. 969,379; Sept. 6; Sp. p. 494; Gaz. vol. 158; p. 79.
Screw-jack. C. T. Starbuck. No. 969,215; Sept. 6; Sp. p. 155; Gaz. vol. 158; p. 25.
Scythe-snath fastener. M. W. Hunsaker. No. 970,338; Sept. 13; Sp. p. 2548; Gaz. vol. 158; p. 430.
Sea-wall or wharf construction. J. E. Kilberz. No. 969,706; Sept. 6; Sp. p. 1165; Gaz. vol. 158; p. 189.
Seal, Envelop-. F. Shannon. No. 971,316; Sept. 27; Sp. p. 4613; Gaz. vol. 158; p. 808.
Seal for car-doors, shipping-receptacles, &c. J. J. A. Miller. No. 970,529; Sept. 20; Sp. p. 2958; Gaz. vol. 158; p. 515.
Seal for pipe connections, Sheet-metal. J. D. Renick and K. C. Krick. No. 969,981; Sept. 13; Sp. p. 1811; Gaz. vol. 158; p. 308.
Search-light, projector, and the like. H. Viertel. No. 969,814; Sept. 13; Sp. p. 1457; Gaz. vol. 158; p. 252.
Seasoning and making the same. E. D. Houston. No. 970,712; Sept. 20; Sp. p. 3375; Gaz. vol. 158; p. 579.
Seat: *See* Folding seat; Knockdown seat; Sulky-seat.
Seat-frame. H. S. Hale. No. 971,371; Sept. 27; Sp. p. 4727; Gaz. vol. 158; p. 826.
Seat structure, Spring-. L. A. Young. No. 970,775; Sept. 20; Sp. p. 3518; Gaz. vol. 158; p. 602.
Secondary battery. G. J. Johnson. No. 969,876; Sept. 13; Sp. p. 1589; Gaz. vol. 158; p. 273.
Seed-case. A. E. McKenzie. No. 970,454; Sept. 13; Sp. p. 2780; Gaz. vol. 158; p. 467.
Seed-dropping mechanism. J. Streitz. No. 969,918; Sept. 13; Sp. p. 1675; Gaz. vol. 158; p. 288.
Seeder. C. J. Stein. No. 971,090; Sept. 27; Sp. p. 4160; Gaz. vol. 158; p. 734.
Self-leveling table. M. Florenz. No. 969,614; Sept. 6; Sp. p. 991; Gaz. vol. 158; p. 158.
Separating heterogeneous substances and detinning scrap. C. J. Reed. No. 971,405; Sept. 27; Sp. p. 4784; Gaz. vol. 158; p. 837.
Separation, Process of. H. A. Wentworth. No. 970,002; Sept. 13; Sp. p. 1862; Gaz. vol. 158; p. 317.
Separator: *See* Centrifugal separator; Magnetic separator; Smoke-separator; Steam-separator.
Separator liner. Centrifugal. J. and A. Persoons. No. 969,399; Sept. 6; Sp. p. 532; Gaz. vol. 158; p. 85.
Settee. S. F. Balentine. No. 971,342; Sept. 27; Sp. p. 4669; Gaz. vol. 158; p. 816.
Sewing-machine. F. A. Putnam and L. L. Livingston. No. 970,550; Sept. 20; Sp. p. 3003; Gaz. vol. 158; p. 523.
Sewing-machine feeding mechanism. J. McKay. No. 970,847; Sept. 20; Sp. p. 3670; Gaz. vol. 158; p. 627.
Sewing-machine folder. A. H. De Voe. No. 970,474; Sept. 20; Sp. p. 2838; Gaz. vol. 158; p. 496.
Sewing-machine for felling. W. Arbetter. No. 969,740; Sept. 6; Sp. p. 1260; Gaz. vol. 158; p. 202.
Sewing-machine stitch-forming mechanism. J. P. Weis. No. 971,229; Sept. 27; Sp. p. 4454; Gaz. vol. 158; p. 780.
Sewing-machine work guide or gage. L. Bulasky. No. 970,179; Sept. 13; Sp. p. 2209; Gaz. vol. 158; p. 376.
Sewing-machines, Differential feeding mechanism for. J. P. Weis. No. 971,230; Sept. 27; Sp. p. 4458; Gaz. vol. 158; p. 780.
Sewing-machines, Extension-leaf-latching mechanism for. C. E. Colegrove. No. 969,038; Sept. 13; Sp. p. 1713; Gaz. vol. 158; p. 295.
Shade-bracket. P. Rabideau. No. 971,214; Sept. 27; Sp. p. 4427; Gaz. vol. 158; p. 775.
Shade fixture, Curtain-. G. D. Hartlett. No. 969,473; Sept. 6; Sp. p. 678; Gaz. vol. 158; p. 108.
Shade-guide. P. G. Emery. No. 970,452; Sept. 13; Sp. p. 2775; Gaz. vol. 158; p. 466.
Shade-hanger and curtain-support. B. Kreuzberger. No 969,962; Sept. 13; Sp. p. 1779; Gaz. vol. 158; p. 302.
Shade-holder. T. Smith. No. 969,211; Sept. 6; Sp. p. 147; Gaz. vol. 158; p. 24.
Shade-holder. J. H. Dale. No. 970,804; Sept. 20; Sp. p. 3585; Gaz. vol. 158; p. 613.
Shade or curtain bracket, Adjustable. W. E. Severin. No. 970,855; Sept. 20; Sp. p. 3687; Gaz. vol. 158; p. 629.
Shades, Swinging support for window-. M. J. Smith. No. 971,414; Sept. 27; Sp. p. 4797; Gaz. vol. 158; p. 839.
Shaft-coupling. J. M. Schwab. No. 969,662; Sept. 6; Sp. p. 1085; Gaz. vol. 158; p. 174.
Shaft-coupling. C. A. Carlson. No. 970,793; Sept. 20; Sp. p. 3556; Gaz. vol. 158; p. 608.
Shaft, Flexible. F. Schmidt and A. Grundmann. No. 969,660; Sept. 6; Sp. p. 1082; Gaz. vol. 158; p. 173.
Shafting, Flexible. R. Abell. No. 970,675; Sept. 20; Sp. p. 3288; Gaz. vol. 158; p. 566.
Shampoo protection device. J. E. Payne. No. 969,491; Sept. 6; Sp. p. 721; Gaz. vol. 158; p. 114.
Shaving-appliance case. W. L. Clark. No. 970,797; Sept. 20; Sp. p. 3566; Gaz. vol. 158; p. 610.
Shaving-cup. C. Arnone. No. 970,779; Sept. 20; Sp. p. 3524; Gaz. vol. 158; p. 603.
Shears or scissors, Cushion for handles of. C. W. Tindall. No. 970,406; Sept. 13; Sp. p. 2674; Gaz. vol. 158; p. 452.
Sheet-delivery mechanism, Variable-size-flat-. H. M. Barber. No. 970,366; Sept. 13; Sp. p. 2597; Gaz. vol. 158; p. 439.
Sheet-registering device. L. E. Morrison. No. 970,256; Sept. 13; Sp. p. 2396; Gaz. vol. 158; p. 404.
Shim. E. G. Lindhe. No. 969,709; Sept. 6; Sp. p. 1171; Gaz. vol. 158; p. 190.
Shingle, Metallic. H. M. Clemmer. No. 970,885; Sept. 20; Sp. p. 3734; Gaz. vol. 158; p. 638.
Shipping and display box for food products. J. J. Lynch. No. 971,060; Sept. 27; Sp. p. 4092; Gaz. vol. 158; p. 724.
Shipping box and crate, Folding. W. E. and C. J. Grazer. No. 969,751; Sept. 6; Sp. p. 1290; Gaz. vol. 158; p. 206.
Ships, Collision-shock-absorber for. J. Patronnaggio. No. 970,848; Sept. 20; Sp. p. 3672; Gaz. vol. 158; p. 627.
Ships, Means for damping the rolling motion of. H. Frahm. No. 970,368; Sept. 13; Sp. p. 2605; Gaz. vol. 158; p. 440.
Shock-absorber. J. H. Sager. No. 970,647; Sept. 20; Sp. p. 3230; Gaz. vol. 158; p. 556.
Shock-conveying machine. G. M. Clagett. No. 970,304; Sept. 13; Sp. p. 2485; Gaz. vol. 158; p. 419.
Shoe. E. F. Raymond. No. 970,393; Sept. 13; Sp. p. 2654; Gaz. vol. 158; p. 448.
Shoe. R. Helbig. No. 970,444; Sept. 13; Sp. p. 2760; Gaz. vol. 158; p. 464.
Shoe-form. C. B. Kosters. No. 969,165; Sept. 6; Sp. p. 32; Gaz. vol. 158; p. 8.
Shoe-horn and button-hook, Combined. L. Davidoff. No. 969,944; Sept. 13; Sp. p. 1729; Gaz. vol. 158; p. 297.
Shoe-horn and button-hook, Combined. L. Davidoff. No. 969,945; Sept. 13; Sp. p. 1730; Gaz. vol. 158; p. 297.

Shoe-tree. J. G. McNair. No. 971,210; Sept. 27; Sp. p. 4418; Gaz. vol. 158; p. 774.
Shovel: *See* Sifting-shovel.
Shovel. B. C. Olmsted. No. 969,975; Sept. 13; Sp. p. 1802; Gaz. vol. 158; p. 306.
Shoveling-machine. C. L. Glass. No. 971,036; Sept. 27; Sp. p. 4044; Gaz. vol. 158; p. 716.
Shutter-worker. C. A. Gothing. No. 970,030; Sept. 13; Sp. p. 1940; Gaz. vol. 158; p. 329.
Shuttle. J. Gagnon. No. 971,187; Sept. 27; Sp. p. 4366; Gaz. vol. 158; p. 766.
Shuttle, Metallic. G. Cuthbert and F. J. Fee. No. 970,803; Sept. 20; Sp. p. 3583; Gaz. vol. 158; p. 612.
Sifter, Ash-. H. Hough. No. 970,336; Sept. 13; Sp. p. 2545; Gaz. vol. 158; p. 429.
Sifter, Ash-. T. P. Bolger. No. 971,018; Sept. 27; Sp. p. 3993; Gaz. vol. 158; p. 709.
Sifting-shovel. J. Moller. No. 971,299; Sept. 27; Sp. p. 4581; Gaz. vol. 158; p. 802.
Sign and signal-lamp, Illuminated. W. E. Jepson. No. 969,374; Sept. 6; Sp. p. 487; Gaz. vol. 158; p. 77.
Signal-box. F. W. Cole. No. 970,800; Sept. 20; Sp. p. 3576; Gaz. vol. 158; p. 611.
Signaling system. H. O. Rugh. No. 969,985; Sept. 13; Sp. p. 1817; Gaz. vol. 158; p. 309.
Signaling system, Alarm. J. E. Shepherd. No. 969,414; Sept. 6; Sp. p. 557; Gaz. vol. 158; p. 90.
Silk, Preserving tin-weighted. O. Berg and M. Imhoff. No. 969,446; Sept. 6; Sp. p. 621; Gaz. vol. 158; p. 99.
Silo. G. G. Griswold. No. 970,041; Sept. 13; Sp. p. 1943; Gaz. vol. 158; p. 330.
Singeing-machine. T. Allsop, W. W. Sibson, and W. F. Hagar, Jr. No. 971,427; Sept. 27; Sp. p. 4817; Gaz. vol. 158; p. 843.
Sister-hook. L. E. Foster. No. 970,033; Sept. 13; Sp. p. 1932; Gaz. vol. 158; p. 327.
Skates and the like, Wheel for roller-. H. S. Yoxall and J. Easthope. No. 971,164; Sept. 27; Sp. p. 4308; Gaz. vol. 158; p. 758.
Skeins of silk and like materials, Apparatus for stretching and drying. J. Knott. No. 969,960; Sept. 13; Sp. p. 1775; Gaz. vol. 158; p. 302.
Skewer-finishing machine. A. T. True. No. 970,667; Sept. 20; Sp. p. 3264; Gaz. vol. 158; p. 563.
Skirt-marker. A. H. Lander. No. 969,544; Sept. 6; Sp. p. 847; Gaz. vol. 158; p. 133.
Skirt-supporter. N. C. Edwards. (Reissue.) No. 13,152; Sept. 20; Sp. p. 3980; Gaz. vol. 158; p. 681.
Skylight and automatic ventilator, Combined. C. Saunders. No. 969,199; Sept. 6; Sp. p. 122; Gaz. vol. 158; p. 20.
Slack-adjuster. A. R. Duffy. No. 970,026; Sept. 13; Sp. p. 1913; Gaz. vol. 158; p. 325.
Slasher-head and coupling. F. W. Gebott. No. 970,915; Sept. 20; Sp. p. 3792; Gaz. vol. 158; p. 648.
Sled, Disk-. F. E. Chamberlin. No. 969,600; Sept. 6; Sp. p. 967; Gaz. vol. 158; p. 153.
Sled-knee. G. J. Goddin and H. B. Evans. No. 970,324; Sept. 13; Sp. p. 2522; Gaz. vol. 158; p. 426.
Sled, Mechanically-propelled. H. Day. No. 969,348; Sept. 6; Sp. p. 420; Gaz. vol. 158; p. 67.
Sled-propeller. W. R. Murphy. No. 971,302; Sept. 27; Sp. p. 4585; Gaz. vol. 158; p. 803.
Sleigh-runner for wheeled vehicles. L. Beffel. No. 970,874; Sept. 20; Sp. p. 3717; Gaz. vol. 158; p. 635.
Slicing-machine. F. P. Burkhardt. No. 970,680; Sept. 20; Sp. p. 3290; Gaz. vol. 158; p. 568.
Small-arms, One-trigger mechanism for double-barrel breech-loading. L. B. Taylor. No. 970,405; Sept. 13; Sp. p. 2671; Gaz. vol. 158; p. 451.
Smoke and fume consuming apparatus. V. E. Lombard. No. 970,520; Sept. 20; Sp. p. 2938; Gaz. vol. 158; p. 512.
Smoke separator and purifier. V. E. Lombard. No. 970,519; Sept. 20; Sp. p. 2936; Gaz. vol. 158; p. 512.
Smoothing-iron. S. G. Buskard. No. 970,788; Sept. 20; Sp. p. 3542; Gaz. vol. 158; p. 606.
Snow-melting machine. O. Müller, M. Wilinus, and C. Weishaar. No. 969,716; Sept. 6; Sp. p. 1191; Gaz. vol. 158; p. 193.
Snow-plow. G. W. Ruggles. No. 970,451; Sept. 13; Sp. p. 2773; Gaz. vol. 158; p. 466.
Snow-plow, Rotary. C. B. Mann. No. 971,280; Sept. 27; Sp. p. 4567; Gaz. vol. 158; p. 799.
Soap container and dispenser, Pulverized-. F. J. Dunwoody. No. 970,479; Sept. 20; Sp. p. 2848; Gaz. vol. 158; p. 498.
Soap-cutting machine. C. W. Aiken. No. 970,161; Sept. 13; Sp. p. 2166; Gaz. vol. 158; p. 369.
Soap-dish. J. S. Frey. No. 970,485; Sept. 20; Sp. p. 2861; Gaz. vol. 158; p. 500.
Soap-dispensing machine. G. F. Shaver. No. 969,204; Sept. 6; Sp. p. 134; Gaz. vol. 158; p. 21.
Soap-dispensing machine. F. G. Agrell. No. 969,829; Sept. 13; Sp. p. 1491; Gaz. vol. 158; p. 257.
Soap-dispensing machine. F. G. Agrell. No. 969,830; Sept. 13; Sp. p. 1493; Gaz. vol. 158; p. 257.
Socket-shell. A. S. Lyhne. No. 969,486; Sept. 6; Sp. p. 706; Gaz. vol. 158; p. 112.
Soda, Preparing caustic. H. Reitz. No. 971,144; Sept. 27; Sp. p. 4269; Gaz. vol. 158; p. 752.
Sodium cyanid, Making. O. Liebknecht. No. 969,885; Sept. 13; Sp. p. 1606; Gaz. vol. 158; p. 277.
Sodium, Manufacture of metallic. P. L. Hulin. No. 971,198; Sept. 27; Sp. p. 4380; Gaz. vol. 158; p. 770.
Soldering chain-links. R. Kunzmann and E. Stierle. No. 970,726; Sept. 20; Sp. p. 3398; Gaz. vol. 158; p. 583.
Soldering-iron, Gasolene. C. Oldenburg. No. 970,740; Sept. 20; Sp. p. 3429; Gaz. vol. 158; p. 588.
Sound recording and reproducing machine. G. Oulton, C. Ablett, and W. E. Lightfoot. No. 971,068; Sept. 27; Sp. p. 4109; Gaz. vol. 158; p. 727.
Sound-records, Method and apparatus for making. T. A. Edison. No. 970,615; Sept. 20; Sp. p. 3130; Gaz. vol. 158; p. 545.
Sowing machine, Seed-. A. Welsh. No. 971,331; Sept. 27; Sp. p. 4644; Gaz. vol. 158; p. 812.
Spark-arrester. C. A. Rush. No. 970,397; Sept. 13; Sp. p. 2658; Gaz. vol. 158; p. 449.
Spectacles, Eye-shield for. F. Hamilton. No. 971,372; Sept. 27; Sp. p. 4728; Gaz. vol. 158; p. 826.
Speed-indicator and faucet control, Combined. K. K. McLeod. No. 971,139; Sept. 27; Sp. p. 4252; Gaz. vol. 158; p. 750.
Speed-indicator for motor-cars and other vehicles. C. C. Smith. No. 969,990; Sept. 13; Sp. p. 1831; Gaz. vol. 158; p. 311.
Speed mechanism, Variable-. H. W. Schatz. No. 971,219; Sept. 27; Sp. p. 4436; Gaz. vol. 158; p. 777.
Spike. M. Mack. No. 969,382; Sept. 6; Sp. p. 490; Gaz. vol. 158; p. 79.
Spinal affections, Appliance for treatment of. J. W. Battershall. No. 970,781; Sept. 20; Sp. p. 3529; Gaz. vol. 158; p. 603.
Spindle: *See* Loom shuttle-spindle; Spinning-machine spindle.
Spindle-driving bands, Mechanism for guiding and tensioning. J. Boyd. No. 969,768; Sept. 13; Sp. p. 1334; Gaz. vol. 158; p. 236.
Spinning and twisting frames, Latch for cotton ring. J. C. Ballard and J. F. Bynum. No. 969,443; Sept. 6; Sp. p. 617; Gaz. vol. 158; p. 98.
Spinning, doubling, and twisting machine. S. Z. de Ferranti. No. 970,617; Sept. 20; Sp. p. 3135; Gaz. vol. 158; p. 546.
Spinning-machine. S. Z. de Ferranti. No. 970,203; Sept. 13; Sp. p. 2274; Gaz. vol. 158; p. 385.
Spinning-machine spindle. J. V. Cunniff. No. 970,189; Sept. 13; Sp. p. 2230; Gaz. vol. 158; p. 379.
Spirits, Manufacturing of purified potable. P. A. Brangier. No. 969,332; Sept. 6; Sp. p. 380; Gaz. vol. 158; p. 62.
Splice-bar. S. G. Davis. No. 970,430; Sept. 13; Sp. p. 2722; Gaz. vol. 158; p. 459.
Spool and work holder. K. Culver. No. 970,470; Sept. 20; Sp. p. 2833; Gaz. vol. 158; p. 495.
Spool-holder. A. Musk. No. 971,209; Sept. 27; Sp. p. 4415; Gaz. vol. 158; p. 774.
Spoon-gage. F. N. Cronholm. No. 969,845; Sept. 13; Sp. p. 1530; Gaz. vol. 158; p. 262.
Spot-cleaner. G. Malmros and F. F. Adams. No. 970,069; Sept. 13; Sp. p. 2007; Gaz. vol. 158; p. 340.
Spring: *See* Heel-spring; Vehicle-spring.
Spring constructed with india-rubber, Buffer and other. A. G. Spencer. No. 971,415; Sept. 27; Sp. p. 4798; Gaz. vol. 158; p. 840.
Spring-motor. Z. C. Seeders. No. 969,201; Sept. 6; Sp. p. 130; Gaz. vol. 158; p. 21.
Spring-seat structures, Border-wire reinforcement for. L. A. Young. No. 970,157; Sept. 13; Sp. p. 2159; Gaz. vol. 158; p. 368.
Spring suspension device, Vehicle. K. E. Deussen. No. 969,463; Sept. 6; Sp. p. 645; Gaz. vol. 158; p. 103.
Spring-wheel. G. E. Friesen. No. 970,486; Sept. 20; Sp. p. 2862; Gaz. vol. 158; p. 500.
Spring-wheel. A. Kneip. No. 970,835; Sept. 20; Sp. p. 3650; Gaz. vol. 158; p. 623.
Spring-wheel. F. C. Oldham. No. 971,067; Sept. 27; Sp. p. 4108; Gaz. vol. 158; p. 727.
Springs, Machine for forming loops on coil-. C. R. Barrett. No. 971,238; Sept. 27; Sp. p. 4478; Gaz. vol. 158; p. 783.
Springwork. M. H. Naber. No. 969,390; Sept. 6; Sp. p. 511; Gaz. vol. 158; p. 81.
Sprocket-wheel, Sectional. C. Woolnough and G. F. Wheeler. No. 969,237; Sept. 6; Sp. p. 197; Gaz. vol. 158; p. 32.
Spur. G. Buermann. No. 969,839; Sept. 13; Sp. p. 1517; Gaz. vol. 158; p. 260.
Sputum-cup. G. D. Eddy. No. 970,480; Sept. 20; Sp. p. 2851; Gaz. vol. 158; p. 498.
Square, scratch-gage, and compass, Combination T-. F. J. O'Neil. No. 970,641; Sept. 20; Sp. p. 3220; Gaz. vol. 158; p. 554.
Square, T-. V. Krajíček. No. 970,625; Sept. 20; Sp. p. 3195; Gaz. vol. 158; p. 549.
Stacker, Hay-. W. H. Sabin. No. 969,197; Sept. 6; Sp. p. 117; Gaz. vol. 158; p. 19.
Stacker, Pneumatic. G. F. Conner. No. 970,183; Sept. 13; Sp. p. 2220; Gaz. vol. 158; p. 377.
Stacker, Pneumatic. F. L. Ruddell. No. 970,956; Sept. 20; Sp. p. 3871; Gaz. vol. 158; p. 661.
Stacker, Pneumatic. J. A. Walsh. No. 971,329; Sept. 27; Sp. p. 4642; Gaz. vol. 158; p. 812.
Stain or grease removing device. B. L. Williams. No. 970,673; Sept. 20; Sp. p. 3283; Gaz. vol. 158; p. 565.
Stage effect. F. D. Thomas. No. 971,418; Sept. 27; Sp. p. 4805; Gaz. vol. 158; p. 841.
Stalk-cutter. T. A. Henly. No. 970,709; Sept. 20; Sp. p. 3370; Gaz. vol. 158; p. 578.

Stamp: *See* Egg-stamp.
Stamp, Time-. W. J. English. No. 970,201; Sept. 13; Sp. p. 2266; Gaz. vol. 158; p. 384.
Stamping and printing paper webs. O. Krüger. No. 970,932; Sept. 20; Sp. p. 3828; Gaz. vol. 158; p. 653.
Stand: *See* Book and type-writer stand; Boot-black stand; Display-stand.
Stapling-machine. W. C. Jessup and J. Muth. No. 971,130; Sept. 27; Sp. p. 4229; Gaz. vol. 158; p. 746.
Station-indicator. H. L. Keeler. No. 970,717; Sept. 20; Sp. p. 3385; Gaz. vol. 158; p. 580.
Stay-bolt. M. Mahoney. No. 969,383; Sept. 6; Sp. p. 500; Gaz. vol. 158; p. 80.
Steam and water gage. E. Halley. No. 971,268; Sept. 27; Sp. p. 4532; Gaz. vol. 158; p. 792.
Steam-engine. J. M. Fennell. No. 970,903; Sept. 20; Sp. p. 3773; Gaz. vol. 158; p. 644.
Steam-engine. G. Psareas and N. Parkas. No. 971,402; Sept. 27; Sp. p. 4779; Gaz. vol. 158; p. 836.
Steam-separator. J. T. Lindstrom. No. 969,170; Sept. 6; Sp. p. 44; Gaz. vol. 158; p. 10.
Steam-separator. J. E. Dunn. No. 970,477; Sept. 20; Sp. p. 2844; Gaz. vol. 158; p. 497.
Steel tie and clamp. A. E. Runion. No. 970,957; Sept. 20; Sp. p. 3872; Gaz. vol. 158; p. 661.
Steel to steel or steel to iron, Attaching. G. Dawson. No. 969,610; Sept. 6; Sp. p. 985; Gaz. vol. 158; p. 157.
Steering and controlling device for screw-propelled vessels. J. P. H. Lund. No. 969,642; Sept. 6; Sp. p. 1044; Gaz. vol. 158; p. 167.
Stereopticon, Dissolving. A. D. Smith. No. 970,962; Sept. 20; Sp. p. 3880; Gaz. vol. 158; p. 663.
Sterilizing and oxidizing liquids with ozone, Apparatus for. A. H. Twombly. No. 969,736; Sept. 6; Sp. p. 1243; Gaz. vol. 158; p. 200.
Still. J. Hoffhine and N. F. Harriman. No. 969,625; Sept. 6; Sp. p. 1012; Gaz. vol. 158; p. 162.
Stirrup. F. M. Swart. No. 970,664; Sept. 20; Sp. p. 3260; Gaz. vol. 158; p. 562.
Stirrup, Safety-. P. G. Helsing. No. 971,376; Sept. 27; Sp. p. 4735; Gaz. vol. 158; p. 827.
Stitch-removing device. E. B. McGilvary. No. 970,733; Sept. 20; Sp. p. 3408; Gaz. vol. 158; p. 585.
Stock-fountain. A. Moore. No. 969,177; Sept. 6; Sp. p. 73; Gaz. vol. 158; p. 12.
Stocking-supporter. H. E. Petty. No. 969,402; Sept. 6; Sp. p. 537; Gaz. vol. 158; p. 86.
Stoker. W. H. H. Stineman. No. 970,660; Sept. 20; Sp. p. 3254; Gaz. vol. 158; p. 561.
Stoker, Mechanical. W. R. Wood. No. 970,868; Sept. 20; Sp. p. 3709; Gaz. vol. 158; p. 634.
Stone blocks, Knockdown apparatus for forming artificial-. W. Lake. No. 970,727; Sept. 20; Sp. p. 3399; Gaz. vol. 158; p. 583.
Stone, Facing artificial. J. C. Henderson. No. 969,692; Sept. 6; Sp. p. 1141; Gaz. vol. 158; p. 184.
Stone-marking tool, Pneumatic. C. S. Felumlee. No. 969,354; Sept. 6; Sp. p. 431; Gaz. vol. 158; p. 69.
Stool, Barber's. J. Davis. No. 969,347; Sept. 6; Sp. p. 418; Gaz. vol. 158; p. 67.
Stopper: *See* Ingot-stopper.
Stopper and dropper. R. L. Larson. No. 969,291; Sept. 6; Sp. p. 296; Gaz. vol. 158; p. 48.
Stopping the supply in case of a sudden emptying, Automatic apparatus for. J. A. Bouchayer. No. 969,516; Sept. 6; Sp. p. 775; Gaz. vol. 158; p. 122.
Storage battery. R. N. Chamberlain. No. 970,420; Sept. 13; Sp. p. 2703; Gaz. vol. 158; p. 456.
Stove. C. H. Miller. No. 969,792; Sept. 13; Sp. p. 1300; Gaz. vol. 158; p. 244.
Stove and furnace grate. L. O. Brekke. No. 970,460; Sept. 20; Sp. p. 2795; Gaz. vol. 158; p. 491.
Stove attachment. B. W. Clark. No. 969,340; Sept. 6; Sp. p. 395; Gaz. vol. 158; p. 64.
Stove, Collapsible camping-. A. Kurt. No. 970,342; Sept. 13; Sp. p. 2553; Gaz. vol. 158; p. 431.
Stove, Heating-. S. S. Cudd. No. 969,605; Sept. 6; Sp. p. 976; Gaz. vol. 158; p. 155.
Stove, Hot-blast. R. S. Moore. No. 970,941; Sept. 20; Sp. p. 3843; Gaz. vol. 158; p. 656.
Stove oven, Cooking-. F. Ziganek. No. 969,828; Sept. 13; Sp. p. 1488; Gaz. vol. 158; p. 256.
Stoves, Electric igniting device for gas-. C. Stamm. No. 969,993; Sept. 13; Sp. p. 1839; Gaz. vol. 158; p. 313.
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Strainer, Oil-. J. T. Bond. No. 970,982; Sept. 20; Sp. p. 3921; Gaz. vol. 158; p. 670.
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Street-sweeper. O. L. Neisler. No. 969,556; Sept. 6; Sp. p. 873; Gaz. vol. 158; p. 137.
Stretcher for hospital and other purposes. W. F. Bernstein. No. 970,877; Sept. 20; Sp. p. 3722; Gaz. vol. 158; p. 636.
Striking-block and angle-cock holder. L. A. Hoerr. No. 969,623; Sept. 6; Sp. p. 1009; Gaz. vol. 158; p. 161.
Stuffing-box. W. C. Short. No. 969,207; Sept. 6; Sp. p. 139; Gaz. vol. 158; p. 22.
Stuffing-box for roller-shafts. H. Schwarz. No. 970,564; Sept. 20; Sp. p. 3032; Gaz. vol. 158; p. 528.
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Sugar, Making grape-. G. Ekström. No. 970,029; Sept. 13; Sp. p. 1923; Gaz. vol. 158; p. 326.
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Sulky-seat, Adjustable. A. Wilshire. No. 969,825; Sept. 13; Sp. p. 1479; Gaz. vol. 158; p. 255.
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Supporting-post. B. E. Rudd. No. 970,116; Sept. 13; Sp. p. 2086; Gaz. vol. 158; p. 355.
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Surveying apparatus. M. W. Tebyrica. No. 969,732; Sept. 6; Sp. p. 1235; Gaz. vol. 158; p. 199.
Suspenders. C. A. Latlons. No. 970,511; Sept. 20; Sp. p. 2916; Gaz. vol. 158; p. 509.
Suspender attachment. H. H. Kramer. No. 970,931; Sept. 20; Sp. p. 3827; Gaz. vol. 158; p. 653.
Sweeping-machine. L. Soos. No. 971,158; Sept. 27; Sp. p. 4295; Gaz. vol. 158; p. 756.
Switch: *See* Automatic time-switch; Circuit-switch; Door-switch; Electric switch; Plug-switch; Push-button switch; Railway-switch; Safety limit-switch; Tongue-switch; Track-switch.
Switch-operating apparatus. F. Schad. No. 969,302; Sept. 6; Sp. p. 316; Gaz. vol. 158; p. 52.
Switch-throwing device. P. H. Petersen. No. 969,653; Sept. 6; Sp. p. 1069; Gaz. vol. 158; p. 171.
Switches, Control of electrically-operated. H. E. White. No. 969,584; Sept. 6; Sp. p. 929; Gaz. vol. 158; p. 148.
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Switching apparatus, Electric. S. T. Hutton. No. 969,480; Sept. 6; Sp. p. 691; Gaz. vol. 158; p. 109.
Switching device, Electrical. J. G. Meredith. No. 969,646; Sept. 6; Sp. p. 1051; Gaz. vol. 158; p. 169.
Table: *See* Concentrating-table; Drawing-table; Extensible table; Extension-table; Folding table; Garment-worker's table; Ironing-table; Self-leveling table; Toilet and dressing table; Turn-table.
Table. W. Pellishek. No. 969,901; Sept. 13; Sp. p. 1639; Gaz. vol. 158; p. 282.
Table. J. Morris. No. 970,637; Sept. 20; Sp. p. 3214; Gaz. vol. 158; p. 553.
Table-pad. G. J. Veach. No. 970,861; Sept. 20; Sp. p. 3699; Gaz. vol. 158; p. 632.
Tag, Shipping-. G. Richberger. No. 969,658; Sept. 6; Sp. p. 1079; Gaz. vol. 158; p. 173.
Tagging machine, Laundry-. E. W. Rice. No. 970,952; Sept. 20; Sp. p. 3863; Gaz. vol. 158; p. 660.
Talking-machine. M. O. Arnold. No. 969,230; Sept. 6; Sp. p. 199; Gaz. vol. 158; p. 32.
Talking-machine sound-reproducing device. L. Griffith. No. 971,442; Sept. 27; Sp. p. 4845; Gaz. vol. 158; p. 848.
Tampon. L. G. Langstaff. No. 969,640; Sept. 6; Sp. p. 1041; Gaz. vol. 158; p. 167.
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Tank-closure. B. A. Lake. No. 971,450; Sept. 27; Sp. p. 4861; Gaz. vol. 158; p. 852.
Tap, Pressure-. C. L. Ferman. No. 969,355; Sept. 6; Sp. p. 432; Gaz. vol. 158; p. 69.
Target. O. Horsrud. No. 969,477; Sept. 6; Sp. p. 684; Gaz. vol. 158; p. 108.
Taximeter. T. W. Post. No. 970,749; Sept. 20; Sp. p. 3456; Gaz. vol. 158; p. 591.
Taximeter fraud-preventive device. T. W. Post. No. 970,748; Sept. 20; Sp. p. 3454; Gaz. vol. 158; p. 591.
Teeth, Apparatus for making backings for artificial. F. S. Sawaya. No. 969,986; Sept. 13; Sp. p. 1521; Gaz. vol. 158; p. 310.
Telegraph-pole and the like. B. Haskell. No. 969,859; Sept. 13; Sp. p. 1555; Gaz. vol. 158; p. 267.
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Telegraph, Printing-. A. C. Crehore. No. 969,527; Sept. 6; Sp. p. 801; Gaz. vol. 158; p. 126.
Telegraph system, Fire-alarm-. F. W. Cole. No. 970,887; Sept. 20; Sp. p. 3746; Gaz. vol. 158; p. 639.
Telegraph system, Fire and police. F. W. Cole. No. 970,886; Sept. 20; Sp. p. 3735; Gaz. vol. 158; p. 639.
Telegraphy. C. G. Burke. No. 971,170; Sept. 27; Sp. p. 4329; Gaz. vol. 158; p. 759.
Telephone. J. W. Atlee. No. 971,237; Sept. 27; Sp. p. 4474; Gaz. vol. 158; p. 783.
Telephone and protective alarm system, Combined. J. G. Nolen. No. 969,393; Sept. 6; Sp. p. 515; Gaz. vol. 158; p. 82.
Telephone apparatus. G. Babcock. No. 969,832; Sept. 13; Sp. p. 1497; Gaz. vol. 158; p. 258.
Telephone attachment. A. C. Hewitt and W. C. Thomas. No. 970,449; Sept. 13; Sp. p. 2769; Gaz. vol. 158; p. 466.
Telephone-drop. A. H. Weiss. No. 969,818; Sept. 13; Sp. p. 1466; Gaz. vol. 158; p. 253.
Telephone-line-wire detacher. J. K. Tomlinson. No. 969,676; Sept. 6; Sp. p. 1111; Gaz. vol. 158; p. 179.

Telephone-meter and circuit connection therefor. R. H. Manson. No. 969,789; Sept. 13; Sp. p. 1385; Gaz. vol. 158; p. 243.
Telephone-receiver holder. C. R. Phillips. No. 969,403; Sept. 6; Sp. p. 538; Gaz. vol. 158; p. 86.
Telephone-repeater. C. Adams-Randall. No. 970,288; Sept. 13; Sp. p. 2452; Gaz. vol. 158; p. 413.
Telephone system, Intercommunicating. H. D. Currier. No. 969,774; Sept. 13; Sp. p. 1353; Gaz. vol. 158; p. 238.
Telephone system, Private-branch intercommunicating. J. L. McQuarrie. No. 969,799; Sept. 13; Sp. p. 1405; Gaz. vol. 158; p. 246.
Telephone system, Private-branch intercommunicating. J. N. Wallace and E. B. Craft. No. 970,975; Sept. 20; Sp. p. 3803; Gaz. vol. 158; p. 667.
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Telephone-transmitters, Covering for mouthpieces of. A. K. Cann. No. 970,015; Sept. 13; Sp. p. 1889; Gaz. vol. 158; p. 321.
Telephony, Wireless. A. Plianier, Jr. No. 970,350; Sept. 20; Sp. p. 3675; Gaz. vol. 158; p. 628.
Telescopes, Centering-pin cap for. G. W. Loggie. No. 970,631; Sept. 20; Sp. p. 3205; Gaz. vol. 158; p. 551.
Temperature-regulator. V. F. Davis. No. 969,848; Sept. 13; Sp. p. 1535; Gaz. vol. 158; p. 263.
Tent, Knockdown. M. H. Cummings. No. 970,612; Sept. 20; Sp. p. 3123; Gaz. vol. 158; p. 544.
Terminal casing. H. L. Wallau and E. E. Noble. No. 969,816; Sept. 13; Sp. p. 1460; Gaz. vol. 158; p. 252.
Testing-clamp. M. J. Gray. No. 971,191; Sept. 27; Sp. p. 4374; Gaz. vol. 158; p. 768.
Thawing-furnace, Portable. T. D. Bausher. No. 971,105; Sept. 27; Sp. p. 4188; Gaz. vol. 158; p. 739.
Thill-coupling. R. Coates. No. 969,937; Sept. 13; Sp. p. 1711; Gaz. vol. 158; p. 294.
Thill-support. F. B. Williams. No. 970,285; Sept. 13; Sp. p. 2448; Gaz. vol. 158; p. 412.
Threshing-machine. O. Thompson. No. 970,973; Sept. 20; Sp. p. 3898; Gaz. vol. 158; p. 666.
Threshing-machine. C. L. Bean. No. 971,239; Sept. 27; Sp. p. 4480; Gaz. vol. 158; p. 784.
Threshing-machine band-cutter. J. T. Hanson. No. 970,920; Sept. 20; Sp. p. 3806; Gaz. vol. 158; p. 649.
Thumb-sucking preventer. A. B. Crandall. No. 969,942; Sept. 13; Sp. p. 1727; Gaz. vol. 158; p. 296.
Tide-motor. D. M. Barr. No. 971,343; Sept. 27; Sp. p. 4671; Gaz. vol. 158; p. 817.
Tie: *See* Concrete railway-tie; Rail-tie; Railway-tie; Steel tie.
Tie-plate and rail-brace. V. G. Banks. No. 970,414; Sept. 13; Sp. p. 2689; Gaz. vol. 158; p. 454.
Tie-tamping machine. J. Iliff. No. 971,504; Sept. 27; Sp. p. 4961; Gaz. vol. 158; p. 869.
Tile and saggar, Combined. G. E. Vance. No. 971,160; Sept. 27; Sp. p. 4300; Gaz. vol. 158; p. 756.
Tile and saggar, Combined. G. E. Vance. No. 971,228; Sept. 27; Sp. p. 4452; Gaz. vol. 158; p. 780.
Time-recorder. W. D. Hawley. No. 969,370; Sept. 6; Sp. p. 472; Gaz. vol. 158; p. 76.
Tin-plate-catching machine. G. J. Szabo. No. 970,134; Sept. 13; Sp. p. 2117; Gaz. vol. 158; p. 360.
Tire. L. M. Nelson. No. 969,717; Sept. 6; Sp. p. 1194; Gaz. vol. 158; p. 193.
Tire, Auto-. F. Modlin. No. 969,389; Sept. 6; Sp. p. 509; Gaz. vol. 158; p. 81.
Tire-bolt cutter and nut turner and splitter. G. Heller. No. 971,195; Sept. 27; Sp. p. 4382; Gaz. vol. 158; p. 769.
Tire-casing. J. W. Moore. No. 971,301; Sept. 27; Sp. p. 4583; Gaz. vol. 158; p. 802.
Tire, Demountable. V. Wildner. No. 970,005; Sept. 13; Sp. p. 1868; Gaz. vol. 158; p. 318.
Tire-inflater. W. R. Heck. No. 970,329; Sept. 13; Sp. p. 2530; Gaz. vol. 158; p. 427.
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Tire protector, Pneumatic-. E. Russell. No. 969,908; Sept. 13; Sp. p. 1649; Gaz. vol. 158; p. 285.
Tire protector, Pneumatic-. O. A. Brictson. No. 971,246; Sept. 27; Sp. p. 4494; Gaz. vol. 158; p. 786.
Tire, Sectional wheel-. J. C. Lighthouse. No. 969,889; Sept. 13; Sp. p. 1612; Gaz. vol. 158; p. 278.
Tire tread, Detachable automobile-. H. M. Pitman. No. 969,721; Sept. 6; Sp. p. 1205; Gaz. vol. 158; p. 194.
Tire tread, Detachable automobile-. H. M. Pitman. No. 969,722; Sept. 6; Sp. p. 1205; Gaz. vol. 158; p. 194.
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Tire, Wheel-. S. Grunewald. No. 971,267; Sept. 27; Sp. p. 4531; Gaz. vol. 158; p. 792.
Toaster, Bread-. A. A. Hill. No. 969,475; Sept. 6; Sp. p. 681; Gaz. vol. 158; p. 108.
Tobacco-box fastening. P. F. and A. E. McGee. No. 969,550; Sept. 6; Sp. p. 861; Gaz. vol. 158; p. 136.
Tobacco-pipe. R. Loake. No. 970,632; Sept. 20; Sp. p. 3206; Gaz. vol. 158; p. 551.
Toggle. H. H. Cummings. No. 970,422; Sept. 13; Sp. p. 2706; Gaz. vol. 158; p. 457.
Toilet and dressing table. G. M. Utterback. No. 970,143; Sept. 13; Sp. p. 2133; Gaz. vol. 158; p. 364.
Toilet article. J. A. W. Stuart. (Reissue.) No. 13,149; Sept. 6; Sp. p. 1326; Gaz. vol. 158; p. 211.
Tongs, Bag-. A. Holsey. No. 969,695; Sept. 6; Sp. p. 1144; Gaz. vol. 158; p. 185.
Tongue, Automatic. F. X. Lauterbur. No. 970,244; Sept. 13; Sp. p. 2369; Gaz. vol. 158; p. 309.
Tongue-switch. C. A. Alden. No. 969,506; Sept. 6; Sp. p. 751; Gaz. vol. 158; p. 119.
Tool and tool-holder. A. K. Rosenbeck. No. 969,983; Sept. 13; Sp. p. 1814; Gaz. vol. 158; p. 309.
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Tool holder, Boring-. C. E. Day. No. 971,120; Sept. 27; Sp. p. 4211; Gaz. vol. 158; p. 744.
Tool-holding block. J. C. Buckley. No. 970,177; Sept. 13; Sp. p. 2204; Gaz. vol. 158; p. 375.
Tool, Household-. J. C. Forster. No. 970,206; Sept. 13; Sp. p. 2282; Gaz. vol. 158; p. 386.
Tool-shank. G. E. Hackett. No. 971,039; Sept. 27; Sp. p. 4052; Gaz. vol. 158; p. 718.
Tool throttle-handle, Pneumatic-. W. M. Holden. No. 970,225; Sept. 13; Sp. p. 2329; Gaz. vol. 158; p. 392.
Tools, Machine for shaping heavy. E. N. Mills. No. 971,208; Sept. 27; Sp. p. 4413; Gaz. vol. 158; p. 773.
Tooth-crowns, Means for forming. F. O. Jaques, Jr. No. 971,274; Sept. 27; Sp. p. 4540; Gaz. vol. 158; p. 794.
Tooth-powder distributer. H. Hoelser. No. 970,224; Sept. 13; Sp. p. 2328; Gaz. vol. 158; p. 392.
Top-spinner. F. Friz. No. 969,264; Sept. 6; Sp. p. 244; Gaz. vol. 158; p. 40.
Top-spinning device. C. C. Tannert. No. 971,420; Sept. 27; Sp. p. 4808; Gaz. vol. 158; p. 841.
Torch. C. Johnson. No. 969,875; Sept. 13; Sp. p. 1586; Gaz. vol. 158; p. 273.
Torpedo-director. G. C. Davison. No. 970,431; Sept. 13; Sp. p. 2723; Gaz. vol. 158; p. 460.
Towel-sterilizer. J. P. Reardon. No. 969,904; Sept. 13; Sp. p. 1643; Gaz. vol. 158; p. 283.
Toy. S. S. Pete. No. 969,185; Sept. 6; Sp. p. 91; Gaz. vol. 158; p. 15.
Toy and game apparatus. J. W. Cadwallader. No. 970,881; Sept. 13; Sp. p. 3728; Gaz. vol. 158; p. 637.
Toy flying-machine. I. W. Humphrey and H. A. Spurgeon. No. 970,829; Sept. 20; Sp. p. 3643; Gaz. vol. 158; p. 621.
Toy gun. W. R. Benjamin. No. 970,876; Sept. 20; Sp. p. 3720; Gaz. vol. 158; p. 636.
Trace-fastener. R. M. Watson. No. 970,769; Sept. 20; Sp. p. 3500; Gaz. vol. 158; p. 599.
Trace-supporter. G. D. Holm. No. 970,226; Sept. 13; Sp. p. 2331; Gaz. vol. 158; p. 392.
Track and supporting-boom therefor, Swinging. H. L. and H. J. Ferris. No. 969,465; Sept. 6; Sp. p. 648; Gaz. vol. 158; p. 104.
Track-binder. J. F. Hudson. No. 970,054; Sept. 13; Sp. p. 1975; Gaz. vol. 158; p. 335.
Track-switch, Electrically-operated. F. B. Corey. No. 969,526; Sept. 6; Sp. p. 798; Gaz. vol. 158; p. 125.
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Train-order holder. C. Johnson. No. 970,831; Sept. 20; Sp. p. 3645; Gaz. vol. 158; p. 622.
Train-ventilator. R. Chadwick. No. 970,685; Sept. 20; Sp. p. 3312; Gaz. vol. 158; p. 569.
Trammel. A. B. Cooper. No. 969,156; Sept. 6; Sp. p. 11; Gaz. vol. 158; p. 5.
Transmitter for teleselectors. E. Blos. No. 970,367; Sept. 13; Sp. p. 2601; Gaz. vol. 158; p. 440.
Transom-adjusting device. F. F. Smith. No. 970,656; Sept. 20; Sp. p. 3247; Gaz. vol. 158; p. 559.
Trap: *See* Ant-trap; Fish-trap; Fly-trap; Game-trap; Insect-trap.
Trap. C. C. Humberstone. No. 969,282; Sept. 6; Sp. p. 275; Gaz. vol. 158; p. 45.
Trash receptacle and crematory. S. Karlson. No. 969,879; Sept. 13; Sp. p. 1595; Gaz. vol. 158; p. 274.
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Trolley. G. Weber. No. 970,865; Sept. 20; Sp. p. 3705; Gaz. vol. 158; p. 633.
Trolley. J. and J. Ország. No. 971,399; Sept. 27; Sp. p. 4772; Gaz. vol. 158; p. 835.
Trolley-base. C. E. Gierding. No. 970,211; Sept. 13; Sp. p. 2306; Gaz. vol. 158; p. 387.
Trolley-car-pole attachment. G. R. Dunn. No. 971,404; Sept. 27; Sp. p. 4942; Gaz. vol. 158; p. 865.
Trolley-harp. R. D. Blackstone. No. 970,981; Sept. 20; Sp. p. 3920; Gaz. vol. 158; p. 670.
Trolley-harp. L. E. Bradt. No. 971,485; Sept. 27; Sp. p. 4928; Gaz. vol. 158; p. 862.
Trolley-retriever. W. C. Starkey. No. 969,994; Sept. 13; Sp. p. 1841; Gaz. vol. 158; p. 313.
Trolley-shifter. S. L. Hanson. No. 969,754; Sept. 6; Sp. p. 1294; Gaz. vol. 158; p. 207.
Trough: *See* Watering-trough.
Trousers. A. Leander. No. 969,380; Sept. 6; Sp. p. 496; Gaz. vol. 158; p. 79.
Trousers hanger and stretcher. L. G. Hunter. No. 969,872; Sept. 13; Sp. p. 1581; Gaz. vol. 158; p. 272.
Truck for hay-loaders. W. C. F. Blossfeld. No. 969,595; Sept. 6; Sp. p. 959; Gaz. vol. 158; p. 152.
Truck, Hand-. F. E. Thomes. No. 970,137; Sept. 13; Sp. p. 2123; Gaz. vol. 158; p. 361.

Truck, Hand-. F. P. Brown. No. 970,787; Sept. 20; Sp. p. 3541; Gaz. vol. 158; p. 606.
Truck, Locomotive trailer-. W. S. Hodges. No. 970,333; Sept. 13; Sp. p. 2541; Gaz. vol. 158; p. 428.
Truck, Motor-car. M. Albrecht. No. 970,596; Sept. 20; Sp. p. 3090; Gaz. vol. 158; p. 538.
Truck side frame, Car-. C. A. Schroyer. No. 970,757; Sept. 20; Sp. p. 3475; Gaz. vol. 158; p. 594.
Trucks, Side-play liner for locomotive-. W. H. Thoma and H. W. Dummert. No. 970,138; Sept. 13; Sp. p. 2124; Gaz. vol. 158; p. 362.
Trunk. C. H. Paxton. No. 969,900; Sept. 13; Sp. p. 1636; Gaz. vol. 158; p. 282.
Tube: *See* Mailing-tube.
Tube-cutter. W. A. and C. E. Altman. No. 969,507; Sept. 6; Sp. p. 764; Gaz. vol. 158; p. 119.
Tubes, Machine for inserting nuts or disks in. C. Vallone and F. R. Rogers. No. 970,660; Sept. 20; Sp. p. 3271; Gaz. vol. 158; p. 564.
Tubing. L. Rubes. No. 970,955; Sept. 20; Sp. p. 3870; Gaz. vol. 158; p. 661.
Tumbling-barrel. G. E. Abbott. No. 970,977; Sept. 20; Sp. p. 3911; Gaz. vol. 158; p. 668.
Tunnels, Waterproofing. H. A. Carson. No. 970,683; Sept. 20; Sp. p. 3308; Gaz. vol. 158; p. 569.
Turbine. R. Kostanjevic, J. Matsenik, and F. Gessl. No. 969,541; Sept. 6; Sp. p. 838; Gaz. vol. 158; p. 132.
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Turbine. W. G. Dodd. No. 970,193; Sept. 13; Sp. p. 2239; Gaz. vol. 158; p. 381.
Turbine and regulating means therefor. J. P. Nikonow. (Reissue.) No. 13,153; Sept. 20; Sp. p. 3981; Gaz. vol. 158; p. 681.
Turbine-balancing means. E. Thomson. No. 969,734; Sept. 6; Sp. p. 1239; Gaz. vol. 158; p. 199.
Turbine-blades, Shrouding. A. W. Clarke. No. 969,843; Sept. 13; Sp. p. 1526; Gaz. vol. 158; p. 261.
Turbine-blading machine. S. Z. de Ferranti. No. 969,260; Sept. 6; Sp. p. 236; Gaz. vol. 158; p. 39.
Turbine, Elastic-fluid. C. G. Curtis. No. 969,606; Sept. 6; Sp. p. 977; Gaz. vol. 158; p. 155.
Turbine, Elastic-fluid. W. J. A. London. No. 969,891; Sept. 13; Sp. p. 1616; Gaz. vol. 158; p. 279.
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Turbine, Gas-. E. A. Forsberg and B. Ljungström. No. 970,204; Sept. 13; Sp. p. 2277; Gaz. vol. 158; p. 385.
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Turbine, Reentrant. G. Westinghouse. No. 969,821; Sept. 13; Sp. p. 1470; Gaz. vol. 158; p. 254.
Turbine, Steam-. H. Peters. No. 970,106; Sept. 13; Sp. p. 2069; Gaz. vol. 158; p. 352.
Turbines, Leakage-reducing means for. F. R. C. Boyd. No. 969,517; Sept. 6; Sp. p. 776; Gaz. vol. 158; p. 122.
Turn-table. E. F. Smith. No. 970,857; Sept. 20; Sp. p. 3600; Gaz. vol. 158; p. 630.
Turn-table. G. A. Bronder. No. 971,115; Sept. 27; Sp. p. 4202; Gaz. vol. 158; p. 742.
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Turret-machine. A. W. Wigglesworth. No. 969,433; Sept. 6; Sp. p. 596; Gaz. vol. 158; p. 95.
Type-casting-machine attachment. A. W. Hamaker. No. 971,040; Sept. 27; Sp. p. 4055; Gaz. vol. 158; p. 718.
Type-setting machine. H. Drewell. No. 970,694; Sept. 20; Sp. p. 3328; Gaz. vol. 158; p. 572.
Type-writer. J. W. Paul. No. 971,469; Sept. 27; Sp. p. 4893; Gaz. vol. 158; p. 857.
Type-writer attachment. F. C. Shobert. No. 969,206; Sept. 6; Sp. p. 137; Gaz. vol. 158; p. 22.
Type-writer, Book. G. W. Donning. No. 970,195; Sept. 13; Sp. p. 2443; Gaz. vol. 158; p. 382.
Type-writer inking attachment. E. A. Beard. No. 970,295; Sept. 13; Sp. p. 2467; Gaz. vol. 158; p. 416.
Type-writer tabulating device. G. W. Donning. No. 970,433; Sept. 13; Sp. p. 2728; Gaz. vol. 158; p. 460.
Type-writing machine. J. H. Barr. No. 969,326; Sept. 6; Sp. p. 366; Gaz. vol. 158; p. 60.
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Type-writing machine. C. Holland. No. 970,052; Sept. 13; Sp. p. 1970; Gaz. vol. 158; p. 334.
Type-writing machine. H. W. Merrett. No. 970,076; Sept. 13; Sp. p. 2016; Gaz. vol. 158; p. 342.
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Type-writing machine. W. Y. Forbes and W. H. Rothwell. No. 971,032; Sept. 27; Sp. p. 4035; Gaz. vol. 158; p. 714.
Type-writing machine. C. B. Yaw. No. 971,098; Sept. 27; Sp. p. 4177; Gaz. vol. 158; p. 737.
Type-writing machine. O. Woodward. No. 971,234; Sept. 27; Sp. p. 4467; Gaz. vol. 158; p. 782.
Umbrella. T. M. Suru. No. 970,663; Sept. 20; Sp. p. 3259; Gaz. vol. 158; p. 562.
Umbrella attachment. G. D. Cory. No. 971,173; Sept. 27; Sp. p. 4340; Gaz. vol. 158; p. 761.
Umbrella-support. A. Pranke. No. 970,751; Sept. 20; Sp. p. 3462; Gaz. vol. 158; p. 593.
Vacuum-cleaner. G. Backer. No. 969,441; Sept. 6; Sp. p. 611; Gaz. vol. 158; p. 97.
Vacuum-cleaner. W. H. Rakestraw. No. 971,215; Sept. 27; Sp. p. 4428; Gaz. vol. 158; p. 776.
Vacuum-cleaner, Hand. C. G. Hutchinson. No. 971,044; Sept. 27; Sp. p. 4063; Gaz. vol. 158; p. 719.
Vacuum-cleaners, Dust-collector for. F. W. Smith, Jr. No. 971,013; Sept. 20; Sp. p. 3973; Gaz. vol. 158; p. 680.
Vacuum cleaning apparatus. W. H. Jakway. No. 970,232; Sept. 13; Sp. p. 2342; Gaz. vol. 158; p. 395.
Valve. T. Turner. No. 969,576; Sept. 6; Sp. p. 909; Gaz. vol. 158; p. 144.
Valve. J. F. Jennings. No. 969,874; Sept. 13; Sp. p. 1584; Gaz. vol. 158; p. 272.
Valve. M. H. Owen. No. 970,387; Sept. 13; Sp. p. 2641; Gaz. vol. 158; p. 445.
Valve. W. Corliss. No. 970,469; Sept. 20; Sp. p. 2829; Gaz. vol. 158; p. 494.
Valve-actuating rod. G. W. Dunham. No. 970,999; Sept. 20; Sp. p. 3950; Gaz. vol. 158; p. 675.
Valve, Air-brake protection-. W. V. Turner. No. 971,326; Sept. 27; Sp. p. 4631; Gaz. vol. 158; p. 811.
Valve and valve-gear for internal-combustion engines. G. H. Mann. No. 970,525; Sept. 20; Sp. p. 2951; Gaz. vol. 158; p. 514.
Valve, Automatic cut-off. J. C. Smith. No. 969,911; Sept. 13; Sp. p. 1656; Gaz. vol. 158; p. 286.
Valve, Automatic fluid-pressure-retaining. C. W. Hurl. No. 969,479; Sept. 6; Sp. p. 680; Gaz. vol. 158; p. 109.
Valve, Automatic safety gas-. A. H. Lake, Jr. No. 970,062; Sept. 13; Sp. p. 1988; Gaz. vol. 158; p. 337.
Valve, Cut-off. M. D. Menear and C. O. Shay. No. 971,295; Sept. 27; Sp. p. 4575; Gaz. vol. 158; p. 801.
Valve device, Triple-. W. V. Turner. No. 969,427; Sept. 6; Sp. p. 588; Gaz. vol. 158; p. 94.
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Valve, Float-controlled. W. S. Bellows. No. 970,167; Sept. 13; Sp. p. 2185; Gaz. vol. 158; p. 372.
Valve for fluid-operated motors, Controlling-. C. A. Parsons, G. G. Stoney, A. Q. Carnegie, and A. W. Bowerbank. No. 971,069; Sept. 27; Sp. p. 4113; Gaz. vol. 158; p. 727.
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Valve, Gas-producer regulating-. H. I. Lea. No. 969,884; Sept. 13; Sp. p. 1604; Gaz. vol. 158; p. 276.
Valve-gear, Corliss. F. Phillips. No. 969,802; Sept. 13; Sp. p. 1426; Gaz. vol. 158; p. 248.
Valve, Graduated-release triple. W. V. Turner. No. 971,421; Sept. 27; Sp. p. 4809; Gaz. vol. 158; p. 842.
Valve, High-pressure gate-. T. W. Stone. No. 970,764; Sept. 20; Sp. p. 3488; Gaz. vol. 158; p. 597.
Valve, Lubricating-. T. J. Barbre. No. 970,292; Sept. 13; Sp. p. 2461; Gaz. vol. 158; p. 414.
Valve mechanism and governor. G. P. Randolph. No. 970,851; Sept. 20; Sp. p. 3676; Gaz. vol. 158; p. 628.
Valve mechanism, Flush-. J. H. Davis. No. 970,471; Sept. 20; Sp. p. 2834; Gaz. vol. 158; p. 495.
Valve mechanism for compound engines. P. O. Poulson. No. 971,472; Sept. 27; Sp. p. 4902; Gaz. vol. 158; p. 858.
Valve mechanism for controlling fluid admission. G. Woodall. No. 970,411; Sept. 13; Sp. p. 2682; Gaz. vol. 158; p. 453.
Valve, Needle-. A. P. Storrs. No. 969,573; Sept. 6; Sp. p. 905; Gaz. vol. 158; p. 144.
Valve-operating mechanism for presses. J. R. Browning. No. 969,457; Sept. 6; Sp. p. 635; Gaz. vol. 158; p. 102.
Valve, Priming check-. J. A. H. Provost. No. 969,902; Sept. 13; Sp. p. 1640; Gaz. vol. 158; p. 282.
Valve-regulator, Fluid-pressure. T. M. Wilkins. No. 970,284; Sept. 13; Sp. p. 2446; Gaz. vol. 158; p. 412.
Valve, Relief or safety. W. L. Osborne. No. 970,348; Sept. 13; Sp. p. 2563; Gaz. vol. 158; p. 433.
Valve-spring remover. J. Turner. No. 970,141; Sept. 13; Sp. p. 2130; Gaz. vol. 158; p. 363.
Valve, Steam-pressure reducing and controlling. N. Filliberto. No. 971,435; Sept. 27; Sp. p. 4833; Gaz. vol. 158; p. 846.
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Valve, Stop-. C. O. Hawkins. No. 971,446; Sept. 27; Sp. p. 4856; Gaz. vol. 158; p. 850.
Valve, Stop and through-way. F. W. Leevers. No. 970,245; Sept. 13; Sp. p. 2371; Gaz. vol. 158; p. 399.
Valve, Ventilating-. G. E. Knowles. No. 971,047; Sept. 27; Sp. p. 4069; Gaz. vol. 158; p. 720.
Valves, Device for facilitating the removal of engine-. O. A. Hays. No. 971,375; Sept. 27; Sp. p. 4733; Gaz. vol. 158; p. 827.
Valves, Device for preventing the ignition of pressure-reducing. A. B. Dräger. No. 970,024; Sept. 13; Sp. p. 1910; Gaz. vol. 158; p. 324.
Vapor rectifier, Mercury-. F. Conrad. No. 969,525; Sept. 6; Sp. p. 796; Gaz. vol. 158; p. 125.
Vapor rectifiers, Automatic starting device for mercury-. F. S. Chapman. No. 969,523; Sept. 6; Sp. p. 793; Gaz. vol. 158; p. 124.
Vaporizing device. A. A. Low, M. J. Wohl, and H. Hertzberg. No. 969,803; Sept. 13; Sp. p. 1620; Gaz. vol. 158; p. 279.

Varnish for coating leather. Apparatus for manufacturing. G. W. Priest. No. 971,071; Sept. 27; Sp. p. 4121; Gaz. vol. 158; p. 728.

Vault, Grave-. J. W. Freeman. No. 970,208; Sept. 13; Sp. p. 2286; Gaz. vol. 158; p. 387.

Vegetables, Scalding and washing. G. E. Wright. No. 969,238; Sept. 6; Sp. p. 198; Gaz. vol. 158; p. 32.

Vehicle-body. S. E. Light. No. 969,293; Sept. 6; Sp. p. 298; Gaz. vol. 158; p. 49.

Vehicle-body. D. J. Kerstetter. No. 970,238; Sept. 13; Sp. p. 2353; Gaz. vol. 158; p. 396.

Vehicle, Child's. M. Pettit and L. S. Roll. No. 970,849; Sept. 20; Sp. p. 3074; Gaz. vol. 158; p. 628.

Vehicle controlling mechanism. J. T. Whalen. No. 971,334; Sept. 27; Sp. p. 4049; Gaz. vol. 158; p. 813.

Vehicle draft appliance. W. P. Maxwell. No. 969,645; Sept. 6; Sp. p. 1050; Gaz. vol. 158; p. 169.

Vehicle draft attachment, Motor-. O. E. Ritzmann. No. 971,075; Sept. 27; Sp. p. 4137; Gaz. vol. 158; p. 730.

Vehicle-heater. G. S. Johnston. No. 969,784; Sept. 13; Sp. p. 1377; Gaz. vol. 158; p. 242.

Vehicle-rim. M. L. Williams. No. 969,929; Sept. 13; Sp. p. 1604; Gaz. vol. 158; p. 292.

Vehicle-rim, Detachable. M. L. Williams. No. 969,930; Sept. 13; Sp. p. 1605; Gaz. vol. 158; p. 292.

Vehicle shock-absorber. H. W. Cummings. No. 970,611; Sept. 20; Sp. p. 3122; Gaz. vol. 158; p. 544.

Vehicle-spring. C. A. Meredith. No. 970,527; Sept. 20; Sp. p. 2956; Gaz. vol. 158; p. 512.

Vehicle spring-suspension arrangement. C. E. Rennen and W. Romeiser. No. 971,475; Sept. 27; Sp. p. 4907; Gaz. vol. 158; p. 859.

Vehicle steering device. A. D. Baker. No. 969,766; Sept. 13; Sp. p. 1331; Gaz. vol. 158; p. 235.

Vehicle-wheel. T. W. Baker. No. 969,241; Sept. 6; Sp. p. 201; Gaz. vol. 158; p. 33.

Vehicle-wheel. J. Illingworth. No. 969,536; Sept. 6; Sp. p. 825; Gaz. vol. 158; p. 130.

Vehicle-wheel. H. Scullin. No. 970,126; Sept. 13; Sp. p. 2102; Gaz. vol. 158; p. 358.

Vehicle-wheel. S. M. Friedman. No. 970,911; Sept. 20; Sp. p. 3786; Gaz. vol. 158; p. 646.

Vehicle-wheel. C. Kindschert. No. 971,384; Sept. 27; Sp. p. 4752; Gaz. vol. 158; p. 830.

Vehicle-wheel. J. H. Esders. No. 971,434; Sept. 27; Sp. p. 4832; Gaz. vol. 158; p. 846.

Vehicle-wheel, Cushioned. M. H. Aldridge. No. 971,100; Sept. 27; Sp. p. 4180; Gaz. vol. 158; p. 737.

Vehicle-wheel, Resilient. J. Gaynor. No. 969,266; Sept. 6; Sp. p. 247; Gaz. vol. 158; p. 40.

Vehicles by compressed air, System and apparatus for propelling. J. O. Cobb. No. 969,772; Sept. 13; Sp. p. 1342; Gaz. vol. 158; p. 237.

Veil holder or retainer for bonnets. J. Rostenberg. No. 971,476; Sept. 27; Sp. p. 4908; Gaz. vol. 158; p. 859.

Velocipede propelling mechanism. J. T. Plummer. No. 970,109; Sept. 13; Sp. p. 2074; Gaz. vol. 158; p. 352.

Vending apparatus. I. F. Harris. No. 969,619; Sept. 6; Sp. p. 1001; Gaz. vol. 158; p. 160.

Vending-machine. P. S. Bloch. No. 969,330; Sept. 6; Sp. p. 375; Gaz. vol. 158; p. 61.

Vending-machine. J. M. Thornber. No. 969,735; Sept. 6; Sp. p. 1241; Gaz. vol. 158; p. 200.

Vending-machine. J. Kriz and F. Schorik. No. 969,883; Sept. 13; Sp. p. 1600; Gaz. vol. 158; p. 275.

Vending machine, Bottle-. J. B. Clay. No. 969,747; Sept. 6; Sp. p. 1278; Gaz. vol. 158; p. 205.

Vending-machine, Coin. A. Coseglia. No. 970,801; Sept. 20; Sp. p. 3578; Gaz. vol. 158; p. 612.

Vending-machine, Coin-controlled. C. C. Clawson. No. 969,844; Sept. 13; Sp. p. 1527; Gaz. vol. 158; p. 262.

Vending-machine coin-controlled mechanism. L. A. Vandiver. No. 970,280; Sept. 13; Sp. p. 2435; Gaz. vol. 158; p. 411.

Vending machine, Stamp-. E. A. Nielsen and F. C. Petersen. No. 969,973; Sept. 13; Sp. p. 1798; Gaz. vol. 158; p. 305.

Vending-machines, Coin-operated delivering and fraud-preventing mechanism for. A. D. Grover. No. 969,272; Sept. 6; Sp. p. 257; Gaz. vol. 158; p. 42.

Ventilating apparatus. M. I. Shapiro. No. 970,403; Sept. 13; Sp. p. 2668; Gaz. vol. 158; p. 451.

Ventilating system. A. L. Werner. No. 971,161; Sept. 27; Sp. p. 4303; Gaz. vol. 158; p. 757.

Ventilator: *See* Hat-ventilator; Train-ventilator; Window-ventilator.

Ventilator. C. McVeety. No. 969,554; Sept. 6; Sp. p. 870; Gaz. vol. 158; p. 137.

Ventilator. R. W. Carrington. No. 969,842; Sept. 13; Sp. p. 1521; Gaz. vol. 158; p. 261.

Vest and suspenders, Combined. H. Hoppenstein. No. 970,324; Sept. 20; Sp. p. 3633; Gaz. vol. 158; p. 620.

Vibration and sound, Plate for deadening. W. Genest and H. Stössel. No. 971,369; Sept. 27; Sp. p. 4722; Gaz. vol. 158; p. 825.

Vise, Bench-. A. W. Peterson. No. 969,401; Sept. 6; Sp. p. 535; Gaz. vol. 158; p. 85.

Voltage-regulator. R. Fleming. No. 971,184; Sept. 27; Sp. p. 4363; Gaz. vol. 158; p. 765.

Voting-machine interlocking mechanism. C. H. Ocumpaugh. No. 970,260; Sept. 13; Sp. p. 2401; Gaz. vol. 158; p. 405.

Wagon. A. D. Ellsworth. No. 970,436; Sept. 13; Sp. p. 2739; Gaz. vol. 158; p. 462.

Wagon-box protector. N. P. B. Eskildsen. No. 971,028; Sept. 27; Sp. p. 4017; Gaz. vol. 158; p. 713.

Wagon, Dumping-. H. D. Ellis. No. 969,258; Sept. 6; Sp. p. 232; Gaz. vol. 158; p. 38.

Wagon, Dumping-. H. D. Ellis. No. 969,259; Sept. 6; Sp. p. 233; Gaz. vol. 158; p. 38.

Wagon, Dumping-. F. N. Cronholm. No. 970,893; Sept. 20; Sp. p. 3758; Gaz. vol. 158; p. 641.

Wagon front gear. G. Kautz, Sr. No. 971,507; Sept. 27; Sp. p. 4968; Gaz. vol. 158; p. 870.

Wagon-standard. A. D. Stierheim. No. 969,218; Sept. 6; Sp. p. 100; Gaz. vol. 158; p. 26.

Wall and the like, Brick. W. Stanway. No. 971,159; Sept. 27; Sp. p. 4299; Gaz. vol. 158; p. 756.

Wall construction, Composite. R. H. Robinson. No. 969,408; Sept. 6; Sp. p. 544; Gaz. vol. 158; p. 87.

Wall-stirrup. P. Kosack. No. 969,289; Sept. 6; Sp. p. 293; Gaz. vol. 158; p. 48.

Walls or ceilings, Composition of matter used as an interior finish for. W. H. Whitney, Jr., and C. W. Griffin. No. 969,432; Sept. 6; Sp. p. 595; Gaz. vol. 158; p. 95.

Warp-linking machine. G. B. Cocker. No. 969,155; Sept. 6; Sp. p. 8; Gaz. vol. 158; p. 4.

Warping-machine. A. Murphy. No. 970,085; Sept. 13; Sp. p. 2029; Gaz. vol. 158; p. 345.

Washer: *See* Clothes-washer.

Washing-machine. F. H. Wiard. No. 969,823; Sept. 13; Sp. p. 1474; Gaz. vol. 158; p. 255.

Washing-machine. L. Harris. No. 969,952; Sept. 13; Sp. p. 1743; Gaz. vol. 158; p. 299.

Washing-machine. J. C. Forster. No. 970,205; Sept. 13; Sp. p. 2280; Gaz. vol. 158; p. 385.

Washing-machine. J. P. Dorau. No. 971,027; Sept. 27; Sp. p. 4015; Gaz. vol. 158; p. 713.

Washing-machine dolly. R. B. Goodrich. No. 969,359; Sept. 6; Sp. p. 441; Gaz. vol. 158; p. 71.

Washboiler. H. B. Hemphill. No. 970,922; Sept. 20; Sp. p. 3809; Gaz. vol. 158; p. 650.

Washstand. L. J. Hoffman. No. 969,694; Sept. 6; Sp. p. 1143; Gaz. vol. 158; p. 185.

Watch-movement ratchet mechanism. W. H. Ebelhare. No. 971,496; Sept. 27; Sp. p. 4946; Gaz. vol. 158; p. 866.

Watch-movement ratchet mechanism. H. M. Grou. No. 971,500; Sept. 27; Sp. p. 4955; Gaz. vol. 158; p. 867.

Watchcase. E. J. Wittnauer. No. 969,589; Sept. 6; Sp. p. 949; Gaz. vol. 158; p. 150.

Watchcase. J. K. Worrell. No. 969,680; Sept. 6; Sp. p. 1122; Gaz. vol. 158; p. 181.

Watchcase-bow. B. Levy. No. 971,053; Sept. 27; Sp. p. 4081; Gaz. vol. 158; p. 722.

Water-closets, urinals, &c., Apparatus for the automatic delivery of disinfectants to the flushing-water of. A. E. Smith. No. 969,729; Sept. 6; Sp. p. 1220; Gaz. vol. 158; p. 197.

Water-column spout. F. C. Anderson. No. 969,321; Sept. 6; Sp. p. 356; Gaz. vol. 158; p. 58.

Water cooler and filter, Combined. W. A. Hull. No. 970,504; Sept. 20; Sp. p. 2890; Gaz. vol. 158; p. 507.

Water-elevating apparatus. O. A. Reed. No. 969,727; Sept. 6; Sp. p. 1215; Gaz. vol. 158; p. 197.

Water-gage. H. Boushear. No. 969,454; Sept. 6; Sp. p. 632; Gaz. vol. 158; p. 101.

Water-heater. W. L. Blackwell. No. 971,167; Sept. 27; Sp. p. 4324; Gaz. vol. 158; p. 759.

Water-level regulator. N. G. Copley. No. 970,421; Sept. 13; Sp. p. 2704; Gaz. vol. 158; p. 457.

Water-meter. J. P. Kelly. No. 969,286; Sept. 6; Sp. p. 286; Gaz. vol. 158; p. 47.

Water-power plants, Supply system for. C. F. Clark. No. 970,796; Sept. 20; Sp. p. 3565; Gaz. vol. 158; p. 610.

Water regulator and surface blow-off, Automatic. D. M. Maxon. No. 969,294; Sept. 6; Sp. p. 300; Gaz. vol. 158; p. 49.

Water tank, Vacuum-wall hot-. G. C. H. McPheeters. No. 970,095; Sept. 13; Sp. p. 2051; Gaz. vol. 158; p. 348.

Water-wheel stop. W. D. White. No. 971,095; Sept. 27; Sp. p. 4170; Gaz. vol. 158; p. 736.

Watering-trough. A. C. Michael. No. 970,079; Sept. 13; Sp. p. 2021; Gaz. vol. 158; p. 343.

Wave-motor. E. E. Shinn. No. 969,665; Sept. 6; Sp. p. 1090; Gaz. vol. 158; p. 175.

Wave-motor. W. L. Raht. No. 969,903; Sept. 13; Sp. p. 1642; Gaz. vol. 158; p. 283.

Wave-motor. N. O. Harmon. No. 970,048; Sept. 13; Sp. p. 1959; Gaz. vol. 158; p. 333.

Weather-strip. J. H. Foote. No. 971,001; Sept. 20; Sp. p. 3952; Gaz. vol. 158; p. 676.

Weather-strip. S. F. Haskell. No. 971,374; Sept. 27; Sp. p. 4731; Gaz. vol. 158; p. 827.

Web-roll-tension device. G. F. Read. No. 971,073; Sept. 27; Sp. p. 4130; Gaz. vol. 158; p. 729.

Weed-destroyer. H. Thoeni. No. 970,666; Sept. 20; Sp. p. 3263; Gaz. vol. 158; p. 563.

Weeds, Destroying. W. Hoskins. No. 970,375; Sept. 13; Sp. p. 2626; Gaz. vol. 158; p. 442.

Weeding-machine. H. H. Goe. No. 970,212; Sept. 13; Sp. p. 2308; Gaz. vol. 158; p. 388.

Weight, Dress-. E. J. Brooks. No. 970,175; Sept. 13; Sp. p. 2202; Gaz. vol. 158; p. 375.

Weighing-machine. J. M. Chappel. No. 970,465; Sept. 20; Sp. p. 2815; Gaz. vol. 158; p. 493.

Welding-burner. A. B. Dräger. No. 971,430; Sept. 27; Sp. p. 4826; Gaz. vol. 158; p. 844.

Well-boring machine. P. A. Bouchet. No. 970,680; Sept. 20; Sp. p. 3726; Gaz. vol. 158; p. 637.

Well-casings, Shoe-guide for. A. C. Graham. No. 970,812; Sept. 20; Sp. p. 3608; Gaz. vol. 158; p. 615.

Well strainer, Driven-. C. G. Smith. No. 971,156; Sept. 27; Sp. p. 4280; Gaz. vol. 158; p. 755.

Wells, Tile-setter for. A. H. Klucking. No. 971,508; Sept. 27; Sp. p. 4969; Gaz. vol. 158; p. 870.

Welt-attaching apparatus. G. Goddu. No. 970,702; Sept. 20; Sp. p. 3346; Gaz. vol. 158; p. 575.

Wheel: *See* Abrading-wheel; Auto-wheel; Car-wheel; Car and brake wheel; Cushion-wheel; Elastic wheel; Fifth-wheel; Mower-wheel; Resilient wheel; Rim-bearing wheel; Spring-wheel; Sprocket-wheel; Vehicle-wheel.

Wheel. E. E. Thomas. No. 969,673; Sept. 6; Sp. p. 1103; Gaz. vol. 158; p. 178.

Wheel. J. C. Lighthouse. No. 969,886; Sept. 13; Sp. p. 1607; Gaz. vol. 158; p. 277.

Wheel. J. C. Lighthouse. No. 969,887; Sept. 13; Sp. p. 1609; Gaz. vol. 158; p. 277.

Wheel. W. L. Dodd. No. 970,476; Sept. 20; Sp. p. 2844; Gaz. vol. 158; p. 497.

Wheel. K. K. Strube. No. 970,569; Sept. 20; Sp. p. 3040; Gaz. vol. 158; p. 529.

Wheel. R. D. Moon. No. 971,463; Sept. 27; Sp. p. 4881; Gaz. vol. 158; p. 855.

Wheel and tire. J. C. Lighthouse. No. 969,888; Sept. 13; Sp. p. 1610; Gaz. vol. 158; p. 278.

Wheel rim, Vehicle-. J. R. Gammeter. No. 969,779; Sept. 13; Sp. p. 1364; Gaz. vol. 158; p. 240.

Wheel rim, Vehicle-. E. C. Shaw. No. 971,318; Sept. 27; Sp. p. 4616; Gaz. vol. 158; p. 808.

Wheel support, Vehicle-. P. J. MacConnell. No. 970,841; Sept. 20; Sp. p. 3658; Gaz. vol. 158; p. 625.

Whiffletree. D. Hurd. No. 969,629; Sept. 6; Sp. p. 1018; Gaz. vol. 158; p. 163.

Whip-socket. J. S. Stevenson. No. 970,658; Sept. 20; Sp. p. 3250; Gaz. vol. 158; p. 560.

Whip-socket lock. F. E. Erickson. No. 970,696; Sept. 20; Sp. p. 3335; Gaz. vol. 158; p. 573.

Wind-motor. W. A. Williams. No. 969,587; Sept. 6; Sp. p. 945; Gaz. vol. 158; p. 149.

Winding device, Safety. E. Hawkins. No. 970,221; Sept. 13; Sp. p. 2323; Gaz. vol. 158; p. 390.

Winding-shafts, Stop-collar for. E. T. Gowing. No. 969,268; Sept. 6; Sp. p. 248; Gaz. vol. 158; p. 41.

Windlass. C. Andrade, Jr. No. 970,597; Sept. 20; Sp. p. 3091; Gaz. vol. 158; p. 538.

Windmill. J. A. Carlson. No. 969,522; Sept. 6; Sp. p. 791; Gaz. vol. 158; p. 124.

Windmill-regulator. L. S. and A. W. Hagerman. No. 969,366; Sept. 6; Sp. p. 458; Gaz. vol. 158; p. 74.

Window. S. C. Franks. No. 969,778; Sept. 13; Sp. p. 1362; Gaz. vol. 158; p. 239.

Window. F. G. Baechlin. No. 970,009; Sept. 13; Sp. p. 1875; Gaz. vol. 158; p. 319.

Window. J. E. Richardson. No. 970,114; Sept. 13; Sp. p. 2083; Gaz. vol. 158; p. 354.

Window. R. Biel. No. 970,980; Sept. 20; Sp. p. 3918; Gaz. vol. 158; p. 660.

Window. S. E. Cibulas. No. 970,988; Sept. 20; Sp. p. 3930; Gaz. vol. 158; p. 671.

Window-cleaner. P. C. Schwalen. No. 970,563; Sept. 20; Sp. p. 3031; Gaz. vol. 158; p. 527.

Window closure, Self-locking ticket-. J. M. Gamble. No. 970,912; Sept. 20; Sp. p. 3788; Gaz. vol. 158; p. 647.

Window-fixture. J. A. and F. Haas. No. 970,814; Sept. 20; Sp. p. 3611; Gaz. vol. 158; p. 616.

Window-frame. F. E. Frisbee. No. 971,261; Sept. 27; Sp. p. 4519; Gaz. vol. 158; p. 790.

Window-opener, Automatic. A. A. Monson. No. 970,380; Sept. 13; Sp. p. 2632; Gaz. vol. 158; p. 444.

Window-pane fastener. W. H. West, Jr. No. 969,820; Sept. 13; Sp. p. 1469; Gaz. vol. 158; p. 254.

Window-screen. H. Petersen. No. 969,977; Sept. 13; Sp. p. 1805; Gaz. vol. 158; p. 307.

Window-screen. A. H. Newpber. No. 971,304; Sept. 27; Sp. p. 4589; Gaz. vol. 158; p. 803.

Window-screen. E. Walrath and F. W. Austin. No. 971,422; Sept. 27; Sp. p. 4811; Gaz. vol. 158; p. 842.

Window-screen. E. H. Talbert. No. 971,477; Sept. 27; Sp. p. 4910; Gaz. vol. 158; p. 859.

Window-ventilator. J. B. Scureman. No. 971,412; Sept. 27; Sp. p. 4794; Gaz. vol. 158; p. 839.

Wine-press. J. Pignocco. No. 970,391; Sept. 13; Sp. p. 2651; Gaz. vol. 158; p. 447.

Wire-bending machine. A. H. Nilson and M. Olson. No. 969,488; Sept. 6; Sp. p. 711; Gaz. vol. 158; p. 113.

Wire-clamping mechanism. E. Lewis and F. H. Nullmeyer. No. 969,546; Sept. 6; Sp. p. 851; Gaz. vol. 158; p. 134.

Wire-cutter. T. A. Briggs. No. 971,247; Sept. 27; Sp. p. 4495; Gaz. vol. 158; p. 786.

Wire fabric. J. L. Isaacs. No. 970,713; Sept. 20; Sp. p. 3377; Gaz. vol. 158; p. 579.

Wire-fastener. G. C. Wilkison. No. 969,231; Sept. 6; Sp. p. 187; Gaz. vol. 158; p. 31.

Wire-fastener. W. C. Kramer, Jr. No. 970,722; Sept. 20; Sp. p. 3392; Gaz. vol. 158; p. 582.

Wire mat. I. J. Young. No. 970,595; Sept. 20; Sp. p. 3089; Gaz. vol. 158; p. 538.

Wire-stitcher. T. A. Briggs. No. 970,461; Sept. 20; Sp. p. 2796; Gaz. vol. 158; p. 491.

Wire-stretcher. W. H. Hannah. No. 969,951; Sept. 13; Sp. p. 1742; Gaz. vol. 158; p. 299.

Wire-stretching clamp. O. J. Nederloe. No. 971,065; Sept. 27; Sp. p. 4104; Gaz. vol. 158; p. 726.

Wire with yarn or its equivalent, Machine for covering or insulating. D. Noble. No. 970,098; Sept. 13; Sp. p. 2055; Gaz. vol. 158; p. 349.

Wireless transmission apparatus for controlling the movements of vessels. V. C. de Ybarrondo. No. 970,592; Sept. 20; Sp. p. 3083; Gaz. vol. 158; p. 537.

Wood-preserving solution. F. Hasselmann. No. 971,194; Sept. 27; Sp. p. 4380; Gaz. vol. 158; p. 769.

Wood-surfacing machine. J. W. Bell. No. 970,875; Sept. 20; Sp. p. 3719; Gaz. vol. 158; p. 636.

Woodworking-machine guard. L. J. Halverstadt. No. 969,618; Sept. 6; Sp. p. 999; Gaz. vol. 158; p. 159.

Woodworking-machine, Universal. A. C. Getz. No. 970,917; Sept. 20; Sp. p. 3794; Gaz. vol. 158; p. 648.

Wool-washing-machine carrier. F. G. Sargent. No. 970,118; Sept. 13; Sp. p. 2090; Gaz. vol. 158; p. 356.

Work-holder. D. S. Whitaker. No. 970,586; Sept. 20; Sp. p. 3073; Gaz. vol. 158; p. 535.

Work-support. E. Fagan. No. 970,902; Sept. 20; Sp. p. 3771; Gaz. vol. 158; p. 644.

Wrench: *See* Pipe-wrench; Ratchet-wrench.

Wrench. F. A. Rademacher. No. 969,189; Sept. 6; Sp. p. 98; Gaz. vol. 158; p. 16.

Wrench. G. W. Jessup, Jr. No. 969,538; Sept. 6; Sp. p. 827; Gaz. vol. 158; p. 131.

Wrench. W. G. Keller. No. 969,880; Sept. 13; Sp. p. 1597; Gaz. vol. 158; p. 275.

Wrench. A. and B. W. Fresko. No. 970,209; Sept. 13; Sp. p. 2287; Gaz. vol. 158; p. 387.

Wrench. U. C. Greggs. No. 970,371; Sept. 13; Sp. p. 2618; Gaz. vol. 158; p. 441.

Wrench. O. Stenerson. No. 970,762; Sept. 20; Sp. p. 3485; Gaz. vol. 158; p. 597.

Wrench. P. M. Clark. No. 970,990; Sept. 20; Sp. p. 3933; Gaz. vol. 158; p. 672.

Wrench, F. A. Trahin. No. 971,325; Sept. 27; Sp. p. 4630; Gaz. vol. 158; p. 811.

Wrench. P. Bajusz and A. Kondás. No. 971,341; Sept. 27; Sp. p. 4668; Gaz. vol. 158; p. 816.

Wrench attachment. O. H. Ford. No. 971,033; Sept. 27; Sp. p. 4036; Gaz. vol. 158; p. 715.

Wringer: *See* Clothes-wringer; Mop-wringer.

Writing machine, Draft-. H. C. Hartley. No. 969,369; Sept. 6; Sp. p. 464; Gaz. vol. 158; p. 75.

Writing-machines, Cushion-cap for the keys of. H. H. Shepard. No. 971,221; Sept. 27; Sp. p. 4442; Gaz. vol. 158; p. 778.

Yellow lake. E. Meckbach. No. 970,072; Sept. 13; Sp. p. 2010; Gaz. vol. 158; p. 341.

Yellow lake, New. E. Meckbach. No. 970,073; Sept. 13; Sp. p. 2011; Gaz. vol. 158; p. 341.

Yoke-attaching device, Wagon-tongue-. F. G. Mitchell. No. 970,254; Sept. 13; Sp. p. 2392; Gaz. vol. 158; p. 403.

Yoke center, Neck-. S. A. Steadman. No. 970,657; Sept. 20; Sp. p. 3249; Gaz. vol. 158; p. 560.

Yokes and vehicle-tongues, Coupling for neck-. D. S. Dillenback. No. 970,996; Sept. 20; Sp. p. 3947; Gaz. vol. 158; p. 674.

ALPHABETICAL LIST OF DESIGNS.

Automobile-body. E. Heyl. No. 40,922; Sept. 27; Gaz. vol. 158; p. 873.
Badge, Puzzle. W. B. Bliss. No. 40,914; Sept. 27; Gaz. vol. 158; p. 871.
Box-mat. R. Gair. Nos. 40,916–17; Sept. 27; Gaz. vol. 158; p. 872.
Card-case or similar article. E. R. Sheppard. No. 40,859; Sept. 6; Gaz. vol. 158; p. 212.
Carpet. J. B. Moffat. No. 40,869; Sept. 6; Gaz. vol. 158; p. 214.
Carpet. W. M. Morton. Nos. 40,870–2; Sept. 6; Gaz. vol. 158; pp. 214–15.
Carpet. W. A. Elliott. No. 40,884; Sept. 13; Gaz. vol. 158; p. 470.
Clock and hall stand. L. A. Breitinger. No. 40,921; Sept. 27; Gaz. vol. 158; p. 873.
Coffee-counter. F. F. Wear. No. 40,896; Sept. 20; Gaz. vol. 158; p. 685.
Coin-holder and vinaigrette. S. O. Bigney. No. 40,858; Sept. 6; Gaz. vol. 158; p. 212.
Dolly. R. Gair. No. 40,879; Sept. 13; Gaz. vol. 158; p. 469.
Fabric, Textile. P. Mouton. Nos. 40,880–1; Sept. 13; Gaz. vol. 158; p. 469.
Fabric, Textile. E. Sins. No. 40,882; Sept. 13; Gaz. vol. 158; p. 469.
Fabric, Textile. S. L. Crownfield. No. 40,898; Sept. 20; Gaz. vol. 158; p. 686.
Fabric, Textile. R. Gattiker. Nos. 40,899–900; Sept. 20; Gaz. vol. 158; p. 686.
Fabric, Textile. P. Mouton. Nos. 40,901–4; Sept. 20; Gaz. vol. 158; p. 687.
Fabric, Textile. E. Sins. No. 40,905; Sept. 20; Gaz. vol. 158; p. 688.
Game-board or similar article. G. N. Rock. No. 40,915; Sept. 27; Gaz. vol. 158; p. 871.
Glass goblet or similar article. C. O. Northwood. No. 40,876; Sept. 13; Gaz. vol. 158; p. 468.
Hat-pin. S. O. Bigney. No. 40,885; Sept. 20; Gaz. vol. 158; p. 683.
Jewelry ornament. H. W. Fishel. Nos. 40,886–9; Sept. 20; Gaz. vol. 158; pp. 683–4.
Lamp-shade. H. A. Schnelbach. No. 40,893; Sept. 20; Gaz. vol. 158; p. 685.
Lamp shade or reflector. J. Kappler. Nos. 40,919–20; Sept. 27; Gaz. vol. 158; p. 872.
Lifting-jack standard and casing. E. K. Conover. No. 40,874; Sept. 6; Gaz. vol. 158; p. 215.
Light shade, Artificial. K. Booth. Nos. 40,891–2; Sept. 20; Gaz. vol. 158; p. 684.
Locket and vinaigrette. S. O. Bigney. No. 40,873; Sept. 6; Gaz. vol. 158; p. 215.
Muff. J. Karpeles. No. 40,918; Sept. 27; Gaz. vol. 158; p. 872.
Picture-frame. G. I. Silbert and C. E. Carlson. No. 40,877; Sept. 13; Gaz. vol. 158; p. 468.
Plate, China. C. J. Ahrenfeldt. No. 40,860; Sept. 6; Gaz. vol. 158; p. 212.
Rubber binding for matting ends or similar articles. C. H. Oakley. No. 40,863; Sept. 6; Gaz. vol. 158; p. 213.
Rug. C. Forrester. No. 40,864; Sept. 6; Gaz. vol. 158; p. 213.
Rug. W. G. Reith. No. 40,865; Sept. 6; Gaz. vol. 158; p. 213.
Rug. E. G. Sauer. No. 40,866; Sept. 6; Gaz. vol. 158; p. 213.
Rug. W. A. Spring. No. 40,867; Sept. 6; Gaz. vol. 158; p. 214.
Rug. J. H. Witzel. No. 40,868; Sept. 6; Gaz. vol. 158; p. 214.
Rug. W. A. Spring. No. 40,883; Sept. 13; Gaz. vol. 158; p. 470.
Rug. J. Merry. Nos. 40,906–7; Sept. 20; Gaz. vol. 158; p. 688.
Rug. W. G. Reith. Nos. 40,908–9; Sept. 20; Gaz. vol. 158; p. 688.
Rug. W. A. Spring. Nos. 40,910–11; Sept. 20; Gaz. vol. 158; p. 689.
Rug. J. H. Witzel. Nos. 40,912–13; Sept. 20; Gaz. vol. 158; p. 689.
Rug. E. G. Sauer. No. 40,926; Sept. 27; Gaz. vol. 158; p. 874.
Rug. J. Spring. No. 40,927; Sept. 27; Gaz. vol. 158; p. 874.
Sewing-stand. L. B. Laridon. No. 40,861; Sept. 6; Gaz. vol. 158; p. 212.
Shade. H. McAfee. No. 40,895; Sept. 20; Gaz. vol. 158; p. 685.
Shrine. F. H. McCann. No. 40,857; Sept. 6; Gaz. vol. 158; p. 212.
Spoon, fork, or similar article. J. R. Dean. No. 40,890; Sept. 20; Gaz. vol. 158; p. 684.
Stamp. A. Neuwohner. No. 40,875; Sept. 13; Gaz. vol. 158; p. 468.
Stove. S. P. Landcraft. No. 40,897; Sept. 20; Gaz. vol. 158; p. 686.
Stove. S. P. Landcraft. No. 40,923; Sept. 27; Gaz. vol. 158; p. 873.
Stove. M. R. Lehman. Nos. 40,924–5; Sept. 27; Gaz. vol. 158; p. 873.
Type, Font of. W. E. Elcome. No. 40,862; Sept. 6; Gaz. vol. 158; p. 213.
Wagon-body. D. Boyle. No. 40,878; Sept. 13; Gaz. vol. 158; p. 469.

ALPHABETICAL LIST OF TRADE-MARKS.

Acid pyrogallic crystals. C. S. Hollander. No. 79,579; Sept. 20; Gaz. vol. 158; p. 698.
Ale, beer, porter, stout, &c. P. Ballantine & Sons. No. 79,301; Sept. 6; Gaz. vol. 158; p. 223.
Ale, beer, porter, stout, &c. P. Ballantine & Sons. No. 79,462; Sept. 13; Gaz. vol. 158; p. 477.
Animal-traps. Oneida Community. No. 79,513; Sept. 13; Gaz. vol. 158; p. 478.
Animal-traps. A. M. Young. No. 79,540; Sept. 13; Gaz. vol. 158; p. 479.
Apparatus and parts thereof, Certain. The Gas Machinery Co. No. 79,415; Sept. 6; Gaz. vol. 158; p. 224.
Apples, Fresh or green. Nelson Brothers Fruit Company. No. 79,509; Sept. 13; Gaz. vol. 158; p. 478.
Automobile accessories, Certain. Victor Auto Supply M'f'g Co. No. 79,539; Sept. 13; Gaz. vol. 158; p. 479.
Automobiles. E. R. Thomas Motor Company. No. 79,534; Sept. 13; Gaz. vol. 158; p. 479.
Baking-powder. The Cabell Company. No. 79,541; Sept. 13; Gaz. vol. 158; p. 479.
Baking-powder. Absopure Baking Powder Company. No. 79,542; Sept. 20; Gaz. vol. 158; p. 697.
Beer. Augusta Brewing Co. No. 79,388; Sept. 6; Gaz. vol. 158; p. 223.
Beer. Actien-Gesellschaft Hackerbräu. No. 79,420; Sept. 6; Gaz. vol. 158; p. 224.
Beer. The Oshkosh Brewing Company. No. 79,442; Sept. 6; Gaz. vol. 158; p. 224.
Beers and malt extracts. A. Coors Company. No. 79,624; Sept. 20; Gaz. vol. 158; p. 699.
Belting. The B. F. Goodrich Company. No. 79,667; Sept. 27; Gaz. vol. 158; p. 879.
Belting, Leather. The Akron Belting Company. No. 79,459; Sept. 13; Gaz. vol. 158; p. 477.
Bicycles and tricycles. National Cycle Manufacturing Company. No. 79,595; Sept. 20; Gaz. vol. 158; p. 698.
Bitters, Orange-. Booth's Distillery. No. 79,552; Sept. 20; Gaz. vol. 158; p. 697.
Boilers, Compound for the removal of scale from. Sugar Beets Products Co. No. 79,450; Sept. 6; Gaz. vol. 158; p. 225.
Books and printed pamphlets, Instruction-. Brotherhood of Locomotive Firemen and Enginemen. No. 79,407; Sept. 6; Gaz. vol. 158; p. 223.
Books, Blank. Kiggins & Tooker Co. No. 79,587; Sept. 20; Gaz. vol. 158; p. 698.
Books of a literary nature. Brentano's. No. 79,553; Sept. 20; Gaz. vol. 158; p. 697.
Boots and shoes, Leather. Burt and Packard Company. No. 79,409; Sept. 6; Gaz. vol. 158; p. 223.
Boots and shoes, Leather. W. J. Martinez & Bros. No. 79,436; Sept. 6; Gaz. vol. 158; p. 224.
Boots and shoes, Leather. John Pilling Shoe Company. No. 79,689; Sept. 27; Gaz. vol. 158; p. 880.
Boots and shoes, Leather and cloth. A. E. Little & Company. No. 79,681; Sept. 27; Gaz. vol. 158; p. 880.
Boots, shoes, and leggings, Leather. Eliet-Kendall Shoe Company. No. 79,659; Sept. 27; Gaz. vol. 158; p. 879.
Boots, shoes, and slippers. Nath'l Fisher & Co. No. 79,665; Sept. 27; Gaz. vol. 158; p. 879.
Bottle-holder. The Holz Manufacturing Co. No. 79,582; Sept. 20; Gaz. vol. 158; p. 698.
Brake-blocks. The Herbert Frood Company. No. 79,487; Sept. 13; Gaz. vol. 158; p. 477.
Brandy. J. Gautret Fils. Nos. 79,626–8; Sept. 20; Gaz. vol. 158; p. 699.
Brick. The Claycraft Brick Company. No. 79,469; Sept. 13; Gaz. vol. 158; p. 477.
Brick. Ricketson & Schwarz. No. 79,523; Sept. 13; Gaz. vol. 158; p. 479.
Bricks. Ridgway Brick Co. No. 79,697; Sept. 27; Gaz. vol. 158; p. 880.
Brooms. J. S. Liddle. No. 79,432; Sept. 6; Gaz. vol. 158; p. 224.
Brooms. Francis H. Leggett & Co. No. 79,680; Sept. 27; Gaz. vol. 158; p. 880.
Butter, Vegetable. W. I. Gordon, Sr. No. 79,571; Sept. 20; Gaz. vol. 158; p. 697.
Candles. I. E. Block. No. 79,551; Sept. 20; Gaz. vol. 158; p. 697.
Candles. The Fremont Candy Company. No. 79,581; Sept. 20; Gaz. vol. 158; p. 698.
Candles. J. T. Reed. No. 79,696; Sept. 27; Gaz. vol. 158; p. 880.
Candles, Chocolate. Snyder-Chaffee Co. No. 79,449; Sept. 6; Gaz. vol. 158; p. 225.
Candy. Paul F. Beich Company. No. 79,547; Sept. 20; Gaz. vol. 158; p. 697.
Candy. Greek American Confectionery Co. No. 79,572; Sept. 20; Gaz. vol. 158; p. 697.
Canned asparagus. Golden State Asparagus Co. No. 79,417; Sept. 6; Gaz. vol. 158; p. 224.
Canned corn. The Kroger Grocery & Baking Company. No. 79,589; Sept. 20; Gaz. vol. 158; p. 698.
Canned fruits and vegetables. Twohy-Elmon Mercantile Company. No. 79,537; Sept. 13; Gaz. vol. 158; p. 479.
Canned herring-roe. Coulehan & Hogan. No. 79,559; Sept. 20; Gaz. vol. 158; p. 697.
Canned salmon. Fidalgo Island Packing Co. No. 79,414; Sept. 6; Gaz. vol. 158; p. 224.
Canned salmon. Fidalgo Island Packing Co. Nos. 79,482–4; Sept. 13; Gaz. vol. 158; p. 477.
Canned salmon. Fidalgo Island Packing Co. No. 79,664; Sept. 27; Gaz. vol. 158; p. 879.
Canned sauer-kraut. The Clyde Produce Company. No. 79,471; Sept. 13; Gaz. vol. 158; p. 477.
Canned vegetables. Driscol, Church & Hall. No. 79,476; Sept. 13; Gaz. vol. 158; p. 477.
Canned vegetables, sauer-kraut, hominy, &c. J. T. Polk Company. No. 79,691; Sept. 27; Gaz. vol. 158; p. 880.
Cheese, Cream-. Phenix Cheese Company. No. 79,517; Sept. 13; Gaz. vol. 158; p. 478.
Chemical compounds, Certain. Bird-Archer Company. No. 79,549; Sept. 20; Gaz. vol. 158; p. 697.
Chocolate drops. A. Schopf. No. 79,609; Sept. 20; Gaz. vol. 158; p. 699.
Cigarettes and smoking-tobacco. Abdulla & Co. No. 79,623; Sept. 20; Gaz. vol. 158; p. 699.
Cigars. Y. Pendas & Alvarez. No. 79,515; Sept. 13; Gaz. vol. 158; p. 478.
Cigars, cigarettes, and tobacco. Lilly, Dungan & Co. No. 79,501; Sept. 13; Gaz. vol. 158; p. 478.
Cigars, little cigars, cigarettes, and smoking-tobacco. Lilly, Dungan & Co. No. 79,433; Sept. 6; Gaz. vol. 158; p. 224.
Cleaning compound, Paint and varnish. A. M. Rausch. No. 79,636; Sept. 20; Gaz. vol. 158; p. 699.
Cleanser for household purposes, &c. B. T. Babbitt. No. 79,389; Sept. 6; Gaz. vol. 158; p. 223.
Cleansing compounds and soaps. Empire Soap Company. No. 79,413; Sept. 6; Gaz. vol. 158; p. 223.
Clothes-trees. R. G. Krueger. No. 79,679; Sept. 27; Gaz. vol. 158; p. 880.
Clothing, Certain. C. H. Dudley. No. 79,657; Sept. 27; Gaz. vol. 158; p. 879.
Clothing, Certain. Levi Strauss & Co. No. 79,707; Sept. 27; Gaz. vol. 158; p. 881.
Clothing, Certain named. Baltimore Bargain House. No. 79,398; Sept. 6; Gaz. vol. 158; p. 223.
Coating stone and other materials, Chemical compound for. J. H. Hamlin. No. 79,492; Sept. 13; Gaz. vol. 158; p. 478.
Coffee. Merck & Co. No. 79,438; Sept. 6; Gaz. vol. 158; p. 224.
Coffee. T. Wood & Co. No. 79,619; Sept. 20; Gaz. vol. 158; p. 699.
Coffee. Jas. H. Forbes Tea & Coffee Company. No. 79,666; Sept. 27; Gaz. vol. 158; p. 879.
Coffee, Blended. The H. D. Lee Mercantile Company. No. 79,590; Sept. 20; Gaz. vol. 158; p. 698.
Colors in oil. Acme White Lead & Color Works. No. 79,637; Sept. 27; Gaz. vol. 158; p. 879.
Corsets. The Sahlin Company. No. 79,608; Sept. 20; Gaz. vol. 158; p. 698.
Cotton duck. Ashland Manufacturing Company. No. 79,386; Sept. 6; Gaz. vol. 158; p. 223.
Cotton piece goods. Boott Mills. Nos. 79,401–5; Sept. 6; Gaz. vol. 158; p. 223.
Cotton piece goods. Boott Mills. Nos. 79,643–4; Sept. 27; Gaz. vol. 158; p. 879.
Cotton piece goods. Charles Kohlman & Co. No. 79,677; Sept. 27; Gaz. vol. 158; p. 880.
Cotton piece goods. Kraft & Cutter. No. 79,678; Sept. 27; Gaz. vol. 158; p. 880.
Cotton, velvet, and fustian piece goods. N. Erlanger, Blumgart & Co. No. 79,660; Sept. 27; Gaz. vol. 158; p. 879.
Cotton wadding and batting. The Stearns & Foster Company. Nos. 79,705–6; Sept. 27; Gaz. vol. 158; p. 881.
Crockery, porcelain, and earthenware. Baltimore Bargain House. No. 79,394; Sept. 6; Gaz. vol. 158; p. 223.
Currants. The Hills Brothers Company. No. 79,670; Sept. 27; Gaz. vol. 158; p. 880.
Cutlery, Certain. Rolka & Klein. No. 79,525; Sept. 13; Gaz. vol. 158; p. 479.
Denims. Ely & Walker Dry Goods Co. No. 79,477; Sept. 13; Gaz. vol. 158; p. 477.
Dental regulating appliances. The Meier Dental Manufacturing Company. No. 79,437; Sept. 6; Gaz. vol. 158; p. 224.
Doors and shutters and frames therefor, Fire. D. C. Meehan. No. 79,502; Sept. 20; Gaz. vol. 158; p. 698.
Dress-shields. J. Beyerle. No. 79,399; Sept. 6; Gaz. vol. 158; p. 223.

Drier, Liquid. Pratt & Lambert. No. 79,522; Sept. 13; Gaz. vol. 158; p. 479.
Electric apparatus and supplies. Electr. Signal- und Kraftanlagen Walter Blut. No. 79,564; Sept. 20; Gaz. vol. 158; p. 697.
Embroidery-patterns. The Initial Company. No. 79,584; Sept. 20; Gaz. vol. 158; p. 698.
Eyeglass and spectacle mountings. The Meyrowitz Manufacturing Co. Nos. 79,505–6; Sept. 13; Gaz. vol. 158; p. 478.
Fancy goods and notions. Baltimore Bargain House. No. 79,396; Sept. 6; Gaz. vol. 158; p. 223.
Fence, Woven-wire. Ludlow-Saylor Wire Company. No. 79,682; Sept. 27; Gaz. vol. 158; p. 880.
Files, Scrap-. F. O. Cunningham. No. 79,560; Sept. 20; Gaz. vol. 158; p. 697.
Fillet, Wood and leather. The Cleveland Fillet Company. No. 79,470; Sept. 13; Gaz. vol. 158; p. 477.
Fish-hooks. S. Allcock & Co. No. 79,543; Sept. 20; Gaz. vol. 158; p. 697.
Flour, Self-raising pancake-. F. B. Chamberlain Company. No. 79,648; Sept. 27; Gaz. vol. 158; p. 879.
Flour, Wheat-. W. F. Brey. No. 79,466; Sept. 13; Gaz. vol. 158; p. 477.
Flour, Wheat-. Crookston Milling Company. No. 79,473; Sept. 13; Gaz. vol. 158; p. 477.
Flour, Wheat-. The Farmers Milling & Mercantile Company. No. 79,478; Sept. 13; Gaz. vol. 158; p. 477.
Flour, Wheat-. J. W. Stephenson. No. 79,531; Sept. 13; Gaz. vol. 158; p. 479.
Flour, Wheat-. The Allen & Wheeler Company. No. 79,544; Sept. 20; Gaz. vol. 158; p. 697.
Flour, Wheat-. O. W. Cleal. No. 79,649; Sept. 27; Gaz. vol. 158; p. 879.
Flour, Wheat-. The Isaac Harter Milling Company. No. 79,668; Sept. 27; Gaz. vol. 158; p. 879.
Flour, Wheat-. Holt & Company. No. 79,672; Sept. 27; Gaz. vol. 158; p. 880.
Flour, Wheat-. Wisconsin Milling Company. No. 79,709; Sept. 27; Gaz. vol. 158; p. 881.
Food composition, Sweetened. G. R. Doughty. No. 79,561; Sept. 20; Gaz. vol. 158; p. 697.
Foods, Certain. Ribo-Werke, G. m. b. H. No. 79,600; Sept. 20; Gaz. vol. 158; p. 698.
Foods, Laxative. F. K. Fernald. No. 79,663; Sept. 27; Gaz. vol. 158; p. 879.
Furnaces and parts thereof, Oil, coal, and gas. Rockwell Furnace Company. No. 79,524; Sept. 13; Gaz. vol. 158; p. 479.
Furnaces, forges, lamps, boilers, &c. Aktiebolaget B. A. Hjorth & Co. No. 79,424; Sept. 6; Gaz. vol. 158; p. 224.
Furniture-polishes. Penn Manufacturing Co. No. 79,516; Sept. 13; Gaz. vol. 158; p. 478.
Gages, Indicators, and regulators, Fluid-pressure. A. Schrader's Son. No. 79,620; Sept. 20; Gaz. vol. 158; p. 699.
Gameboard. E. A. Bailey. No. 79,461; Sept. 13; Gaz. vol. 158; p. 477.
Garments, Certain athletic. Treinis Bros. No. 79,452; Sept. 6; Gaz. vol. 158; p. 225.
Gingham, shirtings, and chambrays. The G. A. Stafford & Co. Nos. 79,529–30; Sept. 13; Gaz. vol. 158; p. 479.
Glass and metal cleaning preparation. C. Thornton. No. 79,535; Sept. 13; Gaz. vol. 158; p. 479.
Glassware. Baltimore Bargain House. No. 79,397; Sept. 6; Gaz. vol. 158; p. 223.
Gloves, Kid. L. Grässer. No. 79,419; Sept. 6; Gaz. vol. 158; p. 224.
Gloves, mittens, and fur coats. Ellsworth and Thayer Manufacturing Company. No. 79,566; Sept. 20; Gaz. vol. 158; p. 697.
Grain-separators and threshing-machines. Robinson & Co. No. 79,698; Sept. 27; Gaz. vol. 158; p. 880.
Grease compound for filling pits in cylinders. Crescent Paste Co. No. 79,651; Sept. 27; Gaz. vol. 158; p. 879.
Gum, Chewing-. Hyde & Chappel. No. 79,425; Sept. 6; Gaz. vol. 158; p. 224.
Gum, Chewing-. Colgan Gum Co. No. 79,558; Sept. 20; Gaz. vol. 158; p. 697.
Gun-sights. Bausch & Lomb Optical Co. No. 79,463; Sept. 13; Gaz. vol. 158; p. 477.
Hair-nets. F. Ludewig & Co. No. 79,502; Sept. 13; Gaz. vol. 158; p. 478.
Hair-tonic. P. M. Sims. No. 79,701; Sept. 27; Gaz. vol. 158; p. 880.
Hair-tonics. B. de la Prida. No. 79,603; Sept. 27; Gaz. vol. 158; p. 880.
Hammocks, Bed and couch. Fellows & Co. No. 79,479; Sept. 13; Gaz. vol. 158; p. 477.
Hats, Felt. Mossant, Vallon & Argod. No. 79,440; Sept. 6; Gaz. vol. 158; p. 224.
Herring, Salted. Betz & van Heijst. No. 79,465; Sept. 13; Gaz. vol. 158; p. 477.
Hoes and shovels, Metal. The Chillington Tool Company. No. 79,468; Sept. 13; Gaz. vol. 158; p. 477.
Horse equipments, Certain. The North & Judd Manufacturing Company. No. 79,441; Sept. 6; Gaz. vol. 158; p. 224.
Hosiery. Marshall Field & Company. No. 79,481; Sept. 13; Gaz. vol. 158; p. 477.
Hosiery. Brown Durrell Co. No. 79,555; Sept. 20; Gaz. vol. 158; p. 697.
Hosiery. E. M. Townsend & Co. No. 79,614; Sept. 20; Gaz. vol. 158; p. 699.
Hosiery, undershirts, drawers, and union suits. H. Wolf & Sons. No. 79,710; Sept. 27; Gaz. vol. 158; p. 881.
Ice-cream and ices. Terre Haute Pure Milk and Ice Cream Company. No. 79,708; Sept. 27; Gaz. vol. 158; p. 881.
Interlining. Printz, Biederman Co. No. 79,694; Sept. 27; Gaz. vol. 158; p. 880.
Jewelry, hollow, flat, and table ware, &c. Baltimore Bargain House. No. 79,393; Sept. 6; Gaz. vol. 158; p. 223.
Knit scarfs and mufflers. N. J. Rich & Co. Nos. 79,601–2; Sept. 20; Gaz. vol. 158; p. 698.
Knitted undershirts, drawers, and union suits. The Pique Hosiery Company. No. 79,690; Sept. 27; Gaz. vol. 158; p. 880.
Lamps and parts, gas-burners, and incandescent mantles, Vapor-. King Light Co. No. 79,427; Sept. 6; Gaz. vol. 158; p. 224.
Laxatives and purgatives. The Zymole Company. No. 79,712; Sept. 27; Gaz. vol. 158; p. 881.
Leather and rubber goods, Preservative compositions for. Leather and Rubber Vitalising Co. No. 79,630; Sept. 20; Gaz. vol. 158; p. 699.
Leather-dressing. F. R. Bradbury. No. 79,406; Sept. 6; Gaz. vol. 158; p. 223.
Linen and hemp piece goods. John Wilsons' Successors. No. 79,455; Sept. 6; Gaz. vol. 158; p. 225.
Lotions and hair-dressings, Scalp and foot. P. C. Gill. No. 79,570; Sept. 20; Gaz. vol. 158; p. 697.
Lubricating appliances for machinery. A. Bowser. No. 79,645; Sept. 27; Gaz. vol. 158; p. 879.
Macaroni paste foods. The Cleveland Macaroni Company. No. 79,650; Sept. 27; Gaz. vol. 158; p. 879.
Machinery, Certain. American Road Machine Company. No. 79,545; Sept. 20; Gaz. vol. 158; p. 697.
Magazine. A. J. Durnn. No. 79,658; Sept. 27; Gaz. vol. 158; p. 879.
Magazines, Weekly. T. Dean. No. 79,653; Sept. 27; Gaz. vol. 158; p. 879.
Malted soda. Johann Hoff. No. 79,671; Sept. 27; Gaz. vol. 158; p. 880.
Matches. F. E. Kreuger. No. 79,428; Sept. 6; Gaz. vol. 158; p. 224.
Matches. F. E. Kreuger. Nos. 79,498–500; Sept. 13; Gaz. vol. 158; p. 478.
Matches. F. E. Kreuger. No. 79,588; Sept. 20; Gaz. vol. 158; p. 698.
Medicinal suppositories, &c. The Home Treatment Remedy Co. No. 79,493; Sept. 13; Gaz. vol. 158; p. 478.
Medicine. P. Famel. No. 79,568; Sept. 20; Gaz. vol. 158; p. 697.
Medicine for certain diseases. J. H. Zeilin & Company. No. 79,457; Sept. 6; Gaz. vol. 158; p. 225.
Medicines for piles. J. P. Holloway. No. 79,580; Sept. 20; Gaz. vol. 158; p. 698.
Metal castings and forgings. William Jessop & Sons. No. 79,585; Sept. 20; Gaz. vol. 158; p. 698.
Metal forgings. J. H. Williams & Co. No. 79,618; Sept. 20; Gaz. vol. 158; p. 699.
Metal plates, moldings, fillers, &c. Wheeling Corrugating Company. No. 79,454; Sept. 6; Gaz. vol. 158; p. 225.
Metal-polish. Hopewell Brothers. No. 79,674; Sept. 27; Gaz. vol. 158; p. 880.
Metal-purifying composition. The Allyne Brass Foundry Company. No. 79,383; Sept. 6; Gaz. vol. 158; p. 223.
Milk, Evaporated. Seminole Condensed Milk Co. No. 79,458; Sept. 6; Gaz. vol. 158; p. 225.
Mirrors, Head, throat, and dental. Bausch & Lomb Optical Co. No. 79,625; Sept. 20; Gaz. vol. 158; p. 699.
Molding and modeling machines. Pulvermacher und Bremermann, Gesellschaft mit beschränkter Haftung. No. 79,447; Sept. 6; Gaz. vol. 158; p. 224.
Mouth-wash. The Zymole Company. No. 79,622; Sept. 20; Gaz. vol. 158; p. 699.
Nails, Horse-. The Capewell Horse Nail Company. No. 79,410; Sept. 6; Gaz. vol. 158; p. 223.
Nails, Horse-. The Capewell Horse Nail Company. No. 79,421; Sept. 6; Gaz. vol. 158; p. 224.
Neckties, cravats, scarfs, &c. Rouse, Hempstone & Co. No. 79,606; Sept. 20; Gaz. vol. 158; p. 698.
Notions, Certain. The Pittsburgh Dry Goods Company. No. 79,444; Sept. 6; Gaz. vol. 158; p. 224.
Oil and grease, Lubricating. Charles H. Besly & Company. No. 79,640; Sept. 27; Gaz. vol. 158; p. 879.
Oil and tar-oil, Composition of cod-liver. Società Prodtl. Chimco. Farmacci. A. Bertelli & C. No. 79,464; Sept. 13; Gaz. vol. 158; p. 477.
Oil, Lubricating-. The Texas Company. No. 79,613; Sept. 20; Gaz. vol. 158; p. 699.
Oranges. W. F. Glynn & Co. No. 79,416; Sept. 6; Gaz. vol. 158; p. 224.
Pail, Mop-wringer. C. B. Bushnell. No. 79,557; Sept. 20; Gaz. vol. 158; p. 697.
Paints. Colonial Works. No. 79,412; Sept. 6; Gaz. vol. 158; p. 223.
Paints and varnishes. J. C. Nicholson. No. 79,511; Sept. 13; Gaz. vol. 158; p. 478.
Paints, Ready-mixed. The Square Paint Company. No. 79,703; Sept. 27; Gaz. vol. 158; p. 880.
Paints, varnishes, oils, &c. Longman & Martinez. Nos. 79,434–5; Sept. 6; Gaz. vol. 158; p. 224.
Paper bags. Northern Bag & Plate Co. No. 79,512; Sept. 13; Gaz. vol. 158; p. 478.
Paper, Cover-. American Writing Paper Company. No. 79,546; Sept. 20; Gaz. vol. 158; p. 697.

Paper, Cover-. Chas. S. Boyd Paper Company. No. 79,646; Sept. 27; Gaz. vol. 158; p. 879.
Paper, envelops, and tablets, Certain named. Powers Paper Company, Associates. No. 79,445; Sept. 6; Gaz. vol. 158; p. 224.
Paper, envelops, tablets, and blank books. J. C. Blair Company. Nos. 79,641–2; Sept. 27; Gaz. vol. 158; p. 879.
Paper, Writing and printing. American Writing Paper Company. Nos. 79,384–5; Sept. 6; Gaz. vol. 158; p. 223.
Paper, Writing and printing. American Writing Paper Company. No. 79,460; Sept. 13; Gaz. vol. 158; p. 477.
Paper, Writing and printing. Union Card & Paper Co. No. 79,616; Sept. 20; Gaz. vol. 158; p. 699.
Paper, Writing and printing. American Writing Paper Company. No. 79,638; Sept. 27; Gaz. vol. 158; p. 879.
Peanuts. The Suffolk Peanut Company. No. 79,532; Sept. 13; Gaz. vol. 158; p. 479.
Pens and pen-points, Fountain-. Diamond Point Pen Company. No. 79,475; Sept. 13; Gaz. vol. 158; p. 477.
Percales. Carson, Pirie, Scott & Co. No. 79,467; Sept. 13; Gaz. vol. 158; p. 477.
Perfume. Miro-Dena Company. No. 79,686; Sept. 27; Gaz. vol. 158; p. 880.
Perfume, toilet powder and water, and hair-lotion. J. & E. Atkinson. No. 79,387; Sept. 6; Gaz. vol. 158; p. 223.
Perfumery and other toilet preparations. K. k. landespriv. Milly-Kersen-, Seifen- und Glycerin-Fabrik von F. A. Sarg's Sohn & Cie. No. 79,448; Sept. 6; Gaz. vol. 158; p. 224.
Photographic dry-plates. Central Dry Plate Company. No. 79,411; Sept. 6; Gaz. vol. 158; p. 223.
Piece goods, Certain. Rogers & Thompson. No. 79,604; Sept. 20; Gaz. vol. 158; p. 698.
Piece goods, lace, towels, ribbons, &c. Baltimore Bargain House. No. 79,392; Sept. 6; Gaz. vol. 158; p. 223.
Pills. E. G. Brown. No. 79,408; Sept. 6; Gaz. vol. 158; p. 223.
Pipes, Briar-wood tobacco-. Delacour Brothers. No. 79,654; Sept. 27; Gaz. vol. 158; p. 879.
Plastic material. Protal Company. Nos. 79,632–5; Sept. 20; Gaz. vol. 158; p. 699.
Plows. Parlin & Orendorff Co. No. 79,443; Sept. 6; Gaz. vol. 158; p. 224.
Plumes, Artificial. Louis Metzger & Co. No. 79,593; Sept. 20; Gaz. vol. 158; p. 698.
Porcelain ware. Porzellanfabrik Weiden, Gebr. Bauscher, G. m. b. H. No. 79,599; Sept. 20; Gaz. vol. 158; p. 698.
Powder, Foot-. Haefner Remedy Co. No. 79,575; Sept. 20; Gaz. vol. 158; p. 698.
Powder, Foot-. Purity Laboratories. No. 79,695; Sept. 27; Gaz. vol. 158; p. 880.
Preparation for treating blight. J. W. Robertson. No. 79,603; Sept. 20; Gaz. vol. 158; p. 698.
Refrigerators. Grand Rapids Refrigerator Company. No. 79,418; Sept. 6; Gaz. vol. 158; p. 224.
Refrigerators. Gurney Refrigerator Company. No. 79,491; Sept. 13; Gaz. vol. 158; p. 478.
Remedies, Certain. C. F. Simmons Medicine Company. No. 79,527; Sept. 13; Gaz. vol. 158; p. 479.
Remedies for certain diseases. H. L. True. No. 79,453; Sept. 6; Gaz. vol. 158; p. 225.
Remedies for certain diseases. Royal Health Medicine Co. No. 79,607; Sept. 20; Gaz. vol. 158; p. 698.
Remedies for certain diseases. The Hartman Drug Company. No. 79,669; Sept. 27; Gaz. vol. 158; p. 880.
Remedies for coughs, colds, grippe, &c. Synvita Medicine Co. No. 79,533; Sept. 13; Gaz. vol. 158; p. 479.
Remedies for diseases of dogs. A. De la Teyssonnière. No. 79,451; Sept. 6; Gaz. vol. 158; p. 225.
Remedies for malaria. G. S. Ficini. No. 79,480; Sept. 13; Gaz. vol. 158; p. 477.
Remedy and tonic, Blood. Milam Medicine Company. Nos. 79,683–4; Sept. 27; Gaz. vol. 158; p. 880.
Remedy, Foot. W. V. Slaker. No. 79,528; Sept. 13; Gaz. vol. 158; p. 479.
Remedy for certain diseases. The Hoffmann-La Roche Chemical Works. No. 79,577; Sept. 20; Gaz. vol. 158; p. 698.
Remedy for certain diseases. J. H. Zeilin & Company. No. 79,711; Sept. 27; Gaz. vol. 158; p. 881.
Remedy for certain named diseases. W. S. Langhorne, Jr. No. 79,429; Sept. 6; Gaz. vol. 158; p. 224.
Remedy for chills, fever, and ague. Skidoo Remedy Company, (now Lee Remedy Company.) No. 79,611; Sept. 20; Gaz. vol. 158; p. 699.
Remedy for coughs and colds. O. D. Miller. No. 79,685; Sept. 27; Gaz. vol. 158; p. 880.
Remedy for diseases of swine. M. Dienstfertig. No. 79,656; Sept. 27; Gaz. vol. 158; p. 879.
Remedy for diseases of the blood. W. F. Hill. No. 79,576; Sept. 20; Gaz. vol. 158; p. 698.
Remedy for diseases of the eye. F. I. Friend. No. 79,486; Sept. 13; Gaz. vol. 158; p. 477.
Remedy for fits and nervous troubles. Trio Medicine Company. No. 79,536; Sept. 13; Gaz. vol. 158; p. 479.
Remedy for headaches, neuralgia, and heartburn. J. Houseweiler. No. 79,675; Sept. 27; Gaz. vol. 158; p. 880.
Remedy for hemorrhoids. J. C. Etherton. No. 79,661; Sept. 27; Gaz. vol. 158; p. 879.
Remedy for local application and inhalation. National Chemical Company. No. 79,687; Sept. 27; Gaz. vol. 158; p. 880.
Remedy for malaria. Sharp & Dohme. No. 79,610; Sept. 20; Gaz. vol. 158; p. 699.
Remedy for malaria, Vegetable. Davis and Lawrence Co. No. 79,652; Sept. 27; Gaz. vol. 158; p. 879.
Remedy for piles. J. Elefritz. No. 79,565; Sept. 20; Gaz. vol. 158; p. 697.
Remedy for seasickness. E. R. Isern. No. 79,496; Sept. 13; Gaz. vol. 158; p. 478.
Rubber and rubber gums. Continental Rubber Company of New York. No. 79,472; Sept. 13; Gaz. vol. 158; p. 477.
Rubber bands. A. W. Faber. No. 79,662; Sept. 27; Gaz. vol. 158; p. 879.
Rubber quoits and croquet-balls. C. H. Oakley. No. 79,597; Sept. 20; Gaz. vol. 158; p. 698.
Rubber soles and heels. C. H. Oakley. No. 79,596; Sept. 20; Gaz. vol. 158; p. 698.
Rugs. People's Outfitting Company. No. 79,688; Sept. 27; Gaz. vol. 158; p. 880.
Salve. J. P. Urben. No. 79,617; Sept. 20; Gaz. vol. 158; p. 699.
Sauce for seasoning foods. Holbrooks Limited. No. 79,578; Sept. 20; Gaz. vol. 158; p. 698.
Seed, Bean, pea, field, &c. The Albert Dickinson Company. No. 79,655; Sept. 27; Gaz. vol. 158; p. 879.
Serum, Animal-. Serum-Laboratorium Ruete-Enoch. No. 79,700; Sept. 27; Gaz. vol. 158; p. 880.
Shaft-couplings. Bond Foundry and Machine Company. No. 79,400; Sept. 6; Gaz. vol. 158; p. 223.
Shoes, Leather. A. Schwalbe. No. 79,699; Sept. 27; Gaz. vol. 158; p. 880.
Shoyu or soy. S. Moki. No. 79,439; Sept. 6; Gaz. vol. 158; p. 224.
Sifters, Ash-. J. S. Schaeffer. No. 79,526; Sept. 13; Gaz. vol. 158; p. 479.
Silk and wool mixed piece goods. T. Michau & Co. No. 79,507; Sept. 13; Gaz. vol. 158; p. 478.
Smelling-salts, toilet preparations, and perfumes. Finlay Dicks & Co. No. 79,569; Sept. 20; Gaz. vol. 158; p. 697.
Soap. B. T. Babbitt. No. 79,390; Sept. 6; Gaz. vol. 158; p. 223.
Soap. Francis H. Leggett & Company. No. 79,430; Sept. 6; Gaz. vol. 158; p. 224.
Soap. Lehn & Fink. No. 79,431; Sept. 6; Gaz. vol. 158; p. 224.
Soap. Aquidneck Manufacturing Co. No. 79,639; Sept. 27; Gaz. vol. 158; p. 879.
Soap. The Burckhardt Company. No. 79,647; Sept. 27; Gaz. vol. 158; p. 879.
Soap. Hopewell Brothers. No. 79,673; Sept. 27; Gaz. vol. 158; p. 880.
Soda, Silicate of. Philadelphia Quartz Company. Nos. 79,518–19; Sept. 13; Gaz. vol. 158; p. 478.
Spices, flavoring extracts, and bird-seed. Closset & Devers. No. 79,422; Sept. 6; Gaz. vol. 158; p. 224.
Stationery and toilet articles, Certain. Baltimore Bargain House. No. 79,395; Sept. 6; Gaz. vol. 158; p. 223.
Steel, Bar-. Swedish Iron & Steel Corporation. No. 79,612; Sept. 20; Gaz. vol. 158; p. 699.
Stone, Artificial. The Dayton Art Marble and Construction Co. No. 79,474; Sept. 13; Gaz. vol. 158; p. 477.
Suits and overcoats, Men's and boys'. Kahn Tailoring Company. No. 79,497; Sept. 13; Gaz. vol. 158; p. 478.
Suspenders and garters. The C. A. Edgarton Mfg. Co. No. 79,563; Sept. 20; Gaz. vol. 158; p. 697.
Suspenders, belts, and embroideries. Rouse, Hempstone & Co. No. 79,605; Sept. 20; Gaz. vol. 158; p. 698.
Sweeping compound. Janitors & Porters Supply Company. No. 79,426; Sept. 6; Gaz. vol. 158; p. 224.
Syrup for a soda-fountain drink. P. M. Harris. No. 79,423; Sept. 6; Gaz. vol. 158; p. 224.
Tablets, Menthol, glycerin, and gum-arabic. J. H. Zeilin & Company. No. 79,456; Sept. 6; Gaz. vol. 158; p. 225.
Tea. A. P. Irwin & Company. No. 79,495; Sept. 13; Gaz. vol. 158; p. 478.
Tea, Blended. S. E. May. Nos. 79,503–4; Sept. 13; Gaz. vol. 158; p. 478.
Textiles, Certain. Parkes Machine Company. No. 79,598; Sept. 20; Gaz. vol. 158; p. 698.
Thread and yarn. J. C. Meyer. No. 79,594; Sept. 20; Gaz. vol. 158; p. 698.
Threads, Silk, cotton, mercerized, and machine sewing-. Gudebrod Bros. Co. Nos. 79,489–90; Sept. 13; Gaz. vol. 158; p. 478.
Threads, Silk, cotton, mercerized, and machine sewing-. Gudebrod Bros. Co. No. 79,574; Sept. 20; Gaz. vol. 158; p. 698.
Toilet preparation. Emerson Drug Co. No. 79,567; Sept. 20; Gaz. vol. 158; p. 697.
Toilet preparations. E. Burnham. No. 79,556; Sept. 20; Gaz. vol. 158; p. 697.
Toilet preparations. Frederick F. Ingram Co. No. 79,583; Sept. 20; Gaz. vol. 158; p. 698.
Toilet preparations and medicines. J. T. Eckes. No. 79,562; Sept. 20; Gaz. vol. 158; p. 697.
Tonic beverages, Preparation for making. R. J. Gillham. No. 79,488; Sept. 13; Gaz. vol. 158; p. 477.
Tools, Certain. Norvell-Shapleigh Hardware Company. No. 79,631; Sept. 20; Gaz. vol. 158; p. 699.
Tooth-wash. A. C. Smysor. No. 79,702; Sept. 27; Gaz. vol. 158; p. 880.
Truck, Repairman's. The Brown Company. No. 79,554; Sept. 20; Gaz. vol. 158; p. 697.

Valves. Nelson Valve Company. No. 79,510; Sept. 13; Gaz. vol. 158; p. 478.
Valves and parts of valves. W. E. Zierden. No. 79,621; Sept. 20; Gaz. vol. 158; p. 699.
Varnish. Pratt & Lambert. No. 79,446; Sept. 6; Gaz. vol. 158; p. 224.
Varnish. Pratt & Lambert. Nos. 79,520–1; Sept. 13; Gaz. vol. 158; p. 478.
Varnish-stains and enamels. Bindley Hardware & Mfg. Co. No. 79,548; Sept. 20; Gaz. vol. 158; p. 697.
Vises. Prentiss Vise Company. No. 79,692; Sept. 27; Gaz. vol. 158; p. 880.
Washboilers. M. Kamenstein. No. 79,586; Sept. 20; Gaz. vol. 158; p. 698.
Watch cases and movements. Illinois Watch Case Co. No. 79,494; Sept. 13; Gaz. vol. 158; p. 478.
Watch cases and movements. Illinois Watch Case Co. No. 79,676; Sept. 27; Gaz. vol. 158; p. 880.
Whisky. Fort Wayne Drug Company. No. 79,485; Sept. 13; Gaz. vol. 158; p. 477.
Whisky. The Kelly-Steinments Liquor Co. No. 79,629; Sept. 20; Gaz. vol. 158; p. 699.
Wire fabrics for screens. W. S. Tyler Company. No. 79,615; Sept. 20; Gaz. vol. 158; p. 699.
Wire rope. Mill & Mine Supply Co. No. 79,508; Sept. 13; Gaz. vol. 158; p. 478.
Worsted piece goods. Martin Sons and Company. No. 79,591; Sept. 20; Gaz. vol. 158; p. 698.
Yarn, Worsted. B. Ulmann & Co. No. 79,538; Sept. 13; Gaz. vol. 158; p. 479.
Yeast, Compressed. Standard Compressed Yeast Company. No. 79,704; Sept. 27; Gaz. vol. 158; p. 880.

ALPHABETICAL LIST OF LABELS.

"Breen's British Blend." (For Blended Tea.) T. G. Breen. No. 15,331; Sept. 27; Gaz. vol. 158; p. 882.
"Gladstone Rawhide." (For Whips.) Sears, Roebuck and Co. No. 15,320; Sept. 13; Gaz. vol. 158; p. 480.
"Hindoo Through Rawhide." (For Whips.) Sears, Roebuck and Co. No. 15,322; Sept. 13; Gaz. vol. 158; p. 480.
"Independent Bakery Co. Eagle Bread." (For Bread.) Independent Bakery Co. No. 15,332; Sept. 27; Gaz. vol. 158; p. 882.
"Limko Extract." (For an Extract for Making Beverages.) J. H. Nicholson. No. 15,329; Sept. 27; Gaz. vol. 158; p. 882.
"Lowry's 'Besti Water.'" (For Eye-Water.) H. T. Lowry. No. 15,317; Sept. 6; Gaz. vol. 158; p. 226.
"Magic Rawhide." (For Whips.) Sears, Roebuck and Co. No. 15,319; Sept. 13; Gaz. vol. 158; p. 480.
"Mineola." (For Cigars.) J. Gonzalez. No. 15,327; Sept. 27; Gaz. vol. 158; p. 882.
"Mint Chips." (For Chewing-Gum.) Colgan Gum Co. No. 15,316; Sept. 6; Gaz. vol. 158; p. 226.
"Oxidized." (For Cotton Piece Goods.) Burton Bros. & Co. No. 15,326; Sept. 20; Gaz. vol. 158; p. 700.
"Prym's See Its Spring." (For Dress-Fasteners.) The W. Prym Company. No. 15,318; Sept. 6; Gaz. vol. 158; p. 226.
"Regalia Imperial." (For Cigars.) Schmidt & Co. No. 15,313; Sept. 6; Gaz. vol. 158; p. 226.
"Remington Rawhide." (For Whips.) Sears, Roebuck and Co. No. 15,321; Sept. 13; Gaz. vol. 158; p. 480.
"Sellrich Bath Sponge." (For Bath-Sponges.) Freirich & Mansell. No. 15,334; Sept. 27; Gaz. vol. 158; p. 882.
"Seyah." (For Cigars.) C. R. Hayes. No. 15,323; Sept. 20; Gaz. vol. 158; p. 700.
"So-Exy." (For Foot-Powder.) Imperial Remedy Co. No. 15,333; Sept. 27; Gaz. vol. 158; p. 882.
"Step-Into Shoe." (For Shoes.) G. A. Ormiston. No. 15,335; Sept. 27; Gaz. vol. 158; p. 882.
"Stone Hill Wine Co." (For Brandy, Cognac Style.) Stone Hill Wine Co. No. 15,328; Sept. 27; Gaz. vol. 158; p. 882.
"Tavern." (For Blended Coffee.) Closset & Devers. No. 15,330; Sept. 27; Gaz. vol. 158; p. 882.
"The W. Co. Scientific Sapphire." (For Artificially-Made Sapphires.) Wendell & Co. No. 15,325; Sept. 20; Gaz. vol. 158; p. 700.
"The W. Co. Scientific White Sapphire." (For Artificially-Made White Sapphires.) Wendell & Co. No. 15,324; Sept. 20; Gaz. vol. 158; p. 700.
"Violet Chips." (For Chewing-Gum.) Colgan Gum Co. 15,313; Sept. 6; Gaz. vol. 158; p. 226.
"White Rose Sunkist Brand." (For Honey.) H. L. Meharry. No. 15,314; Sept. 6; Gaz. vol. 158; p. 226.

PRINTS.

"All Suits All Overcoats $15 No More No Less." (For Suits and Overcoats.) W. A. Hersch. No. 2,637; Sept. 6; Gaz. vol. 158; p. 226.
"Anti Germ Disinfectant Powder." (For Carbolic Disinfectant-Powder.) Smith & Agnew Disinfectant Co. No. 2,639; Sept. 13; Gaz. vol. 158; p. 480.
"Becky, I Know Him." (For Wheat Breakfast Food.) Cream of Wheat Co. No. 2,642; Sept 20; Gaz. vol. 158; p. 700.
"Built Like a Violin." (For Pianos.) Schumann Piano Company. No. 2,641; Sept. 13; Gaz. vol. 158; p. 480.
"The Foundation of Successful Baking." (For Flour.) Washburn Crosby Company. No. 2,638; Sept. 13; Gaz. vol. 158; p. 480.
"The Mark G. Harris Easy Sleeve." (For Coats.) M. G. Harris. No. 2,640; Sept. 13; Gaz. vol. 158; p. 480.

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OF THE

UNITED STATES PATENT OFFICE.

VOLUME CLIX.

OCTOBER,

1910.

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1910.

ERRATA.

972,480, page 364, second claim, line 7, for the compound word "clasp-screw" read *clamp-screw*.

972,729, page 451, third claim, lines 4–5, strike out the words "gearing between said shaft and head comprising" and insert the words *and carrying an internal gear, gearing connecting said gears on said shaft and head and*.

CONTENTS.

	Page.
PATENTS AND DESIGNS GRANTED, October 4, 11, 18, 25	3, 249, 497, 755
TRADE-MARKS PUBLISHED AND REGISTERED, October 4, 11, 18, 25	231, 677, 735, 981
LABELS AND PRINTS REGISTERED, October 4, 11, 18, 25	240, 488, 746, 990
DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS October 4, 11, 18, 25	241, 489, 747, 991
INDEX TO THE DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS, October 4, 11, 18, 25	997
ALPHABETICAL LIST OF PATENTEES AND INVENTIONS	I

ANNOUNCEMENTS.

	Page.
APPLICATIONS—	
Access to pending	754
Condition of pending	2, 248, 496, 754
ATTORNEYS—	
Powers of attorney to be accompanied with appearance in writing	1
CHANGES IN CLASSIFICATION—	
Order 1876	995
Order 1877	495
COURT OF APPEALS OF THE DISTRICT OF COLUMBIA—	
Amendment to rules of	247
List of decisions cited	492
Patent-appeal docket	753
DISCLAIMERS—	
Jenkins, Merrill L	995
Matheslus, Alexander H	244
FOREIGN PATENT LAWS—	
Korea	750
Peru	492
INTERFERENCE NOTICES—	
Amman Iron Co	245, 493, 751, 996
Blauvelt, James E	245, 493, 752, 996
Brinkerhoff, Samuel J. and George D	245, 493, 751, 996
Brooks, Charles C	245, 493, 752, 996
Donaldson, Edward A	751, 995
Hall, Frederick M	995
Knox, George A	245, 493, 751, 996
Mangis, Luin F	246, 494, 752
Meyberg, Maud	246, 494, 752
Nelson, William Johnson	246, 494, 752
Newell Coal Company	245, 493, 752, 996
Russell, Harry W	245, 493, 751, 996
Union Tubing Company	751, 995
Washburn, George J	246, 494, 752
NAME OF APPLICANT—	
Orders 821 and *900*	753
OFFICIAL GAZETTE—	
Decision leaflets, price of	2, 248, 496
Subscription price of	495
PATENTS—	
List of adjudicated	244, 492, 751, 994

Patents Nos. 971,512 to 972,142.

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CONTENTS.

	Page.
ATTORNEYS	1
APPLICATIONS UNDER EXAMINATION	2
NOTICE	2
PATENTS GRANTED	3
REISSUES	229
DESIGNS	229
TRADE-MARKS—REGISTRATION APPLIED FOR	231
TRADE-MARKS—REGISTERED	237
LABELS AND PRINTS	240
COMMISSIONER'S DECISIONS—	
Ex parte Hardinge	241
COMMISSIONER'S DECISIONS—Continued.	
Foster v. Bell	241
Landau v. Spitzenberg	242
The Lester H. Greene Company v. Scott & Bowne	242
DECISIONS OF THE U. S. COURTS—	
Wilson Trolley Catcher Company v. Frank Ridlon Company *et al*	244
ADJUDICATED PATENTS	244
DISCLAIMER	244
INTERFERENCE NOTICES	245
ISSUE OF OCTOBER 4, 1910	246

ATTORNEYS.

Department of the Interior,
United States Patent Office,
Washington, D. C., September 20, 1910.

Attention is called to the following order of the Secretary of the Interior. Attorneys or agents practicing before the Patent Office will be required to enter their appearance, in all pending cases, in accordance with the procedure therein specified.

CORNELIUS C. BILLINGS,
Acting Commissioner.

(Order.)

Department of the Interior,
Washington, September 15, 1910.

To the several Bureaus and Offices of the Interior Department:

It is hereby ordered that hereafter firms of attorneys or agents as such will not be admitted to practice before this Department, or recognized as having the right to appear before it or any Bureau or Office thereof, in any proceeding or matter involving the services of an attorney or agent, and in the presentation of any matter by any such firm it must be represented by one or more duly-qualified members thereof in his or their own proper person: *Provided*, That this order shall not be construed to prevent such firms of agents or attorneys from filing powers of attorney from clients as evidence of authority to represent such clients, but the power, when filed, must be accompanied by an appearance in that behalf, in writing, signed by one or more duly-qualified members of such firm, and all pleadings, briefs, or memoranda filed in the further presentation of any such matter by the firm shall be similarly signed.

If any firm of attorneys or agents shall retain as a member thereof, or receive into such membership any person who stands disbarred or suspended from the practice of this Department, its Bureaus or Offices, all of the members thereof who may have been admitted to practice shall be subject to disbarment.

This order is in lieu of departmental order of July 28, 1910, and all regulations of this Department in conflict herewith are hereby vacated and annulled.

(Signed) FRANK PIERCE,
Acting Secretary.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business September 27, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Aug. 15	Aug. 11	350
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Aug. 1	Aug. 13	207
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Aug. 29	Sept. 14	176
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Aug. 22	Aug. 12	416
167	5. Bookbinding; Harvesters; Jewelry; Music.	July 1	June 28	566
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	July 18	Aug. 2	348
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Aug. 3	Aug. 11	466
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Aug. 19	Aug. 27	378
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	June 22	July 28	449
235	10. Carriages and Wagons	July 27	July 25	663
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Aug. 1	Aug. 3	362
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	July 25	July 26	702
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	June 18	July 29	540
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	July 30	Aug. 2	336
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	July 6	July 28	650
109	16. Telegraphy; Telephony	July 5	July 13	208
308	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Aug. 16	Aug. 22	215
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	July 29	July 29	334
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Aug. 6	Aug. 9	397
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Aug. 26	Aug. 11	228
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	July 26	Aug. 2	381
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	June 17	July 5	665
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Aug. 1	Aug. 10	406

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
144	24. Apparel; Apparel Apparatus; Electricity, Medical and Surgical; Sewing-Machines; Surgery.	July 18	July 15	674
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Aug. 29	Sept. 6	110
106	26. Electricity, Generation; Motive Power.	July 11	July 21	292
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus	Aug. 22	Aug. 25	326
65	28. Internal-Combustion Engines	July 20	July 20	423
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	July 25	Aug. 5	401
153	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	July 11	Aug. 11	416
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Aug. 3	Aug. 15	249
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Aug. 13	Aug. 16	324
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Aug. 1	July 30	331
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Aug. 5	Aug. 1	416
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Aug. 20	Aug. 31	534
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	June 27	July 19	649
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	July 8	July 21	448
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Aug. 1	July 18	545
321	39. Water Distribution	July 27	Aug. 1	400
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Aug. 15	Aug. 8	602
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	June 16	June 25	625
279	42. Electric Railways; Electric Signaling; Railway Signaling; Signals.	June 13	July 5	678
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	July 15	Aug. 1	293

Oldest new case, June 13; oldest amended, June 25.

Total number of applications awaiting action..... 18,217

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Aug. 1	Sept. 12	785
	Designs	Sept. 1	Sept. 15	81
	Labels and Prints	Sept. 21	Sept. 22	22

Notice.

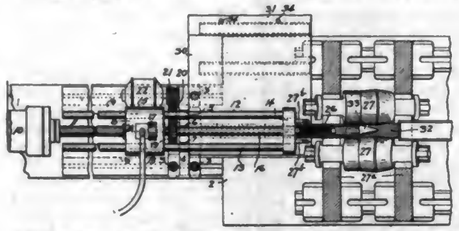
Decision leaflets of the OFFICIAL GAZETTE are sold as a separate publication—

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PATENTS

GRANTED OCTOBER 4, 1910.

971,512. MACHINE FOR PIERCING BILLETS. JAMES D. ADAMS, Monessen, Pa., assignor to Wallace H. Rowe, Pittsburg, Pa. Filed Jan. 29, 1909. Serial No. 475,047.



1. In apparatus for piercing ingots, billets, etc., the combination with rolls, of a mandrel in coöperative relation thereto, means for advancing and withdrawing said mandrel, and means for stripping the tube blank therefrom as said mandrel withdraws in the direction of feed of the ingot, billet, etc.

2. In apparatus for piercing ingots, billets, etc., the combination with rolls, of a frame movable to and fro, a mandrel in coöperative relation with said rolls carried by said frame, and means for stripping the tube blank therefrom as said mandrel is withdrawn in the direction of the feed of the ingot, billet, etc.

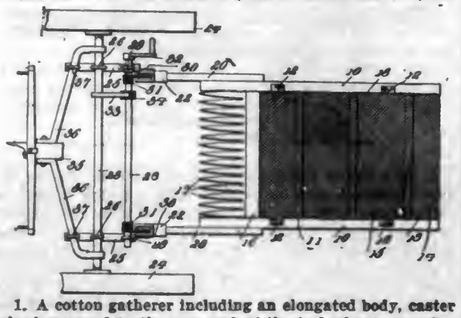
3. In apparatus for piercing billets, ingots, etc., the combination with rolls, of a frame movable to and fro, a mandrel carried thereby, a stop in the path of the tube blank, and means for withdrawing the mandrel beyond said stop.

4. In apparatus for piercing ingots, billets, etc., in combination with rolls, of a frame movable to and fro, a mandrel carried thereby, and a movable support for said mandrel between said frame and said rolls and moved by the contact of the pipe therewith.

5. In apparatus for piercing ingots, billets, etc., the combination with rolls, of a frame movable to and fro, a mandrel carried thereby, a movable support for said mandrel connected to said frame between said frame and said rolls, said movable support and frame independently movable the one with relation to the other, and a stop for said movable support.

[Claims 6 to 8 not printed in the Gazette.]

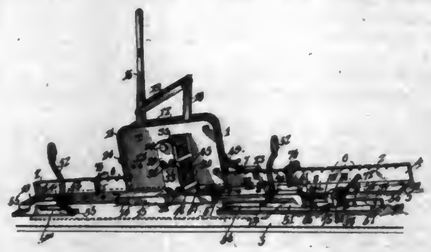
971,513. COTTON-GATHERER. ROBERT M. AYERS, Quanah, Tex. Filed Mar. 29, 1910. Serial No. 552,172.



1. A cotton gatherer including an elongated body, caster wheels secured to the rear end of the body for supporting the same, spaced fingers located across the forward end of the body, a pair of up-turned arms projecting outwardly from said body, an arched-bar arranged in spaced relation across the forward end of the body, straps secured to said arched-bar, bearings carried by the rear ends of the straps, a transverse shaft journaled in the bearings, cables wound about said shaft and connected to the upper ends of said arms, depending straps carried by said first straps, guides secured to the lower ends of said depending straps and snugly engaging about the up-turned portions of said arms, and a tongue forwardly extending from said arched-bar.

2. A cotton gatherer including a body, gathering fingers carried by the body, caster wheels depending from the rear end of the body, upturned arms forwardly projecting from the body, an arched axle supported in spaced relation across the forward end of the body, guides carried by the axle to receive the upturned arms, a revoluble shaft carried by the arched axle above the guides, means for rotating said revoluble shaft, and connecting cables wound about the shaft and depending through the guides for attachment to the upper ends of said arms.

971,514. PUNCHING-MACHINE. EDWARD BAMBAUER, Volta, Cal. Filed Jan. 13, 1910. Serial No. 537,960.



1. A punching machine including a track, a frame slidable along the track, a punch carried by the frame, an operating lever, means actuated by the operating lever for feeding the frame along the track, and a cam arranged to actuate the punch pivoted independently of the lever and provided with an arm arranged in spaced relation with the lever and connected with and actuated by the same.

2. A punching machine including a track, a frame slidable along the same, a punch carried by the frame, an upright operating lever, means actuated by the operating lever for feeding the frame along the track, a cam arranged to actuate the punch and provided with an upwardly extending arm, and a link connecting the arm of the cam with the lever.

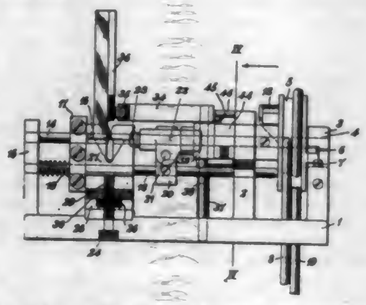
3. A punching machine including a track, a frame slidable along the same, a punch carried by the frame, an upright operating lever fulcrumed at an intermediate point in the frame, feeding means connected with the lower arm of the lever, a cam for actuating the punch provided with an upwardly extending arm, and a link connecting the arm of the cam with the upper arm of the lever.

4. A punching machine including a track, a frame slidably mounted on the track, a punch carried by the frame, an operating lever, a dog pivotally connected to the operating lever and engaging the track, a spring carried by the frame and bearing against the dog for holding the same in engagement with the track, and means operated by the lever for actuating the punch.

5. A punching machine including a track, a frame slidable along the track, a punch carried by the frame, an upright operating lever including upper and lower arms, a dog connected with the lower arm of the operating lever, a cam for actuating the punch having an upwardly extending arm connected with the upper arm of the operating lever, and a spring carried by the frame and bearing against the dog for maintaining the same in engagement with the track.

[Claims 6 to 20 not printed in the Gazette.]

971,515. MACHINE FOR MANUFACTURING INCANDESCENT LAMPS. GEORGE W. BRADLEY, East Orange, N. J., assignor to Westinghouse Lamp Company, a Corporation of Pennsylvania. Filed Nov. 22, 1909. Serial No. 520,333.



1. A machine of the character described comprising a rotatable member, a mandrel coöperating therewith, means for reciprocating the mandrel as the member is rotated, a marking device that is reciprocated simultaneously with the mandrel, an inker for the marking device, means carried by the rotatable member for causing the inker to engage the marker, and means for releasing the inker when the rotatable member has moved through a predetermined angle.

2. A machine of the character described comprising a rotatable member having an end recess and a lateral slot connecting with the recess, a mandrel projecting into the said recess, means for reciprocating the mandrel into and out of the said slot as the said member is rotated, a marking device that is reciprocated simultaneously with the mandrel, an inker for the marking device, means carried by the rotatable member for causing the inker to engage the marker, and means for releasing the inker when the rotatable member has moved through a predetermined angle.

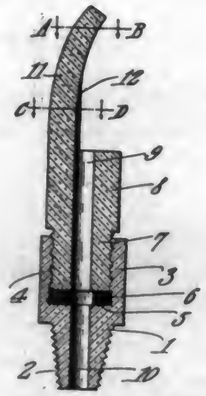
3. A machine of the character described, comprising a rotatable member, a reciprocatory mandrel coöperating therewith, a reciprocatory marking device, an inker for the marking device that is biased toward a position out of engagement with the marking device, means carried by the rotatable member for causing the inker to engage the marker, and means for releasing the inker when the rotatable member has moved a predetermined distance.

4. A machine of the character described comprising a rotatable member, a reciprocatory mandrel coöperating therewith, and a reciprocatory marking device.

971,516. NOZZLE. ISAAC K. BEAVER, Wilburton, Pa., assignor of one-half to Elmer E. Straub, Wilburton, Pa. Filed Sept. 17, 1909. Serial No. 518,207.

1. A nozzle having a deflecting portion extending across the path of a jet of liquid discharged from the nozzle and provided with a transversely convexed face for contact with said liquid, there being a longitudinal groove extending from the orifice in the nozzle and merging into the convexed face of the deflecting portion.

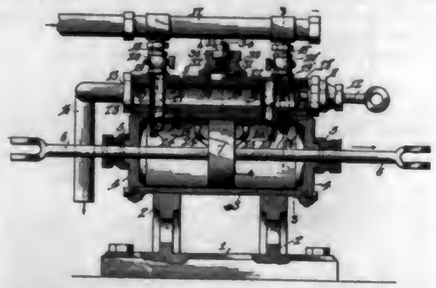
2. A nozzle including a body having a longitudinal passage therethrough and a tongue extending from one end of the body and having a curved outer portion overhanging the passage and provided with a transversely convexed inner face, there being a longitudinal groove registering with the passage and merging into the convexed face of the tongue.



3. A nozzle including a body having a longitudinal passage therethrough, and a tongue extending from the body and having a curved outer end portion overhanging the passage, there being a longitudinal groove within the tongue and registering with a portion of the passage, the wall of the groove gradually merging into the inner surface of the curved portion of the tongue and said surface being transversely convexed between the groove and the free end of the tongue.

4. A nozzle including an angular body having a screw threaded stem upon one end thereof, there being a longitudinal passage within the stem and body, and a tongue extending from the other end of the body at one side of the passage, said tongue having a curved free end overhanging the passage, there being a longitudinal groove within the tongue and registering with a portion of the passage, the wall of the groove gradually merging into the adjoining face of the tongue and said face being transversely convexed between the groove and the free end of the tongue.

971,517. FLUID-MOTOR. CARLOS F. BENITEZ, Guadalajara, Mexico. Filed Aug. 13, 1908. Serial No. 448,291.



1. In a motor, the combination of a cylinder having exhaust passages near its opposite ends, a piston therein, a valve casing having passages registering with the exhaust passages in the cylinder, a tubular valve in the casing having separate exhaust ports at its opposite ends spaced a greater distance apart than are the said exhaust passages whereby communication between either end of the cylinder and the bore of the valve can be established, an exhaust conduit connected with one end of the valve casing for receiving the exhaust fluid through the bore of the valve at one end thereof, and means controlled by the said valve for admitting fluid alternately to opposite ends of the cylinder.

2. In a fluid motor, the combination of a cylinder, a piston therein, a valve casing mounted on the cylinder, a hollow valve body mounted for reciprocation in the casing and provided with exhaust ports in its sides adjacent its ends, passages extending from the cylinder to the valve casing near the ends thereof with which said ports are adapted to alternately register, separate inlet ports arranged in the side of the valve casing, and means carried by the valve for alternately connecting the said inlet ports with opposite ends of the cylinder independently of the exhaust passages.

3. In a motor, the combination of a cylinder, a piston therein, a valve casing mounted in coöperative relation with the cylinder, passages communicating with the cylinder and the valve casing near the ends thereof, a reciprocatory tubular valve transversely filling the bore of the valve casing and provided with ports arranged to respectively register with one of the passages to permit exhaust fluid to pass through either passage to the bore of the valve, an exhaust conduit in permanent communication with the bore of the valve, separate supply ports in the valve casing, and open-ended tubes carried by the valve in transverse relation thereto and spaced at such distance apart that one tube will register with the supply port while the other tube is out of register with the other supply port whereby fluid will be admitted alternately to opposite ends of the cylinder.

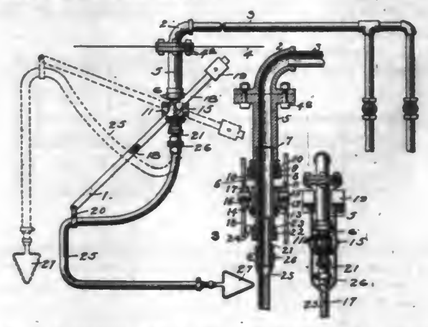
4. In a motor, the combination of a cylinder, a reciprocatory piston mounted therein, a valve casing, separate exhaust passages connecting the ends of the cylinder with the casing, a hollow open-ended valve mounted for reciprocation in the casing and provided with separate ports adapted to alternately register with the exhaust passages upon reciprocation of the valve, an exhaust conduit communicating at all times with the valve to receive the fluid passing into the latter through both ports, separate inlet ports in the wall of the casing, and hollow members mounted in the valve to move therewith into and out of register with the said inlet ports and extending into the cylinder to supply fluid thereto and to receive motion from the piston at the end of its stroke in either direction for reciprocating the valve, said members being closed to the exhaust passages.

5. In a motor, the combination of a cylinder, a piston mounted therein, a valve casing associated with the cylinder, separate exhaust passages extending from the cylinder to the casing near the ends thereof, a hollow reciprocatory valve mounted in the casing and having ports arranged to separately register with said passages, tubular members separate from and secured to the valve and extending transversely from one side to the other thereof, said members being closed to the bore of the valve and one end of each member projecting from the valve and extending into the cylinder, the walls of the cylinder and casing being slotted to receive the projecting ends of the members and the said projecting ends being open to admit fluid to the cylinder and arranged to receive motion from the piston, and fluid-supplying devices separately connected with the casing at the opposite limits of movement of said tubular members whereby at the end of each stroke of the valve one of said tubular members will be made to register with one of the fluid supplying devices.

[Claims 6 to 9 not printed in the Gazette.]

971,518. CLEANING DEVICE. WILLIAM J. BERGENS, Pittsburg, Pa., assignor to National Vacuum Devices Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 13, 1908. Serial No. 443,336.

1. In a cleaning device, the combination with an overhead support, of a hollow shaft extending down therefrom, a pipe connected to the upper end of said hollow shaft, a rotary sleeve on said shaft, a counterbalanced arm mounted on said rotary sleeve, a cleaning tool and flexible connections between said tool and said shaft and supported by said counterbalanced arm.



2. In a cleaning device, the combination with a suitable overhead support, a hollow shaft extending down therefrom, a pipe connected to the upper end of said hollow shaft, a second hollow shaft extending up within the lower end of said first named shaft and supported therefrom, a rotary sleeve on said second named shaft, a counterbalanced arm mounted on said rotary sleeve, a cleaning tool, flexible connections between said tool and said shaft, and supported by said counterbalanced arm.

3. In a cleaning device the combination with a suitable overhead support, a hollow shaft extending down therefrom, a pipe connected to the upper end of said hollow shaft, a second hollow shaft extending up within the lower end of said first named shaft, and supported therefrom, a rotary sleeve on said second shaft, a ball race on said second named shaft, balls interposed between said ball race and said sleeve, a counterbalanced arm mounted on said sleeve, a cleaning tool, and flexible connections between said tool and said shaft and supported by said counterbalanced arm.

4. In a cleaning device, the combination with a suitable overhead support, a hollow shaft extending down therefrom, a pipe connected up to the upper end of said hollow shaft, a rotary sleeve on said shaft, a counterbalanced arm on said rotary sleeve, a cleaning tool, a flexible pipe, connections between said flexible pipe and said shaft, and a ring at the outer end of said arm through which said flexible pipe passes.

971,519. HAIR-HOLDER. CHARLES A. BRANNEN, Newton, Kans. Filed Nov. 2, 1909. Serial No. 525,924.

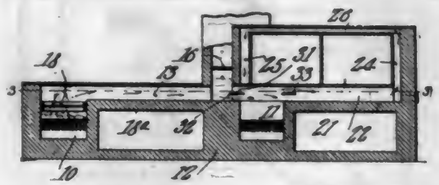


The herein described hair holder comprising a strip of flexible material having prongs on one side, said strip being provided at one end with a pair of out-turned ears, spaced apart, open between their outer ends, and the space between said ears being of the same extent at all points between their inner and outer ends, the other end of the said strip being provided with a plurality of oppositely disposed pairs of tapered teeth and adapted to over-lie the first-mentioned end of said strip and to be disposed with the narrowed portion of either pair of its teeth between and engaged by said ears.

971,520. RANGE. JOSEPH D. BRIGGS, Fresno, Cal. Filed Feb. 23, 1910. Serial No. 545,461.

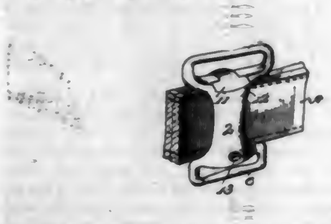
A range comprising a fire box and an oven, said range having flues at the bottom, ends, the top and the back

of the oven, one of the bottom flues leading from the fire box to the flue at one end of the oven, and said end flue leading to the top flue, the top flue leading to the other



end flue of the oven, and the last mentioned end flue leading to the other bottom flue, said last mentioned flue leading to the flue at the back of the oven, and the last mentioned flue having an outlet.

971,521. ADJUSTABLE TRACE-SUPPORT AND PAD-LOOP. REGINALD W. BROOKS, Denver, Colo. Filed Oct. 25, 1909. Serial No. 524,442.



1. A trace support and pad loop comprising a main body portion having a head at each end and being provided at each end with a loop, a vertical clamping bar formed at one end with a laterally enlarged portion to interlock with one of said heads, and a screw passing through the other of said heads from the outside thereof and engaging an end of the clamping bar, whereby the clamping bar may be adjusted nearer to or farther from the main body portion.

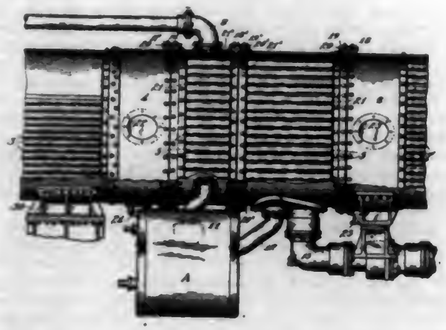
2. A trace support and pad loop comprising a relatively thin body portion provided with a projecting head at each end, said heads being recessed on their inside faces and being provided with integral loops, and a clamping bar adapted to be received within said recesses in the heads, one end of the clamping bar having a laterally enlarged portion interlocking with one of the heads, the other end of the clamping bar being formed with a screw threaded opening, and a screw passing through the other head from the outside thereof and into said screw threaded opening in the clamping bar, whereby the clamping bar may be adjusted nearer to or farther from the main body portion.

3. A trace support and pad loop comprising a relatively thin body portion provided at its opposite ends with inwardly offset heads, said heads being formed with upwardly and downwardly projecting loops, the inside face of the lower head being recessed, and the outer, inside and upper faces of the upper head being recessed, said outside recess extending on each side beyond the recess in the upper face, a clamping bar, the lower end of which is adapted to be received in the lower recess, and the upper end of which is angularly bent and formed with a transversely extending cross bar at its extremity adapted to be received in the recess in the outer face of the body portion, and a screw passing through the lower head and into the lower end of said clamping bar, the inner face of the clamping bar and body portion being formed with inwardly projecting studs adapted to engage the trace.

4. A trace support and pad loop comprising a body portion formed with a loop at each end, a vertical clamping bar formed at one end with a curved extremity, said extremity being laterally enlarged at its termination to interlock with one end of the body portion, and a screw passing through the other end of the body portion and engaging the corresponding end of the clamping bar to adjust the lower end of the clamping bar toward or from the body portion.

5. A trace support and pad loop including a body portion having an integral loop at each end, a clamping bar having one end curved to extend through one of said loops, the extremity of the curved end being laterally enlarged and detachably interlocking with the corresponding end of the body portion, and a screw passing through the other end of the body portion and engaging the corresponding end of the clamping bar.

971,522. SUPERHEATER. WILLIAM F. BUCK, Chicago, Ill., and HENRY W. JACOBS, Topeka, Kans. Filed June 2, 1910. Serial No. 564,673.



1. A superheater comprising a cylindrical shell or drum having smoke tubes extending in a longitudinal direction therein, said shell being located between two combustion chambers and forming an intermediate section of the boiler shell, means whereby said section is divided into two compartments to form separate superheating means, and means whereby said section is secured in place to be readily removed.

2. A locomotive provided with a section intermediate of the boiler and the feed water heater and constituting a portion of the boiler shell, combustion chambers located at both ends of said section, smoke tubes extending in a longitudinal direction in said section and communicating with combustion chambers at both ends, means whereby said intermediate section is divided into two compartments to form separate superheating means, and means whereby said intermediate section is removably held in place.

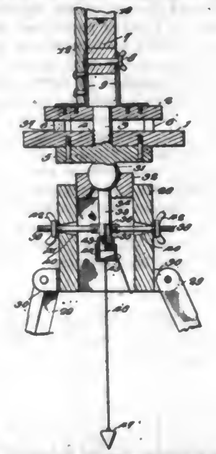
3. A superheater of the class described whose outer casing forms an intermediate section of the boiler shell, means located to the outside of said casing whereby the steam is led to and from said superheater, and interlocking rings secured to the ends of the casing and to adjacent portions of the boiler shell whereby the superheater section is removably held in place.

4. A superheater of the class described comprising a cylindrical casing which forms an intermediate section of the boiler shell, retaining rings secured to the ends of said casing and to adjacent portions of the boiler shell whereby the casing is removably held in place, and means located on the intermediate section and the boiler shell whereby said section is supported on the boiler shell.

5. In a locomotive, the combination of a boiler, cylinders, and a superheater, the shell of the superheater forming an intermediate section of the boiler shell, means intermediate of said section and the boiler shell whereby said section is secured in place to be readily removed, combustion chambers formed within the boiler shell and located at opposite ends of said intermediate section, with steam connections between the boiler, superheater and the cylinders, located outside of the shell.

[Claims 6 and 7 not printed in the Gazette.]

971,523. TRANSIT. AUGUSTUS N. BUCKNER, Birmingham, Ala. Filed June 2, 1909. Serial No. 499,658.



1. A leveling device including a stand, a member adapted to carry an instrument and having a universal joint connection with the stand, the stand being formed with a plurality of openings, a plurality of rods positively connected at one end to the member and radiating therefrom and passing freely through the said openings, and nuts threaded on the free ends of the rods to hold the member in adjusted relation to the stand.

2. A leveling device including a stand, a stem adapted to carry an instrument and having a universal joint connection with the stand, a plurality of rods positively connected at one end to the stem radiating therefrom and arranged in pairs, the rods of each pair being disposed in diametrical alinement and being positioned at right angles to the rods of the other pair, the stand being formed with openings through which the free ends of the rods pass freely, and nuts working on the free ends of the rods to hold the stem in adjusted relation to the stand, the openings being elongated to afford the rods sliding movement therein by and upon the adjustment of the stem.

3. A leveling device including a stand, a stem adapted to carry an instrument and having a universal joint connection with the stand, the stand being formed with a plurality of openings extending therethrough, a plurality of rods pivotally connected at one end to the stem and radiating therefrom and passing freely through the openings, and nuts working on the free ends of the rods, the said openings being flared to permit the limited turning movement of the rods about their pivots by and upon the adjustment of the stem.

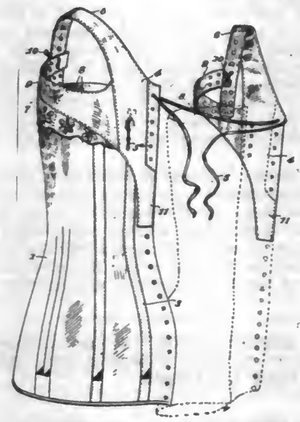
4. A leveling device including a stand, a stem adapted to carry an instrument and having a universal joint connection with the stand, links passed transversely through the stem with their ends projecting therebeyond, and rods positively connected at one end to the projecting ends of the links and having adjustable connection at their other ends with the stand.

5. A leveling device including a stand, a stem adapted to carry an instrument and having a universal joint connection with the stand, members rigid with the stem and projecting radially outwardly therefrom at right angles to each other, rods pivotally connected at one end to said members and having adjustable connections at their other ends with the stand.

[Claims 6 to 10 not printed in the Gazette.]

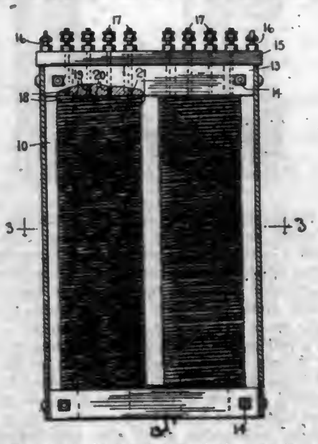
971,524. COMBINATION BRACE-WAIST. EVA M. CLEWELL, Canton, Ohio. Filed June 9, 1909. Serial No. 501,078.

1. A waist of the character described, comprising a body portion, brace pieces connected to the upper edge of the body portion at the back thereof, and formed with shoulder straps, means for detachably connecting the ends of the shoulder straps to the body portion at the front of the latter, and arm pit straps connected at one end to the side edges of the body portion and arranged for adjustable and detachable connection at their opposite ends to the shoulder straps, the arm pit straps being free from connection with the body portion.



2. A waist of the character described, comprising a body portion, brace pieces secured to the body portion at the back thereof, said brace pieces being provided with shoulder straps secured to the body portion at the front thereof, lacings connecting the edges of the brace pieces and terminating short of the lower end thereof, the lower ends of the brace pieces being extended below the lacing and free from attachment to the body portion, whereby to form skirt supporting straps.

971,525. RESISTANCE-COIL. IRVEN E. COFFEY, Lawton, Okla. Filed Oct. 12, 1908. Serial No. 457,419.



1. In a device of the kind described, a series of resistance coils, binding posts connected to each end of each coil; in combination with a set of connecting bars each having a longitudinal body portion and a series of laterally extending slotted arms formed on said body, the series of arms on each connecting bar being engaged with a series of the binding posts.

2. In a device of the kind described, a pair of cores connected by yokes, a plurality of insulated wires wound on

the cores, said wires being arranged side by side in parallel relation throughout the entire winding, and binding posts connected to each end of each wire.

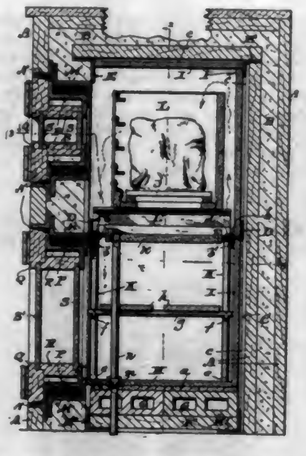
3. In a device of the kind described, a series of resistance coils, binding posts connected to each end of each coil; in combination with a set of connecting bars each marked to indicate to which of said posts it is to be attached and further marked with the current strength for which it is to be used.

4. In a device of the kind described, a pair of cores connected by yokes, a plurality of insulated wires wound on the cores, said wires being arranged side by side in parallel relation throughout the entire winding, and binding posts connected to each end of each wire; in combination with a set of connecting bars each marked to indicate to which of said posts it is to be attached and further marked with the current strength for which it is to be used.

5. In a device of the kind described, a connecting bar having a longitudinal body portion provided with characters on its upper surface indicative of the strength of current for which it is to be used, and laterally extending arms formed on said body portion provided with characters indicative of the point of attachment of said arms.

[Claims 6 and 7 not printed in the Gazette.]

971,526. REFRIGERATOR. EDWARD A. CORNILLIE and CHARLES P. CORNILLIE, Milwaukee, Wis. Filed June 9, 1906. Serial No. 320,941.

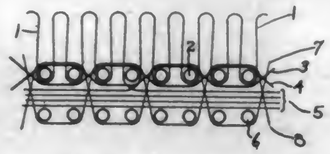


1. A refrigerator having an opening therein, a continuous Z metal jamb fitted in the opening, a door for the same, and a continuous Z metal binder frame for the door, said frame being of less dimension than the jamb, whereby when said door is closed the flanges of the door binder frame and jamb abut each other to form a continuous closed air space around the aforesaid door.

2. In a refrigerator having a wood-casing, a rectangular opening therein, an angle metallic facing for the opening, a Z-metal rectangular jamb fitted to the inner flange of the metal facing, the web of the Z-iron being of lesser dimension than said metal facing; the combination of a door for the opening comprising wood sills and boxing, vitreous plates fitted to the inner and outer edges of the door-boxing to form a dead air-space, and a Z-iron rectangular frame of lesser dimension than the Z-iron jamb, secured to the door sills, the flanges of the Z-iron frame adapted to close upon the flanges of the Z-iron jamb to form a continuous dead-air space between the webs of the respective Z-irons.

3. A refrigerator having an incased skeleton frame comprising vertical angle-iron corner strips, the flanges of which are inwardly disposed, a set of bottom angle-iron truss-members secured to the flanged faces of the corner-strips, the horizontal flanges of the truss-members being inwardly disposed, a flooring supported upon the inner horizontal flanges of said truss-members, a second set of truss-members, similar to the first named set, secured to the corner strips intermediate of their ends, a top set of angle-iron truss-members secured to the upper ends of the corner strip flanges, the horizontal flanges of which truss-members are outwardly disposed, side, back and bottom plates of vitreous material fitted to the corner strips between the floor and intermediate truss-members of the skeleton frame, other side and back plates of vitreous material fitted to the corner strips above the intermediate truss-members and adapted to be supported thereby, and a top plate of vitreous material supported by the last named set of side and back plates.

971,527. PILE FABRIC. GEORGE CROSSLAND, Watertown, Mass., assignor to George H. Briggs, Amesbury, Mass. Filed June 26, 1909. Serial No. 504,446.



1. A pile fabric comprising an upper and a lower weft plane, two sets of body warp threads interwoven over and under every other pair of weft threads in the upper plane, a pile forming figuring warp thread bound by each upper plane weft thread, a stuffer, and binder threads engaging the weft threads in both planes to bind the whole together and also to coöperate with said body warp threads to form a lateral support for the pile tufts.

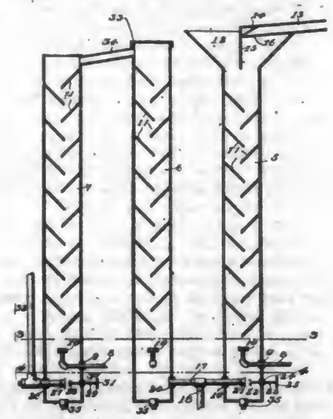
2. A pile fabric comprising an upper and a lower weft plane, two sets of body warp threads interwoven with said upper plane weft threads, a stuffer, a pile forming warp thread bound by each upper plane weft threads, and a binder warp thread engaging two weft threads in the upper plane and one weft thread in the lower plane in each shed whereby the threads in both planes are bound together, said binder thread also acting in conjunction with the body warp threads to compress and support the pile tufts transversely.

3. A pile fabric comprising an upper and a lower weft plane, two sets of body warp threads interwoven with said upper plane weft threads only, a stuffer, pile forming warp threads bound by said upper plane weft threads, binder threads set in each course among said body warp and pile threads and having the same point of intersection as the body warp threads, said binder threads arranged to engage the weft threads in both planes to bind the whole together.

4. A pile fabric having binder threads, pile threads and a body warp thread, the latter being arranged in two sets or leaves to engage the weft threads in the upper plane only, said body warp being distributed among the pile threads and the binding threads, said binding threads being arranged to bind both the upper and lower weft planes together and also to coöperate with said body warp threads to form a lateral compressive bind adapted to act on both sides of each tuft or loop of pile formed between them to firmly support the pile tufts.

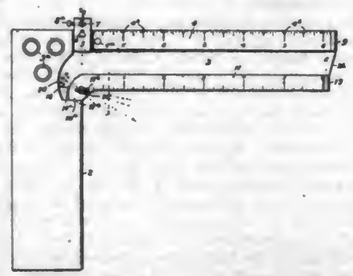
971,528. SAND-WASHER. CARL A. DAHLSTROM, Mountpleasant, Tenn. Filed Sept. 10, 1908. Serial No. 452,397.

1. A washing apparatus comprising a plurality of vertical tanks having their interiors successively connected at their bottoms and tops, one of the terminal tanks of the series being provided with a flared open upper end to receive material and the other terminal tank of the series being provided with a discharge outlet, a series of downwardly inclined and inwardly projecting plates extending from opposite sides of each tank, means for introducing an upward flow of water at the bottom of each tank and means for controlling the communication between adjacent tanks through the connections disposed at the bottom thereof.



2. A washing apparatus comprising a plurality of vertical tanks having their interiors successively connected at their bottoms and tops, the connection disposed at the bottoms of adjacent tanks comprising a pipe having one end projecting into one of the tanks and flared outwardly, a valve mounted in said tank and adapted for longitudinal movement into and out of the flared end of said pipe to control the communication therethrough, one of the terminal tanks being provided with a flared open upper end to receive material and the other terminal tank being provided with a discharge outlet, a series of downwardly inclined and inwardly projecting plates extending from opposite sides of each tank and means for introducing an upwardly flowing current of water at the bottom of each tank.

971,529. TRY-SQUARE. MYRON DICKSON, Martinsville, Ind. Filed Dec. 27, 1909. Serial No. 535,079.



1. In an article of the character described, the combination of a stock, a blade projecting at an angle thereto and constituting with the handle a try-square, a bevel blade having a pin and slot connection with the try-square whereby it is pivoted at its inner end to said try-square, and an integral projection on the first mentioned blade, the said projection forming therebetween and the blade a pocket for the reception of the bevel blade to hold the same in closed position.

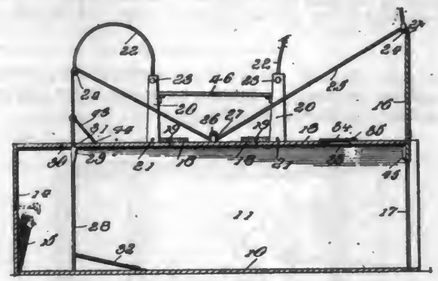
2. In an article of the character described, the combination of a stock, a blade projecting at an angle thereto and constituting with the handle a try-square, a bevel blade pivoted at its inner end to said try-square, the first mentioned blade being formed of bendable material, and having a bent portion overlapping the body of said first mentioned blade, for forming between the bend portion and said body, a receiving pocket for holding the bevel blade in closed position, substantially as and for the purpose described.

3. In a combined try-square and bevel, the combination of a handle and an angle blade secured thereto, a bevel having a pin and slot connection with the handle of the try-square with associated means for holding the same in adjusted positions, and means at the outer end of the angle blade for retaining the bevel blade in closed position.

4. In a tool of the character described, the combination of a handle, a blade projecting at an angle thereto, rules upon one face of the blade adjacent the upper and lower edges of the blade and integral overhanging edges on the blade arranged to engage the outer ends of the rules.

5. In a combined try-square and bevel a handle, connected try-square and bevel blade projecting at an angle to the handle, a rule secured adjacent one edge of the try-square blade, a gage slidable longitudinally of the rule and having retaining flanges, the said rule having a series of notches registering with the divisions thereof, and a retaining member carried by the gage for engaging said notches to hold the same in adjusted positions.

971,530. ANIMAL-TRAP. JOHN F. DRAPER, Albia, Iowa, assignor of one-half to John J. Taglauer, Albia, Iowa. Filed June 8, 1910. Serial No. 565,766.



1. A trap including an elongated and narrow body having registering grooves in its bottom and sides, a hinged rear door upon the body, a bait pocket carried against the inner side of the door, a shutter mounted for sliding movement in the grooves at the forward end of the body supporting arms extending upwardly from the body, a cord slidably disposed through the outer ends of the arms and attached at its forward end to said shutter, a trigger carried upon the rear end of the cord and depending through the body, and a tripping leaf arranged within the body for coöperation with the trigger.

2. A trap including a relatively long and narrow body, a hinged door upon the rear end of the body, a pocket carried against the inner face of the door, a shutter arranged at the outer end of the body for closing the same, arms arranged upon the body, a cord carried through the outer ends of the arms and attached to said shutter, a trigger attached to the rear end of the cord and depending through the body, a lip formed in the body to detachably receive the trigger, and a tripping leaf arranged within the body for moving the trigger to release the same from said lip.

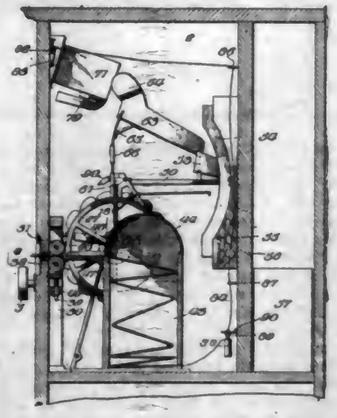
3. A trap including a body, a hinged door closing the rear end of the body, a pocket carried by the door for the reception of the bait, a shutter slidably carried for vertical movement at the outer end of the body, detachable standards carried upon the upper face of the body, adjustable

arms carried by the standards, a cord carried through the outer ends of the arms and attached to said shutter, a trigger depending from the opposite end of the cord into the body, a shoulder formed on the upper end of the trigger, a lip formed upon the body for coöperation with the shoulder to hold the trigger down, and a tripping leaf mounted within the body for swinging said trigger to release the same.

4. A trap including a body, a hinged door closing the rear end of the body and having a pocket in its inner wall, a shutter slidably disposed in the outer end of the body for closing the same, blocks carried by the body, standards detachably mounted in the blocks, arched arms adjustably disposed in the upper ends of the standards, pulleys arranged in the outer ends of the arms, a cord passing over the pulley and connected at one end to said shutter, a trigger depending from the opposite end of the cord through the cover of the body, a lip formed in the cover of the body adjacent the trigger, a shoulder formed on the trigger for engagement against the lip, and a tripping leaf mounted in the body to swing the trigger and release the shoulder from said lip upon the downward movement of the leaf.

5. A trap including a body, a hinged door closing the end of the body, a strip of metal engaging across the inner face of the door and being looped outwardly at its upper end to form a pocket for receiving bait, a tripping leaf hinged within the body adjacent to the bait pocket, a rod depending through the body and resting against the outer end of the tripping leaf, a shoulder formed upon the rod at its upper end, a lip formed upon the body for engagement with the shoulder to hold the rod down within the body, arms upwardly extending from the body, a cord carried through the ends of the arms and attached at its inner end to said rod, and a shutter slidably disposed in the outer end of the body and connected to the opposite end of the cord for normally holding the shutter up.

971,531. STAMP OR TICKET VENDING MACHINE. HENRY D. EBERT, Baldwinsville, Mass. Filed July 20, 1909. Serial No. 508,559.



1. A coin-operated vending mechanism for articles on strips, including a case, a shaft mounted therein, a gear wheel on the shaft, discharging mechanism driven from said gear wheel, a ratchet wheel on the shaft, an arm rotatably mounted on the shaft adjacent to the ratchet wheel, a pawl mounted on the arm, engaging with the ratchet wheel, a handle exterior to the case, a connection between said handle and the arm, a locking wheel mounted on the shaft and having a series of radial notches, a counterbalanced lever pivoted adjacent to the circumference of the wheel, a locking bar carried by the lever, engageable in any one of the notches, a chute-like receptacle adapted to receive a coin carried on the end of the lever, and a guide in which the outer end of the receptacle moves, the lower portion of said guide being provided with a coin-receiving slot with which said receptacle will register when the locking lever is moved to its lowest position.

2. In a vending mechanism, a case, a shaft mounted therein, means whereby articles may be vended upon a rotation of the shaft through a definite distance, a handle on the exterior of the case, mechanism whereby an actuation of the handle shall cause a definite rotation of the shaft, a locking wheel on the shaft having a series of radial notches, a counterbalanced locking lever pivoted adjacent to the wheel and having a locking bar entering the notches, a coin-receiving chute-like receptacle carried on the end of the lever, and a guide in which said receptacle moves, closing the end of the receptacle, and a coin-receiving slot at the lower end of the guide with which said receptacle registers when the lever has been moved to its lowest position.

3. In a vending mechanism, a case, a shaft mounted therein, article-discharging mechanism connected to the shaft to be operated upon a rotation thereof, a handle exterior to the case, mechanism actuated by the handle whereby the shaft may be rotated a certain definite distance, a locking wheel on the shaft having a series of radial notches, a counterbalanced locking lever pivoted adjacent to the wheel, a coin-receiving chute-like receptacle carried on the outer end of the locking lever, a guide in which said receptacle moves and closing the open end thereof, said guide having a coin-receiving slot at its lower end with which the receptacle will register when the locking lever is moved to its lowest position, a rod pivoted adjacent to the locking lever, one end of said rod being so formed as to be engaged by the locking lever as it moves downward, the other end of the rod being provided with a counterweight, and a stop for preventing the unweighted end of the rod from engaging with the locking lever when the latter is in its uppermost position.

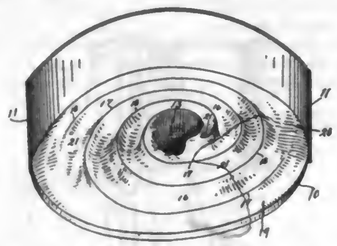
4. In a vending mechanism, a shaft, discharging mechanism connected to the shaft to be actuated upon a rotation of the shaft, a handle, mechanism engaged by the handle for rotating the shaft in one direction to a definite distance, a locking wheel on the shaft having a series of radial notches, the teeth formed between said notches having inclined faces, a locking lever pivoted adjacent to the shaft, a locking bar carried by the lever and intersecting with the notches, a receptacle on the end of the locking lever adapted to receive a coin to counterbalance the locking lever to depress the same to raise the locking bar from the notches and permit the actuation of the machine, and means whereby the coin may be discharged from the receptacle.

5. In a vending mechanism, a rotatable shaft, discharging mechanism connected to the shaft to be turned upon a rotation thereof, a handle exterior to the case, mechanism connecting the handle with the shaft, whereby the latter shall be rotated by an actuation of the handle, a locking wheel having a series of radial notches, a frame located on each side of the locking wheel and having notches adapted to coincide with the notches in the wheel, a counterbalanced locking lever pivoted in said frame, a transversely extending locking bar on the lever, engageable in any one of the notches, a chute-like receptacle on the outer end of the lever, and a guide in which said receptacle moves, said guide having at its lower end a coin slot with which the receptacle is adapted to register when the lever has been moved to its lowest position.

[Claims 6 to 9 not printed in the Gazette.]

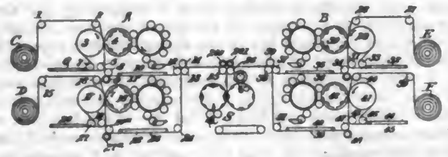
971,532. GAME. HERMANN W. FACHMANN, Indianapolis, Ind. Filed Apr. 11, 1910. Serial No. 554,852.

A game including a box having a pyramidal bottom with a central ball pocket at the apex, an outer circular ball course, a spirally disposed groove or ball course leading from said outer ball course at a gradual upward inclination to said central pocket, and a "blind" spirally



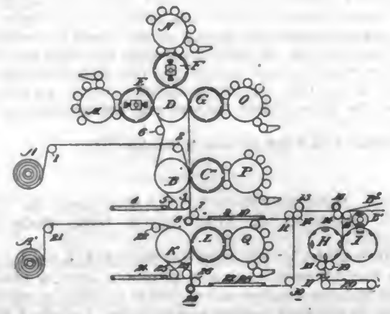
disposed groove leading from the outer ball course at a gradual upward inclination to a point near the apex and formed at its upper end so as to discharge a ball in a direction away from said pocket.

971,533. PRINTING-MACHINE. JOSEPH L. FIRM, Berwyn, Ill., assignor to The Goss Printing Press Company, Chicago, Ill. Filed Feb. 5, 1910. Serial No. 542,343.



In a multiple web printing machine, the combination of two sets of web-perfecting printing mechanisms arranged end to end, each set including a plurality of decks spaced from each other and each deck including cylinder printing couples, means to feed webs from rolls into opposite ends of the machine, for the respective decks, means to pass the webs twice through said couple, once at each end, including turning devices located in the spaces between the decks, a stapling, transverse cutting and folding mechanism between the adjacent ends of said sets, and means to associate and deliver the webs from the respective sets to said stapling, transverse-cutting and folding mechanism.

971,534. PRINTING-MACHINE. JOSEPH L. FIRM, Berwyn, Ill., assignor to The Goss Printing Press Company, Chicago, Ill. Filed Feb. 26, 1910. Serial No. 546,282.

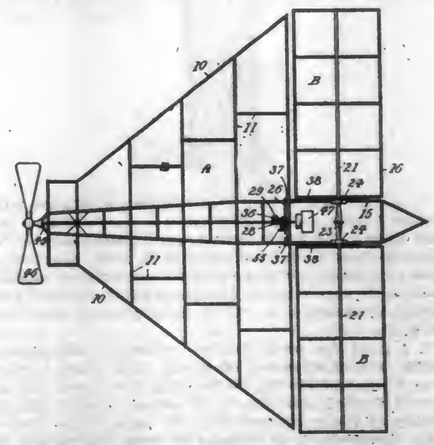


1. In a multiple web printing machine, the combination of a plurality of decks, each deck including form and impression cylinders with their axes in substantially the same horizontal plane, whereby the decks are spaced one above the other, and one deck being provided with means for color printing, means to feed webs from rolls to the respective decks, the respective rolls being located in substantially the same horizontal plane as the corresponding decks and all at the same end of the machine, means to pass the webs twice through the couples, once at each end, means located in the spaces between the decks to pass one web from one deck to the color deck, and means to assemble and deliver all the webs at the opposite end of the machine.

2. In a web printing machine, the combination of a plurality of superposed spaced decks, one deck including a single color printing couple between which the web is twice passed, once at each end, and the other deck including multiple color couples, the couples in each of said decks including cylinders in substantially the same horizontal plane, means at one end of the machine to feed webs to all the decks, means in the spaces between the decks to turn the web after its first passage through the single color couple and pass the same from one end to the other thereof and to the color couples, means to then return the web to the single color couple for its second passage therethrough, and means at the other end of the machine to associate and deliver webs from all of the decks.

3. In a web printing machine, the combination of three sets of printing mechanisms located one above the other, the two lower sets each having a form and an impression cylinder in substantially the same horizontal plane, between which a web is passed, and the upper set being spaced from the lower sets and having an impression and a plurality of color form cylinders coöperating therewith, and between which a web may be twice passed, means in each mechanism located between the couples of the respective sets to turn a web passed between the cylinders at one end thereof and pass the same between said cylinders at the other end, means at one end of the machine to feed webs to the sets, and means to associate the webs from the respective sets and deliver the same at the opposite end of the machine.

971,535. AEROPLANE. HERMANN HARTMANN and WILHELM KLEBE, New York, N. Y. Filed Dec. 4, 1909. Serial No. 531,297.



1. An aeroplane comprising a monoplane having a rigid, forwardly extending, pointed head frame, a pair of biplanes flanking said head frame, and means for tilting said biplanes.

2. An aeroplane comprising a monoplane having a straight front and rearwardly converging sides, a head frame formed rigid with the monoplane and extending centrally from the front of the latter, a pair of biplanes flanking said head frame in spaced relation to the monoplane, and means for tilting said biplanes.

3. An aeroplane comprising a monoplane, a forwardly extending head frame secured to the monoplane, the head frame having bearings, a pair of biplanes flanking the head frame, each biplane having upper and lower rods journaled in the bearings of the head frame, diagonal braces within the head frame that connect the inner ends of the diagonally opposed rods of the biplanes, and means for tilting the biplanes.

4. An aeroplane comprising a monoplane, a forwardly extending pointed head frame, a pair of biplanes flanking the head frame and provided with upper and lower rods extending longitudinally and centrally of the biplanes, the biplanes being spaced from the monoplanes, the head frame having bearings and the inner ends of the upper and lower rods of the biplanes being journaled in said bearings, diagonal braces within the head frame, one brace connecting the upper rod of one biplane and the lower rod of the opposing biplane and the other brace connecting the other upper rod with the other lower rod, and means for tilting the biplanes.

5. An aeroplane comprising a frame, a shaft journaled in the frame, a head projecting from the frame, a pair of biplanes fulcrumed to the head, a pulley at each end of said shaft, a pair of idlers carried by the head, a pair of spring controlled pulleys carried by the head, a pair of cables connecting said pulleys, each cable passing over the corresponding idler, and means operable to rotate said shaft to tilt said biplanes.

[Claims 6 to 9 not printed in the Gazette.]

971,536. GRAFTING. ROBERT C. HUBY, Hortons, Pa. Filed June 27, 1910. Serial No. 569,092.

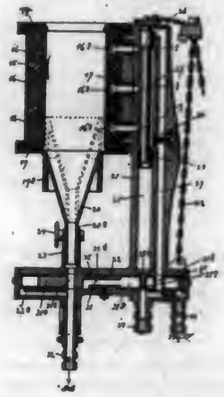


1. A graft lock or joint consisting in combination with a stock having a cleft composed of a rear wall and two side walls which latter form a space therebetween of V-shape in cross section and V-shape in front elevation, a scion conformably fitted in the cleft and having a passage between its near side and the rear wall of the cleft, said passage communicating with the atmosphere at the top of the stock.

2. A graft lock comprising in combination with a stock having a cleft composed of a rear wall which inclines from a point at the top of the stock and beyond the periphery thereof, downwardly to extend through the periphery of the stock, and two side walls which form a space therebetween of V-shape in cross section and in front elevation, a scion conformably fitted in the cleft and having its rear wall spaced from the rear wall of the cleft to form a passage between the rear wall of the cleft and the rear wall of the scion.

3. A graft lock comprising in combination with a stock formed with a cleft composed of a rear wall and two side walls, a scion conformably fitted in the cleft and having a rear wall which is spaced from the rear wall of cleft whereby a passage is formed between the cleft and the stock at the rear wall of the scion.

971,537. MILKING-MACHINE. JOHN L. HULBERT, Holland Patent, N. Y. Filed Sept. 9, 1907. Serial No. 391,908.



1. The combination in a milking machine of a set of teat cups having depending arms, a supporting bar approximately in the plane of the top of the cups, flexible connections from said bar to the tops of the teat cups and to the lower ends of said arms, substantially as set forth.

2. The combination in a milking machine of a teat cup having an inflatable lining, a downwardly projecting arm and a radial valve case in the axial line of the teat cup, a funnel-shaped adjustable closure for the lower end of the teat cup mounted on said valve casing and adapted to enter the lower end of the teat cup inside of the lining more or less, substantially as set forth.

3. The combination in a milking machine of a rigid cylindrical teat cup shell, a plurality of inflatable tubes in the shell encircling the teat chamber thereof, a closure for the lower end of the teat chamber adjustable into the chamber, means for applying an intermittent suction to the lower end of the teat chamber, and means for supplying fluid under pressure to said inflatable tubes and deflating them, substantially as set forth.

4. The combination in a milking machine, of a rigid teat cup shell, a plurality of inflatable tubes in the shell encircling the teat chamber thereof, means for inflating and deflating said tubes, a closure for the lower end of the teat chamber adjustable to a position within the chamber, and means whereby said closure may be adjustably held more or less within the field of action of the inflatable tubes, substantially as set forth.

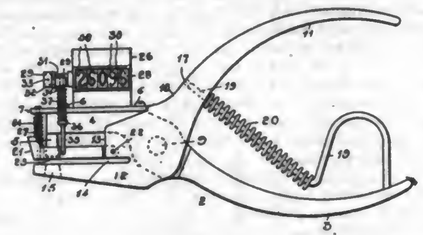
5. In a milking machine, a teat cup having an inflatable lining and closed at the lower end, means for supplying fluid under pressure to and exhausting the inflatable lining, means for applying suction at the closed lower end of the teat cup, and an individual valve for each teat cup mounted thereon and controlling the inflation and deflation of the teat cup lining and the suction on and relief on the lower end of the teat cup, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

971,538. REGISTERING-PUNCH. HIGHLAND E. HUSTED, Galesburg, Ill. Filed Dec. 8, 1909. Serial No. 531,226.

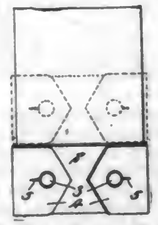
1. In a device of the character described, a fixed member, a movable member pivoted thereto, a stripper pivoted to the movable member and actuable thereby, a register secured to the fixed member and including a shaft, a lever fixed at one end on said shaft, an eye-block journaled in the other end of said lever, and a spring-controlled link connection intermediate said stripper and eye-block whereby actuation of the movable member will actuate said shaft.

2. In a device of the character described, a fixed member, a movable member, a stripper pivoted to the movable member and actuable thereby, a register fixed to the fixed member and including a shaft, a lever fixed at one end on said shaft, an eye-block on the other end of said lever, a link secured to said stripper and passed through said eye-block, there being a shoulder intermediate its ends, and a spring interposed between said eye-block and shoulder.



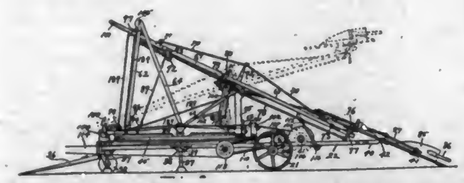
3. In a device of the character described, a fixed member, a movable member pivotally engaged therewith, a stripper pivoted to the movable member and actuable thereby, a register fixed to the fixed member and including a shaft, a lever fixed at one end on said shaft, an eye-block on the other end of said lever, a link secured to said stripper and passed through said eye-block, there being a shoulder intermediate its ends, and a coil spring embracing said link, one of its ends resting against said eye-block and the other against said shoulder.

971,539. GARMENT-SLEEVE. SAMUEL KARP, New York, N. Y. Filed Mar. 3, 1910. Serial No. 547,035.



In a garment sleeve, a body provided at its outer extremity with a short flap, having fastening devices upon each face, in combination with a long flap adapted to be turned over the short flap and secured to either side thereof, substantially as shown and described.

971,540. EXCAVATING AND LOADING MACHINE. LEROY KERCHER, Roann, Ind. Filed June 21, 1909. Serial No. 503,382.



1. A machine of the kind described including a platform, a tilting frame with which said platform is connected for elevating the same, means for revolving said frame and platform, and means for drawing a scoop over the surface of the ground for excavating, pulling it up on said platform, tilting the frame and actuating said revolving means.

2. A machine of the kind described including a platform, a tilting frame with which said platform is connected for elevating the same, means for revolving said frame and platform, a cable for drawing a scoop over the surface of the ground for excavating, pulling it up on said platform, tilting the frame and actuating said revolving means, and means for operating said cable.

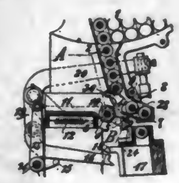
3. A machine of the kind described including a platform, a tilting frame with which said platform is connected for elevating the same, means for revolving said frame and platform, a cable for drawing a scoop over the surface of the ground for excavating, pulling it up on said platform, tilting the frame and actuating said revolving means, means for operating said cable, and releasable means mounted in connection with said platform for engaging and holding said scoop in place thereon.

4. A machine of the kind described including a stationary frame, a turn table revolubly mounted thereon, a tilting frame mounted upon the turn table, a platform mounted at the rear end of the tilting frame and its rear edge adapted when the frame is tilted to rest upon the ground, a scoop for excavating, a cable for drawing said scoop while excavating, pulling the same upon said platform, tilting said frame and revolving said turn table, and means for operating said cable.

5. A machine of the kind described including a stationary frame, a turn table revolubly mounted thereon, a tilting frame mounted upon the turn table, a platform mounted at the rear end of the frame and its rear edge adapted when the frame is tilted to rest upon the ground, a scoop for excavating, a cable for drawing said scoop while excavating, pulling the same upon said platform, tilting said frame and revolving said turn table, means for operating said cable, spring actuated means for locking said turn table to the frame when the same is in its position during excavation, and means operated by the tilting of said tilting frame for releasing said locking means.

[Claims 6 to 22 not printed in the Gazette.]

971,541. SPOOL-CHANGING APPARATUS FOR LOOMS. ALBERT GEORG KOECHLIN, Steinen, Germany, assignor, by mesne assignments, to Genossenschaft für Textilpatente, Basel, Switzerland. Filed May 21, 1908. Serial No. 434,209.



1. In spool changing apparatus for looms, a spool having a spool tube open at each end, and a closed cap (composed of light material around which the loose end of the spool thread is wound a few turns) frictionally held on one end of the spool tube and adapted to be blown off said end by a blast of air admitted through the other end of said tube, as set forth.

2. In spool changing apparatus for looms, the combination of a spool magazine containing weft spools each having a closed cap connected to the loose end of the spool thread fitted on one end of the spool tube, a compressed air supply duct, means for moving and holding the spool tube against said duct and means for admitting a blast of compressed air from said duct into said spool tube, whereby the cap on said spool tube is blown off and caused to draw off a length of weft thread for threading into the weft shuttle of the loom, as set forth.

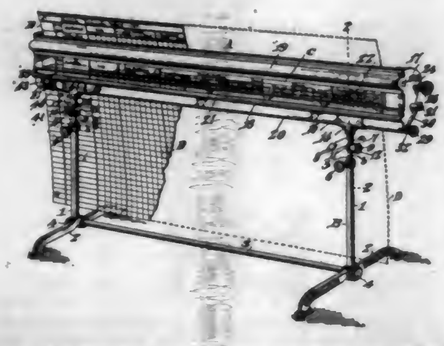
3. In spool changing apparatus for looms, the combination of a spool magazine containing weft spools each having a closed cap connected to the loose end of the spool thread, fitted on one end of the spool tube, a compressed air supply duct, an ejector for ejecting the empty spool

from the loom shuttle a gripper operated by said ejector so as to grip the next lowest spool in said spool magazine, and bring it with its open end against the mouth of said air duct, and means for controlling the issue of compressed air from said air duct, whereby a blast of compressed air is admitted into the spool tube to blow off the cap with the loose thread end attached thereto, as set forth.

4. In spool changing apparatus for looms, the combination of a spool magazine containing weft spools each having a closed cap connected to the loose end of the spool thread fitted on its spool tube, a compressed air supply duct, a rock shaft operated by weft fork and feeler mechanism, means operated by said shaft for advancing the spools one by one from the magazine, means operated by said shaft for ejecting the lowermost spool from the magazine, moving it into the shuttle and removing the used up spool from the shuttle, a gripper for moving and holding the lowest spool but one against said compressed air supply duct, and an elastic member connected to the last mentioned means for operating said gripper, as set forth.

5. In spool changing apparatus for looms, the combination of a spool magazine containing weft spools, each having a closed cap connected to the loose end of the spool thread, fitted on the spool tube, a compressed air supply duct, a gripper for moving and holding a spool against said compressed air duct and an oscillatory device for advancing the spools one by one from the magazine, formed with a prominence arranged obliquely to the axis of rotation of said device whereby the lowest spool but one in the magazine is moved axially into a position which shall insure its being gripped by said gripper, as set forth.

971,542. BOOKKEEPER'S LOOSE-SHEET HOLDER. ADOLPH OTTO KRIEGER, St. Louis, Mo. Filed Mar. 25, 1909. Serial No. 485,660.



1. In a device of the character described, the combination of a stand, a frame plate normally disposed vertically above said stand, sheet-holding and feeding means on the rear side of said frame plate, a pivotal connection between the lower edge of the said frame plate and the stand, and means for yieldably locking said pivotal connection whereby the frame plate will be normally supported over the stand but may be swung forward and downward toward the operator to permit the insertion or removal of a sheet.

2. In a device of the character described, the combination of a stand, a frame disposed normally above said stand, sheet holding and feeding means on the rear side of said frame, and a connection between the lower edge of said frame and the stand comprising overlapping ears on the support and frame respectively having engaging ribs and recesses on their opposed side faces, a pintle projecting from one of said ears through the other ear, a cap on the projecting end of the pintle, and a spring coiled around the pintle within the said cap, and bearing on the side of the adjacent ear.

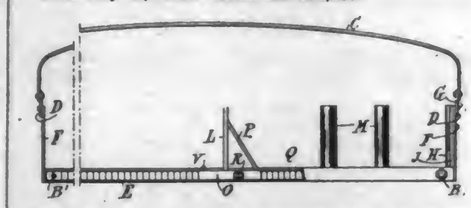
3. In a device of the class described, the combination of a stand consisting of standards having extensible sections, a horizontal frame supported wholly above the stand, hinges located below the frame for connecting the latter with the said sections, the axis of the hinges disposed in a common line to permit the frame to tilt forwardly on a horizontal axis for inserting a sheet, and a sheet-feeding means mounted on and movable with the frame.

4. In a device of the class described, the combination of a supporting stand, a horizontally disposed frame mounted thereon and having a longitudinal opening, a heading holder disposed adjacent the opening and mounted on the front side of the frame, feed rollers mounted on the rear side of the frame at a point above the opening for feeding a sheet, means on the frame below the rollers for engaging the edges of a sheet to aline the same with the heading, and means disposed under the roller for holding the sheet in coöperative relation with the opening.

5. In a device of the class described, the combination of a frame having a view opening, said frame being normally disposed in an approximately vertical plane, sheet feeding means mounted on the frame above the opening, a shaft mounted on the frame below the opening, and upwardly extending fingers carried by the shaft for engaging the sheet at a point between the shaft and feeding means to hold the sheet in coöperative relation with the opening.

[Claims 6 to 16 not printed in the Gazette.]

971,543. APPARATUS FOR HANDLING PHOTOGRAPHIC FILMS. FRANK G. KUGLER, Newark, N. J. Filed May 22, 1908. Serial No. 434,405.



1. In an apparatus of the character described, in combination, a guide adapted to rest upon the bottom of a tank when in use with its length extending horizontally, and a pair of uprights both carried by said guide and one adjustable along said guide relatively to the other, said uprights extending vertically when said guide is in the position of rest, and adapted to hold a film with its width vertical.

2. In an apparatus of the character described, in combination, a one-piece guide adapted to rest when in use with its length extending horizontally, and a pair of uprights both carried by said guide and one adjustable along said guide relatively to the other, said uprights extending vertically when said guide is in the position of rest, and adapted to hold a film with its width vertical.

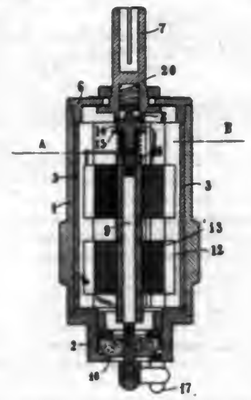
3. In an apparatus of the character described, in combination, a guide adapted to rest when in use with its length extending horizontally, and a pair of uprights both carried by said guide and one adjustable along said guide relatively to the other, said uprights extending vertically when said guide is in the position of rest, and adapted to hold a film with its width vertical, and means at opposite ends of and above said guide for conveniently taking hold of the same in the position stated.

4. In an apparatus of the character described, in combination, a plurality of long narrow guides adapted to rest alongside of each other when in use with their lengths extending horizontally, and a pair of uprights carried by each of said guides, one adjustable along said guide relatively to the other, said uprights extending vertically when said guide is in the position of rest, and adapted to hold a film with its width vertical, and means for uniting said guides in the position stated.

5. In an apparatus of the character described, a plurality of guides E each carrying a fixed upright F and means for clamping the two ends of a film thereto, and an adjustable upright L adapted to hold the bight of said film, and means for uniting a number of said guides in a compact rack, each pair of said uprights being adapted to support a film in a vertical plane, so that in said rack a number of films can be carried in a short width.

[Claims 6 to 8 not printed in the Gazette.]

971,544. ELECTROMAGNETIC SPARKING PLUG. EMIL KUHN, Zurich, Switzerland. Filed July 17, 1909. Serial No. 508,254.



1. An electro-magnetic sparking plug, comprising a casing, a shaft arranged to turn within said casing, a plurality of electro-magnets arranged on said shaft, a plurality of stationary polar pieces arranged to line the interior of the said casing, each of the said polar pieces having inwardly extending flanges each flange of each polar piece abutting against a flange of the next adjacent piece, a contact pin arranged on said shaft, a stop with which said contact pin makes contact, and means for causing said contact pin to move toward said stop, substantially as described.

2. An electro-magnetic sparking plug, comprising a casing, a shaft arranged to turn within said casing, a plurality of electro-magnets arranged on said shaft, a plurality of stationary polar pieces arranged to line the interior of said casing, each of the said polar pieces having inwardly extending flanges each flange of the polar pieces abutting against a flange of the next adjacent piece, an insulated terminal mounted in said casing, a pivot on which said shaft turns, electrical connections between said insulated terminal and said pivot, a contact pin arranged on said shaft, and a stop with which said pin makes contact, substantially as described.

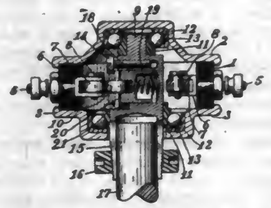
3. An electro-magnetic sparking plug, comprising a casing, a shaft arranged to turn within said casing, a plurality of electro-magnets arranged on said shaft, a plurality of stationary polar pieces arranged to line the interior of the said casing, each of the said polar pieces having inwardly extending flanges each flange of the polar pieces abutting against a flange of the next adjacent piece, an insulated terminal mounted in said casing, a pivot on which said shaft turns, electrical connections between said insulated terminal and said pivot, a soap-stone bearing for said shaft arranged in said casing, a contact pin arranged on said shaft, a stop mounted in said casing with which said pin makes contact, and a spring passing around said shaft and having one of its ends secured to said flanges for moving said contact pin toward said stop, substantially as described.

4. In an electro-magnetic sparking plug, a casing, a shaft arranged to turn within said casing, means for causing the oscillation of the shaft, a soap-stone bearing for said shaft arranged in said casing, said bearing being screw-threaded, and said shaft being provided with a corresponding screw-threaded portion, substantially as described.

5. An electro-magnetic sparking plug, comprising a casing, a shaft arranged to turn within said casing, a plurality of electro-magnets arranged on said shaft, a plurality of stationary polar pieces arranged within the casing, and a contact pin arranged on said shaft, substantially as described.

[Claim 6 not printed in the Gazette.]

971,545. IGNITION-TIMER FOR INTERNAL-COMBUSTION ENGINES. FRANCIS C. MASON, Grand Rapids, Mich., assignor of one-half to Leo M. Shanahan, Grand Rapids, Mich. Filed Feb. 23, 1909. Serial No. 479,403.



1. An ignition timer, comprising a case formed of a ring of insulating material, closures detachably secured to the ring and recessed to receive ball cups, a rotative member in the axis of the case and having a transverse opening extending across its axis and nearly therethrough, a block movable in said opening, cones on said member, balls between the cones and cups, a roller carried by the block, a spring to move the block and project the roller slightly outside the periphery of said member, and insulated contact members mounted on the inside of the ring and successively engaged by the roller.

2. An ignition timer, comprising a case having insulated contact members projecting inward from its circumference, a roller in each contact member, a rotating member in the axis of the case, a radially movable block in said member, a roller journaled in the block and engaging the rollers of said contact members successively, a spring engaging the block to move the same outward, and an adjustable stop to limit the outward movement of the block.

3. An ignition timer, comprising a case having inwardly projecting insulated contact members, a rotative member in the axis of the case and provided with a radial slot and a transverse opening, a block movable in said opening, a spring to move the block outward, a roller journaled in the block, a pin forming a journal for the roller and projecting within the slot, and an adjustable stop to limit the movement of the block.

971,546. VEGETABLE-CUTTER. FREDERICK L. MAYER, Milwaukee, Wis. Filed Aug. 17, 1908. Serial No. 448,833.



1. In a device of the described class, the combination of a slide way provided with an opening, removable frame members mounted in said opening, a set of slicing blades each pivotally connected with said frame, and means for rocking said blades upon their pivotal connections, together with means for adjusting the blades longitudinally along said frame members.

2. In a device of the described class, the combination

of a slide way provided with an opening, removable frame members mounted in said opening, a set of slicing blades each pivotally connected with said frame, and means for rocking said blades upon their pivotal connections, comprising set screws having swivel connection with the blades and screw threaded connection with suitable supports mounted upon said frame members, said supports being longitudinally adjustable along said slide way.

3. In a device of the described class, the combination of a slide way provided with an opening, removable frame members mounted in said opening, a set of slicing blades each pivotally connected with said frame, and means for rocking said blades upon their pivotal connections, said frame members being provided with longitudinally adjustable travelers, having means for locking them in position, and carrying the pivot pins of the slicing blades.

4. In a device of the described class, the combination of a slide way provided with an opening, removable frame members mounted in said opening, a set of slicing blades each pivotally connected with said frame, and means for rocking said blades upon their pivotal connections, together with means for adjusting the blades longitudinally along said frame members, and said slide way being formed in sections, longitudinally adjustable with reference to each other,

5. In a device of the described class, the combination of a slide way provided with an opening, removable frame members mounted in said opening, a set of slicing blades each pivotally connected with said frame, and means for rocking said blades upon their pivotal connections, together with an open frame supported for longitudinally movement along said slide way and means for adjusting said frame perpendicularly to the slide way;—said adjusting means comprising connecting members movably engaging the walls of the slide way, and bolts passing through the open frame and engaging the connecting members, said open frame having angular slots for the reception of said bolts.

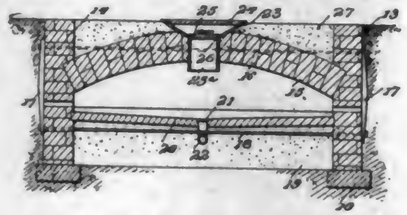
[Claim 6 not printed in the Gazette.]

971,547. FRUIT-PICKER. SHELBY J. MAYS, Belleview, Tenn. Filed Dec. 28, 1908. Serial No. 469,639.



As a new article of manufacture, a fruit picker comprising a supporting pole having a picking member mounted on its upper end, a sectional chute connected to said picking member, said sections being connected together by a coupling member comprising telescoping tubes locked together by a spring catch, a delivery pocket secured to the lower end of said chute having outwardly projecting bag supporting members, said picking member comprising a pipe section cut away at one end to form a rigid curved jaw, a curved jaw mounted on said pipe section coacting with said jaw, a coiled spring having one of its ends connected to the pivoted jaw and the other to the pipe section for holding said pivoted jaw in alinement with said pipe sections, spaced pulley brackets secured on the outer face of the rigid jaw, cables connected to the pivoted jaw passing through the rigid jaw over said pulley and an operating cable connected to said cables.

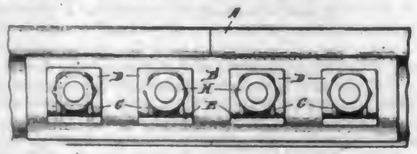
971,548. FURNACE. WILLIAM H. MCGUIRE, Hobart, Okla. Filed Mar. 10, 1909. Serial No. 482,538.



1. In an incinerating furnace, the combination with a rectangular body portion, of a centrally inclined floor located therein, and terminated in the opposite corners of the same, an arched roof arranged in the body portion above said floor and terminated in the opposite corners, a feed hopper disposed through the central portion of said roof, a firebox arranged at the end of one of the walls of the body portion, an outlet flue positioned through said roof at the opposite end of the said wall, a clean-out door positioned centrally in the wall to open between said floor and said roof, and relief valves located in the side walls of said body portion.

2. A refuse burning furnace including a rectangular body portion, a centrally inclined floor located in said body portion, an arched roof arranged in said body portion above said floor, a feed hopper located through the central portion of said arched roof, a firebox arranged at one end of the front wall of said body portion, a clean-out door centrally positioned in the front wall, and an outlet flue arranged in the body portion at the opposite end of the wall.

971,549. NUT-LOCK. JACOB MILLS, Los Angeles, Cal. Filed Oct. 26, 1909. Serial No. 524,622.

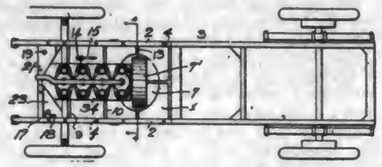


A nut lock for rail joints comprising an angled washer plate adapted to be arranged over the face of the fish plate, said washer plate being provided with a thickened horizontal portion having spaced vertical openings forming sockets, and an apertured vertical portion adapted to receive the securing bolt of the rail joint, a nut mounted on said securing bolt having a reduced inner face forming a square portion, and a substantially U-shaped locking pin having a diameter in cross section slightly larger than the width of the square portion of said nut, said pin being adapted to straddle said square portion having its lower ends seated in the socket of the washer plate, whereby said pin will be held between the washer plate and the nut after being driven into position.

971,550. AUTOMOBILE DUST-PAN. WILLIAM H. MULLINS, Salem, Ohio. Filed July 8, 1909. Serial No. 506,622.

1. An automobile dust pan provided with a longitudinal trough rib, and one or more transverse trough ribs intersecting therewith.

2. A pressed metal automobile dust pan of hollow form provided with a longitudinal gutter stamped therein, one or more transverse gutters crossing said gutter, and means for the emission of oil from said gutter.



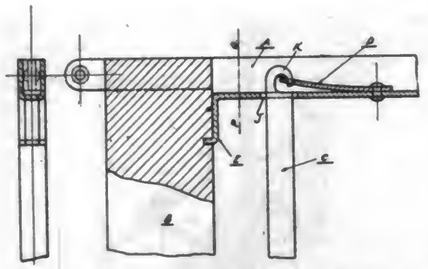
3. A pressed sheet metal dust pan for automobiles having a curved trough shaped body provided with depressed gutters extending transversely and longitudinally of the pan serving to stiffen and brace the pan and prevent vibration, and forming gutters to collect the waste oil, and being provided with drip holes at the meeting points of the gutters.

4. An integral pressed metal automobile dust pan provided with a longitudinal depressed rib and a plurality of transverse depressed ribs, and with dripping means cooperating with said ribs for effecting the exit of waste oil.

5. A pressed metal automobile dust pan of hollow form provided with a depressed bell portion to receive the fly wheel.

[Claims 6 to 8 not printed in the Gazette.]

971,551. HEDDLE-FRAME. GEORGE NUTTALL, Chester, Pa. Filed Nov. 18, 1908. Serial No. 463,251.



1. In a device of the character stated, channeled end pieces, cross rails secured thereto with the ends within the channels, a heddle rod having one end detachably secured to one of said end pieces within the channel, and yielding means seated within the channel of the other end piece and adapted to engage with the end of the heddle rod, whereby a tension is exerted upon the latter.

2. In a device of the character stated, channeled end pieces having apertures therethrough, cross rails secured to said end pieces with the ends of said cross rails seated in the channels, a heddle rod having one end passing through an aperture in one of said end pieces and adapted to be seated within the channel and engage with said end piece, the opposite end of said heddle rod passing through an aperture in the other end piece, and yielding means carried by the last mentioned end piece and seated within the channel and adapted to engage with the end of said rod within the channel whereby a tension is exerted upon said rod.

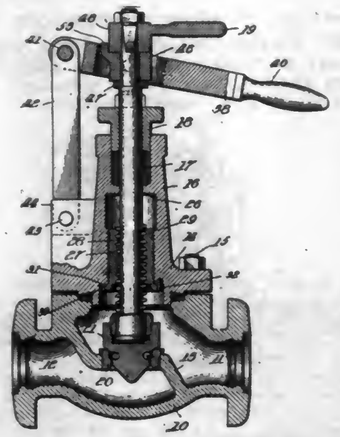
3. In a device of the character stated, channeled end pieces having apertures therein, cross rails secured thereto having the ends thereof seated within the channels, pins suitably connected with one of said end pieces adjacent the apertures thereof, heddle rods passing through the apertures of said end piece and engaged with said pins within the channel, the opposite ends of said heddle rods passing through the apertures of the other end piece and being seated within the channel, and yielding means seated within the channel of the said opposite end piece and engaging with the ends of the heddle rods for yieldingly holding the same in proper position.

4. In a heddle frame, the combination of cross pieces and U-shaped end pieces secured thereto, said end pieces having apertures therethrough, heddle rods passing through said apertures and detachably secured at one end to one of said end pieces within the channel thereof, and spring means secured within the channel of the other end piece and adapted to engage with the ends of said heddle rods within the channel for yieldingly securing the rods with respect to the frame.

5. In a heddle frame, the combination with channeled end pieces, of cross rails, said end pieces having strips deflected therefrom and secured to said cross rails, and said end pieces having apertures at suitable points, heddle rods adapted to pass through said apertures, means on one of the end pieces for engagement with one end of a heddle rod, and yielding means on the other of said end pieces for engagement with the other end of the same heddle rod, both of said means being seated within the channels of said end pieces.

[Claims 6 and 7 not printed in the Gazette.]

971,552. QUICK-OPENING VALVE. WILLIAM L. OSBORNE, Chicago, Ill. Filed Nov. 4, 1909. Serial No. 526,210.



1. A quick opening valve comprising, in combination, a casing provided with a seat, a valve piece movable toward and from said seat, and a stem by which the valve piece is carried, the stem and casing being provided with screw threads for locking the valve piece against its seat, and the interacting screw threads being mutilated to permit the screw threads to be released from each other upon rotation of the stem and to permit the stem to be moved non-rotatively in the casing in the direction of the axis of the stem.

2. In a valve, the combination with a casing provided with a seat and a valve piece movable toward and from said seat, of a screw-threaded stem carrying said valve piece engaging a screw-thread in the casing, said screw-threads being interrupted to permit the stem to slip past the screw-threads of the casing, means on the outer end of the stem for rotating the same and a swinging lever pivotally connected with the outer end of the stem for moving the latter endwise.

3. A quick opening valve comprising, in combination, a casing provided with a seat, a valve piece movable toward and from said seat, a stem by which the valve piece is carried, screw-threads on the stem and the casing constructed to lock the valve against its seat and mutilated to permit the stem and valve piece to be non-rotatively moved in the direction of the axis of the stem toward

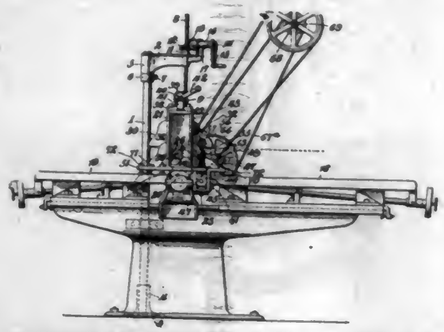
and from said seat, means at the outer end of said stem for turning the stem, and a lever pivotally connected with the stem for reciprocating it toward and from the valve seat.

4. A quick opening valve comprising, in combination, a casing provided with a seat, a valve piece movable toward and from said seat, a stem by which the valve piece is carried, screw-threaded means on the stem and the casing constructed to lock the valve against its seat and to permit the stem and valve piece to be non-rotatively moved in the direction of the axis of the stem toward and from said seat, means at the outer end of said stem for turning the stem, a collar surrounding said stem in which the stem is rotative, said collar being confined from endwise movement on the stem and a lever swingable in the plane of the stem pivotally connected to said collar.

5. A quick opening valve comprising, in combination, a casing provided with a seat, a valve piece movable toward and from said seat, and a stem by which the valve piece is carried, the stem and casing being provided with screw-threads for locking the valve piece against its seat, the interacting screw-threads being cut away longitudinally of the stem to permit the screw-threads to be released from each other upon rotation of the stem, means at the outer end of the stem for rotating the stem and means for reciprocating the stem toward and from the seat when the interacting threads are released from each other.

[Claim 6 not printed in the Gazette.]

971,553. PLANER ATTACHMENT FOR JOINTERS. DELBERT M. PADDOCK, Sidney, Ohio, assignor to The Sidney Tool Co., Sidney, Ohio, a Corporation of Ohio. Filed Nov. 10, 1909. Serial No. 527,336.



1. The combination with a jointer, of a planer attachment having feeding means for engaging the lower surface of the work and shiftable to and from the jointer and adapted to convert the same into a planer, and means for shifting the planer attachment to and from the jointer and for supporting the planer attachment at one side of the jointer to permit independent operation of the latter.

2. The combination with a jointer, of a planer attachment provided with feeding means for engaging the lower surface of the work and shiftable to and from the jointer and adapted to convert the same into a planer, and means for shifting the planer attachment to and from the jointer including a vertical standard, and a horizontally swinging arm from which the planer attachment is suspended, said shiftable means being adapted to support the planer attachment at one side of the jointer to permit independent operation of the latter.

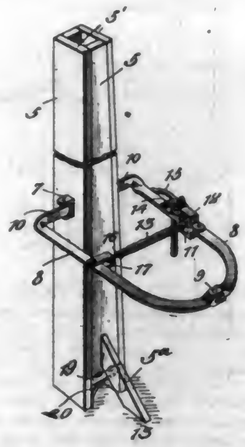
3. The combination with a jointer, of a planer attachment provided with feeding means and shiftable to and from the jointer and adapted to convert the same into a planer, and means for carrying the planer attachment to and from the jointer and for supporting the attachment at one side of the jointer to permit independent operation of the latter and including a horizontally swinging arm, and an adjusting device carried by the arm and connected with the planer attachment for raising and lowering the same.

4. The combination with a jointer, of a planer attachment provided with feeding means and shiftable to and from the jointer and adapted to convert the same into a planer, and means for shifting the planer attachment to and from the jointer and for supporting the attachment at one side of the jointer to permit independent operation of the latter and including a horizontally swinging arm, and an adjusting device carried by the horizontal arm and comprising a vertical screw connected with the planer attachment, a nut engaging with the screw and carried by the horizontal arm, and gearing for rotating the nut.

5. The combination with a jointer, of a planer attachment provided with feeding means and shiftable to and from the jointer and adapted to convert the same into a planer, and means for shifting the planer attachment to and from the jointer and for supporting the attachment at one side of the jointer to permit independent operation of the latter including a horizontally swinging arm provided with a vertical opening and having an upstanding portion provided with a horizontal bearing, a vertical screw extending through the opening and connected with the planer attachment, a nut supported upon the horizontal arm and engaging with the vertical screw and provided with a gear, and an operating shaft journaled in the said bearing and provided at its outer end with operating means and having a gear at its inner end meshing with the said gear.

[Claims 6 to 19 not printed in the Gazette.]

971,554. MOLD. LOREN F. PARSONS, Albion, N. Y. Filed Mar. 7, 1910. Serial No. 547,828.



1. A mold of the character described comprising movable side members, a sectional yoke hingedly connected to said members, the outer ends of the yoke sections being pivotally connected, a flexible connection between the yoke sections adapted to hold the same in operative position and means for securing said flexible connection to prevent outward movement of the yoke sections and the mold members.

2. A mold of the character described comprising opposed movable members, an outwardly extending yoke formed in two sections having their inner ends hingedly connected to said mold members, the outer ends of said yoke sections being pivotally connected, a chain connecting said yoke sections, means carried by one of said sections engaging with the chain to hold the same in connection therewith and means for tightening said chain between the sections to hold the mold members against outward movement.

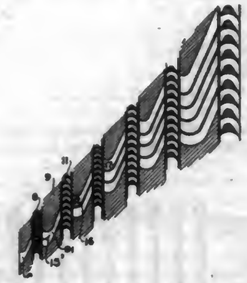
3. A mold of the character described comprising opposed movable members, a yoke formed in two sections having their inner ends laterally disposed and pivotally connected to the mold members, the outer ends of said sections being pivotally connected, a chain secured at one end to one of said sections, a housing carried by the other section, said chain being movable through said housing and a holding dog carried by the other section adapted to engage said chain and hold the same against movement whereby said mold members are retained in their closed positions.

4. A mold of the character described comprising opposed movable members, a yoke formed in two sections, said sections having their inner ends pivotally connected to said members, a chain connecting said yoke sections and movably engaged with one of them, a holding dog movably carried by one yoke section adapted to engage said chain to hold the same against movement, means for tightening said chain carried by the other of the yoke sections and means arranged between the lower ends of the mold members to support the article being molded.

5. A mold of the character described comprising opposed movable members, a yoke formed in two sections pivotally connected, spaced ears carried by each of said members, the inner ends of said sections being pivotally secured between the ears, a flexible connection between the yoke sections and releasably engaged with one of them, means carried by said sections to hold the chain against movement and means carried by the other yoke section for tightening the chain between said sections, a block hingedly secured to one of said members at its lower end adapted to space said members from each other and means carried by the other member to support said block.

[Claim 6 not printed in the Gazette.]

971,555. STEAM-TURBINE. JOHANN FRIEDRICH MAX PATITZ, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Jan. 11, 1904. Serial No. 188,562.



1. In a fluid turbine, means providing a path for the flow of a fluid through the turbine including in combination, means for establishing in the fluid a high initial velocity, a series of sets of movable vanes, and means located between sets of vanes for increasing the velocity of the fluid issuing from the preceding set of vanes, the last three means coacting to leave a substantially high velocity in the fluid as it passes from each set of vanes delivering to the velocity increasing means.

2. In an elastic fluid turbine, means for establishing a flow of fluid therethrough including in combination, means for expanding the fluid to a high initial velocity, a series of sets of movable vanes, and means located between sets of vanes for reversing and increasing the velocity of the flow of the fluid issuing from the preceding set of vanes, the last three means coacting to leave a substantially high velocity in the fluid as it passes from a set of vanes delivering to the reversing and velocity increasing means.

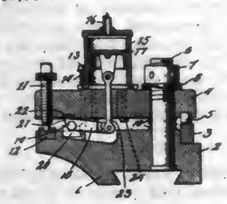
3. In an elastic fluid turbine, means for establishing a flow of fluid therethrough including in combination, a nozzle for expanding the fluid to a high initial velocity, a series of sets of movable vanes, and a nozzle located between adjacent sets of vanes for expanding the fluid issuing from the preceding set of vanes to approximately initial velocity, the last three means coacting to leave a substantially high velocity in the fluid as it passes from a set of vanes delivering to one of the nozzles.

4. In an elastic fluid turbine, means for establishing a flow of fluid therethrough including in combination, a nozzle for expanding the fluid to a high initial velocity, a series of sets of movable vanes, and a nozzle located between adjacent sets of vanes for reversing and increasing the velocity of the flow of the fluid issuing from the preceding set of vanes to approximately initial velocity, the last three means coacting to leave a substantially high velocity in the fluid as it passes from a set of vanes delivering to one of the nozzles.

5. In an elastic fluid turbine, the combination of a casing, walls dividing the casing into a plurality of chambers, an inlet and an outlet for the casing, a shaft, a series of wheels on the shaft one located in each of the chambers, vanes on the wheels, and nozzles in the walls of the chambers for directing fluid to the vanes, each nozzle expanding the fluid to a high velocity and coacting with the passages between the vanes to leave a substantially high velocity in the fluid as it passes from a set of vanes delivering to one of the nozzles.

[Claims 6 to 9 not printed in the Gazette.]

971,556. TOOL-HOLDER. WILLIAM ANDREW PETERSEN, Montreal, Quebec, Canada. Filed May 16, 1910. Serial No. 561,702.



1. A tool-holder comprising, a slide provided with a tool-seat, a bolt carried by the slide near and at right angles to the side of the tool-seat, a clamp engaging loosely over the bolt and having a short end to engage over the tool and a long end projecting away from the bolt and tool-seat, a fulcrum carried by the bolt and engaging over the clamp, a spring upon the bolt between the slide and clamp, a spring coöperating with the slide and clamp and tending to press the long end of the clamp toward the slide, and mechanism for forcing the long end of the clamp in the direction away from the slide, combined substantially as set forth.

2. A tool-holder comprising, a slide provided with a tool-seat, a bolt carried by the slide near and at right angles to the side of the tool-seat, a clamp engaging loosely over the bolt and having a short end to engage over the tool and a long end projecting away from the bolt and tool-seat, a fulcrum carried by the bolt and engaging over the clamp, means for vertically adjusting the fulcrum on the bolt, a spring upon the bolt between the slide and clamp, a spring coöperating with the slide and clamp and tending to press the long end of the clamp toward the slide, and mechanism for forcing the long end of the clamp in the direction away from the slide, combined substantially as set forth.

3. A tool-holder comprising, a slide provided with a tool-seat, a bolt carried by the slide near and at right angles to the side of the tool-seat, a clamp engaging loosely over the bolt and having a short end to engage over the tool and a long end projecting away from the bolt and tool-seat, a collar carried loosely by the bolt above and free from the clamp, rockers projecting from the collar down into engagement with the clamp at points in line with each other and parallel with the side of the tool-seat, an adjusting nut on the bolt over the collar, a spring upon the bolt between the slide and clamp, a spring

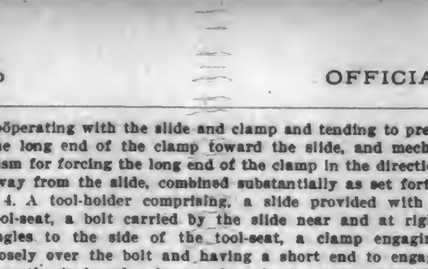
coöperating with the slide and clamp and tending to press the long end of the clamp toward the slide, and mechanism for forcing the long end of the clamp in the direction away from the slide, combined substantially as set forth.

4. A tool-holder comprising, a slide provided with a tool-seat, a bolt carried by the slide near and at right angles to the side of the tool-seat, a clamp engaging loosely over the bolt and having a short end to engage over the tool and a long end projecting away from the bolt and tool-seat, a fulcrum carried by the bolt and engaging over the clamp, a spring upon the bolt between the slide and clamp, a spring coöperating with the slide and clamp and tending to press the long end of the clamp toward the slide, a cylinder mounted upon the top of the clamp and provided with a fluid inlet, a piston in the cylinder, mechanism disposed between the slide and the long arm of the clamp to serve in forcing the long arm of the clamp in the direction away from the slide, and a connection between the piston and said mechanism, combined substantially as set forth.

5. A tool-holder comprising, a slide provided with a tool-seat, a bolt carried by the slide near and at right angles to the side of the tool-seat, a clamp engaging loosely over the bolt and having a short end to engage over the tool and a long end projecting away from the bolt and tool-seat, a fulcrum carried by the bolt and engaging over the clamp, a spring upon the bolt between the slide and clamp, a spring coöperating with the slide and clamp and tending to press the long end of the clamp toward the slide, a cylinder mounted upon the top of the clamp and provided with a fluid inlet, a piston in the cylinder, a cam-lever trunnioned in the slide below the clamp and having its long end below said cylinder, a connection between said piston and the long end of the cam-lever, and a cam on the short end of the cam-lever and engaging under the long arm of the clamp near its end, combined substantially as set forth.

[Claims 6 to 10 not printed in the Gazette.]

971,557. RESILIENT WHEEL. MARIAN BUNION PIERSON, Corpus Christi, Tex., assignor of one-half to Herman Menly, Corpus Christi, Tex. Filed Sept. 4, 1909. Serial No. 516,173.



1. A resilient wheel comprising radial spokes, a rigid felly uniting the same and formed with radial slots, an outer tire section, an inner tire section having tubular spoke-receiving projections, intermediate tubular projections on said inner tire section, and connecting and guiding rods passing through said intermediate tubular projections and loosely through the slots in said felly, the outer ends of said rods being screwed into the outer section, and the inner ends of said rods having flanged heads screwed on to said intermediate projections, a packing in each of said spoke-receiving projections, an outer row of springs between the felly and the outer tire section, and an inner row of springs between the felly and the inner tire section.

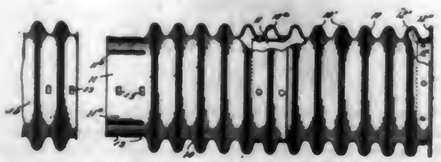
2. A resilient wheel comprising radial spokes, a rigid felly uniting the same, a hollow sectional tire surrounding the felly and movable radially relatively thereto, said tire being provided with inwardly extending tubular projections to receive the spokes, a packing in each of said projections, an inner row of springs between the felly and the inner section of the tire, and an outer row of springs between the felly and the outer section of the tire, said rows of springs resiliently supporting the tire from the felly.

3. A resilient wheel comprising radial spokes, a rigid felly uniting the same and formed with radial slots, an outer tire section, an inner tire section having intermediate tubular projections, connecting and guiding rods passed through said intermediate tubular projections and loosely through the slots in said felly, the outer ends of said rods being screwed into the outer section and the inner ends of said rods having flanged heads screwed on to said intermediate projections, and inner and outer rows of springs, the inner row of springs being interposed between the felly and the inner tire section, and the outer row of springs being interposed between the felly and the outer tire section.

4. A resilient wheel comprising radial spokes, a rigid felly uniting the same and formed with radial slots, an outer tire section, an inner tire section having tubular spoke-receiving projections, and intermediate tubular projections, connecting and guiding rods passed through said intermediate tubular projections and loosely through the slots in said felly, the outer ends of said rods being screwed into the outer section and the inner ends of said rods having flanged heads screwed on to said intermediate projections, side sections engaged with the opposing edges of the inner and outer sections and provided with inwardly extending tongues to engage the spoke-receiving projections, clamps for securing said tongues to said spoke-receiving projections and inner and outer rows of springs, the inner row of springs being interposed between the felly and the inner tire section, and the outer row of springs being interposed between the felly and the outer tire section.

5. A resilient wheel comprising radial spokes, a rigid felly uniting the same, a tire casing having inner and outer sections and side plates, the latter having inwardly projecting arms, and the inner tire section having tubular spoke-receiving projections, means uniting the inner and outer tire sections, springs for cushioning the tire casing on the felly, and clamping devices uniting the arms of the side plates of the tire casing to said spoke-receiving projections.

971,558. METAL CULVERT. CHARLES M. PORTER, Fargo, N. D. Filed Dec. 30, 1909. Serial No. 535,547.

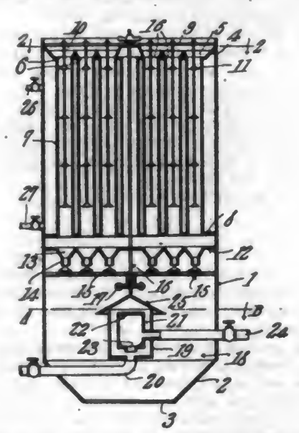


1. The hereindescribed sheet metal culvert comprising a plurality of tubular corrugated sections, a flanged reinforcing collar connected to the end section, the ends of adjacent sections being telescoped, the inner end being cylindrical where received within the corrugated end of the adjoining section, and fastening devices passed through said adjacent ends, substantially as set forth.

2. In a sheet metal culvert of the character set forth, the combination with a plurality of tubular sections, the adjacent ends of which are telescoped each to each, the main portion of each section being circumferentially corrugated throughout its length but for that portion which is telescoped within the next section which said portion is substantially cylindrical, and fastening devices in pairs passed through the telescoped ends and securely fastening a corrugated portion of one section to the cylindrical portion of the other section and constituting a rigid truss connection.

3 In a sheet metal culvert, the combination of a plurality of tubular sections, each of said sections being corrugated circumferentially from one end throughout its length to a point closely remote from the opposite end and thence cylindrical, the corrugated end of the next section being telescoped upon the cylindrical end of the preceding section, the cylindrical end of each section being longitudinally crimped, and fastening devices in pairs passed through the telescoped adjacent corrugated and cylindrical end portions of adjacent sections, said fastening devices being operable from the outside of the structure, substantially as set forth.

971,559. APPARATUS FOR DRYING AND STEAMING GRAIN. PETER PROVOST, Milwaukee, Wis. Filed Feb. 26, 1910. Serial No. 546,073.



1. Apparatus of the class described including a casing, a partition therein having hopper like depressions, there being tubes depending from and opening into said depressions, parallel tubes within the casing and above, and in vertical alinement with the depressions in the partitions, said tubes being spaced from the partition, a spreading device below each of the tubes depending from the depressions, and means for simultaneously shifting said spreading devices toward or away from the partition.

2. Apparatus of the class described including a casing, a partition, there being a plurality of depressions in the partition, and a tubular extension below and communicating with each depression, tubes spaced from and adapted to direct grain into the depressions, a valve below each of the tubular extensions, and means for simultaneously adjusting said valves toward or away from the extensions, each of the extensions being of less diameter than the tube thereabove.

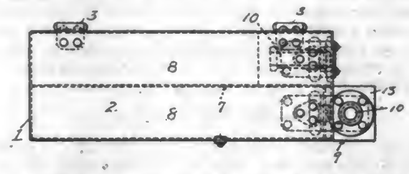
3. Apparatus of the class described including a casing, having an upper heating compartment and a lower steaming compartment, tubes extending through the heating compartment, and open at their ends, a partition within the steaming compartment and having depressions, one of said depressions being arranged below each of the tubes and each depression having a tubular portion communicating therewith and depending therefrom, the diameter of each extension being less than the diameter of the tube thereabove, and means for simultaneously controlling the passage of material through all of the extensions and into the steaming compartment.

4. Apparatus of the class described including a casing, a partition therein, a head constituting a closure for one end of the casing, tubes connecting the head and partition, said head having hopper like inlets opening into the respective tubes, hopper like means entirely below the tubes for receiving jets of grain therefrom and directing it in reduced jets into the lower portion of the casing, and a steaming device located within said lower portion of the casing.

5. Apparatus of the class described including a casing, a partition within said casing and subdividing the same into heating and a steaming chamber, feed tubes extending longitudinally through the heating chamber, discharge tubes alining therewith, but of less diameter and extending into the steaming chamber, combined spreading and cut-off devices located below the discharge tubes, and a steam nozzle supported within the steaming chamber.

[Claims 6 and 7 not printed in the Gazette.]

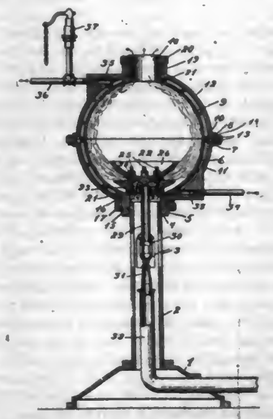
971,560. SIGNAL-FLAG HOLDER. EDWARD S. REAGAN, Altoona, Pa., assignor of one-half to Harry T. Burkett, Blueknob, Pa. Filed Feb. 4, 1909. Serial No. 476,017.



1. A flag-holder comprising a housing case, a flag carrier hinged to one end of the case, a flag-staff socket supported on the said carrier, and a combined supporting base and end closure also mounted on the carrier.

2. A flag holder comprising a housing-case having a lid provided with a catch, fastening means for the lid, a flag carrier hinged to the case, a flag staff socket supported on said carrier and movable into and out of the case, a combined supporting base and end closure also mounted on the carrier, and a holding arm also fitted to the carrier and engaged by the catch on the lid.

971,561. BOILER. LUTHER C. RHEA, Columbus, Ohio. Filed Aug. 2, 1910. Serial No. 575,125.



1. In a device of the character described, outer and inner substantially spherical casings for forming a water receiving chamber therebetween, a burner arranged within the lower portion of the inner casing, comprising a deflector having a lower side of substantially the same curvature as said inner casing, for forming a substantially spherical flame, and the wall of the inner casing being formed much thinner than the wall of the outer casing.

2. In a device of the character described, outer and inner approximately spherical casings forming a water receiving chamber therebetween, the inner casing having the upper portion of its material bent to form a pocket for holding water and having communication with said water

receiving chamber, a gas burner arranged within said inner casing, and the wall of the inner casing being formed much thinner than the wall of the outer casing.

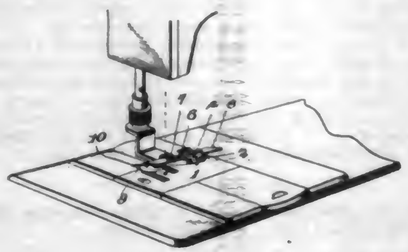
3. In a device of the character described, outer and inner substantially spherical casings for forming a water receiving chamber therebetween, the wall of the inner casing being formed much thinner than the wall of the outer casing, and a burner disposed within the inner casing.

4. In a device of the character described, outer and inner substantially spherical casings for forming a water receiving chamber therebetween, and a burner arranged in the lower portion of the inner casing adapted to provide a flame which is substantially spherical.

5. In a device of the character described, outer and inner substantially spherical casings for forming a thin spherical water receiving chamber therebetween, a burner arranged within the lower portion of the inner casing and comprising a deflector having a lower side of substantially the same curvature as said inner casing, whereby a flame may be formed which is substantially spherical and directly engages the inner surface of said inner casing.

[Claims 6 to 9 not printed in the Gazette.]

971,562. GUIDE FOR SEWING-MACHINES. ABRAHAM L. RICHOLSON, New York, N. Y. Filed Aug. 25, 1909. Serial No. 514,556.



1. A guide attachment for sewing machines comprising a hollow shoe adapted to be fitted on the toe of the presser foot and consisting of a top, bottom, and sides, the top being provided with upstanding transverse lips, a threaded stem upstanding from the top between the lips, a guide bar slidable transversely across the top between the lips, the guide bar being formed with a longitudinal slot through which the stem projects, a thumb nut working on the stem to bind the guide bar in different adjusted positions, and a gage carried at one end of the guide bar.

2. The combination with a presser foot having an inclined toe, of a guide attachment including a hollow shoe removably fitted to the toe, a guide bar carried by and adjustably connected to the shoe and projecting laterally at one end on one side of the toe, and a gage provided at said end of the guide bar and having its end portions projecting beyond the side edges thereof, the gage being similarly inclined to the toe with one of its projecting ends depending in operative relation to the needle plate, the shoe being adapted to be fitted to the toe in reverse position to support the gage on the other side of the presser foot with the other projecting end of the gage in operative relation to the needle plate.

971,563. FLUX FOR BRASS PLATING. WALTER S. ROCKEY and HILLIARY ELDRIDGE, New York, N. Y. Filed Nov. 26, 1909. Serial No. 529,872.

1. The process of making a protecting flux for brass consisting in reducing boracic acid to a fluid condition by heat and then adding metallic zinc to decompose the remaining water.

2. The process of making a protecting flux for brass consisting in first placing boracic acid in a silver lined pot and reducing same to a fluid condition by heat, then transferring said boracic acid to a suitable crucible and heating said acid until it becomes placid, then adding metallic zinc sufficient to decompose the remaining constitutional water.

3. The process of making a flux which consists in first boiling boracic acid in an iron pot at a low temperature until it ceases to emit steam, then transferring same to a suitable crucible and heating at a white heat until it becomes placid, then reducing the temperature to a bright red heat, then adding a sufficient quantity of metallic zinc to decompose the remaining water.

4. The process of making a flux which consists in first boiling boracic acid in an iron pot at a low temperature until it ceases to emit steam, then transferring same to a suitable crucible and heating at a white heat until it becomes placid, then reducing the temperature to a bright red heat, and then adding metallic zinc in sufficient quantities to decompose the remaining water.

5. The process of making a flux for plating brass which consists in boiling boracic acid in an iron pot at a low temperature until all steam ceases to come off, then transferring same into a suitable crucible and heating at a white heat until it becomes placid, then reducing the temperature to a bright red heat, then adding a sufficient quantity of zinc in a divided state to decompose the remaining water of the constitution and stirring the fluid until all reaction ceases.

[Claim 6 not printed in the Gazette.]

971,564. FLUX FOR PROTECTING A BATH OF COPPER OR BRASS. WALTER S. ROCKEY and HILLIARY ELDRIDGE, New York, N. Y. Filed Dec. 20, 1909. Serial No. 534,005.

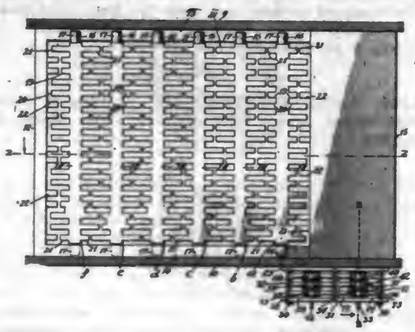
1. The process of making a protecting flux for copper or brass consisting in first placing boracic acid in a silver lined pot and reducing same to a fluid condition by heat, then transferring said boracic acid to a suitable crucible and heating said acid until it becomes placid, then adding silica to cause the mixture to become more non-hydroscopic after completion, then adding metallic zinc sufficient to decompose the remaining constitutional water of the boracic acid and the moisture that may be in the silica.

2. The process of making a flux which consists in first boiling boracic acid in an iron pot, silver plated on the inside, at a low temperature until it ceases to emit steam, then transferring same to a suitable crucible and heating at a white heat until it becomes placid, then reducing the temperature to a bright red heat, then adding a sufficient quantity of silica to cause the mixture to become more non-hydroscopic after completion, then adding a sufficient quantity of metallic zinc to decompose the remaining water of the boracic acid and the moisture that may be in the silica.

3. The process of making a flux for plating with copper or brass which consists in boiling boracic acid in an iron pot, silver plated on the inside, at a low temperature until all steam ceases to come off, then transferring same into a suitable crucible and heating at a white heat until it becomes placid, then reducing the temperature to a bright red heat, then adding silica to cause the mixture to become more non-hydroscopic after completion, then adding a sufficient quantity of zinc in a divided state to decompose the remaining water of the boracic acid and the moisture that may be in the silica and then stirring the mass with a suitable rod until all reaction ceases, then raising the heat to a high temperature to fuse the boron trioxid, silica and zinc oxid, which compose the mass, into a boro-zinc silicate.

4. The process of making a protecting flux for copper or brass consisting in reducing boracic acid to a fluid condition by heat and then adding silica to cause the mixture to become more non-hydroscopic after completion; then adding a suitable material such as metallic zinc, carbon, cadmium, antimony, bismuth, or any of the elements that decompose water at a red or white heat, to decompose the remaining water.

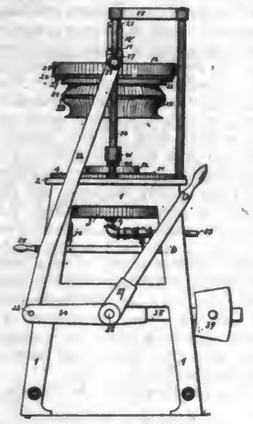
971,565. GRATE. HORACE H. RUGGLES, Boston, Mass. Filed May 7, 1909. Serial No. 494,589.



1. In a grate, a plurality of rocking-sections each comprising a grate-bar and teeth and being independent of the other sections; a dust-proof plate rigidly secured to the outer surface of one of the side walls of the grate; a socket-supporting structure secured to and extending outward from said plate and provided with a chamber having substantially vertical walls at its opposite ends; locking check-beads supported on the upper edges of said walls longitudinally therewith; a rocking-shaft extending horizontally through the lower part of said chamber and through corresponding holes in the dust-proof plate and the side wall of the frame of the grate; a series of substantially funnel-shaped vertical socket-holders rigidly secured at their lower ends to said rocking-shaft, each socket-holder being provided with openings in its opposite end walls; latches pivotally hung in said openings and with their inner ends extending into the funnel-shaped sockets and their outer ends extending oppositely from the end walls in the sockets and resting normally on the end walls of the structure supported by the plate, the outer ends of said latches bearing against the check-beads and thereby supporting the sockets centrally in substantially vertical position; sleeves surrounding said shaft and extending from the different socket-holders into the grate-frame above the grate, the outer sleeve fitting slidingly in the openings in the dust-proof plate and side wall of the grate-frame; and separate mechanisms connecting said sleeves with corresponding rocking-sections.

2. In a grate, a plurality of sets of independently operating rocking-sections each comprising a grate-bar and teeth and being independent of the other sections; a dust-proof plate rigidly secured to the outer surface of one of the side walls of the grate; a socket-supporting structure secured to and extending outward from said plate and provided with a plurality of chambers each having a substantially vertical wall at its outer end and the structure being further provided with a partition wall between said chambers; locking check-beads supported on the upper edges of said end walls and partition wall longitudinally therewith; rocking-shafts extending horizontally through the lower parts of said chambers and through corresponding holes in the dust-proof plate and the side wall of the frame of the grate; a plurality of series of substantially funnel-shaped vertical socket-holders, said series being rigidly secured at their lower ends to said rocking-shafts in parallel lines, each socket-holder being provided with openings in its opposite end wall; latches pivotally hung in said openings and with their inner ends extending into the funnel-shaped sockets and their outer ends extending oppositely from the end walls in the sockets and resting normally on the end walls and partition wall of the structure supported by the plate, the outer ends of said latches bearing against the check-beads and thereby supporting the sockets centrally in substantially vertical position; sleeves surrounding each of said shafts and extending from the socket-holders in the different chambers into the grate-frame above the grate, the outer sleeves on each shaft fitting slidingly in the openings in the dust-proof plate and side wall of the grate-frame; and separate sets of mechanisms connecting said separate sets of sleeves with the separate sets of rocking-sections.

971,566. HAT-BRIM CONFORMATOR CURLING-MACHINE. CHARLES E. SACKETT, Danbury, Conn. Filed July 20, 1909. Serial No. 508,577.



1. In a hat brim curling machine, the combination of a machine frame; a platform supported by said frame; a steam pot open to the upper atmosphere, centered in, supported by, and depending from said platform; said steam pot having inner and outer vertical walls, and a central opening through said steam pot adapted to receive the crown of a hat; a steam space between said walls, means to supply steam in adjustable quantities; a templet plate adapted to support the brim of a hat removably mounted upon the inner vertical wall of said steam pot; the peripheral edge of said templet plate being shaped to form a reversed curl upon the edge of a hat brim; said templet plate extending over the open steam space in said steam pot, and supporting a hat brim projecting all around said templet plate into said steam space.

2. In a hat brim curling machine, the combination of a machine frame; a supported platform; an open steam pot depending from and supported by said platform; a templet plate removably mounted upon the inner wall of said steam pot; vertical guide posts rising from said platform on each side of said steam pot; a ring frame provided with sliding boxes, and outer hub bearings mounted upon said guide posts; connecting side bars journaled at their upper ends upon said hub bearings; a shaft centrally arranged in boxes made fast to said machine frame below said steam pot; cranks made fast to said shaft at their fulcrum ends, their extremities being provided with bearings to which the lower end of said connecting bars are journaled; an operating lever attached to one end of said shaft, an arm carrying a balance weight attached to the other end of said shaft, whereby a balanced vertical reciprocal movement is given to said ring frame to and from said templet plate and steam pot.

3. In a hat brim curling machine, the combination of a machine frame; a supported platform; an open steam pot supported by said platform; a templet floor plate removably mounted upon the inner wall of said steam pot; said plate having a central opening adapted to receive the crown of a hat; a ring frame slidably mounted upon said machine frame having a vertical reciprocatory movement to and from said templet plate; a bridge member mounted upon and centrally crossing said ring frame; guide rods passing upward through said bridge member; said rods being made fast at their lower ends to a ring

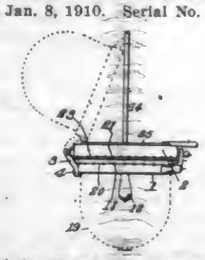
plate adapted to press upon said templet plate or any interposed material; said rods having lifting nuts at their upper extremities; by which said ring plate is given a reciprocating movement to and from said templet plate by the same means as actuates the movement of said ring frame.

4. In a hat brim curling machine, the combination of a machine frame; a supported platform, an open steam pot centered in said platform; a templet plate removably mounted upon said steam pot; a ring plate adapted to press upon said templet plate; guide rods ascending from said ring plate and passing through a bridge member made fast to a ring frame having a vertical reciprocal movement upon said machine frame to and from said templet plate; spiral springs surrounding said guide rods and interposed between said bridge member and said ring plate, thereby exerting an elastic pressure upon said ring plate when in contact with said templet plate as a holding member, while said ring frame is free to exert a further reciprocating movement independent of said ring plate.

5. In a hat brim curling machine, the combination of a machine frame; a supported platform; an open steam pot centered in said platform; a templet plate removably mounted upon said steam pot; a ring plate adapted to press upon said templet plate; a ring frame arranged above said templet plate having a vertical reciprocal movement to and from it, and a circular member secured to the lower side of said ring frame constructed with a pivotal ring adapted to support a series of conformator fingers depending from said ring frame, and moving with it to and from said templet plate.

[Claims 6 to 19 not printed in the Gazette.]

971,567. LANTERN. EDWARD T. SCANLAN, Washington, D. C. Filed Jan. 8, 1910. Serial No. 537,084.



1. A device of the class described comprising a supporting member; a globe holder adapted to be inserted within said member; and a flexible shield peripherally connected with the supporting member, and positioned to be engaged by the globe holder, between the periphery of the globe holder and the inner wall of the supporting member.

2. A device of the class described comprising a supporting member; a globe holder pivotally connected to the supporting member and adapted to be swung within said member; and a flexible shield peripherally connected with the supporting member and positioned to be tightly stretched by the globe holder, and to be engaged between the periphery of the globe holder and the inner wall of the supporting member.

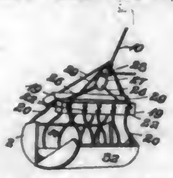
3. A device of the class described comprising a supporting member; a globe holder adapted to be inserted within said member; a flexible shield peripherally connected with the supporting member and positioned to be engaged by the globe holder between the periphery of the globe holder and the inner wall of the supporting member; and a fixed stop upon the supporting member, adapted to limit the movement of the holder within the supporting member.

4. A device of the class described comprising an annular member provided within its contour, with a device adapted to engage a support, a portion of the annular member being movable, to permit the support to pass within the contour of the annular member; and means for connecting a globe with the annular member.

5. A device of the class described comprising an annular member split to form a flexible tongue, the annular member being provided with diverging arms connected at their ends with the annular member, adjacent the fixed and the movable ends of the tongue; a support-engaging device mounted between and upon the arms; and means for connecting a globe with the annular member.

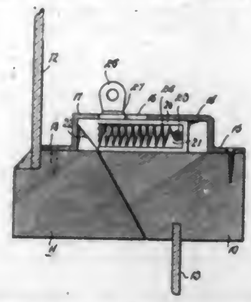
[Claim 6 not printed in the Gazette.]

971,568. LOADING APPARATUS. WILLIAM T. SCOTT, Parkersburg, Iowa. Filed June 11, 1909. Serial No. 501,569.



In combination, a grapple comprising a pair of pivotally connected bars, outwardly curved teeth secured to said bars, jaw supporting and closing cables connected with the inner and lower edges of said bars, a supporting ring for engaging the free ends of said cables, a hoisting cable a connecting hook connected with said hoisting cable and adapted to engage said link to normally hold the jaws closed, opening cables connected with the outer faces of the bars of the grapple and with the hoisting cable, said opening cables adapted to support the weight of the grapple when the hook is disconnected from said link, and releasing means for said hook.

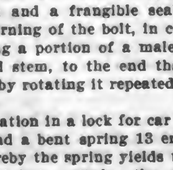
971,569. SASH-FASTENER. JOSEPH A. SHEARER, Ashland, Ohio. Filed Dec. 17, 1909. Serial No. 533,683.



As an article of manufacture, a housing having its bottom and one end open and provided in its top with a longitudinal slot leading to its open end, a bolt disposed in the housing and projecting from the open end of the latter, said bolt having a transverse slot and provided with an integral upper extension passing through the slot of the housing and movable longitudinally thereof with the bolt, said extension having laterally directed flanges disposed upon the upper face of the housing, whereby downward movement of the corresponding portion of the bolt within the housing is prevented, a pin engaged transversely through the housing and the slot of the bolt and of a diameter less than the longitudinal extent of said slot of the bolt, and a spring within the slot of the bolt and bearing with its ends respectively against the pin and the side of the slot in the direction of the projecting end of the bolt.

971,570. FUMIGATOR. WILLIAM J. SHELTON, Van Vleck, Tex. Filed June 22, 1909. Serial No. 503,684.

1. A hollow nest egg formed of glass and constituting a receptacle for containing a fumigating element, said receptacle being provided with an inwardly extending and open-ended integral tube, the inner end being arranged near the center of the receptacle, the said tube adapted to permit of the egress of the fumes of the said element, but not the element, irrespective of the position of the receptacle.



2. A hollow nest egg comprising a non-porous shell constituting a receptacle for containing a fumigating element, said receptacle being provided with an open-ended integral tube which extends inwardly from the butt end of the egg, the inner end of the tube being arranged near the center of the receptacle and above the level of the element, the said tube being adapted to permit of the egress of the fumes of the said element, but not the element, irrespective of the position of the receptacle.

971,571. SEAL-LOCK. CHARLES A. SIMMONS, Albany, N. Y. Filed July 26, 1909. Serial No. 509,652.

1. A seal lock for car doors having a rotatable bolt and a frangible seal in position to be broken by the turning of the bolt, in combination with bolt retaining mechanism one of whose elements rotates with the bolt and is moved out of locking engagement with the other element by repeated rotations of the bolt, whereby a considerable time is required to open the lock; substantially as described.

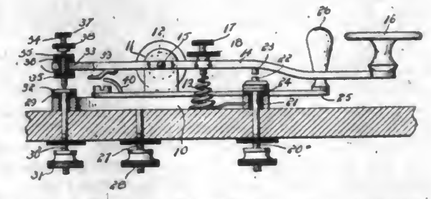
2. A seal-lock for car doors having a rotatable bolt with a threaded stem and a frangible seal in position to be broken by the turning of the bolt, in combination with an abutment forming a portion of a male thread and engaging the threaded stem, to the end that the bolt may be withdrawn only by rotating it repeatedly; substantially as described.

3. The combination in a lock for car doors of a threaded locking-bolt 6 and a bent spring 13 engaging the threads of the bolt, whereby the spring yields to the inward movement of the bolt but restrains the outward movement; substantially as described.

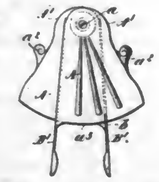
971,572. TELEGRAPH-KEY. FRANK G. SLEMMER, Goldsboro, Md. Filed Aug. 18, 1909. Serial No. 513,460.

1. A telegraph key comprising a base, a lever pivoted thereto and in electrical contact therewith, a pair of electrically insulated signaling contacts supported on said base and lever, and a second pair of insulated contacts arranged to close when the signaling contacts are opened and open when the signaling contacts are closed; in combination with manually operable means to close the first mentioned contacts and hold them in closed position, the first pair of contacts being electrically insulated from the second pair of contacts.

2. A telegraph key comprising a base, a lever pivoted thereto and in electrical contact therewith, a pair of electrically insulated signaling contacts supported on said base and lever, and a second pair of insulated contacts arranged to close when the signaling contacts are opened and open when the signaling contacts are closed; in combination with manually operable means to lift one end of said lever and close the signaling contacts, said means being arranged to releasably hold said signal contacts closed.



971,573. LEMON-SERVER. ERNEST F. SYMONDS, Salem, and RUSSELL J. GOODNOW, Boston, Mass. Filed Jan. 31, 1910. Serial No. 541,051.



1. The lemon server above described composed of two members pivoted together, each member having parts forming two walls of a contractible chamber, said chamber having a drain opening as described.

2. The lemon server above described composed of two members pivoted together, each member having parts forming two walls of a contractible chamber, said chamber having a drain opening as described and means for contracting said chamber.

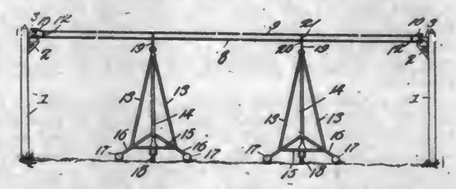
3. A lemon server composed of two members pivoted together, said members being alike and each shaped to form two sides of a contractible chamber.

4. In a lemon server, two members pivoted together, each forming two sides of a contractible chamber, and means for limiting the separating movement of said members about its pivot.

5. In a lemon server, two members pivoted together, each forming two sides of a contractible chamber, and means whereby the walls of said members which are contracted in contracting said chamber are always maintained at the same distance apart.

[Claims 6 and 7 not printed in the Gazette.]

971,574. ELECTRICALLY-OPERATED AGRICULTURAL IMPLEMENT. CHASTIAN TAURMAN, Cincinnati, Ohio. Filed Dec. 30, 1909. Serial No. 535,569.



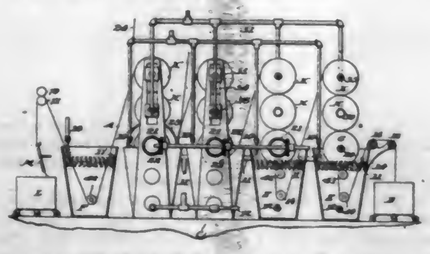
1. An electric system for operating agricultural implements comprising supporting poles, guide wires on said

poles, trolley wires mounted to move on said guide wires, portable towers for supporting the trolley wires, said portable towers each being provided with a yoke for supporting the trolley wires, a truck carrying agricultural implements, trolleys supported upon said truck, one of said trolleys being telescopic, electric motors on said truck, and means for raising and lowering the agricultural implements.

2. Electrically operated agricultural implements comprising a truck, motors mounted on the truck, a rigid trolley and a telescopic trolley mounted on the truck, a pilot wheel, a steering post, a controller, means for raising and lowering the agricultural implements, a laterally movable trolley line supported at its ends upon guide wires, and portable towers each provided with a yoke for supporting the trolley wires intermediate their ends.

3. In a system of the character described, a laterally movable trolley line, portable towers for supporting the trolley lines intermediate the ends thereof, said towers each comprising an upright, an arm, a diverging frame, a supporting yoke for the trolley wires, a supporting wheel and counterweights, and a truck provided with agricultural implements and trolley poles for engaging the trolley lines, one of said trolley poles being telescopic.

971,575. CLOTH-FINISHING MACHINE. ROBERT T. TODD, Lawrence, and RICHARD B. BATTY, Methuen, Mass. Original application filed Aug. 2, 1909, Serial No. 510,756. Divided and this application filed Dec. 20, 1909. Serial No. 534,118.



1. In a cloth finishing machine, the combination of a plurality of hot water tanks with a series of pressure rolls located over each tank each series comprising a hollow perforated steam roll and one or more smooth pressure rolls, and a cold water delivery tank as described.

2. In a cloth finishing machine, the combination of a plurality of adjoining tanks each of which is provided with a hot water inlet and an outlet, and with guide rolls, a plurality of sets of smoothing rolls, each set adjoining a tank and comprising a hollow perforated steam roll and one or more smooth pressure rolls, a steam inlet for the steam roll, and means for driving said rolls, with a delivery tank, provided with a guide roll, a cold water inlet and an outlet, and folding delivery means as described.

3. In a cloth finishing machine, the combination of one or more adjoining tanks each of which is provided with a hot water inlet and an outlet together with a live steam inlet pipe and with guide rolls, with a set of smoothing rolls over each tank comprising two smooth rolls and a hollow perforated steam roll between them, a steam inlet for the steam roll, and means for driving said rolls, and a delivery tank provided with a guide roll, a cold water inlet and an outlet for said delivery tank, and means for delivering and folding the cloth as described.

4. In a cloth finishing machine, the combination of a plurality of adjoining tanks each of which is provided with a hot water inlet and an outlet and with guide rolls below the hot water outlet, with a plurality of hollow perforated steam rolls one of which is held in bearings over each tank higher than the outlet thereof, a steam inlet for each of said steam rolls, and means for driving said steam rolls, together with a plurality of very heavy pressure rolls one of which rests in vertical bearings on each steam roll, and a delivery tank provided with a guide roll, a cold water inlet and an outlet, as described.

5. In a cloth finishing machine, the combination of a plurality of adjoining tanks each of which is provided with a hot water inlet and an outlet and with guide rolls below the hot water outlet, with a plurality of hollow perforated steam rolls one of which is held in bearings over each tank higher than the outlet thereof, and each of which is wound with loose woven cloth, a steam inlet for each of said steam rolls, together with a plurality of very heavy pressure rolls one of which rests in vertical bearings on each steam roll, and a delivery tank provided with a guide roll, a cold water inlet and an outlet, as described.

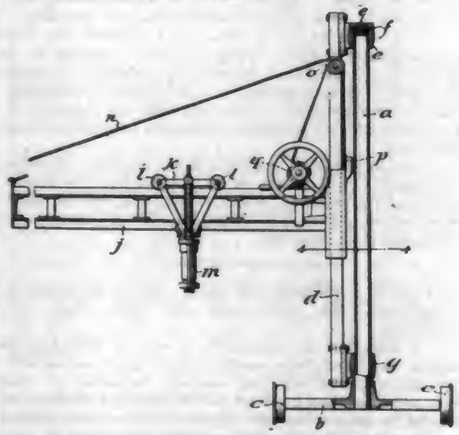
[Claim 6 not printed in the Gazette.]

971,576. COUNTERPANE. [WITHDRAWN] WILLIAM VAN DEVENTER, [illegible]. Filed Mar. 19, 1910. Serial No. 550,418.



A bed spread comprising in combination a counterpane and bolster-cover formed in one piece of material, the "right" side of said counterpane and the "wrong" side of said bolster-cover being on the same side of the material, as and for the purposes set forth.

971,577. STONE-DRESSING MACHINE. WILBER H. VAN SICKEL, Philadelphia, Pa., assignor to Thos. H. Dallett Co., a Corporation of New Jersey. Filed Feb. 28, 1910. Serial No. 546,460.



1. In combination, a standard, a projecting carriage carrying frame mounted upon said standard so as to be movable vertically, a portable upright, said standard being rotatably mounted and sleeved upon said upright.

2. In combination, a rectangular standard, a projecting carriage carrying frame mounted upon said standard so as to be movable vertically, a portable upright, said standard being rotatably mounted and sleeved upon said upright.

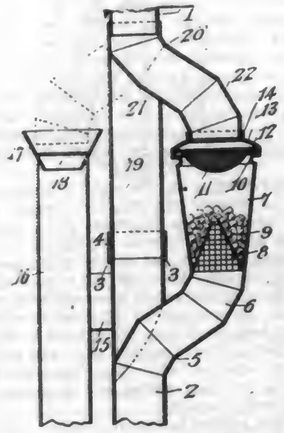
3. In combination, a standard, a projecting carriage carrying frame mounted upon said standard so as to be movable vertically, a portable upright, said standard being rotatably mounted and sleeved at both ends upon said upright.

4. In combination a standard, a projecting carriage carrying frame mounted upon said standard so as to be movable vertically, a portable upright, said standard being rotatably mounted and sleeved at both ends upon said upright and supported at one end.

5. In combination, a standard, a projecting carriage carrying frame mounted upon said standard so as to be movable vertically, a portable upright, said standard being rotatably mounted and sleeved at both ends upon said upright and supported at both ends.

[Claims 6 to 11 not printed in the Gazette.]

971,578. RAIN-WATER CUT-OFF. WILLIAM PORTER WALKER, Macon, Mo. Filed May 18, 1910. Serial No. 562,076.



1. The combination with a downspout, and a conducting pipe arranged in alinement with the downspout, of a hopper supported by and communicating with the conducting pipe, and a cut-off rotatably mounted upon the upper end of the conducting pipe and adapted to form a communication between the down-spout and the hopper.

2. The combination with a downspout, and a conducting pipe in vertical alinement therewith, of a hopper supported by and communicating with the said conducting pipe, a second conducting pipe arranged adjacent the first mentioned conducting pipe, and a stem rotatably mounted in the upper end of the first mentioned conducting pipe and carrying a cut-off spout registering with the downspout and adapted to register with either the second mentioned conducting pipe or with the hopper.

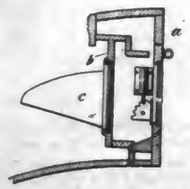
3. The combination with a down-spout, and a conducting pipe in vertical alinement therewith, of a hopper supported by and communicating with said pipe, and a tubular stem rotatably mounted on the upper end of the conducting pipe and engaging the lower end of the downspout and carrying a cut-off spout adapted to be carried by the stem to a point over the hopper or to one side of the same.

4. The combination with a downspout, and a conducting pipe in vertical alinement therewith, of a deflecting elbow secured in the conducting pipe and projecting laterally therefrom, a hopper on the upper outer end of the said elbow, a stem rotatably mounted on the upper end of the conducting pipe and having a tubular upper end engaging the end of the downspout, and a tubular cut-off leading laterally from the upper end of the stem and adapted to register with the upper end of the hopper.

5. The combination of a conducting pipe, a hopper secured to and communicating with the said pipe and provided with an internal bead near its upper end, a ring resting within the mouth of the hopper upon the said bead, a screen carried by the said ring, a stem rotatably mounted on the upper end of the pipe, and a tubular cut-off carried by the said stem and adapted to direct fluid upon the said screen.

[Claims 6 and 7 not printed in the Gazette.]

971,579. CAR. JOHN E. WARD, New York, N. Y., assignor to Ward Equipment Company, New York, N. Y., a Corporation of New York. Filed Dec. 29, 1909. Serial No. 535,484.



1. In a railway car, the combination with the roof, of a movable sash therein, a panel in the roof registering substantially with the movable sash and containing a ventilating opening and a window and a ventilating hood projecting outwardly from the panel and located over the opening in the same, said hood open from below.

2. In a railway car, the combination with the roof, of a plurality of drop sashes arranged therein, a ventilator centrally arranged with respect to each drop sash, and a window on each side of the ventilator and in front of the corresponding ends of the drop sash.

3. In a railway car, the combination with the roof, of a plurality of drop sashes arranged along the sides thereof, and a plurality of ventilators one arranged in front of the central portion of each drop sash, and a window arranged in front of each end portion of the drop sashes and on each side of the ventilators.

4. In a railway car, the combination with an upwardly projecting roof, of a plurality of movable sashes arranged therein, and a plurality of panels extending along the sides thereof, there being a panel corresponding to each movable sash, a ventilator centrally arranged with respect to each panel, and a window in each end of each panel.

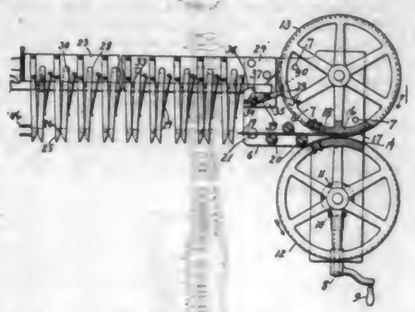
5. In a railway car, the combination with the roof, of a panel having a ventilating opening, movable sash or sashes capable of being positioned so as to permit the air which passes the ventilating opening to enter the car at one time and capable of being positioned so that the air which passes the ventilating opening cannot enter the car at another time, and a ventilating hood over the ventilating opening, said hood open on the lower side.

971,580. TOBACCO-STRINGING MACHINE. CHARLES G. WELLS, Rockyhill, Conn. Filed Dec. 24, 1909. Serial No. 534,787.

1. A needle supporting wheel having a needle groove, a needle bar located within said groove and flexible to wrap about the wheel, means for rigidly holding the needle within the groove, means for supporting articles in position to be pierced by said needle, and means for rotating the wheel.

2. A needle supporting wheel having a strap-groove and a needle groove, a flexible needle bar located in the needle groove, a strap located in the strap groove overlying the bar and rigidly holding it in place, means for supporting articles to be pierced by said needle, and means for exerting a pull upon said strap to rotate the needle supporting wheel.

3. A needle supporting wheel having a strap groove and a needle groove, a flexible needle bar located in the needle groove, a driving wheel supported in operative relation to the needle supporting wheel, a strap located in said strap groove overlying the needle bar and rigidly holding it in place, the end of said strap being secured to the driving wheel, means for rotating the driving wheel, and means for supporting articles to be pierced by said needle.

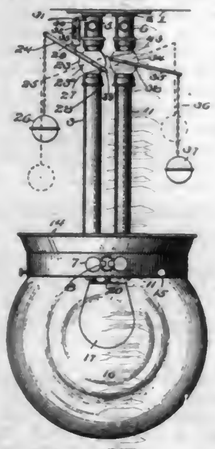


4. A needle supporting wheel and a driving wheel each having a pair of grooves and with a needle groove in the bottom of one of said grooves in the needle supporting wheel, a strap secured within a groove in each wheel and with its end secured in a groove in the opposite wheel, a flexible needle bar located in said needle groove underlying the strap therein, means for rotating the wheels, and means for supporting articles to be pierced by said needle.

5. A needle supporting wheel having a needle groove, a flexible needle bar located within said groove, means for rigidly holding the needle within the groove, a driving wheel supported in operative relation to the needle supporting wheel, a strap secured to both wheels to rotate the needle supporting wheel in one direction when the driving wheel is rotated, means for rotating the needle supporting wheel in the opposite direction, means for rotating the driving wheel, and means for supporting an object to be pierced by said needle.

[Claims 6 to 29 not printed in the Gazette.]

971,581. GAS-LAMP. EDWARD J. WIGGINS, Chicago, Ill., assignor, by direct and mesne assignments, to Knn Light Heat and Power Company, Chicago, Ill. Filed Mar. 1, 1909. Serial No. 480,667.



1. In a gas lamp, adjacent fuel pipes, a valve in one of said pipes adapted to control the flow of fuel, an independent valve in the other of said pipes adapted to control the flow of fuel, means permitting the opening of the first-mentioned valve without affecting the other valve, mechanical means tending to close the last-mentioned valve, and means whereby the closing of said last-mentioned valve opens the first-mentioned valve.

2. In a gas lamp, a pipe adapted to supply illuminating gas, an adjacent pipe adapted to supply ignition gas, independent valves adapted to control the flow of gas through said pipes, means whereby the valve controlling the flow of ignition gas may be opened without affecting the other valve, means for closing the ignition valve, and means whereby the closure of the ignition valve opens the illuminating valve.

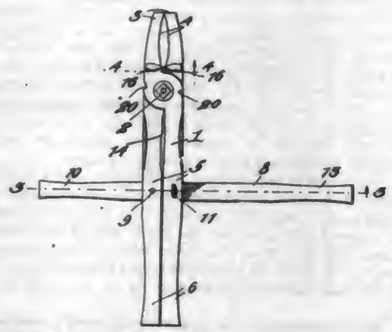
3. In a gas lamp, a pipe adapted to supply an illuminating gas, an adjacent pipe adapted to supply ignition gas, valves located one in each of said pipes, means whereby the illuminating valve may be closed independently of the ignition valve, means whereby the ignition valve may be opened without affecting the illuminating valve, means adapted to close the ignition valve, means to retard the closing of such ignition valve, and means whereby the closure of the ignition valve automatically opens the illuminating valve.

4. In a gas lamp, a pipe adapted to supply an illuminating gas, an adjacent pipe adapted to supply an ignition gas, valves located one in each of said pipes, oppositely directed levers adapted to control the valves, means whereby the illuminating valve may be closed without affecting the ignition valve, means whereby the ignition valve may be opened without affecting the illuminating valve, means adapted to close the ignition valve, means to retard the closing of the ignition valve and means whereby the lever of the ignition valve in closing engages the lever of the illuminating valve and opens such illuminating valve.

5. In a gas lamp, a pipe adapted to supply an illuminating gas, an adjacent pipe adapted to supply an ignition gas, valves located in each of said pipes, oppositely directed levers adapted to control the valves, a yielding extremity formed upon the end of one of the levers, means at the end of the other lever adapted to pass by the yielding end of the first mentioned lever whereby the ignition valve may be opened without affecting the illuminating valve, means adapted to close the ignition valve, means to retard the closing of the ignition valve, and also arranged so that as the ignition valve closes under the impulse of the closing means the yielding end is engaged and the illuminating valve opened.

[Claim 6 not printed in the Gazette.]

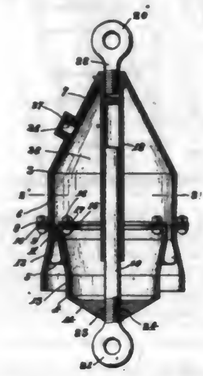
971,582. TOOL OF THE PLIERS TYPE. WILLIAM ROSSEM BALL, Bryan, Tex. Filed Mar. 19, 1910. Serial No. 550,432.



The herein described tool comprising a pair of crossed pivotally connected levers having short ends forming opposing jaws, and long straight ends, the outer extremities

of the long ends being shaped to provide handles, and the intermediate portions of said long ends being formed with transverse rectangular openings, one of the latter being elongated, a rectangular cross bar having its intermediate portion arranged in said openings, and its end portions shaped to provide longitudinally extending handles, a pivot pin passed through one of said levers, and said cross bar at a point adjacent to one of the handle ends of said cross bar, whereby the latter is pivotally mounted in said lever with one of its handle ends projecting from said lever, and a set screw arranged in the other lever to impinge against the intermediate portion of the cross bar to adjustably secure said lever to the cross bar and the two levers in adjusted position with respect to each other.

971,583. PNEUMATIC SPRING. BENJAMIN BELL, Philadelphia, Pa. Filed Aug. 12, 1909. Serial No. 512,569.



1. In a pneumatic spring, two relatively movable members forming walls of an inclosed chamber and including adjacent walls which converge with respect to each other toward the interior of the chamber; and a flexible diaphragm secured to and interposed between said members and engaged with and extending across the space between said adjacent walls.

2. In a pneumatic spring, two relatively movable members forming walls of an inclosed chamber and including adjacent walls which converge with respect to each other toward the interior of the chamber; and a flexible diaphragm secured to and interposed between said members and having a portion extending across the space between said adjacent walls and portions converging toward each other from the first named portion and engaged with said adjacent walls.

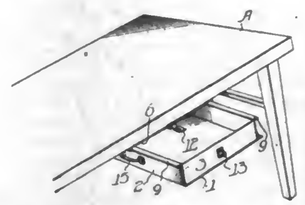
3. In a pneumatic spring, two relatively movable tubular members arranged one within the other and forming walls of an inclosed chamber, the outer wall of the inner member and the inner wall of the outer member converging with respect to each other toward the interior of the chamber; and a flexible diaphragm secured to and interposed between said members and engaged with and extending across the space between said inner wall and said outer wall.

4. In a pneumatic spring, two relatively movable tubular members arranged one within the other and forming walls of an inclosed chamber, the outer wall of the inner member and the inner wall of the outer member converging with respect to each other toward the interior of the chamber; and a flexible diaphragm secured to and interposed between said members and having a portion extending across the space between said inner wall and said outer wall and portions converging toward each other from the first named portion and engaged with said inner wall and said outer wall.

5. In a pneumatic spring, two relatively movable members forming walls of an inclosed chamber and including adjacent walls which converge with respect to each other toward the interior of the chamber; a flexible diaphragm secured to and interposed between said members and engaged with and extending across the space between said adjacent walls; and means for guiding said members including a tube fixed to one of said members and a rod fixed to the other of said members and extending into said tube.

[Claims 6 and 7 not printed in the Gazette.]

971,584. COMBINED WORK-BENCH DRAWER AND PORTABLE TOOL-CHEST. EDWARD E. BERTHOLD and HERMANN HORSTMANN, Chicago, Ill. Filed Jan. 14, 1910. Serial No. 538,123.



1. A tool chest comprising a body portion, a cover adapted to be removably secured to the under side of a work-bench, and having a sliding connection with said body portion, means for locking the cover and the body portion together, and a handle at one side of said body portion, the chest being adapted to be carried by said handle when detached from the work bench.

2. A tool chest comprising a body portion having flanges at the upper edges of two opposite side walls, a cover having runways in which said flanges are arranged to slide, said cover having openings therein, fastening means arranged to extend through said openings and removably secure said cover to the under side of a work-bench, locking means at the forward end of said cover and body portion, and a handle secured to one of the side walls of the body portion and providing means for carrying the chest when detached from the work-bench.

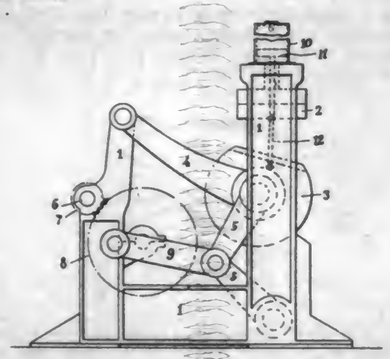
3. In a combined work-bench drawer and portable tool chest, a drawer having a bottom wall, end walls, and side walls, an outstanding flange at the upper edge of each of said side walls, said bottom wall, side walls, and flanges being formed from an integral piece of sheet metal, a sheet metal cover for said drawer, said cover being adapted to be removably secured to the under side of a work bench and having runways at two opposite edges in which the flanges on said side walls slide, a stop flange at the rear end of said cover overlying the rear end of said drawer, locking means at the forward end of said cover and drawer, and a handle fixed to one of said side walls and providing means for carrying the device when detached from the work bench.

971,585. COUNTERBALANCING DEVICE. OTTO S. BEYER, East Rutherford, N. J., assignor to Automatic Platen Press Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 7, 1908. Serial No. 409,627.

1. The combination of an oscillating machine element, means for compensating for the momentum of said element comprising a cylinder containing air under atmospheric pressure, a piston movable in said cylinder and connected to said oscillating machine element, a valve connected to said cylinder and adapted to open when the air in the said cylinder is compressed on the one side of said piston, a second valve connected to said cylinder and adapted to open when the air in said cylinder is compressed on the opposite side of said piston and means for operating said machine element.

2. The combination of an oscillating machine element, of means for controlling the momentum thereof, compris-

ing a cylinder containing a fluid, a piston in said cylinder connected to the aforesaid machine element, a valve for allowing the compression of said fluid on the one side of said piston when the said machine element is actuated and for allowing the compressed fluid to be discharged to the other side of said piston, a second valve for allowing the compression of the fluid when the said machine element moves in the opposite direction and for allowing the thus compressed fluid to be discharged on the side first mentioned of the piston, and means for regulating said valves.



3. In a printing machine the combination with an oscillating form carrying member, of means for compensating for the stored energy in said member comprising two cylinders containing air under atmospheric pressure, pistons in said cylinders connected to said form carrying member, two valves connected to the said cylinders for allowing the air in the latter to be compressed to a predetermined pressure on the one side of said pistons and for allowing the compressed air to escape to the other sides of said pistons, and means for regulating said valves.

4. In a printing machine the combination with an oscillating or reciprocating form carrying member, of means for compensating for the stored energy in said member comprising cylinders containing air, pistons movable in said cylinders and connected to said member, two valves connected to said cylinders for allowing the air to be compressed therein, when the said pistons move and for allowing the compressed air to be delivered behind said pistons, the said valves being actuated in opposite directions depending upon the direction of movement of the said pistons.

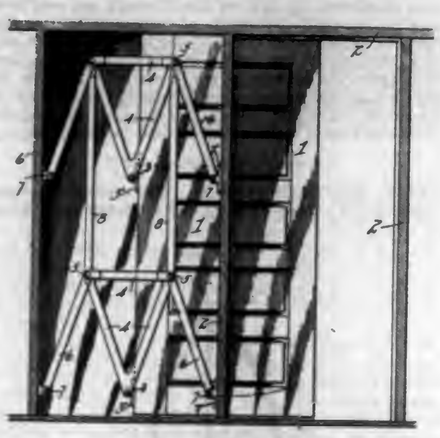
5. In a printing machine the combination with an oscillating or reciprocating form carrying member, of means for compensating for the stored energy in said member, comprising cylinders containing air, pistons movable in said cylinders and connected to said member, two valves connected to said cylinders for allowing the air to be compressed therein, when the said pistons move and for allowing the compressed air to be delivered behind said pistons, the said valves being actuated in opposite directions depending upon the direction of movement of the said pistons, and means for regulating the said valves.

[Claims 6 to 8 not printed in the Gazette.]

971,586. DOOR-HANGER. HENRY L. BIDDLE, Dayton, Ohio. Filed Feb. 21, 1910. Serial No. 544,969.

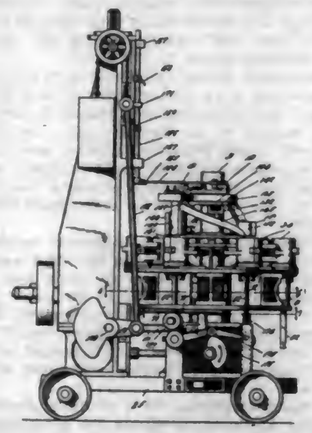
1. In a door hanger, the combination with a casing, and a door adapted to be movably mounted therein, of a system of levers among which are two triangular frames which are pivoted to the door, rods connecting said triangular frames, and link levers pivotally connecting the upper corners of said triangular frames to the adjacent upright portions of the casing, whereby the door is supported in a movable position, substantially as specified.

2. In a door hanger, the combination with a casing and a door adapted to be movably mounted therein, of upper and lower triangular frames pivoted to said door at their lower apexes, parallel equalizing rods pivotally connected to the upper corners of said triangular frames, and supporting levers interposed between said triangular frames and the adjacent parts of the door casing.



3. In a movable door hanger, the combination with a door, of upper and lower oscillating frames pivoted thereto supporting levers on opposite sides thereof pivotally connected thereto and to the door casing, and equalizing connecting devices between said frames whereby said frames are equalized and maintained in relative positions.

971,587. GLASS-WORKING MACHINE. ALVAH L. BINGHAM, Muncie, Ind., assignor to Ball Brothers Glass Manufacturing Company, Muncie, Ind., a Corporation of Indiana. Filed Jan. 14, 1910. Serial No. 538,014.



1. In a glass working machine, the combination, with a container for a supply of molten glass and having a discharging outlet from which a flowing stream may be suspended, of a plurality of receptacles, means for successively presenting said receptacles into position to directly receive a stream of glass flowing from said container, severing means adapted to act upon the flowing stream to cut the lower end therefrom, and means for passing said severing means through and from the flowing stream at a cutting plane where the elasticity of the stream exceeds the downward velocity of the glass immediately above the cutting plane.

2. In a glass working machine, the combination with a container for a supply of molten glass and having a discharging outlet from which a flowing stream of glass may be suspended, of a plurality of receptacles, means for successively bringing said receptacles into position to receive the flowing stream, coöperating cutting members arranged upon opposite sides of the flowing stream, and means for driving one of said cutter members across the other and through and beyond the stream at a plane where the elasticity of the fresh end of the stream will exceed its downward velocity and at such speed that the fresh end of the stream will not be supported by the moving cutter.

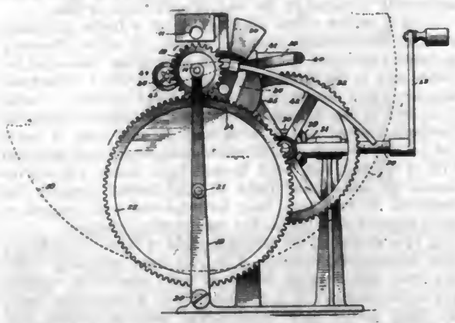
3. In a glass working machine, the combination, with a container for a supply of molten glass and having a discharging outlet from which a flowing stream of glass may be suspended, of a plurality of receptacles, means for successively bringing said receptacles into position to receive the flowing stream, coöperating cutting members arranged upon opposite sides of the flowing stream at such distance below the suspending outlet that the elasticity of the stream at the cutting plane will be equal to or exceed the downward velocity at said plane, and means for driving one of said cutter members across the other and through and beyond the stream at such speed that the fresh end of the stream will not be supported by the moving cutter.

4. In a glass working machine, the combination, with a container for a supply of molten glass and having a discharging outlet from which a flowing stream may be suspended, of a plurality of receptacles, means for successively presenting said receptacles into position to receive a stream of glass flowing from said container, severing means adapted to act upon the flowing stream to cut the lower end therefrom, means for passing said severing means through and from the flowing stream without supporting the fresh end of the stream, and a downwardly inclined slide extending from the cutter to the oncoming receptacle.

5. In a glass working machine, the combination, with a container for a supply of molten glass and having a discharging outlet from which a flowing stream of glass may be suspended, of a plurality of receptacles, means for successively bringing said receptacles into position to receive the flowing stream, coöperating cutting members arranged upon opposite sides of the flowing stream, means for driving one of said cutter members across the other and through and beyond the stream at such speed that the fresh end of the stream will not be supported by the moving cutter, and a downwardly inclined slide extending from the cutter to the oncoming receptacle.

[Claims 6 to 13 not printed in the Gazette.]

971,588. MOVING-PICTURE MACHINE. GEORGE W. BINGHAM, Brooklyn, N. Y., assignor to Bingham-Cameron Company, a Corporation of New York. Filed Oct. 25, 1909. Serial No. 524,366.



1. The combination in a moving picture machine, of a film support, a member carried thereby provided with a spiral grooveway, means for operating said member to impart a lateral shifting movement to the film support, a film journaled on the support, and means for imparting an intermittent rotary motion to the film.

2. In a moving picture machine, a framework, a train of gearing in said framework, a rotatable film support mounted to swing laterally on a center outside of its axis of rotation, means for laterally shifting said film support by its rotation, and self-adjusting driving means for rotating said film support from the train of gears in the framework.

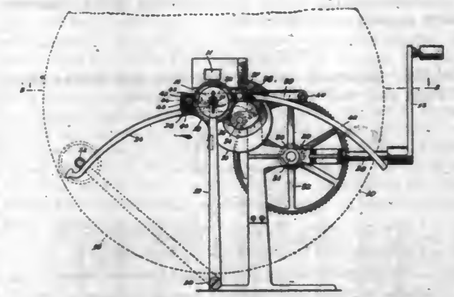
3. In a moving picture machine provided with an exposure opening, a rotatable film, means for intermittently rotating the film, means for shifting the film laterally with respect to the exposure opening, and a sliding connection between the rotating means and the shifting means.

4. In a moving picture machine provided with an exposure opening, a rotatable spindle for supporting the film, a cam, a member reciprocated thereby, a lever slidably connected with said member, mechanism carried by said lever engaging the spindle for imparting intermittent rotation thereto, and means for moving the spindle laterally with respect to the exposure opening.

5. In a moving picture machine, a spindle mounted to have a swinging movement, a cam, a sleeve member reciprocated by said cam, a lever engaged in said sleeve, and pawl and ratchet mechanism carried by said lever adapted to impart intermittent rotary movement to the spindle.

[Claims 6 to 14 not printed in the Gazette.]

971,589. MOVING-PICTURE MACHINE. GEORGE W. BINGHAM, Brooklyn, N. Y., assignor to Bingham-Cameron Company, a Corporation of New York. Filed Oct. 25, 1909. Serial No. 524,367.



1. In a moving picture machine, a rotatable film holder mounted to oscillate on a center outside of its axis of rotation, means for imparting a progressive rotary movement to the film holder, and means for imparting a lateral shifting movement to said holder comprising a rack and a rotatable pinion, one of which is carried by the film holder and the other of which is stationary.

2. In a moving picture machine, a movable film holder, means for imparting a progressive movement to the film carried thereby, and means for imparting a lateral shifting movement to said holder comprising a rack sector, and a rotatable pinion carried by the film holder and in engagement with said sector.

3. In a moving picture machine, a movable film holder, means for imparting a progressive movement to the film carried thereby, and means for imparting a lateral shifting movement to said holder comprising a rack sector, a rotatable pinion carried by the film holder and in engagement with said sector, and means for yieldingly holding the rack and pinion in engagement.

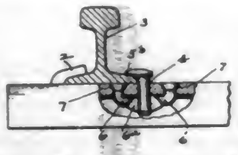
4. In a moving picture machine, a rotatable film holder mounted to swing on a center outside of its axis of rotation, means for imparting a progressive rotary movement

to the film holder, and means for imparting a lateral shifting movement to said film holder comprising a rack and a rotatable pinion, one of which is carried by the film holder and the other of which is stationary, said rack being in the form of a sector, whereby the film holder is caused to move in a curved path.

5. In a moving picture machine, a rotatable spindle upon which the film is carried, a pinion on said spindle, and a rack adapted for engagement by said pinion to impart a lateral shifting movement thereto.

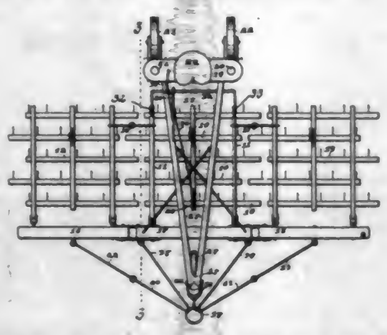
[Claims 6 to 20 not printed in the Gazette.]

971,590. RAILWAY-TRACK CONSTRUCTION. JOSEPH W. BLOWER, Columbus, Ohio. Filed Mar. 17, 1910. Serial No. 549,877.



In a railway track construction, the combination with a longitudinally channeled tie of substantially inverted U-shape, of a fixed engaging member bent from said tie and adapted to engage the base flange of a track rail, a fixed pin spreading device on the underside of said tie comprising a U-shaped member which extends longitudinally along the underside of the tie, and which has its upturned ends passing through the top of the tie and secured therein, a wedge-shaped central portion upon said pin spreading device, and a split locking pin having an enlarged head for engaging the other base flange of the track rail, there being an opening formed through said tie for the passage of said locking pin in alinement with the wedge portion of the pin spreading device, substantially as shown and described.

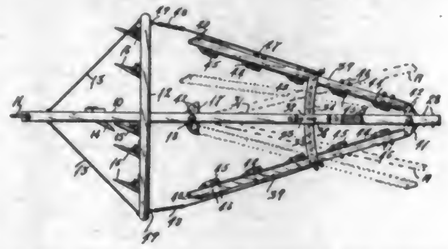
971,591. HARROW. JAMES E. BOOTH, Des Moines, Iowa. Filed July 29, 1909. Serial No. 510,318.



1. A harrow, comprising in combination, a central and outside harrow sections pivotally secured to one another and to a sectional evener bar, a triangular truck adapted to have said harrow sections suspended therefrom, a plurality of draft bars secured to the sections of said evener bar and having a common point of draft substantially at the apex of said triangular truck and means for raising said harrow sections to suspend them from said truck.

2. A harrow, comprising in combination, a central and outer harrow sections, and evener bar formed in a corresponding number of sections and secured to the front ends of said harrow sections, a triangular truck adapted to have said harrow sections suspended therefrom, having its apex extended over the front of said central harrow section, a plurality of draft bars connected to said sections of said evener bar and having a common point of draft with said apex of said triangular truck, and means for raising said harrow sections to suspend the latter from said truck.

971,592. COMBINATION PLOW AND HARROW. JAMES T. BOYD, Springville, Miss. Filed July 21, 1909. Serial No. 508,792.



1. In a device of the kind described, a frame including a fixed longitudinal member and a transverse member secured to the fixed member, a movable member, a bar connecting the fixed member to the movable member intermediate its ends, said bar being provided with a plurality of bolt receiving apertures, a bolt adapted to be positioned through one of said apertures and the longitudinal fixed member, coacting means on the longitudinal fixed member and the ends of the movable member to secure either end of the movable member to the fixed member, and braces connecting the movable member to the fixed member.

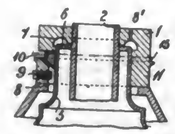
2. In a device of the kind described, a frame including a fixed longitudinal member and a transverse member secured to the fixed member, a movable member, a bar connecting the fixed member to the movable member intermediate its ends, said bar being provided with a plurality of bolt receiving apertures, a bolt adapted to be positioned through one of said apertures and the longitudinal fixed member, coacting means on the longitudinal fixed member and the ends of the movable member to secure either end of the movable member to the fixed member, braces connecting the movable member to the fixed member, and earth working tools carried on said members.

3. In a device of the kind described, a frame including a fixed longitudinal member and a transverse member secured to the fixed member, a movable member, a bar connecting the fixed member to the movable member intermediate its ends, said bar being provided with a plurality of bolt receiving apertures, a bolt adapted to be positioned through one of said apertures and the longitudinal fixed member, coacting means on the longitudinal fixed member and the ends of the movable member to secure either end of the movable member to the fixed member, braces connecting the movable member to the fixed member, earth working tools carried on said members, and a ground wheel adjustably mounted at the rear of said fixed member.

4. In a device of the kind described, a frame including a fixed longitudinal member, a pair of bars extending laterally from said member, said bars being connected together and to the member by a common pivot, a transverse member fixed across said longitudinal member, chains connected to the ends of said transverse members, movable members pivoted at the outer ends of said bars, a brace rod pivoted to each of said movable members and provided with a hooked end, said hooked ends being adapted to engage in one of the links of said chains whereby the positions of said bars may be adjusted with regard to their angular relation to the longitudinal member.

5. In a device of the kind described, a frame including a fixed longitudinal member, a pair of bars extending laterally from said member, said bars being connected together and to the member by a common pivot, a transverse member fixed across said longitudinal member, chains connected to the ends of said transverse member, movable members pivoted at the outer ends of said bars, a brace rod pivoted to each of said movable members and provided with a hooked end, said hooked ends being adapted to engage in one of the links of said chains whereby the positions of said bars may be adjusted with regard to their angular relation to the longitudinal member, and means to connect either end of each of said movable members to said longitudinal member.

971,593. BLUE-MILK OUTLET IN CENTRIFUGAL SEPARATORS. ALGOT LEVIN CHRISTENSON, Stockholm, Sweden. Filed Apr. 20, 1907. Serial No. 370,850.



1. The combination with a centrifugal drum having an outlet, of a regulating screw entering the inner part of the said outlet, and a part forming, beyond the said screw, an outer part of the outlet which is wider than the inner one, whereby the fluid spreads out in the said outer part of the outlet, before leaving the drum, substantially as and for the purpose set forth.

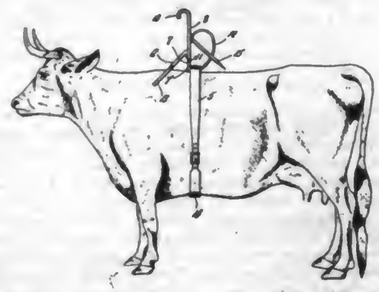
2. The combination with a centrifugal drum having an outlet, of regulating means situated in the inner part of the said outlet, and means for causing the fluid to spread in the outer part of the said outlet, substantially as and for the purpose set forth.

3. The combination with a centrifugal drum having an outlet, of regulating means adapted to be moved into and out from the inner part of the said outlet, and fluid spreaders situated within a widened outer part of the said outlet, substantially as and for the purpose set forth.

4. The combination with a centrifugal drum having an outlet in the neck thereof, of a screw entering the said outlet, and a thickened part having an outwardly widening outlet opening extending from the outlet in the neck of the drum, substantially as and for the purpose set forth.

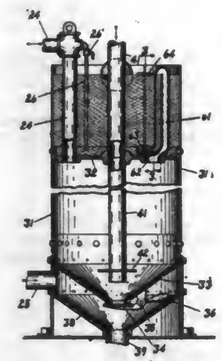
5. The combination with a centrifugal drum having an outlet in the neck thereof, of a screw entering the said outlet, the outer part of the said outlet forming a plurality of passages, substantially as and for the purpose set forth.

971,594. ANIMAL-POKE. OTIS O. CLARK, Liberal, Kans., assignor of one-half to Joe Fuest, Liberal, Kans. Filed July 7, 1909. Serial No. 506,379.



The combination with a back band, of a forked ear fixed centrally to the back band, an arm pivotally mounted at its lower end in the forked ear and having a forwardly and downwardly turned opposite hook terminal, a downwardly inclined forked member fixed to the arm above its axis of movement and adapted to normally engage the shoulder of an animal, a bowed leaf spring having one end fixed between the ear and the back band and its opposite end secured to the arm and adapted to hold the forked member normally in engagement with the shoulder of an animal to maintain the arm in vertical position and downwardly diverging inclined pricking fingers fixed to the arm and projecting therefrom in an opposite direction with respect to the forked member, the said fingers being normally out of contact with the back of an animal.

971,595. VACUUM-CLEANER. ARCHER E. CLIFTON and WORTH W. PRESTON, Connersville, Ind., assignors to United Vacuum Appliance Company, New York, N. Y., a Corporation of New York. Filed Dec. 20, 1909. Serial No. 534,164.



1. The combination, in a vacuum cleaner, of a pump, a vacuum chamber, a connection leading from said pump to said chamber, a tank having a predetermined water supply arranged adjacent to said chamber, a passage from said chamber to said tank through which the supply of water will be drawn upon application of vacuum tension, a valve for closing said passage when the contents of the tank have been discharged and which will be held in said position so long as the vacuum tension continues, a water supply pipe to said tank, a valve in said pipe operated to be closed by the filling of the tank and opened by the discharge thereof, a cleanings pipe extending to within said chamber, and a valve to said chamber adapted to be held closed by the vacuum tension and to open by gravity when said tension is released.

2. The combination, in a vacuum cleaner, of a pump, a vacuum chamber, a connection leading from said pump to said chamber, a cleanings pipe leading from said vacuum chamber, a tank for a predetermined water supply, a water-inlet valve interposed between said tank and the vacuum chamber, an automatically operating valve for controlling the supply of water to said tank, a valve controlling the exit passage to said chamber, the water-inlet valve and the exit-passage controlling valve being arranged to be closed by the vacuum tension created by the operation of the pump and to open automatically upon the cessation of such tension.

3. The combination, in a vacuum cleaner, of a vacuum chamber, a pump, a connection from said pump to said chamber, a pipe for conveying the cleanings into said vacuum chamber, a discharge valve to said vacuum chamber adapted to be held closed by the vacuum and to open by gravity when the vacuum tension is released, a water tank for supplying water to the vacuum chamber, a valve between said tank and said chamber arranged to be held closed by the vacuum tension created by the operation of the pump and to open automatically upon the cessation of such tension.

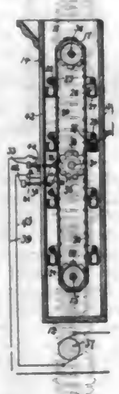
4. The combination with the vacuum chamber of a vacuum cleaner, of a water tank arranged adjacent to said vacuum chamber, a siphon-like passage leading from near the bottom of the water tank to said vacuum chamber, a float valve for controlling the ingress opening to said

siphon-like passage adapted to be held closed by the vacuum tension and when released to float upon the water in the tank, and means for supplying the tank with water.

5. The combination, in a vacuum cleaner, of a vacuum chamber, a vacuum pump, a connection between said pump and said chamber, an ingress pipe for leading the cleanings to said vacuum chamber, a water supply for said vacuum chamber into which the incoming cleanings will be precipitated, a valve for controlling the discharge opening to said chamber adapted to be held closed by the vacuum tension therein and to open by gravity, a water tank positioned above the vacuum chamber, a discharge passage from said tank to said chamber controlled by a valve arranged to be held closed by the vacuum tension and to be opened when such tension is released by floating upon the incoming water thereto, said valve, a water supply pipe to said tank, and a float valve controlling said water supply pipe.

[Claims 6 and 7 not printed in the Gazette.]

971,596. POSTAL-CARD-DISPLAY DEVICE. WILLIAM J. COOPER, Stockton, Cal. Filed Sept. 17, 1908. Serial No. 453,425.

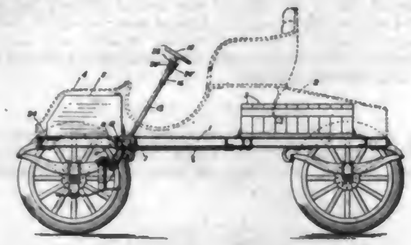


In a device of the class described, a casing, shafts mounted for rotation and spaced apart within said casing, chain wheels carried by said shafts, endless chains operating over said chain wheels, rods spaced apart and connected to said chains, a plurality of receptacles open at the top and with upwardly projecting hooks detachably engaging said rods, an intermediate chain wheel engaging one of said chains and having a toothed drum rotated therewith, a swinging arm, a pawl connected to said arm and alternately engaging said drum, means for swinging said arm, an electric motor connected to actuate said endless chains, and switch devices associated with said swinging arm, whereby the circuit through the motor is closed simultaneously with the removal of the pawl from engagement with the drum.

971,597. BATTERY-TANK SYSTEM. FRANK A. DECKER, Philadelphia, Pa., assignor to Decker Electrical Manufacturing Company, Wilmington, Del., a Corporation of Delaware. Filed Jan. 10, 1910. Serial No. 537,189.

1. In an apparatus of the class described, a vehicle, a cell and a tank supported thereby, a conduit having a rotary joint for connecting said tank with said cell, and mechanism for rocking said tank in relation to said cell.

2. In apparatus of the class described, a cell, a tank, means for connecting said parts, a pivotal support upon which said tank oscillates relatively to said cell, a gear fixed in relation to said tank and a worm for operating said gear.



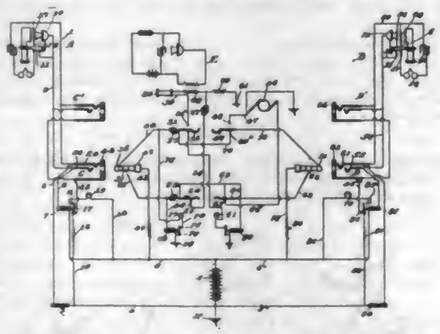
3. In apparatus of the class described, a pivoted tank, a battery communicating with said tank, a gear fixed in relation to said tank, a revoluble shaft having a worm thereon for engaging said gear and rocking said tank, and a handle for revolving said shaft.

4. In apparatus of the class described, a vehicle, a steering mechanism therefor comprising a revoluble shaft, a hollow shaft sleeved on said first shaft and revoluble with relation thereto, a handle, means for engaging said handle with said shafts alternately, a pivoted tank, and mechanism connected with said hollow shaft for rocking said tank.

5. In apparatus of the class described, a vehicle, a battery carried thereby, a tank pivoted on said vehicle, a fluid connection between said battery and tank, a revoluble shaft, mechanism operated by said shaft for rocking said tank, and a latch for holding said tank in position.

[Claims 6 and 7 not printed in the Gazette.]

971,598. TELEPHONE SYSTEM. ALFRED H. DYSON, Chicago, Ill., assignor, by mesne assignments, to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Aug. 10, 1903. Serial No. 169,046.



1. In a telephone system, the combination of a subscriber's line circuit, a line signal responsive to calls sent over the line circuit, a cord circuit shunt for restoring the line signal, a supervisory lamp and a supervisory relay, a central source of current supply normally included in the line circuit, suitable circuit connections whereby the energizing circuit of the supervisory relay includes the talking conductor on one side of the circuit, and suitable connections whereby current is furnished to the supervisory lamp through the talking conductor on the other side of the circuit together with a listening key adapted when pressed to disconnect the supervisory lamp from the circuit, and a ringing key adapted when pressed to disconnect both the lamp and relay from the circuit.

2. In a telephone system, the combination of a subscriber's line, a switch or circuit changing device for opening and closing the line circuit, a line relay adapted to be energized by the closing of the line circuit and arranged to operate a calling signal, a jack connected with the line, an operator's cord circuit provided with a plug adapted for insertion in said jack, a supervisory lamp associated with the cord circuit, a supervisory relay connected and arranged to be deënergized by the opening of the line circuit, and adapted to control the circuit of the supervisory lamp, a central source of current supply connected with the line, and suitable circuit connections whereby current is furnished from said source to the supervisory lamp through the line relay and the tip contacts of the plug and jack, together with an impedance coil in the line, the said supervisory relay and lamp and coil being locally connected with one and the same pole of said source of current.

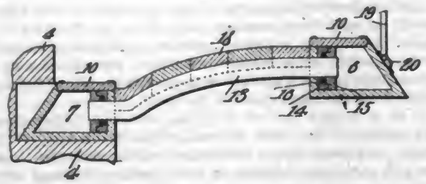
3. In a telephone system, the combination of a subscriber's line, a subscriber's hook switch for closing and opening the line, a jack connected with the line, a source of current connected with the line, a line relay for operating a line signal, an operator's cord circuit provided with a plug adapted for insertion in said jack, a supervisory relay for operating a supervisory signal, and an energizing circuit for said supervisory relay including the ring contacts of the plug and jack and hook switch and line relay, said jack having a testing contact permanently connected with the supervisory relay to one pole of the source of current.

4. In a telephone system, the combination of a subscriber's line, a subscriber's hook switch for opening and closing the line circuit, a jack connected with the line, an operator's cord circuit provided with a plug adapted for insertion in said jack, a source of current connected with the line, a line relay for operating a line signal, an impedance coil interposed between the line and the source of current supply, a supervisory relay for operating a supervisory signal, and suitable circuit connections whereby the said impedance coil and the supervisory relay are in parallel when the plug is inserted in the jack together with an operator's receiver, said supervisory relay and coil and receiver all being permanently connected directly with one and the same pole of the source of current.

5. In a telephone system, the combination of a subscriber's line, a subscriber's hook switch for opening and closing the line circuit, a jack connected with the line, an operator's cord circuit provided with a plug adapted for insertion in said jack, a source of current connected with the line, a line relay for operating a line signal, an impedance coil interposed between the line and the source of current supply, a supervisory relay and a supervisory lamp associated with the cord circuit, suitable connections whereby the energising circuit of the supervisory relay includes one talking strand of the cord circuit, and circuit connections whereby the said impedance coil and the supervisory relay are in parallel when the plug is in the jack together with an operator's receiver, said supervisory relay and coil and receiver all being permanently connected directly with one and the same pole of the source of current.

[Claims 6 to 19 not printed in the Gazette.]

971,599. FEED-WATER HEATER. WILLIAM S. FERGUSON, Leesville, La. Filed May 3, 1909. Serial No. 493,610.



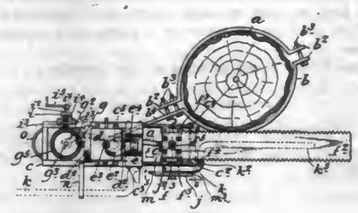
1. In a boiler furnace, an arch bar composed of parallel curved pipes terminating in straight portions and extending in a direction longitudinal to the boiler, supporting headers into which said straight portions of the pipes enter, one header being adjacent to the boiler and the other remote therefrom, and a brick covering on and supported by said pipe between the headers.

2. In a boiler furnace, an arch bar composed of straight headers, one located at the end of the boiler and the other spaced therefrom, pipes connecting said headers and curved to conform to the curvature of the arch and terminating in straight portions entering the respective headers and a brick lining on and supported by the pipes between the headers, said brick lining being supported solely by the pipes between the headers.

3. In a boiler furnace, an arch bar composed of parallel pipes extending in a direction longitudinal to the boiler, and supporting headers into which the ends of the pipes enter and provided with slip bearings for the ends of the pipes, one header being adjacent to the boiler and the other remote therefrom.

4. In a boiler furnace, an arch bar composed of parallel curved pipes terminating in straight portions and extending in a direction longitudinal to the boiler, and supporting headers into which the straight portions of the pipes enter, one header being adjacent to the boiler and the other header being remote therefrom and mounted in the back wall of the furnace.

971,600. APPARATUS FOR FELLING TREES. ETSON L. FREESE, New York, N. Y. Filed Apr. 15, 1909. Serial No. 489,974.



1. In an apparatus for felling trees, a support adapted to be connected with the trunk of a tree, a frame rotatably mounted on said support and balanced thereon and adapted to swing in a horizontal plane and provided at one end with parallel side members, a cross head movable between said side members, a saw connected with said cross head, a crank rod connected with said cross head, a crank pin mounted in the end of the frame opposite the cross head and provided with a crank with which said crank rod is connected, a gear connected with said crank pin, and a motor mounted on said frame and provided with a shaft in operative connection with said gear.

2. In an apparatus for felling trees, a support adapted to be connected with the trunk of a tree, a frame rotatably mounted on said support and balanced thereon and adapted to swing in a horizontal plane and provided at one end with parallel side members, a cross head movable between said side members, a saw connected with said cross head, a crank rod connected with said cross head, a crank pin mounted in the end of the frame opposite the cross head and provided with a crank with which said crank rod is connected, a gear connected with said crank pin, a motor mounted on said frame and provided with a shaft in operative connection with said gear, and a shaft mounted transversely of said gear and provided at one end with a pinion meshing with said gear.

3. In an apparatus for felling trees, a support adapted to be connected with the trunk of a tree, a frame rotatably mounted on said support and balanced thereon and adapted to swing in a horizontal plane and provided at one end with parallel side members, a cross head movable between said side members, a saw connected with said cross head, a crank rod connected with said cross head, a crank pin mounted in the end of the frame opposite the cross head and provided with a crank with which said

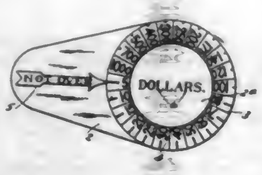
crank rod is connected, a gear wheel connected with said crank pin, a motor mounted on said frame and provided with a shaft in operative connection with said gear, and a transversely movable starting shaft mounted at the side of said gear and provided with a pinion adapted to engage the same, said starting shaft being provided with a detachable crank.

4. In an apparatus for felling trees, a support adapted to be connected with the trunk of a tree, a frame rotatably mounted on said support and balanced thereon and adapted to swing in a horizontal plane and provided at one end with parallel side members, a cross head movable between said side members, a saw connected with said cross head, a crank rod connected with said cross head, a crank pin mounted in the end of the frame opposite the cross head and provided with a crank with which said crank rod is connected, a gear wheel connected with said crank pin, a motor mounted on said frame and provided with a shaft in operative connection with said gear, and a transversely movable starting shaft mounted at the side of said gear and provided with a pinion adapted to engage the same, said starting shaft being provided with a detachable crank, and said cross head being provided with a pivoted arm adapted to serve as a support and guide for the saw.

5. In an apparatus of the class described, a support adapted to be connected with the trunk of a tree, a saw frame mounted thereon and provided with a motor, a cross head movable in said frame, devices in operative connection with said motor and said cross head for operating said cross head, a saw connected with said cross head, and an arm pivoted to said frame and adapted to be swung into position to serve as a guide and support for the same.

[Claims 6 and 7 not printed in the Gazette.]

971,601. POCKET CHECK-PROTECTOR. FRANK S. GEORGE, Hopkins, Minn. Filed Dec. 27, 1909. Serial No. 535,186.

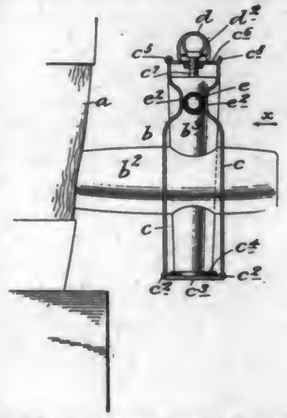


A pocket check protector, comprising an approximately flat body plate, a flanged hub and a coöperating plate section secured to said body plate, an annular printing wheel rotatively mounted on said flanged hub, an indicator on said plate section coöperating with said annular printing wheel, a hand piece applied to the top of said body plate, bearings to which the ends of said hand piece are journaled, and screws passed through said bearings, through said body plate and into said hub and plate section, and securing said bearings together, substantially as described.

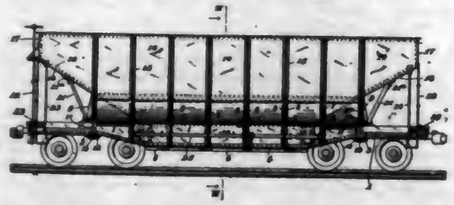
971,602. FAUCET ATTACHMENT. SAMUEL E. GLADDING, Jersey City, N. J. Filed June 13, 1910. Serial No. 566,530.

1. An attachment for faucets provided with the usual plug valve, said attachment consisting of a bottom plate, a top plate and side yoke members, said side yoke members being hinged to the bottom plate and one of said side yoke members being hinged to the top plate and the other detachably connected therewith, said top plate being provided with a screw which is passed centrally therethrough.

2. An attachment for faucets provided with the usual plug valve, said attachment consisting of a bottom plate, a top plate and side yoke members, said side yoke members being hinged to the bottom plate and one of said side yoke members being hinged to the top plate and the other detachably connected therewith, said top plate being provided with a screw which is passed centrally therethrough, and the head of which is provided with a ring, said top plate being also provided with rings.



971,603. DUMPING-CAR. JOHN M. GOODWIN, Mount Vernon, N. Y. Filed Feb. 5, 1907. Serial No. 355,815.



1. A hopper bottom dumping car comprising on each side a longitudinal sill member forming a lateral boundary of the discharge passage and extending between the points of truck support, an inclined side-floor member having its inboard margin contiguous to the top margin of said sill member coextensively therewith between the said points of support, and an upright side-wall secured to the outboard margin of said inclined floor, the aforesaid members being rigidly joined together by means comprising a series of upright braces secured in the exterior angle between said floor and sill members and disposed at intervals along the same, from truck to truck.

2. A hopper bottom dumping car comprising a longitudinal sill member forming a lateral boundary of the discharge passage and spanning the truck bolsters, an inclined side-floor member having its inboard margin supported on said sill member and coextensive therewith for the distance between its points of truck support, and an upright side-wall secured by its lower margin to the upper margin of said floor member, said parts being united by means including a series of upright angle-braces secured in the exterior angle between said floor and sill members, in combination with upright bolster-plates uniting the sill members of opposite sides of the car.

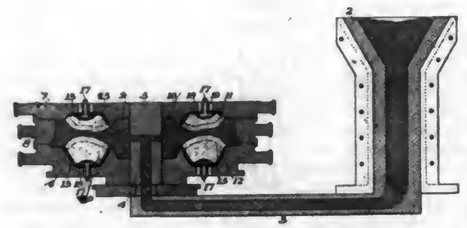
3. In a hopper bottom dumping car, two longitudinal sills spanning the truck bolsters, located inboard of the wheels, and providing a discharge passage between them, inclined end floors leading to said passage, inclined side-floors leading to said passage and having their lower inboard margins secured to said sills and extended beneath said end floors, in combination with a series of gusset sheets secured to the bottoms of said side floors and the outer sides of said sills, at intervals between trucks.

4. A hopper bottom metallic dumping car without side sills, comprising two longitudinal sill members located inboard of the wheels and extending from buffer to buffer, said sill members being spaced apart to provide a discharge passage between them, dumping valves closing the bottom of said passage and a car-body having inwardly inclined side-floors carried by said members with their lower margins adjacent thereto.

5. In a hopper bottom dumping car two longitudinal sills located inboard of the wheels and providing a central discharge passage between them, said sills extending from buffer to buffer, in combination with dumping valves closing said passage, a series of upright and upwardly inclined supporting members secured at intervals along the exterior of said sills and a car-body having inclined side floors leading to said central passage and supported on said members.

[Claims 6 to 44 not printed in the Gazette.]

971,604. MOLD FOR CASTING CAR-WHEELS. JACOB K. GRIFFITH, Latrobe, Pa. Filed July 6, 1908, Serial No. 442,062. Renewed Feb. 26, 1910. Serial No. 546,256.



1. In the art of steel casting a mold for wheels or similar articles, having a central inlet runner provided with an annular gate, which opens into the mold at all points to allow the metal to spread freely toward all points of the circumference of the mold, substantially as described.

2. A mold for casting wheels and the like, consisting of a drag section, a cope section, and an intermediate cheek or chill section, said cope and drag sections having each therein an annular trough-like seat to receive removable sand portions or cores which form the web of the wheel, said cope and drag sections having annular projections at the inner sides of the said seats which form the mold surfaces to shape the junction of the wheel web with the hub, said projections being separated from each other at their points of closest approach by a distance materially greater than the thickness of the web proper of the wheel, substantially as described.

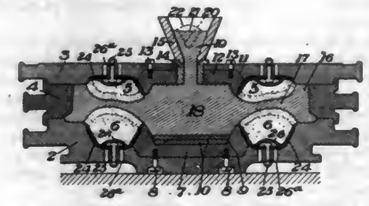
3. A mold for casting wheels or similar articles having a central gate opening radially in all directions into the mold cavity at substantially the central horizontal plane thereof, and having its cope and drag sections provided with annular seats or depressions adapted to receive sand or core-forming rings; substantially as described.

4. A mold for casting wheels and the like having its cope and drag sections provided with oppositely located annular seats, and carriers arranged to be secured in said seats and to support sand cores, said mold having a central core provided with an annular gate, substantially as described.

5. A mold for casting wheels and the like having its cope and drag sections provided with oppositely located annular seats, and carriers arranged to be secured in said seats and to support sand cores, said carriers consisting of annular frames or castings in which the cores are molded, substantially as described.

[Claim 6 not printed in the Gazette.]

971,605. MOLD FOR CASTING CAR-WHEELS. JACOB K. GRIFFITH, Latrobe, Pa. Filed Dec. 31, 1908, Serial No. 470,247. Renewed Mar. 1, 1910. Serial No. 546,716.



1. The combination, in a mold for casting wheels and the like, of a drag section having a seat for a hub chill, and a plurality of hub chills of different forms, with means for detachably securing them in said seat, and adapted to be used interchangeably to form different shapes or sizes of hubs; substantially as described.

2. The combination, in a mold for casting wheels and the like, of a cope section, having a seat therein for a hub chill, and a plurality of hub chills, with means for detachably securing them in said seats, and adapted to be used interchangeably to form different shapes of hubs, substantially as described.

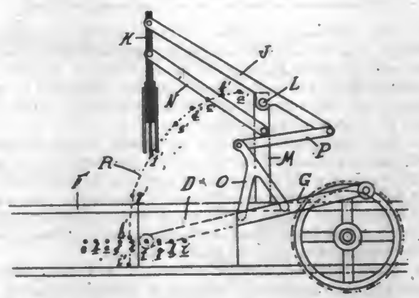
3. A mold for casting wheels and the like, comprising a drag section, a cope section, a removable chill in each section, and a removable liner for the chill in the drag; substantially as described.

4. A mold for casting wheels and the like, comprising cope and drag sections, each of said sections having a seat at its central portion for a removable hub chill, and also a second seat for a sand core, together with hub chills and sand cores and means for removably securing them in said seats; substantially as described.

5. In a mold for casting wheels, and the like, a flask section having integral rim and body portions, the latter having a depression therein to receive a removable hub chill; substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

971,606. BALING-PRESS. HANS J. HANSON, Ann Arbor, Mich., assignor to Ann Arbor Machine Company, Ann Arbor, Mich., a Corporation of Michigan. Filed June 18, 1909. Serial No. 502,898.



1. In a baling press, the combination with a reciprocatory plunger and a transversely reciprocating feeder, of a pitman rod for actuating said plunger, and means connecting said feeder with the pitman rod for depressing the feeder with progressively accelerating speed comprising a walking beam connected to said feeder, a bracket arm projecting laterally from said pitman rod, and a link connecting said bracket arm with said walking beam.

2. In a baling press, the combination with a reciproca-

tory plunger and a transversely reciprocating feeder, of a pitman rod for actuating said plunger, and means operated from said pitman rod by the movement thereof transverse to the direction of movement of said plunger for depressing said feeder with progressively accelerating speed, the acceleration being greatest adjacent the limit of the downward movement of the feeder.

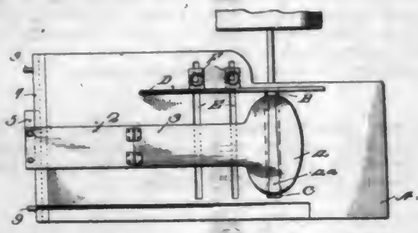
3. In a baling press, the combination with a reciprocatory plunger and a transversely reciprocating feeder, of a pitman rod for actuating said plunger, and means connecting the feeder with the pitman rod for depressing said feeder with progressively accelerating speed comprising a walking beam connected to said feeder, a parallel pivotal link also connected to said feeder, a bracket arm projecting laterally from said pitman rod, and a link connecting said bracket arm with said walking beam.

4. In a baling press, the combination with a frame, of a reciprocatory plunger and a transversely reciprocating feeder, of a pitman rod for actuating said plunger, and means connecting said feeder with the pitman rod for depressing said feeder with progressively accelerating speed comprising a walking beam connected to said feeder, a link connecting said walking beam and said pitman rod, and a support carried by said frame to which said walking beam is pivoted.

5. In a baling press, the combination with a reciprocatory plunger, and a transversely reciprocating feeder; of a pitman rod for actuating said plunger, a walking beam connected to said feeder, and means connecting said walking beam and pitman for depressing said feeder with progressively accelerating speed, the acceleration being greatest adjacent the limit of the downward movement of the feeder.

[Claims 6 and 7 not printed in the Gazette.]

971,607. SAFETY-GUARD FOR JOINTERS. ADAM J. HARTWICK, Clarks Summit, Pa. Filed Dec. 18, 1909. Serial No. 533,844.



1. The combination with a table and a tool carried therein, of a transversely extending guideway formed upon one end of the table, a slide block laterally movable in said guideway, and a flat cover hingedly connected to said slide block and adapted to be turned down to cover the tool, or turned up away therefrom.

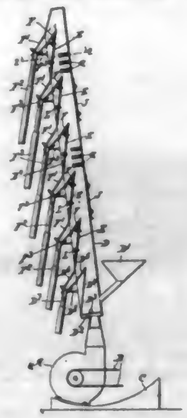
2. The combination with a table and a tool mounted therein, of a transversely extending slideway at one end of the table, a slide block moving laterally in said slideway and having a portion extending over the top of the table, and a flat cover hinged to the upper face of said extending portion, at the end thereof, and adapted to be turned down over the table and the tool carried therein.

3. The combination with a table and a tool carried therein, of a transversely extending member attached to one end of the table, said member having a dove-tailed transversely extending channel formed in its outer face, a slide block having a dove-tailed rib engaging with said channel, a member attached to the slide block and extending partially over the face of the table, and a flat covering member hinged to the upper face of the first named member and adapted to be moved down upon the face of the table, or turned over upon the first named member.

4. The combination with a table and a tool carried therein, of a transversely extending member mounted at one end of the table and flush with the upper face thereof, a slide block, means for slidably engaging the block with the outer face of said member, an inwardly projecting arm attached to the upper edge of the slide block and extending over a portion of the table, and a flat covering member hingedly attached to said arm and adapted to be turned over upon the arm, or turned down upon the face of the table, said member being laterally widened at its extremity.

5. The combination with a table and a tool carried therein, of a guideway formed at one end of the table and extending transversely thereof, a block slidable laterally in said guideway, an arm attached to said block and projecting over the face of the table, a flat covering member hingedly attached to the arm and adapted to be turned down upon the face of the table over the tool carried therein, and stops at the extremity of the guideway adapted to engage with the slide block to limit its movement.

971,608. CLEANING AND SEPARATING MACHINE. AXEL T. HEDFELDT, Chicago, Ill., assignor to Hedfeldt Company, a Corporation of Illinois. Filed Aug. 22, 1903. Serial No. 170,403.



1. In a device for sorting material, the combination of a straight air chute inclined from the vertical, with a perforated or screen like diaphragm across and near to its lower end, said diaphragm adapted to permit the passage of air and to prevent the passage of any of the material in a direction contrary to that of the air current, an air blast device discharging below and through such diaphragm and into the chute so that the draft of air is strongest at the lower end of the chute, means for conveying the material onto the diaphragm so that the particles thereof will be carried up by the air blast to altitudes proportioned inversely to the weight of such particles, and a series of discharge apertures arranged at intervals along the lower side of the chute to receive such material as the blast becomes spent the chute being narrowed immediately below each of such apertures.

2. In a device for sorting material, the combination of a straight air chute inclined from the vertical, with a perforated or screen like diaphragm across and near to its lower end, said diaphragm adapted to permit the passage of air and to prevent the passage of any of the material in a direction contrary to that of the air current, an air blast device discharging below and through such diaphragm and into the chute so that the draft of air is strongest at the lower end of the chute, means for conveying the material onto the diaphragm so that the particles thereof will be carried up by the air blast to altitudes proportioned inversely to the weight of such particles, a series of discharge apertures arranged at intervals along the lower side of the chute to receive such material as the blast becomes spent, and beneath each of said discharge apertures a projecting part adapted to intercept the material and convey the same through such discharge apertures.

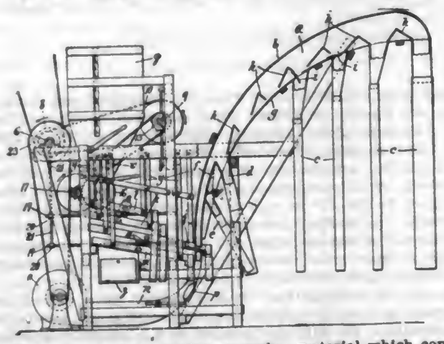
3. In a device for sorting material, the combination of a straight air chute inclined from the vertical, with a perforated or screen like diaphragm across and near to its lower end, said diaphragm adapted to permit the passage of air and to prevent the passage of any of the material in a direction contrary to that of the air current, an air blast device discharging below and through such diaphragm and into the chute so that the draft of air is strongest at the lower end of the chute, means for conveying the material onto the diaphragm so that the particles thereof will be carried up by the air blast to altitudes proportioned inversely to the weight of such particles, a series of discharge apertures arranged at intervals along the lower side of the chute to receive such material as the blast becomes spent, the wall of the side of the chute having the discharge apertures, being formed with a series of inward projections below each of said apertures and slanting toward the same.

4. In a device for sorting material, the combination of a straight air chute inclined from the vertical, with a perforated or screen like diaphragm across and near to its lower end, said diaphragm adapted to permit the passage of air and to prevent the passage of any of the material in a direction contrary to that of the air current, an air blast device discharging below and through such diaphragm and into the chute, means for conveying the material onto the diaphragm so that the particles thereof will be carried up by the air blast to altitudes proportioned inversely to the weight of such particles, and a series of discharge apertures arranged at intervals along the lower side of the chute to receive such material as the blast becomes spent, the wall of the side of the chute having discharge apertures, being formed with a series of inward projections made of screen like material, below each of such apertures and slanting toward the same.

5. In a device for sorting material, the combination of a straight inclined chute with the upper side thereof relatively straight and uninterrupted and the under side composed of a series of discharge spouts and of inwardly and upwardly projecting devices between such spouts, a perforated or screen like diaphragm across the lower end of such chute, said diaphragm adapted to permit the passage of air and to prevent the passage of any of the material in a direction contrary to that of the air current, means for depositing the material to be sorted upon such diaphragm, and an air blast device discharging from beneath the diaphragm into the chute so as to carry substantially all of the material sorted upward.

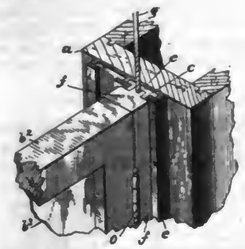
[Claim 6 not printed in the Gazette.]

971,609. PROCESS OF CLEANING AND SEPARATING GRAINS. AXEL T. HEDFELDT, Chicago, Ill. Filed Jan. 16, 1907. Serial No. 352,567.



The process of separating granular material which consists in spreading the same out into a thin film, feeding such film over a supporting perforated body transversely to an air current, subjecting such thin supported and spread out film of material to a confined current of air forced against it from below, passing such current of air with the material to be separated from the film space along a confined upwardly and laterally extending path, and discharging the material therefrom at intervals depending upon the weight of the materials.

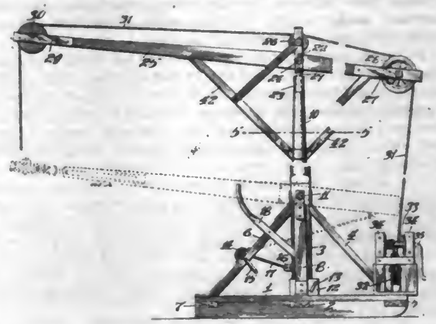
971,610. WINDOW. CHARLES HEDWIG, New York, N. Y. Filed Aug. 26, 1909. Serial No. 514,838.



1. The combination with the opposite sides of a window frame the inner faces of which are plain, of casings secured thereto and provided with two vertically arranged channels, the inner walls of which are provided centrally with vertically arranged openings, shoes vertically movable in said channels and provided with parallel flanges which pass through said openings, vertically arranged bars provided with tongues secured between said flanges and sashes hinged to said bars.

2. The combination with the opposite sides of a window frame, of casings secured thereto and provided with two vertically arranged channels, the inner walls of which are provided centrally with vertically arranged openings, shoes vertically movable in said channels and provided with parallel flanges which pass through said openings, vertically arranged bars provided with tongues secured between said flanges and sashes hinged to said bars, the top of the bottom sash overlapping the bottom of the top sash when said sashes are closed, and the bottom of the window frame being provided at the side at which the bottom sash is hinged with a transverse recess into which said sash is adapted to be lowered when opened.

971,611. HAY-STACKER. WILLIAM H. HENINGER, Xenia, Ill. Filed Dec. 27, 1909. Serial No. 535,195.

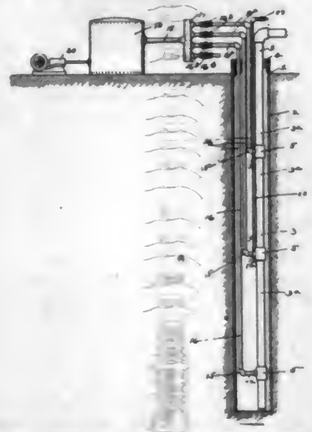


1. In a portable hay stacker, a sledge, a pair of uprights secured to the sledge, pairs of braces extending forwardly and rearwardly secured to said upright and to said base, a standard pivotally supported by said uprights, a drum supported by the pair of braces extending rearwardly from the uprights, a rope arranged to be wound upon said drum and secured to said standard and arms secured to said uprights and to the braces supporting

said drum having their uppermost ends united to form a support for said standard when inclined.

2. In a portable hay stacker, a sledge, a pair of uprights secured to the sledge, pairs of braces extending forwardly and rearwardly secured to said upright and to said base, a standard pivotally supported by said uprights, a drum supported by the pair of braces extending rearwardly from the uprights, a rope arranged to be wound upon said drum and secured to said standard, arms secured to said uprights and to the braces supporting said drum having their uppermost ends united to form a support for said standard when inclined, a swinging arm carried by said standard, pulleys on said arm, a rope supported by said pulleys, a fork pendent from one end of the rope and means carried by the sledge for raising and lowering said fork.

971,612. APPARATUS FOR FORCING FLUIDS FROM WELLS. WILLIAM C. HOLLIDAY, Columbus, Ohio. Filed May 14, 1910. Serial No. 561,439.

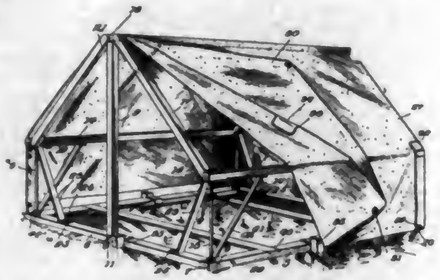


1. In an apparatus for forcing fluid from wells, the combination with a well, a casing therein, a discharge pipe extending into said well, a plurality of plungers in said discharge pipe having a limited downward movement, each of said plungers having a vertical valve controlled passage, a valve and valve casing below the plungers, and a plurality of air-pipes leading into said discharge pipe between the discharge pipe valve and the plunger, said air pipes having valve controlled connections with the compressed air supply.

2. In an apparatus of the character set forth, the combination with a well, a fixed casing in said well, a discharge pipe leading out of said well, a plurality of plungers supported within said discharge pipe and having a limited downward movement, each of said plungers having a central valve controlled opening therethrough, a valve in said discharge pipe below each of said plungers and adapted to be opened by upward pressure from below, an air pipe connected with said discharge pipe between each pair of said plungers and discharge pipe valves, a normally spring closed valve in the connection between each of said air pipes and discharge pipe, said air pipes having valve controlled connections with a common head or manifold, said manifold having a connection with a compressed air supply.

971,613. TENT. ORANGE E. HOLLISTER, Hastings, Nebr., assignor of one-half to Henry M. Carpenter, Hastings, Nebr. Filed Sept. 3, 1909. Serial No. 516,002.

1. A tent including a supporting frame formed of spaced longitudinal sills connected by transverse sills, threaded rods disposed at the intersection of the longitudinal and transverse sills, side-pieces engaging the upper ends of the threaded rods, standards disposed at the opposite ends of the tent, a ridge pole supported by the standards, gable-pieces extending from the ridge pole to the side-pieces, a cover bearing against the ridge pole and side-pieces, and nuts threaded on the rods and bearing against the side-pieces for adjusting the latter vertically to effect the stretching of the cover.



2. A tent including a supporting frame formed of longitudinal sills connected by transverse sills, threaded bars extending vertically from the intersection of said sills, side-pieces engaging the threaded rods, a ridge pole, standards supporting the ridge pole, gable-pieces bearing against the ridge pole and side-pieces respectively, clamping nuts engaging the threaded rods, and inclined braces having their upper ends interposed between the clamping nuts and adjacent side-pieces, and their lower ends attached to the adjacent sills of the supporting frame.

3. A tent including a frame formed of longitudinal sills having mortises formed therein and connected by transverse sills provided with tenons engaging the mortises, vertically adjustable side-pieces spaced from the longitudinal sills, threaded corner rods extending through the mortises and tenons at each corner of the tent and engaging the side-pieces, a ridge pole, gable-pieces connecting the ridge pole and side-pieces, a cover, nuts engaging the corner rods for adjusting the side-pieces to effect the stretching of the cover and braces extending between the side-pieces and adjacent longitudinal and transverse sills respectively.

4. A tent including a supporting frame, a cover for the frame, fly supporting brackets pivotally mounted for lateral movement on the frame, and means for adjusting the frame and brackets vertically to regulate the tension of the cover.

5. A tent including a supporting frame, having vertical adjustable side pieces, a cover for the frame, rods engaging the side pieces at the corners of the tent for adjusting the side pieces vertically to effect the stretching of the cover, fly supporting brackets pivotally mounted for swinging movement on said corner rods, and means bearing against said brackets for holding the side pieces in adjusted position.

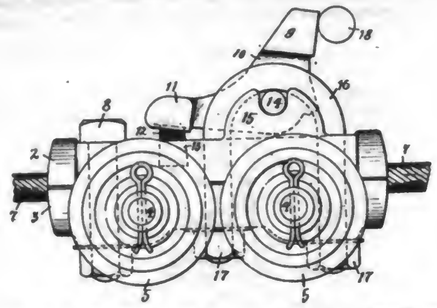
[Claim 6 not printed in the Gazette.]

971,614. CAR-HAUL. PAUL W. HOLSTEIN and GEORGE C. HOAST, Columbus, Ohio, assignors to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Feb. 2, 1910. Serial No. 541,527.

1. The combination, in a conveyer, of the driven element, the driving element, and a cushioning element acted upon by the driven and driving elements and serving to assist in absorbing the shock of impact between the driving and driven elements and thereby enable the conveyer to be made of a relatively lighter and more economical construction, substantially as set forth.

2. The combination, in a conveyer, of a driven element, a lever constituting a driving element, means for actuating the driving element, and a cushioning device interposed between the lever and the actuating means, substantially as set forth.

3. In a conveyer, the combination of a driving means comprising a lever and means for cushioning the lever whereby the shock of impact is partly absorbed and the conveyer enabled to be made of a relatively lighter and more economical construction, substantially as set forth.

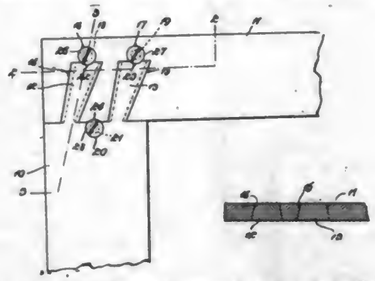


4. In a conveyer, the combination of a driven element, and a driving element comprising a pivoted lever one arm of which is adapted to be forced backward by impact with the driven element and the other arm of which is arranged to be forced downward by the said impact, and a cushioning device for the latter arm of the lever, substantially as set forth.

5. In a conveyer, the combination of a driven element, a cable, a cable clamp, a lever mounted on the cable clamp and having an arm arranged to engage the driven element and another arm movable toward a portion of the cable clamp, and a cushioning device on which the latter arm of the lever acts, substantially as set forth.

[Claims 6 to 11 not printed in the Gazette.]

971,615. SEPARABLE SQUARE. SMITH C. HUMPHRIES, Denver, Colo. Filed Jan. 14, 1910. Serial No. 538,084.

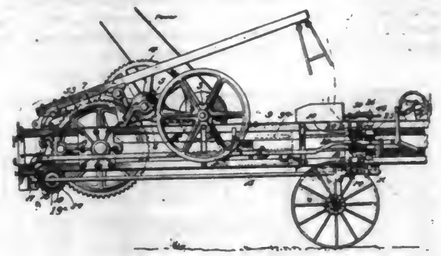


1. A separable square comprising a blade having spaced tongues formed with their side edges beveled and diverging outwardly, another blade having slots to receive said tongues and with their side edges correspondingly beveled and converging, and clamping means applied to said tongues.

2. A separable square comprising a blade having spaced tongues formed with their side edges beveled and diverging outwardly, another blade having slots to receive said tongues and with their side edges correspondingly beveled and converging, and clamp screws engaging in one of said blades and having lateral heads projecting over the other blade.

3. A separable square comprising a blade having spaced tongues formed with their side edges beveled and diverging outwardly, another blade having slots to receive said tongues and with their side edges correspondingly beveled and converging, said last mentioned blade being formed with segmental recesses having threaded apertures in the bottoms thereof and communicating with the blade slots and said tongues provided with recesses registering with the blade recesses, and clamp screws operating in said threaded apertures and having enlarged heads fitting in said registering recesses.

971,616. BALING-PRESS. GEORGE E. JACKSON, Newton, Iowa. Filed Nov. 5, 1909. Serial No. 526,444.



1. In a baling press, a supporting framework embodying a baling chamber, twister mechanism supported on the framework, a needle carrying arm arranged to feed a needle to the twisting mechanism, and means co-acting with said needle carrying arm for holding the wire straight across the baling chamber preparatory to the formation of a bale.

2. In a baling press, a supporting framework embodying a baling chamber, a needle carrying arm pivotally mounted on one side of the framework and arranged to swing the horizontal plane across the baling chamber, a reciprocating wire straightening device co-acting with the needle carrying arm and arranged to hold a wire straight across the baling chamber, and means for swinging the needle carrying arm and for reciprocating the wire straightening device.

3. In a baling press, a supporting framework embodying a baling chamber, a needle carrying arm arranged to swing across the said chamber, a wire holding spool mounted on the framework, a wire holder also supported on the framework, a reciprocating wire straightening device interposed between the spool and the needle carrying arm, means for swinging said arm, and means for reciprocating the wire straightening device.

4. In a baling press, embodying a baling chamber and a needle carrying arm, a wire straightening device comprising an arm, a roller carried thereby, guide rods on which said arm is mounted to reciprocate, and means for reciprocating said arm.

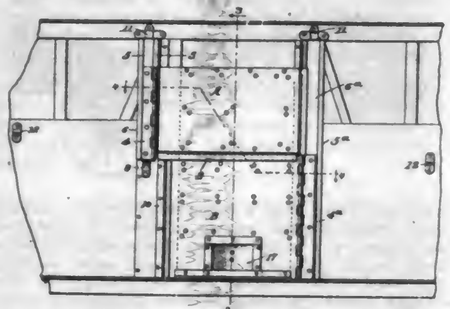
5. In a baling press, a supporting framework embodying a baling chamber, a twister pinion mounted at one side of the framework at the baling chamber, a shaft journaled on the other side of the framework opposite the twister pinion, a needle carrying arm mounted on said shaft and arranged to swing across the baling chamber toward and from the twister pinion, means for turning said shaft, means for turning the twister pinion, a waste wire drum mounted on the same side of the framework as the twister pinion, and a driving connection from the shaft of the needle carrying arm to the waste wire drum arranged to effect an intermittent movement of the latter upon the turning of the former.

[Claims 6 to 12 not printed in the Gazette.]

971,617. GRAIN-DOOR. WALTER H. JUMP, Carroll, Iowa, assignor of one-third to Frank Beiter and one-third to John Beiter, Carroll, Iowa. Filed Jan. 15, 1910. Serial No. 538,301.

1. A grain door comprising upper and lower door sections each formed on one edge with a plurality of hinge knuckles, attaching strips for each door, each of said attaching strips consisting of two vertically extending strips having their edges overlapping and the overlapping edges secured together, the opposite edge of one of said overlapped strips being formed with knuckles alternating with and hingedly connected to the knuckles of an adjacent door section, two pairs of vertically extending flanges connected to the inner side of the car at opposite sides of the door-way thereof, the flanges of each pair being spaced from each other and projecting

toward each other whereby to produce vertical channels, the attaching strips being mounted to move vertically in said channels, whereby the door sections may swing in opposite directions away from the door-way, and means secured to the inner side of the car for holding said door sections in elevated and open position.



2. The combination with a car provided with a door-way, two pairs of flanges secured to the inner side of the car at opposite sides of the door-way, the flanges of one pair extending from the top of the door-way down to a point short of the floor of the car, while the flanges of the other pair project from the top of the door-way down to the floor of the car, a flange strip secured to the inner side of the car at one side of the door-way in vertical alinement with one of the first named flanges, the flange of said strip extending in a direction opposite to the flange underneath which it is mounted, attaching strips mounted to move vertically between the flanges of the respective pairs, door sections hingedly connected to the respective attaching strips and arranged in closed position to be locked one above the other, the normally lower section being adapted to slip back of the flange strip above mentioned, for the purpose specified.

3. The combination with a car and its door-way, of jamb plates connected to the inner side of the car at opposite sides of the door-way, said jamb plates being formed with slots, and provided with flanges on opposite sides of the slots, attaching strips mounted for a vertical movement in said channels, upper and lower door sections hingedly connected to the respective strips to swing in opposite directions away from the door-way, and spring latches mounted behind the jamb plates and adapted to protrude forwardly through the slots thereof into engagement with the lower end of the door sections whereby to hold the same open in an elevated position.

971,618. ANIMAL-POKE. HOWARD T. KELLEY, GEORGE N. MATTHEWS, and GEORGE F. DAVIS, Silver Valley, Tex. Filed May 13, 1910. Serial No. 561,137.

1. In a device of the class described, an attaching member, a bar slidably mounted upon the member, a nose ring at the lower end of the bar, a rocking member supported upon the attaching member and having connection with the bar, and a depending rod carried by the rocking member and provided at its lower end with a hook.

2. In a device of the class described, an attaching member, a bar slidably mounted upon the member, a nose ring carried at the lower end of the bar, a rocking member supported upon the attaching member, an arm rigidly secured to the bar and pivotally to the rocking member, and a depending hooked rod carried by the rocking member.

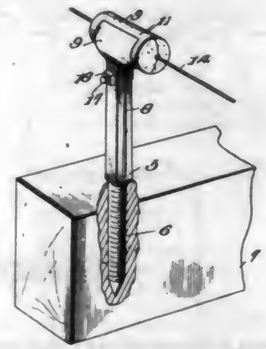
3. In a device of the class described, an attaching member, a bar slidably mounted upon the attaching member, a nose ring carried at the lower end of the bar, a rocking member supported upon the attaching member, a rigid arm adjustably carried by the bar and having pivotal connection with the rocking member, and a hook depending rod carried by the said rocking member.

4. In a device of the class described, a head strap, a bar carried thereby, a bracket fixed upon the bar, a rocking member mounted upon the bracket, an arm pivoted to the rocking member at the rear end thereof, a bar slidably mounted through the bar upon the head strap and having the said arm secured thereto, the said sliding



bar at its upper end being formed with a hook, a nose ring at the lower end of the sliding bar, and a depending hooked rod carried at the forward end of the rocking member.

971,619. INSULATOR. JOHN T. KLUGH, Madison, Mo. Filed Aug. 3, 1909. Serial No. 511,041.

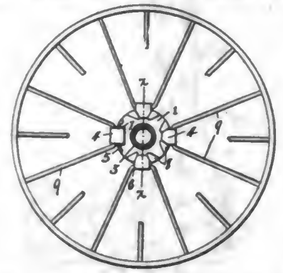


1. A device of the class described including an insulator having a circumferential recess formed therein and gradually decreasing in depth from a point adjacent the top of the insulator to the bottom thereof, and a longitudinally split supporting pin having means at one end thereof for engagement with a support and provided at its other end with clamping jaws adapted to enter the seating recess in the insulator, the exterior walls of the clamping jaws being devoid of surface projections and disposed flush with and forming a continuation of the exterior walls of the insulator at the top thereof and between the free ends of said jaws.

2. A device of the class described including an insulator having a longitudinally disposed wire receiving opening and provided with a circumferential seating recess defining oppositely disposed stop shoulders at the top of the insulator, said recess gradually decreasing in depth from the shoulders to the bottom of the insulator and having its side walls beveled, a longitudinally split supporting pin having means at one end thereof for engagement with a support and having its other end provided with clamping jaws adapted to enter the seating recess in the insulator and having their opposite edges beveled for

engagement with the beveled walls of said seating recess, and a fastening device extending transversely through the split portion of the pin for clamping the jaws in engagement with the insulator, the exterior walls of the clamping jaws being devoid of surface projections and disposed flush with and forming a continuation of the top of the insulator between said stop shoulders.

971,620. METAL WHEEL. ALBERT O. KUMMERAO, Toledo, Ohio. Filed Dec. 2, 1909. Serial No. 530,916.



1. A wheel hub comprising a barrel, and single piece spoke securing flanges mounted on the ends thereof, such flanges having marginal projections bent to form spoke securing loops and terminating at their ends in ears, and also having apertures with which said ears interlock and integral means for preventing a withdrawal of the ears from the apertures.

2. A hub flange having wings projecting from its outer edge provided adjacent their free ends with laterally projecting ears, said wings being bent to form spoke securing loops, and said flange having its body provided with apertures with which said ears interlock to prevent an opening of the loops.

3. A hub flange having wings projecting radially therefrom and bent to form spoke securing loops, and means integral with the flange and coacting with the free ends of the bent wings to secure them against opening movements.

4. A hub-flange having apertures therein and wings projecting from its outer edge, said wings being bent to form spoke securing loops and having ears projecting laterally from their free ends and interlocked with said apertures to prevent an opening of the loops, and means coöperating with said ears and apertures to secure the wing ends in bent position.

5. A hub flange having apertures therein and wings projecting from its outer edge, said wings being bent to form spoke securing loops and having their free ends provided with projections which interlock with said apertures to retain the free ends of the wings in rigid contact with a side of the flange, and ears projecting from the outer flange edge at the sides of the wings and bent over upon the corners of the wing ends to coöperate with said projections and apertures to retain the wings in bent position.

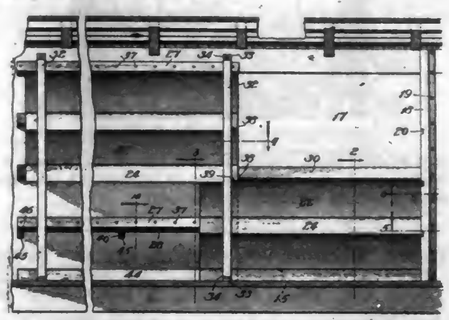
[Claims 6 and 7 not printed in the Gazette.]

971,621. GRAIN-DOOR FOR FREIGHT-CARS. WILLIAM K. LAVIS, La Grange, Ill. Filed June 15, 1909. Serial No. 502,298.

1. A grain door for a freight car, comprising a plurality of sheet metal sections adapted to slide horizontally across the door opening, and supporting guides for said sections on the car wall at one side of the door opening, said sections having their upper edges bent aside to form ledges engaging the respective guides.

2. A grain door for a freight car, comprising a plurality of sheet metal sections adapted to slide horizontally across the door opening, and supporting guides for said sections on the car wall at one side of the door opening, said sections having their upper and lower edges bent aside to form ledges engaging said guides.

3. A grain door for a freight car, comprising a plurality of sheet metal sections adapted to slide horizontally across the door opening, and slotted rectangular sleeve guides attached to the car wall at one side of the door opening, the slots in the guides being in the side faces thereof, each door section having an edge thereof bent aside to enter and engage the corresponding sleeve guide through the slot thereof.

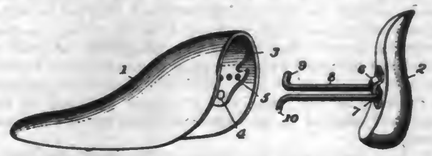


4. A grain door for a freight car, comprising a plurality of sheet metal sections adapted to slide horizontally across the door opening, the plane of each section being slightly inclined from the vertical, so as to facilitate the bottom edge of each section lapping closely past the top edge of the next adjacent section below supporting guides for said sections on the car wall at one side of the door opening, and wedge-shaped filler blocks attached to the wall adjacent to the door opening between the wall and said inclined door sections.

5. A grain door for a freight car, comprising a plurality of sections adapted to slide horizontally across the door opening, supporting guides for said sections on the wall at one side of the door opening, and a Z-bar having one flange attached to the car wall at the opposite side of the door opening and the other flange being disposed to form with the car wall a channel to receive the ends of the sliding door sections when they are in closed position, segments of the free edge of the Z-bar being bent inwardly and the door sections having notches near the ends thereof to engage said segments.

[Claims 6 to 10 not printed in the Gazette.]

971,622. SHOE-TREE. DAVID J. MARKEY, Frederick, Md. Filed Sept. 29, 1908. Serial No. 455,313.

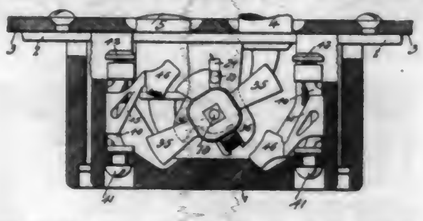


In a shoe tree, the combination with a heelpart, of a forepart comprising a thin hollow shell open at the bottom and at the rear end and constructed to conform to the shoe, a U-shaped plate secured to the forepart at the sides thereof so as to lie closely against the same at all points and having formed therein a plurality of oppositely disposed sockets, and a link pivotally connected to the heelpart and provided with lugs adapted to engage the sockets, whereby the interior of the forepart is left entirely unobstructed for the reception of the heelpart when the form is collapsed.

971,623. ELECTRIC SWITCH. WALTER S. MAYER, Philadelphia, Pa., assignor to The Machen & Mayer Electrical Manufacturing Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Jan. 2, 1907. Serial No. 350,329.

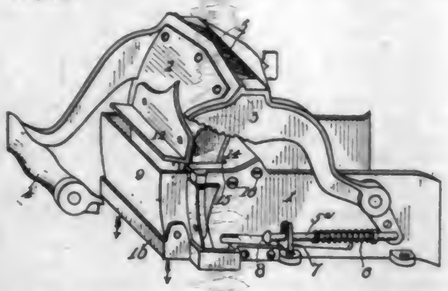
In a device of the character described, the combination of a pivot, contacts supported upon the said pivot, means

for occasioning movement of the said contacts, and contact springs supported in substantially horizontal alinement with the said pivot upon opposite sides thereof, the



said springs being reversible, and one of the springs extending upwardly from its point of support and the other of said springs extending downwardly.

971,624. MACHINE FOR CUTTING FAT AND OTHER SUBSTANCES. ELMER EIDEMILLER MOTTER, Tippecanoe City, Ohio. Filed Dec. 7, 1909. Serial No. 531,898.



1. In a machine of the character described, the combination, with a casing, of arms pivoted to the sides of said casing, a blade carried by said arms and adapted to swing in an arcuate path across one end of the casing, and a gage extending beyond that end of the casing and adapted to arrest the material being cut at a given distance beyond the path of said blade, said gage being arcuate to conform to the path of the blade.

2. In a machine of the character described, the combination, with a casing, of arms pivoted to the sides of said casing, a blade carried by said arms and adapted to swing in an arcuate path across one end of the casing, a gage extending beyond that end of the casing and adapted to arrest the material being cut at a given distance beyond the path of said blade, said gage being arcuate to conform to the path of the blade, and a plunger mounted on the blade and adapted to fit within the gage for the purpose specified.

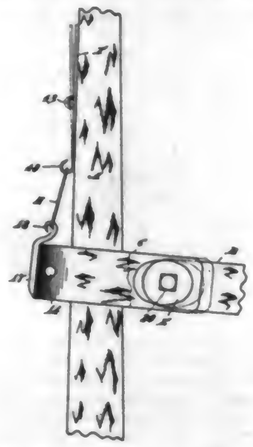
3. In a machine of the character described, the combination, with a casing, a knife mounted to reciprocate across one end thereof, and a gage adapted to arrest the material at a given distance beyond the path of said knife, of inwardly projecting fins arranged near the lower edge of said gage for the purpose specified.

4. In a machine of the character described, the combination, with a casing, a cross-cut knife mounted to reciprocate across the end thereof, a series of knives arranged at right angles to said cross-cut knife, of a guard plate spanning the top of the casing adjacent to said knives and having its outer edge slotted to receive the knives which are arranged longitudinally of the casing.

5. In a machine of the character described, the combination, with a casing, a cross-cut knife mounted to reciprocate across the end thereof, a series of knives arranged at right angles to said cross-cut knife, of a guard plate spanning the top of the casing adjacent to said knives and having its outer edge slotted to receive the knives which are arranged longitudinally of the casing, said plate being also flared or curved upwardly at its inner edge for the purpose specified.

[Claims 6 and 7 not printed in the Gazette.]

971,625. PICKER-STICK. ELIAS H. NABHAN, Lawrence, Mass. Filed Mar. 25, 1910. Serial No. 551,467.



1. In a loom, the combination of a picker stick, with a sweep strap which comprises a U shaped strip of spring steel with a lining of leather and a cushion of leather inside the loop together with oppositely disposed slots near the ends of the loop, adjusting washers each of which has a boss which enters a slot in the sweep strap and has a passage which is off the center of the boss, together with a sweep stick through which is a hole, bolts which pass through the passages in the washers and said sweep stick hole, and means for positively supporting and adjusting the sweep strap on the picker stick as described.

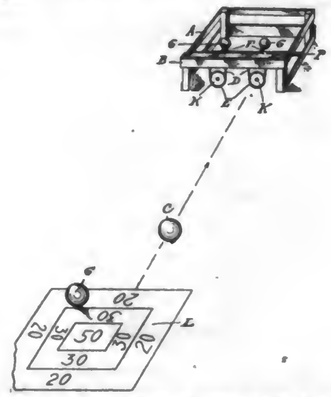
2. In a loom, the combination of a picker stick, with a sweepstrap which comprises a U shaped strip of spring steel with a lining of leather and a cushion of leather inside the loop together with oppositely disposed slots near the ends of the loop and a hook at the top, adjusting washers each of which has a boss which enters a slot in the sweep strap and has a passage which is off the center of the boss, together with a sweep stick through which is a hole, bolts which pass through the passages in the washers and said sweep stick hole, a metallic supporting strip which terminates at the bottom in a hook and has a longitudinal slot at the bottom and a plurality of pin holes at the top, with a screw which passes through the slot and into the picker stick, a pin in the picker stick which enters a pin hole, and a metallic link which connects the supporting strip hook with the sweep strap hook.

3. In a loom, the combination of a picker stick, with a sweep strap which comprises a U shaped strip of spring steel having oppositely disposed slots near the ends, adjusting washers each of which has a boss which enters a slot in the sweep strap and has a passage which is off the center of the boss, together with a sweep stick through which is a hole, and a bolt which passes through the passages in the washers and said sweep stick hole.

971,626. BALL GAME. ALLAN C. NELSON, Flushing, N. Y. Filed Jan. 20, 1910. Serial No. 539,030.

1. A ball game comprising in combination a frame, pivoted rocking levers mounted thereon and provided with carrying portions adapted to support playing objects, and a ball adapted to be projected against said rocking levers and thereby project said playing objects forwardly.

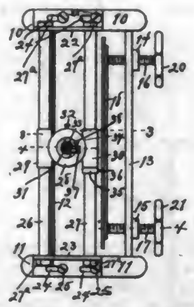
2. A ball game comprising in combination a frame, a pivoted bell-crank lever mounted thereon, one leg of which extends downwardly to form a target and the other leg extending rearwardly to form a carrying portion for a playing object, and a ball adapted to be projected against said target.



3. A ball game comprising in combination a frame, pivoted levers mounted on said frame and having depending portions adapted to be struck by a ball and substantially horizontally lying carrying portions adapted to support playing objects, and a ball adapted to be projected against the depending portions of said levers.

4. A ball game comprising in combination a frame, pivoted levers mounted thereon, each lever consisting of downwardly depending portions forming targets, and carrying portions adapted to normally lie substantially horizontally and having means for supporting playing objects, and a ball adapted to be projected against the depending portions of said levers.

971,627. GAGE FOR LOCK-MORTISING BITS. MOSES NICHOLLS, Sterling, Colo., assignor, by direct and mesne assignments, to Sax-Nicholls-Cohn Company, Ottumwa, Iowa, a Corporation of Arizona. Filed Nov. 8, 1909. Serial No. 526,910.



A gage for lock-mortising bits, comprising yokes, a plate connecting said yokes, a bar connecting said yokes parallel with and spaced from the plate, adjusting screws threaded to said bar between the yokes, a clamping plate between the first plate and bar, ends of the adjusting screws swiveled in said clamping plate, angle plates formed with longitudinally slotted members arranged parallel with the yokes, set screws extending through the slotted members of the angle plates and seated in said yokes, rods rigidly mounted in outstanding members of the angle plates, said rods parallel with each other and spaced apart, a gage-barrel slidingly mounted on said rods, a collar adjustably mounted on one of the rods and serving as a stop for the gage-barrel in one direction, and means for mounting a bit in said gage-barrel.

971,628. METHOD OF TEMPERING. WILLIAM E. NICKERSON, Cambridge, Mass., assignor to Gillette Safety Razor Company, Boston, Mass., a Corporation of Maine. Original application filed Sept. 26, 1903, Serial No. 174,739. Divided and this application filed Feb. 9, 1906. Serial No. 300,231.



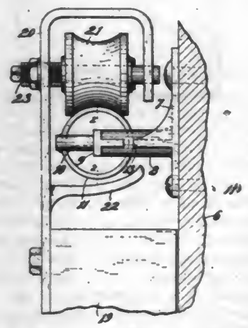
1. The herein described method of tempering thin articles of hardened steel, which consists in placing said hardened articles one directly upon another to form a stack, confining them under pressure, and drawing the temper thereof by immersing said stack in a hot bath.

2. The herein described method of tempering thin steel articles, which consists in heating said articles and hardening the same, placing said hardened articles one directly upon another to form a stack and confining the same under pressure, and drawing the temper thereof by immersing said stack in a hot bath.

3. The herein described method of tempering thin articles of hardened steel, which consists in placing said hardened articles one directly upon another to form a stack, confining the stack under pressure between rigid protecting surfaces which conform in contour to the articles when tempered, and subjecting said stack to heat.

4. The herein described method of tempering thin articles of hardened steel, which consists in placing said hardened articles one directly upon another to form a stack, confining the stack under pressure between rigid protecting surfaces which conform in contour to the articles when tempered, and immersing said stack in a hot bath.

971,629. DOOR-HANGER TRACK AND SUPPORT. RUPERT A. NOURSE, Milwaukee, Wis., assignor of one-half to Irwin W. Davis, Milwaukee, Wis. Filed Mar. 29, 1909. Serial No. 486,348.



1. A track and support, comprising in combination a bracket provided with a projecting stud and a stud pin offset from said stud, and a tubular track provided with an opening near its end and through which the stud pin is inserted.

2. A track and support, comprising in combination a bracket provided with a projecting stud and a stud pin horizontally offset from said stud, and a tubular track provided with an opening near its end through which the stud pin is inserted and with a recess in its end positioned to engage the stud.

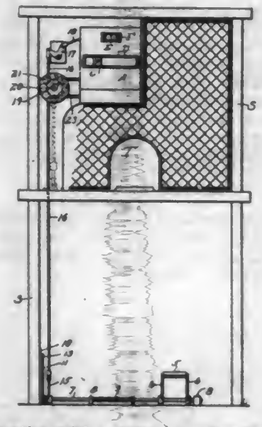
3. A track and support, comprising in combination a bracket provided with a projecting stud having a shoulder, and a track tubular at its end and provided with an opening near its end and with a recess in its end, said stud adapted to be inserted through the opening to a position where the shoulder will bear against the outer surface of the track, and the wall of the recess will engage one side of the projecting stud, the outer end of said stud being upset to hold the parts together.

4. A track and support, comprising in combination tubular track sections provided with openings near their adjacent ends, and a bracket provided with projecting stud pins which are adapted and constructed to be placed within the adjacent ends of the track sections and to extend through the track openings to aline the sections together, the outer ends of the stud pins being upset to hold the parts together.

5. A track and support, comprising in combination a bracket provided with a headed projecting stud having stud pins extending from the headed portion thereof, and track sections provided with openings near their meeting ends and with recesses in said ends, said stud pins adapted to be inserted through said openings and their ends upset to hold the sections together and said recesses positioned to engage the projecting stud.

[Claims 6 and 7 not printed in the Gazette.]

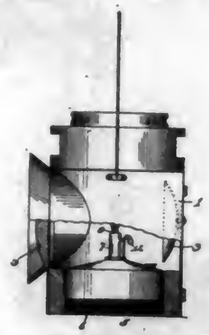
971,630. OPERATING MECHANISM FOR FARE-REGISTERS. JOHN F. OHMER, Dayton, Ohio. Filed Feb. 17, 1908. Serial No. 416,418.



The combination with a series of registering counters, a corresponding series of indicators, a series of individual actuating members interposed between said counters and whereby the counters and the indicators are actuated, a main actuating member through which the individual actuating members are operated, means for selecting the individual actuating member of any particular counter, of a vertical actuating rod extending from a point adjacent to the register and connected therewith by a bell-crank lever, a horizontal rock shaft to which said vertical rod is flexibly connected, and a foot-treadle connected with the horizontal rock shaft whereby movement is imparted to said main actuating member through the rock shaft and the vertical rod, substantially as specified.

971,631. LAMP. CARL ORGAARD, Wheelock, N. D., assignor of one-half to John O. Halvorson, Williston, N. D. Original application filed July 20, 1909, Serial No. 510,484. Divided and this application filed Mar. 30, 1910. Serial No. 552,296.

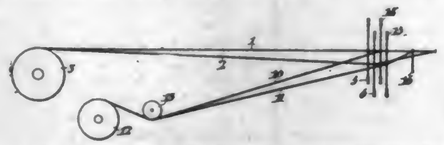
1. In a lamp, a reservoir, a tubular wick holder having a vertical slot therein, a sleeve slidable in said holder and having a horizontally elongated opening in the side thereof registering with said slot, a spike shaped to be inserted through said opening but to interlock with said sleeve when turned to another position, a wick in said sleeve and an upwardly extending shank carrying said spike, substantially as described.



2. In a lamp, a reservoir, a tubular wick holder having a vertical slot therein, a sleeve slidable in said holder and having a horizontally elongated opening in the side thereof registering with said slot, a spike shaped to be inserted through said opening but to interlock with said sleeve when turned to another position, a wick in said sleeve, an upwardly extending shank carrying said spike, and a longitudinally extending channel member removably secured to said wick holder and encompassing said shank, substantially as described.

3. In a lamp, a reservoir, a tubular wick holder, means for adjusting the wick in said holder, said means comprising a sleeve encircling the wick and slidable in said holder, a pointed member passing through a slot in said sleeve and piercing said wick, means for locking said pointed member in said sleeve, and a resilient toothed shank projecting from said pointed member, said holder being slotted for the reception of said shank, a channel member arranged upon the outer surface of said holder, the channel in said member being engaged by said shank, the toothed side of said shank engaging the upper edge of said channeled member to hold said sleeve in adjusted position in said holder, substantially as described.

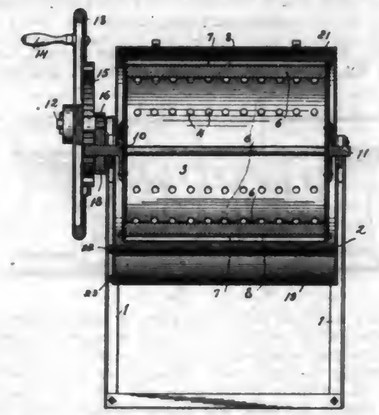
971,632. LOOM. FREDERICK OTT, South Bethlehem, Pa. Filed Oct. 29, 1907. Serial No. 399,665.



1. In a loom for cross weaving in combination with warp threads, binder threads, and their harness heddles; a series of mutually independent eye plates, with a pair of binder threads passing through each eye plate, which thereby subjects said paired threads to the tension of its weight; and means for feeding the binder threads well to the rear of the harness heddles and in angular relation thereto, the combined result being that the motion of the heddles in combination with the tension of the eye plates, but without the employment of auxiliary tension devices, imparts alternate crossing to said binder threads.

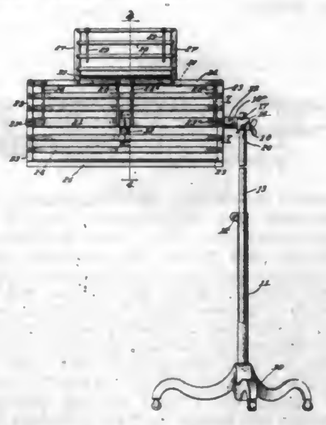
2. In a loom for cross weaving in combination with warp threads, binder threads and their harness heddles; a series of mutually independent eye plates each threaded by a pair of binder threads and each having a depending portion which operates both to impart definite and separate tension to the pair of binder threads and to maintain the proper alinement of said threads in relation to all the warps.

971,633. GEARING. ROBERT W. PADDEN, Kansas City, Mo., assignor to Marion A. De Vasher, Kansas City, Mo. Filed July 23, 1907. Serial No. 385,190.



In a washing machine, the combination with a support, of a rotary element provided with two trunnions which are rotative in said support, a spur gear wheel rotative with and slidable lengthwise on one of said trunnions, a driving member rotative on said support, a pinion and an internal gear wheel carried by and rotative with said driving member, said pinion and internal gear wheel being of different diameters, and the first named gear wheel being slidable into positions in which it will alternately engage said pinion and said internal gear wheel.

971,634. READING-STAND. ALICE A. PILSBRY, Chicago, Ill., assignor of one-third to Homer C. Chapin and one-third to Henry K. Chapin, Chicago, Ill. Filed Jan. 27, 1909. Serial No. 474,367.



1. In a reading stand, the combination with a main rest to accommodate two books side by side, of an auxiliary rest for a single book or pamphlet secured to the main rest and supporting its book or pamphlet adjacent the two books in substantially the same reading plane and midway between them, and a standard for supporting said main rest adjustably attached to one end thereof, substantially as described.

2. In a reading stand, the combination with a main rest to accommodate two books side by side, of an auxiliary rest for a single book or pamphlet secured to the main rest and supporting its book or pamphlet adjacent the two books in substantially the same reading plane, and a support hinged to said main rest in such manner as to limit the swinging movement of said main rest in one direction.

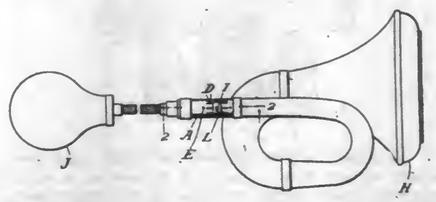
3. In a foldable reading stand, the combination with a collapsible main rest to accommodate two books side by side, of a collapsible auxiliary rest for a single book or pamphlet secured to the main rest and supporting its book or pamphlet adjacent one edge of the two books, and a lateral hinged support for said main rest to sustain the two rests horizontally when expanded for use and to permit the same to hang vertically when collapsed and out of use.

4. In a reading stand, a main rest consisting of a supporting bar, and two pairs of uprights pivotally connected therewith and extending in opposite directions therefrom, a plurality of transverse members pivotally connected at their ends to said uprights, and an auxiliary rest carried by said main rest, said auxiliary rest consisting of uprights pivotally connected to one of the transverse members pivotally connected at their ends to said last-mentioned uprights.

5. In a reading stand, a mian rest consisting of a supporting bar, a pair of uprights pivotally connected thereto, transverse members connected at their ends to said uprights, means for limiting the turning movement of said uprights in one direction, an auxiliary rest consisting of uprights pivotally connected at their ends to one of the transverse members pivotally connected at their ends to said last-mentioned uprights, and means for limiting the turning movement of said last-mentioned uprights in one direction.

[Claims 6 to 10 not printed in the Gazette.]

971,635. AUTOMOBILE-HORN. ABDON V. PISKORSKI, Jersey City, N. J. Filed Oct. 22, 1909. Serial No. 523,947.



1. In a device of the character described the combination of a horn or the like an air pressure device and a connecting air tube provided with an opening, a piece of metal inside the said tube provided with an opening adapted to be brought into alinement with the opening in the tube and means for moving the said piece to bring the said openings into and out of alinement.

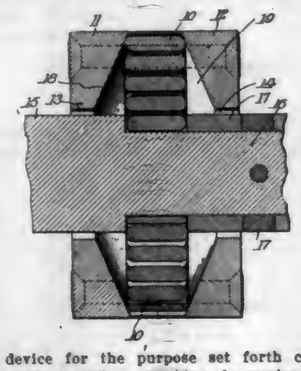
2. In a device of the character described the combination of a horn or the like an air pressure device and a connecting air tube provided with an opening, a piece of metal inside the said tube provided with an opening adapted to be brought into alinement with the opening in the tube and means for moving the said piece to bring the said openings into and out of alinement, comprising a piece connected with the inner piece and projecting through the opening in the air tube the difference between the diameter of the said projecting piece and the opening being equal to the diameter of one of the openings which are adapted to be alined.

3. In a device of the character described the combination of a sounding device adapted to be operated by air pressure, an air pressure device and a tube intermediate the two provided with a series of openings, a cylinder provided with openings within the tube and means for moving the same to bring the openings in the cylinder and tube into alinement comprising a pin on the cylinder

projecting through a slot in the tube of greater length than the diameter of the pin said pin provided with a notch in the portion which projects through the tube, a key adapted to engage said notch and a spring adapted to press against the portion of the key which engages the notch, a casing inclosing the projecting portion of the pin and spring and an opening therein at a point removed from the pin and spring.

4. In a device of the character described the combination of a horn or the like, a device for forcing air thereto for the purpose of sounding the same, a tube establishing communication between the two provided with openings, a cylinder within the tube at the part which is provided with the openings, adapted to normally close the said openings, said cylinder being provided with openings normally located adjacent to the openings of the tube, means for preventing longitudinal movement of the cylinder and means for rotating the same comprising a projection on the cylinder extending through an opening in the tube, said last mentioned opening being larger in one direction than the projection to an extent equal to the distance necessary to move the cylinder in order to bring the openings therein in alinement with the first mentioned openings of the tube, and a casing covering the said projection and one of the openings.

971,636. SHOCK-ABSORBER. ENOCH PROUTY, Pullman, Ill. Filed Dec. 29, 1909. Serial No. 535,391.



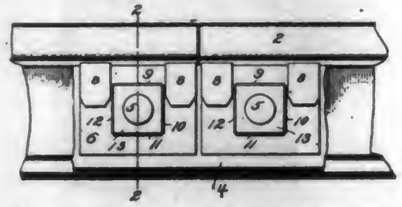
1. A device for the purpose set forth comprising a member formed with a tapering depression, a substantially flat volute spring mounted in the larger part of said depression, the depression being of such character that the convolutions of the spring will engage the surface thereof when the spring is distorted, and a second member axially disposed with relation to the spring and engaging the latter.

2. A device for the purpose set forth comprising a member formed with a smooth tapering depression, a substantially flat volute spring mounted in the larger part of said depression, the depression being of such character that the convolutions of the spring will engage the surface thereof when the spring is distorted, and a second member axially disposed with relation to the spring and engaging the latter.

3. A device for the purpose set forth comprising a casing consisting of two parts, each having a conical depression formed therein and so disposed as to register with the depression formed in the other portion, a flat volute spring secured between the portions of said casing in such position that, when distorted in one direction or the other, its convolutions will seat against the wall of one or the other of said depressions, and a supporting member connected to said spring and extending axially thereof.

4. A device for the purpose set forth comprising a casing having formed therein a pair of oppositely disposed conical depressions, a flat volute spring disposed in said casing in such position that the convolutions of the spring will seat upon the wall of one or the other of said depressions when the spring is distorted in one or the other direction, and a supporting member connected to said spring and extending axially thereof.

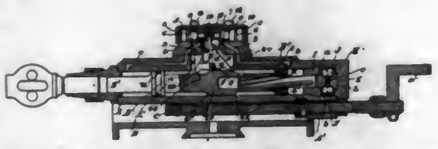
971,637. NUT-LOCK. CHARLES CALHOUN RANKIN, Louisville, Ky. Filed Nov. 10, 1909. Serial No. 527,251.



1. In a nut lock for a rail joint, a locking plate for holding a nut in position, projecting members carried by snch plate and arranged to engage the sides of the nut, an auxiliary locking plate arranged to be placed between one of the fish plates of the rail joint and the end of one of the rails, and fingers formed on the plate last mentioned and bent over against the projecting members of the first plate for holding such members against the sides of the nut.

2. In a nut lock for a rail joint, a locking plate for holding the nut in position, resilient fingers pressed from said plate and engaging the sides of said nut, an auxiliary locking plate arranged to be placed between one of the fish plates and the end of one of the rails, and fingers projecting from said auxiliary locking plate and bent over against the first mentioned locking plate in proximity to said resilient fingers for acting as retaining means for the first mentioned locking plate and as auxiliary locking members for the nut.

971,638. AIR OR STEAM ROCK-DRILL. JOHN REDINGTON, Cobalt, Ontario, Canada. Filed May 19, 1909. Serial No. 496,955.



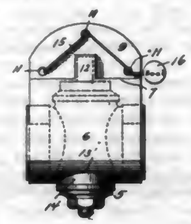
1. A device of the class described comprising an engine cylinder provided with intake-exhaust ports, a closed valve casing having main intake ports positioned adjacent the opposite ends thereof, said latter ports being at all times completely open, said intake-exhaust ports opening into said casing, a piston valve within said casing and adapted to reciprocate therein and having a chamber in each end thereof open at opposite ends of the piston, the walls of each of said chambers having an intake port therethrough, an open exhaust port, said valve piston having opposite cut-away portions intermediate said intake ports thereof, one of said cut-away portions positioned between said exhaust port and a cylinder intake-port upon a movement of the valve piston in either direction.

2. A device of the class described comprising an engine cylinder provided with intake-exhaust ports, a closed valve casing having main intake ports positioned adjacent the opposite ends thereof, said latter portions being at all times completely open, said intake-exhaust ports opening into said casing, a piston valve within said casing and adapted to reciprocate therein and having a chamber in each end thereof open at opposite ends of the piston, the walls of each of said chambers having an intake port

therethrough adapted to register singly and alternately with the intake-exhaust ports upon the reciprocation of the piston, an open engine exhaust port, said valve piston having opposite cut-away portions intermediate said intake ports thereof and affording communication between said exhaust port and one of the cylinder intake-exhaust ports upon the limit of movement of the valve piston, a reciprocatory piston within said engine cylinder, a pivoted member in engagement with the valve piston, said member adapted to rock upon the reciprocation of the engine piston and actuate the valve piston thereby.

3. A device of the class described comprising an engine cylinder provided with intake-exhaust ports, a closed valve casing having main intake ports positioned adjacent the opposite ends thereof, said latter ports being at all times completely open, said intake-exhaust ports opening into said casing, a piston valve within said casing and adapted to reciprocate therein and having a chamber in each end thereof open at opposite ends of the piston, the walls of each of said chambers having an intake port therethrough, an open exhaust port, said valve piston having opposite cut-away portions intermediate said intake ports thereof, one of said cut-away portions positioned between said exhaust port and a cylinder intake-exhaust port upon a movement of the valve piston, a reciprocating piston within said cylinder, a boss having tapered ends and a cylindrical intermediate portion and positioned upon said latter piston, a rocker provided adjacent the cylinder and having lower spaced apart tappet legs extending within the cylinder, said legs having beveled ends adapted to contact the tapered ends of the boss and to slidably engage the cylindrical portion thereof, said piston valve having a recess positioned between the walls of the cut-away portions thereof, said rocker having an upper tappet leg freely positioned within said recess whereby a reciprocation of the engine piston reverses the flow of the motive fluid in advance of the change in the direction of movement of said piston.

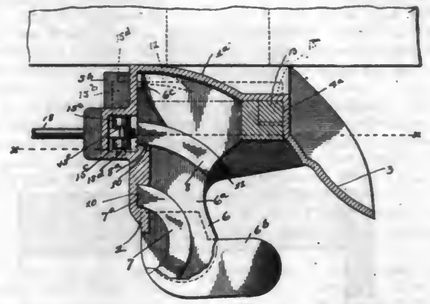
971,639. SHEET-METAL SEAL FOR COCKS. JOSEPH D. RENICK, Loudonville, and KAY C. KRICK, Columbus, Ohio. Filed Sept. 13, 1909. Serial No. 517,490.



1. A seal of the character described, formed of a single piece of sheet metal, said metal having a central opening formed therein in combination with inturned side portions, out-turned ends having registry openings therein, a seal member engaging said openings, and central offset angular portions also struck from said sheet metal to embrace and inclose the angular portions of the turning plug of the cock to which the seal is applied.

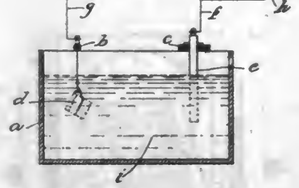
2. A seal of the character described, formed of a single piece of sheet metal, said metal having a central opening therein for embracing the bottom of a valve casing, the metal around said opening forming the bottom portion of the seal, parallel side portions extending from said bottom portion, inturned portions which lie substantially at right angles to said side portions, parallel upper end portions adapted to lie face to face with each other, openings formed through said parallel and abutting portions of the seal, and offset angular portions struck from said inturned and abutting portions, said offset portions being adapted to embrace the upper angular end of a valve plug.

971,640. CAR-COUPLING. FRANK C. REYNOLDS, Columbus, Ohio. Filed July 12, 1909. Serial No. 507,161.



In a car coupler, the combination with a recessed coupler head having a vertical pinway formed therein and curved grooves in the upper and lower portions of the coupler head, of an angular knuckle provided with curved ribs on its upper and lower side and vertical ribs on one side of said knuckle which connect with the extension of said curved ribs and which are adapted to enter recesses in the coupler head side wall, a vertically movable locking pin in said pin-way adapted when lowered to retain the knuckle in a closed position, and means for raising said pin.

971,641. ART OF ENAMELING METALS. GEORGE L. RICE and BENJAMIN W. GILCHRIST, Woodhaven, N. Y.; said Gilchrist assignor to said Rice. Filed Feb. 2, 1909. Serial No. 475,581.



1. The method of enameling a metallic article, which consists in depositing, by the electrolytic process, on the article to be enameled, a coating of magnetic material and sulfur, and then applying the enamel thereto.

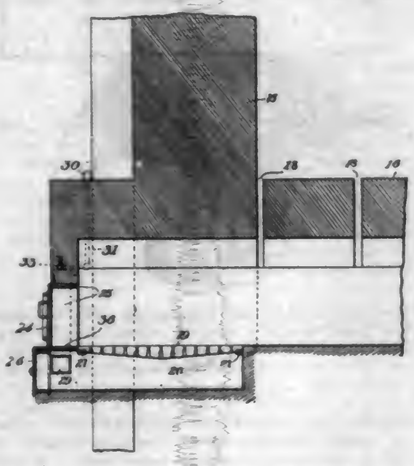
2. The improvement in the art of enameling metallic articles which consists in interposing between the body of the article and the enamel a binding, coating or film of magnetic material containing sulfur.

971,642. KILN, FURNACE, &c. HENRY O. ROBINSON, Brookline, and CHRISTOPHER STEADMAN, Salem, Mass. Filed Aug. 11, 1909. Serial No. 512,338.

1. A kiln having a floor formed of a series of arches, a grate beneath each end of each arch, a dead wall located in front of each grate and approximately in line therewith, a fuel door for each grate having its lower end resting squarely upon said dead wall, whereby an air tight closure is formed, an ash pit for each grate also provided with an air tight closure, an air trunk located in each front wall of the kiln and having outlets in the ash pits below the dead walls, and means for variably forcing air through said air trunks.

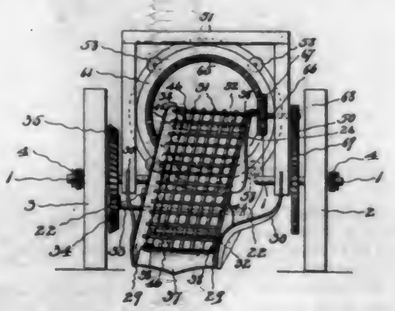
2. A kiln having a floor formed of a series of arches, a grate beneath each end of each arch, a dead wall located in front of each grate and approximately in line therewith, a fuel door for each grate having its lower end resting squarely upon said dead wall, whereby an airtight closure

is formed, an ash pit for each grate also provided with an air tight closure, air trunks arranged in pairs and located in each front wall of the kiln between each pair of arches,



said air trunks diverging at their lower ends and each discharging in an ash pit below the grate, and means for variably forcing air through said trunks.

971,643. POTATO-DIGGER. RICHARD ROHR, Belleville, Ill., assignor of one-half to Edward J. Germain, Belleville, Ill. Filed June 13, 1908. Serial No. 438,338.

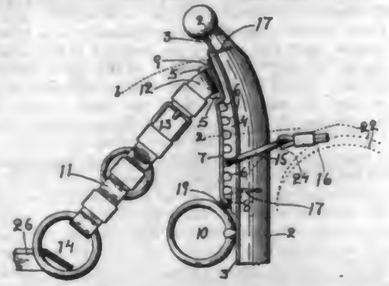


1. A potato-digger having an inclined conveyer and digger-blade held at one side of the median line of the machine, substantially as shown and described.

2. In a potato-digger, an axle having the driving-wheels journaled thereon, an elevator-frame pivotally mounted on said axle, a shaft journaled on said elevator-frame, a pinion secured to said shaft, a gear-wheel secured to one of the driving-wheels and meshing with said pinion, a digging-blade secured to the front end of the elevator-frame, and a conveyer geared to the shaft aforesaid, said frame being positioned so that the digging-blade is pointed at one side of the median line of the machine, substantially as shown and described.

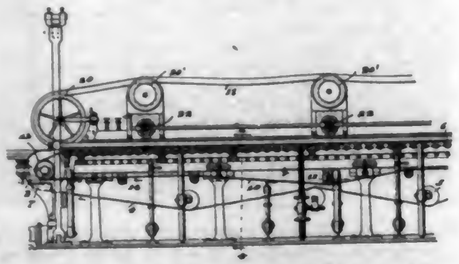
971,644. HARNESS ATTACHMENT. CYRUS CALVIN ROAN, Blair township, Washington county, Nebr. Filed Jan. 14, 1910. Serial No. 538,017.

A harness attachment, comprising a multi-notched ductile bar adapted to be bent to fit and fastened on a hame to engage a link on a hame-strap, a notch-closing plate having a hinge-loop and a slot, a cold-shut on the bar closed through said hinge-loop, a chape-loop on the bar



disposed to project through the slot in the closed plate to receive and support a spread-strap to lock said plate.

971,645. PAPER-MACHINE. PETER R. THOM, Appleton, Wis., assignor of one-half to Kimberly-Clark Company, Neenah, Wis., a Corporation of Wisconsin. Filed Sept. 23, 1909. Serial No. 519,142.



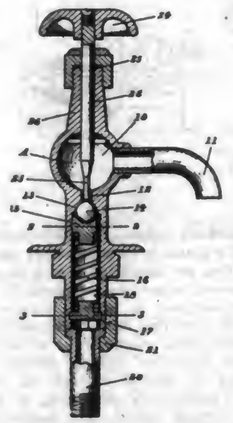
1. In a paper machine, the combination of a pulp carrying belt, tube rolls over which said belt travels, driving mechanism for said belt, and means controlled by the travel of said belt for causing rotation of the tube rolls independently of the frictional engagement therewith of said belt.

2. In a paper machine, the combination of a pulp carrying belt, a row of tube rolls over which said belt travels, driving mechanism for said belt, a driving belt having driving engagement with said tube rolls, and connection between said driving belt and pulp carrying belt whereby the rotation of said pulp carrying belt will cause travel of the driving belt to rotate the tube rolls independently of the frictional engagement therewith of said pulp carrying belt.

3. In a paper machine, the combination of a pulp carrying belt, a roll about which said belt travels, driving mechanism for said belt, a row of tube rolls over which said belt travels, a driving belt for rotating said tube rolls, and a driving member for said driving belt connected with said roll whereby travel of said belt will cause rotation of said roll and rotation of the driving member to drive said driving belt to cause rotation of the tube rolls independently of the frictional engagement thereof with said pulp carrying belt.

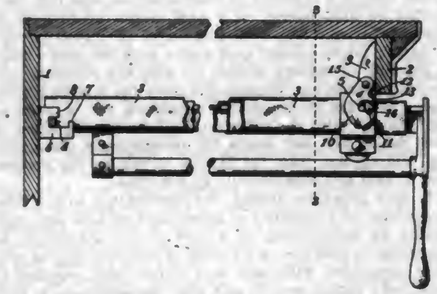
4. In a paper machine, the combination of a breast roll, a pulp carrying belt for traveling about said roll, driving mechanism for said belt, a row of tube rolls for supporting said belt, a sprocket wheel connected to rotate with said breast roll, a sprocket pinion connected with each tube roll, and a chain passing about said sprocket wheel and engaging with the sprocket pinions of the tube rolls whereby rotation of the breast roll by said pulp carrying belt will cause positive rotation of the tube rolls independently of the frictional engagement therewith of said pulp carrying belt.

971,646. FAUCET. EUGENE WALTON TUERK and RICHARD GEORGE ZAHALAN, New Liskeard, Ontario, Canada. Filed Nov. 24, 1908. Serial No. 464,314.



A faucet comprising a casing, having a central chamber having an inlet port communicating therewith and a valve seat formed on the exterior, a discharge nozzle communicating with the chamber, a ball valve adapted to be seated on the valve seat, a conduit extending from the valve seat, a bridge across the conduit, a follower of the same diameter as the diameter of the conduit mounted in said conduit and bearing against said ball valve, a compression spring extending between the bridge and the follower, said follower being provided with apertures therethrough whereby the said ball valve is adapted to be held against its seat by the fluid pressure, and a depressible longitudinally slidable stem adapted to move the ball valve off its seat, said stem being provided with a cross bar extending across the stem within the casing, adapted to limit the upward movement of the same.

971,647. DETACHABLE FASTENING FOR GARMENT-SUPPORTS. ANTHONY VANDERVELD, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Mar. 17, 1910. Serial No. 550,061.



1. A detachable fastening for a garment support, comprising outwardly projecting members on the respective ends of said support, a fixed bracket to receive the members on one end of the support, and swinging hooks to receive the members on the other end of the support.

2. A detachable fastening for a garment support, comprising lugs on one end of the same, a bracket to embrace the support and engage the lugs, pins on the other end of the support, and hooks to embrace the support and engage the pins.

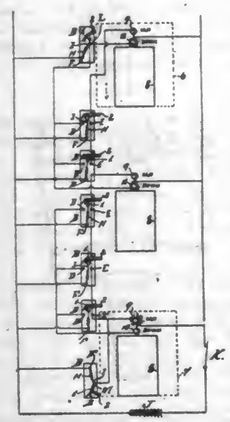
3. A detachable fastening for a garment support, comprising lugs on the rear end of the support, a bracket having arms to embrace the support and engage the lugs, pins on the front of the support, a bracket, hooks on the bracket to receive the pins, and downward extensions on the bracket to engage the pins when the same are in the hooks.

4. A detachable fastening for garment supports, comprising a bracket adapted to be secured in a wardrobe, and having downwardly extended flanges to embrace a garment support, and hooks pivoted to the flanges and adapted to hold pins opposite the downward extensions of the flanges.

5. A detachable fastening for garment supports, comprising pins on the support, a bracket having flanges to embrace the support and extended downward to engage and hold the pins, and hooks pivoted to the bracket and adapted to hold the pins opposite the extensions of the flanges, said hooks also having recesses adapted to receive the pins and carry the same under the said downward extensions.

[Claims 6 and 7 not printed in the Gazette.]

971,648. ELECTRIC SWITCH. SIMEON P. WATSON, Brooklyn, N. Y. Filed May 3, 1909. Serial No. 493,539.



1. A signal system for indicating the movements of an elevator car, comprising an indicator having two lamps one marked "Up" and the other "Down," a normally open electric circuit for said lamps, and a normally open two-armed switch for alternately closing the circuit of lamps, said switch operated by said car, whereby direction in which the car is moving is indicated, substantially as shown and described.

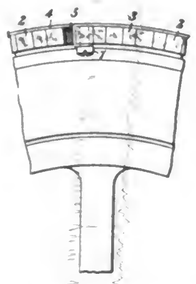
2. In a signal system, the combination, with a pivoted bell-crank lever composed of insulating material and embodying two arms extended at right angles from each other, and a depending contact plate connected to one of said arms, and a spiral spring connected at one end to said plate, and a binding post connected to the other end of said spring, and two binding posts located one on each side of said contact plate for alternate electrical connection therewith; of an upwardly and downwardly movable body for oscillating one of the said arms of the said lever to alternately make and break contact between the said binding posts which are located on each side of the said contact plate, substantially as shown and described.

3. In a signal system, the combination, with a pivoted bell-crank lever composed of insulating material and embodying two arms extended at right angles from each

other, and a depending contact plate connected to one of said arms, and a spiral spring connected at one end to said plate, and a binding post connected to the other end of said spring, and two binding posts located one on each side of said contact plate for alternate electrical connection therewith, and an upwardly and downwardly movable body for oscillating one of the said arms of the said lever to alternately make and break contact between the said binding posts which are located one on each side of the said contact plate; of lamps to be alternately lighted, and a circuit and source of electrical supply, substantially as shown and described.

4. In an indicating system, the combination, with a switch comprising a pivoted lever embodying two arms extended at right angles from each other and composed of insulating material, and a depending contact plate connected to one of said arms, and a spiral spring connected at one end to said plate, and a binding post connected to the other end of said spring and two binding posts located one on each side of said plate, and a casing of insulating material inclosing the said parts; of an alternately upwardly and downwardly moving body for oscillating one of the said arms of the said lever to alternately make and break contact between the said binding posts which are located one on each side of the said contact plate, and lamps in circuit, conductors and a source of electrical supply, substantially as shown and described.

971,649. INDUCTION-MOTOR. JOHN E. WEBSTER, Pittsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 6, 1908. Serial No. 442,205.



1. In a dynamo-electric machine, the combination with a core member, and conducting bars extending through and beyond its ends, of conducting blocks secured between the projecting ends of the bars.

2. In a dynamo-electric machine, the combination with a core member, and conducting bars extending through and beyond the ends of the core member, of conducting blocks between the projecting ends of the bars, and a band surrounding the blocks and the ends of the bars.

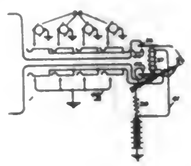
3. In a dynamo-electric machine, the combination with a core member, and conducting bars extending through and beyond its ends, of conducting blocks between the projecting ends of the bars, and a plurality of convolutions of wire surrounding the blocks and the ends of the bars.

4. In a dynamo-electric machine, the combination with a core member, and conducting bars extending through and beyond its ends, of conducting blocks between the projecting ends of the bars, a plurality of convolutions of wire surrounding the blocks and the ends of the bars, and means for securing the ends of the wire to one of the bars.

5. In a dynamo-electric machine, the combination with a core member, and conducting bars extending through and beyond its ends, of conducting blocks secured between the bars and provided with internally projecting vanes.

[Claims 6 to 8 not printed in the Gazette.]

971,650. FOUR-PARTY-LINE RINGING-KEY. ALFRED H. WEISS, Chicago, Ill., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 17, 1906. Serial No. 301,555.



1. In a telephone system, the combination with a telephone line, of a plurality of substations on said line, each substation having an annunciator, of a cord circuit adapted to be connected to said line, a plurality of ringing key contacts, each adapted to impress ringing current upon the line for the operation of said annunciators, said ringing key contacts being connected in series and being normally isolated from the talking circuit, and magnetic means operated by current through the contacts of the ringing key for temporarily connecting the contacts of said key with the talking circuit, said magnetic means being restored after said ringing key contacts have been restored, substantially as described.

2. In a telephone system, the combination with a telephone line, of a plurality of substations on said line, each having an annunciator, of a cord circuit adapted to be connected to said line, a plurality of ringing key contacts normally disconnected from the talking circuit, and electro-magnetic means operated by current through the contacts of said key, adapted to connect the contacts of said key with said circuit only while a signal is being sent, and independent of the condition of said line, substantially as described.

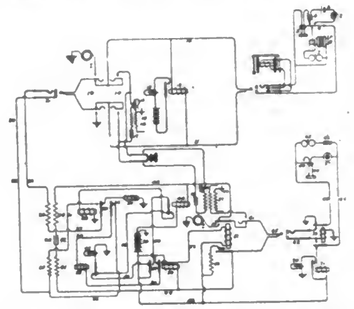
3. In a telephone system, the combination with a telephone line, of a plurality of substations on said line, each having an annunciator, of a cord circuit adapted to be connected to said line, a plurality of ringing key contacts normally isolated from the talking circuit, a suitable source of ringing current and an electro-magnetic device associated with said contacts, said device being operated to open the talking circuit back of said source, and thereafter to connect said contacts therewith, when any one of said contacts is operated to call a subscriber, and means controlled by said contacts to restore said device when said contacts are restored, substantially as described.

4. In a telephone system, the combination with a telephone line, of a plurality of substations on said line, each having an annunciator, of a cord circuit adapted to be connected to said line, a suitable source of ringing current, a ringing key to connect said source with the cord circuit, a plurality of contact springs for said key normally connected in series but disconnected from the talking circuit, and means for automatically connecting one or more of said springs with the talking circuit by the operation of said ringing key, and means for automatically disconnecting said springs from the talking circuit by the restoration of said key, substantially as described.

5. In a telephone system, the combination with a telephone line, of a plurality of substations on said line, each having an annunciator, of a cord circuit adapted to be connected to said line, a plurality of selective ringing contacts associated with said cord circuit each adapted to selectively signal one of said line annunciators, a path for voice currents around said contacts, and an electro-magnetic device having its circuit completed through said contacts, said device being adapted to be energized by the actuation of the ringing key to connect said contacts with the talking circuit when any one of said contacts is operated to call a subscriber, the restoration of said device being under the control of said ringing key, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

971,651. TELEPHONE TRUNKING SYSTEM. CHARLES S. WINSTON, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 17, 1906. Serial No. 343,801.



1. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected with it at its outgoing end, and a telephone line with which its incoming end may be connected, a source of direct current associated with the incoming end of the trunk, means to complete a path for current from said source by the connection of the cord circuit with the trunk, a ringing key associated with the cord circuit, means to vary the direct current flow from said source by the actuation of the ringing key, and a ringing relay at the incoming end of the trunk actuated by such change in the current flow, substantially as described.

2. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected therewith at its outgoing end, and a telephone line which its incoming end may be connected, a source of direct current, and a relay associated with the incoming end, an auxiliary circuit controlled by said relay, a signal associated with the cord circuit, a circuit completed through said relay by the connection of the cord circuit with the trunk, whereby said signal is displayed, but whereby said relay is not actuated, a ringing key associated with the cord circuit, and means for increasing the current in said circuit, whereby said relay is actuated by the operation of said ringing key, substantially as described.

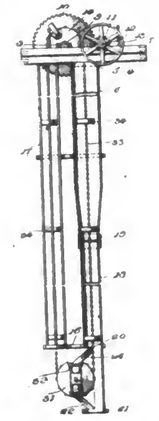
3. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected therewith at its outgoing end, and a telephone line with which its incoming end may be connected, a source of direct current associated with the incoming end of the trunk, a ringing relay and a signaling relay connected in series between said source and the outgoing end of the trunk when a connection is established between the incoming end of the trunk and a subscriber's line, a circuit completed by the connection of the cord circuit with the outgoing end of the trunk, whereby the signaling relay is actuated, a ringing key associated with the cord circuit, and means to increase the current in said circuit by the actuation of said ringing key, whereby the ringing relay is actuated, and a source of ringing current associated with the contacts of said ringing relay, substantially as described.

4. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected therewith at its outgoing end, and a telephone line with which its incoming end may be connected, a source of direct current associated with the incoming end of the trunk, a relay and a high resistance normally in series with said source and with the outgoing end of the trunk when connection has been established with the trunk at each end, and means associated with the cord circuit for shunting the high resistance, whereby the relay becomes operative, and an auxiliary circuit controlled by said relay, substantially as described.

5. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected with it at its outgoing end, and a telephone line with which its incoming end may be connected, a source of direct current, a ringing relay and a high resistance adapted to be placed in series when connection is established with each end of the trunk, and means associated with the cord circuit for shunting the high resistance, whereby the ringing relay becomes operative, and a source of ringing current connected with the called line by the actuation of said ringing relay, substantially as described.

[Claims 6 to 12 not printed in the Gazette.]

971,652. PUMP. BENJAMIN N. WRIGHT, Seattle, Wash. Filed Nov. 2, 1909. Serial No. 525,945.



1. In a chain pump, the combination with a frame, a stock supported from the frame, and a wheel mounted upon the frame, of a wheel support mounted upon the lower end of the stock and including opposed pairs of flanged members, oppositely disposed pairs of guide bolts engaging the flanged members grooved journal blocks movably mounted between said bolts, a chain wheel rotatably supported in said blocks, and a bucket chain passing over said wheels.

2. In a chain pump, a pump stock cut away at its lower end, downwardly and outwardly extending supporting bars attached to the stock just above said cut away portion and on each side thereof, said bars being laterally flanged at their lower ends, upwardly and outwardly extending supporting bars attached to the stock below said cutaway portion, and having laterally extending flanges at their upper ends oppositely disposed pairs of vertical guide bolts connecting the flanged ends of said bars, journal blocks having grooves in their sides, slidingly mounted between the pairs of guide bolts, and a chain wheel rotatably supported in said blocks.

971,653. TYPE-BAR BEARING. MIGUEL ZEPEDA, Syracuse, N. Y. Filed June 22, 1910. Serial No. 568,332.



1. A type-bar bearing comprising a plurality of rotary bearing members one of which is secured to the type-bar, and means brought into action by the movement of the type-bar for rotating said members in sequence.

2. A type-bar bearing comprising a plurality of coaxial rotary bearing members one of which is secured to the type-bar, and means actuated by the type-bar for rotating said members in sequence both on the forward and return movement of the type-bar.

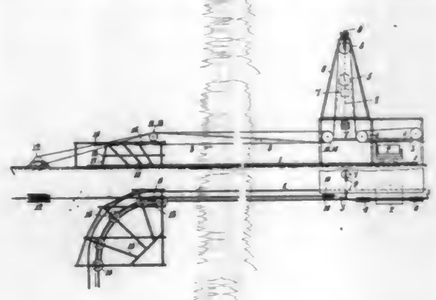
3. A type-bar bearing comprising concentric members relatively rotatable in sequence, and means for effecting such sequential action.

4. A type-bar bearing comprising concentric members relatively rotatable in sequence, and means for effecting such sequential action during both the printing stroke and the return stroke of the type-bar.

5. A type-bar bearing comprising a plurality of coaxial members rotatable one upon the other, one of said members being secured to the type-bar, and means actuated by the type-bar for causing said members to move in sequence both on the printing stroke and return stroke.

[Claim 6 not printed in the Gazette.]

971,654. CABLE-TRACTION SYSTEM FOR SHIFTABLE ENDLESS TRACKS. ALEPH ANREP, Helsingborg, Sweden. Filed July 2, 1909. Serial No. 505,649.



1. In a shiftable cable-traction system, the combination of a shiftable endless track, a traveling cable running along the said track, a driving device for the said cable, a tensioning device taking up a loop of the said cable, and means for taking up a second loop of the said cable allowing the length of the active part thereof to be varied, substantially as and for the purpose set forth.

2. In a shiftable cable-traction system, the combination of a shiftable endless track, a traveling cable running along the said track, a driving device for the said cable, a tensioning device taking up a loop of the said cable, and means comprising an adjustably anchored sheave for taking up a second loop of the said cable allowing the length of the active part thereof to be varied, substantially as and for the purpose set forth.

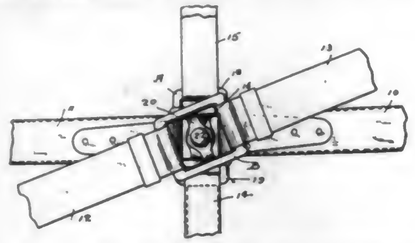
3. In a shiftable cable-traction system, the combination of a shiftable endless track, a traveling cable running along the said track, a driving device for the said cable, a weighted cable-tensioning pulley taking up a loop of the said cable, and means comprising an adjustably anchored sheave for taking up a second loop of the said cable allowing the length of the active part thereof to be varied, substantially as and for the purpose set forth.

4. In a shiftable cable-traction system, the combination of a shiftable endless track, a traveling cable running along the said track, a driving device engaging a loop of the said cable of a variable length, means comprising an adjustably anchored sheave for taking up a second loop of the said cable, and a tensioning device for the said cable placed between the two loops aforesaid and taking up a third loop of the said cable, substantially as and for the purpose set forth.

5. In a shiftable cable-traction system, the combination of a shiftable endless track, a traveling cable running along the said track, a driving device comprising sheaves engaging a variable number of turns of the said traveling cable, means comprising an adjustably anchored sheave for taking up a second loop of the said cable, and a tensioning device for the said cable placed between the two loops aforesaid and taking up a third loop of the said cable, substantially as and for the purpose set forth.

[Claims 6 to 9 not printed in the Gazette.]

971,655. TRACE AND BACKER LOOP. ALBERT D. BAIRD, Bridgeport, Conn. Filed Oct. 26, 1909. Serial No. 524,695.



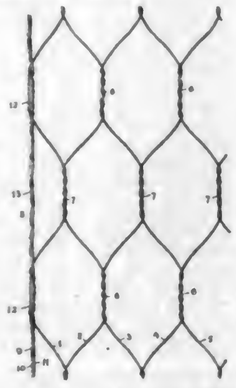
1. A device of the character described comprising a loop adapted for the attachment of a hame tug and a trace and having an outwardly bowed cross piece with a central hole, and a loop adapted for the attachment of front and rear backers and having an inwardly bowed cross piece with a central hole and a bolt passing through the holes in the cross pieces whereby the loops are pivotally secured together.

2. The combination with a hame tug and a trace and a loop to which said parts are secured, of front and rear backers and a superposed loop pivoted to the other loop to which the backers are secured.

3. The combination with a hame tug and a trace and a four-sided right-angled loop to which said parts are attached and which is provided with an outwardly bowed cross piece having a central hole, of front and rear backers, a four-sided right-angled loop, to which they are attached and which is provided with an inwardly-bowed cross piece having a central hole and a bolt passing through the holes in the cross pieces whereby the loops are secured together.

4. The combination with a hame tug, a trace, a market strap, a girth and backers of a loop to which the hame tug and trace are attached and which is provided with side loops to which the market strap and girth are attached and with an outwardly-bowed cross piece having a central opening, of a loop to which the backers are attached and which is provided with an inwardly-bowed cross piece having a central hole and a bolt passing through the holes in the cross pieces.

971,656. WIRE-NETTING. ARTHUR E. BARLOW, Worcester, Mass., assignor to Wright Wire Company, Worcester, Mass., a Corporation of Massachusetts. Filed July 9, 1906. Serial No. 325,268.



1. A wire netting, having a body portion and a selvage, the body portion composed of a series of wires, each

twisted with the wires on either side alternately in opposite directions, with each intertwist throughout in a single direction, the selvage composed of a multiplicity of wires having successive twists in opposite directions corresponding to the twists of the fabric, with alternate twists of said selvage in the same direction intertwisted with the adjacent wire of the body portion, each intertwist being throughout in a single direction and co-extensive with the alternate twist.

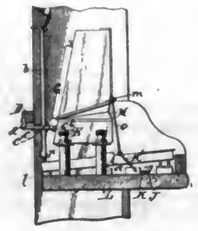
2. A wire netting, having a body portion and a selvage, the body portion composed of a series of wires twisted together at intervals by alternate right and left hand twists, with each twist of said wires twisted throughout in a single direction, the selvage composed of a multiplicity of wires twisted together in alternating sections of right and left hand twists, with the outer wire of the body portion intertwisted in all the sections of the selvage twisted in one direction, and with each section of the selvage between said intertwists twisted throughout in a single direction.

3. A wire netting, having a body portion and a selvage, said body portion formed from a series of parallel wires, each wire twisted at intervals alternately in opposite directions with the wires on either side, succeeding twists between each pair of wires being throughout in a single direction, the selvage formed from a series of adjacent wires having twists corresponding in direction to the twists of the body portion, with the outer wire of the body portion intertwisted with alternate twists of the selvage, each intertwist being throughout in a single direction and co-extensive with the alternate twist, whereby said alternate twist is held from untwisting and the intervening twists of the selvage in the opposite direction may be partially untwisted.

4. A wire netting, having a selvage strand composed of a multiplicity of wires twisted successively in opposite directions, with all the twists in one direction intertwisted with the adjacent wire of the body portion, said intertwists co-extensive with the twists of the selvage in that direction, and with the intervening twists of the selvage in the opposite direction partially untwisted.

5. A wire netting, having a body portion and a selvage, said body portion composed of a series of wires each twisted in one direction with the adjacent wire upon one side, then twisted in the opposite direction with the adjacent wire upon the other side, said selvage composed of a multiplicity of wires having successive twists in opposite directions corresponding to the twists of the body wires, with the alternate twists in one direction free to untwist, whereby unannealed elastic wire may be used for the wires of the selvage.

971,657. KEY-LOCK FOR AUTOPIANOS. WILLIAM F. BAYER, Buffalo, N. Y., assignor to The Chase & Baker Company, Buffalo, N. Y., a Corporation of New York. Filed Jan. 25, 1909. Serial No. 474,039.



1. The combination of the piano-keys, a rock shaft arranged transversely thereunder and having a forwardly-extending carrying arm and a rearwardly-extending actuating arm, a key-locking rail arranged under the keys and mounted on said carrying arm, and operating means connected with said actuating arm.

2. The combination of the piano-keys, a rock shaft arranged transversely thereunder and having a forwardly-extending carrying arm and a rearwardly extending actuating arm, a key-locking rail arranged under the keys and mounted on said carrying arm, and a pneumatic operatively connected with said actuating arm.

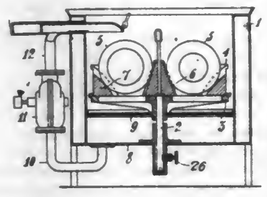
3. The combination of the piano-keys, an exhaust chamber, a controlling pneumatic in constant communication with said chamber, a rock-shaft arranged transversely under the keys and having a carrying arm and an actuating arm, a connection between the movable member of said pneumatic and said actuating arm, and a key locking rail arranged under the keys and mounted on said carrying arm.

4. The combination of the piano keys, a wind chest arranged above the keys and having an exhaust-channel, a controlling pneumatic arranged above the keys and in constant communication with said channel, a rock shaft underneath the keys having a carrying-arm and an actuating arm, a connection between said actuating arm and the movable member of the pneumatic, and a locking rail coöperating with the keys and mounted on said carrying arm.

5. In an instrument of the character described, the combination of the key table, the piano-keys, the fulcrum or balance rail, and means arranged to engage the keys for lifting them off the balance rail.

[Claim 6 not printed in the Gazette.]

971,658. DISH-WASHER. CARL JOHAN OSCAR BERGSTRÖM, Alingsås, Sweden. Filed Jan. 21, 1910. Serial No. 539,294.

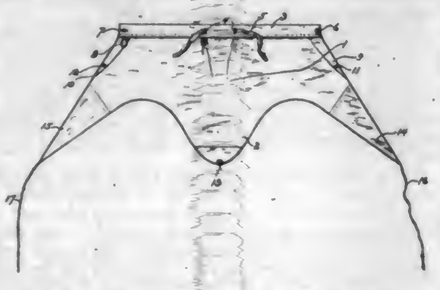


1. In a dish-washer, the combination of a receptacle, a conduit having its terminal at the top thereof and emptying into the said receptacle, a dish basket rotatably mounted in the said receptacle, and a pump for causing water to circulate from the lower part of the said receptacle through the said conduit down upon the dishes, the discharge end of the conduit being formed so as to cause the water to issue at an oblique angle to the dish basket and to impinge on the dishes so as to cause the basket to rotate.

2. In a dish-washer, the combination of a receptacle, a conduit having its terminal at the top thereof and emptying into the said receptacle, a dish basket rotatably mounted in the said receptacle, a pump for causing water to circulate from the lower part of the said receptacle through the said conduit down upon the dishes, the discharge end of the conduit being formed so as to cause the water to issue at an oblique angle to the dish basket and to impinge on the dishes so as to cause the basket to rotate, and means for braking the rotary movement of the basket.

3. In a dish-washer, the combination of a receptacle, a conduit having its terminal at the top thereof and emptying into the said receptacle, a dish basket rotatably mounted in the said receptacle, a pump for causing water to circulate from the lower part of the said receptacle through the said conduit down upon the dishes, and a nozzle slidably and rotatably mounted within the said conduit and adapted to be moved out into the body of the receptacle above the dish basket, said nozzle being formed so as to cause the water to issue at an oblique angle to the dish basket and to impinge on the dishes so as to cause the basket to rotate.

971,659. UNDERGARMENT. WILLIAM W. BEWSIC, Red Bank, N. J. Filed Feb. 1, 1909. Serial No. 475,394.

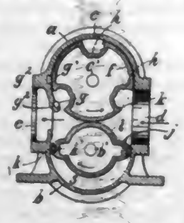


1. As an article of manufacture, a child's undergarment having openings for the thighs, an extension secured to the garment adjacent to each thigh opening and adapted to be wound snugly about the edge of the garment at the corresponding thigh openings, tapes secured to the free ends of said extensions and means secured to the waist band and to which said tapes may be secured.

2. As an article of manufacture, a child's undergarment comprising a body portion, a crotch portion, lateral portions adapted to be brought around in front, means for holding the same together, an extension upon each lateral portion and arranged to pass between the thighs and to be wound snugly about the edge of the garment at the corresponding thigh opening and tapes upon the ends of said extensions and secured to the waist band for holding the same in place.

3. As an article of manufacture, a child's undergarment comprising a waist band, a body portion, a crotch portion, lateral portions arranged to pass around the hips and fastened in front, means for securing the ends of the crotch portion to said lateral portion when they are fastened, an extension on each lateral portion and arranged to extend between the thighs and to be wrapped snugly around the edge of the garment about the thighs, tapes secured to the free ends of said extensions and a loop carried by the waist band in front to which said tapes may be secured.

971,660. ROTARY PRESSURE-BLOWER. PERCY D. BREWSTER, East Orange, N. J., assignor to Brewster Engineering Co., Hoboken, N. J., a Corporation of New Jersey. Filed Sept. 29, 1906. Serial No. 336,769.



1. A rotary pressure blower having a casing with twin bores and inlet and outlet opening into the casing upon opposite sides at the junction of such bores, two drums arranged to rotate within the said bores, the drums having diameters in the proportion of two to three, gears in the proportion of two to three revolving the drums continuously at the same peripheral velocity, the smaller drum having two longitudinal oppositely disposed similar piston-heads with unbroken surface and finished upon one side only, and the larger drum having three longitudinal abutment-sockets materially wider than such piston heads and having one edge only finished and fitted to the side of the piston head, whereby the air in said sockets is freely discharged to the outlet opening of the casing.

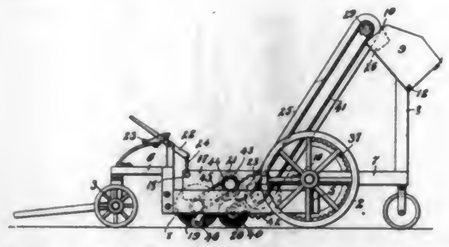
2. A pressure blower having a casing with twin bores only one of which is machine-finished, and an inlet and outlet opening into the casing upon opposite sides at the junction of such bores, two drums arranged to rotate within the said bores, the drums having diameters in the proportion of two to three, contiguous peripheral surfaces of the casing embracing more than one-half the periphery of each drum, gears in the proportion of two to three revolving the drums at the same peripheral velocity, the smaller drum having two longitudinal oppositely disposed similar piston-heads with unbroken surface each having its apex fitted to such larger bore, the larger drum having three abutment-sockets fitted to the piston-heads, the shell of such abutment-drum being fitted loosely to the unfinished bore, the unfinished bore having two grooves g^2 adjacent to the outlet opening of the casing, and a longitudinal packing formed of two soft metal strips g, g', fitted to the grooves g^2 and separated by a distance at least equal to the width of the sockets, in the abutment-drum.

3. A rotary pressure blower having two contiguous drums provided, respectively, with piston-heads and abutment-sockets, gearing connecting the drums to rotate them at speeds proportional to the respective numbers of the heads and sockets, and means for giving one of the drums a slight peripheral adjustment in relation to the other, to adjust the piston-heads properly to the abutment-sockets.

4. A pressure blower having a casing with twin bores and opposite heads, an abutment-drum provided with abutment-sockets having a shaft mounted in the heads and fitted to one of the bores, a piston-drum having piston-heads and mounted on a shaft fitted concentrically in the other bore, a gear-wheel attached rigidly to one of the shafts, and a hub to the other shaft, a ring-gear having connection with such hub and meshing with the rigidly attached gear, and lugs and set-screws adapted to adjust the ring-gear upon the hub to set the piston-heads and sockets in contiguity with one another.

5. A rotary pressure blower having a casing with twin bores and inlet and outlet opening into the casing upon opposite sides at the junction of such bores, two drums arranged to rotate within the said bores, the drums having diameters in the proportion of 2 to 3, gears in the proportion of 2 to 3 revolving the drums continuously at the same peripheral velocity, the smaller drum having two longitudinal oppositely disposed similar piston-heads, and the larger drum having three longitudinal abutment sockets wider than such piston-heads to clear the same and having at least one edge finished and fitted to the side of the piston-head, as set forth.

971,661. STREET-SWEEPER. HIRAM HENRY BROOKS, Nashville, Tenn. Filed June 28, 1910. Serial No. 569,317.



1. In a street sweeper a main frame mounted upon wheels, a conveyer, an auxiliary frame, means for raising and lowering said auxiliary frame, a member adjacent the lower end of said conveyer, a pair of oppositely rotating brushes for raising and depositing the dirt on said member and a brush for sweeping the dirt from said member onto said conveyer, substantially as described.

2. In a street sweeper, a main frame mounted upon wheels, an auxiliary frame hingedly mounted thereon, means for raising and lowering said auxiliary frame, a conveyer, a pair of oppositely rotating street engaging brushes arranged one in front of the other and a third brush arranged above the rear brush of said pair, all of said brushes being mounted in said auxiliary frame and a hinged member arranged adjacent the lower end of said conveyer and projecting between the upper and lower rear brushes, substantially as described.

3. In a street sweeper a main frame mounted upon wheels, a conveyer, a conveyer casing having an opening in the front wall thereof adjacent its lower end, a pair of oppositely rotating street engaging brushes arranged one in front of the other and a third brush arranged above the rear brush of said pair, a lip projecting from the lower edge of said opening and extending between the upper and lower rear brushes and a flange extending from the upper edge of said opening to the upper brush, substantially as described.

4. In a street sweeper a main frame mounted upon wheels, an auxiliary frame hingedly mounted therein, a pair of oppositely rotating street engaging brushes mounted in said auxiliary frame, a third brush mounted in said auxiliary frame above the rear brush of said pair, a conveyer, a hingedly mounted member adjacent said conveyer and projecting between the upper and lower rear brushes, gearing connecting the wheel of the main frame with said brushes and conveyer for driving the latter and means for raising and lowering said auxiliary frame and disconnecting the gearing to said third brush and the forward street engaging brush substantially as described.

971,662. CONVEYER-APRON FOR FERTILIZER-DISTRIBUTERS. EUGENE BUSWELL and THOMAS CASCADEN, Jr., Waterloo, Iowa; said Buswell assignor to said Cascaden. Filed Oct. 13, 1909. Serial No. 522,418.



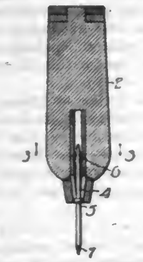
1. In combination, a conveyer-apron composed of a plurality of transverse slats, and means for linking said slats together consisting of connected sprocket-chain links having inwardly projecting lugs, each slat having a depressed area at each end, both said depressed areas and said link-lugs being perforated, and means inserted in the registering perforations of each contacting lug and depressed area suitable for securing them detachably together.

2. In combination, a conveyer-apron composed of a plurality of transverse slats, and means for linking said slats together consisting of connected sprocket-chain links having inwardly projecting lugs, each slat having a depressed area at each end, both said depressed areas and said link-lugs being perforated, means inserted in the registering perforations of each contacting lug and depressed area suitable for securing them detachably together, both longitudinal edges of said slats having longitudinal strengthening ribs.

3. In a conveyer apron for a fertilizer distributer, transverse carrying members, each having flanges at its longitudinal edges, and recessed seats at each end, and means for linking the recessed seats on the adjacent ends of such members together detachably.

4. In combination, a conveyer-apron composed of a plurality of transverse slats, and means for linking said slats together, each slat being formed of a single metal strip having both longitudinal edges bent divergently to one side away from the carrying surface of the slat, each of said slats having a recessed seat at each end, and means for linking the recessed seats on the adjacent ends of such members together detachably.

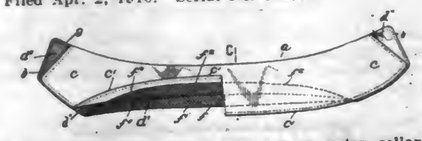
971,663. NEEDLE-AWL. CHARLES A. CARLSON, Kokomo, Ind. Filed Apr. 15, 1910. Serial No. 555,573.



1. A needle-awl comprising a double pointed needle having an eye near either extremity, one of said eyes being open sided, and a handle having a chuck in one end thereof adapted to receive either end of the needle thus holding the opposite end in operative position.

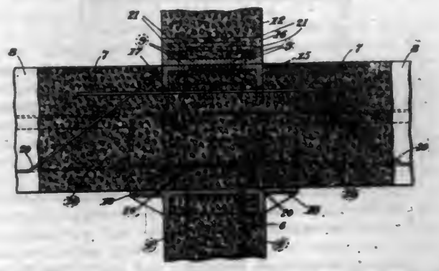
2. A needle-awl comprising a double pointed needle having an eye near either extremity, one of said eyes being open sided, a collar arranged on said needle, a handle having in one end a chuck adapted to receive the said collar and a guide 8 in said handle adapted for coöperation with the aforesaid open sided eye.

971,664. GARMENT. JACOB COHEN, New York, N. Y. Filed Apr. 2, 1910. Serial No. 552,970.



A collar comprising the usual top or outer collar, a stiffener and a facing of under-collar material secured to the back of said stiffener; said stiffener and facing having formed therein a longitudinal plait secured by stitches; and a supplemental military collar stitched to and overlying said facing; said collar being constructed and arranged so that, upon removal of the supplemental military collar and the stitches securing said plait, a collar of the ordinary construction comprising the usual top collar and under collar will result.

971,665. CONCRETE CONSTRUCTION. JOHN E. CONZELMAN, St. Louis, Mo., assignor to Unit Construction Company, Wilmington, Del., a Corporation of Delaware. Filed Nov. 16, 1909. Serial No. 528,274.



1. A concrete structure comprising a pair of superposed columns, a beam, and a casting embedded in said beam interposed between said columns adapted to bind said columns to said beam, said casting comprising a base-plate, a top-plate, and sides uniting the same, each of said sides being provided with an opening through which the beam extends.

2. A concrete structure comprising a pair of superposed columns, a beam, and a casting embedded in said beam interposed between said columns adapted to bind said columns to said beam, said casting comprising a base-plate, a top-plate, and sides uniting the same, each of said sides being provided with an opening through which the beam extends, and a bracket formed on said casting and adapted to support said beam.

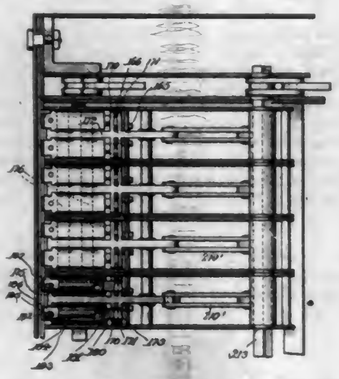
3. A concrete construction including a column, a base plate seating on the column, bolts secured at one end to the base plate and projecting downwardly therefrom into the colmun, a top plate spaced from the base plate, a beam filling said space between the base and top plates, a collar bolted to the top plate, and a second column arranged in said collar.

4. A concrete construction including a pair of superposed columns, a member seated on top of one column and formed with a surrounding bracket, a top plate on said member which supports the other column, sides formed with openings connecting the bracket and top plate, slabs seated on the bracket and arranged to have a space therebetween at points adjacent said member, and a beam filling the space between the slabs and columns, and projecting through the openings of said sides to fill the interior of said member.

5. In a concrete construction, in combination with a pair of spaced superposed columns, a hollow member arranged in said space and formed with openings, slabs abutting said member and a beam arranged between the slabs, projecting through said openings of the member and filling the interior thereof.

[Claims 6 to 9 not printed in the Gazette.]

971,666. VOTING-MACHINE. JAMES H. DEAN, Chicago, Ill., assignor, by mesne assignments, to Empire Voting Machine Company, a Corporation of New York. Filed July 25, 1905. Serial No. 271,216.



1. A voting machine comprising in combination a plurality of independently movable ballot keys, a plurality of ballot marking devices corresponding to and controlled by said keys, and interlocking mechanism interposed between and controlled by said keys, said ballot keys and said interlocking mechanism being retractile by the voter until the ballot marking devices have been actuated.

2. A voting machine comprising in combination mechanism for marking a ballot, means for operating said ballot-marking mechanism, and a ballot key arranged to control the actuation of the ballot-marking mechanism by its operating means, said ballot key and controlling parts connected therewith being retractile by the voter until said operating means has been caused to actuate the ballot-marking mechanism.

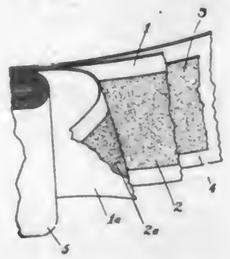
3. A voting machine comprising in combination mechanism for placing an independent ballot beyond the voter's control, means for marking said independent ballot, means for operating said ballot-marking mechanism, a ballot key arranged to control the actuation of the ballot-marking mechanism by its operating means, said ballot key and the controlling parts connected therewith being retractile by the voter until said operating means has been caused to actuate the ballot-marking mechanism and until said mechanism for placing the independent ballot beyond the voter's control has been brought into operation.

4. A voting machine comprising in combination mechanism for marking a ballot, means for operating said ballot-marking mechanism and a ballot key arranged to control the actuation of the ballot-marking mechanism by its operating means, said ballot key being retractile by the voter and means independent of said ballot key for imparting movement to the means whereby the ballot-marking mechanism is operated.

5. A voting machine comprising an inclosing casing provided with a passageway adapted to receive independent ballots, in combination with means for holding said independent ballots within said passageway, a marking mechanism for marking said ballots, means for operating said ballot-marking mechanism and a ballot key arranged to control the actuation of the ballot-marking mechanism by its operating means, said ballot key being retractile by the voter until said operating means has been caused to actuate the ballot-marking mechanism and until the ballot-holding device within said passageway has been released.

[Claims 6 to 38 not printed in the Gazette.]

971,667. ELECTRICAL CONDENSER. WILLIAM W. DEAN, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Original application filed Jan. 28, 1909, Serial No. 474,772. Divided and this application filed Oct. 25, 1909. Serial No. 524,310.

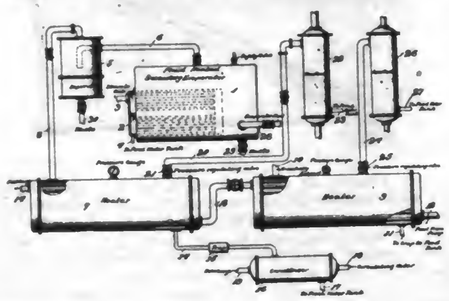


1. In an electrical condenser, the combination of strips of insulating material, one adapted to act as an insulator at low voltages, but adapted to be punctured at high voltages, thin layers of conducting material each deposited upon a surface of one of said strips, said thin layer of conducting material adapted to be dissipated at the punctures to isolate said punctures from the remainder of the layer and a strip of metallic foil of relatively low resistance, all wound together in a roll, such strips of insulating material and metallic foil being so disposed relative to one another that two of said conducting layers are in contact and both are separated from a third by a strip of insulating material.

2. In an electrical condenser, the combination of strips of paper, one adapted to act as an insulator at low voltages but adapted to be punctured at high voltages, thin layers of conducting material, each placed upon a surface of one of said strips, said thin layers of conducting material adapted to be dissipated at the punctures to isolate said punctures from the remainder of the layer, and a strip of metallic foil of relatively low resistance, all wound together in a roll, such strips of insulating material and metallic foil being so disposed relative to one another that two of said conducting layers are in contact and both are separated from a third by a strip of insulating material.

3. In an electrical condenser, the combination of strips of insulating material, one adapted to act as an insulator at low voltages, but adapted to be punctured at high voltages, thin layers of conducting material, each placed upon a surface of one of said strips, said thin layers of conducting material adapted to be dissipated at the punctures to isolate said punctures from the remainder of the layer, and a strip of metallic foil, the layers and strips being so arranged relative to one another that two of said layers are in contact and separated from the third by a layer of insulating material.

971,668. DISTILLING SYSTEM. EDWIN H. DE LANY, Cleveland, Tenn., assignor to De Lany Separator Company, New York, N. Y., a Corporation of New York. Filed Jan. 6, 1910. Serial No. 536,614.



1. In a combined distilling and feed water heating system for boilers, the combination with a feed water-heater through which the water to be heated is passed to preliminarily heat the feed water, connections for delivering to and discharging a heating medium from the shell of the heater, a second feed water heater, connections between said heaters whereby the water after being heated in the first heater is passed through the second heater, an evaporator, connections between the evaporator and shell and the second feed water heater whereby the feed water is given its final heating by the vapor from said evaporator, and a condenser connected to the shell of the final feed water heater.

2. In a combined distilling and feed water heating system for oilers, the combination with a feed water heater through which water to be heated is passed to preliminarily heat the same, connections for delivering a heating medium to the shell of said heater, a condenser also connected to the shell of said heater to which the heating medium is discharged, a second feed water heater, connections between said heaters whereby the water after being heated in the first heater is passed through the second heater, an evaporator, connections between the evaporator and the second feed water heater whereby the feed water is given its final heating by the vapor from said evaporator, and a second condenser, a discharge pipe for the condensed vapor leading from the heater and a condenser to which said discharge pipe is connected.

3. In a combined distilling and feed water heating system for boilers, the combination with a feed water heater through which water to be heated is passed to preliminarily heat the same, connections for delivering a heating medium to the shell of said heater, a condenser also connected to the shell of said heater to which the heating medium is discharged, a second feed water heater, connections between said heaters whereby the water after being heated in the first heater is passed through the second heater, an evaporator, connection between the evaporator and the second feed water heater whereby the feed water is given its final heating by the vapor from said evaporator, a second discharge pipe connected to the shell of the final heater, said discharge pipe being provided with a pressure regulating valve, and a condenser to which said second mentioned discharge pipe is connected.

971,669. ALLOY AND METHOD OF MAKING SAME. LOUIS C. DODD, Buffalo, N. Y. Filed Jan. 19, 1907. Serial No. 353,065.

1. An alloy containing copper, lead and iron, the iron not exceeding three per cent. of the mixture and the copper and lead being of nearly equal quantities.

2. An alloy composed of copper, lead, iron and manganese.

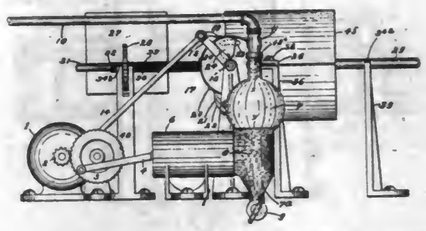
3. An alloy composed of copper, lead, iron and manganese, the iron not exceeding three per cent. and the manganese two per cent. of the mixture.

4. An alloy containing copper, lead and a tempering agent composed of iron and manganese, the iron not exceeding three per cent. and the manganese two per cent. of the mixture, and the copper and lead being of nearly equal quantities.

5. An alloy containing copper, lead, iron, manganese, and zinc, the quantity of zinc not to exceed eight per cent. of the mixture.

[Claims 6 to 10 not printed in the Gazette.]

971,670. SMOKE-RECORDING APPARATUS. RAY L. EDDY, Chicago, Ill. Filed Apr. 28, 1909. Serial No. 492,797.



1. A smoke recording apparatus consisting of a pump and means for operating the same; a movable chart-carrying mechanism; a valve-controlled passage leading from the pump to the source of smoke supply, and a valve-controlled passage leading from the pump to a point near said chart-carrying mechanism.

2. A smoke recording apparatus, consisting of a pump and means for operating same; a chart carrying mechanism; a tube leading from the source of gas supply to said pump and from said pump to near said chart carrying mechanism and suitable valve means for insuring a flow of gas in one direction through said tube.

3. A smoke recording mechanism, consisting of a pump cylinder and means for operating a piston therein; a tube leading from the source of smoke supply to said cylinder and from said cylinder to a movable chart carrying mechanism and valvular means for insuring a flow of gas from the source of supply through said tubes when said pump is being operated.

4. A smoke recording mechanism, consisting of an aspirating device and a chart carrying mechanism; a tube leading from the source of smoke supply to said aspirating device and from said aspirating device to near said chart carrying mechanism, and means for operating said aspirating device and moving said chart carrying mechanism.

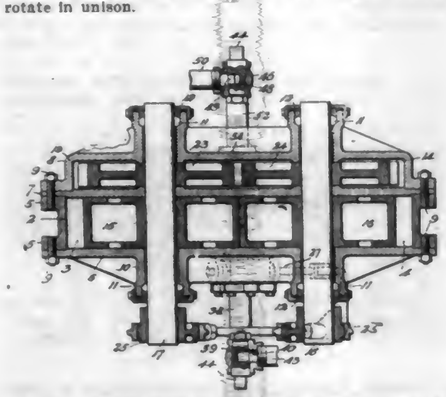
5. A smoke recording apparatus, consisting of a cylindrical, piston pump connected with a vessel containing a liquid; a tube having a valve therein and leading from the source of smoke supply to said liquid containing vessel; a chart carrying mechanism and a tube containing a valve leading from said liquid containing vessel to said chart carrying mechanism.

[Claims 6 to 19 not printed in the Gazette.]

971,671. ROTARY ENGINE. GEORGE T. GEER, Denver, Colo. Filed May 6, 1910. Serial No. 559,667.

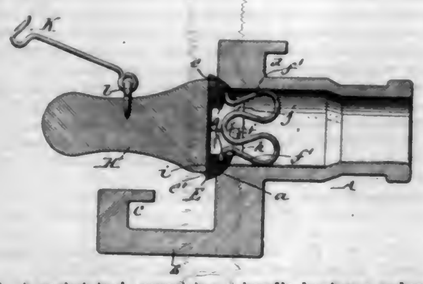
1. In a rotary engine as specified, the combination with a pair of intersecting cylinders; shafts extending through the cylinders; contacting drums on the shafts and pro-

jections on said drums, extending to the radial surfaces of the cylinders, said cylinders having inlet ports on one side, one above and one below the horizontal center line of the shafts, and exhaust ports on the opposite side, one above and one below the horizontal center line of the shafts, all of said ports being on the line of intersection of the cylinders; removable steam chests surrounding the inlet ports; slide valves in said chests having stems extended through said chests; eccentrics on the ends of the shafts; an L-shaped connecting rod extending from each of said eccentrics over one of the steam chests and secured to the farther end of the valve stem projecting from the said chest; pipes connected to the steam chest; a three-way valve connecting the opposite ends of the pipes, and a pipe connecting said valve with a source of steam; a three-way valve, and pipes connecting said valve with the exhaust ports; a yoke-shaped lever for operating said valves, and gears on said shafts for causing the drums to rotate in unison.



2. In a rotary engine as specified, the combination with a pair of intersecting cylinders, shafts extending through the cylinders; contacting drums thereon; projections on the drums and gears for causing the drums to rotate in unison, duplicate inlet and exhaust ports being positioned on the line of intersection of the cylinders, of steam chests surrounding the inlet ports; slide valves in the chests; stems connected to the slide valves and extending out through the ends of the chests; eccentrics on the shafts, L-shaped connecting rods which extend over the chests and connect the eccentrics with the ends of the piston stems farthest from the eccentrics; pipes connecting the chests and exhausts with independent valves; pipes connecting the valves with a steam supply and with the atmosphere respectively; and a lever for turning the valves in unison.

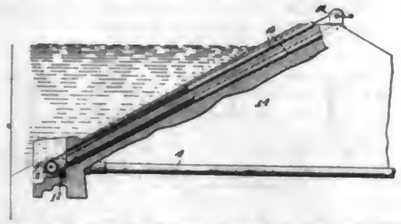
971,672. GASKET-TOOL. EDWIN GIBSON and JOHN BURNS, Hornell, N. Y. Filed May 25, 1909. Serial No. 498,354.



1. A gasket tool comprising a handle having a reduced part at its front end and a slot in said reduced part for receiving the spring of the gasket.

2. A gasket tool comprising a handle having a reduced cylindrical front part forming a forwardly facing shoulder between the handle and its reduced front part and the latter having a diametrical slot extending from its front end rearwardly, the periphery of said front part being adapted to engage with the bore of a gasket, said shoulder being adapted to engage with the face of the gasket, and said slot being adapted to receive a diametrical spring which is arranged on the gasket.

971,673. GATE-VALVE. JOSEPH N. GILBERT, Chicago, Ill. Filed Mar. 19, 1910. Serial No. 550,323.



1. In a device of the class described, the combination of a valve member pivoted to swing to open or closed position on a pivot whose axis is offset from the center of the area of said valve member, the larger portion of said valve member being provided with an auxiliary valve opening of such an area that, subtracted from the said larger portion, renders the effective remainder of said larger portion less than the smaller portion; an auxiliary valve adapted to open and close said opening; and means for operating said auxiliary valve, substantially as described.

2. In a device of the class described, the combination of a valve member pivoted to swing to open or closed position on a pivot whose axis is offset from the center of the area of said valve member, the larger portion of said valve member being provided with an auxiliary valve opening of such an area that, subtracted from the said larger portion, renders the effective remainder of said larger portion less than the smaller portion; stops for limiting the swing of said valve member at open and closed position; an auxiliary valve adapted to open and close said opening; and means for operating said auxiliary valve, substantially as described.

3. In a device of the class described, the combination with a pipe, of a valve disk pivoted in said pipe above its center; a stop for limiting the movement of said valve disk at closed position; an auxiliary valve in the lower portion of said disk; and means for opening and closing said auxiliary valve, substantially as described.

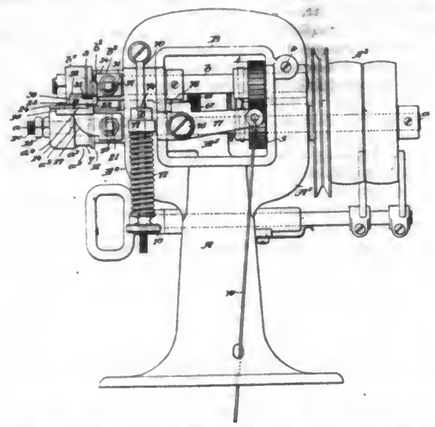
4. In a device of the class described, the combination with a pipe, of a valve disk pivoted in said pipe above its center; stops for limiting the movements of said valve disk at open and closed positions; an auxiliary valve in the lower portion of said disk; and means for opening and closing said auxiliary valve, substantially as described.

5. In a device of the class described, the combination with a reservoir dam of a discharge pipe passing through the lower portion thereof; a valve disk pivoted in the mouth of said pipe above its center and provided with an auxiliary valve opening in its lower portion; an auxiliary valve fixed to said disk pivot and adapted to close said opening; means for rotating said pivot; and stops for limiting the opening and closing movements of said disk, substantially as described.

[Claim 6 not printed in the Gazette.]

971,674. WELT-REINFORCING MACHINE. JOHN B. HADAWAY, Brockton, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Mar. 30, 1900, Serial No. 10,812. Renewed Mar. 2, 1910. Serial No. 546,765.

1. In a welt reinforcing machine, the combination with a frame, of a welt supporting roll mounted thereon, a head pivotally mounted on said frame, a presser roll mounted on said head, means acting normally to depress the head and hold the presser roll in close proximity to the welt supporting roll, and independently adjustable means for guiding the welt and the reinforcing strip between the welt supporting roll and the presser roll in position to be united by the action thereof, substantially as described.



2. In a welt reinforcing machine, the combination with the uniting mechanism for uniting the welt and reinforcing material, of a welt guide and tape guide adjustable with reference to each other to position the tape on the welt, substantially as described.

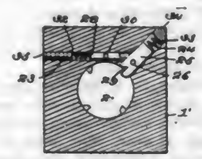
3. In a welt reinforcing machine, the combination with a presser-roll of a welt-supporting roll having a welt-receiving groove in its working face, suitable guides for the welt and reinforcing material, trimming mechanism for trimming the reinforcing material along the edge of the welt, a grooved guide for guiding the united welt and reinforcing material to said trimming mechanism, the groove in the guide being substantially continuous with the groove in the welt-supporting roll and a covering plate for the groove in the guide, substantially as described.

4. In a welt reinforcing machine, the combination with a presser roll, of a grooved welt-supporting roll having an adjustable flange whereby the width of the groove may be varied, substantially as described.

5. In a welt reinforcing machine, the combination with a presser roll, of a welt supporting roll, having a welt receiving groove in its working face, means for guiding the welt into the groove on the welt supporting roll, and means for guiding the reinforcing strip on to the welt, substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

971,675. NUT-LOCK. JOSIAH H. HARVEY, Scranton, Pa. Filed Mar. 21, 1910. Serial No. 550,607.



1. In a nut lock, the combination with a nut, of a movable dog arranged therein formed with a spring receiving cavity, a spring positioned in said cavity for normally holding said dog in an outer position, and spring pressed means for locking said dog in an inner position.

2. In a nut lock, the combination with a nut, of a reciprocating dog formed with a longitudinal bore, a spring positioned partly in said bore for holding said dog in an outer position, and spring pressed means for locking said dog in an inner position.

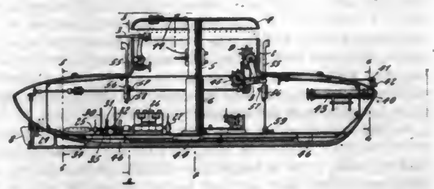
3. In a nut lock, the combination with a nut having a plurality of ways formed therein intersecting each other, of a reciprocating dog in one of said ways, means for yieldingly holding in an outer position said dog, a reciprocating locking member arranged in the other of said ways, and cushioning means for causing said locking member to engage said dog when moved to an inner position for locking the same against operation.

4. In a nut lock, the combination with a nut, of a reciprocating dog, means for locking said dog, a manually operated pin secured to said dog for withdrawing the dog, and a manually operated pin secured to said first mentioned means for withdrawing the same and unlocking the dog.

5. In a nut lock, the combination with a nut, of a reciprocating dog, means for normally holding said dog in an outer position, means for causing an inward movement of said dog, a catch for engaging said dog when in an inner position, a spring for normally holding in an inner position said catch, and a manually operated pin for releasing said catch.

[Claim 6 not printed in the Gazette.]

971,676. SEMISUBMERGED SUBMARINE GUNBOAT AND TORPEDO-BOAT. HARRY HERTZBERG, Brooklyn, ABBOT A. LOW, Horseshoe, and MAURICE J. WOHL, New York, N. Y., assignors to Abbot A. Low, Horseshoe, N. Y., Harry Hertzberg, Brooklyn, N. Y., and Maurice J. Wohl, New York, N. Y., trustees. Filed May 25, 1909. Serial No. 498,320.



1. A submarine vessel, having a conning tower projecting upward therefrom, and a bucket-shaped bottom secured at the base of the conning tower within and walling off the interior of the tower from the remainder of the interior of the vessel, said bucket-shaped bottom being depressible so as to afford free access to the interior of the conning tower.

2. A submarine vessel having a conning tower projecting upward therefrom, and a bucket-shaped bottom removably secured at the base of the conning tower within and walling off the interior of the tower from the remainder of the interior of the vessel, said bucket-shaped bottom being provided with water-tight manholes.

3. A submarine vessel, having a conning tower projecting upward therefrom, and a bucket-shaped bottom removably secured at the base of the conning tower within and having water-tight connection therewith, walling off the interior of the tower from the remainder of the interior of the vessel.

4. A submarine vessel, having a conning tower projecting upward therefrom, and a water-tight bucket-shaped bottom secured at the base of the conning tower within and walling off the interior of the tower from the remainder of the interior of the vessel, together with means for admitting water to and removing the same from the chamber formed by said bucket-shaped bottom and tower.

5. A submarine vessel having a tubular conning tower projecting upward therefrom, a raisable cover adapted to close the top of the tower, a plunger depending from said cover, a hydraulic cylinder within which said plunger works, a bucket-shaped bottom secured at the base of the conning tower within and walling off the interior of the tower from the remainder of the interior of the vessel,

said bucket-shaped botttom being provided with an aperture in its base and a tubular flange extending upward from said aperture and fitting around said cylinder.

[Claim 6 not printed in the Gazette.]

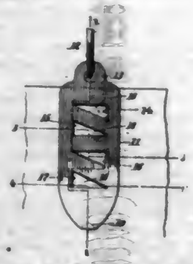
971,677. LADDER-BRACKET. RANSOM A. HOLDAIDOE, Virginia, Minn. Original application filed Mar. 17, 1910, Serial No. 549,964. Divided and this application filed July 11, 1910. Serial No. 571,386.



1. The combination with a ladder having side bars and rungs; of a rock-shaft journaled in and extending between the side bars, a vertically swinging link fixed to said rock-shaft, a notched link pivoted to the outer portion of the first-named link, and a dog pivotally connected with one of the side bars and having a proportionately heavy lower arm and also having an upper arm on which is a shoulder adapted to engage the said notched link, and a horn adapted to bring up against an adjacent rung.

2. The combination of a suitable support, a vertically swinging link connected therewith, a stop carried by the support and located below the pivotal point of the said link, a notched link pivoted to the outer portion of the first-named link, and a dog pivotally connected with the support and having a portion for engaging the notched link and a portion for bringing up against the said stop.

971,678. EAR FOR PAIL AND BUCKET BAILS. THEODORE JEROLAMAN, Belleville, N. J. Filed Mar. 1. 1909. Serial No. 480,563.



1. A bail-ear in one integral piece of sheet metal formed at its upper end with a hole to receive the bail and having integral prongs disposed at opposite sides of its vertical center line cut from the interior portions of the body of the ear and on different horizontal planes, to be driven into the wood for holding the ear in place; substantially as set forth.

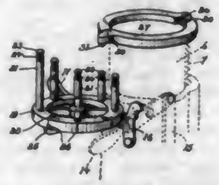
2. A bail-ear in one integral piece of sheet metal formed at its upper end with a hole to receive the bail and having integral prongs disposed at opposite sides of its vertical center line cut from the interior portions of the body of the ear and on different horizontal planes and also an integral prong at its lower end, all said prongs to be driven into the wood for holding the ear in place; substantially as set forth.

3. A bail-ear in one integral piece of sheet metal formed at its upper end with a hole to receive the bail and having integral prongs disposed at opposite sides of its vertical center line cut from the interior portions of the body of the ear and on different horizontal planes and also an integral prong at its lower end, all said prongs to be driven into the wood for holding the ear in place, and a prong at each side of the ear being beveled at the inner side of its end so that said two prongs when driven into the wood will expand outwardly, and said lower prong being beveled on the lower side of its pointed end so that it will be deflected upwardly when driven into the wood; substantially as set forth.

4. A bail-ear of sheet metal having integral side prongs 14, 15, 16, 17 in staggered order and to be driven into the wood, two of said prongs being beveled on the inner sides of their pointed ends so that they may deflect outwardly when driven into the wood and the other two prongs being of sufficient length to pass through the wood and be clenched on their ends; substantially as set forth.

5. A bail-ear of sheet metal having integral side prongs 14, 15, 16, 17 in staggered order and to be driven into the wood, two of said prongs being beveled on the inner sides of their pointed ends so that they may deflect outwardly when driven into the wood and the other two prongs being of sufficient length to pass through the wood and be clenched on their ends, and said ear also having a transverse integral prong at its lower end to enter the wood; substantially as set forth.

971,679. ATTACHMENT FOR DRILLING, BORING, AND SIMILAR MACHINES. FRANK A. KIRBY, Detroit, Mich. Filed June 7, 1909. Serial No. 500,585.



1. The combination in a machine having a vertically movable spindle, means for moving the spindle and means adapted when operated to throw the moving means out of gear, of a stop on the throw-out means and a collar adjustably and detachably secured around the spindle and adapted to co-act with the stop to operate the throw-out means when the spindle reaches a predetermined point.

2. The combination in a machine having a vertically movable spindle, means for moving the spindle and means adapted when operated to throw the moving means out of gear, of a stop on the throw-out means and a collar around the spindle having two complemental members pivotally-connected at one end and means detachably securing the other ends, the collar being adapted to co-act with the stop to operate the throw-out means when the spindle reaches a predetermined point.

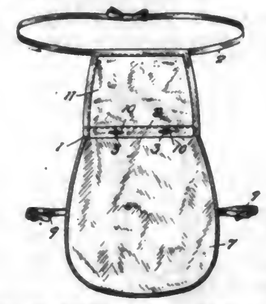
3. The combination in a machine having a vertically movable spindle, a rack on the spindle, means for moving the spindle and means adapted when operated to throw the moving means out of gear, of a stop on the throw-out means and a collar adjustably and detachably secured around the spindle in interlocked relation with the rack and adapted to co-act with the stop to operate the throw-out means when the spindle reaches a predetermined point.

4. The combination in a machine having a vertically movable spindle, a rack on the spindle, means engaging the rack for moving the spindle and means adapted when operated to throw the moving means out of gear, of a stop on the throw-out means, a collar adjustably and detachably-secured around the spindle, and a rib on the collar detachably interlocking with the rack, the collar being adapted to co-act with the stop to operate the throw-out means when the spindle reaches a predetermined point.

5. The combination with a machine having a vertically movable spindle, a rack on the spindle, means engaging the rack for moving the spindle, and means adapted when operated to throw the moving means out of gear, of a stop on the throw-out means, a collar adjustably and detachably secured around the spindle in engagement with the said rack, and a lug on the collar adapted to coact with the stop to operate the throw-out means when the spindle reaches a predetermined point.

[Claim 6 not printed in the Gazette.]

971,680. CATAMENIAL SKIRT-PROTECTOR. MABEL MARIE KLINE, London, England. Filed Dec. 8, 1909. Serial No. 532,010.



An apron-like catamenial skirt protector adapted to be worn over the rear portion of the person beneath the clothing, comprising a flat pocket of pervious fabric of a size fully to cover the seat and having a mouth extended across its top, a readily removable and replaceable impervious sheet of like extent received within the pocket, fasteners removably securing the upper edge of said sheet and holding the sheet in the pocket in spread-out condition, and means for supporting the protector in position over the rear portion of the wearer.

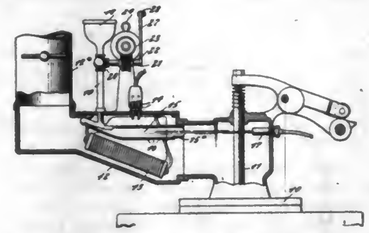
971,681. PROCESS OF MAKING ARTIFICIAL OINTMENT-BASES. SAMUEL KNOPF, Vienna, Austria-Hungary. Original application filed Feb. 6, 1907, Serial No. 356,006. Divided and this application filed July 21, 1909. Serial No. 508,808.

1. Process for producing substances capable of being used as bases for ointments consisting in the mixing of oleic acid with alkali in the presence of alcohol at ordinary atmospheric temperature in such proportions that only a partial saponification is produced and then adding mineral oil to the mixture in the proportions specified, and then adding ceresin to this mixture for the purpose of obtaining a vaseline like material substantially as described.

2. Process for producing substances capable of being used as bases for ointments consisting in the mixing of oleic acid with alkali in the presence of alcohol at ordinary atmospheric temperature in such proportions that only a partial saponification is produced and then adding mineral oil to the mixture in the proportions specified, and then adding ceresin to the mixture and then adding about 50% of water to this mixture for the purpose of obtaining a white material showing many of the properties of lanolin substantially as described.

971,682. ECONOMIZER. ABBOT A. LOW, Horseshoe, N. Y. Filed May 14, 1910. Serial No. 561,359.

1. An economizer adapted for use in an oil engine, comprising a horizontal tubular member provided with an opening at one end through which the fluid may be injected and with a raised portion below said opening to prevent the fluid from flowing back and also provided with perforations in the lower wall thereof to permit the fluid to be delivered to the vaporizer of the engine.



2. An economizer adapted for use in an oil engine, comprising a horizontal tubular member provided with an opening at one end through which the fluid may be injected and with an upwardly inclined portion at the opposite end and also provided with perforations in the lower horizontal wall thereof to permit the fluid to be delivered to the vaporizer of the engine.

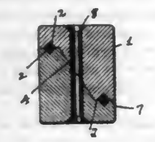
3. An economizer adapted for use in an oil engine, comprising a horizontal tubular member provided with an opening at one end through which the fluid may be injected and with a raised portion below said opening to prevent the fluid from flowing back, said tubular member being also provided at the end opposite said opening with an upwardly inclined portion and with perforations in the lower horizontal wall between said raised portion and said inclined portion to permit the fluid to be delivered to the vaporizer of the engine.

4. An economizer adapted for use in an oil engine, comprising a horizontal tubular member having one end thereof formed to permit the fluid to be injected and also provided with perforations in the lower horizontal wall thereof, said member being also provided at one end with an upwardly inclined portion, and an auxiliary oil reservoir connected with said inclined portion.

5. In an oil engine, the combination of a passage leading to the intake, a vaporizing coil therein, a shallow, substantially horizontal economizing chamber over said coil and provided beneath with perforations adapted to distribute the oil over said coil, and means for delivering oil substantially horizontally into said chamber.

[Claims 6 and 7 not printed in the Gazette.]

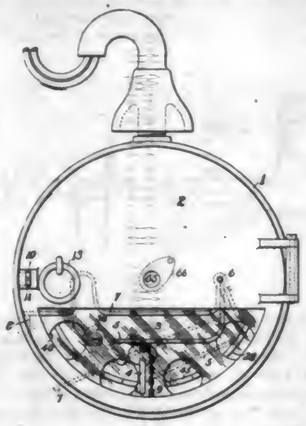
971,683. INSULATOR. HARLEY R. MARKEL, Columbus, Ohio. Filed Aug. 13, 1909. Serial No. 512,674.



1. A two part insulator comprising correspondingly formed sections adapted to fit one against the other, said sections having opposing wire receiving recesses at different elevations, and inclined abutting faces extending throughout the width of the sections and said sections having opposing fastener receiving openings which intersect said inclined faces.

2. A two part insulator body comprising correspondingly formed sections, each section having one of its faces formed with upper and lower horizontal and parallel shoulder portions, said shoulder portions having wire receiving recesses therein and an inclined face extending throughout the width of the section between said shoulder portions, and means for securing said insulator members in engagement with each other.

971,684. FIRE-ALARM. WILLIAM C. MATTHIAS, Reading, Pa. Filed Mar. 9, 1909. Serial No. 482,281.



1. A fire alarm system comprising a main alarm circuit, an independent special alarm circuit, and at each of a series of stations two independent circuit controlling mechanisms one in each circuit, in combination with controlling means for each main circuit mechanism access to which may be had only by setting in operation the corresponding special circuit mechanism.

2. A fire alarm system comprising a main circuit and an independent special alarm circuit, a series of signaling mechanisms for said main circuit with means for operating each, and separate signaling mechanisms for said special circuit with independent local alarm devices for operating the same.

3. In a fire alarm system comprising a main alarm circuit and an independent special alarm circuit, a station having two independent circuit controlling mechanisms one in each circuit, in combination with controlling means for said main circuit mechanism access to which may be had only by setting in operation the special circuit mechanism.

4. In a fire alarm system comprising a main circuit and an independent special alarm circuit, a signaling mechanism for said main circuit with means for operating the same, and separate signaling mechanism for said special circuit with an independent local alarm device for operating the same.

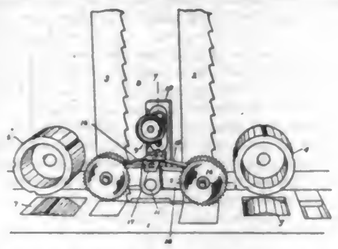
5. In a fire alarm system comprising a main alarm circuit and an independent special alarm circuit, a station having a circuit controlling mechanism for the main alarm circuit and an independent circuit controlling mechanism with local alarm mechanism for the special alarm circuit, in combination with controlling means for said main circuit mechanism access to which may be had only by setting in operation the special circuit mechanism and local alarm.

[Claims 6 to 11 not printed in the Gazette.]

971,685. STOCK-GUIDE FOR BAND-SAWS. EDWARD C. MERSHON, Saginaw, Mich. Filed Oct. 25, 1909. Serial No. 524,397.

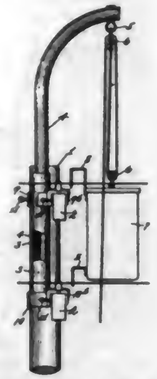
1. In combination with a band saw blade, a stock guide comprising a bracket carried by the frame of the saw and capable of vertical adjustment, a pin carried by said bracket, an arm pivotally mounted on said pin, a spring adapted to press said arm normally downward, a stop adapted to limit the downward travel of said arm, a pair of wheels revolubly mounted in the end of said arm, the centers of said wheels being located abreast of the saw blade.

2. In a stock guide, a bearing, a sleeve revolubly mounted in said bearing, a spindle passing through said sleeve, said spindle having one flanged end and a washer removably secured to its opposite end, and wheels received be-



tween one end of the sleeve and the flange, and between the other end of the sleeve and the washer respectively.

971,686. HOISTING APPARATUS. CHARLES C. MICHAEL and GEORGE E. COCKINGS, Bristol, Conn. Filed Jan. 20, 1910. Serial No. 539,065.



1. A portable crane comprising a carrying standard provided with upper and lower supports arranged to be detachably secured to a pole and a swivelly mounted mast carried by said standard, and means for carrying hoisting tackle at the outer end of said mast.

2. A portable crane comprising a vertically disposed carrying standard, means for detachably securing the same to a pole, comprising upper and lower supports for said standard, and means for maintaining said standard in fixed vertical relation to said pole, a swivelly mounted mast carried by said standard and means for carrying hoisting tackle at the outer end of said mast.

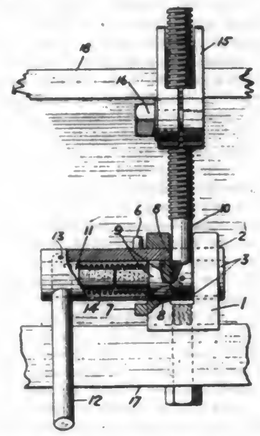
3. A portable crane comprising a vertically disposed carrying standard, means for detachably securing the same to a pole comprising upper and lower supports for said standard, and a two-point lateral bearing for maintaining said standard in fixed vertical relation to said pole, a swivelly-mounted mast carried by said standard, and means for carrying hoisting tackle at the outer end of said mast.

4. A portable crane comprising an upper and a lower support arranged to be detachably secured over two or more cross-arms of a pole, a hoisting mast pivotally supported thereby in vertical position whereby the mast may be rotated about its axis.

5. A portable crane comprising an upper and a lower support each provided with one or more hooks arranged to be detachably secured over two or more cross-arms of a pole, a hoisting mast pivotally supported thereby in vertical position whereby the mast may be rotated about its axis, one of said supports being provided with means to adjust the same toward and from the other support.

[Claims 6 to 8 not printed in the Gazette.]

971,687. MOLDER'S CLAMP. JOHN T. RAMSDEN, Philadelphia, Pa., assignor to The Tabor Manufacturing Company, Philadelphia, Pa., a Corporation of New Jersey. Filed July 22, 1910. Serial No. 573,176.



1. A molder's clamp comprising the combination of a stand having a slot, an operating sleeve revoluble in the stand and having an eccentric bore and a peripheral slot, an arbor mounted in the eccentric bore and provided with a radially arranged clamping jaw shank disposed in said slots, a spring arranged in the sleeve and interposed between it and the shank, and stops for the shank sleeve, substantially as described.

2. A molder's clamp comprising the combination of a stand, a spring retracted jaw having a limited range of swinging movement in respect to the stand, a spring retracted operating lever having a limited range of turning motion in respect to the stand, and an eccentric interposed between the jaw and operating lever, substantially as described.

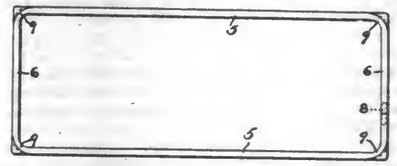
3. A molder's clamp comprising the combination of a stand having a slot, an operating sleeve revoluble in the stand and having an eccentric bore and a peripheral slot, an arbor mounted in the eccentric bore and provided with a radially arranged clamping jaw shank disposed in said slots, a stud fast in said sleeve, a handle projecting from said sleeve, a spring encircling parts of the arbor and stud and having its ends respectively connected with each, and stops for the shank and handle, substantially as described.

4. In combination a flask carrier provided with a pattern, a flask support, means for moving said carrier to draw the pattern, a flask, a vibrator, clamps consisting of a stand secured to said carrier, a spring retracted jaw having a limited range of swinging movement in respect to the stand, a spring retracted operating lever having a limited range of turning motion in respect to the stand, and an eccentric interposed between the jaw and operating lever, whereby the action of the vibrator overcomes the friction of the parts of the clamp and automatically releases the jaws, substantially as described.

5. In combination in a molder's clamp a threaded shank, a jaw having a split threaded opening and a screw for binding said opening onto and freeing it from the threaded shank, a stand, and means including an eccentric interposed between the stand and threaded shank for operating the jaw, substantially as described.

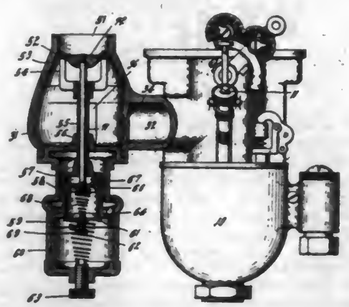
971,688. HAMMOCK. DANIEL ROW, Brockville, Ontario, Canada. Filed Dec. 8, 1909. Serial No. 532,042.

In combination with a rectangular frame made of a single piece and having rounded smooth continuous corners, of a triangular shaped knee block of a rectangular shape having two flat outer edges and rounded at their contiguous edges, the upper and lower surfaces being flat to form tangential surfaces with the frame, flanged portions formed by said upper and lower flat surfaces and terminating at the ends of the flat outer edges of said block



forming a curved recess conforming to the rounded corner of the frame for snugly receiving the same, and screws passed through said flat outer edges of the knee block and into the frame about the rounded corner thereof.

971,689. CARBURETER. GEORGE M. SCHEBLER, Indianapolis, Ind., assignor to Wheeler & Schebler, Indianapolis, Ind., a Copartnership. Filed Apr. 5, 1909. Serial No. 487,911.



1. A carbureter comprising a mixing chamber, a supply passage, an inlet chamber, and an inlet valve in the initial portion of the inlet chamber, the supply passage leading from the inlet chamber at substantially diametrically opposite points.

2. A carbureter, comprising a main casing, having a mixing chamber, an air inlet chamber, an inlet valve in an initial portion of the inlet chamber, and a passage forming a connection between the air inlet chamber and the mixing chamber, and a guard 34 arranged between the inlet chamber and the air passage in the direct line between the air inlet chamber and the mixing chamber whereby the air passage is bifurcated adjacent the air inlet chamber and communicated with the air inlet chamber at substantially diametrically opposed points.

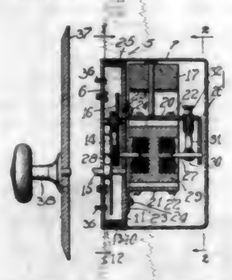
3. In a carbureter, an annular inlet valve, a hollow stem carrying said annular valve a dash-pot piston carrying said stem, a dash-pot cylinder coöperating with said piston, a dash-pot cylinder formed in said piston, a dash-pot piston mounted in said last mentioned cylinder, a stem carried by said last mentioned piston and extending through the aforesaid hollow stem, a valve carried by said stem and seated in the annular valve, and means for yieldingly holding said valves with different pressures to their seats.

4. In a carbureter, an annular inlet valve, a hollow stem carrying said annular valve, a dash-pot piston carrying said stem, a dash-pot cylinder coöperating with said piston, a dash-pot cylinder formed in said piston, a dash-pot piston mounted in said last mentioned cylinder, a stem carried by said last mentioned piston and extending through the aforesaid hollow stem, a valve carried by said stem and seated in the annular valve, a spring engaging the first mentioned piston, a second but lighter spring carried by said first mentioned piston and engaging

the second piston, and means for independently adjusting the force of said springs.

3. In a carbureter, an annular inlet valve, a hollow stem carrying said annular valve, a dash-pot piston carrying said stem, a dash-pot cylinder coöperating with said piston, a dash-pot cylinder formed in said piston, a dash-pot mounted in said last mentioned cylinder, a stem carried by said last mentioned piston and extending through the aforesaid hollow stem, a valve carried by said stem and seated in the annular valve, a spring engaging the first mentioned piston, and a second but light spring carried by said first mentioned piston and engaging the second piston.

971,690. ELECTRIC-CURRENT GENERATOR. HERMAN A. SCHMIDT, Chicago, Ill. Filed Jan. 31, 1910. Serial No. 541,097.



1. In a miniature generator providing a base for attachment to a support, multiplying gearing mounted on said base, means for imparting motion to said gearing, a permanent magnet having confronting polar projections arranged to constitute a field, diamagnetic plates bridging the polar projections above and below the field area and supported from the base, and an armature operatively associated with said multiplying gearing and arranged within the field.

2. In a miniature generator, a horse-shoe magnet having polar projections to provide a field, a diamagnetic bridge secured to said polar projections and carrying a bearing standard, an armature within the field provided with a shaft mounted in said standard, a pinion on said shaft, multiplying gearing connected with said pinion, a frame for said gearing connected to support the diamagnetic bridge, and means for communicating power to said gearing.

3. In a miniature generator, a casing, providing a front plate and a cover; a yoke, supported by said plate; multiplying gearing in the space between the yoke and plate; a permanent horse-shoe magnet, having confronting polar projections; bridge plates above and below said projections supported by said yoke, one of said bridge plates having a bearing extension; an armature shaft supported between said extension and the yoke, and operatively associated with the multiplying gearing; current collecting means associated with said armature; and means for imparting power to said gearing.

971,691. PERCUSSION-FUSE. EUGENE SCHNEIDER, Le Creuzot, France. Filed June 20, 1910. Serial No. 567,962.



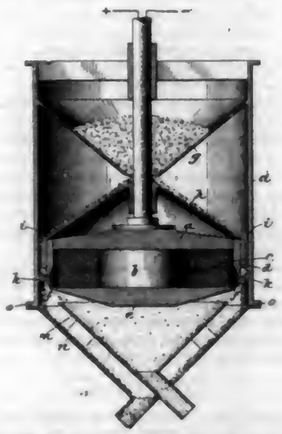
1. A percussion fuse for projectiles comprising in combination a fuse casing provided with a guide sleeve fast thereto and having a screw thread, a spring-pressed block having a telescoping engagement with said sleeve and normally held out of firing position by said spring, a second spring-pressed block having a screw-threaded engagement with said sleeve and a spring-pressed member carried by said block for locking the same in safety position, said locking means being disengaged from safety position by rotation of said sleeve on said last-named block when the projectile is fired, and means engaging said member for locking said block in firing position.

2. A percussion fuse for projectiles comprising in combination a fuse casing provided with a screw-threaded guide sleeve fast thereon, oppositely disposed spring-pressed firing blocks guided by said sleeve, one of which is provided with a screw-thread engaging that of said sleeve, spring-pressed locking means for locking said block in safety position, said locking means being released by rotation of said sleeve on said threaded block when the projectile is fired, and means locking said block against relative movement to said sleeve.

3. A percussion fuse for projectiles comprising in combination a fuse casing, provided with a screw-threaded guide sleeve fast thereon, oppositely disposed spring-pressed blocks guided by said sleeve, one of which carries a firing pin and the other a firing element, one of said blocks having a screw-thread engaging said sleeve, and spring-pressed locking means carried by said last-named block adapted to engage said casing for holding the block in safety position, said locking means being released by rotation of said sleeve on said threaded block when the projectile is fired, and means locking said block against movement relative to said sleeve.

4. A percussion fuse for projectiles comprising in combination a fuse casing provided with a screw-threaded guide sleeve fast thereon, oppositely-disposed spring-pressed firing blocks guided by said sleeve, one of which has a threaded engagement with said sleeve and the other having a telescoping engagement therewith, spring-pressed locking means for locking the first-named block in safety position, said locking means being released by rotation of said sleeve on said threaded block when the projectile is fired, and means locking said block against relative movement to said sleeve.

971,692. MAGNETIC SEPARATOR. FRIEDRICH OSCAR SCHNELLE, Frankfort-on-the-Main, Germany, assignor to Wetherill Separating Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 9, 1902. Serial No. 126,618.



1. In a magnetic separator, the combination with a stationary iron-clad ring magnet having in its magnetic circuit a zone of emergence of magnetic flux, means for dropping the material to be separated through said emerging flux, and a heads receptacle whose separating edge is located within the said zone, whereby the tailings or non-magnetic material will fall through the emerging flux and the heads or magnetic material will be drawn inwardly past the said separating edge; substantially as and for the purposes described.

2. In a magnetic separator, the combination with a stationary iron-clad ring magnet, having in its magnetic circuit a zone of emergence of magnetic flux, means for dropping the material to be separated through said emerging flux, said means including a ledge over which the material falls as it enters the flux, and a heads receptacle whose separating edge is located within the said zone of emergence; substantially as and for the purposes described.

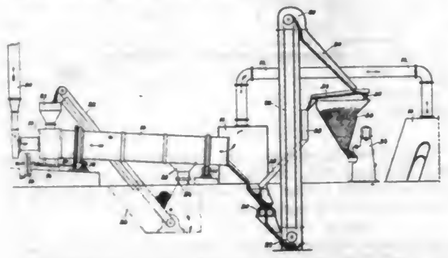
3. In a magnetic separator, the combination with a stationary iron-clad ring magnet, having in its magnetic circuit a zone of emergence of magnetic flux, and means for feeding the material to be separated to said zone, said means including a distributing cone located immediately above the magnet, and a feeding cone discharging upon the upper portion of the distributing cone; substantially as and for the purposes described.

4. In a magnetic separator, an ironclad ring magnet having an attenuated zone of magnetic material forming an isthmus between the poles, and means for feeding the material to be separated to said attenuated zone; substantially as and for the purposes specified.

5. In a magnetic separator, an iron-clad magnet having an attenuated zone of magnetic material forming an isthmus between the poles gradually decreasing in the direction of flow of the material to be treated, and means for feeding said material to said zone; substantially as and for the purposes described.

[Claims 6 to 10 not printed in the Gazette.]

971,693. PROCESS OF MOLDING BRICKS. HUGO SCHULTE-STEINBERG, Düren, near Stockum, Germany. Filed Apr. 6, 1909. Serial No. 488,243.



1. Process of molding heated clay, which consists in bringing heating gases into direct contact with the moist clay, said gases carrying enough heat to turn the water carried by the clay into steam, driving off part of the steam thus formed, molding the hot clay while impregnated with the residual steam, and kiln-drying the molded clay.

2. Process of molding heated clay, which consists in bringing heating gases into direct contact with the moist clay, said gases carrying enough heat to turn the water carried by the clay into steam, driving off part of the steam thus formed, molding the hot clay and simultaneously condensing the residual steam during the molding process, and kiln-drying the molded clay.

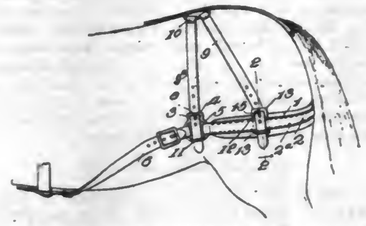
3. Process of dry-molding clay for the manufacture of bricks, consisting in heating the crude clay, converting the moisture contained in the clay into steam, by conducting the waste-gases from the kiln through the crumbled and intimately mixed clay, sifting the ground mass and returning to the grinding mechanism the coarse particles retained by the sieve, molding the hot clay, while impregnated with steam and placing the bricks in the kiln.

971,694. BUCKLE. MENDEL SCHWARTZ, New York, N. Y., assignor of one-half to Samuel J. Horn, New York, N. Y. Filed Sept. 18, 1909. Serial No. 518,421.



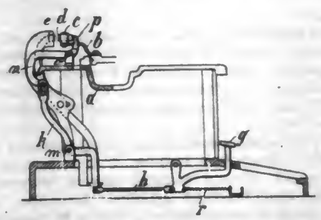
In a fastening device for trousers or other garments, the combination of a buckle-frame having a rearwardly-turned flange around its rear-face, a centrally and rearwardly projecting clamping member at one end of the frame, a transverse bar connecting the side-pieces of the frame intermediately of the ends thereof, said bar being inclined to be parallel with said clamping member, an underlapping strap secured to the rear-part of the transverse bar and passing said clamping member at the end of the frame, and an overlapping strap passing against said flange at the end of the frame opposite the clamping bar and against the front-edge of said transverse bar and against and between said underlapping strap and the edge of said clamping member.

971,695. BREECHING. ALBERT SHORT, Cedar Vale, Kans. Filed Oct. 10, 1908. Serial No. 457,112.



A harness including a breeching strap, a layer strap, a buckle frame interposed between the said straps, with its end portions projecting beyond the opposite longitudinal edges of the layer strap, a buckle tongue carried by one of the projecting end portions of the frame, a substantially perpendicularly outwardly disposed extension formed at the other projecting end portion of the frame and providing a continuous outstanding bearing shoulder abutting against the adjacent longitudinal edge of the layer strap to hold the frame against displacement from the straps, the extension projecting outwardly beyond the outer face of the layer strap and being formed beyond the same with a slot and a breeching stay engaged with the buckle tongue and extending across and lying against the outer face of the layer strap with its free end retained in said slot.

971,696. TYPE-WRITING MACHINE. VICTOR ALBERT EMANUEL SIVERTSEN and JENS CHRISTIAN NIELSEN, Copenhagen, Denmark, assignors to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Apr. 8, 1909. Serial No. 488,675.



1. In a typewriting machine, the combination of a carriage; a series of stops; means by which said stops may be moved to operative position and by which the stop which

may be so moved to operative position depends on the position of the carriage in its travel; and a coöperative stop.

2. In a typewriting machine, the combination of a carriage; a series of column stops; means by which said stops may be moved individually to operative position and by which the stop which may be so moved to operative position depends on the position of the carriage in its travel, said means including a key actuated member coöperative with the column stops; and a coöperative stop.

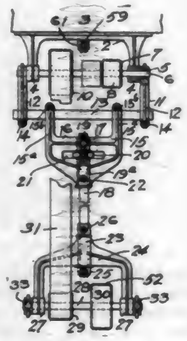
3. In a typewriting machine, the combination of a carriage; a series of column stops normally in the inoperative position; means by which the stops may be moved individually to operative position and by which the stop which may be so moved to operative position in each instance depends on the position of the carriage in its travel; and key controlled denominational stops coöperative only with the column stops which have been moved to operative position.

4. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means carried by the frame of the machine for projecting said column stops separately to operative position; a coöperative stop carried by the frame of the machine; and key controlled means for projecting said coöperative stop into the path of the projected column stop or stops.

5. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means carried by the frame of the machine for projecting said column stops separately to operative position; a series of coöperative denominational stops carried by the frame of the machine; and key controlled means for projecting said denominational stops into the path of the projected column stop or stops.

[Claims 6 to 43 not printed in the Gazette.]

971,697. GRINDING-MACHINE. CHARLES G. SMITH, Aspinwall, Pa. Filed Sept. 2, 1909. Serial No. 515,927.



1. In a grinding machine, the combination of a swinging frame, a hanger or support, a shaft on said support and journaled directly therein, driving connections between said shaft and the grinding mechanism, and means for supporting said swinging frame directly from said support.

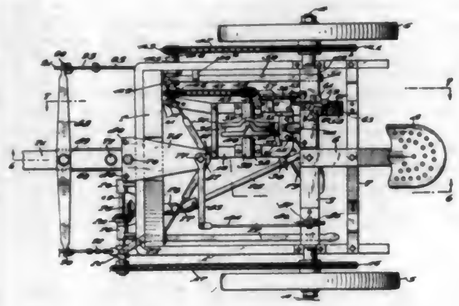
2. In a grinding machine, the combination of a swinging frame, a hanger or support, a shaft in said support and journaled directly therein, driving connections between said shaft and the grinding mechanism, and hub portions on said hanger from which said swinging-frame hangs.

3. In a grinding machine, the combination of a suitable support, a swinging-frame carried thereby, grinding mechanism carried thereby, a shaft in said support, a pulley on said shaft, a shaft in said swinging frame, a pulley carried thereby in alinement with said first named pulley, and means for moving said swinging frame laterally on said support.

4. In a grinding machine, the combination with a suitable support, of a swinging-frame, grinding mechanism carried thereby, a shaft journaled in said support, a shaft in said swinging frame, pulleys on said shafts in alinement with each other, a cross-bar on said swinging-frame, a laterally movable section of said swinging frame supported by said cross-bar, and means for securing said laterally movable section to said cross-bar.

5. In grinding apparatus, the combination of a suitable support, a shaft journaled therein, a swinging-frame carried by said support, grinding mechanism, a shaft in said swinging-frame, pulleys on said shaft, a belt connecting said pulleys, said swinging frame formed of two parts, a threaded bar on one part engaging a threaded seat on another, and an adjusting nut on said bar.

971,698. COTTON-CHOPPER. TAYLOR J. SMITH, Birmingham, Ala., assignor of one-half to Giles H. Smith, Miami, Mo. Filed Mar. 16, 1910. Serial No. 549,682.



1. In a cotton chopper, the combination with a frame, of a chopping disk, means transmitting a continuous rotary movement to the disk, and means intermittently oscillating said disk, substantially as described.

2. In a cotton chopper, the combination with a frame and wheels supporting the frame, of a concavo-convex disk supported by the frame and disposed at an angle to the line of draft, means transmitting rotary motion from one of said wheels to said disk, and means operated by the other of said wheels to oscillate said disk, substantially as described.

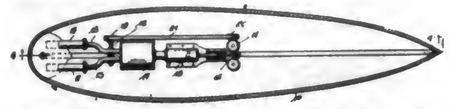
3. In a cotton chopper, the combination with a frame, of a chopping disk disposed at an angle to the line of draft, means transmitting a continuous rotary movement to said disk, and means intermittently oscillating said disk, substantially as described.

4. In a cotton chopper, the combination with a supporting frame, and wheels at opposite sides of the frame, of a chopping disk supported by the frame, means operated by one wheel for revolving the disk, and means operated by the other wheel for intermittently oscillating the disk, substantially as described.

5. In a cotton chopper, the combination with a supporting frame, and wheels at opposite sides of the frame, of a concavo-convex chopping disk supported at an angle to the line of draft, means operated by one wheel for revolving the disk, and means operated by the other wheel for intermittently oscillating the disk, substantially as described.

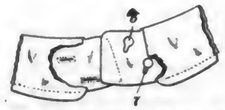
[Claims 6 to 20 not printed in the Gazette.]

971,699. REACTION PROPELLING MECHANISM. WILLIAM SOLOMON, Cheyenne, Wyo. Filed Feb. 1, 1910. Serial No. 541,309.



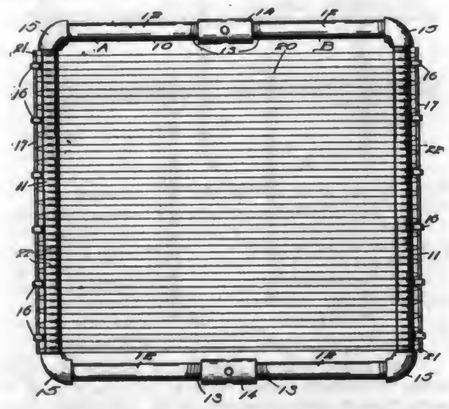
In a propelling device for vessels, an air reservoir, a plurality of reaction tubes, separate ducts leading from said reservoir each connected to one of said tubes, valves in said ducts having their ports disposed at angles to each other, a common stem whereon all of said valves are mounted whereby the ducts will have the respective valves opened and closed in succession, a prime motor, an air compressor actuated by the prime motor, and an operative connection between the prime motor and valve stem to rotate said stem as the engine operates.

971,700. COLLAR. FREDERICK HAROLD STACEY, Montreal, Quebec, Canada. Filed Feb. 25, 1910. Serial No. 545,902.



A collar of the double collar style having toward the lower end and front exposed portion of the band, a stud hole and a second stud hole in the same end through the band completely covered by the face portion and in the other end of the band in the exposed portion toward the upper edge, a locking slot formed by a substantially circular opening from which extends a comparatively narrow slot in an oblique direction, said locking slot being adapted to receive a stud extending through the covered hole in the other end of the band, and a suitable stud hole in the same end of the band as the locking slot extending partially under the face and adapted to receive the stud from the other stud hole in the other end of the band and a locking slot of similar form to the aforesaid locking slot and extending toward the lower edge at the same end of the band adapted to receive the stud from the lower stud hole in the other end of the band.

971,701. SCREEN. JOHN M. STONE, Newberg, Oreg. Filed Feb. 7, 1910. Serial No. 542,375.



1. A device of the class described comprising a frame having spaced support portions, a continuous strand member carried therebetween, said strand member being extended back and forth between the members in parallel relation, and means for moving the members relatively for adjusting the tension upon the strands.

2. A device of the class described comprising a frame having spaced support portions, a continuous resilient strand member carried therebetween, said strand being extended back and forth between the members in parallel relation, and means for moving the members relatively for adjusting the tension upon the strands.

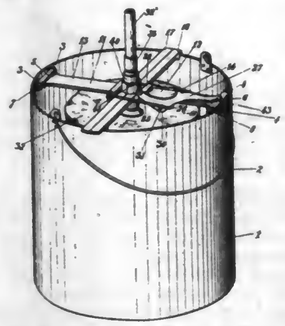
3. A device of the class described, comprising opposite U-shaped sections, having parallel support portions, and having their arms in opposition, the end portion of the opposite arms being threaded in opposite directions, a sleeve threaded upon the adjacent arms for operation to move the arms toward and away from each other, and a continuous strand member extended tortuously between the support portions in parallel spaced relation and in a common plane.

4. A grain separating screen comprising a frame, and a continuous resilient strand member engaged tortuously across the frame.

5. A grain separating screen comprising a frame including portions movable with respect to each other, a continuous resilient strand member carried tortuously across the frame, and means for shifting the two portions of the frame with respect to each other.

[Claims 6 to 12 not printed in the Gazette.]

971,702. WRINGING-SUPPORT FOR MOPS. CHARLES E. STRATING, Chicago, Ill. Filed Oct. 20, 1908. Serial No. 458,602.



1. In a device of the class described, a receptacle, in combination with a pair of arms hingedly mounted upon opposite sides of said receptacle and adapted to fold down into alinement with each other, a mop handle holding sleeve on said arms, half of said sleeve being formed upon each of said arms, substantially as described.

2. In a device of the class described, a receptacle, in combination with a pair of arms hingedly mounted upon opposite sides of said receptacle and adapted to fold down into alinement with each other, a mop handle holding sleeve on said arms and formed half upon each, and means for locking said arms and sleeve portions together, substantially as described.

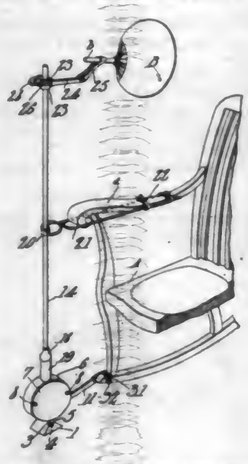
3. In a device of the class described, a receptacle, in combination with a pair of arms hingedly mounted upon opposite sides of said receptacle and adapted to fold down into alinement with each other, a mop handle holding sleeve formed part upon one arm and part upon the other, a loop pivotally mounted upon one arm and a lever pivotally mounted upon the other arm and adapted to detachably engage said loop and to fold down upon its respective arm to lock said arms and sleeve portions together, substantially as described.

4. In a device of the class described, a receptacle, in combination with a pair of arms hingedly mounted upon opposite sides thereof and adapted to fold down into alinement with each other, a mop handle holding sleeve formed part upon one of said arms and part upon the

other, and laterally extending arms on the first said arms adapted to extend over the edge of the receptacle to hold the device in operative position, substantially as described.

5. In a device of the class described, a receptacle, in combination with a pair of arms hingedly mounted thereon and adapted to fold down to bring their ends into engagement, said ends being formed with semi-cylindrical sockets forming together a mop handle holding sleeve, laterally extending arms on the first said arm adapted to extend over the edge of the receptacle to hold the device in horizontal position, and depending portions on the last said arms to engage the inner edge of said receptacle, substantially as described.

971,703. FAN. CHARLES SWEETSER, San Antonio, Tex. Filed Apr. 23, 1910. Serial No. 557,197.



1. An attachment of the class described including a base, a casing mounted for swinging movement thereon, mechanism carried by the casing, a fan holder operated by said mechanism, an operating arm extending from said mechanism, and rocker engaging means slidably mounted upon the arm for actuating the mechanism.

2. An attachment of the class described comprising a base, a casing mounted to swing thereon, an oscillatory arm extending from the casing, rocker engaging means slidably mounted upon the arm and constituting means for transmitting motion to the arm from a rocker, and fan operating mechanism operated by said arm.

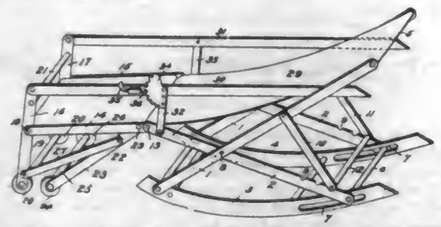
3. An attachment of the class described including a base, an upstanding shaft mounted for swinging movement relative thereto, a fan holder carried by and movable with the shaft, chair operated means for swinging the shaft relative to the base and vertically oscillating means connected to and actuated by a chair rocker for rotating said shaft.

4. An attachment of the class described including a base, a shaft mounted to swing relative thereto, a fan holder movable with the shaft, a bearing member for attachment to a rocking chair, said shaft being journaled within the bearing member, and vertically oscillating means connected to and operated by the rocker of the chair for rotating the shaft during the rocking or tilting of said chair.

5. An attachment of the class described including a base, a casing tiltably mounted thereon, a shaft journaled within the casing, an actuating gear within the casing, means meshing therewith for rotating the shaft, an arm extending from the casing and movable with the actuating gear, and means slidably engaging said arm and adapted to be detachably connected to a rocker to transmit motion from the rocker to the arm.

[Claims 6 to 8 not printed in the Gazette.]

971,704. RECLINING ROCKING-CHAIR. EDGAR L. SWINDLER, Beaumont, Tex. Filed Aug. 20, 1909. Serial No. 513,903.

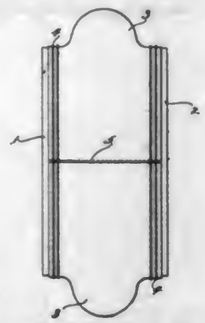


1. The combination with a chair, of a propelling attachment pivotally connected with the front ends of the side members of said chair and comprising laterally spaced uprights provided at their lower ends with surface engaging rollers, side members connected thereto, a substantially rectangular frame pivotally connected at one end to said side members and having surface engaging rollers at its free end, and links pivotally connecting said rectangular frame with said uprights.

2. The combination with a chair, of a propelling attachment pivotally connected with the front ends of the side members of said chair and comprising laterally spaced uprights provided at their lower ends with surface engaging rollers, side members connected with said uprights, a substantially rectangular frame pivotally connected at one end to said side members and having surface engaging rollers at its free end, and links pivotally connected at one end to the upper end of said rectangular frame and at their other ends to the lower ends of said uprights.

3. A propelling attachment for chairs comprising laterally spaced uprights provided at their lower ends with surface engaging rollers, side bars pivotally connected at one end near the upper ends of said uprights and provided with means at their other ends for pivotal engagement with a chair, a substantially rectangular frame pivotally connected at one end with the free ends of said side bars and links pivotally connected at one end with the upper ends of said rectangular frame adjacent its pivotal connection with said side bars, said links being pivotally connected at their other ends with the lower ends of said uprights, and surface engaging rollers carried by the free end of said rectangular frame.

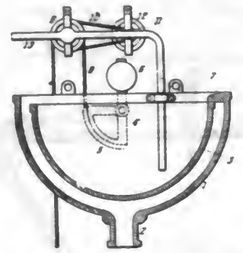
971,705. GAS-METER. FREDERICK C. VINEY, Philadelphia, Pa., assignor to The Standard Meter Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Dec. 17, 1904. Serial No. 237,238.



1. Gas meter bellows consisting of flexible non-elastic strong vulcanized rubber material non-corrosive in respect to such ammoniacal and sulfur compounds as are present in gas and said material containing not less than 40% of mineral matter or clay and substantially no free sulfur, for the purposes specified.

2. Gas meter bellows consisting of strong non-corrosive flexible non-elastic vulcanized rubber material containing not less than 40% of normal mineral matter or clay and no free sulfur and having seams of which the stitches penetrate the material and by it are made gas tight.

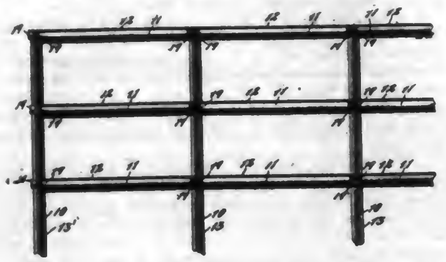
971,706. WATER-CLOSET. GEORG WACHENFELD, Bad Nauheim, Germany. Filed Aug. 9, 1909. Serial No. 511,925.



1. In a water closet the combination of a receptacle, having an exit pipe, a second receptacle rotatively mounted inside said first receptacle, a pulling device adapted to tilt the inner receptacle, a fly wheel coöperating with said pulling device, a water feeding pipe feeding the water into the inner receptacle, a valve inserted into said pipe and operated by the said pulling device substantially as described and for the purpose set forth.

2. In a water closet the combination of a receptacle, a shaft, a second receptacle rotatively mounted on said shaft inside said first receptacle, a quadrant like double armed lever mounted on the same shaft, a weight fixed to the one arm of said lever, a pulling device attached to the other quadrant like arm of said lever adapted to tilt the inner receptacle, a fly wheel coöperating with said pulling device, a water feeding pipe feeding the water into said inner receptacle and a valve operated by the said pulling device substantially as described and for the purpose set forth.

971,707. SHELVING. BEVERLY L. WATERS, Aurora, Ill. Filed Apr. 27, 1908. Serial No. 429,490.

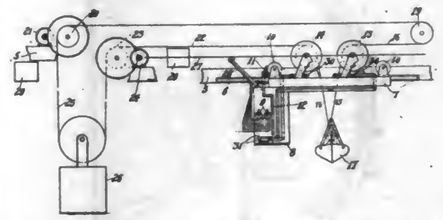


1. In shelving, the combination of a set of upright partitions, a set of shelves located between each two partitions and tie rods for holding the same together, each tie rod having an internally threaded portion at one end and an externally threaded portion at the other, the externally threaded portion being of reduced diameter and forming a shoulder adapted to abut the partition, and the partitions being apertured to permit the reduced portion of the rod to project through from one side to the other, and said rods, measured from one end to the shoulder at the opposite end, being less than the length of the shelf.

2. In sectional shelving, the combination of upright partitions having apertures therein, shelves having flanges at the ends adapted to bear against the sides of the partitions and rods for supporting the shelves and drawing the partitions tightly against them, said rods having reduced portions at one end adapted to penetrate the apertures in said partitions to reach and screw into the internally threaded end of the next adjacent rod, the reduced portion forming a shoulder on the rod, and the shelves being longer than the tie rods measured from one end to the shoulder at the other end, whereby the tightening of the rods holds the partitions tight against the ends of the shelves and thereby rigidifies the structure.

3. In sectional shelving, the combination of shelves having vertical flanges at the ends, upright partitions having apertures therein, and tie rods of uniform cross sectional outline except at one end where each rod is reduced thereby forming a shoulder, the reduced portion of said rod being threaded and the opposite end internally threaded whereby one rod may screw into another on the opposite side of the partition, and the shelves being longer than the rods measured from one end to the shoulder on the opposite end.

971,708. APPARATUS FOR ELEVATING, TRANSPORTING, AND DISCHARGING MATERIAL. THOMAS S. WATSON, Milwaukee, Wis. Filed Mar. 22, 1909. Serial No. 484,885.



1. An apparatus for elevating, transporting, and discharging material, comprising a track, a carriage provided with a material holding receptacle constructed to travel on the track, power means located at relatively a fixed point for causing the travel of the carriage on the track, a counterweight associated with the power means for counterbalancing the receptacle, and manually operated controlling means moving with the carriage for controlling the operation of the power means.

2. An apparatus for elevating, transporting, and discharging material, comprising a track, a carriage provided with a material holding receptacle constructed to travel on the track, power means located at relatively a fixed point for causing the travel of the carriage on the track and the operation of the receptacle, a counterweight associated with the power means for counterbalancing the receptacle, and manually operated controlling means moving with the carriage for controlling the operation of the power means to move the carriage and operate the receptacle.

3. An apparatus for elevating, transporting, and discharging material, comprising a track, a carriage provided with a material holding receptacle constructed to travel on the track, power means located at relatively a fixed point for causing the travel of the carriage on the track and the operation of the receptacle, a cable connection between the power means and the carriage for transmitting the power to the carriage, a counterweight associated with the cable for counterbalancing the receptacle, manually operated controlling means moving with the carriage for controlling the operation of the power means to move the carriage and operate the receptacle, and braking means for controlling the cable.

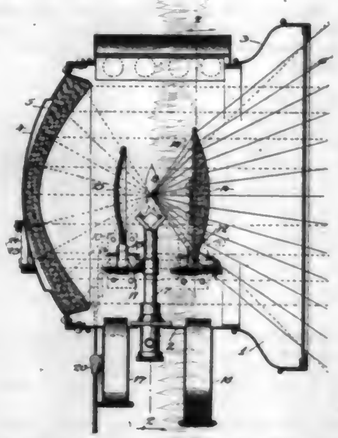
4. An apparatus for elevating, transporting, and discharging material, comprising a track, a carriage provided with a material holding receptacle constructed to travel on the track, power means located at relatively a fixed point for causing the travel of the carriage on the track and the operation of the receptacle, a cable connection between the power means and the carriage for transmitting the power to the carriage, a counterweight associated with said

cable for counterbalancing the receptacle, and manually operated controlling means moving with the carriage for controlling the operation of the power means to move the carriage and operate the receptacle.

5. An apparatus for elevating, transporting, and discharging material, comprising a track, a carriage provided with a material holding receptacle constructed to travel on the track, a counterweight associated with said power means for counterbalancing the receptacle, power means located at relatively a fixed point for causing the travel of the carriage on the track, and manually operated controlling means moving with the carriage for controlling the operation of the power means.

[Claims 6 to 17 not printed in the Gazette.]

971,709. HEADLIGHT. RICHARD H. WELLES, Kenosha, Wis., assignor to The Badger Brass Mfg. Co., Kenosha, Wis., a Corporation of Wisconsin. Filed Sept. 19, 1907. Serial No. 393,623.



1. In a headlight, the combination with a headlight casing, burner therein and reflecting device in rear of the burner, of a shutter adjustably mounted to move into or out of a position interposed between the burner and said reflecting device, and a lens adjustably mounted to move into and out of position between the burner and the front opening of the headlight.

2. In a headlight, the combination with a headlight casing, burner therein and reflecting device in rear of the burner, of a shutter adjustably mounted to move into or out of a position interposed between the burner and said reflecting device, and a lens adjustably mounted to move into and out of position between the burner and the front opening of the headlight, said shutter and lens being connected to move together.

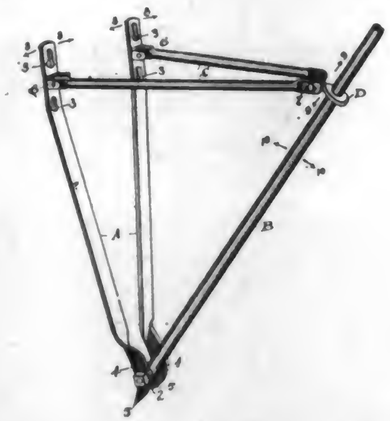
3. In a headlight, the combination with a headlight casing, of a concave reflector arranged in the rear of the headlight, a burner arranged in the focus of said reflector, a shutter adapted to be interposed between the burner and reflector, and a converging lens mounted to move laterally into and out of position in front of the burner.

4. In a headlight, the combination with a headlight casing, of a Mangan mirror arranged in the rear portion thereof, a burner arranged in the focus of said Mangan mirror, a shutter mounted to move laterally into position to screen the Mangan mirror, and a converging lens mounted to move into position in front of the burner.

5. In a headlight, the combination with a barrel-shaped headlight casing, of a concave reflector arranged in the rear closed end of said casing, a burner arranged in the focus of said reflector, a rock-shaft arranged to extend longitudinally along one side of the casing above the lower side of the latter, a pair of arms projecting laterally from said rock shaft within the casing and respectively in front and in rear of the burner, a shutter mounted upon the rear arm, a converging lens mounted upon the front arm, pockets located outside of the headlight casing and communicating with the interior of the latter in register with the respective arms, and means for oscillating said rock-shaft.

[Claim 6 not printed in the Gazette.]

971,710. BRACKET FOR SCAFFOLDS. HARVEY C. WERTZ, Ashland, Ohio, assignor of one-half to J. H. Greshner, Ashland, Ohio. Filed June 20, 1910. Serial No. 567,785.



1. As a new article of manufacture, a bracket adapted to be used in scaffolds and on roofs consisting of two corresponding members constructed to be temporarily engaged in working position, a single brace pivoted between said members and supporting cross pieces pivoted on said members at one end and pivotally and adjustably engaged with said brace at their other ends.

2. A bracket for scaffolds and the like comprising two main bars, a brace pivoted between the lower ends of said bars and two cross pieces pivoted to the upper ends thereof, and a device connecting the outer ends of said cross-pieces slidably mounted on said brace.

3. A bracket adapted to be used by slaters, carpenters and others about buildings having two main bars constructed at their ends to be fixed in working position, a cross-piece connected to the upper end of each bar and a brace pivoted between the lower ends of said bars, and a device pivotally mounted on the outer ends of said cross pieces and constructed to slide and automatically lock on said brace.

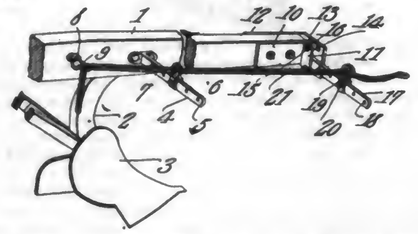
4. The bracket described having two supporting bars constructed at their upper ends with slots for nails or spikes and having sharpened engaging points at their lower ends, a clip on each bar and cross pieces pivoted in said clips, a brace pivoted between the lower ends of said supporting bars and a device pivoted on the outer ends of said cross-pieces and constructed to slide and lock on said brace.

5. A scaffold bracket consisting of a pair of bars and a brace member pivotally united to permit spreading and folding of each of said parts in different directions and cross pieces connecting the free ends of said parts.

[Claims 6 and 7 not printed in the Gazette.]

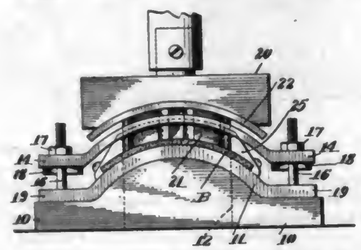
971,711. PLOW DRAFT APPLIANCE. WILLIAM L. WHITE, Healdsburg, Cal., assignor of one-third to George P. Ferguson, Healdsburg, Cal. Filed Nov. 2, 1909. Serial No. 525,918.

1. In combination with a plow beam, a draft appliance comprising plates attached to the opposite sides of the forward portion of the beam and having at their forward ends laterally disposed flanges spaced from each other, bolts secured at their end portions in the said flanges, an arm pivoted to one of the flanges and lying between said flanges and between said bolts, an eye adjustably mounted upon said arm, an arm attached to the side of the beam at a point intermediate its ends, an eye mounted upon the last said arm, and a draft chain passing through the eyes upon the arms and connecting at its rear end with the beam.



2. In combination with a plow beam, a draft appliance comprising plates attached to the forward end of the plow beam and having at their forward portions laterally disposed flanges, one of which is provided with elongated slots, bolts passing through the said plates and lying in the said slots, an arm pivotally attached to one plate and lying between the flanges and between said bolts, an arm attached to the side of the plow beam at a point intermediate its ends, eyes adjustably mounted upon said arms and a draft chain passing through the eyes upon said arms and connected at its rear end to the plow beam.

971,712. APPARATUS FOR MAKING TOILET ARTICLES FOR PERSONAL WEAR. JOSEPH WILCOX, Athol, Mass. Filed Apr. 18, 1908. Serial No. 427,839.



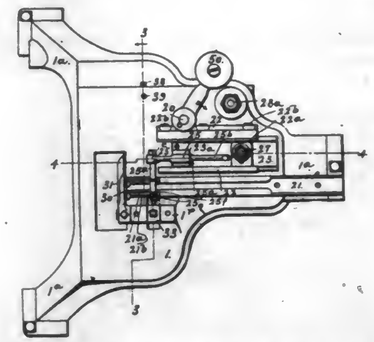
1. In a device of the character described, the combination of an embossing die having depressions and projections, a die coöperating therewith, a die plate having perforations corresponding in position and form with the projections on said embossing die, and a set of die punches coöperating with the perforated die plate and having a form and location corresponding to the perforations thereof.

2. In a device of the character described, the combination of a perforated plate, a plunger having a plurality of cutting dies thereon fitting the perforations in said plate, an embossing die above said plate having an intaglio surface corresponding to the parts between the perforations in said plate, the sunken portions thereof having rounded edges, and a gage on the perforated plate for registering the blank.

3. In a device of the character described, the combination of a curved perforated plate for holding a blank, a similarly curved perforated plate spaced therefrom, and a plunger having a plurality of cutting dies thereon fitting said perforations, the second plate being provided on its face toward the first named plate with a curved intaglio embossing surface between the perforations in said plate, the sunken portions thereof having rounded edges.

4. In a device of the character described, the combination of a base, a curved perforated plate fixed thereon, a gage extending upwardly from said plate, a movably mounted curved perforated plate above the first named plate having intaglio lower surfaces between the perforations thereof, and a plunger having dies thereon fitting the perforations in said plates and adapted to perforate a blank on the first named plate and to force the second plate down upon said blank to emboss it.

971,713. CUTTING MECHANISM FOR ENVELOP-LOADING MACHINES, &c. JAMES R. WILLIAMS, New York, N. Y., and WILLIAM C. BRIGGS, Winston Salem, N. C., assignors to The National Stamp Vending Machine Company, Incorporated, Wilmington, N. C. Original application filed Aug. 20, 1908, Serial No. 449,486. Divided and this application filed July 24, 1909. Serial No. 509,452.



1. In a loader, an article feeding and delivering mechanism comprising an article chute, means for engaging the article in the chute and feeding it therethrough, combined with means for severing the article into sections as it leaves the chute, said severing means comprising a fixed cutter and a movable cutter, a sliding frame, means for operating said movable cutter to cut the article when the sliding frame moves in one direction, and means for returning the movable cutter to its initial position by the movement of the sliding frame.

2. In a loader, an article feeding and delivering mechanism comprising an article chute, means for engaging the article in the chute and feeding it therethrough, combined with means for severing the article into sections as it leaves the chute, said severing means comprising a fixed cutter and a movable cutter, a sliding frame, means for operating said movable cutter to cut the article when the sliding frame moves in one direction, means for returning the movable cutter to its initial position by the movement of the sliding frame, and a separate means independent of the sliding frame for returning the movable cutter to its initial position.

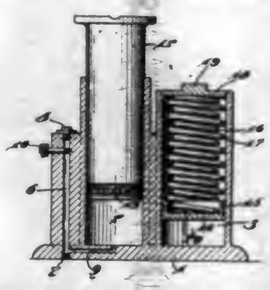
3. In a loader, an article feeding and delivering mechanism, a rotatable operating shaft, a reciprocating carriage operatively connected to said shaft and to said feeding and delivering mechanism, a cutting mechanism including a pivoted cutter to sever the delivered article, means normally holding said pivoted cutter in its non-cutting position and trip devices carried by said reciprocating frame and said pivoted cutter to operatively connect said parts at times to cause said pivoted cutter to move through its cutting motion.

4. In a loader, an article feeding and delivering mechanism, a rotatable operating shaft, a reciprocating carriage operatively connected to said shaft and to said feeding and delivering mechanism, a cutting mechanism including a pivoted cutter to sever the delivered article, means normally holding said pivoted cutter in its non-cutting position and trip devices carried by said recipro-

cating frame and said pivoted cutter to operatively connect said parts at times to cause said pivoted cutter to move through its cutting motion, and means independent of said reciprocating frame for restoring said cutter to its initial position.

5. In a loader, an article-feeding and delivering mechanism, a rotatable operating shaft, a reciprocating carriage operatively connected to said shaft and to said feeding and delivering mechanism, a cutting mechanism including a pivoted cutter to sever the delivered article, means normally holding said pivoted cutter in its non-cutting position and trip devices carried by said reciprocating frame and said pivoted cutter to operatively connect said parts at times to cause said pivoted cutter to move through its cutting motion, and means independent of said reciprocating frame for restoring said cutter to its initial position, said last named means comprising a rotatable member carried by said shaft, a rod connected with said cutter and a projection on said rod to be engaged by said rotatable member at times.

971,714. HYDRAULIC JACK. BLAINE WORTHINGTON, Scotland, Pa. Filed Nov. 29, 1909. Serial No. 530,436.



1. A hydraulic jack, comprising two parallel cylinders, one constituting a working cylinder, and the other a storage cylinder, a piston or ram in the working cylinder, a piston in the storage cylinder, a screw threaded cap plate in the upper end of the storage cylinder, elastic devices between the cap plate and the piston in the storage cylinder exerting downward pressure on said piston, a pipe connecting the lower ends of said cylinders, a valve in said pipe, said working cylinder having an inlet passage communicating with its lower end, a valve in said passage, and a valved outlet in the lower end of said working cylinder, substantially as described.

2. A hydraulic jack, comprising a casting forming parallel cylinders, one constituting a working cylinder, and the other a storage cylinder, a piston or ram in the working cylinder, a piston in the storage cylinder, a screw threaded cap plate in the upper end of the storage cylinder, nested springs bearing at one end against said cap plate, and at their other ends against piston in the storage cylinder, a pipe connecting the lower ends of said cylinders, a valve in said pipe, said working cylinder having an inlet passage communicating with its lower end, a valve in said passage, and a valve normally closing an outlet in the lower end of said working cylinder.

971,715. BRUSH-CLEANER FOR SIEVES AND BOLTERS. WILLIAM D. ANDERSON and JAMES G. ANDERSON, Milwaukee, Wis. Filed Mar. 7, 1910. Serial No. 547,670.

1. A device of the described class, comprising a flexible non-metallic frame sufficiently inelastic to permit constant variations in outline when in use, and metallic bearing members embracing short portions of the under surface of the frame at separated points along its outer margin, and brushes clamped by said bearing members to the non-metallic frame.

2. A device of the described class, comprising a flexible non-metallic frame, metallic bearing members embracing the under surface of said frame, and brushes clamped by said bearing members to the non-metallic frame, and a flexible member extended horizontally across the central portion of the device and unconnected therewith except at its ends to form a flexible truss.



3. A device of the described class, comprising a continuous band of non-metallic material, metallic bearing members embracing short portions of the under surface of said band and supporting its outer margins at opposite sides of the frame, and brushes secured to said band by said bearing members and projecting upwardly therefrom.

4. A device of the described class, comprising an elongated frame of non-metallic flexible material, metallic bearing members embracing short portions of the under surface of said frame, brushes secured to said frame and projecting upwardly therefrom and a connecting piece secured to opposing sides of said frame and arranged to hold such sides apart and also to prevent the frame from assuming a circular form.

5. A device of the described class, comprising a frame of non-metallic flexible material, metallic bearing members embracing short portions of the under surface of said frame, and a strip of fabric secured to said frame with one margin projecting upwardly and frayed to form a brush.

971,716. WINDLASS. CIPRIANO ANDRADE, Jr., New York, N. Y. Filed Feb. 14, 1910. Serial No. 543,828.

1. In windlasses, in combination; a bed plate, having a recess in its top face; a central pin perpendicular to said bed plate and integral therewith; a thread on the upper portion of said pin; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having a recess in its top face; a top plate threaded to the thread at the upper portion of said pin, said top plate having a limited reciprocating motion of rotation about said thread, said motion being limited in one direction by contact between the lower face of said top plate and the upper face of said sheave; a pawl let into the lower face of said top plate, said pawl engaging in said recess in the top face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; a pawl let into the lower face of said sheave, said pawl engaging in said recess in the top face of said bed plate, and coöperating with said pawl in the bottom face of said top plate, whereby said sheave is free to rotate in one direction with reference to said bed plate and top plate, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said top plate; means for securing said windlass solidly to the deck or floor.

2. In windlasses, in combination; a bed plate, having recesses in its top face; a central pin perpendicular to said bed plate and integral therewith; a thread on the upper portion of said pin; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having recesses in its top face; a top plate threaded to the thread

at the upper portion of said pin, said top plate having a limited reciprocating motion of rotation about said thread, said motion being limited in one direction by contact between the lower face of said top plate and the upper face of said sheave; pawls let into the lower face of said top plate, said pawls engaging in said recesses in the top face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; pawls let into the lower face of said sheave, said pawls engaging in said recesses in the top face of said bed plate, and coöperating with said pawls in the bottom face of said top plate, whereby said sheave is free to rotate in one direction with reference to said bed plate and top plate, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said top plate; means for securing said windlass solidly to the deck or floor; means for tripping said pawls on the bottom of said top plate; means for tripping said pawls on the bottom of said sheave.

3. In windlasses, in combination; a bed plate, having recesses in its top face; a central pin perpendicular to said bed plate and integral therewith; a thread on the upper portion of said pin; a sheave rotating freely about said pin as an axis, the lower face of said sheaves resting on the upper face of said bed plate, said sheave having recesses in its top face; a top plate threaded to the thread at the upper portion of said pin, said top plate having a limited reciprocating motion of rotation about said thread, said motion being limited in one direction by contact between the lower face of said top plate and the upper face of said sheave; pawls let into the lower face of said top plate, said pawls engaging in said recesses in the top face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; pawls let into the lower face of said sheave, said pawls engaging in said recesses in the top face of said bed plate, and coöperating with said pawls in the bottom face of said top plate, whereby said sheave is free to rotate in one direction with reference to said bed plate and top plate, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said top plate; means for securing said windlass solidly to the deck or floor; a trip ring to trip said pawls in the bottom of said top plate; a trip ring to trip said pawls in the bottom of said sheave; lock blocks for locking said trip rings in position.

4. In windlasses, in combination; a top plate having a recess in its lower face; a trunnioned pawl, fitting into said recess; immediately below said top plate, a sheave with a recess in its upper face, said recess registering with the body of the pawl, but not with the trunnions, whereby said trunnions are supported by the upper face of said sheave, while the free end of the pawl is free to drop into and lock with said recess in the sheave.

5. In windlasses, in combination, a sheave having a recess in its lower face; a trunnioned pawl fitting into said recess; immediately below said sheave, a bed plate with a recess in its upper face, said recess registering with the body of the pawl, but not with the trunnions, whereby said trunnions are supported by the upper face of said bed plate, while the free end of the pawl is free to drop into and lock with said recess in said bed plate.

971,717. PORTABLE LOCK FOR DOORS AND WINDOWS. ARTHUR CALVIN BATES, Brownsville, Cal., assignor of one-half to Albert Kahn, San Francisco, Cal. Filed May 21, 1910. Serial No. 562,614.



1. A device of the character described comprising a hollow wedge opening downwardly and sloping dog pivotally mounted between the side walls of said wedge and adapted to move downwardly and rearwardly.

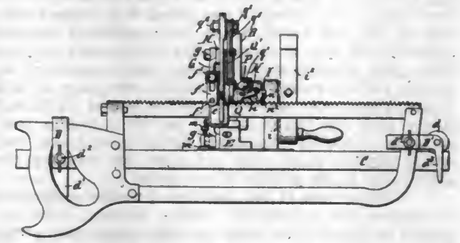
2. A device of the character described comprising a hollow wedge opening downwardly and a downwardly projecting dog having its projecting end provided with a plurality of teeth mounted between the walls of said wedge and movable therein.

3. A device of the character described comprising a hollow wedge opening downwardly and having its rear wall provided with a plurality of teeth at its lower end and a downwardly projecting dog having its projecting end provided with a plurality of teeth movably mounted between the side walls of said wedge.

4. A device of the character described comprising a hollow wedge opening downwardly and having its rear wall provided with a plurality of teeth at its lower end, a downwardly projecting dog having its projecting end provided with a plurality of teeth movably mounted between the side walls of said wedge, and a stop extending upwardly from the top of said wedge.

5. A device of the character described comprising a hollow wedge having its point flat on its underside, said wedge opening downwardly and having its rear wall provided with a plurality of teeth at its lower end, a downwardly projecting dog having its projecting end provided with a plurality of teeth movably mounted between the side walls of said wedge, and a stop extending upwardly from the top of said wedge.

971,718. SAW FILING AND SETTING MACHINE. SOLOMON D. BENOLIEL, Niagara Falls, N. Y. Filed May 31, 1904. Serial No. 210,333.



1. The combination of a support for the saw, a main frame, a head mounted to slide vertically on the main frame, a file carrier mounted to slide horizontally in ways on said vertically sliding head, a file secured on said file carrier, a drive shaft, and operating connections between said drive shaft and file carrier for horizontally reciprocating said file carrier and also raising and lowering the slide head through the medium of the file carrier, substantially as set forth.

2. The combination of a support for the saw, a file, a file carrier mounted to reciprocate horizontally and vertically and having oppositely-disposed teeth, a rotary shaft, and a part secured to said shaft and having teeth which travel in a circular path of a diameter greater than the distance between the sets of teeth on the file carrier, and which coöperate with said teeth on the file carrier to reciprocate the same horizontally and also raise and lower the file carrier, substantially as set forth.

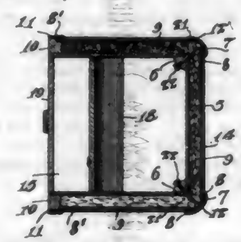
3. The combination of a support for the saw, a file, a file carrier mounted to reciprocate horizontally and vertically and having an opening provided at its upper and lower sides with teeth, a rotary drive shaft, an arm secured to said shaft adjacent to said file carrier and having teeth which project into said opening in the file carrier constructed and arranged to reciprocate said file carrier horizontally and vertically, substantially as set forth.

4. The combination of a support for the saw, a file, a file carrier movably mounted and provided with oppositely-disposed teeth, and a rotary operating device having teeth which engage the teeth on the file carrier and move in a circular path of greater diameter than the distance between the teeth on the file carrier, whereby the latter is reciprocated in two directions at an angle to each other, substantially as set forth.

5. The combination of a support for the saw, filing mechanism, setting levers, feed mechanism for the saw, means for adjusting the filing and setting levers laterally relative to the saw blade, means for adjusting the setting levers relative to the filing mechanism, to the saw teeth and to each other, and means for adjusting the feed mechanism relative to the filing mechanism, substantially as set forth.

[Claim 6 not printed in the Gazette.]

971,719. DISPLAY-CASE. HERMAN C. BORMAN, Metropolis, Ill. Filed Dec. 21, 1909. Serial No. 534,344.



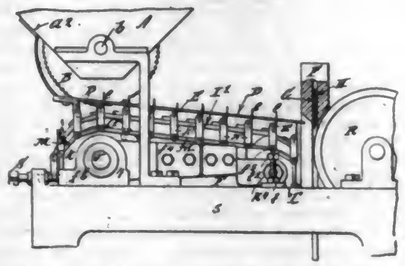
1. A display-case of the character described comprising a casing, corner strips at the meeting edges of the front and sides of the casing, said strips being positioned within the casing walls, exterior strips arranged in opposed relation to the first named strips, bolts extending entirely through each pair of corner strips having nuts on their inner ends, whereby said strips are rigidly connected together, vertical strips secured to the rear edges of said casing, glass plates seated in grooves in said strips and spaced from the casing wall to provide a display compartment, a cover permanently secured on said case, and means carried by the case and cover for retaining the glass plates in the grooves of said strips.

2. A display-case of the character described comprising a substantially rectangular casing, vertical strips arranged in each of the corners of the casing, said strips having vertical grooves therein, glass plates seated in said grooves and spaced from the casing walls, a cover permanently secured on said casing, flanges secured to the edge of the cover and to the edge of the bottom of the case, said flanges extending upon the glass plates to retain the same in the grooves of said corner strips, a feed plate arranged within said case, and a hinged door in the back of said case below the feed plate.

3. A display case of the character described comprising a substantially rectangular casing having interior and exterior quadrant-shaped strips arranged at its front corners, said strips having their vertices opposed, said exterior strips thereby forming rounded corners for said case, bolts extending through said strips having nuts threaded upon their inner ends to rigidly secure the same together, vertical strips secured to the rear meeting edges of the sides and back of the case, longitudinal grooves in each of said front and rear strips, transparent plates seated in said grooves, means carried by the strips for retaining the plates in the grooves, a cover permanently secured on the top of said case, a flange secured to the cover and to the bottom of the case extending upon said transparent plates, a feed plate arranged within said case, and a hinged door in the back of said case below the feed plate.

971,720. COTTON-GIN. JAMES BRANDON, New York, N. Y. Filed Sept. 9, 1909. Serial No. 516,836.

1. In cotton-ginning apparatus, the combination of a receiving-hopper formed with a series of slots of greater width than the cotton-seed, a series of saws arranged to remove the seed-cotton through said slots and deposit it on a feed-board, said feed-board formed with a series of longitudinal slots, a series of forwarding-fingers projecting through said slots, and mechanism for carrying said forwarding-fingers and maintaining them in positions parallel to each other and substantially at right angles to the feed-board, seed stripping mechanism arranged at the end of the feed board, and means for adjusting the mechanism carrying the forwarding fingers vertically with relation to the stripping mechanism, substantially in the manner and for the purpose described.



2. In cotton-ginning apparatus, the combination of a receiving-hopper formed with a series of slots of greater width than the cotton-seed, a series of saws arranged to remove the seed-cotton through said slots and deposit it on a feed-board, said feed-board formed with a series of longitudinal slots, a series of forwarding fingers projecting through said slots, and mechanism for carrying said forwarding-fingers and maintaining them in positions parallel to each other and substantially at right angles to the feed board, seed stripping mechanism arranged at the end of the feed board, and means for adjusting the mechanism carrying the forwarding fingers horizontally with relation to the stripping mechanism, substantially in the manner and for the purpose set forth.

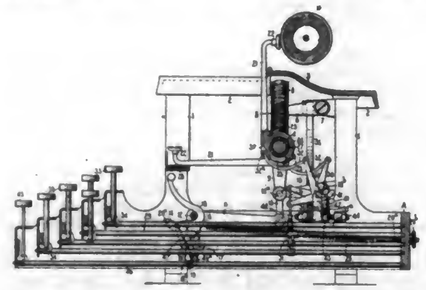
3. In cotton-ginning apparatus, the combination of a receiving-hopper formed with a series of slots of greater width than the cotton-seed, a series of saws arranged to remove the seed-cotton through said slots and deposit it on a feed-board, said feed-board formed with a series of longitudinal slots, a series of forwarding-fingers projecting through said slots, and mechanism for carrying said forwarding-fingers and maintaining them in positions parallel to each other and substantially at right angles to the feed board, seed stripping mechanism arranged at the end of the feed board, and means for adjusting the mechanism carrying the forwarding fingers both vertically and horizontally with relation to the stripping mechanism, substantially in the manner and for the purpose set forth.

4. In cotton-ginning apparatus, the combination of a receiving-hopper formed with a series of slots of greater width than the cotton-seed, a series of saws arranged to remove the seed-cotton through said slots and deposit it on a feed board, said feed-board formed with a series of longitudinal slots, forwarding mechanism consisting of a series of forwarding-fingers projecting through said slots and rigidly attached to transverse bars, said transverse bars pivotally connected to a forwarding chain, said forwarding chain, a series of controlling arms rigidly attached to said transverse finger carrying bars and pivotally connected to an auxiliary endless chain, said auxiliary endless chain arranged parallel to but lower than the aforesaid endless forwarding chain, a frame on which said forwarding mechanism is mounted, said frame being pivotally supported upon the power shaft, for the purpose described, and seed stripping mechanism arranged at the end of the feed board, substantially in the manner and for the purpose described.

5. In cotton-ginning apparatus, the combination of a receiving-hopper formed with a series of slots of greater width than the cotton-seed, a series of saws arranged to remove the seed-cotton through said slots and deposit it on a feed board, said feed-board formed with a series of longitudinal slots, forwarding mechanism consisting of a series of forwarding fingers projecting through said slots and rigidly attached to transverse bars, said transverse bars pivotally connected to a forwarding chain, said forwarding chain, a series of controlling arms rigidly attached to said transverse finger carrying bars and pivotally connected to an auxiliary endless chain, said auxiliary endless chain arranged parallel to but lower than the aforesaid endless forwarding chain, a frame on which said forwarding mechanism is mounted, said frame being pivotally supported at its forward end upon the power shaft and at its free inner end upon bearings which are vertically adjustable, and seed stripping mechanism arranged at the end of the feed-board substantially in the manner and for the purpose set forth.

[Claim 6 not printed in the Gazette.]

971,721. TYPE-WRITING MACHINE. ALEXANDER T. BROWN, Syracuse, N. Y. Filed Apr. 2, 1904. Serial No. 201,260.



1. The combination of a curved bar provided with radially arranged ball races, balls therein, type bars, one for each of said races, made with internally grooved semi-circular or segmented bearing parts, conical annuli, a pair for each type bar and having their external cones caught within said grooves of said segments, and screws arranged in the planes of the type bars for connecting said segments and varying their relative positions, whereby the type bars may be brought close together and yet be rigid against side play.

2. The combination of a curved bar provided with radially arranged ball races with adjacent races in an arc concentric with the printing point, balls in said races, type bars, one for each of said races and made with internally grooved semi-circular or segmented bearing parts, conical annuli, a pair for each type bar and having their external cones caught within said grooves of said segments, and screws arranged in the planes of the type bars for connecting said segments and varying their relative positions, whereby the type bars may be brought close together and yet be rigid against side play.

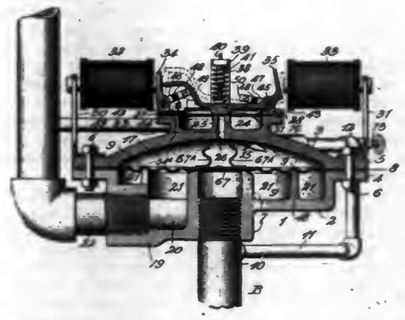
3. In a typewriting machine, the combination of a curved bar support having radial ball receiving grooves, type bars each having an expansible and contractible eye that surrounds a ball groove of the support, independent bearing members received within the eye of each type bar and forming a ball race between them and which receive a relative adjustment by an expansion or contraction of the eye of the associated type bar, and balls interposed between said bearing members and said grooved support.

4. In a typewriting machine, the combination of a bar segment having radial ball receiving grooves, type bars each having a sectional eye that surrounds a ball groove of the segment, adjustable means for uniting the members of each of said eyes, independent bearing rings received within and carried by the eye of each type bar and forming a ball race between them and which receive a relative adjustment by a relative adjustment of the members of the eye of the associated type bar, and balls interposed between said bearing rings and said grooved segment.

5. In a typewriting machine, the combination of a type bar that has its pivotal end split, and means to which access may be gained from the front of the machine and while the type bar is in normal position for uniting said split portion of the type bar.

[Claims 6 to 30 not printed in the Gazette.]

971,722. ELECTRICALLY-OPERATED VALVE. PEABODY A. BROWN, Denver, Colo. Filed Oct. 18, 1909. Serial No. 523,191.



1. In a valve as specified, the combination with a casing, a resilient diaphragm dividing the casing into upper and lower compartments, each having an outlet, a seat in the axial center of the lower compartment normally closed by the diaphragm, a pressure supply pipe connected with the seat and a branch pipe connecting the pressure supply pipe and the upper compartment, of a resilient cover for the outlet of the upper compartment, a spring pressed arm for normally engaging the resilient cover to close the outlet, an armature connected with the spring-pressed arm, a magnet for the armature in circuit with a battery, means for automatically closing the circuit, whereby the armature is attracted by the magnet and the spring-pressed arm lifted from the resilient cover, and means for holding the arm away from the cover.

2. In a valve as specified, the combination with a casing, a resilient diaphragm therein dividing the casing into upper and lower compartments each having an outlet, a hub in the lower compartment upon which the diaphragm is normally seated, a pressure supply pipe connected with said hub and a branch pipe connecting the pressure supply pipe with the upper compartment, of a diaphragm for closing the outlet of the upper compartment, spring-pressed arm for normally holding the diaphragm upon the outlet, an armature connected with said arm and provided with a terminal contact, a magnet for said armature, a second magnet, an armature therefor having a terminal contact, a conducting medium having terminal contacts adapted to be alternately engaged by the said armature contacts, a battery, a thermostat, wires connecting the battery and thermostat arm and the conducting medium and battery, wires connecting each magnet with the adjacent armature contact and with one of the poles of the thermostat, said spring-pressed arm being held out of engagement with the diaphragm, after being lifted by its armature, by the opposite armature.

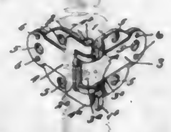
3. In a valve as specified, the combination with a casing, a diaphragm dividing the casing into two compartments, each having an outlet; a hub in the lower compartment upon which the diaphragm is normally seated; a circular wall surrounding the outlet of the upper compartment; pipes connecting said hub and the compartment above the diaphragm with a source of fluid under pressure, and a diaphragm clamped to said circular wall for normally closing the outlet of the upper compartment, and a pipe leading from the inclosure formed by the circular wall and diaphragm; of means for normally holding said latter diaphragm upon its outlet, comprising a spring pressed arm, having an armature at one end and a contact insulated therefrom; a second armature in line with the first armature and having an insulated contact; a conducting medium having contacts in the paths of

said armature; magnets for said armatures; a battery; a thermostat; wires connecting the battery with the conducting medium and thermostat arm; wires connecting each magnet with the adjacent armature contact and with one of the thermostat poles, whereby a circuit is closed through the magnets alternately by the movement of the thermostat arm, and instantly broken by the disengagement of the contact of the attracted armature with the adjacent contact on the conducting medium, said spring pressed arm being adapted to engage and hold the said second armature against its magnet after the second armature has been attracted thereby to prevent the reengagement of its contact with the adjacent contact on the conducting medium, while the second armature is adapted to move beneath the end of the said spring pressed arm when the armature thereon has been attracted by its magnet, and hold it in engagement therewith for the same reason, and means for throwing said second armature beneath said arm.

4. In a valve as specified, the combination with a casing a diaphragm dividing the casing into upper and lower compartments, each having an outlet, a hub in the lower compartment upon which the diaphragm is normally seated, a pressure supply pipe connected to the hub, a branch pipe connecting the pressure supply pipe and the upper compartment, a concentric band in said lower compartment for supporting said diaphragm, and auxiliary means for exerting pressure upon the top side of the diaphragm consisting of a spring-pressed plate, of a resilient cover for the outlet of the upper compartment, oppositely positioned armatures above said cover, an extension on one of said armatures adapted to engage the other armature and a spring for normally holding said extension against the cover, magnets for said armatures, wires connecting said magnets in independent circuits with a battery, means for automatically closing said circuits in alternate order, a spring on the second-mentioned armature for throwing it forward under the extension of the other armature, when the latter is attracted by its magnet, and means connected with each armature for breaking the circuit through its magnet when attracted by the same.

5. In a valve as specified, a casing, a diaphragm dividing the casing into upper and lower compartments, each having an outlet, an inlet hub in the lower compartment, a pipe connecting the hub with a pressure supply, said hub being normally seated by the diaphragm, a branch pipe connecting the pressure supply pipe with the compartment above the diaphragm, a seat surrounding the outlet of the upper compartment, a circular inclosure surrounding said seat, a diaphragm secured upon said inclosure so as to normally rest upon the seat, a spring-controlled arm for holding said diaphragm upon the seat, electrically operated means for lifting said arm to permit the pressure beneath the seat to escape into the chamber within the inclosure, a pipe extending from the outlet of the lower compartment of the valve, and a pipe extending from the said outlet pipe to the said chamber within the inclosure.

971,723. HINGE. RICHARD R. BROWN, Belvidere, Ill., assignor to National Sewing Machine Company, Belvidere, Ill., a Corporation of Illinois. Filed Apr. 1, 1907. Serial No. 365,864.



1. In a hinge, the combination with a leaf, of a knuckle movably secured to the leaf, and a lip on said leaf adjacent to the pintle of the hinge and adapted to coöperate with and support the said movable knuckle of the hinge when in open position.

2. In a hinge leaf, the combination of a knuckle movably secured to the leaf, and lips on the said leaf adjacent to the said knuckle and adapted to coöperate with the pintle of the hinge.

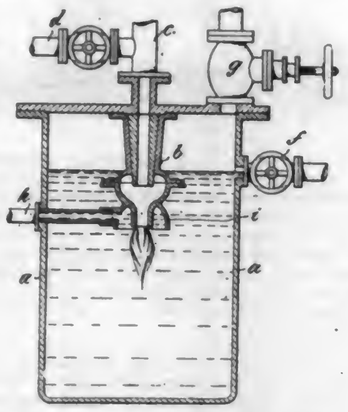
3. In a hinge, the combination with leaves, of knuckles movably secured to the leaves, a pintle for securing the knuckles together, and a pintle operating member journaled on the pintle.

4. In a hinge, the combination with leaves, of flexible members secured to the leaves, knuckles carried by the said flexible members, a pintle adapted to pivotally secure the said knuckles together, and lips carried by the said leaves and adapted to furnish seats for the knuckles secured to the coöperating leaf.

5. In a hinge, the combination with leaves, of elastic flexible members secured to the leaves, knuckles carried by the elastic flexible members, a pintle, and a pintle operating member journaled on the pintle and provided with stops for checking the opening of the said leaves beyond a predetermined angle.

[Claims 6 to 9 not printed in the Gazette.]

971,724. STEAM-GENERATOR WITH WATER-IMMERSED FLAME. OSCAR HEINRICH ULRICH BRÜNLER, Brussels, Belgium. Filed Aug. 31, 1909. Serial No. 515,530.



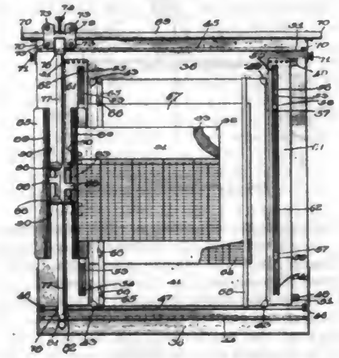
1. A device of the character described comprising a boiler, a burner suspended within said boiler adapted to produce an inverted flame, an inverted cup shaped vessel surrounding the lower end of said burner immediately above the flame, means connected to the vessel for the introduction of cold water into the same for producing rapid changes in the temperature of the water in the vicinity of said flame, and means to remove the heated water and the generated steam and gases, substantially as described and for the purpose set forth.

2. A device of the character described comprising a boiler, a burner suspended within said boiler, adapted to produce an inverted flame, an inverted cup shaped vessel surrounding the lower end of said burner immediately above the flame, and a pipe opening into said vessel for the introduction of cold water into said vessel for producing rapid changes in the temperature of the water in the vicinity of said flame, and valve controlled pipes for the removal of the heated water and the generated steam and gases, substantially as described and for the purpose set forth.

971,725. MANIFOLDING DEVICE. ELMER E. BRUNSON, Chicago, Ill. Filed Feb. 12, 1908. Serial No. 415,610.

1. The combination with a table, means for adjustably holding a sheet of paper on said table, and means for holding a carbon transfer sheet above said sheet of paper, of a rod mounted on said table, a carriage slidingly mounted on said rod, means on said carriage for securing

a second sheet of paper thereto, and means for adjusting said rod and carriage to cause said second sheet of paper to overlie said first sheet of paper and carbon in any desired registry with said under sheet.



2. The combination with a table, means for adjustably holding a sheet of paper on said table, and means for holding a carbon transfer sheet above said sheet of paper, of a rod pivotally connected at one end with said table, means for clamping said rod at its free end to said table in substantial parallelism with the surface of said table, a carriage slidingly mounted on said rod, mechanism carried by said carriage for supporting a second sheet of paper thereon, and means for adjusting said rod and said carriage on said rod to cause second sheet of paper to overlie said first sheet in any desired registry therewith.

3. The combination with a table, and a rod adjustably secured to said table, of holding blocks slidingly mounted on said rod, a plurality of engaging studs on said holding blocks adapted to engage perforations in a sheet of paper, and means for holding said holding blocks on said rod against rotation with any one of said studs uppermost in engaging position.

4. The combination with a table, a rod adjustably secured to said table and having a plurality of parallel longitudinal grooves and a peripheral recess near one end, of a holding block slidingly mounted on said rod and having a plurality of engaging studs of different sizes adapted to engage with the perforations in a sheet of paper, and a lug on its interior surface adapted to engage any of said grooves whereby said block may be rotated on said rod by bringing said stud in register with said circular recess and may be held against rotation with any one of its studs in engaging position by the engagement of said lug with one of said grooves.

5. The combination with a table, and means for adjustably holding a sheet of paper on said table, of an adjustable rod mounted on said table, and means for clamping said rod in any desired position thereon, a carriage mounted on said rod and movable longitudinally thereof, and a frame hinged to said carriage and adapted to hold a transfer sheet.

[Claims 6 to 17 not printed in the Gazette.]

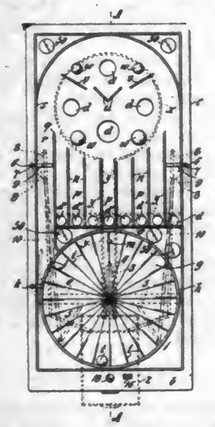
971,726. GAME-TABLE. FREDERIC J. BRYANT, New York, N. Y. Original application filed June 11, 1909, Serial No. 501,475. Divided and this application filed Nov. 13, 1909. Serial No. 527,840.

1. A game table consisting of a playing part having a walled compartment, the wall of which is formed with an opening; a rotary ball-projecting disk the playing face of which is provided with ball-retaining means and which rotates in said walled compartment with its edge adjacent to said wall; and a gameboard or counting part which communicates through said opening with said walled compartment.

2. A game table consisting of a playing part having a walled compartment, the wall of which is formed with an opening; a rotary ball-projecting disk the playing face of which is provided with ball-retaining ribs and which rotates in said walled compartment with its edge adjacent to said wall; and a gameboard part which communicates through said opening with said walled compartment.

3. A game table consisting of a playing part having a walled compartment, the wall of which is formed with an opening; a rotary ball-projecting disk the playing face of which is provided with ball-retaining means and which rotates in said walled compartment with its edge adjacent to said wall; and a gameboard part having a raceway which communicates with said walled compartment through said opening.

4. A game table consisting of a playing part having a walled compartment, the wall of which is formed with an opening; a rotary ball-projecting disk the playing face of which is provided with ball-retaining means and which rotates in said walled compartment with its edge adjacent to said wall; and a gameboard part which communicates through said opening with said walled compartment; and a device for controlling said opening.



5. A game table consisting of a gameboard part; a device for obstructing play thereon; and mechanism for locking said device.

[Claims 6 to 23 not printed in the Gazette.]

971,727. COOKING UTENSIL. JOSEPH BEYERS, Chicago, Ill. Filed Sept. 30, 1909. Serial No. 520,394.



1. A device of the class described, comprising a partition arranged across the mouth of a pot below the normal

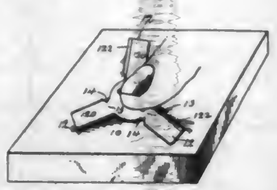
top thereof and provided with an upwardly swinging plate occupying the greater portion of the area of the pot and adapted to permit the escape of steam; and a wire screen secured across the opening in said partition, substantially as described.

2. A device of the class described, comprising a cup adapted to be inserted in the mouth of a pot and provided with a bottom having an upwardly swinging plate occupying the greater portion of the area of the pot and adapted to permit the escape of steam therethrough; and a wire screen secured across the opening in the bottom of said cup, substantially as described.

3. A device of the class described, comprising a cup adapted to be inserted into the mouth of a pot and provided with a bottom having an upwardly swinging plate occupying the greater portion of the area of the pot and adapted to permit the passage of steam therethrough, said cup also carrying a shield adapted to cover the ordinary strainer of a pot, substantially as described.

4. A device of the class described, comprising a cup adapted to be inserted in the mouth of a pot and provided with a bottom having an upwardly swinging plate adapted to permit the passage of steam therethrough and a wire screen secured across the bottom of said cup, substantially as described.

971,728. CUTTER FOR PENCIL-SHARPENERS. JAMES PATRICK CASEY, Syracuse, N. Y., assignor to Essington N. Gilfillan, Syracuse, N. Y. Filed July 2, 1909. Serial No. 505,541.



1. A cutter comprising a body of sheet metal, of substantially circular contour, adapted to be mounted upon a shaft at a right angle thereto, and a blade integral with and projecting from the body at a right angle to a tangential line drawn on the body, said blade having its two edges parallel with each other and oppositely beveled and being connected with the body by a neck narrower than the blade itself.

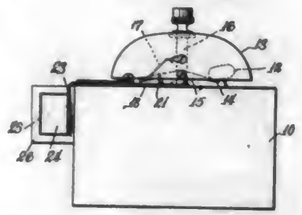
2. A cutter comprising a body of sheet metal, adapted to be mounted on a shaft at a right angle thereto and a blade integral with and projecting from the body at an angle thereto and having two flat sides and oppositely beveled edges, the blade being joined to the body by a neck having inwardly curved edges.

3. A cutter comprising a body of sheet metal, of substantially circular contour, adapted to be mounted upon a shaft at a right angle thereto, and a plurality of blades integral with and projecting from the body at regular distances apart and at right angles to tangential lines, said blades each having its edges parallel with each other and oppositely beveled, and being connected with the body by a neck narrower than the blade itself.

4. A cutter comprising a body of sheet metal, adapted to be mounted on a shaft at a right angle thereto, and a plurality of blades projecting from the body at identical angles thereto and each having two flat sides with oppositely beveled edges, the whole made integral of one piece of suitable material and each blade being joined to the body by a neck having inwardly curved edges.

5. A cutter comprising a body or hub and a plurality of radial blades, formed of a single piece of sheet metal, the blades being joined to the body by twisted necks having inwardly curved edges, and provided with oppositely beveled cutting edges.

971,729. BURGLAR-ALARM. GEORGE H. CHAPPELL, New York, N. Y. Filed Nov. 22, 1909. Serial No. 529,170.



1. A burglar alarm comprising a clock-work mechanism including an alarm, and an alarm hammer, a spring pressed tripping lever to engage the alarm hammer, a spring pressed pivoted striking arm to engage the tripping lever and release the alarm hammer, a plate secured to the outer end of the pivoted striking arm, a plate secured to the casing of the mechanism, the former plate being adapted to be brought into proximate and parallel relation with the latter plate and at the same time release the striking arm from contact with the tripping lever.

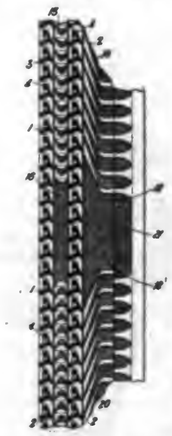
2. A burglar alarm comprising a clock work mechanism, a containing case for the mechanism, an alarm hammer, a plate secured to the case, said plate being adapted to be held between a door and the door casing, an alarm operated by the clock work mechanism, a tripping lever secured to the mechanism and adapted to normally engage the alarm hammer, a spring pressed pivoted striking arm adapted normally to engage the tripping lever and release the alarm hammer, a plate secured to the outer end of the striking arm and adapted to be brought into contact with the former plate and at the same time move the inner end of the arm out of contact with the tilting lever, said plate being adapted when in contact and inserted between a door and the door frame to form a spring pressed support for the containing case.

3. A burglar alarm comprising a casing containing a clock-work mechanism which includes an alarm, and a lever to hold the alarm unreleased, a spring pressed arm to engage the lever and release the alarm, a plate attached to the casing and contacting with the outer end of the arm when the arm is not in engagement with the lever, said plate and arm when held together between a closed door and the door frame forming a support for the burglar alarm.

4. A burglar alarm comprising a casing containing a clock-work mechanism which includes an alarm, a tilting tripping lever extending normally into the path of the alarm hammer, spring pressed striking arms to engage and release the tripping lever, a perforated plate on the casing, said plate adapted to enter between the door and its frame, and a second plate on the end of one of the striking arms, said plate entering the perforation in the first plate.

971,730. REVERSIBLE TURBINE. RICHARD CRAMP, East Ham, England, assignor to Cramp's Patent Reversible Turbine, Limited, London, England. Filed Aug. 4, 1910. Serial No. 575,526.

1. In a reversible turbine of the type specified; the combination with a stationary cylinder, a cover at the entrance end and a cover at the exhaust end of said cylinder, said exhaust end cover having an exhaust aperture, a rotor disk within said cylinder adjacent to the interior face of the said entrance end cover, pivoted reversible vanes carried by said rotor disk, said entrance end cover on said cylinder having two adjacent segmental groups of steam inlet nozzles diametrically opposite to a single segmental group of nozzles equal in number to the two said groups and all inclined in clockwise direction, and having also two adjacent groups of nozzles diametrically opposite to a single group of nozzles equal in number to the said two groups and all included in a counter-clockwise direction; of two valve cylinders located on said entrance end cover of said cylinder, the first of said valve cylinders having one port communicating with one and another port communicating with the other of the two adjacent groups of said steam inlet nozzles and having a third port communicating with the diametrically opposite single group of said inlet nozzles all inclined in a clockwise direction, the second of said valve cylinders having one port communicating with one and another port communicating with the other of the two adjacent groups of said steam inlet nozzles and having a third port communicating with the diametrically opposite single group of said inlet nozzles all inclined in a counter-clockwise direction, means for supplying pressure steam to both of said valve cylinders, a sliding valve in each of said valve cylinders, and means for operating said valves in said cylinders in reverse directions to admit pressure fluid to one or both groups of inlet nozzles or to the whole of the said inlet nozzles for driving the engine in a clockwise direction while the other valve maintains the closure of all the admission nozzles for driving in a counter-clockwise direction and vice versa, substantially as set forth.



2. In a reversible turbine of the type specified; the combination with a stationary cylinder, a cover at the entrance end and a cover at the exhaust end of said cylinder, said exhaust end cover having an exhaust aperture, a rotor disk within said cylinder adjacent to the interior face of the said entrance end cover, pivoted reversible vanes carried by said rotor disk, said entrance end cover on said cylinder having two adjacent segmental groups of steam inlet nozzles diametrically opposite to a single segmental group of nozzles equal in number to the two said groups and all inclined in a clockwise direction, and having also two adjacent groups of nozzles diametrically opposite to a single group of nozzles equal in number to the said two groups and all inclined in a counter-clockwise direction; of two valve cylinders located on said entrance end cover of said stationary cylinder, the first of said valve cylinders having one port communicating with one and another port communicating with the other of the two adjacent groups of steam inlet nozzles inclined in a clockwise direction, a pipe extending from said cylinder to the diametrically opposite single group of said inlet nozzles inclined in a clockwise direction, said cylinder having a third port communicating with said pipe, the second of said valve cylinders having one port communicating with one and another port with the other of the two adjacent groups of said inlet nozzles inclined in a counter-clockwise direction, a pipe extending from said cylinder to the diametrically opposite single group of said inlet nozzles inclined in a counter-clockwise direction, said cylinder having a third port communicating with said pipe, pipes for supplying steam to the ends of both of said valve cylinders, a valve in each of said steam supply pipes to control said supply, a sliding valve in each of said valve cylinders, a rod extending from said valves through the ends of said cylinders, means for operating said valve rods to move said valves in reverse directions to admit fluid pressure to one or both groups of inlet nozzles or to the whole of the inlet nozzles for driving the engine in a clockwise direction, while the other valve maintains the closure of all the admission nozzles for driving in a counter-clockwise direction and vice versa, substantially as set forth.

3. In a reversible turbine of the type specified; the combination with a stationary cylinder, a cover at the entrance end and a cover at the exhaust end of said cylinder, said exhaust end cover having an exhaust aperture, a rotor disk within said cylinder adjacent to the interior face of the said entrance end cover, two circular series of pivoted reversible vanes carried by said rotor disk and located at a distance apart, an annulus of stationary directing vanes fixed to the interior periphery of said cylinder and located between the double series of said reversible vanes carried by said rotor disk, said entrance end cover on said cylinder having two adjacent segmental groups of steam inlet nozzles diametrically opposite to a single segmental group of nozzles equal in number to the two said groups and all inclined in clockwise direction, and having also two adjacent groups of nozzles diametrically opposite to a single group of nozzles equal in number to the said two groups and all inclined in a counter-clockwise direction; of two valve cylinders located on said entrance end cover of said cylinder, the first of said valve cylinders having one port communicating with one and another port communicating with the other of the two adjacent groups of said steam inlet nozzles and having a third port communicating with the diametrically opposite single group of said inlet nozzles all inclined in a clockwise direction, the second of said valve cylinders having one port communicating with one and another port communicating with the other of the two adjacent groups of said steam inlet nozzles and having a third port communicating with the diametrically opposite single group of said inlet nozzles all inclined in a counter-clockwise direction, means for supplying pressure steam to both of said valve cylinders, a sliding valve in each of said valve cylinders, and means for operating said valves in said cylinders in reverse directions to admit fluid pressure to one or both groups of inlet nozzles or to the whole of the said inlet nozzles for driving the engine in a clockwise direction while the other valve maintains the closure of all the admission nozzles for driving in a counter-clockwise direction and vice versa, substantially as set forth.

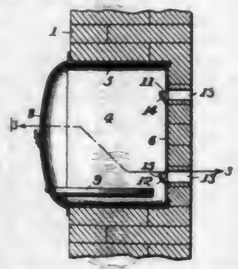
4. In a reversible turbine of the type specified; the combination with a stationary cylinder, a cover at the entrance end and a cover at the exhaust end of said cylinder, said exhaust end cover having an exhaust aperture, and rotor disks in said cylinder; of pivoted reversible vanes carried by each of said rotor disks, each of said vanes having curved concave forward and rearward faces, the forward end of said blades having extending faces at right angles to the widths of said vanes, and radial abutments on said rotor disks so located that each edge of the flat forward face of a vane when turned about its pivot contacts with the adjacent abutment and is clear of the next adjacent vane, substantially as set forth.

5. In a reversible turbine of the type specified; the combination with a stationary cylinder, a cover at the entrance end and a cover at the exhaust end of said cylinder, said exhaust end cover having an exhaust aperture, a rotor disk within said cylinder adjacent to the interior face of the said entrance end cover, pivoted reversible vanes carried by said rotor disk, said entrance end cover on said cylinder having two adjacent segmental groups of steam inlet nozzles diametrically opposite to a single segmental group of nozzles equal in number to the two said groups and all inclined in a clockwise direction, and having also two adjacent groups of nozzles diametrically opposite to a single group of nozzles equal in number to the said two groups and all inclined in a counter-clockwise direction, of two valve cylinders located on said entrance end cover of said stationary cylinder, the first of said

valve cylinders having one port communicating with one and another port communicating with the other of the two adjacent groups of steam inlet nozzles inclined in a clockwise direction, a pipe extending from said cylinder to the diametrically opposite single group of said inlet nozzles inclined in a clockwise direction, said cylinder having a third port communicating with said pipe, the second of said valve cylinders having one port communicating with one and another port with the other of the two adjacent groups of said inlet nozzles inclined in a counter-clockwise direction, a pipe extending from said cylinder to the diametrically opposite single group of said nozzles inclined in a counter-clockwise direction said cylinder having a third port communicating with said pipe, pipes for supplying steam to the ends of both of said valve cylinders, a valve in each of said steam supply pipes to control said supply, a sliding valve in each of said valve cylinders, a rod extending from said valves through the ends of said cylinders, rack teeth on each of said valve rods, a rotative shaft, bearings to carry said shaft, a toothed pinion fixed on said shaft with which the rack teeth of both of said valve rods engage, and means for effecting rotative adjustment of said shaft to traverse said valve rods and valves in reverse directions to admit fluid pressure to one or both groups of inlet nozzles or to the whole of the inlet nozzles for driving the engine in a clockwise direction while the other valve maintains the closure of the admission nozzles for driving in a counter-clockwise direction and vice versa, substantially as set forth.

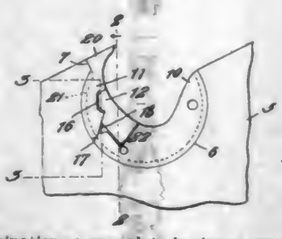
[Claims 6 to 9 not printed in the Gazette.]

971,731. SANITARY GARBAGE-CAN RECEPTACLE. RICHARD S. DARLING, New York, N. Y. Filed Apr. 27, 1910. Serial No. 557,989.



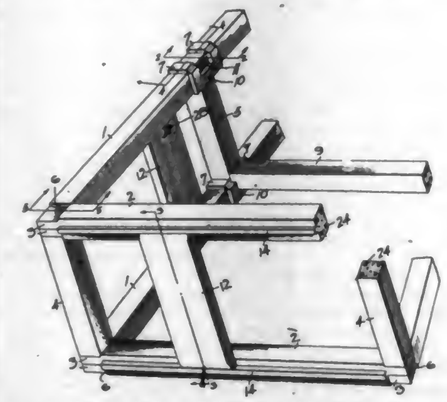
A sanitary garbage-can receptacle, comprising a metal box adapted to be inserted into the wall of a building, a hinge double door for said box on the inside of the building, a shelf carried by one part of said door, the back of the box being provided with openings communicating with the outside air, and lips or guards projecting over said openings, whereby the interior of said box is ventilated but access of snow, dust or the like is prevented.

791,732. SAW-TOOTH FASTENING. SAMUEL F. DAVIS, Clearmont, Mo. Filed Jan. 22, 1910. Serial No. 539,491.



In combination, a saw plate having a recess describing the greater part of a circle, a V-shaped tongue extending into said recess from the edge thereof, the edge of said saw plate at one side of the entrance of said recess being shouldered, a segmental locking plate arranged within said recess, having a peripheral groove to receive said tongue, one end of said locking plate having an extension formed thereon spaced from the edge of the recess in the saw plate, said extension being of greater thickness than the locking plate and having its ends beveled, a detachable saw tooth adapted to be arranged between the end of the locking plate and the edge of the recess, said tooth having a recess in one edge to receive the extension on the locking plate, the ends of said recess being grooved to receive the beveled ends of the extension, the body of the locking plate opposite to the extension thereof, being extended beyond said extension to provide a shoulder against which the end of the tooth abuts, the recess in said tooth which receives the extension having its base edge spaced from the end of the extension, and a shoulder formed on said tooth at one end of the point thereof adapted for engagement upon the shoulder on the outer edge of the saw plate, substantially as and for the purpose set forth.

971,733. LINING FOR SHAFTS. RALPH M. DRAVO, Edgeworth, Pa., and FRANCIS DONALDSON, Davenport, Iowa. Filed Apr. 11, 1907. Serial No. 367,567.



1. A shaft lining comprising ring beams and posts formed of metal reinforced concrete, said beams having their ends halved and overlapping and having the top and bottom faces of the overlapped portions reduced to form seats for the posts.

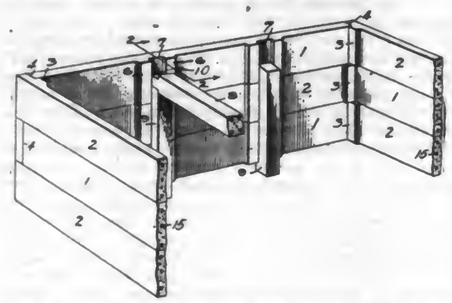
2. A shaft lining comprising ring beams formed of metal reinforced concrete having their ends suitably joined and provided with sockets on their side faces, and metal reinforced concrete struts having their ends seated in said sockets.

3. A shaft lining comprising ring beams formed of metal reinforced concrete having their ends suitably joined and provided with sockets on top, bottom and sides, concrete posts having their ends seated in the top and bottom sockets, and metal reinforced concrete struts having their ends projecting into the side sockets.

4. A shaft lining comprising sectional ring beams formed of metal reinforced concrete having reduced meeting ends and providing shoulders or sockets on top and inner sides, and concrete struts and posts having their ends projecting into said sockets.

971,734. LINING FOR SHAFTS, &c. RALPH M. DRAVO, Edgeworth, Pa., and FRANCIS DONALDSON, Davenport, Iowa. Filed Apr. 11, 1907. Serial No. 367,568.

1. A shaft lining composed of a plurality of layers of reinforced concrete plates horizontally arranged and provided with vertical grooves, vertically extending posts seated in said grooves, and cross reinforced concrete struts having end portions projecting between the meeting ends of the posts and seated in said grooves.

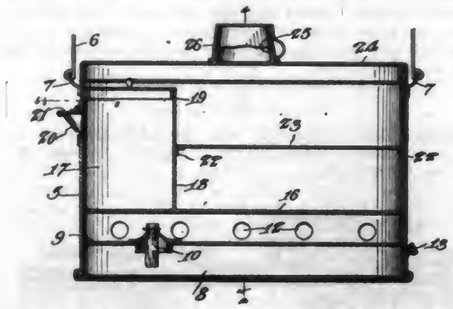


2. A shaft lining composed of a plurality of layers of horizontally arranged concrete reinforced plates provided with registering vertical ribs, reinforced concrete posts vertically seated between said ribs, and reinforced concrete struts having reduced end portions fitting between adjacent ends of said posts.

3. A shaft lining composed of a plurality of layers of horizontally arranged concrete plates, each layer being provided with ribs forming between the same a vertical groove in alinement with the like grooves in each of the other layers, said grooves being disposed intermediate the ends of each side of the shaft lining, and vertically arranged reinforced concrete posts in said grooves, each post extending through a plurality of said layers and terminating intermediate of a layer.

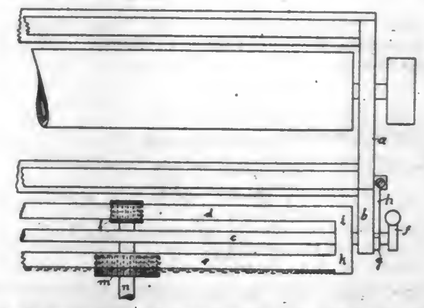
4. A shaft lining composed of a plurality of layers of horizontally arranged reinforced concrete plates, each layer being provided with ribs forming between the same a vertical groove in alinement with the like groove in each of the other layers, said grooves disposed intermediate the ends of each side of the shaft lining, vertically arranged reinforced concrete posts in said grooves, each post extending through a plurality of said layers and terminating intermediate of a layer, and reinforced concrete cross struts having reduced ends abutting in said grooves and seated between the ends of adjacent posts.

971,735. LUNCH-PAIL. SIMPSON EDWARDS, Bloomington, Ill. Filed Nov. 18, 1909. Serial No. 528,756.



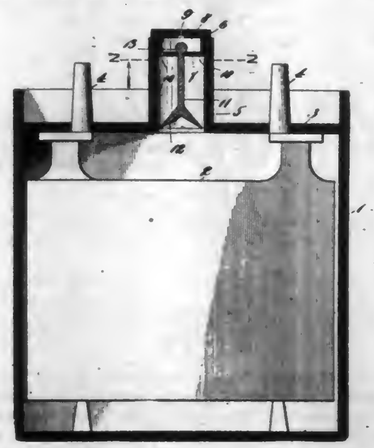
In a device of the character described, the combination of a casing having an oil chamber in the bottom thereof, a burner communicating with said chamber, a plate arranged in said casing and extending the entire length thereof in parallel relation above the top of said chamber, said casing having air openings between the oil chamber and said plate, the heat generated by the burner circulating between the top of said chamber and said plate throughout the length of the casing, a transverse plate in one end of said casing forming a fluid chamber between said plate and the casing, a spout formed in the end of the casing communicating with said chamber, a flange secured to said plate, a flange secured to the opposite end of said casing, a removable division plate supported on said flanges providing upper and lower provision compartments, a cover for the upper open end of the pail having a fluid container integrally formed centrally thereof, a drinking cup adapted to be inverted and placed over said container, and a handle member pivoted to the opposite ends of said casing.

971,736. TYPE-WRITER ATTACHMENT. MAX EINSTEIN, Hamburg, Germany. Filed Nov. 11, 1909. Serial No. 527,564.



In a typewriter, the combination of a carriage, a spindle carried thereby, arms on said spindle, two racks carried by said arms, a shaft, two pinions of different sizes thereon, means for rocking the racks to bring either into engagement with its coöperating pinion, a spring detent on the carriage, and a locking plate on the spindle having two notches for alternate engagement with said detent, substantially as described.

971,737. VENT-TUBE FOR STORAGE BATTERIES. MELCHER EKSTRÖMER, Cambridge, Mass., assignor to Joseph C. Kent, trustee, Boston, Mass. Filed Mar. 31, 1909. Serial No. 486,898.



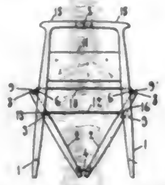
1. A storage-battery vent-tube provided with a vent in its upper end for the escape of gases from the battery and a plunger inclosed within said tube and constructed and arranged to rise and thereby close said vent by the impact of the liquid of the battery against said plunger.

2. A storage-battery vent-tube comprising in combination a cap having a chamber therein, said cap being se-

cured to the outer end of said tube, the upper and lower walls of said chamber being provided with passage-ways, and a plunger passing through the lower wall of said chamber, said plunger having a head arranged to close the passage-way in the upper end of said chamber and being provided at its other end with a downwardly extending flaring portion inclosed within said tube and arranged to receive the impact of the liquid in the battery and thereby cause the plunger to rise.

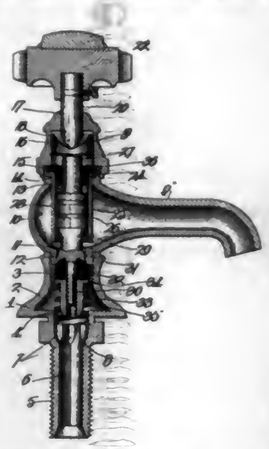
3. A storage-battery vent-tube provided with a vent in its upper end for the escape of gases from the battery, a plunger inclosed within said tube and means whereby the impact of the liquid of the battery against said plunger will cause the latter to rise and thereby close said vent.

971,738. FOLDING CHAIR. AXEL EMIL ENGSTRÖM, Huskvarna, Sweden. Filed Dec. 22, 1909. Serial No. 534,523.



In a folding chair, the combination of a back divided into two parts connected with each other at their top by means of a hinge and elongated at the bottom so as to form front legs, hind legs jointed to the front legs and united with each other at the bottom by means of a hinge, a seat jointed to the back, and a transverse stay bar between the legs.

971,739. SELF-CLOSING FAUCET. JOHN P. FARLEY, Kansas City, Mo. Filed Feb. 14, 1910. Serial No. 543,856.



1. A self-closing faucet, comprising a base having a chamber, a spout provided with openings in the top and bottom, a cap secured to and in superposed relation with the spout vertically above the base, a barrel fitting snugly in the upper opening of the spout and terminating short of and arranged in alinement with the lower opening thereof, a reciprocatory plunger fitting snugly in the barrel and provided with an upwardly-projecting stem and a depending waterway portion, a valve secured against the lower end of the waterway portion, yielding means for holding the valve closed over said lower opening, a compressible washer establishing a substantially water and air-tight joint between the upper end of the barrel and the upwardly-projecting stem of the plunger, and means for unseating the valve.

2. A self-closing faucet, comprising a base having a chamber, a spout provided with openings in the top and bottom, a cap secured to and in superposed relation with the spout vertically above the base, a barrel fitting snugly in the upper opening of the spout and terminating short of and arranged in alinement with the lower opening thereof, a reciprocatory plunger fitting snugly in the barrel and provided with an upwardly-projecting stem and a depending waterway portion, a valve secured against the lower end of the waterway portion, yielding means for holding the valve closed over said lower opening, a compressible washer establishing a substantially water and air-tight joint between the upper end of the barrel and the upwardly-projecting stem of the plunger, and rotatable and longitudinally-movable means for unseating the valve.

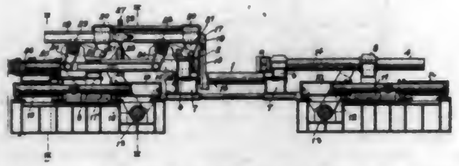
3. A self-closing faucet, comprising a base having a chamber, a spout provided with openings in the top and bottom, a cap secured to and in superposed relation with the spout vertically above the base, a barrel fitting snugly in the upper opening of the spout and terminating short of and arranged in alinement with the lower opening thereof, a reciprocatory plunger fitting snugly in the barrel and provided with an upwardly-projecting stem and a depending waterway portion, a valve secured against the lower end of the waterway portion, yielding means for holding the valve closed over said lower openings, a compressible washer establishing a substantially water and air-tight joint between the upper end of the barrel and the upwardly-projecting stem of the plunger, and means engaging the upper end of the plunger stem to move the same endwise and force the valve away from its seat and the lower end of the waterway portion out of the said opening at the bottom of the spout.

4. In a self-closing faucet, a spout having openings in its top and bottom, a barrel fitting snugly in the upper opening, a plunger reciprocally arranged in the barrel, a valve connected to move with the plunger and arranged below the spout and adapted for controlling the passage of water into the same through the said lower opening, and means for closing the upper end of the barrel to confine air in such end whereby upward movement of the plunger and the valve is resisted and the seating of the latter is cushioned.

5. In a self-closing faucet, a spout having openings in its top and bottom, a barrel fitting snugly in the upper opening, a plunger reciprocally arranged in the barrel, a valve connected to move with the plunger and arranged below the spout and adapted for controlling the passage of water into the same through the said lower opening, and a resilient washer closing the upper end of the barrel to confine air in such end whereby upward movement of the plunger and the valve is resisted and the seating of the latter is cushioned.

[Claims 6 to 10 not printed in the Gazette.]

971,740. MANIPULATOR FOR ROLLING-MILLS. JOSEPH FAWELL, Pittsburg, Pa. Filed July 1, 1908. Serial No. 441,376.



1. A manipulator for ingots having in combination ingot-carrying means, a head movable transversely of and above the ingot-carrying means, ingot-engaging portions movable with the head, supporting members movable above the ingot-carrying means and carrying the ingot-engaging portions, and means for moving the supporting members vertically and means for moving such members with respect to the vertically moving means.

2. A manipulator having in combination means for feeding an ingot, supporting members movably supported above the line of feed of the ingot at points laterally outside of the feeding means, ingot-engaging portions carried by said members and means for shifting the supporting members vertically and horizontally.

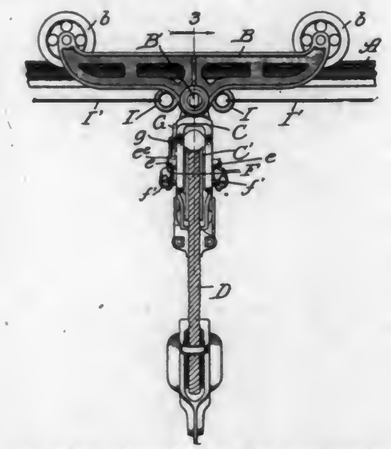
3. A manipulator having in combination means for feeding an ingot, supporting members supported above the feeding means and movable in a direction at an angle to said line of feed, a head carried by the supporting members, means for shifting the head transversely to said feed and ingot-turning means movable with and relative to the head.

4. A manipulator having in combination an ingot feeding means, supporting members movable above and in planes at or approximately at right angles to the line of feed of the article to be rolled, ingot turning means depending from the supporting members, means arranged at one side of the ingot-feeding means for supporting said members, and means for raising and lowering the member-supporting means.

5. A manipulator having in combination movable sleeves, supporting members slidably mounted in said sleeves, ingot-moving means depending from the supporting members; means for raising and lowering the sleeves and means for shifting the ingot-moving means.

[Claims 6 to 8 not printed in the Gazette.]

971,741. HAY-CARRIER. HENRY L. FERRIS and HOWARD J. FERRIS, Harvard, Ill., assignors to Hunt Helm Ferris & Company, Harvard, Ill., a Corporation of Illinois. Filed July 27, 1909. Serial No. 509,808.



1. In a device of the class described, a carriage adapted to run upon a track, a hoisting-sheave over which the hoisting-rope may be led, and a locking-device provided with means for holding it in two alternative positions, in one of of which it is pressed toward the sheave to clamp the rope against the same, and in the other of which it is held positively away from the sheave.

2. In a device of the class described, the combination with a carriage adapted to run upon a track, of a hoisting-sheave, an eccentrically pivoted locking-device adapted to clamp the hoisting-rope between itself and the sheave, and means for holding the locking-device in two alternative positions, one pressed toward the sheave, and the other held away from the sheave.

3. In a device of the class described, the combination with a carriage adapted to run upon a track, of a hoisting-sheave, an eccentrically pivoted locking-device adapted to clamp the hoisting-rope between itself and the sheave, means for holding the locking-device in two alternative positions, in one of which the locking-device is pressed against the sheave, and in the other of which it is held away from the sheave, and means whereby rotation of the sheave in one direction will throw the locking-device against the sheave.

4. In a device of the class described, a carriage adapted to run upon a track, a hoisting-sheave, an eccentrically pivoted locking-device adapted to be swung toward the sheave, and means on the sheave adapted to engage the locking device to swing the same positively toward the sheave.

5. The combination with a hoisting-sheave, and an eccentrically pivoted locking-device adapted to swing against the same, of engaging means on the sheave arranged to force the locking-device toward the sheave when the sheave is rotated in one direction.

[Claims 6 to 14 not printed in the Gazette.]

971,742. FOUNTAIN-PEN. DARIUS GALLAGHER, New York, N. Y. Filed Dec. 18, 1909. Serial No. 533,754.



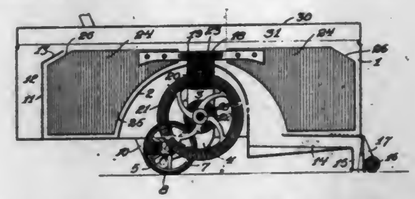
1. In a fountain pen the combination with the body-portion of the pen, of a combined pen cover and pocket clip consisting of a rubber bulb having an open end adapted to fit over and be closed by either end of said body-portion, an expansible and contractible ferrule attached to and embracing the open end-portion of said bulb, whereby the material of the bulb serves as an elastic washer for said ferrule, and a hook-portion secured to the ferrule and extending alongside the bulb to serve as a backing for the operator in the act of compressing the bulb.

2. In combination with the body-portion of a fountain pen, a combined pen-cover and pocket clip consisting of a rubber bulb having a clip device attached thereto and extending alongside the bulb to form a backing in the act of compressing the bulb.

3. In a fountain pen the combination with the body-portion of the pen, of a rubber suction bulb having an open end adapted to fit over one end of said body-portion, and a pocket clip device attached to the bulb whereby the body-portion of the pen is retained in one's pocket through the medium of the bulb which is in turn held by the clip-device, said clip device extending alongside the bulb to form a backing in the act of compressing the bulb.

4. In a fountain pen, the combination with the body-portion of the pen, of a suction bulb having an open end adapted to fit over one end of said body-portion, and a clip-device secured to the bulb, said clip device extending alongside the bulb to form a backing for the operator in the act of compressing the bulb.

971,743. VACUUM-SWEEPER. RICHARD GOBER, Alameda, Cal. Filed Oct. 1, 1909. Serial No. 520,438.



1. A machine of the character described comprising a casing provided with an inlet nozzle, supporting rollers therefor, a fan in said casing, friction rollers engaging said supporting rollers to operate said fan on the forward movement of said machine, and means for automatically disengaging said rollers on the reverse movement of the machine.

2. A machine of the character described comprising a casing having an inlet nozzle, supporting rollers for the casing, a rotatable fan within said casing, friction rollers geared to said fan and adapted to engage the supporting rollers when the machine is forwardly propelled, and springs for disengaging said rollers on the reverse movement of the machine.

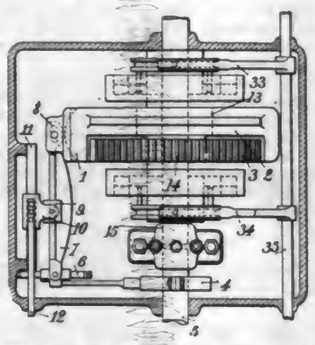
3. A machine of the character described comprising a casing having a concaved bottom portion, an inlet nozzle carried by said casing, an arched arm fastened to said concaved portion, supporting rollers carried by the ends of said arm, a shaft carried by said arm and projecting into said casing, a fan within said casing and mounted on said shaft, friction rollers carried by said arm and operated by said supporting rollers on the forward movement of the machine, a gear connection between the friction rollers and the fan shaft, and means for separating the friction and supporting rollers when the machine is on the reverse movement.

4. A machine of the character described comprising a casing, an inlet nozzle therefor, an axle slidably supported by said casing, supporting rollers carried by said axle, a fan in said casing, fan rotating means including rollers engaging and operated by said supporting rollers when the machine is propelled in one direction, and springs carried by said casing for automatically sliding said axle to remove the supporting rollers from engagement with said fan rotating means when the machine is propelled in an opposite direction.

5. A machine of the character described comprising a casing, an inlet nozzle therefor, an arm fastened to said casing and provided with oblique bearing slots, an axle slidable in said slots, supporting rollers on said axle, a fan within said casing, fan rotating means adapted to be operated by said rollers on one movement of the machine, and springs for sliding said axle in its slots to separate the rollers from the fan rotating means on an opposite movement of the machine.

[Claim 6 not printed in the Gazette.]

971,744. CHANGE-SPEED GEAR. PIERRE LOUIS MARIE GODEAU, Paris, France. Filed Oct. 23, 1907. Serial No. 398,812.



1. In a speed change gear, the combination, of a driving shaft, a driven shaft, an oscillatory beam having one end connected to the driving shaft to be actuated thereby, a fulcrum for said beam between its ends, mechanism to transmit the reciprocating motion of the beam as a continuous rotary motion to the driven shaft, said mechanism comprising a pair of rack bars attached to one end of the beam and mounted to reciprocate across the axial line of the driven shaft, a pair of pinions loose on the shaft and each meshing with one of the rack bars, a pair of rings carried by each pinion and arranged concentrically therewith, said rings having internal oppositely disposed wedge-shaped teeth, and wedges mounted on the shaft and adapted to engage the teeth of either ring to lock the same to the shaft, and means to shift the fulcrum of the beam to vary the speed of the driven shaft.

2. In a speed change gear, the combination, of a driving shaft, a driven shaft, an oscillatory beam having one end connected to the driving shaft to be actuated thereby, a fulcrum for said beam between its ends, mechanism to transmit the reciprocating motion of the beam as a continuous rotary motion to the driven shaft, said mechanism comprising a pair of rack bars attached to one end of the beam and mounted to reciprocate across the axial line of the driven shaft, a pair of pinions loose on the shaft and each meshing with one of the rack bars, a pair of rings carried by each pinion and arranged concentrically therewith, each ring having internal wedge-shaped teeth, the teeth being so arranged as to project in opposite directions in the rings of each pair and also in the corresponding rings of the pairs, and wedges slidably mounted on the shaft and arranged to engage teeth of said rings to lock them to the shaft during one movement of the rack bars, and thereby rotate the shaft, means for shifting the wedges into engagement with either ring of a pair and thereby control the direction of rotation of the shaft, and means to shift the fulcrum of the beam to vary the speed of the driven shaft.

3. In a speed change gear, the combination, of a driving shaft, a driven shaft, an oscillatory beam having one end connected to the driving shaft to be actuated thereby, a fulcrum for said beam between its ends, mechanism to transmit the reciprocating motion of the beam as a continuous rotary motion to the driven shaft, said mechanism comprising a pair of rack bars attached to one end of the beam and mounted to reciprocate across the axial line of the driven shaft, a pair of pinions loose on the shaft and each meshing with one of the rack bars, a flanged disk fast to the outer face of each pinion, a pair of rings inclosed by the flange of each disk and provided with internal wedge-shaped teeth, wedges slidably mounted on the shaft and arranged to engage the said teeth and thereby lock the shaft to the disks through the rings, means for shifting the wedges to cause them to engage the teeth of either ring, and means to shift the fulcrum of the beam to vary the speed of the driven shaft.

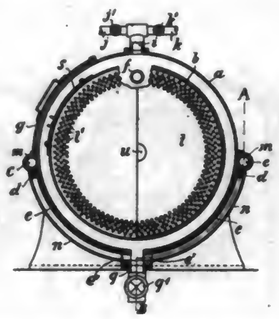
4. The combination of a shaft, a pair of rack bars mounted to reciprocate across the axial line of the shaft, means for reciprocating the rack bars, a pair of pinions loose on the shaft and each meshing with one of the rack bars, a pair of rings carried by each pinion and arranged concentrically therewith, said rings having internal oppositely disposed wedge-shaped teeth, and wedges mounted on the shaft and adapted to engage the teeth of either ring to lock the same to the shaft.

5. The combination of a shaft, a pair of rack bars mounted to reciprocate across the axial line of the shaft, means for reciprocating the rack bars, a pair of pinions loose on the shaft and each meshing with one of the rack bars, a pair of rings carried by each pinion and arranged concentrically therewith, each ring having internal wedge-shaped teeth, the teeth being so arranged as to project in opposite directions in the rings of each pair and also in the corresponding rings of the pairs, and wedges slidably mounted on the shaft and arranged to engage teeth of said rings to lock them to the shaft during one movement of the rack bars, and thereby rotate the shaft, and means for shifting the wedges into engagement with either ring of a pair and thereby control the direction of rotation of the shaft.

[Claim 6 not printed in the Gazette.]

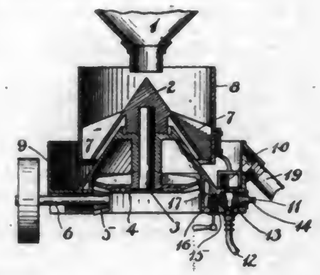
971,745. WASHING AND CLEANING MACHINE FOR TEXTILE FABRICS AND THE LIKE. PAUL GOSSERICH, Gera, Germany, assignor to Moritz Jahr G. m. b. H., Gera, Germany. Filed Jan. 11, 1910. Serial No. 537,558.

A machine of the character described comprising an outer stationary drum composed of an upper mantle and a lower mantle, means connecting both mantles, and an inner rotatable drum, both drums having openings for the introduction of the material to be cleaned, means to close said openings, means to rotate the inner drum, heating compartments at the lower part of the stationary outer drum formed by two parallel plates spaced apart from each other, a channel formed by said plates and the outer wall of said drum, openings connecting channels formed in the connecting means for the upper and lower mantles of the stationary drum with the channel formed by said plates



for the distribution of carbonic acid gas and the means for admitting a heating medium to the heating compartments, thereby heating the carbonic acid gas and the cleaning medium substantially as described and for the purpose set forth.

971,746. STONE-SAW. FRED P. HANSON, San Francisco, and HENRY W. ARNOLD, Sacramento, Cal., assignors to The United States Stone Saw Company, Tucson, Ariz., a Corporation of Arizona. Filed Dec. 31, 1908. Serial No. 470,190.



1. In a distributing device for abrasive material for stone sawing machines and the like, an annular gutter or trough having outlets, and a revoluble distributer for distributing abrasive material around the same, said distributer including a cone deflector centrally mounted relatively thereto.

2. In a distributing device for abrasive material for stone sawing machines and the like, an annular gutter or trough having outlets, and means for distributing abrasive material around the same, including a cone deflector centrally mounted relatively thereto, and vertical ribs on said cone and a ring carried by said ribs and spaced away from said cone.

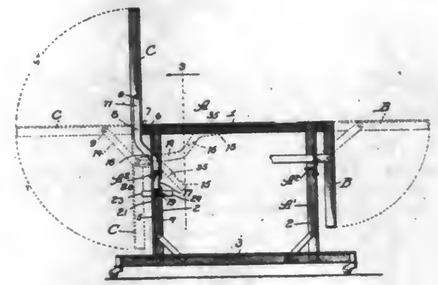
3. In a distributing device for abrasive material for stone sawing machines and the like, an annular gutter or trough having outlets, and means for distributing abrasive material around the same, including a cone deflector centrally mounted relatively thereto, and a ring carried by said cone but spaced apart from the lower end thereof at a point above said trough.

4. In a device of the character described, an annular trough having valved outlet passages, means for supplying liquid to said passages, and a valve control therefor.

5. In a machine of the character described, an annular trough, means for supplying abrasive material thereto, means for moving the abrasive material in said trough around the same, outlets from said trough, a water supply means, valves for said outlets and a valve for said water supply.

[Claims 6 and 7 not printed in the Gazette.]

971,747. LEAF-SUPPORT. THEODORE HAUSER, Chicago, Ill., assignor to The Garvy Company, a Corporation of Illinois. Filed Jan. 19, 1910. Serial No. 538,851.



1. In a structure of the character set forth, the combination with a main frame, of a leaf pivoted thereto, a link pivoted to said leaf, and coöperating locking means on the frame and link whereby the leaf may be locked in a vertical position with reference to said frame, or in the same horizontal plane therewith, for the purpose set forth.

2. In a structure of the character set forth, the combination with a main frame provided with a locking shoulder, and a swinging leaf, of a leaf-supporting link provided with a locking-extension, and means for producing lateral flexure of said link in the operation of moving it to the locking position.

3. In a structure of the character set forth, the combination with a main frame provided with a laterally extending projection affording a locking shoulder, and a swinging leaf, of a leaf-supporting link provided with a locking extension adapted to pass said projection and engage said locking shoulder, and means for producing lateral flexure of said link during the time it is passing said lateral projection.

4. In a structure of the character set forth, the combination of a main frame having a guide provided with a locking shoulder and above said shoulder with an offset affording a cam, a swinging leaf, a link pivotally connected with said leaf and extending through said guide, said link being provided with a locking notch, and means for shifting the free end of said link laterally to cause the link to ride upon said cam, for the purpose set forth.

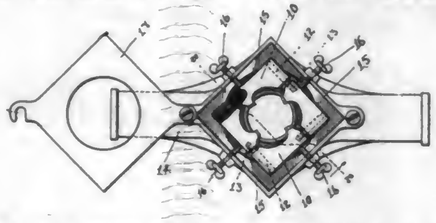
5. In a structure of the character set forth, the combination of a main frame provided with a guide equipped with a locking shoulder, and a cam offset from the plane of said locking shoulder, a swinging leaf, and a leaf-supporting link pivotally connected with said leaf and extending through said guide, said guide having an inclined portion adapted to effect lateral shifting of the said link to cause the link to engage said cam.

[Claims 6 to 19 not printed in the Gazette.]

971,748. DIE FOR CUTTING THREADS. GEORGE E. HILL, New York, N. Y. Filed Nov. 26, 1909. Serial No. 529,884.

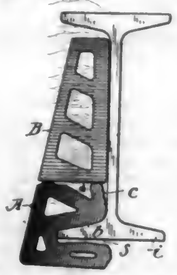
1. As a new article of manufacture, a die for cutting pipe threads and the like, comprising a plurality of die sections, each section having a stud on one face at right angles to a bore on another face, whereby when the sections are juxtaposed the said studs will enter the said bores.

2. In combination, a die comprising a plurality of separable sections, each section having a stud on one face at right angles to a bore on another face, a die stock



adapted to contain the die, and means carried by the die stock whereby the sections, when juxtaposed, may be forced together to cause the studs to enter the bores.

971,749. SKEWBACK FOR HOLLOW-TILE ARCHES. HENRY L. HINTON, New York, N. Y. Filed Nov. 11, 1907. Serial No. 401,679.

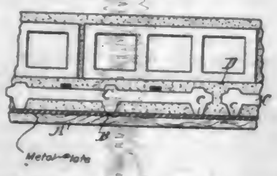


1. A skewback for hollow tile arches having a slot for the reception of the foot of an I beam, a depression in the rear of said slot extending below the plane of the floor of the front portion of the slot, and a face portion set at such an angle to the upper surface of said slot that when such surface lies parallel with the upper surface of the foot of the I beam, such face portion slopes upwardly away from the web of the I beam, substantially as and for the purposes set forth.

2. A skewback for hollow tile arches having a slot for the reception of the foot of an I beam, which slot is provided with a recess at the rear thereof extending below the plane of the floor of the front portion of the slot, substantially as and for the purposes set forth.

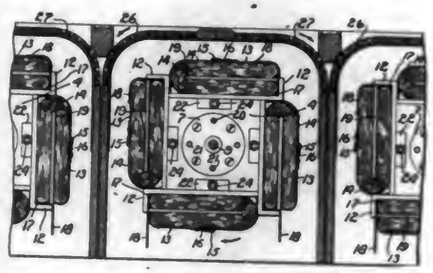
3. A skewback for hollow tile arches provided with a lower plane face and side faces one of which is provided with a slot for the insertion of the flange of an I beam, the plane of the upper surface of which slot forms an acute angle with said lower plane face, and so shaped that the plane of the upper portion of said slotted face forms an angle of not more than 90° with the plane of the upper surface of the slot therein, substantially as set forth.

971,750. ART OF FIREPROOF BUILDING CONSTRUCTION. HENRY L. HINTON, New York, N. Y. Filed Aug. 10, 1908. Serial No. 447,608.



In fireproof building construction the combination of thin metal plates, ribbed blocks back of and in contact with said plates, and a cement course in the spaces between the ribs and in contact with said plates whereby the plates are bonded to and supported entirely by the cement and present an interior metallic facing, substantially as set forth.

971,751. DISPLAY DEVICE. CHARLES C. HOYT, Brookline, Mass. Filed July 2, 1908. Serial No. 441,520.



1. A rotary display device comprising in combination a self-supporting stand or casing, a frame or barrel directly mounted for rotation in said stand or casing and housed thereby, said frame or barrel having a plurality of displaying faces for the reception of a bolt of cloth or the like, boards adapted to be applied to said bolts of cloth, and means for securing said bolts and boards in position upon said display faces.

2. A rotary display device comprising in combination an external self-supporting stand or casing, a frame or barrel directly mounted for rotation in said stand or casing and housed thereby, said frame or barrel having a plurality of display faces for the reception of bolts of cloth or the like, boards adapted to be inserted between the folds of said bolts of cloth and straps engaging said boards and bolts and secured to said frame or barrel to position said bolts for inspection.

3. A display device comprising a frame or barrel mounted for rotary movement and provided with a plurality of faces whereto the goods to be displayed may be secured, and a receptacle in said frame or barrel adjacent one or more of said faces.

4. A display device comprising a frame or barrel mounted upon a horizontal axis for rotary movement, and provided with a plurality of faces having racks or trays to receive the goods to be displayed, means to secure the goods in position, and one or more drawers mounted in said frame radially within said faces and adjacent one or more thereof.

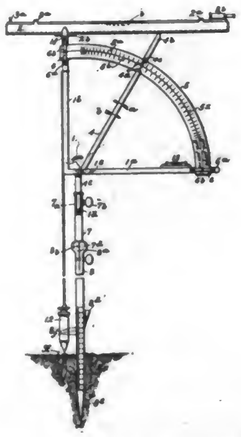
5. A display device comprising a stand or table having a frame or barrel horizontally mounted for rotation in opposite walls thereof, and provided with a plurality of faces for the reception of the goods to be displayed, and one or more drawers mounted in said frame adjacent one or more of said faces, one of said walls having an opening into register with which said drawer or drawers may be brought.

971,752. LEVELING AND GRADING INSTRUMENT. LORAIN T. HULL, Ada, Ohio. Filed Feb. 11, 1910. Serial No. 543,391.

1. A leveling and grading instrument comprising a frame consisting of a horizontal and a vertical bar, a level pivotally mounted on said vertical bar, said horizontal bar having a slot, an arm pivoted at one end in said slot and having its other end engaging said level, an arc plate carried by said horizontal and vertical bars, said arm having a groove to receive said arc plate and means carried by said arm for securing it to said arc plate, said arc plate having graduations coöperating with said arm.

2. A leveling and grading instrument comprising a frame consisting of a horizontal and a vertical bar, a

level pivotally mounted on said vertical bar, said horizontal bar having a slot, an arm pivoted at one end in said slot and having its other end engaging said level, an arc plate carried by said horizontal and vertical bars, said arm having a groove to receive said arc plate, means carried by said arm for securing it to said arc plate, said arc plate having graduations coöperating with said arm, a projection depending from said horizontal bar having a stepped portion, and a support in which said projection is mounted.



3. A leveling and grading instrument comprising a frame consisting of a horizontal and a vertical bar, and means for supporting said frame, a channeled member pivoted to said vertical bar at its upper end, a level held in said channeled member, means for sustaining said channeled member in different positions of adjustment, said means comprising an arm pivoted to said horizontal bar and having its free end engaging said channeled member, a curved plate carried by said horizontal and vertical bars, and means for adjustably securing said arm to said plate.

4. In a leveling and grading instrument, a frame consisting of a horizontal and a vertical bar, a member pivoted to the upper end of said vertical bar, an arm pivoted to said horizontal bar and having its free end engaging said pivoted member, and means for holding said arm at different angles to said horizontal bar.

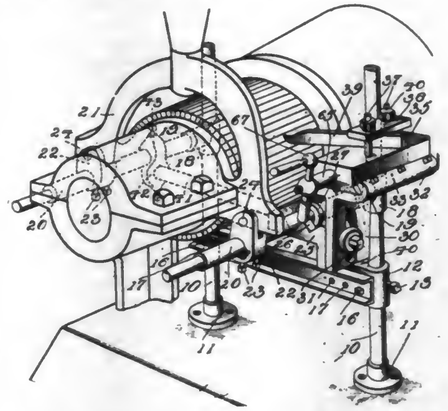
5. In a leveling and grading instrument, a frame consisting of a horizontal and a vertical bar, a member pivoted to the upper end of said vertical bar, an arm pivoted to said horizontal bar and having its free end engaging said pivoted member, means for holding said arm at different angles to said horizontal bar, said last named means comprising an arc plate secured to said horizontal and vertical bars, and a clamping device securing said arm to said arc plate.

[Claims 6 to 13 not printed in the Gazette.]

971,753. COMMUTATOR-TRUING MACHINE. OSMAN E. HUNT, Eagle Grove, Iowa. Filed Feb. 1, 1910. Serial No. 541,284.

1. A truing machine including a pair of uprights, a brace supported across said uprights to adjustably space the same apart, sleeves carried on said uprights, a pair of rods carried by said sleeves, castings adjustably disposed upon the outer ends of said rods to support the same, a head mounted for longitudinal adjustment on one of said rods, a shank disposed for vertical adjustment upon said head, and having a horizontal guide formed upon its upper end, and a reciprocating tool carriage located on the guide.

2. A truing machine including spaced uprights, sleeves mounted for adjustment upon the uprights and having ears, a brace secured to the ears, upper sleeves mounted for adjustment upon the uprights, parallel rods carried upon the upper sleeves, a head adjustably supported upon one of the parallel rods and having a transverse rod, a clamp adjustably carried upon the opposite parallel rod and engaging the transverse rod, and a tool carriage mounted for adjustment upon the head.



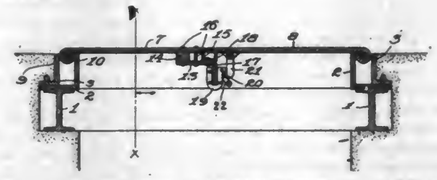
3. A truing machine including a pair of spaced uprights, bases carried by said uprights at their lower ends, sleeves adjustably disposed on said uprights, ears formed upon said sleeves, a channel brace adjustably secured to said ears, upper sleeves carried by said uprights, outwardly extending rods disposed upon said upper sleeves, a head adjustably supported upon one of said rods, a clamp carried by the opposite of said rods, a transverse rod rigidly mounted on said head and adjustably engaging through said clamp, and means for adjustably supporting a cutting tool carried by said head.

4. A truing machine including spaced uprights, a brace adjustably carried by the uprights, parallel rods disposed upon the uprights, a head carried by one of the parallel rods and having a transverse rod, a clamp disposed upon the opposite parallel rod and engaging the transverse rod to brace the head, and a tool carriage mounted upon said head.

5. A device as specified including a frame having spaced rods, a head carried by one of the rods and having transverse grooves in its upper face to receive the rod, an eye-bolt engaging about said rod and extending through said head to clamp the rod in one of the transverse grooves, the head also having a transverse rod extending to and beneath the opposite of said first rods, a clamp carried by the opposite of said rods to adjustably support said transverse rod, and a tool carriage disposed upon the head.

[Claims 6 to 9 not printed in the Gazette.]

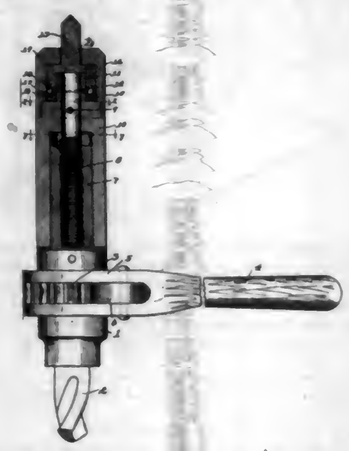
971,754. SIDEWALK-ELEVATOR DOOR. CARL G. JANSON, Berkeley, Cal. Filed Oct. 19, 1909. Serial No. 523,511.



In combination with a hatchway frame, doors hinged thereto, of an angle member supported by one of said

doors and comprising a body portion and a depending flange portion, a block interposed between said door and said body portion of said angle member for holding the same out of engagement with said door, a channel iron interposed between said first-mentioned door and said angle member, and being adapted to engage the other door for closing the opening between the same when the doors are in a closed position, a substantially U-shaped member carried by said frame, and provided with an angularly disposed end, said depending flange of said angle member adapted to fit into said U-shaped member, and locking means carried by the frame engaging said angularly disposed end of said U-shaped member when the door is in a closed position.

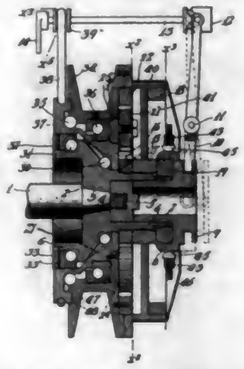
971,755. RATCHET DRILLING DEVICE. AKSEL P. JOHNSEN, Chicago, Ill. Filed Dec. 13, 1909. Serial No. 532,973.



1. The combination with a tool holder and an operating handle therefor in operative connection therewith, of a feeding screw in threaded connection with one end of said holder, a sleeve having its outer end fixed to the outer extremity of said screw, the inner end portion of said sleeve encompassing said end of said holder, the outer end portion of said sleeve being reduced, a point having an enlarged cup portion at its inner end receiving said reduced end of said sleeve, a ball race being formed in the mouth or inner edge of said cup, a coöperating ball-race-bearing member arranged adjacent said edge of said cup portion, ball bearings arranged in said ball races, and a cap having an opening in its outer end receiving the outer end portion of said point, said cap being fixed at its inner extremity to said sleeve, substantially as described.

2. The combination in a ratchet drilling-device of a tool holder and an operating handle, a pawl and ratchet connection between said tool holder and operating handle, the inoperative end of said holder being provided with a co-axial tubular internally threaded elongate shank, a feeding screw in threaded connection with said shank, a sleeve having its outer end pinned to the outer extremity of said screw, the inner end portion of said sleeve encompassing said shank of said holder, the outer end portion of said sleeve being reduced, a chisel pointed point having an enlarged cup-formed inner end portion, said cup receiving said reduced end of said sleeve, a ball race being formed in the mouth or inner edge of said cup, an annular member arranged adjacent said edge of said cup having a coöperating ball race in the outer end surface thereof, ball bearings arranged between and traveling in said ball races, and a cap arranged over said cup-formed inner end portion of said point, the outer end of said cap having a circular opening for the reception of the outer end of said point, the inner end of said cap being pinned to the outer end of said sleeve, substantially as described.

971,756. MOTOR-CYCLE GEARING. FRANK S. JONES, Pasadena, Cal. Filed Feb. 26, 1910. Serial No. 546,236.



1. A driving shaft, a sleeve rigid thereon, a cone rotatable on said sleeve, said sleeve being nested in said cone, a gear carrying disk fixed to said cone, a friction wheel fixed to the cone, a driving wheel rotatable on said cone and provided with an internal gear, intermediate pinions carried by the gear carrying disk and meshing with the internal gear, a driving gear on the sleeve meshing with the pinions, clutch means for locking the driving pulley with the sleeve, and means for restraining said friction wheel.

2. A driving shaft, a sleeve rigid thereon, a cone rotatable on said sleeve, said sleeve being nested in said cone, a gear carrying disk fixed to the cone, a friction wheel fixed to the cone, a driving wheel rotatable on said cone and provided with an internal gear, pinions carried by the gear carrying disk and meshing with the internal gear, idle pinions carried by said disk meshing with said first named pinions, a driving gear on said sleeve meshing with the idle pinions, clutch means for locking the driving pulley with the sleeve, means for restraining said friction wheel, and a single means for simultaneously applying said clutch means and releasing said friction wheel restraining means.

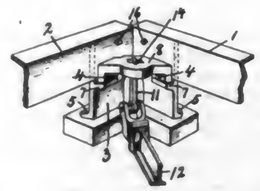
3. A driving shaft, a sleeve secured thereon, a cone rotatable on said sleeve, said sleeve being nested in said cone, a gear carrying disk fixed to the cone, a friction wheel fixed to the cone, a driving wheel rotatable on said cone and provided with an internal gear, pinions carried by the gear carrying disk and meshing with the internal gear, idle pinions carried by said disk meshing with said first named pinions, a driving gear on said sleeve meshing with the idle pinions, clutch means for locking the driving pulley with the sleeve, means for restraining said friction wheel, a single means for simultaneously applying said clutch means and releasing said friction wheel restraining means, or for releasing said clutch means and applying said friction wheel restraining means, or for holding said clutch unclutched and the friction wheel restraining means free from the friction wheel.

4. A driving shaft, a sleeve rigid thereon, a gear carrying disk rotatable on said sleeve, a driving pinion on said sleeve, intermediate pinions on the gear carrying disk meshing with the driving pinion, a cone secured to the gear carrying disk, a grooved driving pulley journaled on the cone, a friction wheel secured to the cone, an internal gear carried by the driving wheel and meshing with the intermediate pinions, clutch means between said sleeve and driving wheel, a brake band for controlling said friction wheel, and a lever and cam for controlling said clutch means.

5. A driving shaft, a sleeve rigid thereon, a gear carrying disk rotatable on said sleeve, a driving pinion on said sleeve, intermediate pinions on the gear carrying disk meshing with the driving pinion, a cone secured to the gear carrying disk, a grooved driving pulley journaled on the cone, a friction wheel secured to the cone, an internal gear carried by the driving wheel and meshing with the intermediate pinions, clutch means between said sleeve and driving wheel, a brake band for controlling said friction wheel, a lever and cam for controlling said clutch means, a shaft supporting said cam, said brake band being connected to said shaft.

[Claims 6 to 9 not printed in the Gazette.]

971,757. CORNER-BRACKET FOR PITLESS WAGON-SCALES. GERRY JONES, Binghamton, N. Y., assignor to Edward F. Jones, Binghamton, N. Y. Filed Oct. 12, 1908. Serial No. 457,304.



1. In a pitless wagon scales, a rectangular frame comprising side bars and end bars, corner brackets secured to the outer faces of the adjacent ends of the bars and extending some distance below the lower edges of the same, braces diagonally across the inner corners of the frame and engaging the inner faces of said adjacent ends of the bars, flanges on the brackets for supporting said braces, clevises pivotally mounted upon and depending from the braces, and levers fulcrumed in said clevises and extending inwardly therefrom.

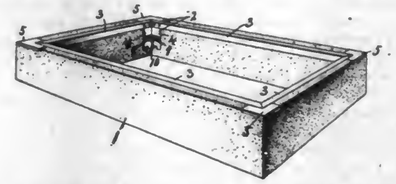
2. In a pitless wagon scales, a rectangular frame comprising end bars and side bars, corner brackets secured to the outer faces of the meeting ends of said bars and having inwardly projecting flanges extending under the lower edges of said meeting ends, and braces extending diagonally across and at the inner sides of the corners of the frame and seated on said flanges.

3. In a pitless wagon scales, a rectangular frame composed of side and end bars, upright corner brackets secured to the outer faces of the adjacent ends of said bars and extending some distance below the lower edges thereof, the lower ends of the brackets being provided with laterally projecting flanges, diagonal braces resting on said flanges and engaging the inner faces of the adjacent ends of the bars and holding them against the brackets, and levers operatively connected to said braces.

4. In a pitless wagon scales, a rectangular frame composed of side bars and end bars, corner brackets securing the adjacent ends of the bars and extending some distance below their lower edges to support the frame some distance above the ground, said brackets being provided with inwardly projecting flanges between their lower and upper ends and extending under the lower edges of the frame bars, and braces diagonally across the inner corners of the frame engaging the inner faces of the bars and resting upon said flanges.

5. In a pitless wagon scales, a rectangular frame composed of side bars and end bars, corner brackets securing the adjacent ends of the bars and extending some distance below their lower edges to support the frame some distance above the ground, said brackets being provided with inwardly projecting flanges between their lower and upper ends and extending under the lower edges of the frame bars, braces diagonally across the inner corners of the frame engaging the inner faces of the bars and resting upon said flanges, said braces being provided with vertical openings therethrough enlarged at their upper ends, pivotal pins seated in the enlargements of the openings, clevises supported by the pivotal pins and extending through said apertures, and a system of levers fulcrumed on said clevises.

971,758. REINFORCED-CONCRETE PIT FOR WAGON-SCALES. GERRY JONES, Binghamton, N. Y., assignor to Edward F. Jones, Binghamton, N. Y. Filed Nov. 2, 1908. Serial No. 460,751.



1. In a reinforced concrete pit for wagon scales, an open concrete frame, a metal frame running around and resting upon the top face of the concrete frame, said metal framing extending some distance below the top and bearing against the inner face of said concrete frame, angular corner brackets fitting in the inner corners of the concrete frame and secured to the corresponding corners of the metal frame, clevises secured on said brackets, and levers connected to said clevises.

2. In a reinforced concrete pit for wagon scales, a concrete inclosing wall forming the pit, upright corner brackets angular in cross section seated in the inner corners of the concrete wall and having horizontal flanges resting upon the top face of said wall, clevises mounted on said brackets, and levers connected to said clevises.

3. In a reinforced concrete pit for wagon scales, a concrete inclosing wall forming the pit, upright corner brackets angular in cross section seated in the inner corners of the concrete wall and having horizontal flanges resting upon the top face of said wall, clevises mounted on said brackets, levers connected to said clevises, and a metal frame angular in cross section resting against the top and inner sides of the upper corners of the concrete wall and secured to the corner brackets.

4. A reinforced concrete pit for wagon scales, comprising a rectangular wall, upright metal corner brackets angular in cross section and seated against the inner faces of the corners of the wall, said brackets having their upper ends provided with laterally projecting flanges resting upon the top face of said wall and anchor plates mounted on the brackets at the inner sides thereof and between their upper and lower ends.

5. In a reinforced concrete pit for wagon scales, a concrete inclosing wall forming the pit, upright corner brackets angular in cross section and having their sides embedded in the inner faces of the corners of the wall, said brackets being provided with laterally projecting flanges resting upon the top face of the wall, the upright sides of each bracket being provided with inwardly projecting flanges, and anchor plates, one for each bracket, resting upon said flanges.

[Claims 6 to 8 not printed in the Gazette.]

971,759. CROSS-LINE BUCKLE. FRED KNOBEL, Odessa, Nebr. Filed Mar. 8, 1909. Serial No. 481,917.



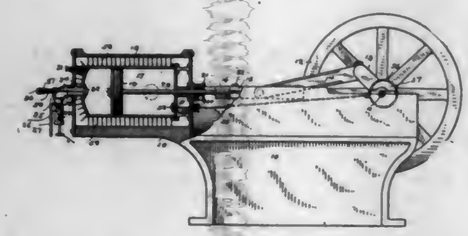
1. A cross line buckle including a rectangular sleeve adapted to surround the main line and the cross line, said sleeve being flat on one side, a removable pin passing through the sleeve and engaging both the main and cross line and projecting on the other side thereof, said pin having a head at one end, a guard formed on the sleeve

and arching over the pointed end of the pin when the latter is in position, and a shield plate pivoted at one end to the flat side of the sleeve for movement transversely of the pin, said plate being normally in line with the sleeve and in contact with the head of the pin to hold it in place.

2. A cross line buckle including a rectangular sleeve, a removable headed pin passing through the sleeve and projecting beyond the same and adapted to engage the main line and a cross line, said sleeve being formed with a countersink in which the head of the pin is received, a guard formed on one face of the sleeve and arching over and protecting the point of the pin when in place, a resilient shield plate pivoted to the other face of the sleeve for movement in a plane parallel thereto, said plate when turned into parallelism with the sleeve bearing against the headed end of the pin to hold it in place, and a stud on the sleeve entering an opening in the shield plate and detachably holding the plate in alinement with the sleeve.

3. A cross line buckle including a rectangular sleeve, a removable headed pin passing through the sleeve and projecting beyond the same and adapted to engage the main line and the end of a cross line, a shield plate pivoted at one end to the sleeve for transverse movement and when in alinement with the sleeve adapted to engage with the headed end of the pin to hold it in place, and a tongue cut out of the sleeve and recurved upon itself over the opening through which the pin passes and inserted in a slot in the sleeve, said tongue forming thereby a guard for the pointed end of the pin.

971,760. ENGINE. CHRISTOPHER JOHN LAKE, (name changed from John Christopher Lake by judicial order,) Bridgeport, Conn. Filed Feb. 2, 1906. Serial No. 299,178.



1. In an engine, the combination with a generating chamber and means for producing explosions therein, of heat-distributing projections on the exterior walls of the generating chamber, a heat-absorbing chamber contiguous to the generating chamber and inclosing said projections, means for producing a mixture of air and finely divided water in suspension as a heat-absorbing agent, a port in said heat-absorbing chamber for admitting said mixture of air and water thereto to be converted into pressure fluid by heat from the explosions and means for employing said pressure fluid in alternation with the explosions to drive the engine.

2. In an engine the combination with a generating chamber, a piston therein and means for producing explosions in one end of the chamber to drive the piston in one direction, of heat-distributing projections on the exterior walls of the generating chamber, a heat-absorbing chamber contiguous to the generating chamber and inclosing said projections, means for producing a mixture of air and finely-divided water in suspension as a heat-absorbing agent, a port in said heat-absorbing chamber for admitting said mixture of air and water thereto to be converted into pressure fluid by the heat of the explosions and means for applying said pressure fluid to the piston in the generating chamber to drive it in the opposite direction.

3. In an engine, the combination with a cylinder, a piston therein, and a casing inclosing the cylinder, of oil, water and compressed air tanks, oil and air and water and air valves, pipes leading from the compressed air tank to the oil and water tanks and to said valves, pipes leading from the water and oil tanks to said valves, a pipe leading from the oil and air valve to the cylinder and a pipe leading from the water and air valve to the casing.

4. In an engine, the combination with a cylinder, a piston therein, and a casing inclosing the cylinder, of oil, water and compressed air tanks, oil and air and water and air valves, pipes leading from the compressed air tank to the oil and water tanks and to said valves, pipes leading from the water and oil tanks to said valves, a pipe leading from the oil and air valve to the cylinder, a pipe leading from the water and air valve to the casing, valves in the pipes leading into the cylinder and casing and means for operating said last named valves, substantially as described, for the purpose specified.

5. In an engine, the combination with a cylinder, a piston therein, a casing inclosing the cylinder and radiating projections extending from the cylinder, of oil, water and compressed air tanks, oil and air and water and air valves, pipes leading from the compressed air tank to the oil and water tanks and to said valves, and pipes leading from the water and oil tanks to said valves, whereby an explosive mixture is conducted to the cylinder and a mixture of water and air is conducted to the casing in the form of spray where the air is heated and the water converted into steam by the heat of the cylinder, a port for admitting the heated air and steam to the cylinder and a spark plug for igniting the explosive mixture.

[Claim 6 not printed in the Gazette.]

971,761. YELLOW DISAZO DYESTUFF FOR WOOL. AUGUST LEOPOLD LASKA, Offenbach-on-the-Main, Germany, assignor to The Corporation of Chemische Fabrik Griesheim Elektron, Frankfort-on-the-Main, Germany. Filed May 5, 1910. Serial No. 559,540.

1. The process for the manufacture of yellow disazo dyestuffs for wool consisting in combining the tetrazo compounds of diamins of the general formula:



wherein X means CH_3 or Cl, with two molecules of 1-sulfophenyl-3-methyl-5-pyrazolone.

2. As new articles the disazo dyestuffs obtained by combining tetrazotized diamins of the general formula:



wherein X may be CH_3 or Cl, with two molecules of 1-sulfoaryl-3-methyl-5-pyrazolone, said dyestuffs being yellow-brown powders, dissolving in concentrated sulfuric acid with reddish-yellow, in water with yellow color, the aqueous solution being scarcely altered by addition of caustic soda lye, the dyestuff being precipitated in form of yellow flakes by addition of hydrochloric acid, the said dyestuffs dyeing wool yellow shades fast against milling.

3. The process for the manufacture of yellow disazo dyestuffs for wool consisting in combining the tetrazo compound of meta-meta'-dichlorobenzidin with two molecular proportions of 1-sulfoaryl-3-methyl-5-pyrazolone.

4. As new articles the dyestuffs obtained by combining the tetrazo compound of meta-meta'-dichlorobenzidin with two molecular proportions of 1-sulfoaryl-3-methyl-5-pyrazolone, being yellow-brown powders, dissolving in concentrated sulfuric acid with reddish-yellow, in water with yellow color, which solution is scarcely altered by addition of caustic soda dye, the dyestuff being precipitated by addition of hydrochloric acid; the said dyestuffs dyeing wool yellow shades fast against milling.

971,762. YELLOW AZO DYESTUFF FOR WOOL. AUGUST LEOPOLD LASKA, Offenbach-on-the-Main, Germany, assignor to The Corporation of Chemische Fabrik Griesheim Elektron, Frankfort-on-the-Main, Germany. Filed May 5, 1910. Serial No. 559,541.

1. The process for the manufacture of yellow azo dyestuffs for wool consisting in combining the tetrazo compounds of diamins corresponding to the general formula:



wherein X means CH_3 or Cl, with one molecular proportion of an ortho-oxy-carboxylic acid of the benzene series and one molecular proportion of 1-sulfoaryl-3-methyl-5-pyrazolone.

2. As new articles the azo dyestuffs obtained by combining the tetrazotized diamins of the general formula:

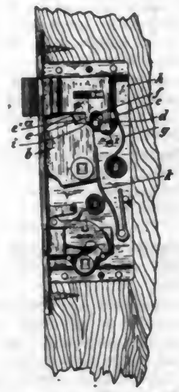


wherein X means CH_3 or Cl, with one molecular proportion of an ortho-axy-carboxylic acid of the benzene series and one molecular proportion of 1-sulfoaryl-3-methyl-5-pyrazolone the said dyestuffs being yellow brown powders, dissolving in concentrated sulfuric acid with orange, in water with yellow color, the aqueous solution of which is turned slightly red by addition of caustic soda lye, while by addition of hydrochloric acid the dyestuff is precipitated in shape of yellow flakes; dyeing wool yellow shades fast against milling.

3. The process for the manufacture of yellow azo dyestuffs for wool consisting in combining the tetrazo compound of meta-meta' dichlorobenzidin with one molecule of an ortho-oxy-carboxylic acid of the benzene series and one molecule of 1-sulfoaryl-3-methyl-5-pyrazolone.

4. As new articles the azo dyestuffs obtained by combining the tetrazo compound of meta-meta'-dichlorobenzidin with one molecule of an ortho-oxy-carboxylic acid of the benzene series and one molecule of 1-sulfoaryl-3-methyl-5-pyrazolone, the said dyestuffs being yellow brown powders, dissolving in concentrated sulfuric acid with orange, in water with yellow color, the aqueous solution of which is turned slightly red by addition of caustic soda lye, while the dyestuff is precipitated in shape of yellow flakes by addition of hydrochloric acid to such a solution; dyeing wool yellow shades fast to milling.

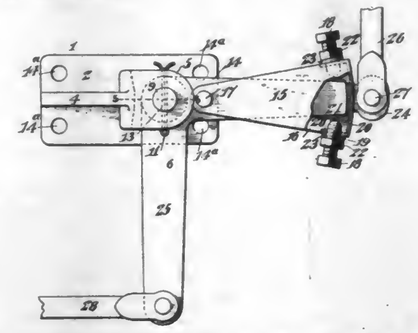
971,763. LOCK. FRITZ LIEBS, Rummelsburg, near Berlin, Germany. Filed Apr. 5, 1910. Serial No. 553,653.



1. In a lock the combination with a casing having curved slots in both of its side faces of a bolt, a spring normally holding said bolt in locking position, an inner shorter and an outer longer nose at the lower rear end of said bolt, a recess formed by said noses, a roller loosely guided in said curved slots and adapted to be held in its lower position within said slots and recess by the shorter nose of the bolt, means to disengage said rollers and nose and to throw said bolt out of its locking position, and means to return said disengaging means to their original position, substantially as described and for the purpose set forth.

2. In a lock the combination with a casing having curved slots in both of its side faces of a bolt, a spring normally holding said bolt in locking position, an inner shorter and an outer longer nose at the lower rear end of said bolt a recess formed by said noses, a roller loosely guided in said curved slots and adapted to be held in its lower position within said slots and recess by the shorter nose of the bolt, a turn-buckle having a cam face adapted to be operated by the locking means of the lock for disengaging said roller and nose, an abutment upon said turn-buckle engaging the outer face of said shorter nose for limiting the movement of said buckle and a spring tending to return said turn-buckle into its original position, substantially as described and for the purpose set forth.

971,764. ADJUSTABLE CRANK ATTACHMENT. THEODORE E. LUTZ, Galion, Ohio. Filed Nov. 16, 1908. Serial No. 462,887.



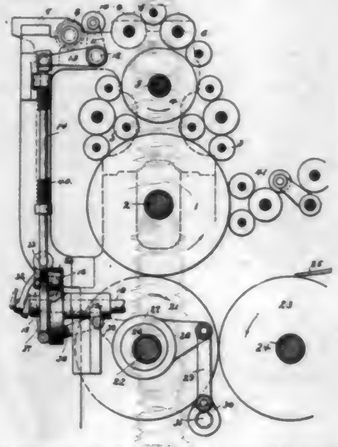
1. In operating mechanism for railways, signals, etc., the combination with a pair of angularly related connecting rods, of an adjustable crank attachment including a support, a lever pivoted at an intermediate point to the support and having one of its arms pivotally connected with one of the said rods, an oscillatory member pivoted to the other arm of the lever beyond the pivot thereof, one of the parts being tapered and receiving and forming a casing in which the other part has a limited independent movement, means for pivotally connecting the said member to the other connecting rod, and adjustable means located at opposite sides of the casing for limiting and varying the independent movement of the lever and the oscillatory member.

2. In operating mechanism for railways, signals, etc., the combination with a pair of angularly related connecting rods, of an adjustable crank attachment including a lever having one of its arms pivotally connected with one of the said rods, a vibratory member pivotally mounted on and carried by the other arm of the lever and provided at its inner portion with an opening through which the lever extends, said member being pivoted to the other connecting rod and having a limited movement independent of the lever, and adjustable stops mounted on the member at opposite sides of the lever for engaging the same to vary the independent movement of the parts.

3. In operating mechanism for railways, signals, etc., the combination with a pair of angularly related connecting rods, of an adjustable crank attachment including a lever having one of its arms pivotally connected with one of the said rods, an inwardly tapered vibratory member

consisting of a casing and having an opening at its inner portion through which the other arm of the lever extends, said member being pivoted at its inner end to the lever and having a closed outer end provided with an ear pivotally connected with the other rod, and adjustable stops mounted on the member at opposite sides of the same for varying the independent movement of the lever and the member.

971,765. INKING DEVICE FOR PRINTING-MACHINES. WILLIAM J. MAIN, Westport, Conn., assignor, by mesne assignments, to R. Hoe and Co., New York, N. Y., a Corporation of New York. Filed Jan. 26, 1909. Serial No. 474,299.



1. The combination with a design carrying cylinder, of a rotary printing couple coöperating therewith, inking devices for the design carrying cylinder including a fountain and ductor roll, means including a rod and cam for operating the ductor, means for moving the printing cylinder of the couple into and out of contact with the design carrying cylinder, and connections between the cylinder moving means and the rod and operating directly on the rod whereby the rod is caused to be in or out of operative relation with its cam according as the printing cylinder is in or out of contact with the design carrying cylinder.

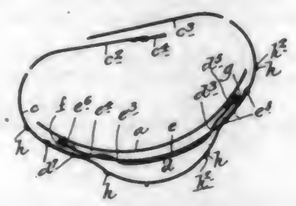
2. The combination with a design carrying cylinder, of a rotary printing couple, inking devices for the design carrying cylinder including a ductor and fountain, means including a rod and cam for operating the ductor, a trip acting directly on the rod for preventing the rod from being effectively operated by the cam, means for moving the printing cylinder of the couple into and out of contact with the design carrying cylinder, and connections between said moving means and the trip.

3. The combination with a design carrying cylinder, of a rotary printing couple, inking devices for the design carrying cylinder including a ductor and fountain, means including a rod and cam for operating the ductor, a trip for preventing the rod from being effectively operated by the cam, means for moving the printing cylinder of the couple into and out of contact with the design carrying cylinder, connections between said moving means and the trip, and means carried by the trip for rendering the trip inoperative.

4. The combination with a design carrying cylinder, of a rotary printing couple, inking devices for the cylinder including a fountain and ductor, a rod and cam for operating the ductor, a trip including an arm and a movable operating part mounted thereon for holding the rod in inoperative position with respect to the cam, means for moving the printing cylinder of the couple into and out of contact with the design carrying cylinder, and connections between said means and the trip.

5. The combination with a design carrying cylinder, of a rotary printing couple coöperating therewith, inking devices for the design carrying cylinder including a fountain and ductor, a rod and cam for operating the ductor said rod having a shoulder thereon, a swinging arm having a movable block thereon for engaging the shoulder on the rod, means including an eccentric sleeve for moving the printing cylinder of the couple into and out of contact with the design carrying cylinder, and connections between the eccentric sleeve and the arm.

971,766. WAIST-BELT. DAVIS MARINSKY, New York, N. Y. Filed Dec. 23, 1909. Serial No. 534,622.



A belt provided with two elastic strips one end of each of which is enlarged, the enlarged end of one of said strips being provided with a transverse slot and the enlarged end of the other with two transverse slots, the smaller end portion of one of said strips being passed through the transverse slot in the enlarged end of the other, and the smaller end of the last named strip being passed through both of the slots in the enlarged end of the other strip, and the smaller ends of both of said strips being secured to the inner side of said belt, and means whereby the larger ends of both of said strips may be connected with the waist band of a waist at predetermined points.

971,767. THERMO-ELECTRIC COUPLE. ALBERT L. MARSH, Detroit, Mich., assignor to Hoskins Manufacturing Company, Detroit, Mich., a Corporation of Michigan. Filed Sept. 3, 1909. Serial No. 516,078.

1. In a thermo-electric couple, a positive element formed of an alloy containing a relatively small proportion of aluminum and a metal having the properties of nickel, in such alloy, of obtaining in coöperation with a nickel-chromium negative element, high electromotive force, a high melting point and a comparatively straight line electromotive force-temperature curve.

2. In a thermo-electric couple, a positive element formed of an alloy containing less than 10% of aluminum and a metal having the properties of nickel, in such alloy, of obtaining in coöperation with a nickel-chromium negative element, high electromotive force, a high melting point and a comparatively straight line electromotive force-temperature curve.

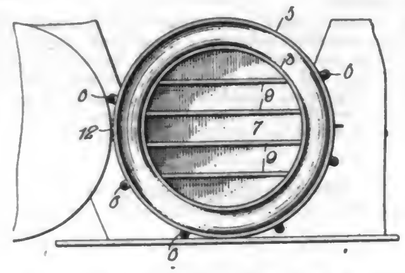
3. A thermo-electric couple having a negative element formed of a nickel-chromium alloy and a positive element formed of an alloy containing nickel and a relatively small proportion of aluminum.

4. In a thermo-electric couple, an electro-positive element formed of an alloy containing nickel and approximately 2% of aluminum.

971,768. ATTACHMENT FOR AUTOMOBILES. SIMON H. MARTIN, Webster Park, Mo. Filed June 12, 1908. Serial No. 438,215.

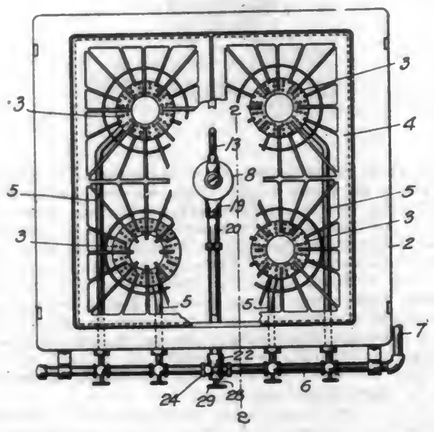
A tire receptacle arranged for attachment to a motor vehicle and comprising inner and outer concentrically arranged annuli, the inner annulus having a diameter less than that of the outer annulus, whereby a tire-receiving chamber is formed between said annuli, the inner annulus being formed of a single piece of metal folded upon itself at successive points in its length so as to form a series of

pairs of inwardly-extending oppositely-arranged projections, and a series of shelves having their ends resting



respectively upon corresponding projections on opposite sides of the vertical diameter of said inner annulus.

971,769. PILOT-LIGHT FOR GAS-STOVES. EDWARD R. MAYER and JOHN G. KEEGAN, Denver, Colo., assignors of one-third to Albert E. Wilson, Denver, Colo. Filed Dec. 22, 1909. Serial No. 534,527.



1. A device of the class described comprising a housing, a valve-controlled conduit in communication with the interior thereof, a torch rotatably mounted on said housing, in communication with its interior, an operating stem projecting through the said conduit, and means within said housing for transmitting a rotatory movement of the said stem to the said torch.

2. A device of the class described comprising a housing, a plug rotatably mounted therein and having a bore in communication with the interior thereof, a torch projecting laterally from the said plug in communication with its bore, a head provided with a pipe-union and having a valve controlled passage, a conduit connecting the said passage with the interior of the said housing, an operating stem rotatably mounted in said head and the said housing, and coöperative transmission means on the said stem and on the said plug.

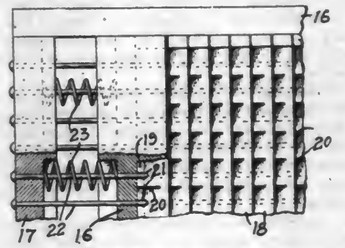
3. A device of the class described comprising a housing, a plug rotatably mounted therein and having a bore in communication with the interior thereof, a torch projecting laterally from the said plug in communication with its bore, a valve controlled conduit connected with the said housing in communication with its interior, a means for moving the said plug about its axis, and a spring adapted to automatically take up the wear on the said plug by maintaining it resiliently in contact with the part of the housing in which it is mounted.

4. A device of the class described comprising a housing, a plug rotatably mounted therein and having a bore in communication with the interior thereof, a torch projecting laterally from the said plug in communication with its bore, a valve controlled conduit connected with the said housing in communication with its interior, a rotatory operating stem projecting through the said conduit, and coöperative gears on the said stem and on the said plug.

5. A device of the class described comprising a housing having a central inwardly directed bearing, a plug rotatably mounted in said bearing, projecting beyond the upper surface of the said housing and having a bore in communication with the interior thereof, a torch projecting laterally from the upper portion of the said plug in communication with its bore, a valve controlled conduit connected with the said housing in communication with its interior, and means for moving the said plug about its axis of rotation, the upper surface of the said housing being dished to direct matter disposed thereon toward the said bearing.

[Claim 6 not printed in the Gazette.]

971,770. SIEVE. JAMES MCDANIEL, Seattle, Wash. Filed July 24, 1909. Serial No. 509,454.



1. A separator, comprising a sieve and means included between the upper and under surfaces of said sieve and relatively movable with respect thereto, said means preventing the lodging of foreign matter in said sieve.

2. A sieve comprising a series of angle plates arranged in substantially parallel relation with one another and spaced apart, plates passing through said angle plates and forming therewith a series of angle ports or pockets, and vibrating wire rods passing through said angle plates.

3. In a grain separator, a sieve or screen composed of angle plates having openings for the grain to pass through, and means in said openings which vibrates with respect to the remainder of the sieve, preventing foreign matter from lodging in said openings.

4. A sieve comprising a series of angle plates spaced apart and in parallel relation with one another and having a series of lips formed at the angles therein and bridging partially the spaces between said plates, plates connecting said angle plates with one another, and vibrating wire rods passing through holes in said lips and in the angles of said angle plates.

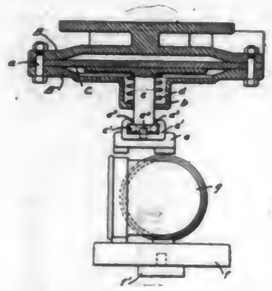
5. The combination, with a sieve frame, of angle plates having spaces between them, wire rods fitting loosely in the holes in the angles of said plates and dividing the spaces between said plates in said ports or pockets, said plates and rods being relatively movable for the purpose specified.

[Claims 6 to 15 not printed in the Gazette.]

971,771. CLAMPING MECHANISM. JONATHAN C. MELOON, Providence, R. I., assignor to General Fire Extinguisher Company, New York, N. Y., a Corporation of New York. Filed Dec. 18, 1905. Serial No. 292,276.

1. A clamping mechanism comprising a chamber, a plunger extending out from said chamber, said plunger being provided with a rectangular flanged head, and a clamping jaw mounted on and laterally movable with relation to said flanged head, substantially as described.

2. A clamping mechanism comprising a chamber, a plunger extending out from said chamber, said plunger being provided with a rectangular flanged head, and a clamping jaw mounted on said flanged head, the end of the plunger projecting through said flanged head and adapted to bear against said clamping jaw, substantially as described.

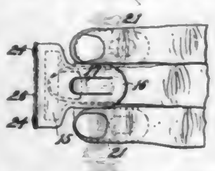


3. A clamping mechanism comprising a chamber, a plunger extending out from said chamber, said plunger being provided with a rectangular flanged head, and a clamping jaw provided with an undercut recess adapted to receive the flanged head of said plunger, substantially as described.

4. A clamping mechanism comprising a chamber, a plunger extending out from said chamber, said plunger being provided with a rectangular flanged head, and a clamping jaw provided with an extension with an undercut recess formed in said jaw and extension and adapted to receive the flanged head of said plunger, substantially as described.

5. A clamping mechanism comprising a chamber, a plunger extending from said chamber, said plunger being provided with a rectangular flanged head, a clamping jaw provided with an extension with an undercut recess formed in said jaw and extension and adapted to receive the flanged head of said plunger, and stops for limiting the movements of said clamping jaw upon said flanged head, substantially as described.

971,772. SAFETY-RAZOR. JAMES D. MILLAR, Milwaukee, Wis. Filed June 28, 1909. Serial No. 504,696.



1. A safety razor, comprising a blade holder, a pocket-like finger clip on the blade holder for clasping a finger of the user, and a finger seat carried by the blade holder at the side of the finger clip to be engaged by another finger of the user for guiding the blade holder.

2. A safety razor, comprising a blade holder, a pocket-like finger clip adapted to clasp a finger of the user, and a finger seat on either side of the clip to be engaged by the adjacent fingers of the user for guiding the blade holder.

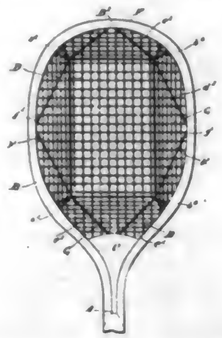
3. A safety razor, comprising a blade holder, a finger clip on the blade holder comprising members spaced apart to receive a finger between them, there being an opening in one member through which the pad of the finger may project, and a spring on the other member for pressing the finger toward said opening.

4. A safety razor, comprising a blade holder, a finger clip therefor consisting of a pair of spaced sheet metal members to receive the finger of the user between them, there being an opening in one of the members into which the pad of the finger may enter, and a spring tongue cut from the other member for pressing the finger against said opening.

5. A safety razor, comprising a blade holder, a projection extending therefrom, a finger strip secured to the projection and forming a finger clip therewith said projection and the finger strip being laterally curved and one of them being transversely bent, and a lateral projection from the finger clip forming a finger seat.

[Claims 6 to 8 not printed in the Gazette.]

971,773. TENNIS-RACKET. CURT B. MUELLER, Cleveland, Ohio. Filed Oct. 5, 1909. Serial No. 521,047.



1. In a tennis racket, the combination of a suitable frame, a net strung in said frame, and means comprising additional strings interiorly adjacent to, and connected with, the four sides of said frame, adapted to maintain the uniformity of the mesh in the middle, and effect the more even distribution of strains at the edges, of said net.

2. In a tennis racket, the combination of a suitable frame, a net strung in said frame, and means comprising a number of additional strings adjacent to each of the four sides, and intersecting at the corners, of said frame, adapted to maintain the uniformity of the mesh at the middle, and effect the more even distribution of strains at the edges, of said net.

3. In a tennis racket, the combination of a suitable frame, a net strung in said frame, having a number of its outwardly-located longitudinally-extending strings strung closer than the remaining longitudinally-strung strings, and having a number of its outwardly-located laterally-extending strings strung closer than the remaining laterally-strung strings.

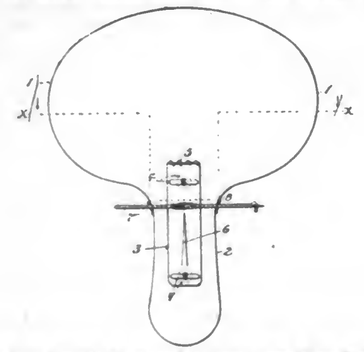
4. In a tennis racket, the combination of a suitable frame, a net strung in said frame, having a number of its outwardly-located longitudinally-extending strings strung closer than the remaining longitudinally-strung strings, and having a number of its outwardly-located laterally-extending strings strung closer than the remaining laterally-strung strings, the inmost of said outwardly-located laterally and longitudinally extending strings intersecting each other at right angles to form corner portions of the net having smaller mesh than in any other part of the net.

5. In a tennis racket, the combination with a frame, of a net strung in said frame, said net having a number of oblique strings around its outer edge, and secured to the frame at a number of points.

[Claims 6 to 12 not printed in the Gazette.]

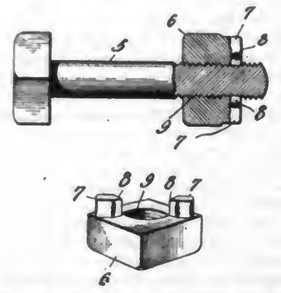
971,774. BOUQUET-HOLDER. CRAIG MUIR, New York, N. Y. Filed Feb. 12, 1910. Serial No. 543,646.

As an article of manufacture a bouquet holder constructed of one integral sheet of flexible material, embracing a body part and a handle and provided with means for securing the bouquet in front of the body part and the stems thereof in front of the handle, whereby



the entire holder is concealed from view when the bouquet is in place.

971,775. NUT-LOCK. WILLIAM J. MURPHY, Perry, Okla. Filed Apr. 13, 1910. Serial No. 555,527.



1. In a nut lock, the combination with a bolt, of a nut threaded thereon, a lug formed on said nut adjacent to the bore thereof, said lug having a sharpened edge and adapted to be forced into engagement with the bolt threads to prevent turning of the nut.

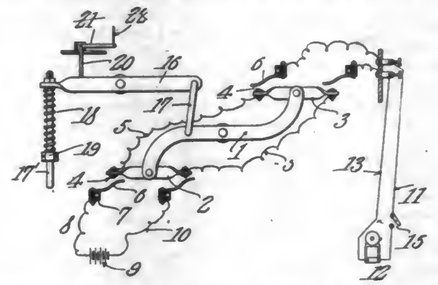
2. In a nut lock, the combination with a bolt, of a nut threaded thereon, having lugs formed upon one face at diametrically opposite points and adjacent to the bore thereof, each of said lugs having a sharpened edge the longitudinal edges of said lugs being disposed in longitudinal alinement with the bolt, said lugs being adapted to be bent to force the sharpened edges thereof into binding engagement with the bolt threads to prevent turning movement of the nut.

3. In a nut lock, the combination with a bolt, of a nut threaded thereon having oppositely disposed rectangular lugs formed upon one of its faces, the opposed edges of said lugs being sharpened and disposed adjacent to the bore of the nut, said lugs being adapted to be bent to force the sharpened edges thereof inwardly upon the threads of the bolt to cut into the same, and prevent turning movement of the nut.

971,776. BURGLAR-ALARM. LEWIS MYERS, Newark, Mich. Filed Nov. 9, 1909. Serial No. 527,092.

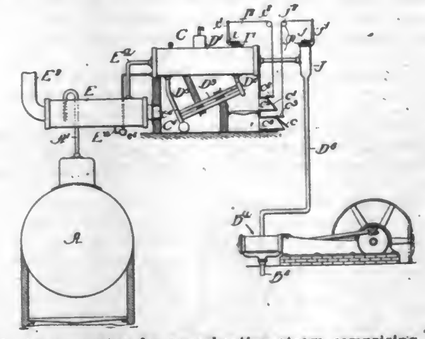
1. In a burglar alarm a pivoted arm carrying contact members at each end electrically connected independent of the arm, elastic contact fingers in the paths of the contact members on the pivoted arm, an electric circuit completed through the said contact members and elastic fingers, an actuating member for the pivoted arm, a lock for the actuating member for holding the pivoted arm in the inactive position, and a strand extending from the lock to the point to be protected.

2. In a burglar alarm a pivoted arm having at each end pivoted arms carrying contact members at each end, electric conductors independent of the pivoted arm and connecting the contacts at the end of the first named arm, elastic circuit terminals in the path of the con-



tacts on the ends of the arms carried by the first named arm, a spring controlled lever connected to the first named arm for moving the same, a latch member for holding the spring controlled member against its normal tendency, and a strand extending from the lock or latch member to the point to be protected.

971,777. APPARATUS FOR SUPERHEATING STEAM. EUGENE F. OSBORNE, Chicago, Ill., assignor to Osborne Steam Engineering Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 18, 1904, Serial No. 203,769. Renewed Dec. 6, 1909. Serial No. 531,693.



1. An apparatus for superheating steam comprising, in combination with a steam generator and its furnace, a superheater arranged between the generator and the point of use of the steam through which the steam passes to its point of use, said superheater embracing a passage or passages in which circulates a liquid, through which liquid and the walls of the passage or passages the heat to superheat the steam is transmitted, a furnace, independent of the furnace which generates the steam, for heating said liquid, an economizer through which the gaseous products of combustion from the superheater furnace is discharged, and means whereby the steam to be superheated is passed through said economizer on its way to the superheater.

2. An apparatus for superheating steam comprising, in combination with a steam generator, a superheater arranged between the generator and the point of use of the steam, through which the steam passes to its point of use, said superheater embracing a passage or passages in which circulates a liquid, through which liquid and the walls of the passage or passages the heat to superheat the steam is transmitted, means for heating said heat transmitting liquid, and means controlled by the temperature of said liquid for varying the intensity of heat applied to heat the same.

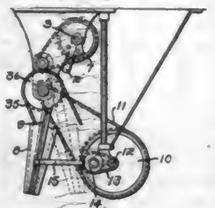
3. An apparatus for generating and superheating steam, comprising a main steam generator and its furnace, a closed circuit containing a superheating agent, a heat transmitter through which the steam passes from the generator to the point of use, said heat transmitter forming a portion of the closed circuit and the superheating agent being separated from the steam therein by heat conducting walls, a furnace, separate from the generator furnace, for supplying heat to the heat transmitter, said furnace containing a part of said closed circuit and means controlled by variations of the temperature of the superheating agent in said closed circuit for controlling the amount of heat applied by said furnace to the said closed circuit.

4. An apparatus for superheating steam comprising, in combination with a steam generator, its furnace and an engine, a closed circuit adapted to contain a circulating superheating agent, a furnace, independent of the furnace for generating the steam, containing a part of said closed circuit and by which the superheating agent is heated, a heat transmitter through which the steam passes on its way from the generator to the engine, said heat transmitter forming a portion of the closed circuit, and the superheating agent being separated from the steam therein by heat conducting walls, an economizer which is heated by the products of combustion from said superheater, means for conducting the steam from the generator to the economizer, and means for conducting the steam from the economizer to the heat transmitter.

5. An apparatus for superheating steam comprising a closed circuit adapted to contain a circulating superheating agent, means for applying heat to said circuit, a heat transmitter through which the steam passes from the generator to its point of use, said heat transmitter forming a portion of said closed circuit and the superheating agent being separated from the steam therein by heat conducting walls, and means controlled by variations of the temperature of the superheating agent for varying the heat applied to said closed circuit.

[Claim 6 not printed in the Gazette.]

971,778. APPARATUS FOR TREATING TEXTILE MATERIAL IN LENGTHS. ISAAC E. PALMER, Middletown, Conn. Filed May 23, 1910. Serial No. 562,851.



1. Apparatus for treating textile material in lengths comprising a chute having an upturned material intake end and a lower angularly directed discharge end having a delivery mouth, the rear and bottom wall of said chute between said intake end and delivery mouth being of greater length than the front and upper wall thereof between said points but having a material contacting surface presenting less frictional resistance to the onward movement of said material through the chute than the said front and upper wall, thereby to compensate for said greater length by causing the relative faster advance of the portion of the material contacting with said rear and bottom wall.

2. Apparatus for treating textile material in lengths comprising a chute having a substantially upright receiving portion terminating in an open upper end and a lower forwardly extending discharge portion forming a continuation of said receiving portion and having a delivery mouth, said discharge portion having top and bottom curved walls, whereof the bottom curved wall is the longer and has a material-contacting surface presenting less frictional resistance to the onward movement of the material through the chute than the said top wall, whereby the portion of the material contacting with said bottom wall advances relatively faster through the chute than the portion of the material contacting with said top wall.

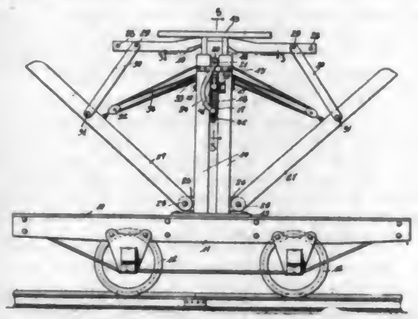
3. Apparatus for treating textile material in lengths comprising a chute having a substantially upright receiving portion terminating in an open upper end and a lower forwardly extending discharge portion forming a continuation of said receiving portion and having a delivery mouth, the rear and bottom wall of said chute between said intake end and said delivery end being of greater length than the front and upper wall thereof between said points, the rear and bottom wall of said discharge portion of said chute having a material-contacting, inner, stationary surface composed of an antifriction substance, presenting less frictional resistance to the onward movement of said material through the chute than the front and upper wall.

4. Apparatus for treating textile material in lengths comprising a chute having a substantially upright receiving portion terminating in an open, upper end and a lower forwardly extending discharge portion forming a continuation of said receiving portion and having a delivery mouth, said chute having a material-contacting, inner, stationary surface composed of an anti-friction material, said chute having its point of least cross sectional area anterior to the deepest portion of said chute and of subsequently increasing cross sectional area, in the direction of the passage of the material through said chute.

5. Apparatus for treating textile material in lengths comprising a chute having a substantially upright receiving portion terminating in an open upper end and a lower forwardly extending discharge portion forming a continuation of said receiving portion and having a delivery mouth, said discharge portion having top and bottom curved walls, whereof the bottom curved wall is the longer and has a material-contacting stationary surface composed of an antifriction material, the said top wall having a material contacting surface presenting relatively greater friction to the advancing material than the said bottom wall.

[Claims 6 to 12 not printed in the Gazette.]

971,779. MINE-TIMBERING MACHINE. JOSEPH C. PARDUE, Willowton, W. Va. Filed Oct. 14, 1909. Serial No. 522,608.



1. In a device of the class described, a base, guides extending vertically from said base, a frame held to slide in said guides, a post sliding in said frame, a head on said frame, links pivoted to said head, struts pivoted to the links and the lower part of the post, said struts and links forming toggles, means to straighten said toggles and raise the frame in the guides, and other means to raise the post and frame as an entirety.

2. In a device of the class described, a base, guides extending vertically therefrom, a frame held to slide in said guides, a post sliding in said frame, a head on said frame, links pivoted to said head, struts pivoted intermediate their ends to the links and at their lower ends to the lower part of the post, said struts and links forming toggles, and the struts when in alinement with the links frictionally engaging the under side of the head, means to straighten said toggles and raise the frame in the guides, and other means to raise the post.

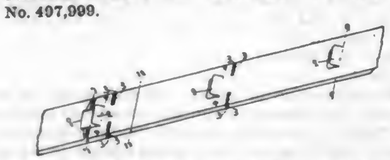
3. In a device of the class described, a base, guides extending vertically therefrom, a frame held to slide in said guides, a post sliding in said frame, a head on said frame, links pivoted to said head, struts pivoted intermediate their ends to the links and at their lower ends to the lower part of the post, said struts and links forming toggles, and the struts when in alinement with the links frictionally engaging the under side of the head, and a bolster pivotally mounted on said head, means to straighten said toggles and raise the frame in the guides, and other means to raise the post.

4. In a device of the class described, a base, guides extending vertically from said base, a frame held to slide in said guides, a post sliding in said frame, a head on said frame, links pivoted to said head, struts pivoted to the links and the lower part of the post, said struts and links forming toggles, winding drums at the upper end of said post, blocks connected to the upper end of said post, other blocks connected to said struts, cables extending over said blocks and having their free ends wound on the drums, a crank to rotate said drums, and means to raise the post and frame as an entirety.

5. In a device of the class described, a base, guides extending vertically therefrom, a frame held to slide in said guides, a post sliding in said frame, a head on said frame, links pivoted to said head, struts pivoted intermediate their ends to the links and at their lower ends to the lower part of the post, said struts and links forming toggles, and the struts when in alinement with the links frictionally engaging the under side of the head, winding drums mounted at the upper end of said post, blocks connected to the upper end of said post, other blocks connected to said struts, cables extending over said blocks and having their free ends wound on the drums, a crank to rotate said drums, and means to raise the post and frame as an entirety.

[Claims 6 to 8 not printed in the Gazette.]

971,780. METHOD OF MAKING PAPER BAGS. ASA L. PARRISH, Elkhart, Ind. Filed May 24, 1909. Serial No. 497,999.



1. The herein described improvement in the method of making paper bags, comprising forming bellows tucked tubing from a sheet of paper, forming the creases 3, 3, 3, 3, in the opposite faces of the tubing and its tucks in opposite directions toward each other, cutting the tubing and forming the diamond fold and final folds of the bag bottom and completing the bag.

2. The herein described method of making paper bags, consisting of forming a sheet of paper into bellows tucked tubing, cutting a thumbhole tip in the paper either before or after it is formed into tubing, compelling the tip 2, to stand at an angle with the tubing, creasing the tucked tubing at positions where the corners of the bag bottom are to be formed from both edges toward the center a distance substantially the depth of the bellows tucks, the creases being formed in the opposite sides of the tubing and its tucks in a direction toward the inside of the tubing, cutting the tubing through all of its plies leaving a narrow uncut connection in one side of the tubing, spreading the end of the tubing into the diamond form, defining the line 12, 12, when the diamond is being spread, flattening the diamond and applying paste, severing the narrow uncut connection 10, and forming the final folds 14 and 15.

971,781. COFFEE-POT. CLARA PEARCE, Philadelphia, Pa. Filed Mar. 4, 1910. Serial No. 547,184.

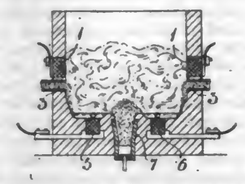


1. A coffee pot, comprising a body having an upper conical or tapering portion and a spout communicating with said conical portion of the body, said body having screw threads at the upper and lower ends of its conical portion, a conical strainer having screw threads at its upper and lower end constructed to engage the screw threads in the body, a flange at the upper larger end of the strainer overlapping the upper end of the body, said strainer having an annular series of perforations, any of which may be positioned in register with the spout, substantially as described.

2. A coffee pot, comprising a body having an upper conical portion, a spout communicating with the conical portion, a conical strainer adapted to fit within the conical portion of the body, screw threads at the upper and lower ends of said strainer, screw threads in the body to engage with the screw threads of the strainer, an internal annular shoulder in the body against which the lower end of the strainer bears, and an annular flange at the upper end of the strainer overlapping the upper end of the body.

3. A coffee pot, comprising a body having an upper conical portion, a spout communicating with the conical portion, a conical strainer adapted to fit within the conical portion of the body, screw threads at the upper and lower ends of said strainer, screw threads in the body to engage with the screw threads of the strainer, an internal annular shoulder in the body against which the lower end of the strainer bears, an annular flange at the upper end of the strainer overlapping the upper end of the body, a handle secured to said body, a cover having a downwardly projecting flange to fit within the strainer, an outwardly projecting flange on the cover to overlie the flange of the strainer, and an arm secured to the cover and hinged to said handle.

971,782. METHOD OF CHARGING ELECTRIC-RESISTANCE FURNACES. ALBERT PETERSSON, Odda, Norway. Filed Nov. 27, 1909. Serial No. 530,093.



1. The method of charging continuously working electric resistance metallurgical furnaces having electrodes of dif-

ferent polarity in the walls thereof, which consists in introducing a part of the charge from above while a charge of cold material is introduced between electrodes of different polarity to maintain a comparatively cold layer of material on said walls in the hot zone of the furnace, whereby a short-circuiting of the current through the furnace walls is prevented.

2. The method of charging continuously working electric resistance metallurgical furnaces having electrodes of different polarity in the walls thereof, which consist in introducing a part of the charge from above while a charge of cold non-conductive pulverous material is introduced between the electrodes of different polarity to maintain a comparatively cold layer of material on said walls in the hot zone of the furnace, whereby short-circuiting of the current through the furnace walls is prevented.

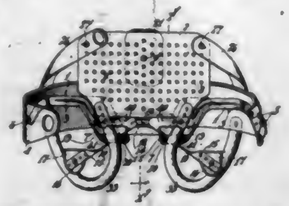
3. The method of charging continuously working electric resistance metallurgical furnaces having electrodes of different polarity in the walls thereof, which consists in introducing a part of the charge from above while a charge of cold, non-conductive pulverous material is introduced through openings in the side walls of the furnace between electrodes of different polarity to maintain a comparatively cold layer of material on said walls in the hot zone of the furnace, whereby a short-circuiting through the furnace walls is prevented.

4. The method of charging continuously working electric resistance metallurgical furnaces having electrodes of different polarity in the walls thereof, which consists in introducing a part of the charge from above while a charge of cold, non-conductive, pulverous material is introduced through openings in the side walls and in the bottom of the furnace between electrodes of different polarity to maintain a comparatively cold layer of material on said walls in the hot zone of the furnace, whereby a short-circuiting of the current through the furnace walls is prevented.

5. The method of charging continuously working electric resistance metallurgical furnaces having electrodes of different polarity in the walls thereof, which consists in introducing a charge from above having a high percentage of carbon and simultaneously introducing, through openings in the side walls of the furnace between electrodes of different polarity, a cold charge having a high percentage of carbon to maintain a comparatively cold layer of material on said walls in the hot zone of the furnace, whereby a short-circuiting of the current through the furnace walls is prevented.

[Claim 6 not printed in the Gazette.]

971,783. SURGICAL APPLIANCE. ADOLPH J. PETTER, Los Angeles, Cal. Filed Aug. 21, 1907. Serial No. 389,583.



1. A surgical appliance for the purpose stated comprising a flexible bar having attaching means at its end portions, said end portion being arched vertically, and a vertical plate attached by a hinge connection to the center portion of the bar and provided with means for attachment of local pressure applying devices thereto.

2. A surgical appliance for the purpose stated comprising a flexible bar having attaching means at its end portions, said end portions being arched, one of said end portions having strap fastener means for alinement of the center portion of the bar and the other end portion having fastening means for the same purpose out of said alinement, a plate attached to the center portion of the bar and provided with means for attachment of local pressure applying devices thereto, the ends of said bar bent rearwardly for the purpose stated.

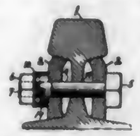
3. A surgical appliance for the purpose stated comprising a flat flexible bar having its ends arched vertically and provided with attaching means, the central portion of said bar being adapted to have a pad secured thereto, a fastener secured at its ends to said attaching means so as to vary the pressure of the pad above and below the bar, a substantially V shaped pad carrier adjustably secured to the bar at one end, and a pad adjustably secured to the other end, said carrier being flexible vertically and horizontally.

4. A surgical appliance for the purpose stated comprising a bar, a body member attached thereto, said bar being arched at each end, said ends being of uneven lengths, flexible attaching means secured to the ends of the bar, and flexible attaching means secured to the upper end of the said body member, the lower end of the body member being attached to the said bar above and below a point which is balanced with regard to the center portions of the bar to which the flexible attaching means are secured.

5. In an appliance for the purpose described, a bar having its ends arched and its central portion perforated so as to have attachments secured thereto at different points, the downwardly extending portions of said ends extending rearwardly and being flat and flexible and twisted into a plane at an angle to the length of the bar and provided with fastening means, pressure applying devices secured to the central portion of the bar, and an adjustable body strap secured to one of said ends substantially in a line with the bar and to the other end at points above and below the bar, respectively.

[Claims 6 to 11 not printed in the Gazette.]

971,784. NUT-LOCK. CHARLES PFISTER, New York, N. Y. Filed Sept. 20, 1905. Serial No. 279,282.



1. The combination of a bolt, a nut threaded on the bolt having the inner portion thereof of reduced diameter and provided with ratchet teeth on its inner face, a removable collar fitting over the reduced portion of the nut and inclosing the ratchet teeth, a washer, and an S shaped spring pawl having one end affixed in a kerf of the washer and the opposite free end thereof seated in a recess of the washer and adapted to engage with the ratchet teeth of the nut.

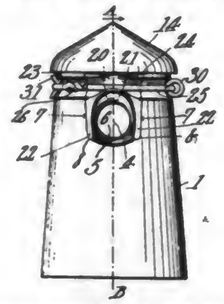
2, The combination of a bolt, a nut threaded on the bolt having the inner portion thereof of reduced diameter and provided with ratchet teeth on its inner face, a removable collar fitting over the reduced portion of the nut and inclosing the ratchet teeth, and a washer on which said collar seats, arranged on the bolt having a spring pawl fixed thereto adapted to engage with the teeth of the nut and lock the latter in place.

971,785. TREE-INSULATOR. ALFRED L. PIRACH, Wallingford, Conn., assignor of one-half to Spalding K. Long, New York, N. Y. Filed Apr. 21, 1910. Serial No. 556,825.

1. An insulator comprising a base having an opening in its top; and a cap to cover the base, the cap having a tongue to register in the opening, there being a continuous groove about the base and across the tongue, for the reception of a securing band.

2. An insulator comprising a base having an opening in its top and a cap to fit upon the base, the cap having a depending tongue to fit in the opening; the base and the tongue having alining transverse openings for the reception of a securing pin.

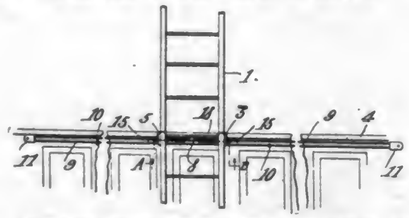
3. An insulator comprising a base having an opening in its top; and a cap to cover the base, the cap having a tongue to register in the opening, there being a continuous groove about the base and across the tongue, for the reception of a securing band; there being in the tongue and in the base, alining transverse openings terminating in the groove, and adapted to receive a securing pin.



4. An insulator comprising a base having an opening extended entirely across its top; a cap to fit upon the base and provided with a tongue to register in the opening, the tongue and the base being provided with integrally formed, interengaging elements, permitting the cap to be freely lifted from the base, but preventing the cap and the base from having relative transverse movement.

5. An insulator comprising a base having an opening extended entirely across the top, a cap to fit upon the base and provided with a tongue to register in the opening, there being shoulders in the base, in the side wall of the opening, converging to an apex, and the tongue being provided in its side wall with fingers to straddle the apex.

971,786. LADDER. FREDERIC S. PLAISTED, Penn Yan, N. Y. Filed June 19, 1909. Serial No. 503,212.



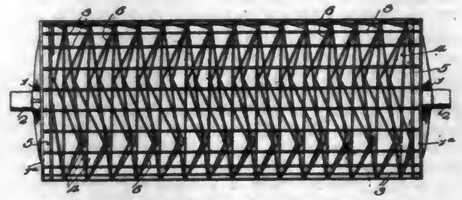
1. In a store ladder operating means, a rope or flexible strand, pulleys for the rope at the ends of the range of travel of the ladder, and elastic connections between the respective ends of the rope and the corresponding sides of the ladder, said elastic connections projecting beyond the sides of the ladder to engage the pulleys when the ladder reaches the limits of its travel, and both runs of the rope being accessible to an operator at any point along the range of travel of the ladder.

2. In a store ladder operating means, a rope or flexible strand, pulleys for the rope at the ends of the range of travel of the ladder, and springs between the ends of the rope and the ladder capable of either compression or extension from their normal condition, each spring at the end connected to the rope extending beyond the corresponding side of the ladder to engage a respective one of said pulleys at the limits of travel of the ladder.

3. In a store ladder operating means, a rope or flexible strand, pulleys for the rope at the ends of the range of travel of the ladder, springs between the ends of the rope and the ladder and capable of either compression or extension from their normal condition, each of said springs at the end connected to the rope extending beyond the corresponding side of the ladder to engage a respective one of said pulleys at the limits of travel of the ladder, and laterally extended couplings between the rope ends and the springs.

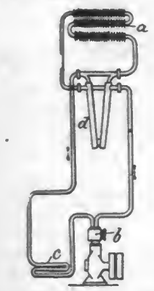
4. In a store ladder operating means, a rope or flexible strand, pulleys for rope at the ends of the range of travel of the ladder, springs between the ends of the rope and the ladder capable of either compression or extension from their normal condition, each of said springs at the end connected to the rope extending beyond the corresponding side of the ladder to engage a respective one of said pulleys at the limits of travel of the ladder, laterally extended couplings between the rope ends and the springs and located beyond the sides of the ladder, guide members on the ladder for the springs, and an intermediate connection upon the ladder for the springs, both the guide members and the intermediate connection projecting beyond the inner face of the ladder.

971,787. DANDY-ROLL. JOSEPH J. PLANK, Appleton, Wis. Filed Jan. 28, 1909. Serial No. 474,719.



A dandy roll including a pair of spaced heads, annular shoulders formed in the peripheries of said heads, longitudinal wires disposed across said heads and terminated upon said shoulders, a spiral wire disposed between said heads and against the inner faces of said longitudinal wires, rings integrally formed upon the opposite ends of said spiral wire for engagement against said heads to be secured thereto, and a zigzag wire disposed between the convolutions of said spiral wire and secured thereto at the points of contact between the same.

971,788. APPARATUS FOR THE AUTOMATIC REGULATION OF REFRIGERATING-MACHINES. FRÉDÉRIC AUGUSTIN POLLARD, Paris, France. Filed Dec. 4, 1908. Serial No. 466,028.



1. In a regulator for refrigerating machines, a valve controlling the flow of the refrigerating fluid, a thermostat under the influence of the refrigerating fluid on the inlet side of the refrigerator and operatively connected to the valve, and a second thermostat under the influence of the fluid on the exhaust side of the refrigerator and also connected to the valve.

2. In a regulator for refrigerating machines, a valve controlling the flow of the refrigerating fluid, a thermostat under the influence of the refrigerating fluid on the inlet side of the refrigerator and operatively connected to the valve, and a second thermostat under the influence of the fluid on the exhaust side of the refrigerator and also connected to the valve, the cooling of the first

thermostat tending to open the valve and the cooling of the second to seat the same.

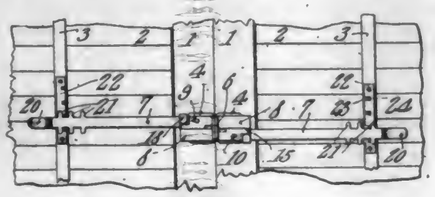
3. In a regulator for refrigerating machines, a valve controlling the flow of the refrigerating fluid, a thermostat under the influence of the refrigerating fluid on the inlet side of the refrigerator and operatively connected to the valve, and a second thermostat under the influence of the fluid on the exhaust side of the refrigerator and also connected to the valve, the cooling of the first thermostat tending to open the valve and the cooling of the second to seat the same, the device provided with a permanently open by-pass around the valve to influence the first thermostat.

4. In a regulator for refrigerating machines, a valve controlling the flow of the refrigerating fluid, a thermostat under the influence of the refrigerating fluid on the inlet side of the refrigerator and operatively connected in a rigid manner to the valve, and a second thermostat under the influence of the fluid on the exhaust side of the refrigerator and also connected in a rigid manner to the valve.

5. In a regulator for refrigerating machines, a valve controlling the flow of the refrigerating fluid, a thermostat under the influence of the refrigerating fluid on the inlet side of the refrigerator and operatively connected in a rigid manner to the valve, and a second thermostat under the influence of the fluid on the exhaust side of the refrigerator and also connected in a rigid manner to the valve, the cooling of the first thermostat tending to open the valve and the cooling of the second to seat the same, the device provided with a permanently open by-pass around the valve to influence the first thermostat.

[Claims 6 to 14 not printed in the Gazette.]

971,789. BLIND-FASTENER. ERNEST L. PRATT, Litchfield, Conn. Filed Feb. 19, 1910. Serial No. 544,891.



1. A device for securing blind slats, consisting of a resilient arm; means for securing the arm to a blind for both pivotal and longitudinal sliding movement, the arm being pivotally movable to overhang the slats of the blind; and means engageable by the arm when the same is slid longitudinally, to lock the arm against pivotal movement.

2. A device of the class described comprising arms arranged to be pivotally mounted upon a pair of blinds adjacent the meeting edges thereof, and having elements at their adjacent ends to interlock with each other, the arms at their remote ends being operable to hold the slats of the blinds against movement.

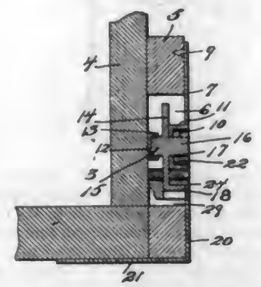
3. A device of the class described comprising resilient arms arranged to be pivotally mounted upon a pair of blinds adjacent the meeting edges thereof, and having elements at their adjacent ends to interlock with each other, the arms being arranged at their remote ends to bear yieldingly upon the slat rods of the blinds.

4. A device of the class described comprising resilient arms arranged to be secured to a pair of blinds adjacent the meeting edges thereof, and having interlocking elements at their adjacent ends, the arms being arranged at their remote ends to hold the slats of the blinds against movement; the arms being pivotally movable to dispose their remote ends in slat holding position, and being slidably movable to bring the interlocking elements into engagement.

5. A device of the class described consisting of members arranged to be secured to the slat rods of a pair of blinds; arms arranged to be pivotally mounted upon the blinds adjacent the meeting edges thereof and having elements at their adjacent ends to interlock with each other, the arms, at their remote ends, and the rod carried members being arranged to interlock at predetermined steps, when the slat rods are shifted longitudinally.

[Claims 6 and 7 not printed in the Gazette.]

971,790. BOX-FASTENER. FRANK R. PRESCOTT, Meredith, N. H. Filed Apr. 28, 1910. Serial No. 558,096.

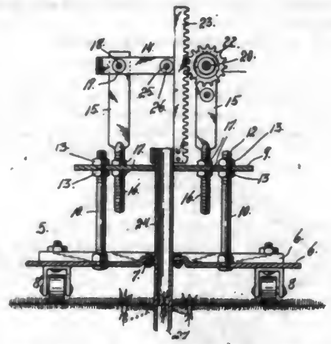


1. A lock composed of two detachable sections one of which is provided with a receiving portion, a lip projecting within the latter and out of contact with the rear wall of the section, a second section, a disk mounted within the same and movable between the end of the lip of the other section and the rear wall thereof, means carried by said disk for engagement with the lip carried by the other member, and a removable key adapted to be applied to the said disk for rotating the latter, as and for the purpose described.

2. A lock comprising two detachable sections one of which is provided with a receiving guideway, a lip projecting within said guideway, a second section having a socket, a bearing located beyond said socket, a circular disk having oppositely arranged trunnions one of which is received by said bearing and the other passing through the rear wall of the socket and projecting within the latter, a circular flange forming a part of the disk and extending partially around said disk, for interlocking engagement with the lip of the other section, and a detachable key adapted for application to the trunnion of the disk projecting within the socket of its accompanying section, as and for the purpose described.

3. A lock composed of two detachable sections one of which is provided with a receiving portion, a curvilinear shaped lip projecting within the receiving portion and out of contact with the rear wall of the latter forming lateral receiving entrances for said section, the lower engaging surface of the lip being curved and receding toward its ends, a second section composed of a suitable plate having a socket located in its lower extremity providing a concave extension which is snugly received by a correspondingly shaped concave depression formed by the first named section, a circular disk, trunnions projecting from the opposite sides of the latter one of which is mounted in the rear of the socket of said member and projecting within the socket, a plate having a suitable socket for the reception of the other trunnion, a flange formed integrally with the disk and extending partially around the circumference of the same the ends of which recede toward the disk, the trunnion forming a part of the disk and projecting within the socket of the second member being flattened, and a key having a socket formed therein the shape of which corresponds to the shape of the projecting trunnion of the disk, said key being adapted to be removably applied to the trunnion of the disk for rotating the latter.

971,791. EARTH-HOLE-FORMING MACHINE FOR WEED-EXTERMINATING PURPOSES. JOHN PAISK, Denver, Colo. Filed Feb. 9, 1909. Serial No. 476,021.

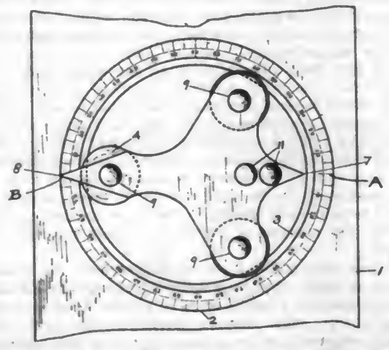


1. A machine of the class described, comprising a platform, a plate mounted above the platform, and vertically adjustable, a frame mounted above the plate, and also vertically adjustable, a vertically reciprocating earth-hole-forming tool passing through openings formed in the said plate and platform, and means mounted upon the said frame for actuating the said tool, substantially as described.

2. An earth-hole-forming machine, comprising a platform, a plate mounted above the platform, a frame mounted above the plate, a vertically disposed tube passing through openings formed in the plate and platform, a cog-rack passing through a bifurcated transverse member forming the upper portion of the frame, the said rack connected with the upper extremity of the tube, a pinion also positioned in said bifurcated member to mesh with said rack, and an operating crank-shaft, upon which the pinion is mounted.

3. A machine of the class described, comprising a wheel supported platform, a vertically adjustable framework positioned on the platform, a vertically disposed tube mounted to reciprocate through perforations of the framework, and a vertically disposed rack-bar connected with said tube by means of an offset collar engaging one end of said tube, and means for actuating said rack bar substantially as described.

971,792. LEVEL. DENNIS E. REILLY, Derby, Conn. Filed Mar. 13, 1909. Serial No. 483,335.



1. In a device of the class described, a circular frame having scale markings on its outer faces and a track on its inner periphery, a T-shaped indicator, wheels movable on the track of the frame pivotally secured to the indicator and a weight secured to the indicator.

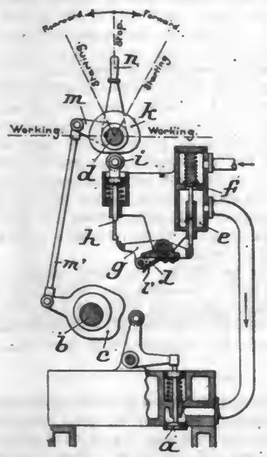
2. In a device of the class described, a circular frame having a track on its inner periphery and inch scale markings on its outer faces, an indicator comprising two plates, each being formed with alining pointers and lateral arms, wheels pivotally secured on the lateral arms and adjacent to one of the pointers for movably supporting the indicator on the frame, and a weight secured on the remaining pointer.

3. A device of the character described, consisting of a frame having a track on its inner periphery an indicator comprising two plates, means for revolubly mounting said indicator on said track, and a weight mounted between said indicator plates.

4. A device of the character described, consisting of a circular frame provided with a track on its inner periphery, a T-shaped indicator revolubly mounted on said track, and wheels pivoted on the arms of said indicator and adapted to revolve on said track with said indicator.

5. A device of the character described, consisting of a circular frame having a scale on its outer circumference and a track on its inner periphery, and a T-shaped indicator comprising two plates, and wheels pivoted between said plates movable on said track.

971,793. INTERNAL-COMBUSTION ENGINE. THEODOR REUTER, Winterthur, Switzerland. Filed Aug. 13, 1909. Serial No. 512,697.



1. The combination with a starting valve of an internal combustion engine, and compressed air piping leading to the same, of a cut-off valve in said piping, reversing mechanism for the engine, and an operating connection between said mechanism and said valve which permits the valve to stay closed during the operation of the engine and during the movement of the reversing mechanism from running position to stationary position.

2. The combination with a starting valve of an internal combustion engine, of a cut-off valve in connection therewith, controlling mechanism having a working position, a stop position, and a starting position intermediate the working and stop positions, and an operative connection between said mechanism and said cut-off valve which keeps the latter closed during the movement of the controlling mechanism from the working to the stationary position.

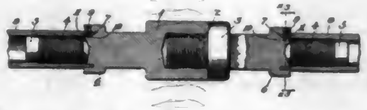
3. The combination with a starting valve of an internal combustion engine, and compressed air piping leading thereto, of a cut-off valve in said piping, a reversing shaft having a cam, and means to transmit the movements of said cam to said cut-off valve.

4. The combination with a starting valve of an internal combustion engine, of a cut-off valve in connection therewith, a reversing shaft, a cam on the reversing shaft, and

means to transmit the movements of said cam to the cut-off valve, including a sliding spring-pressed member resting against the cam, and releasing mechanism in connection with said member and in operative relation with the spindle of said cut-off valve.

5. The combination with a starting valve of an internal combustion engine, of a cut-off valve in connection therewith, a countershaft having a cam to actuate the starting valve, a reversing shaft having a cam operatively connected with the cut-off valve, and an operative connection between the countershaft cam and the reversing shaft.

971,794. COUPLING FOR PUMP-RODS. WILLIAM B. SCOTT, Los Angeles, Cal. Filed Oct. 25, 1909. Serial No. 524,564.

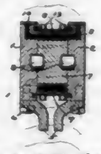


1. A coupling for pump rods comprising two members, each of which has a threaded pin screwed into the pump rod, a flange on the member at the base of the pin, said flange having an annular groove which receives the end of the pump rod, the inner wall of the groove having depressions; the wall of the rod being indented to engage said depressions, the flange having holes for the insertion of a punch to produce said indentations.

2. A coupling for pump rods comprising two members, each of which has a threaded pin screwed into the pump rod, a flange on the member at the base of the pin, said flange having an annular groove which receives the end of the pump rod, the inner wall of the groove having depressions, the wall of the rod being indented to engage said depressions, the flange having holes for the insertion of a punch to produce said indentations, the end of the pin being blank and closely fitting the bore of the rod to relieve the threads from strain.

3. A member having an annularly grooved flange and depressions with a threaded pin projecting beyond the flange, a rod screwed on the threaded pin with its end extending into the grooved flange, and provided with indentations in its wall engaging said depressions.

971,795. MAGNETIC BRAKE. CUTHBERT SHEARS, Manchester, England, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 21, 1909. Serial No. 473,448.



1. In a track brake magnet, the combination with side plates and a coil mounted between the plates, of a casing surrounding said coil and a packing joint uniting the casing with the side plates to prevent the entrance of moisture thereto.

2. A brake magnet comprising side plates, coils mounted between said plates, casings surrounding the coils, and a water tight packed joint between said casings and the side plates.

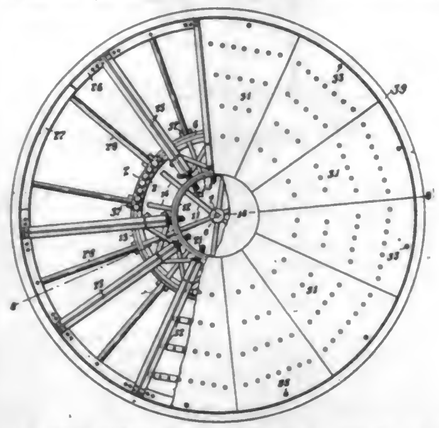
3. In an electro-magnetic brake, the combination with side plates and cylindrical coils disposed between said side plates, of concentric pins for holding said coils in position.

4. In an electro-magnetic brake, the combination with side plates and coils mounted intermediate said side plates, of pins carried in interior recesses in said side plates for holding the coils in position.

5. In a brake magnet, the combination with side plates and coils mounted between said side plates, of a casing surrounding a coil, a packing ring forming the joint between the casing and side plates and means for compressing the packing to effect a tight joint between the casing and side plates.

[Claims 6 to 8 not printed in the Gazette.]

971,796. TURN-TABLE. ALBERTUS O. SLENTZ, Canton, Ohio, assignor of one-half to The Canton Foundry and Machine Company, Canton, Ohio, a Corporation of Ohio. Filed July 30, 1910. Serial No. 574,630.



1. A turn table of the class described comprising an inner track, a series of balls located upon said inner track, a turn table support carried by the balls, said turn table support consisting of an inner cylindrical member and an outer ring member of greater diameter than the cylindrical member, trusses adapted to be connected at their inner ends to said turn table support, the inner upper ends of said trusses being connected to said inner cylindrical member and the inner lower ends of said trusses connected to said outer ring members, and a series of plates connected to the trusses and forming a platform.

2. A turn table of the class described comprising inner and outer fixed concentric tracks, a turn table support rotatably mounted upon the inner track, radial trusses comprising spaced upper and lower bars, the upper bars connected to the turn table support and the lower bars connected thereto at a point farther removed from the center of said support than the point at which the upper bars are connected, a ring secured to the outer ends of the trusses and a series of plates connected to the trusses and adapted to form a platform.

3. A turn table comprising inner and outer fixed concentric tracks, a support rotatably mounted upon the inner track, radial trusses adjustably connected to said support, said trusses comprising spaced upper and lower bars, said upper bars being substantially horizontal and of greater length than said lower bars, segmental sections secured to the outer ends of the trusses adapted to form a ring, said ring located above the outer concentric track, casters connected to said outer ring, a center plate located above the support and a series of plates detachably secured to the trusses.

4. In a turn table of the class described, the combination of an inner track provided with alternating elevations and depressions, a series of balls located upon said inner track, a turn table support carried by the balls, radial trusses comprising spaced upper and lower bars, the upper bars connected to the turn table support and lower bars connected thereto at a point farther removed from the center of said support than the point at which the upper bars are connected, a ring secured to the outer end of the trusses, an outer track located beneath said ring and a series of plates connected to the trusses and forming a platform.

5. In a turn table of the class described, the combination of an inner track or way provided with alternating elevations and depressions, a series of balls located upon said inner track or way, a turn table support carried by the balls, said turn table support consisting of an inner cylindrical member and an outer ring member of greater diameter than the cylindrical member, trusses connected at their inner ends to said turn table support, a ring secured to the outer ends of said trusses, an outer track located below said ring and a series of plates connected to the trusses and forming a platform.

[Claims 6 to 11 not printed in the Gazette.]

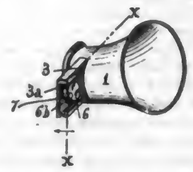
971,797. PENCIL PROTECTOR AND RETAINER. JONATHAN P. SMYTHE, Longbeach, Cal. Filed May 15, 1909. Serial No. 496,294.



1. A pencil protector consisting of a tubular member adapted to surround the pencil, elastic fingers extending longitudinally from said tubular member and formed to normally close on one another to protect the pencil point, and means for frictionally retaining the said tubular member on the pencil, said means consisting of a rubber ring surrounding the tubular member, said tubular member being slotted to enable engagement of the rubber ring with the body of the pencil.

2. A pencil protector consisting of a tubular member adapted to slide on a pencil, said tubular member being slit near its end to form a plurality of fingers, the said tubular member being formed with a bead at the base of said spring fingers, the said spring fingers being formed with a curve near the said bead and their outer portions being straight, whereby the said spring fingers contact with each other at the tip to normally protect the point of the pencil.

971,798. OPTICAL INSTRUMENT. TAULS A. SOMDAL, Springfield, Ill. Filed Jan. 20, 1910. Serial No. 539,008.



1. An instrument comprising a fixed lens, a support for said fixed lens, a movable lens adapted to gravitate into focus or out of focus with respect to said fixed lens, and a support for said movable lens.

2. An instrument comprising a fixed lens, a support for said fixed lens, a rolling lens adapted to cover or uncover said fixed lens, and a support for said rolling lens.

3. An instrument comprising a frame, a lens fixed on the frame, a lens support mounted on the frame, and a lens adapted to roll on said lens-support into focus with said fixed lens.

4. In an instrument of the class described, the combination of a frame, a lens fixed on said frame, a lens-support mounted on said frame at right angles to the axis of said fixed lens and having an opening in line with said lens, and a circular lens adapted to roll freely on said lens-support to cover, or uncover the opening in said lens-support.

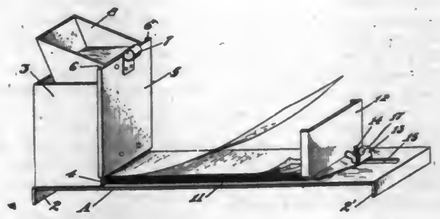
5. An instrument comprising a frame, a lens fixed on the frame, a lens-support mounted on the frame at right angles to the axis of the fixed lens, a circular lens adapted to roll freely on the lens-support, and stops limiting the movement of said lens on said lens-support.

[Claims 6 and 7 not printed in the Gazette.]

971,799. PRESERVING COMPOUND. JOHN WINFIELD STEVENSON, Goldfield, Nev. Filed Mar. 18, 1909. Serial No. 484,227.

A mold preventing mixture of fluid consistency, consisting of lime, charcoal, salt, sulfur, and water combined in the proportions and the manner set forth.

971,800. LABEL-PASTING DEVICE. WALTER SUTTON, Sacramento, Cal. Filed May 23, 1910. Serial No. 562,925.

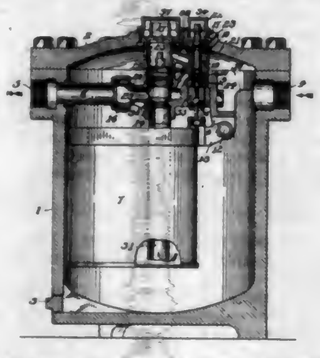


1. A label-pasting device, said device consisting of a label support having a vertical guide frame at one end having a part extending across the end and having other parts extending parallel with each other and with the sides of the support, said frame being open at the remaining side, a paste receptacle mounted in the open end of said frame having means at the bottom for supplying paste to the labels, said receptacle having a carriage plate, the said edges of which slidably engage the corresponding edges of the parallel sides of the guide frame whereby the paste receptacle may vertically move in said frame, and an abutment plate at the other end of the support adjustable toward and from the paste receptacle.

2. A label-pasting device, consisting of a support for the labels, said support having at one end a guide frame which extends across said end and is provided with parallel sides extending for a portion of the distance along the side edges of the support, said guide frame being open at one side and at the top, a paste receptacle mounted in the top and open side of the guide frame, a carriage plate fixed to the paste receptacle having its ends extending beyond the sides of said receptacle, the adjacent edges of the carriage plate and the edges of the parallel sides of the guide frame being fashioned to engage and form guides for the carriage plate, a roller mounted in the discharge end of the paste receptacle and beneath which roller the labels are passed, the ends of the labels projecting into the portion of the open front of the guide frame below the paste receptacle, and a follower block adjustably

mounted on the opposite end of the support having its edges bent to embrace the corresponding edges of the labels.

971,801. STEAM-TRAP. JULIUS R. TANNER, Pittsburg, Pa., assignor to The Pittsburgh Valve, Foundry and Construction Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 29, 1909. Serial No. 492,812.



1. In a steam trap, a hollow body, a float within the said body, a cap for the said body, a valve casing supported by the body and having therein valve chambers, a balanced valve in one chamber, an unbalanced valve arranged to control the discharge of water from the trap and controlled by the said balanced valve, means for causing the float to control the position of the last named valve, and removable closures supported by said cap and arranged over the said valves, whereby the latter may be removed from the trap without removing the said cap.

2. In a steam trap, a hollow body having an inlet and discharge openings, and a unit in the said body consisting of a valve casing, a float, valve mechanism coöperating with the float to control the discharge of water from the body, a discharge member removably connected to the discharge opening in the hollow body, a deflector located in front of the inlet to the hollow body and constituting a support for the said casing.

3. In a steam trap, a hollow body, a valve casing therein, a deflector opposite the inlet to the hollow body and supporting the said casing, and a float also supported by said deflector.

4. In a steam trap, a hollow body, a valve-casing therein, a support therefor having arms seated in openings in the said body, and a cap for said body, said cap covering the said openings.

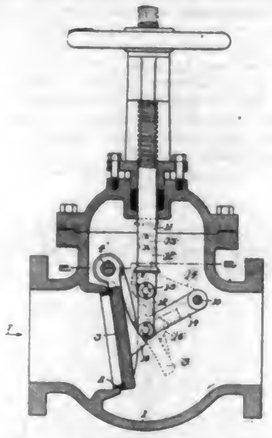
5. In a steam trap, a differential valve to control the discharge of water therefrom, a valve supporting member having therein a discharge passage across which said valve extends, a valve seat at each side of the discharge passage, said valve adapted to rest on both seats simultaneously, and a discharge pipe arranged to lead the water from the trap to the smaller seat of the valve.

[Claims 6 and 7 not printed in the Gazette.]

971,802. NON-RETURN VALVE. JULIUS R. TANNER, Pittsburg, Pa., assignor to The Pittsburgh Valve, Foundry and Construction Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed June 7, 1909. Serial No. 500,591.

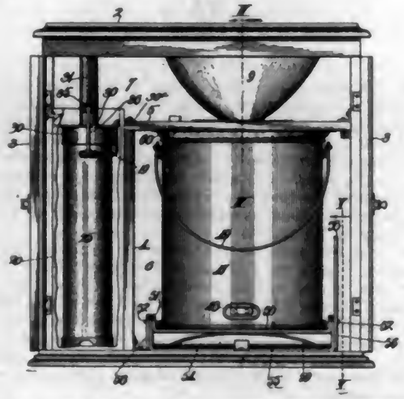
1. In a non-return valve, a casing, a valve-seat, a valve coöperating therewith, a stem, a link connected thereto, a second link having one end connected to the casing, the remaining ends of the links being connected so as to form a knuckle; and an incline between the valve and the knuckle, said knuckle acting in connection with the said incline to close the valve on its seat or to hold the same thereon.

2. In a non-return valve, a valve-seat, a valve coöperating therewith and provided on its back with an incline, a stem, a link having one end connected thereto, a second



link connected to a fixed point and to the remaining ends of the first link, said links coöperating with the incline to cause the valve to close, or to hold the same closed.

971,803. PORTABLE SANITARY WATER-CLOSET. PETER F. TARNAWSKI, Leavenworth, Kans., assignor of one-half to Peter W. Nicola, Leavenworth, Kans. Filed Mar. 1, 1909. Serial No. 480,782.



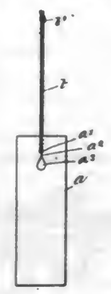
1. An apparatus of the character described, comprising a cabinet having a seat provided with an opening, a bowl within the cabinet under said opening, movable means closing the discharge end of the bowl, a pail arranged below the bowl and said movable means, a vertically-movable seat-plate supporting the pail, a cushion for engagement with the upper end of the pail and adapted to form an air-tight connection with the same, means for moving said bowl-closing means aside, and means to hold said seat-plate elevated with a yielding pressure.

2. An apparatus of the character described, comprising a cabinet having a seat provided with an opening, a bowl within the cabinet under said opening, movable means closing the discharge end of the bowl, a pail arranged below the bowl and said movable means, a vertically-movable seat-plate supporting the pail, a cushion for engagement with the upper end of the pail and adapted to form an air-tight connection with the same, means for moving said bowl-closing means aside, means to hold said seat-plate elevated with a yielding pressure, and means to depress and hold the seat-plate in such position.

3. An apparatus of the character described, comprising a cabinet having a seat provided with an opening, a bowl within the cabinet under said opening, movable means closing the discharge end of the bowl, a pail arranged below the bowl and said movable means, a vertically-movable seat-plate supporting the pail, a cushion for engagement with the upper end of the pail and adapted to form an air-tight connection with the same, means for moving said bowl-closing means aside, a U-shaped frame resting on the bottom of the cabinet below the pail, and provided with vertical slots in its arms, pins projecting outward from the seat plate through said slots, a rock-shaft journaled in the U-shaped frame below said slots and provided with crank arms having eccentric slots receiving the outer ends of said pins, a spring exerting upward pressure on the seat-plate to raise the same and the pail when unopposed, and means to operate said rock-shaft and through the eccentric slots of its crank arms force said pins and the seat-plate downward against the resistance of said spring to effect the lowering of the pail.

4. An apparatus of the character described, comprising a cabinet having a seat provided with an opening, a horizontal partition below the seat and provided with an opening, a bowl within the cabinet under the opening of the seat and depending into the opening of the partition, a circular cushion secured to the underside of the partition concentrically around the opening thereof, a seat-plate, means for holding the same yieldingly elevated, a pail upon said seat plate and at its upper edge engaging said cushion with an air-tight relation when the seat-plate is elevated, and means to force the seat-plate downward and secure it in its depressed position.

971,804. TAG. FRANK H. THOMPSON, South Framingham, Mass., assignor to Dennison Manufacturing Co., South Framingham, Mass., a Corporation of Massachusetts. Filed June 11, 1909. Serial No. 501,568.

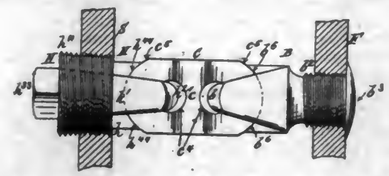


1. A tag, an attaching-loop connected at its inner end to the tag and having a knot at its outer end, said tag having an aperture made larger than the strand composing the loop, to permit a free sliding movement of the loop therein, but smaller than the knot, to prevent the knot passing through it when drawn into engagement with the tag, and having a self-closing passage leading to said aperture, substantially as described.

2. A tag having a small aperture and a large aperture, and a communicating passage between said apertures, and an attaching-loop connected at its inner end to the tag, at the small aperture therein, having a knot at its outer end which is made smaller than the large aperture and larger than the small aperture, whereby said knotted end may be passed through the large aperture and drawn along the communicating passage into the small aperture, and prevented from withdrawal by the knot engaging the tag at the small aperture, substantially as described.

3. A tag having two apertures, one larger than the other, and a connecting slit, a cord passing through the small aperture having its ends tied together to form a knot, the large aperture permitting the passage through it of the knotted end thus formed and having its sides converging toward said slit and terminating thereat, thus forming an angle for guiding the cord into said slit, and said slit having side portions which yield to permit the passage of the cord through it into the small aperture and spring back into place to prevent its accidental retraction, and said small aperture being made smaller than the knot, substantially as described.

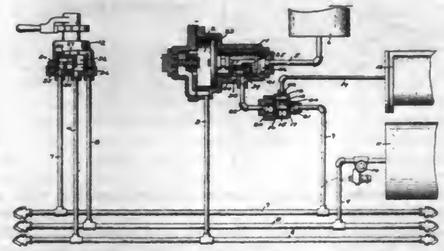
971,805. MANUFACTURE OF STAY-BOLTS. GEORGE S. THOMPSON, Hockessin, Del., assignor to Flexible Bolt Company, a Corporation of Delaware. Original application filed Oct. 7, 1905, Serial No. 281,841. Divided and this application filed Apr. 5, 1906, Serial No. 310,002. Renewed Apr. 26, 1910. Serial No. 557,825.



1. The method herein set forth of manufacturing an articulated stay bolt consisting in looping a strap cylindrical in cross section into the eye of the part to which the head is coupled, bending said cylindrical strap to form the eye of the head, and welding the ends of said strap to the opposite sides of a central filler throughout the length thereof, substantially in the manner and for the purpose described.

2. The method herein set forth of manufacturing an articulated stay bolt which consists in looping a strap of metal into the eye of a bolt member, bending the ends of said strap to substantially parallel position upon opposite sides of a grooved filler inserted between them, and welding together such strap ends and filler.

971,806. COMBINED AUTOMATIC AND STRAIGHT-AIR BRAKE. WALTER V. TURNER, Edgewood, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 6, 1908. Serial No. 425,491.



1. In a fluid pressure brake, the combination with an automatic valve device operated by a reduction in train pipe pressure to supply fluid under pressure to a brake cylinder, of a direct pipe or passage for also supplying fluid to the brake cylinder and a valve mechanism operating upon the flow of fluid from the automatic valve-device to the brake cylinder, to close communication from the direct passage to the brake cylinder, and then to open said communication for supplying additional fluid to the brake cylinder.

2. In a fluid pressure brake, the combination with an automatic valve device operated by a reduction in train pipe pressure to supply fluid under pressure to a brake cylinder, of a direct pipe or passage for also supplying fluid to the brake cylinder and a valve mechanism operating upon the flow of fluid from the automatic valve device to

the brake cylinder, to close communication from the direct passage to the brake cylinder, and then to open said communication for supplying additional fluid to the brake cylinder and to close communication to said automatic valve device.

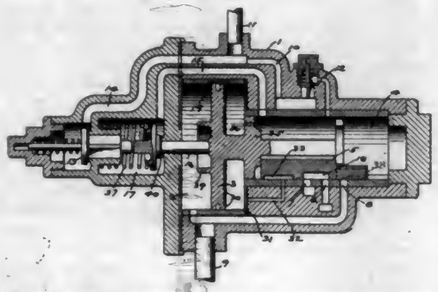
3. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, triple valve, and brake cylinder, of a direct supply pipe or passage and a valve mechanism operating upon the flow of air from the triple valve to the brake cylinder, for closing the direct supply pipe and then operating to open communication from the direct supply pipe to the brake cylinder, and to close communication to the auxiliary reservoir.

4. In a fluid pressure brake, the combination with a train pipe, auxiliary reservoir, triple valve, and brake cylinder, of a direct supply pipe or passage and a valve mechanism operating upon the flow of air from the triple valve to the brake cylinder, for closing the direct supply pipe and then operating upon equalization of the fluid pressure from the triple valve into the brake cylinder, to open communication from the supply pipe to the brake cylinder and to close communication to the triple valve.

5. In a fluid pressure brake, the combination with a train pipe and a direct or straight air supply pipe, of an automatic valve device operating upon a sudden reduction in train pipe pressure to supply air to the brake cylinder and a valve mechanism operated by the flow of air from the automatic valve device to the brake cylinder for closing communication from the direct supply pipe to the brake cylinder and then operating upon equalization of the fluid pressure flowing from the automatic valve device, to close the communication from the automatic valve device, and open communication from the direct supply pipe to the brake cylinder.

[Claims 6 to 16 not printed in the Gazette.]

971,807. COMBINED AUTOMATIC AND STRAIGHT-AIR BRAKE. WALTER V. TURNER, Edgewood, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 6, 1908. Serial No. 425,492.



1. In a fluid pressure brake, the combination with a brake pipe and brake cylinder, of a valve mechanism operating upon a reduction in brake pipe pressure to supply air to the brake cylinder, and adapted upon increase in train pipe pressure to move to a position for opening communication from the brake pipe to the brake cylinder, and means for holding the valve mechanism in said open position.

2. In a fluid pressure brake, the combination with a brake pipe and brake cylinder, of a valve mechanism operating upon a reduction in brake pipe pressure to supply air to the brake cylinder, and operating upon an increase in brake pipe pressure to establish a free open communication from the brake pipe to the brake cylinder, and means for maintaining the valve mechanism in the position for opening said communication to thereby permit the brake pipe pressure to equalize into the brake cylinder.

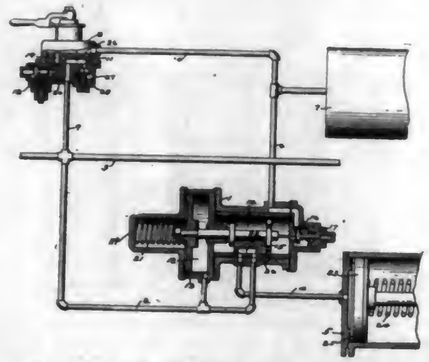
3. In a fluid pressure brake, the combination with a brake pipe, brake cylinder, and brake valve for controlling the brake pipe pressure, of a valve mechanism operating upon a reduction in brake pipe pressure to supply air to the brake cylinder, and upon an increase in brake pipe pressure to open communication from the brake pipe to the brake cylinder, and means for maintaining the valve mechanism in the position for opening said communication, to thereby permit the brake cylinder pressure to be increased or diminished by manipulation of the brake valve.

4. In a fluid pressure brake, the combination with a brake pipe, brake cylinder, and brake valve for controlling the pressure in the train pipe, of a valve mechanism operating upon a reduction in brake pipe pressure to supply air to the brake cylinder, and upon an increase in brake pipe pressure to establish a free open communication from the brake pipe to the brake cylinder, and means for holding said valve mechanism in the position for establishing said free open communication, to thereby permit equalization of the brake pipe pressure into the brake cylinder and the increase or reduction of brake cylinder pressure through the brake pipe by manipulation of the brake valve.

5. In a fluid pressure brake, the combination with a brake pipe and brake cylinder, of a valve and piston subject to the opposing pressures of the brake pipe and a chamber and adapted upon a reduction in brake pipe pressure to supply air to the brake cylinder, and upon an increase in brake pipe pressure to open communication from the brake pipe to the brake cylinder, and means for reducing the effective area of said piston subject to the pressure in the chamber, in the position for opening communication from the brake pipe to the brake cylinder, to maintain the valve and piston in said open position.

[Claims 6 to 8 not printed in the Gazette.]

971,808. STRAIGHT-AIR EMERGENCY-BRAKE. WALTER V. TURNER, Edgewood, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 6, 1908. Serial No. 425,493.



1. In a fluid pressure brake, the combination with a brake cylinder, of a train pipe line normally open to the brake cylinder, means for increasing the pressure in said train pipe line and brake cylinder to apply the brakes, and an automatic valve device operating upon a reduction in the train pipe line pressure for supplying air to the brake cylinder.

2. In a fluid pressure brake, the combination with a brake cylinder, of a train pipe line normally in open communication with the brake cylinder, a brake valve for increasing the pressure in the train pipe line and brake cylinder to apply the brakes, and an automatic valve device operating upon a reduction in train pipe line pressure for supplying air to the brake cylinder.

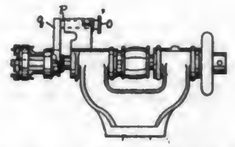
3. In a fluid pressure brake, the combination with a brake cylinder, of a train pipe line, a brake valve for supplying and releasing air through said train pipe line to and from the brake cylinder, and an automatic valve device operating upon a reduction in train pipe line pressure for supplying air to the brake cylinder.

4. In a fluid pressure brake, the combination with a brake cylinder and a train pipe line, of an emergency valve device operating upon a sudden reduction in pressure in said train pipe line to supply air to the brake cylinder and normally establishing communication from the train pipe line to the brake cylinder, and a brake valve for supplying air to the brake cylinder through said train pipe line.

5. In a fluid pressure brake, the combination with a train pipe line and a brake cylinder normally communicating with said train pipe line, of means operating upon either an increase or a decrease in pressure in said train pipe line for supplying air to the brake cylinder.

[Claims 6 to 9 not printed in the Gazette.]

971,809. MACHINE FOR TRIMMING THE SOLES OF BOOTS AND SHOES. AMBROSE S. VOSE, Brookline, Mass., assignor to Ruth L. Vose, Brookline, Mass. Filed May 15, 1909. Serial No. 496,238.



1. In a machine of the class described, in combination, a rotary shaft, a cutter head secured thereto and provided with a plurality of cutters or knives, a sleeve on said shaft having a flange, a plurality of beds carried by said flange and extended between said cutters or knives, a feather-edger ring having projections coöperating with said beds and knives and provided with rods or projections movably supported by said flange, springs interposed between said feather-edger ring and said flange, and stops carried by said flange and coöperating with said ring to limit the movement of the latter away from said flange, substantially as described.

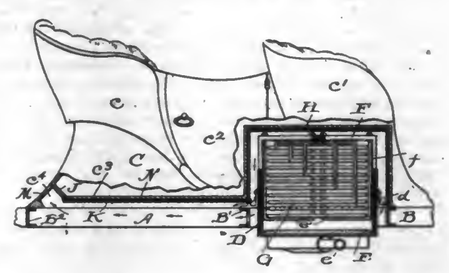
2. In a machine of the class described, in combination, a rotary shaft, a cutter head secured thereto and provided with a plurality of cutters or knives, a sleeve on said shaft having a flange, a plurality of beds carried by said flange and extended between said cutters or knives, a feather-edger ring having projections coöperating with said beds and knives and provided with rods or projections movably supported by said flange, springs interposed between said feather-edger ring and said flange, stops carried by said flange and coöperating with said ring to limit the movement of the latter away from said flange, and lips coöperating with said projections and extended below the outer surface of said beds, for the purpose specified.

3. In a machine of the class described, in combination, a shaft, a rotary cutter secured thereto and provided with a plurality of knives, a feather-edger ring having projections which coöperate with said knives, an annular support for said feather-edger ring rotatable with said shaft, a plurality of rods or projections on said ring engaging said support, yielding means interposed between said ring and its support, and stops carried by said support and coöperating with said ring to limit the movement of the ring away from its support under the influence of said yielding means, substantially as described.

4. A feather-edger ring having a plurality of projections on one surface, and lips coöperating with one end of said projections and extended below the bottom surface thereof, for the purpose specified.

5. A feather-edger ring having a plurality of projections on one surface separated from one another, and devices attached to said ring and coöperating with one end of said projections to extend below the under surface of the same, for the purpose specified.

971,810. STEAM-AUTOMOBILE. ROLLIN H. WHITE, Cleveland, Ohio, assignor, by mesne assignments, to The White Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 27, 1906. Serial No. 298,136.



1. In a steam automobile, the combination of a coil generator, a combustion chamber casing which is open at its top, and which surrounds the generator and extends from a plane below the lowest coil upward to a plane some distance below the upper coil, a burner secured beneath said casing and closing the lower end thereof, a bonnet which is closed at its top and open at its bottom and embraces the upper part only of said generator and casing and is of larger diameter than the casing, thereby forming an annular flue which is open at its bottom only, substantially as specified.

2. In a steam automobile, the combination of a combustion chamber casing which is open at its top, means supporting the same, a burner supported below said casing and closing the lower end thereof, a coil steam generator within the combustion chamber above the burner, and extending above the top of the combustion chamber casing, with a bonnet which is closed at its top and open at its bottom and surrounds the upper part of the generator and combustion chamber casing, and is of larger diameter than the latter, thereby forming an annular flue which is open at its bottom only, and a straight rearwardly extended bottomless flue secured below the floor of the automobile and connected at its front end with the lower rear part of said bonnet in communication with said annular flue.

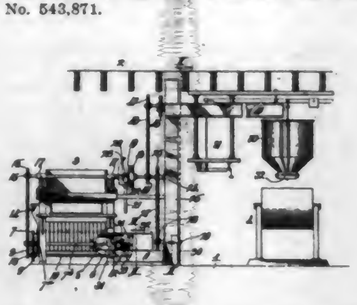
3. In a steam automobile, the combination of a combustion chamber casing which is open at its top, means supporting said casing, a burner supported below the casing and closing its lower end, a steam generator within the combustion chamber above the burner, a bonnet which is closed at the top and open at its bottom and embraces the upper part of the generator and combustion chamber casing and is of larger diameter than the latter, thereby forming an annular flue which is open at its bottom only, and a rearwardly extended substantially horizontal bottomless flue which is substantially as wide as the diameter of said bonnet, and has its open front end connected with the lower rear part of said bonnet and extends therefrom rearwardly in a substantially horizontal plane beneath the floor of the automobile body.

4. In a steam automobile, the combination of a combustion chamber casing which is open at its top, means supporting the same in the automobile frame, a burner below the casing and closing the lower end of the same, a steam generator within the combustion chamber above the burner, a bonnet which is closed at its top and open at its bottom and embraces the upper end of the combustion chamber casing and is of larger diameter than the latter, the rear part of the lower edge of this bonnet being cut away, and a bottomless flue which is fixed to the automobile frame and has its front end in communication with the annular flue through the space formed by cutting away the lower edge of said bonnet as described, and extends therefrom rearward in a substantially horizontal plane, substantially as specified.

5. In a steam automobile, the combination of the com-

bustion chamber casing supported upon the automobile frame, a burner supported below said casing, a steam generator supported within the combustion chamber over the burner, a bonnet which is closed at its top and open at its bottom and embraces the upper part of said generator and combustion chamber and is of larger diameter than the latter, an automobile body which is secured to the frame over the parts before mentioned and has a hole through its rear wall, an inclined piece extending from the top of said hole downward and forward to the automobile floor, and an inverted trough secured beneath the automobile floor and connected to the rear lower part of said bonnet in communication with said annular flue and extending therefrom rearwardly to said inclined member.
[Claim 6 not printed in the Gazette.]

971,811. FLOUR-HANDLING APPARATUS. FREDRICK J. WOLFF, Kansas City, Mo. Filed Feb. 14, 1910. Serial No. 543,871.

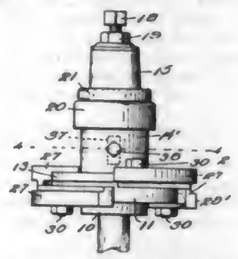


1. A flour-handling apparatus, comprising a flour blending machine, a weighing scale supported above the discharge point of the blending machine and provided with a hopper having a cut-off at its discharge end, conveying means to receive the flour from the blending machine and elevate and discharge it into the hopper from a point above the same, and a dough mixer below the plane of the hopper and adapted to receive the flour when withdrawn from the hopper by the opening of the cut-off thereof.

2. A flour-handling apparatus, comprising a flour blending machine provided with means for sifting the coarse particles from the fine after the blending operation occurs and for discharging each at different points, an elevator to receive the fine particles and convey them upward and discharge the same at a suitable height, a box to receive the flour discharged from the elevator, a conveyer within the box to discharge the flour therefrom, a weighing scale having a hopper to receive the flour discharged from said box and provided with a cut-off, and a dough mixer to receive the flour withdrawn from the hopper by the opening of the cut-off.

3. A flour handling apparatus, comprising a flour blending machine having a discharge opening, a casing communicating at one end with said opening and open at its opposite or discharge end, means to discharge flour from the blender through said opening into said casing, a sieve forming the bottom of said casing, rotating brushes to advance the flour through said casing upon said sieve to effect the discharge of the fine particles of flour through the sieve and the expulsion of the coarse particles from the discharge end of the casing, a chute to receive the flour discharged through the sieve, a rotating spiral conveyer in said chute to discharge the flour therefrom in combination with an upright elevator chute to receive the flour from the chute underlying the sieve, a suitably-driven endless cup conveyer within the elevator chute, a box communicating with the upper part of said elevator chute, a conveyer in the box to discharge the flour therefrom, a weighing scale, a hopper carried thereby and underlying the discharge end of said last-named chute, a cut-off controlling the discharge of flour from said hopper, and a dough mixer underlying said hopper.

971,812. ROTARY CUTTER-HEAD. JESSE J. W. ALEXANDER, Raymond, Wash. Filed Jan. 22, 1909. Serial No. 473,609.



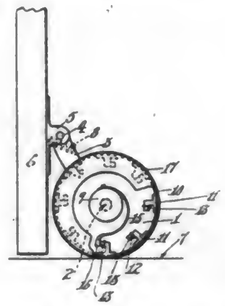
1. A rotary cutter member comprising a hub portion adapted for detachable engagement with a spindle, means for adjusting the hub longitudinally of the spindle, said hub carrying an annular flange having a plurality of eccentric grooves in its outer side, a collar similar to the flange slidably engaged with the hub adjacent to the collar and having eccentric grooves thereon on the inner side oppositely of and extending in a common direction with the first mentioned grooves, oppositely disposed cutter members carried by the flange and collar, said members having longitudinally extending ribs slidably engaged in said grooves, means for securing the cutter members adjustably in the grooves, said slidable collar having a sleeve portion extending longitudinally of the hub, a threaded passage through the sleeve, a longitudinally extending slot being formed in the hub in registry with the passage, a bolt engaged through the passage and slot to engage a spindle within the hub and to hold the hub and sleeve against relative rotation, said sleeve being exteriorly threaded, said hub being reduced in diameter outwardly of the sleeve, and a nut threaded on the sleeve and having a restricted portion engaged with the shoulder for adjustment of the second named collar longitudinally of the hub.

2. A rotary cutter head comprising a hollow hub portion adapted for detachable engagement with a spindle, said hub carrying a flange having a plurality of eccentric grooves in its outer side, a revoluble collar slidably engaged upon the hub adjacent the flange and being of a similar size, said collar having eccentric grooves therein on its inner side oppositely of and extending in a common direction with the first mentioned grooves, means for securing the collar upon the hub adjustably against longitudinal movement thereon, said collar and flange having threaded recesses therein adjacent the grooves, oppositely disposed arcuate cutter members carried by the flange and collar, said cutters comprising a central web portion adapted to be disposed flatly against the flange or collar, an inwardly extending rib formed thereon and adapted to engage snugly in the eccentric grooves, said web portions projecting beyond the periphery of the flange and collar and carrying inwardly extending engaging portions extending laterally from the plane of the web portions, said web portion having a longitudinally extending slot therein, and headed bolts engaged in the threaded recesses for clamping engagement against the cutter members.

971,813. REPEATING BURGLAR-ALARM. ERNEST ALLEN, Los Angeles, Cal. Filed Oct. 5, 1908. Serial No. 456,350.

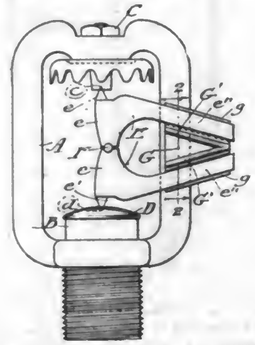
1. In combination with a closure means and a floor, a rotatable member and a plurality of cap carrying means projecting therefrom, a pivotally supported arm carrying said member, a spring hammer carried by said arm and lying in the path of rotation of said cap carrying means and operated thereby, and means for yieldingly holding said rotatable member against said closure means or said floor.

2. In combination with a closure means, of a rotatable member, studs on said rotatable member, means on said studs for carrying caps, said means projecting forwardly from said studs, a pivotally supported arm carrying said member, and a spring hammer carried by said arm and extending in position to engage the cap carrying means and adapted to be operated thereby.



3. In combination with a closure means, of a rotatable member having a plurality of cap carrying means projecting forwardly in the path of rotation, a pivotally supported arm carrying said member, and a spring hammer carried by said arm and extending into the path of rotation of said cap carrying means, and adapted to be operated thereby.

971,814. AUTOMATIC FIRE-EXTINGUISHER. MARTIN ANDREWS, Chicago, Ill. Filed June 22, 1909. Serial No. 503,760.



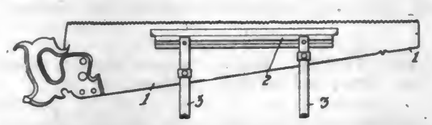
1. In an automatic fire extinguishing apparatus, the combination with two parts to be held asunder, of a holding device, said holding device having a pair of bent levers, and a tie-plate for holding them in normal positions, each of said bent levers comprising a post or toggle-member and a lever-arm projecting laterally therefrom, the adjacent ends of the posts or toggle-members bearing against each other while their remote ends are fulcrumed to the aforesaid parts to be held asunder, respectively, the lever-arms and tie-plate having engaging surfaces lying in planes parallel or substantially parallel with the radii of the fulcra of the bent levers.

2. A sprinkler for automatic fire extinguishers, having a yoke, a nozzle, a cap or valve adapted to the nozzle, and a valve holding device, the said valve holding device having, in combination, a pair of bent levers and a tie-plate for holding them in normal positions, each of said bent levers comprising a post or toggle-member, the adjacent ends of which posts or toggle-members bear against each other while their remote ends are fulcrumed to the cap or valve and the yoke, respectively, and each of said bent levers having also a lever-arm projecting laterally from its post or toggle-member, said lever-arms and tie-plate having active or working surfaces engaging each other and lying in planes parallel or substantially parallel with the radii of the fulcra of the bent levers.

3. In an automatic fire extinguishing apparatus the combination with two parts to be held asunder, of a holding device, said holding device having a pair of bent levers and a tie-plate, each of said bent levers having a post or toggle-member the adjacent ends of which posts or toggle-members bear against each other while their remote ends are fulcrumed to the aforesaid parts to be held asunder, respectively, each of said bent levers having also a lever-arm projecting laterally from its post or toggle-member and slotted longitudinally, said lever-arms having active or working surfaces which are parallel or substantially parallel with planes of the radii of the fulcra of the bent levers and said tie-plate occupying the longitudinal slots of the lever-arms and having active working surfaces which contact directly with the active or working surfaces of the lever-arms.

4. A sprinkler for automatic fire extinguishers having a valve holding device comprising, in combination, a pair of bent levers, each of said bent levers having a post or toggle-member and an arm projecting laterally therefrom, and a composite tie-plate made up of a plurality of overlapping sheet metal plates secured together by solder, the levers-arms having active or working surfaces which lie in planes parallel or substantially parallel with the planes of the radii of the fulcra of the bent levers and said tie-plate having active or working surfaces engaging the active or working surfaces of the lever-arms, the plates of which said tie-plate is composed being provided with nesting or interengaging flutes or corrugations which are parallel with the working surfaces aforesaid.

971,815. SAW-CLAMP. JOHN AUER, San Francisco, Cal. Filed Apr. 18, 1908. Serial No. 427,952.



1. In a saw clamp of the character described, jaws having grooves or channels upon their outer sides, U-shaped springs, the ends of which press upon opposite sides of the jaws, pins projecting from the spring ends into the channels, said pins forming pivots about which the springs may be turned to stand in line with the jaws, and slidable in the channels to allow the springs to be closed against the ends of the jaws.

2. In a saw clamp of the character described, parallel jaws having grooves or channels upon the outer sides, U-shaped springs between the ends of which the jaws are held, pins projecting from the spring ends into the channels of the jaws forming pivots about which the springs may be turned to stand vertically when in use, or to stand in line with the jaws, said pins being slidable within the channels to close the springs against the ends of the jaws, and stops fixed in the channel to limit the outward movement of the pins, when the springs are extended in readiness to be turned into working position.

3. In a saw clamp of the character described, parallel saw-holding jaws having grooves or channels upon their outer sides, U-shaped springs, the ends of which press upon the outer sides of the jaws, pins projecting from the spring ends into the grooves or channels, forming pivots about which the springs are turnable to a working position at right angles with the jaws, or into line with the jaws, said pins being slidable in the grooves or channels to allow the bights of the springs to close against the ends of the jaws, guide pins projecting from the springs intermediate of their length, said pins entering the grooves or channels when the springs are closed against the ends of the jaws, and forming locks to prevent their being turned out of line.

4. In a saw holding clamp, U-shaped spring arms be-

tween the open ends of which the clamping jaws are pivotally carried, said arms having the open ends on one side, bent to form rigid integral hooks, slidable adjustable supports carried upon the opposite arms, said arms and supports being closable to register with the ends of the clamps.

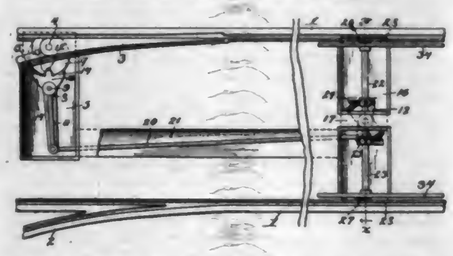
971,816. WINDOW-PANE FASTENER. WILLIAM NATHAN BAKER, Salem, Ohio. Filed Sept. 7, 1909. Serial No. 516,390.



1. A fastener of the class described comprising a strip formed from a single blank having a plurality of spurs at longitudinal edges thereof, the said strip being bent to provide a double web throughout its length, one longitudinal edge of the strip being further bent to provide a right angular flange, bendable tongues projecting from one longitudinal edge of the strip and a resilient strip held against the outer face of one web portion of the first mentioned strip by the said bendable tongues.

2. A fastener comprising a metallic strip formed from a single blank of material cut to provide a plurality of spurs at opposite longitudinal edges thereof the said strip being bent into substantially U shape to provide a double web, the said strip being further bent to provide a right angular bearing flange through the length of one longitudinal edge thereof a resilient strip disposed against one web of the first named strip, and bendable ears formed at one longitudinal edge of the first named strip and being bent over the said resilient strip the said ears being rebent to engage and overlap the other web of the first named strip for securely mounting the resilient strip thereon.

971,817. SWITCH. HARVEY CHESTER BARCUS, Dayton, Ohio. Filed Jan. 26, 1910. Serial No. 540,238.



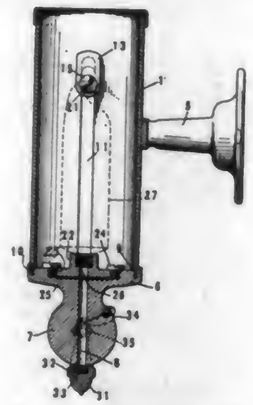
1. In a device of the class described, a track, and switch point, in combination with a vertical shaft fixed to said switch point and rotatable therewith a member on said shaft, a lever pivoted adjacent said member and operatively engaging the same, an oscillatory member arranged adjacent said track at a point remote from the switch, a rod connecting said lever and said oscillatory member and means for engaging and turning said oscillatory member from a moving car approaching said switch, substantially as described.

2. In a device of the class described, a track, and switch point in combination with a vertical shaft fixed to said switch point and rotatable therewith a member fixed on said shaft, said member being provided with a peripheral notch a lever pivotally mounted adjacent said member and having one arm engaging said notch, means for turning said lever from a point remote from said switch and means on said lever for engaging the member on said shaft for locking the switch point against accidental displacement, substantially as described.

3. In a device of the class described, a track and a switchpoint, in combination with a vertical shaft fixed to said switchpoint and rotatable therewith, a member on said shaft, a lever pivoted adjacent said member and operatively engaging the same, a pair of alined shafts extending transversely of said track at a point remote from the switch, levers on said shafts adapted to extend upwardly to be engaged by a device on an approaching car, segmental gears on said shafts, a horizontally disposed gear meshing with said segmental gears, and a rod connecting said gear and the first said lever, substantially as described.

4. In a device of the class described, a track, and switch point in combination with a vertical shaft fixed on said switch point and rotatable therewith, a member fixed on said shaft and provided with a peripheral notch, a lever mounted adjacent said member and having the end of one arm engaging said notch, a pair of alined shafts extending transversely of said track at a point remote from said switch, levers on said shafts adapted to extend upwardly to be engaged by a device on an approaching car, segmental gears on said shafts, a horizontally disposed gear meshing with said segmental gears and a rod connecting said gear and the first said lever, substantially as described.

971,818. APPARATUS FOR HOLDING AND DISCHARGING COLLAPSIBLE TUBES. JOHN TENNEY BARKER, Wallingford, Conn. Filed Oct. 21, 1908. Serial No. 458,820.



1. In a device for holding collapsible tubes, a casing, a removable head attached to said casing and provided with a discharge opening, a tube plate rotarily mounted with reference to the head, and provided with means for the attachment of a collapsible tube, and means for collapsing said tube.

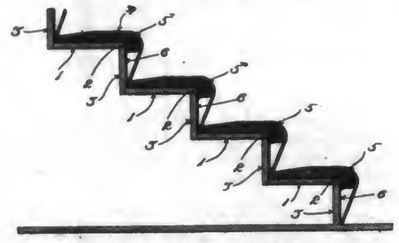
2. In a device for holding collapsible tubes, a casing provided with a head, means for attaching a collapsible tube to said head, guide ways formed in said casing, a spindle extending through said guide ways, and means traversing said guide ways forming a support for the spindle, said spindle adapted to engage and collapse the tube.

3. In a device for holding collapsible tubes, a casing provided with a discharge opening and having means rotarily arranged with reference to said opening for the attachment of a collapsible tube, a spindle operatively arranged in said casing to engage and collapse the flexible tube, and means for rotating said spindle.

4. In a device for holding collapsible tubes, a casing provided with a discharge opening, a collapsible tube adapted to be secured in said opening, a spindle projecting within the casing and provided with means for attachment of the collapsible tube, and slide blocks forming a bearing for said spindle and adapted to move on rotation of the spindle, whereby the tube may be wound upon the spindle from end to end.

5. In a device for holding collapsible tubes, a casing provided with a head, means for attaching a collapsible tube to said head, guide-ways formed in said casing, guide-blocks traversing said guide-ways, and a spindle mounted in said guide-blocks and adapted to engage and collapse the tube.

971,819. LINING AND PAD FOR STAIR-CARPETINGS. JOSEPH H. BEALE, Boston, Mass.; Joseph H. Beale, Cambridge, Mass., and Arthur M. Beale, Boston, Mass., administrators of said Joseph H. Beale, deceased. Filed Nov. 20, 1905. Serial No. 288,107.



1. In underlies for stair carpeting, in combination, a continuous strip or runner of lining material extending over the respective treads of the steps of a flight of stairs, and in addition protecting the risers of the said steps, and a series of independent pads separately applied in addition to the respective steps, the said strip supplementing the said pads over the treads.

2. In underlies for stair carpeting, in combination, a continuous strip or runner of lining material extending over the respective treads of the steps of a flight of stairs, and in addition protecting the risers of the said steps, and a series of separate and independent pads fitting the nosings of the respective steps, the said strip supplementing the said pads over the treads.

3. In underlies for carpeting, the combination with a narrow continuous strip or runner of lining material, of a finishing strip doubled upon itself longitudinally and receiving between its upper and lower portions the longitudinal margin of the said strip or runner, and a stiffener strip inclosed within the fold of the said finishing strip.

4. In underlies for stair-carpeting, the combination of a continuous strip or runner, and independent and separate pads having margins of graduated thickness.

5. In underlies for stair-carpeting, the combination of a continuous strip or runner, and pads, composed of a plurality of layers having stepped edges whereby marginal portions of reduced thickness are produced.

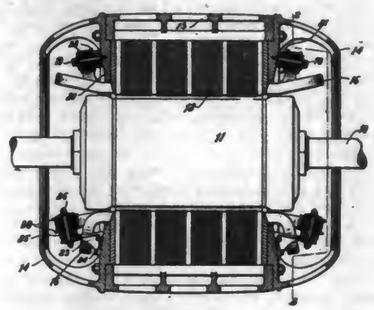
[Claims 6 and 7 not printed in the Gazette.]

971,820. COIL-SUPPORT FOR DYNAMO-ELECTRIC MACHINES. BERNARD ARTHUR BEHREND, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Nov. 27, 1905. Serial No. 289,220.

1. In an alternating current dynamo electric machine, a stator having a winding consisting of coils having end turns arranged at two different angles to the axis of the machine, means for clamping and holding in fixed position the end turns arranged at one angle, and separate means for clamping and holding the end turns arranged at the other angle.

2. In an alternating current dynamo electric machine, a stationary armature having coils arranged in overlapping sets and having end turns arranged at different angles to the axis of the machine, means for clamping the end turns of the sets arranged at one angle directly to the frame of the machine, and brackets for supporting and clamping the end turns of the sets arranged at a different angle.

3. In an alternating current dynamo electric machine, a stationary armature having coils arranged in sets or groups, the sets having end turns bent outward at different angles to the axis of the machine, means for supporting and clamping the end turns arranged at one angle, and separate means for supporting and clamping the end turns arranged at another angle.

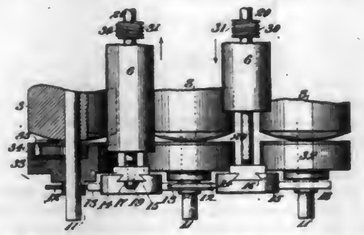


4. In a dynamo electric machine, a stationary armature having a multiphase winding consisting of coils arranged in sets or groups and having end turns bent at different angles to the axis of the machine, the end turns of the coils of each group being held a predetermined distance apart, and separate and independent means for each group for clamping the end turns to the frame of the machine.

5. In a dynamo electric machine, a stationary armature having a multiphase winding consisting of coils arranged in groups, each group consisting of a plurality of concentric coils, the end turns of which are held a predetermined distance apart, the groups of coils having overlapping end turns which are arranged at different angles to the axis of the machine, means for clamping the end turns of the groups arranged at one angle directly to the frame of the machine, and brackets secured to the frame of the machine for supporting and clamping the end turns of the group of coils arranged at another angle to the axis of the machine.

[Claims 6 to 10 not printed in the Gazette.]

971,821. INK-DISTRIBUTER. ABE E. BERREYESA, Oakland, Cal. Filed Jan. 3, 1910. Serial No. 536,109.



1. In a printing press, the combination of a form and an inking plate, a plurality of rolling distributers, a movable support for and permitting independent reciprocation of said distributers, a plurality of intermediate equalizing rollers disposed above the center of and adapted to bear upon the distributers, telescopic connections between the distributers, bearing blocks for said rollers adjustably mounted upon said connections and provided with sockets, and interchangeable means whereby the equalizing rollers may be quickly mounted in and dismounted from said bearing blocks, said means including heads connected to the equalizing rollers and having spring-pressed detents engaging sockets in the bearing blocks.

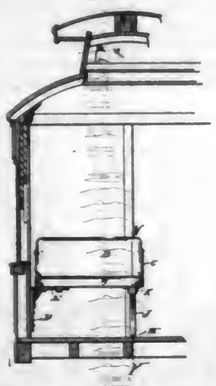
2. An inking device for printing presses, comprising ink receiving and distributing rollers, shafts upon which said rollers are secured, telescopic connections between said shafts adapted to open or close automatically as the distance between the shafts varies, equalizing rollers mounted in the spaces between the distributers and adapted to bear thereon above their axes, loose adjustable bearing

blocks mounted upon said connections, and interchangeable means whereby the equalizing rollers may be attached to and automatically locked in said bearing blocks, said means including heads connected to the equalizing rollers and having spring-pressed detents engaging sockets in the bearing blocks.

3. In an inking apparatus for printing presses, the combination with a frame, of an ink-plate, rotary ink distributers and their shafts, friction collars, means whereby said collars may be adjusted and locked upon said shafts in alinement with said frame, said means comprising a jaw within the collar, and a lever on the collar having a cam engaging said jaw, and means, including a movable carrier having resilient connections with the shafts, whereby said collars are held in contact with the frame.

4. In a printing press, the combination with a platen, of a form, an inking plate disposed in a plane angular to that of the form, a plurality of friction wheels adapted to run over the frame, shafts upon which the wheels are adjustably clamped, carriers for said shafts, distributers carried by the shafts, telescopic members connecting the shafts, loose, adjustable socket-pieces carried by said members, spindles attachable to said socket-pieces, automatic detents thereon, equalizing, transfer rollers carried by said spindles and adapted to bear longitudinally upon adjacent pairs of distributers, and means connecting the spindles and said rollers, whereby when the carrier is moved the rollers will shift endwise.

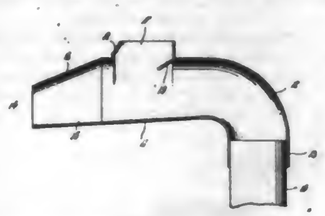
971,822. CAR-SEAT. FRED M. BILLHIME, Espy, Pa. Filed Nov. 9, 1909. Serial No. 526,972.



The combination of a bracket having at its upper end an outstanding fixed plate, a seat pivoted to said plate, at one end, the pivotal connection between said seat and said plate being effected at a point distant from, and laterally of a line extending centrally through said plate and said bracket, said pivotal connection also being effected near the forward edge of said seat and said end thereof, a metallic strap applied at one end to the pivot of said seat and having its opposite end pivoted to the underside of said seat near the unpivoted end thereof, said strap having an upbent portion near one end, adapted to engage the lateral edge of said seat for aiding its retention in proper position when being swung upon its pivot, and means for supporting said seat at its unpivoted position.

971,823. SPARK-ARRESTER. EBASTUS A. BISHOP, Wallowa, Oreg. Filed June 2, 1909. Serial No. 499,622.

The herein described spark arrester comprising a pipe having a downwardly inclined arm contracted and open at its rear end and a downwardly curved elbow at the front end of said arm for attachment to the upper end of a smoke stack, said elbow closing the front end of said arm against the admission of air, said arm being further provided on its upper side, at a point intermediate its ends, with an upwardly extending smoke discharge arm, the rear side of which is upwardly inclined to form a baffle and to



contract the upper end of said discharge arm, and a downwardly and rearwardly inclined discharge deflecting baffle in the upper side of the said inclined arm and extending partially across the lower end of said smoke stack discharge arm.

971,824. RUBBER FABRIC. WILLIAM T. BONNER, Trenton, N. J., assignor to Empire Rubber Manufacturing Company, a Corporation of New Jersey. Filed May 12, 1909. Serial No. 495,301.



1. As a new article of manufacture, a sheet of resilient fabric of homogeneous character and provided with a plurality of small and shallow but distinct indentations on each side forming a suction and friction surface, each of said indentations being deep enough to produce suction upon compression of said sheet.

2. As a new article of manufacture, a sheet of resilient rubber fabric of homogeneous character and provided with a multiplicity of small and shallow indentations on each side, said indentations presenting a general appearance similar to that of wire fabric and forming a suction and friction surface.

3. As a new article of manufacture, a flat gasket ring of resilient rubber fabric of homogeneous character and provided with a plurality of small and shallow but distinct indentations on each side forming a suction and friction surface, each of said indentations being deep enough to produce suction upon compression of said sheet.

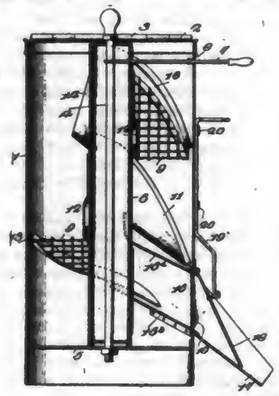
4. As a new article of manufacture, a flat gasket ring of resilient rubber fabric of homogeneous character and provided with a plurality of small and shallow indentations on each side, said indentations presenting a general appearance similar to that of wire fabric and forming a suction and friction surface.

5. A flange union comprising a pair of flanges having between them a compressed rubber gasket layer, said gasket layer being of homogeneous character and provided with a multiplicity of indentations and adhering to the flanges on either side by a suction union.

[Claims 6 and 7 not printed in the Gazette.]

971,825. ASH-SIFTER. RICHARD H. BURKE, Lexington, Mass. Filed Mar. 13, 1909. Serial No. 483,205.

1. A sifter including a vertically disposed casing provided at its upper end with a removable lid, a support secured within the casing below the upper end thereof, a vertical spindle inserted through the lid and formed at its upper end with a head arranged to bear upon the lid to maintain the same against removal, the lower end of the spindle being mounted in the support and being detachably retained therein to hold the head against the lid, a hollow member mounted on the spindle between the lid and the support, and a spiral sieve secured to and coiled vertically about the hollow member, the spindle being adapted to be disengaged from the support and withdrawn upwardly from the hollow member and through the lid, whereby to release the lid and permit the hollow member and the sieve to be withdrawn upwardly from the casing.



2. A sifter including a vertically disposed casing, a vertically disposed spiral sieve mounted within the casing for an oscillatory movement about a vertical axis, the casing being formed with an outlet opening through its vertical wall in proximity to the lower end of the sieve, and a relatively stationary chute mounted within the casing for conducting material to the outlet opening, the lower end of the sieve being movable over the chute and being arranged to discharge material thereon.

3. A sifter including a vertically disposed spiral sieve mounted for oscillatory movement about a vertical axis, and a relatively stationary chute positioned below the lower end of the sieve, said lower end of the sieve being movable over the chute upon the oscillation of the sieve and being arranged to discharge sifted material thereon.

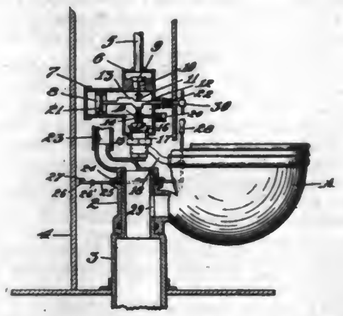
4. A sifter comprising a casing provided with an outlet, a shaft rotatably mounted in the casing, a spiral sieve encircling the shaft and movable therewith, means for rocking the shaft, and a chute extending inwardly from the outlet and having one end of the sieve movable thereover by and upon the rocking of the shaft.

5. A sifter comprising a vertically disposed casing formed in its side wall in proximity to its upper end with a slot and also formed in its side wall at its lower end with an outlet opening, a vertically disposed spiral sieve mounted to oscillate within the casing, an actuating arm connected to the sieve and projecting outwardly through the slot and movable therein to effect the oscillation of the sieve, a member movably connected to the casing for controlling the discharge through the outlet, and an operating rod movably mounted at the side wall of the casing and connected at its lower end to the member and terminating at its upper end in proximity to the actuating arm.

971,826. TOILET. GEORGE J. BURKHARDT, Burlingame, Cal. Original application filed May 8, 1908, Serial No. 431,651. Divided and this application filed Aug. 2, 1909. Serial No. 510,920.

1. In a toilet, the combination of a stack-pipe, a bowl having a collar-bearing turnable in suitable bearings on said stack-pipe, means by which the stack-pipe and bowl are in communication when the bowl stands in one position and out of communication when the bowl stands in another position, and means for admitting water to the bowl for flushing purposes, said last means comprising a cylinder having a horizontal extension and an inlet and outlet valve at opposite points one on each side of said extension, a piston operating in the extension and adapted to actuate said valves during its movement, and means for operating the piston.

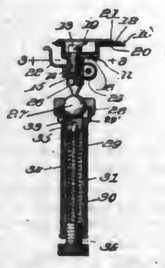
2. In a toilet, the combination of a stack-pipe, a bowl having a collar-bearing turnable in suitable bearings on said stack-pipe, means by which the stack-pipe and bowl are in communication when the bowl stands in one position, and out of communication when the bowl stands in another position, a flushing pipe entering the bowl and turning on a hollow pivot co-axial with the pivot of said sleeve, and means for admitting water through the hollow pivot of said flushing pipe, said last named means comprising a cylinder having a horizontal extension intermediate of its ends, and having an inlet at one side of said extension and an outlet at the other side, valves controlling said inlet and outlet and a piston operating in said extension cross-wise of the valves and having means for operating the valve during its movement.



3. In a toilet, the combination of a stack-pipe, a bowl having a collar-bearing turnable in suitable bearings on said stack-pipe, means by which the stack-pipe and bowl are in communication when the bowl stands in one position, and out of communication when the bowl stands in another position, means including a mutilated gear connected with the bowl and a mechanism for operating the same to induce rotary motion to the bowl a flushing pipe entering the bowl and turning on a hollow pivot co-axial with the pivot of said sleeve, means for admitting water through the hollow pivot of said flushing pipe, and a vent-pipe connected with the stack-pipe back of the bowl and adjacent to said sleeve.

4. In a toilet, the combination of a stack-pipe, a bowl having a collar-bearing turnable in suitable bearings on said stack-pipe, means by which the stack-pipe and bowl are in communication when the bowl stands in one position, and out of communication when the bowl stands in another position, means for admitting water to the bowl for flushing purposes, and means for turning the bowl, including a gear member movable with the bowl, a pivotally mounted segmental rack engaging said gear member, and means for oscillating the rack.

971,827. SAFETY-RAZOR. EMIL A. CHRISTOPH, Chicago, Ill. Filed Dec. 31, 1904, Serial No. 239,093 Renewed July 29, 1910. Serial No. 574,530.



1. In a safety razor, the combination of a head plate and a clamping plate, said plates being provided with

depressed parts to fit one within the other, a blade arranged between said plates and provided with an opening to receive the depressed part of the clamping plate, and means for securing said plates together.

2. In a safety razor, the combination of a head plate and a clamping plate, said plates being provided with depressed parts to fit one within the other, a blade arranged between said plates and having an opening to receive the depressed part of the clamping plate, and a screw for fastening said plates together and having its head contained within the socket formed by the depressed part in the clamping plate.

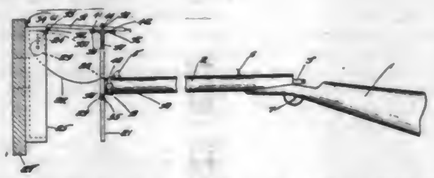
3. In a safety razor, the combination of a head plate having a depressed central part, a clamping plate having a depressed central part to fit in the depressed part of the head plate, a blade arranged between said plates and having an opening to receive the depressed part of the clamping plate, and means for securing said plates together with the blade therebetween.

4. In a safety razor, the combination of a head plate and a clamping plate, said plates being provided with depressed parts to fit one within the other, a blade arranged between said plates and having an opening to receive the depressed part of the clamping plate, there being a groove on the clamping plate around said depressed part and said blade having a bead to fit said groove.

5. In a safety razor, the combination of a head plate, a blade having a plurality of cutting edges, and means comprising a plate for clamping the blade against the head plate, said blade being provided with a bead opposite each of its cutting edges and said clamping plate being grooved to accommodate said bead.

[Claims 6 and 7 not printed in the Gazette.]

971,828. TARGET-PRACTICE APPARATUS. JAMES M. CLARK, 3rd, Providence, R. I. Filed Dec. 7, 1909. Serial No. 531,795.



1. In combination with a fire arm having a firing pin and mechanism for actuating the firing pin, a coiled spring adapted to be inserted in the barrel of the fire arm and being slidable therein and having its forward end formed with a straight needle portion fast thereto and in alinement with the axis of the barrel, a head connected with the rear end of the spring slidable therewith and adapted to be engaged by the firing pin whereby the firing pin moves the said entire spring in a forward direction to project said needle end from the muzzle of the fire arm.

2. In combination with a fire arm having a firing bolt and mechanism for actuating the firing bolt, a coiled spring adapted to be inserted in the forward part of the barrel of the fire arm and being slidable therein and being provided at its forward end with a needle which is in alinement with the axis of the barrel, a rod connected with the rear end of said spring and projecting rearwardly, a head on the rear end of said rod, said rod and head being slidable with said needle-carrying spring, said head extending into the cartridge chamber, a spring which normally holds said rod and head in position where the head will be engaged by the firing pin when the firing mechanism is operated, thereby driving said rod forward and imparting a forward movement to the needle-carrying spring and needle whereby the needle is projected outside of the muzzle of the barrel.

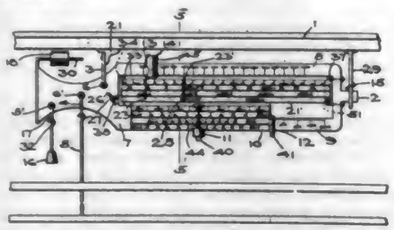
3. In combination with a fire arm having a firing bolt and mechanism for actuating the firing bolt, a coiled spring adapted to be inserted in the forward part of the barrel of the fire arm and being slidable therein and being provided at its forward end with a needle which is in alinement with the axis of the barrel, a tube adapted to be inserted in the cartridge chamber of the barrel, means for limiting the forward position of the said tube, a rod whose forward end is secured to the rear end of said needle-carrying spring and whose rear end extends back into said tube, a head on the rear end of said rod fitted to the interior of said tube and slidable therein, means for limiting the rearward movement of said rod and plug, a spring which normally retains said rod and plug in their most rearward position, said rod and plug being so located that the plug is engaged by the firing bolt when the firing mechanism is actuated, thereby driving the said plug and rod forward against the tension of their holding spring and driving forward the needle-carrying spring and needle.

4. In combination with a fire arm having a firing bolt and mechanism for actuating the firing bolt, a coiled spring adapted to be inserted in the forward part of the barrel of the fire arm and being slidable therein and being provided at its forward end with a needle which is in alinement with the axis of the barrel, a tube adapted to be inserted in the cartridge chamber of the barrel, means for limiting the forward position of the said tube, a rod whose forward end is detachably connected with the rear end of said needle-carrying spring and whose rear end extends back into said tube, a head on the rear end of said rod fitted to the interior of said tube and slidable therein, means for limiting the rearward movement of said rod and head in said tube, a spring which normally retains said rod and head in their most rearward position in said tube, said rod and head being so located that the head is engaged by the firing bolt when the firing mechanism is actuated, thereby driving the said head and rod forward against the tension of their holding spring and driving forward the needle-carrying spring and needle.

5. In combination with a fire arm having a firing bolt and mechanism for actuating the firing bolt, a coiled spring adapted to be inserted in the forward part of the barrel of the fire arm and being slidable therein and being provided at its forward end with a needle which is in alinement with the axis of the barrel, a tube adapted to be inserted in the cartridge chamber of the barrel, means for limiting the forward position of the said tube, a rod whose forward end is secured to the rear end of said needle-carrying spring and whose rear end extends back into said tube, a head on the rear end of said rod fitted to the interior of said tube and slidable therein, means for limiting the rearward movement of said rod and plug, a spring which normally retains said rod and plug in their most rearward position, said rod and plug being so located that the plug is engaged by the firing bolt when the firing mechanism is actuated, thereby driving the said plug and rod forward against the tension of their holding spring and driving forward the needle-carrying spring and needle, a tube adapted to be inserted in the cartridge chamber of the barrel, a rod connected with the rear end of said spring and projecting rearwardly, a head on the rear end of said rod, said rod and head being slidable with said needle-carrying spring, said head extending into the cartridge chamber, a spring which normally holds said rod and plug in position where the head will be engaged by the firing pin when the firing mechanism is operated, thereby driving said rod forward and imparting a forward movement to the needle-carrying spring and needle whereby the needle is projected outside of the muzzle of the barrel, said needle-carrying spring and needle being of such length and so positioned that in the normally rearward position the needle will be wholly within the barrel.

[Claims 6 to 22 not printed in the Gazette.]

971,829. NET-WEIGHT SCALE-BEAM. FRITZ M. CLAUSEN, Goldfield, Iowa. Filed Sept. 28, 1909. Serial No. 519,952.



1. A scale beam including a head having an extending slotted arm to provide an upper and lower bar, each bar having scale graduations, the lower bar being divided into a major and a minor section, a supporting bearing carried by said head, a clevis engaging said bearing, a carrying bearing, a clevis secured to said carrying bearing, a platform rod secured to said carrying clevis, a threaded rod carried by said head, a scale weight upon said upper scale bar, a scale weight upon the major bar section, a scale weight upon said minor scale section, oppositely positioned rollers revolubly held between said bars, an endless graduated tape having scales thereon upon said rollers, an indicator carried by said tape, and an indicator extending from said first mentioned scale weight and adapted for coaction with the scales on the tape.

2. In combination, a scale beam including a head having an extending slotted arm to provide an upper and lower bar, each bar having scale graduations, said lower bar being divided into a major and a minor section, a supporting bearing carried by said head, a clevis secured to said supporting bearing, a carrying bearing secured to said head, a clevis secured to said carrying bearing, a connecting rod extending from said platform to said clevis, a scale weight upon said upper bar, a scale weight upon said minor scale section, a scale weight upon said major scale section, rollers revolubly held upon said bars, an endless graduated tape working over said rollers, an indicator extending from said first mentioned scale weight and adapted for coaction with the scales on the tape, and a dog carried by said head and locking against said tape.

3. A scale beam provided with suitable suspending means and including an upper and lower bar each bar having suitable scale graduation, said lower bar being divided into a major and a minor section, a scale weight upon said minor scale section, a scale weight upon said major section, rollers revolubly held between said bars, an endless tape held upon said rollers, an indicator carried by said tape for coöperation with a scale carried by said upper bar, a scale weight upon said upper bar and an indicator extending from said last mentioned scale weight for coaction with a series of scales upon said endless tape.

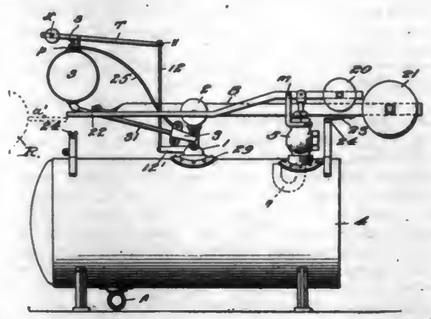
971,830. MANUFACTURE OF FERTILIZER. LEONARD ROBERTS COATES, Baltimore, Md. Filed Aug. 26, 1909. Serial No. 514,696.

1. The process of producing from a mineral consisting of a conglomerate of carbonate of lime and phosphate of lime chemically combined, and the same mechanically mixed with carbonate of lime, and phosphatic fossils, two separate bodies adapted for fertilizing purposes, but differing in agricultural and commercial values, one body consisting of hydrate of lime mechanically mixed with a phosphate of lime, both salts being in the condition of a practically impalpable powder, and the other body, of phosphate of lime in fossil form and in a friable condition, which consists in burning and slaking the said material, and then separating the same into two bodies by screening out the said friable fossils of phosphate of lime, substantially as specified.

2. The process of treating a mineral composed of carbonate of lime and phosphate of lime which are in chemical combination, and the same mechanically mixed with phosphate of lime, whereby the two salts are disassociated and the latter reduced to practically an impalpable powder, and the whole brought to a body having the same constituent parts distributed throughout in uniform proportions, which consists in burning, and slaking the mineral, then screening out the coarser particles of phosphate of lime and grinding them, and then returning the ground to the unground constituent and mixing the two bodies together, substantially as, and for the purpose specified.

3. The process of treating a mineral composed of carbonate of lime and phosphate of lime which are in chemical combination and the same mechanically mixed with phosphate of lime, whereby the two salts are disassociated and the latter reduced to a practically impalpable powder, and a body thereby produced having the said constituent parts mechanically combined in predetermined proportions, which consists in burning and slaking the mineral, then screening out the coarser particles of phosphate of lime, and then mixing the ground and unground salts together in predetermined proportions whereby a fertilizer is produced having a commercial value based on the proportions of phosphoric acid and lime, contained therein, substantially as, and for the purpose specified.

971,831. STEAM-TRAP, BOILER-FEED, AND WATER-METER. GEORGE W. COLE, Buffalo, N. Y. Filed Aug. 3, 1909. Serial No. 510,966.



1. In a device of the character described, the combination with a receiver and a supply-pipe and outlet pipe connecting therewith, of a counterweighted receiving tank supported to move up and down, means for causing it to be lowered when sufficient water is admitted thereto to overbalance the counterweight, a head fixed to the receiver having fluid passages through it, a trunnion journaled in the head and connected to the tank, pipes of unequal length fixed to the head and extending into the receiver to different levels and connecting with the passages in the head, other pipes leading from the outer ends of the trunnion and forming a continuation of the fluid passages of the latter and connecting with the tank, and a normally-closed steam supply valve automatically opened during the fall of the tank and adapted to admit steam pressure to the receiver to equalize the pressure therein and permit the water to gravitate therefrom.

2. In a device of the character described, the combination with a receiver and a supply-pipe and outlet-pipe connecting therewith, of a head fixed to the receiver having fluid passages through it, a trunnion journaled in the head pipes of unequal length fixed to the head and extending into the receiver to different levels and connecting with the passages in the head, other pipes leading from the outer ends of the trunnions and forming continuations of the fluid passages of the latter, a tank connecting with the outer ends of said last-named pipes, said tank adapted to move up and down about said trunnion, a counterweighted lever for supporting the tank in its elevated position, one of the first-named pipes adapted to convey air from the receiver to the tank when the former is being filled and both of the said first-named pipes serving to convey water from the receiver to the tank when the former is substantially filled, and a normally-closed steam valve actuated by the falling of the tank to admit steam pressure to the receiver to equalize the pressure therein and allow the water to gravitate through said outlet pipe, said pipes of unequal length adapted to have their inner ends uncovered successively whereby when the end of the shorter pipes is uncovered steam is conducted through said pipe to the upper part of the tank to equalize the pressure in this tank and allow the water to gravitate therefrom.

3. In a device of the character described, the combination of a receiver, a rising and falling tank, fluid conducting pipes connecting the interior of the receptacle with the interior of the tank, said pipes having their corresponding ends terminating at different levels in the receiver and tank, water supply and discharge pipes connecting with the receiver, said conducting pipes adapted to have their ends successively sealed by the level of the water in the receiver, and one of said pipes having a relief valve

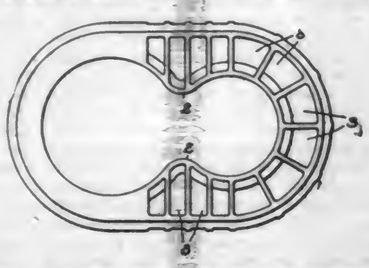
through which and said pipe air is conducted from the receiver to the tank while the former is filling, said relief valve adapted to be sealed by the rising level of the water in the receiver whereby the pressure generated in the receiver will force water through the conducting pipes into the tank to overbalance the latter and cause it to drop, means for relieving air pressure in the tank, and a normally closed steam valve actuated by the lowering of the tank to admit steam pressure to the receiver to equalize the pressure therein and permit the water to gravitate therefrom, the steam entering the first of the conducting pipes to be uncovered by the falling level of the water and being conducted by this pipe to the tank to equalize the pressure therein and thereby permit the water to flow through the pipe into the receiver.

4. In a device of the character described, the combination with a receiver having a supply-pipe and an outlet pipe, of a tank and means permitting it to rise and fall, said means including a trunnion having separate fluid passages and separate conducting pipes leading outwardly therefrom; other pipes connecting the fluid passages of the trunnion with the interior of the receiver, said last-named pipes having their lower ends terminating at different levels in said receiver, and adapted to be successively sealed by the rising level of the water in the receiver, the higher of said pipes having an air-relief valve for conducting the compressed air to the pipe and thence to the tank, a normally-closed steam valve actuated by the lowering of the tank to admit steam pressure to the receiver to equalize the pressure therein and permit the water to gravitate therefrom, said higher pipe when its lower end is uncovered by the water, serving to conduct the steam pressure to the top of the tank to equalize the pressure in the tank and cause the tank to empty into the receiver through the other conducting pipe, means for returning the empty tank to normal position, and means for closing said valve.

5. In a device of the character described, the combination with a receiver, a tank supported to move up and down, and fluid connections between the receiver and tank, of a plug fixed to the tank having a passage through it, a lever pivotally mounted on the plug having a weight upon one end, a loose valve controlling said passage, a pin or stem carried by the lever and slidable in the plug and normally resting out of contact with the valve, and a conducting pipe connecting with the passage in the plug.

[Claim 6 not printed in the Gazette.]

971,832. CASTING INGOTS. WILLIAM H. CONNELL, Pittsburg, Pa. Filed Jan. 13, 1910. Serial No. 537,876.



1. The method of making ingots which consists in so teeming metal into a mold as to establish a flow of the metal from the point of entrance into the mold, teeming a treating or alloying metal into the mold at a point distant from the entrance of the first metal and establishing a second flow in the direction opposed to that of the first metal and by such established flows preventing a material diffusion of the metals one into the other.

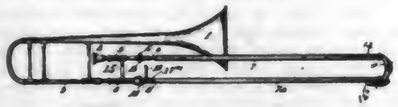
2. The method of making ingots which consists in teeming two metals in separated streams into a mold in such manner as to establish opposing movements of the metals and by such movements preventing the diffusion of one metal through the other.

3. The method of making ingots which consists in teeming two metals in separated streams into a mold in such manner as to establish opposing movements of the metals and limiting by such opposing movements extension of material chemical action of one metal upon the other from the plane of junction of the metals.

4. The method herein described, which consists in so teeming metal into a mold as to establish a flow of the metal from point of entrance into the mold, adding a treating or alloying metal at a point distant from the entrance of the first metal, and chilling the mold walls adjacent to the point of entrance of the second metal.

5. The method of making ingots which consists in so teeming metal into a mold as to establish a flow of the metal from the point of entrance into the mold, teeming a treating or alloying metal into the mold at a point distant from the entrance of the first metal, and preventing a material diffusion of the second metal toward the point of entrance of the first metal by the flow of the first metal.

971,833. TROMBONE. JOSEPH L. DE GOOD, Detroit, Mich., assignor to Henderson N. White, Cleveland, Ohio. Filed Jan. 4, 1907. Serial No. 350,715.



1. In a trombone, in combination with a bell portion and a mouth piece portion in fixed relation to one another, a pair of inner tube members fixed with respect to said bell and mouth piece portions, enlarged terminals at the end of each, complementary outer tubes joined at their outer ends adapted to slidably engage thereover, and, with whose inner faces said enlarged terminals closely engage, and a removable bearing sleeve fitting closely for a portion of its length only within the end of each outer tube and fitting closely about the corresponding inner tube, adapted to coöperate with the enlarged piston terminal portion in constituting elongated bearings for the relative movement of the inner and outer tubes.

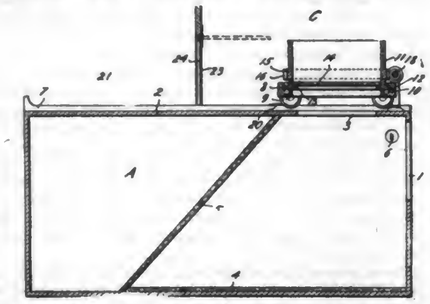
2. In a trombone, in combination with a bell portion and an adjacent tubular portion occupying a fixed relation with respect thereto, a pair of inner tube members projecting from said tubular portion in parallel relation, a pair of outer tubes adapted to engage slidably over said inner tube members, enlarged terminal portions carried by said inner tubes and adapted to fit closely within said outer tubes, bearing sleeve members removably fixed within the inner end of said outer tubes, each having a portion of its length projecting outside of its tube toward the fixed portions of the trombone, and coöperating with said enlarged terminal portions by engagement about said inner tubes in furnishing a plurality of longitudinally spaced bearing surfaces for the relative movement of the inner and outer tubes.

3. A slide trombone, comprising an outer tubular member having two ends and a detachable bearing at each end, and an inner tubular member having two ends and slidably mounted in said bearings and having bearings at its ends in said outer member, said several bearings taking the wear between said members.

971,834. THEATRICAL APPLIANCE. RUBIN J. DENNY, Beverly, Ark. Filed Jan. 3, 1910. Serial No. 535,993.

1. A device of the class described, comprising a cabinet having an opening at one extremity thereof and a similar opening in the top adjacent said end opening, a series of mirrors arranged in said cabinet adapted to reflect an image of an actor over said top opening before the end opening, means reciprocating on the top of said cabinet for bringing said actor before said mirrors, and means for rotating the latter.

2. A device of the class described, comprising a cabinet having an opening at one extremity thereof and a similar opening in the top adjacent said end opening, a series of mirrors arranged in said cabinet adapted to reflect an image of an actor over said top opening before the end opening, a car reciprocating on the top of said cabinet provided with a rotatable exhibiting platform thereon, and means whereby said platform may be rotated.

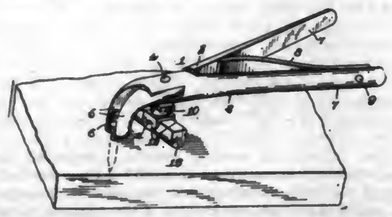


3. A device of the class described, comprising a cabinet having an opening in one extremity thereof and a similar opening in the top adjacent said end opening, a series of mirrors arranged in said cabinet adapted to reflect the image of an actor over said top opening before said end opening, a dressing room arranged on the top of said cabinet, tracks arranged longitudinally with respect to the cabinet on either side of the top opening, a circular car adapted to reciprocate on said tracks from said dressing room to a position over said top opening, comprising a frame approximately U-shaped in cross section, having wheels mounted thereon, and an exhibiting platform adapted to rotate in said frame.

4. A device of the class described, comprising a cabinet having an opening in one extremity thereof and a similar opening in the top adjacent said end opening, a series of mirrors arranged in said cabinet adapted to reflect the image of an actor over said top opening before said end opening, a dressing room arranged on the top of said cabinet on either side of the top opening, a circular car adapted to reciprocate on said tracks from said dressing room to a position over said top opening, comprising a frame approximately U-shaped in cross section, having wheels mounted thereon, an exhibiting platform adapted to rotate in said frame consisting of a wall having a flange engaged in said U-shaped frame and a toothed flange superposed above said frame and a transparent platform, and means for rotating said wall comprising a worm engaging said toothed flange.

5. A device of the class set forth comprising a cabinet, openings in said cabinet, mirrors arranged in said cabinet adapted to reflect the image of an object appearing in one opening before the remaining opening, and means whereby said object may be reciprocated to and from the opening in which it appears.

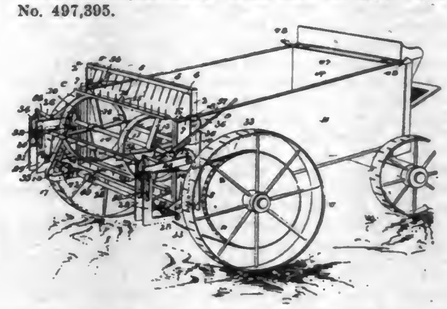
971,835. NAIL-EXTRACTOR. ALEXANDER DETTMANN, Judson, N. D. Filed Feb. 14, 1910. Serial No. 543,875.



1. A nail extractor comprising pincers having jaws disposed at an angle to the body thereof and perforated for pivoting together; a fulcrum block provided with a perforation registering with said jaw perforations; and a pivot secured through said perforations, substantially as described.

2. A nail extractor comprising pincers having jaws disposed at an angle to the body thereof and perforated for pivoting together; a bifurcated member provided with a perforation registering with said jaw perforations; a pivot secured through said perforations; and a laterally elongated fulcrum block secured in the bifurcation of said member, substantially as described.

971,836. MANURE-SPREADER FOR WAGONS. PHILIP L. FORTIN, Clyde, Kans. Filed May 21, 1909. Serial No. 497,805.



1. In a distributing mechanism of the character described, a wagon body, traction wheels, a conveyer movable along the bottom of the body from the front toward the rear thereof, a beater shaft having a sprocket wheel thereon, a winding shaft operatively connected to the beater shaft to rotate therewith, a vertically movable freely rotatable sprocket roller rearward of the beater shaft, a sprocket chain passing over said roller and normally engaging with the sprocket wheel on the beater shaft when the sprocket roller is in its uppermost position, and means for moving the sprocket roller downward to disengage the sprocket chain from the sprocket wheel on the beater shaft, said means being actuated when the forward end of the conveyer has reached the rear end of the wagon body.

2. In a distributing mechanism of the class described, a wagon body, traction wheels thereupon, driving sprocket wheels carried by the traction wheels, a main shaft mounted rearward of the wagon body and having a sprocket wheel thereon, a vertically movable, freely rotatable sprocket roller rearward of the main shaft, a sprocket chain passing over the traction sprocket wheel and over the loose sprocket roller, a lever engaging the sprocket roller to hold it in a raised position with the sprocket chain in engagement with the sprocket wheel of the main shaft, said lever extending upward above the sides of the wagon body, a distributing board carried in the wagon body and having portions projecting outward above the wagon body adapted to engage with the lever when the distributing board has reached its rearmost position, and means operated by the main shaft for moving said distributing board from the front to the rear of the wagon body.

3. The combination with a wagon body, of frames projecting on either side from the rear end thereof, a rotatable shaft mounted in said frames, a rotatable distributing wheel on the shaft, sprocket wheels on the extremities of the shaft, traction wheels on the wagon body provided with sprocket sections, sprocket chains extending rearwardly from said sprocket sections, vertically shiftable sprocket wheels supported in said rearwardly projecting frames over which said sprocket chains pass and by which the upper stretch of said chains may be elevated into engagement with the sprocket wheels on the distributer shaft, a delivering mechanism actuated from the distributer shaft, and means on the said mechanism engaging with the shiftable sprocket wheels when the deliver-

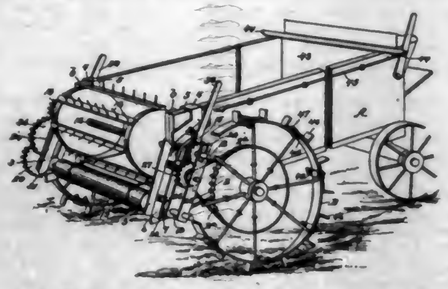
ing mechanism is at the rearward extreme of its movement to allow the said sprocket wheels to fall to release the engagement between the sprocket chains and the distributer shaft sprocket wheels.

4. The combination with a wagon body having rear traction wheels provided with a sprocket gear, of a frame attachable to a wagon body; a transverse frame mounted in the shaft and carrying distributing wheels extending into the wagon body, sprocket wheels in the extremities of the shaft, side frames projecting to the rear of said sprocket wheels, said frames being vertically slotted, sprocket wheels mounted between said side frames and vertically shiftable in said slots, sprocket chains passing over the traction wheel sprocket gears and over the shiftable sprocket wheels, and bell crank levers one for each of the shiftable sprocket gears, pivoted to said frames whereby the sprocket wheels may be elevated to tighten the sprocket chains and bring them into engagement with the sprocket wheels on the ends of the distributer shaft, hooks on the side frames with which the extended ends of said bell crank levers may engage when the sprocket wheels are raised, and a delivering board shiftable longitudinally through the wagon body, said board having projecting wings at its upper end adapted to engage with said bell crank levers when the board has reached its rearmost position to disengage said levers from the hooks and permit the shiftable sprocket wheels to fall.

5. In a distributing mechanism of the class described, a wagon box, traction wheels on the wagon having sprocket gears attached thereto, detachable side frames mounted on the wagon box at the rear end thereof, a transverse shaft mounted in said frames, a rotatable distributing wheel on the transverse shaft extending into the wagon box, sprocket wheels on the ends of the shaft, a transverse winding shaft mounted in said side frames below the distributing wheels, a worm shaft driven from said distributing wheel shaft and engaging with the winding shaft, a movable delivery board within the wagon box, cables connecting the board with the winding shaft, opposed pairs of supporting U-shaped frames extending outward and supported upon the ends of the distributer and winding shafts, said frames being vertically slotted, sprocket wheels vertically shiftable in the slots, sprocket chains passing over said wheels and around the sprocket gears attached to the traction wheels, yokes pivotally connected to the shafts of said sprocket wheels, bell crank levers pivoted on the opposed frames, one arm engaging with the said yokes and the other arm upwardly extended to form a handle, hooks on the side frames adapted to engage with the arms of the bell crank levers when they are drawn forward to raise the shiftable sprocket gears, and wings on the distributer board adapted to engage with said bell crank levers when the board is in its rearward position to disengage the former from the hooks.

[Claims 6 to 10 not printed in the Gazette.]

971,837. MANURE-SPREADER FOR WAGONS. PHILIP L. FORTIN, Clyde, Kans. Filed Apr. 5, 1910. Serial No. 553,634.



1. A distributing mechanism for wagons, including a shiftable winding shaft, a beater shaft, a power driven gear wheel, a gear wheel on the beater shaft meshing with the first-named gear wheel, and means for shifting the winding shaft to carry the gear wheels out of mesh with each other.

2. A distributing mechanism for wagons, including a shiftable winding shaft, a conveyer operated by the winding shaft, a beater shaft, gearing operatively engaging the beater shaft with the winding shaft when the latter is in its normal position, means for shifting the winding shaft to disconnect it from engagement with the beater shaft, and means carried by the conveyer for automatically operating said shifting means when the conveyer has reached the limit of its rearward movement.

3. In a distributing mechanism for wagons, a beater shaft, a shiftable winding shaft, a power driven gear wheel connected to the winding shaft to shift therewith, a gear wheel on the beater shaft with which the first-named gear wheel meshes in its normal position, and gearing supported from the beater shaft and operatively connecting the beater shaft with the winding shaft, and means for shifting the winding shaft to disconnect the power driven gear and the gear on the beater shaft, and simultaneously disconnect the gear on the winding shaft from the gears carried by the beater shaft.

4. In a distributer mechanism for wagons, a beater shaft, a shiftable winding shaft mounted below the beater shaft, a conveyer operated by the winding shaft, a power driven gear wheel shiftable by and in correspondence with the winding shaft, a gear wheel on the beater shaft with which the first-named gear wheel engages, gear wheels supported from the other end of the beater shaft and operatively engaging the winding shaft when the parts are in their normal position, and means carried by the conveyer for operating the said winding shaft shifting means when the conveyer has reached the limit of its movement in one direction.

5. In a distributing mechanism for wagons, oppositely disposed side frames, a beater shaft carried in said side frames, gear wheels on the ends thereof, a winding shaft also mounted in said side frames, but shiftable therein, supports rigidly mounted on one end of said winding shaft, but having sliding engagement with the beater shaft, a power operated gear wheel mounted in said supports and engaging in one position of the winding shaft with the gear wheel on the beater shaft, supports extending downward from the other end of said beater shaft with the lower end of which the winding shaft has sliding engagement, a gear wheel on the end of the beater shaft, a train of gear wheels carried on said last named supports, a gear wheel on the winding shaft engaging with said train of gear wheels when the winding shaft is lifted, means for shifting said winding shaft from its normal position to disconnect the power operated gear from the gear on the beater shaft and to simultaneously disconnect the winding shaft from the train of gears, a conveyer operated by the winding shaft, and means on the conveyer for operating said winding shaft shifting means when the conveyer has reached its rearmost position.

[Claim 6 not printed in the Gazette.]

971,838. PROCESS OF MAKING TUBULAR METAL WALLS. WESTON M. FULTON, Knoxville, Tenn., assignor to The Fulton Company, Knoxville, Tenn., a Corporation of Maine. Original application filed Apr. 3, 1907, Serial No. 366,207. Divided and this application filed July 22, 1909. Serial No. 509,067.



1. The process of making flexible corrugated metal walls, consisting in forming a thin walled tube, forcing the metal of the tube outward from the axis of the tube to form broad corrugations therein with narrow uncorrugated portions connecting the broad corrugations, then deepening and narrowing said corrugations while subjecting the metal at the bends to a metal rolling operation to toughen and temper the metal in said curved portions.

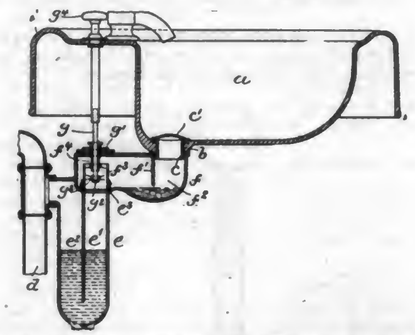
2. The process of making flexible corrugated metal walls, consisting in forming a thin walled metal tube, forcing the metal of the wall outward to form broad corrugations, reducing the radius of curvature of the bends of said outwardly extending corrugations while transferring into the lateral portions, portions of said bends and subjecting said curved portions to swaging pressure to toughen and temper the metal in said curved portions.

3. The process of making flexible corrugated metal walls, consisting in forming a thin walled metal tube, forcing the metal of the wall outward to form broad corrugations, leaving narrow uncorrugated connecting portions between the outwardly extending corrugations, reducing the radius of curvature of the bends of said outwardly extending corrugations while transferring into the lateral portions, portions of said bends, and forcing the metal in said narrow uncorrugated portions into inwardly projecting corrugations, and subjecting the curved portions of said first-named bends to swaging pressure to toughen and temper the metal in said curved portions.

4. The process of making flexible corrugated metal walls, consisting in forming a thin walled metal tube, annealing said tube, forcing the metal of the wall outward to form broad corrugations, reducing the radius of curvature of the bends of said outwardly-extending corrugations while transferring into the lateral portions, portions of said bends, and subjecting said curved portions to swaging pressure to toughen and temper the metal in said curved portions.

5. The process of making flexible corrugated metal walls, consisting in forming a thin walled metal tube, annealing said tube, forcing the metal of the wall outward to form broad corrugations, leaving narrow uncorrugated connecting portions between the outwardly extending corrugations, reducing the radius of curvature of the bends of said outwardly extending corrugations while transferring into the lateral portions, portions of said bends, and forcing the metal in said narrow uncorrugated portions into inwardly projecting corrugations, and subjecting the curved portions of said bends to swaging pressure to toughen and temper the metal in said curved portions.

971,839. WASHBASIN. JAMES HARTNESS, Springfield, Vt. Filed Apr. 18, 1907. Serial No. 368,866.



1. The combination with a bowl, and a permanent trap whose limbs are not less in altitude than the desired maximum water column in the bowl, of an intermediate drainable trap having an air chamber whose volume is not less than the volume of the inlet limb of the permanent trap, said trap comprising a fixed air containing chamber, and a displaceable trap member movable relatively to said chamber.

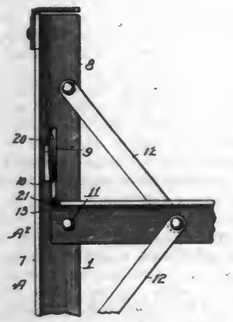
2. The combination with a bowl, and a permanent trap whose limbs are not less in altitude than the desired maximum water column in the bowl, of an intermediate trap located below the horizontal plane of the bottom of the bowl and having a fixed air chamber whose volume is not less than the volume of the inlet limb of the permanent trap, and means movable relatively to said chamber, permitting the drainage of said intermediate trap.

3. The combination with a bowl, and a permanent trap whose limbs are not less in altitude than the desired maximum water column in the bowl, of an intermediate trap having a fixed air chamber communicating with the inlet limb of the permanent trap to balance a column of water of maximum height in the outlet limb of said permanent trap; and also having a manually controlled trap member movable relatively to said chamber for permitting the drainage of said intermediate trap, and through which the overflow discharge takes place when the water rises above the maximum level in the bowl.

4. The combination with a bowl, and a permanent trap whose limbs are not less in altitude than the desired maximum water column in the bowl, of an intermediate trap arranged below the horizontal plane of the bottom of the bowl and having inlet and outlet limbs and an immovable air chamber of sufficient volume, in consequence of which air will be trapped therein, substantially for the purpose set forth, and means for dislocating said outlet limb relatively to the walls of said chamber to permit the escape of substantially all liquid from said air chamber.

5. The combination with a bowl and a permanent trap, of an intermediate trap, consisting of a fixed closed casing having oppositely extending separated limbs, one communicating with the bowl and the other with the inlet limb of the permanent trap, and means for dislocating said second-mentioned limb of said intermediate trap to permit the escape of water from said trap.

971,840. LEAF-SUPPORT. THEODORE HAUSER, Chicago, Ill., assignor to The Garvy Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 8, 1910. Serial No. 542,680.



1. In a structure of the character set forth the combination of a main frame provided with a link-receiving guide having an inclined surface adapted to shift said link laterally, a leaf pivotally connected with said frame, a pivoted link having a locking shoulder, and a connecting frame member located beneath said guide and of a length less than the width of the main frame, whereby the inner end of the leaf-supporting link is caused to rest between the end of said connecting frame member and the main frame when the leaf is in the same horizontal plane with said main frame, and to ride upon and be raised by said connecting member when the leaf is raised to an abnormally elevated position and the free end of the link caused to be shifted laterally by the inclined surface of the guide, for the purpose set forth.

2. In a structure of the character set forth, the combination of a frame having an end-standard provided with an angle-form upright with a flange extending toward the opposite end-standard of the structure, said flange having a guide-slot with an inclined surface extending from the outer side wall of the slot, a longitudinal angle-bar frame-member extending from said flange with a space between it and the other flange of said upright, a leaf

pivotally connected with said frame, and a leaf-supporting link pivotally joined to said leaf and provided at its lower edge with a locking-shoulder and adjacent thereto with an end-extension which normally projects into said space and lies adjacent the end-edge of said longitudinal angle-bar, whereby said extension will be shifted laterally toward the opposite end of the structure and onto said longitudinal frame-member when the leaf is swung to an abnormally high position, thereby to effect a positive release when the leaf is dropped.

3. In a structure of the character set forth, the combination with a main-frame comprising end-standards of angle-bar construction, said end-standards having angle-form uprights, longitudinal frame-members of angle-bar form connecting said uprights and having inturned flanges, spaces being left between the ends of said flanges and the flanges of said uprights which are parallel with the ends of the structure, a leaf pivotally connected with said main frame, guide-slots in the flanges of said uprights, said guide-slots having inclined portions at the upper ends of their outer walls, and links pivotally connected with said leaf and extending through said guide-slots, said links having notches at their lower edges and end-extensions which normally lie in said spaces adjacent the ends of the inturned flange of said longitudinal frame-member when the leaf is in the locked position, whereby said end-extensions will be shifted laterally onto the longitudinal frame-member when the leaf is raised to an abnormally high position and will ride upon said frame-member to carry the locking-notches clear of the guide-slots when the leaf is lowered to the vertical depending position.

4. In a structure of the character set forth, the combination of a frame provided with a guide-slot having an inclined cam-surface at the upper portion of one side wall, a leaf pivotally connected with said frame, a link pivotally connected with said leaf and provided with a locking-notch and an end-extension, a cam carried by the frame and projecting inwardly from the side thereof and located normally adjacent one side of said end-extension when the leaf is locked in the horizontal position, whereby said end-extension will be shifted onto said last-named cam when the leaf is raised to an abnormally high position, and means for guiding the free end of the link, after the locking-shoulder has cleared the locking position in the descent of the leaf, to the plane which said link normally occupies in its locked position.

5. In a structure of the character set forth, the combination of an end-standard having a corner upright with an end flange and a side flange, said side flange provided with a guide-slot having at its upper portion an inclined surface extending away from the wall of the slot which is adjacent said end-flange, a leaf pivotally connected with said end-standard, a link pivotally connected with said leaf and provided with a locking-notch adapted to engage the lower end of the guide-slot and having an end-extension, and a longitudinal frame member connected with said upright and having an inturned flange with its end edge separated from the end flange of said upright by a space normally occupied by said link-end-extension when the leaf is locked in the horizontal position, said inturned flange having a beveled corner adapted to guide the free end of the link back to the plane which it normally occupies in the locking position.

[Claim 6 not printed in the Gazette.]

971,841. BAND-SAW TENSIONING AND MOVING MACHINE. JOHN E. HIBBERT and IRVING H. HIBBERT, Stirling City, Cal. Filed Apr. 4, 1910. Serial No. 553,205.

1. A saw tensioning and moving machine consisting of the combination of tensioning rolls between which one plane of a band saw is passed, a pair of band saw moving rolls between which the other plane of the saw passes, direction pulleys for the saw, means for operating the tensioning rolls to move the saw in one direction, and means to move the band saw moving rolls to operate the saw in the opposite direction.

2. A saw tensioning and moving machine consisting of the combination of tensioning rolls between which one plane of a band saw is passed, a pair of band saw moving rolls between which the other plane of the saw passes, direction pulleys for the saw, means for operating the tensioning rolls to move the saw in one direction, means to move the band saw moving rolls to operate the saw in the opposite direction, and means in conjunction with the band saw moving rolls to maintain normally both the said rolls out of contact with the saw.



3. A saw tensioning and moving machine consisting of the combination of tensioning rolls between which one plane of a band saw is passed, a pair of band saw moving rolls between which the other plane of the saw passes, direction pulleys for the saw, means for operating the tensioning rolls to move the saw in one direction, means to move the band saw moving rolls to operate the saw in the opposite direction, and means in conjunction with the band saw moving rolls to maintain normally both the said rolls out of contact with the saw, said last-named means including yieldingly supported guides for the saw adjacent to the band saw moving rolls.

4. In a band saw tensioning and moving machine, the combination of a tensioning mechanism and a band saw moving mechanism, each of said mechanisms having respectively a pair of rolls between which the saw passes, direction pulleys over which the band saw moves, and means for operating said mechanisms at will, one of said mechanisms to move the saw in one direction, and the other of said mechanisms to move it in the opposite direction.

5. The combination, of a band saw tensioning machine having rolls between which the saw passes, means to operate the rolls to move the saw in one direction, and other means operative on the saw mechanically to move the saw in the opposite direction.

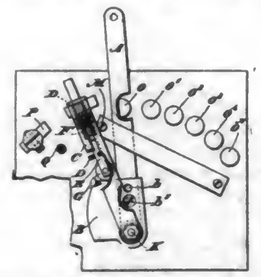
[Claims 6 to 11 not printed in the Gazette.]

971,842. TENSION-INDICATOR FOR SEWING-MACHINES. FREDERICK H. HOENK, Evansville, Ind. Filed Sept. 30, 1909. Serial No. 520,332.



In a tension indicator for sewing machines, the combination with a tubular casing having a flattened slotted end constituting a guide, of a flat and relatively wide scale bar slidable in and out of the casing and through the said slot and having graduations on its part within the casing adapted to register with the said slotted end as the scale bar is pulled out, the outer or exposed part of said scale bar being bodily offset so as to be adapted to abut the flattened end of the casing to limit the retraction of said scale bar into the casing, a thread clamp carried on the outer part of the scale bar, and a retracting spring contained within the casing and connected to the scale bar and normally keeping the scale bar retracted, its graduations covered, and the offset part abutting the end of the casing.

971,843. ELECTRIC SWITCH. LEVI W. HORTING, Lancaster, Pa., assignor of one-third to Charles F. Stauffer and one-third to B. Grant Stauffer, Lancaster, Pa. Filed Dec. 14, 1909. Serial No. 532,994.



1. An electric switch including, in combination with a switch-operating lever, a contact make-and-break lever, and means for effecting quick action of the latter comprising a spring-actuated roller carried thereby and a peaked cam against which the roller bears, said cam being movable by said operating lever and formed to present oblique surfaces on opposite sides of its peak to the roller for throwing the contact make-and-break lever in opposite directions, the said roller traveling down one oblique surface of said cam to operate said make-and break lever in one direction, and down the other oblique surface to operate it in the opposite direction.

2. An electric switch, comprising an operating lever, a cam unstably mounted on said lever, quick-acting make-and-break contacts, and mechanism operated by said cam to operate said contacts.

3. An electric switch, comprising an operating lever, quick make-and-break contacts, a cam operated by said lever, a roller adapted to engage said cam, a support on which said roller is mounted for wabbling movement relative thereto, a mechanical connection between said roller support and said quick make-and-break contacts whereby the latter are operated by said cam.

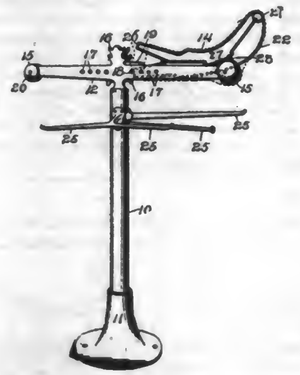
4. An electric switch, comprising an operating lever, a plurality of contacts on which the same moves, a cam mounted on said lever, a roller adapted to engage said cam, a lever on which said roller is yieldingly mounted, and quick make-and-break contacts operated by said last-named lever.

5. An electric switch, comprising an operating lever, contacts on which same moves, a quick make-and-break lever, separately insulated limiting stops for same, said limiting stops acting as off and on points of the make-and-break lever, a roller supported on said make-and-break lever, a cam in the plane of said make-and-break lever, and moving centrally with it, oblique surfaces on said cam bearing against said roller, said oblique surfaces so shaped that the same angle is presented to said roller in any position of said roller and said cam within the limits of their motion, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

971,844. HOSIERY FORM AND HOLDER. JOSEPH HUEBSCH, Milwaukee, Wis. Filed Oct. 22, 1909. Serial No. 524,084.

1. The combination of a horizontally disposed holder open at its top and one end, a form mounted for longitudinal movement in said holder, means to retain said form against longitudinal movement in one direction and permit its withdrawal in the opposite direction, an extension from said form, and laterally disposed means carried by said holder to prevent upward movement of said extension.



2. A hosiery form holder provided with means to retain a form against longitudinal movement in one direction and against lateral movement in any direction, and wheels disposed upon said holder adjacent the heel portion of said form.

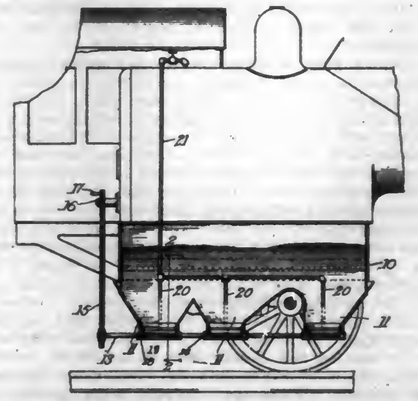
3. A hosiery form holder having a horizontally disposed way open at its top and one end to receive a form, and an abutment extended above said way to prevent vertical movement of said form.

4. A hosiery form holder having a way adapted to receive a form, a stop traversing said way to limit the movement of said form in one direction, and an abutment extended above said way to prevent vertical movement of said form.

5. A hosiery form holder having a way adapted to receive a form, a stop traversing said way to limit the movement of said form in one direction, an abutment extended above said way to prevent vertical movement of said form, and wheels pivoted at the free end of said way.

[Claims 6 to 16 not printed in the Gazette.]

971,845. ASH-BOX. EVAN FRANK JONES and CHARLES ADRAIN BARNES, Chicago, Ill. Filed Aug. 21, 1909. Serial No. 514,072.

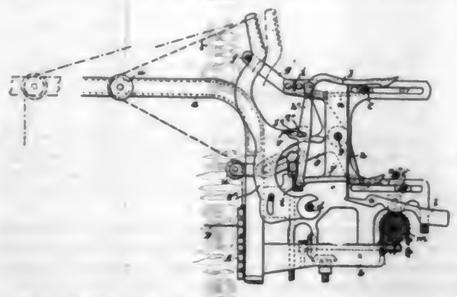


1. An ash box for locomotives comprising a plurality of chutes, each having a discharge opening in the lower end thereof, a plurality of annular castings arranged to be secured in said discharge openings, a shaft extending cen-

trally across said castings and having bearings therein, gates mounted on said shaft, said gates being arranged to normally close said discharge openings, and means for rocking said shaft whereby said gates are opened.

2. An ash box for locomotives comprising a plurality of chutes each having a discharge opening in the lower end thereof, a plurality of annular castings arranged to be secured in said discharge openings, a shaft extending centrally across said castings and having bearings therein, gates mounted on said shaft, said gates being arranged to normally close said discharge openings, a crank carried by the rear end of said shaft, a compressed air motor arranged to operate said crank to rock said shaft whereby said gates are opened, and a valve located in the cab of the engine for controlling the supply of compressed air to said compressed air motor.

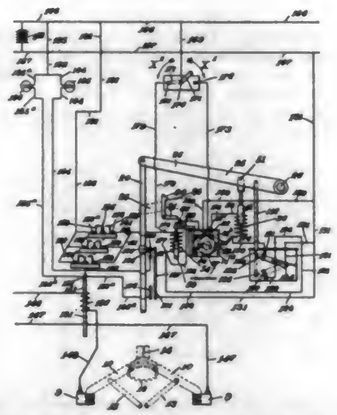
971,846. DOBBY FOR LOOMS. WILLIAM KAHRE, Wharton, N. J. Filed Dec. 9, 1909. Serial No. 532,149.



The combination, with normally retracted members to be moved to different positions, of a supporting structure having a stop limiting the retracting movements of said members, knives reciprocating synchronously in reverse directions and adapted to effect the movement of said members away from the stop, trains of parts adapted to transmit movement from the knives to said members and each comprising hooks and a lever pivotally connecting said hooks and pivotally connected with one of said members, and means for controlling the hooks, one of the mechanisms comprising one of said members and the corresponding train of parts having a lost-motion connection between two of the elements thereof, substantially as described.

971,847. SWITCH AND CIRCUIT-BREAKER FOR HIGH-POTENTIAL CIRCUITS. JOSEPH NELSON KELMAN, Los Angeles, Cal. Filed July 29, 1908. Serial No. 446,490.

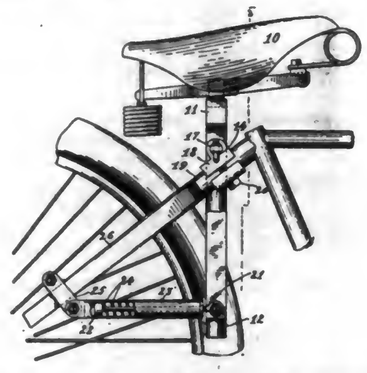
1. In a high potential switch and circuit breaker, wherein the parts for opening and closing the circuit are operated from a rotatable shaft, said rotatable shaft carrying a counterweighted lever rigidly keyed thereon, a retaining catch for holding said lever and shaft in the closed position of the circuit breaker, a solenoid coil and soft iron core for releasing said retaining catch whereby compressed springs react to open the high potential circuit, another solenoid coil and soft iron core connected to said lever operating to close the circuit, both of said solenoid coils being excited by a circuit separate and distinct from the high potential circuit to be opened or closed, a rod attached to the lever on the rotatable shaft, a spring upon said rod, said spring being compressed between a shoulder on said rod and a stationary bridge piece, said rod passing through said bridge piece, and connected insulatedly to the opening and closing arms of the circuit breaker, said spring operating to open the circuit when the opening solenoid releases the retaining catch holding the counterweighted lever, a portion of the main circuit wound as a solenoid coil, which when the current in the main circuit becomes too high, or the main circuit becomes short circuited operates a soft iron core carrying a non-conducting lifting rod with contact piece for closing the circuit of the opening solenoid coil, a rotating switch in the solenoid circuits operated by the soft iron core of the opening solenoid, an automatic switch in the solenoid circuits operated by the counterweighted lever on the rotatable shaft, said solenoid coils being connected to a double-throw manually operated switch on the switchboard, the opening and closing members of the circuit breaker being immersed in oil.



2. In a high potential switch and circuit breaker, wherein the parts for opening and closing the circuit are operated from a rotatable shaft, said rotatable shaft carrying a counterweighted lever rigidly keyed thereon, a retaining catch for holding said lever and shaft in the closed position of the circuit breaker, a solenoid coil and soft iron core for releasing said retaining catch whereby compressed springs react to open the high potential circuit, another solenoid coil and soft iron core connected to said lever operating to close the circuit, both of said solenoid coils being excited by a circuit separate and distinct from the high potential circuit to be opened or closed, a rod attached to the lever on the rotatable shaft, a spring upon said rod, said spring being compressed between a shoulder on said rod and a stationary bridge piece, said rod passing through said bridge piece, and connected insulatedly to the opening and closing arms of the circuit breaker, said spring operating to open the circuit when the opening solenoid releases the retaining catch holding the counterweighted lever, a portion of the main circuit wound as a solenoid coil, which when the current in the main circuit becomes too high, or the main circuit becomes short circuited operates a soft iron core carrying a non-conducting lifting rod with contact piece for closing the circuit of the opening solenoid coil, a rotating switch in the solenoid circuits operated by the soft iron core of the opening solenoid, an automatic switch in the solenoid circuits operated by the counterweighted lever on the rotatable shaft, said solenoid coils being connected to a double-throw manually operated switch on the switchboard, the opening and closing members of the circuit breaker being immersed in oil, said apparatus having a circuit operated from the separate circuit with telltale lamps therein.

971,848. SEAT FOR MOTOR-CYCLES AND OTHER SELF-PROPELLED VEHICLES. CHARLES R. KITTLE, Los Angeles, Cal. Filed Oct. 30, 1909. Serial No. 525,465.

1. A seat for motor cycles and other like vehicles comprising a U-shaped saddle frame; a saddle mounted on said frame; spring holding barrels secured to the side members of said frame, said barrels being closed at the top, except at a central aperture; a plunger rod having a plunger on the end thereof mounted in each of said barrels; springs coiled around said rods between the plungers and the upper ends of the barrels; a horizontal sustaining bar connected to said plunger rods; a clamp secured upon the rear portion of the vehicle frame, said sustaining bar being pivotally mounted in said clamp.



2. A seat for motor cycles and other self-propelled vehicles comprising a clamp secured upon the rear portion of the frame of the vehicle; a sustaining bar pivotally and horizontally mounted in said clamp; plunger rods connected to the ends of said sustaining bar; plungers on the other end of said rods; barrels mounted upon said rods and plungers, said barrels being closed at the top except at a central aperture; springs around said rods within said barrels; a U-shaped frame secured to said barrels; means secured to the lower ends of said U-shaped frame and to the rear portion of the vehicle frame, adapted to hold said U-shaped frame in a vertical position and to yield when the rear portion of the U-shaped frame is moved in one direction; and a saddle secured upon the top of said U-shaped frame.

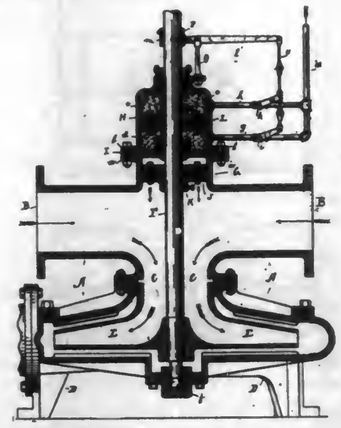
3. A seat for motor cycles and other self propelled vehicles comprising a U-shaped saddle frame; a saddle on said frame; a U-shaped sustaining frame pivotally mounted on the rear portion of the vehicle frame; and a resilient connection between the saddle frame and the sustaining frame.

4. A seat for motor cycles and other self propelled vehicles comprising a U-shaped saddle frame; a saddle on said frame; a U-shaped sustaining frame pivotally mounted upon the rear portion of the vehicle frame, said saddle frame and sustaining frame being connected with resilient means interposed between the parts of the frames; and means pivotally secured to the lower portion of the saddle frame and to the vehicle frame to hold the saddle frame vertical when the machine is being operated.

971,849. CENTRIFUGAL PUMP. FERDINAND W. KROGH and CARL A. KROGH, San Francisco, Cal. Filed Nov. 27, 1903. Serial No. 182,870.

1. A centrifugal pump having, in combination, an impeller and means for maintaining the impeller in a predetermined position, said means comprising a chamber, a head which is mounted in the chamber and partakes of the movement of the impeller and is subject to the pressure of liquid in the chamber, a valved pipe for supplying the chamber with liquid under pressure to act upon the head, and means whereby the valve of said pipe is automatically opened and closed by variations in the position of the impeller from its predetermined position to thereby restore it to such position, comprising a valve-operating lever connected with the shaft and operated thereby to admit or cut-off the supply of liquid to the chamber.

2. A centrifugal pump comprising an impeller, a driving shaft connected with said impeller, a piston connected with said shaft, a casing for said piston, valved fluid-supply means connected with said casing and connecting devices between the valve of said fluid supply means and said shaft whereby pressure on said piston is automatically regulated, said connecting devices comprising an oscillatory lever actuated by said shaft, and a connecting rod between said lever and valve.



3. A centrifugal pump, having in combination with its casing, impeller and impeller-shaft; means for automatically maintaining the impeller in predetermined position, comprising a chamber, a fluid-conducting pipe arranged outside the casing and connected with the chamber, a valve in said pipe for controlling the flow of fluid therethrough, means in said chamber, partaking of movement of the impeller and upon which the fluid acts to maintain the impeller in its predetermined position, and a lever having connection at one end with the shaft of the impeller and at the other end with the valve and adapted to be operated by movements of the shaft from and toward its proper position to open and close the valve.

4. A centrifugal pump, having in combination with its casing, impeller and impeller-shaft; means for automatically maintaining the impeller in predetermined position, comprising a chamber, a fluid-conducting pipe arranged outside the casing and connected with the chamber, a valve in said pipe for controlling the flow of liquid therethrough, means in said chamber, partaking of movement of the impeller and upon which the fluid acts to maintain the impeller in its predetermined position, and means for opening and closing the valve by movements of shaft from and toward its proper position, comprising jointed levers connecting the valve with the shaft.

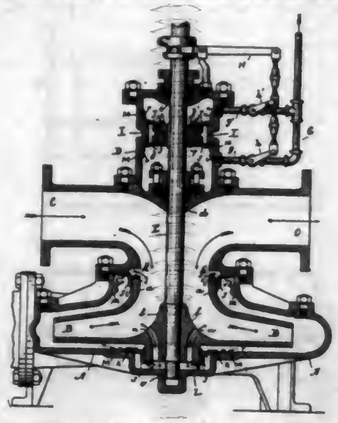
5. A centrifugal pump, having in combination with its casing, impeller and impeller-shaft; means for automatically maintaining the impeller in predetermined position, comprising a chamber, a fluid-conducting pipe arranged outside the casing and connected with the chamber, a valve in said pipe for controlling the flow of fluid therethrough, means in said chamber, partaking of movement of the impeller and upon which the fluid acts to maintain the impeller in its predetermined position, and means for opening and closing the valve by movements of the shaft from and toward its proper position, comprising an oscillatory lever connected with the shaft, and a link connected with said lever and with the valve.

[Claims 6 to 21 not printed in the Gazette.]

971,850. CENTRIFUGAL PUMP. FERDINAND W. KROGH and CARL A. KROGH, San Francisco, Cal. Filed Apr. 5, 1904. Serial No. 201,719.

1. In a centrifugal pump, a relatively movable casing and an impeller, the impeller mounted in the casing and so related thereto as to provide a space between its outer portion and the inner wall of the casing and one of the

parts formed to provide a vacuum chamber leading to said space, the casing having a suction inlet in communication with the chamber, in combination with a packing element engaging the casing and impeller and closing communication between the space and the vacuum chamber and held to its seat by the suction in the chamber.



2. A machine of the class described having a suction inlet, relatively movable parts, a packing device at the junction of said parts, said packing being adapted to be held in packing position by suction from said inlet and said junction having provision for free communication of the packing with the suction inlet, whereby it is exposed to sufficient suction to be effectively held thereby, and a supporting device for the packing, so related to said junction that it will confine the packing against movement away from the place where the suction can effectually hold it.

3. A machine of the class described, comprising relatively movable parts and a packing means between said parts, said machine being formed to provide a vacuum chamber having free communication with the vacuum portion of the machine and the packing means, and through which the packing means is held to its seat by suction when the machine is in operation and having means for confining said packing means, when the machine is not in operation, against movement beyond the sphere of operation of the suction.

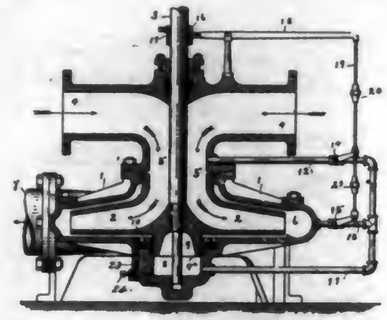
4. A machine of the class described, comprising a suction inlet and stationary and moving parts having contiguous portions, a vacuum chamber having free communication with the suction inlet, a packing device exposed to suction through said chamber and a supporting means for the packing device, so arranged as to confine the latter permanently within the effective area of the suction, said parts so related to each other that the packing will be held to its seat by the suction to which it is exposed in the operation of the machine.

5. A machine of the class described, comprising a stationary and a moving part, a packing ring for preventing leakage between said parts and means for confining the ring against movement beyond predetermined limits from its seat, said machine having means by which when it is in operation the packing-ring is drawn and held to its seat by suction created in the movement of its movable part comprising a vacuum chamber exposed to said suction and to the ring.

[Claims 6 to 27 not printed in the Gazette.]

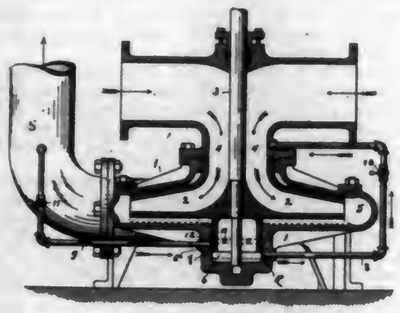
971,851. CENTRIFUGAL PUMP. FERDINAND W. KROGH, San Francisco, Cal. Filed Nov. 28, 1905. Serial No. 289,486.

1. In a centrifugal pump, in combination with a casing provided with a chamber, and an impeller wheel provided with a plunger adapted to play in said chamber, a pipe connecting said chamber with the suction and discharge of the pump, valves controlling the flow in said pipe, and means connected with the wheel for varying the openings of the valves.



2. In a centrifugal pump, a casing, a chamber, an impeller having a piston in said chamber, valved pipes connecting said chamber with the suction opening and pressure portions of the casing, and lever connections between the valves of said pipes and the impeller, adapted to open the valves alternately by predetermined variations in the position of the impeller from its condition of balance.

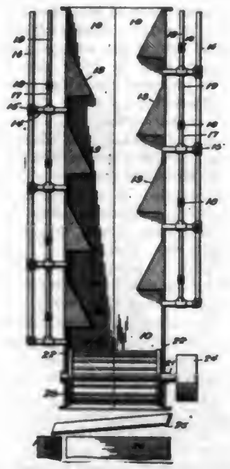
971,852. CENTRIFUGAL PUMP. FERDINAND W. KROGH, San Francisco, Cal. Filed Dec. 6, 1905. Serial No. 290,619.



1. A self balancing centrifugal pump comprising a casing having a suction inlet and a pressure outlet, a ported pressure chamber, pipes respectively connecting the ports of the chamber with the inlet and outlet, and an impeller wheel arranged within the casing directly above the chamber and provided with a depending hollow plunger adapted in one position to close the port of the chamber connecting the inlet, said plunger being provided with a passage which is adapted, in another position of the plunger, to communicate directly between the other port of the chamber and the interior of the plunger.

2. A self balancing centrifugal pump comprising a casing having a suction chamber, pipes respectively connecting the ports of the chamber, with the inlet and outlet, and an impeller wheel arranged within the casing directly above the chamber and provided with a depending hollow plunger adapted, in one position, to close the port of the chamber connecting the inlet, said plunger being provided with an exterior circumferential groove and spaced ports, which are adapted, in another position of the plunger, to communicate directly between the other port of the chamber and the interior of the plunger.

971,853. SLAG-DISINTEGRATOR. EDWIN LAMB, Youngstown, Ohio, assignor of one-half to German B. Buehrle, Youngstown, Ohio. Filed June 18, 1910. Serial No. 567,682.



1. In a slag disintegrator, a stack provided with alternately disposed inclined shelves, and means beneath said shelves for introducing a disintegrating agent.

2. In a slag disintegrator, a stack provided with alternately disposed inclined shelves, means beneath said shelves for introducing a disintegrating agent, and a breaker at the lower portion of said stack.

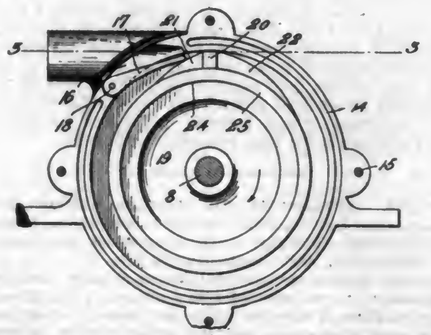
3. In a slag disintegrator, a stack provided with alternately disposed inclined shelves, means beneath said shelves for introducing a disintegrating agent, a breaker at the lower portion of said stack, and a screen beneath said breaker.

4. In a slag disintegrator, a stack provided with alternately disposed inclined shelves, a fluid feed connection disposed beneath said shelves, and a liquid feed communicating with said fluid feed.

5. In a slag disintegrator, a stack, a breaker disposed at the lower portion of said stack, a fluid injector within said stack, and a liquid feed communicating with said fluid injector.

[Claim 6 not printed in the Gazette.]

971,854. MOTOR. DANIEL F. LAWRENCE, Brandon, Vt. Filed Nov. 10, 1909. Serial No. 527,278.



1. In a rotary motor, the combination with a water jacketed casing, of a power shaft centrally positioned therethrough, a rotor secured upon said shaft within the casing, the periphery of said rotor being disposed in concentric relation to the inner wall of the casing, an inlet port communicating with said casing, a valve plate mounted to oscillate in said inlet port and adapted to form a continuation of the inner wall of the casing when closed, an actuating fluid supply pipe communicating with said inlet port and adapted to discharge the actuating fluid against said plate to open the same, a radially disposed vane carried by said rotor and integrally formed therewith, a web centrally extending from each side of said vane having an arcuate outer edge, the free end of said plate being adapted to engage with the arcuate edges of said webs, said webs varying in extent, whereby the rotation of said rotor will gradually move said plate to close the inlet port and permit of a comparatively quick opening of the same under pressure of the actuating fluid.

2. In a rotary motor, the combination with a casing, of a power shaft centrally positioned therethrough, a rotor secured upon said shaft within the casing, the periphery of the rotor being disposed in spaced relation to the inner wall of said casing, a packing ring seated in a peripheral circumscribing groove in the opposite sides of said rotor, said packing ring projecting into opposed circular grooves in the casing walls, an inlet and outlet port communicating with said casing, a valve plate pivotally mounted at one end in said inlet port, a single vane carried by said rotor, a web integrally formed with said vane and rotor and extending upon opposite sides of the vane, said webs having arcuate outer edges of different lengths whereby the rotation of said rotor and the engagement of the outer edge of one of said vanes with the under side of said valve plate will gradually lift the same and slowly close the inlet port, the pressure of the actuating fluid in said inlet port upon the valve plate engaging the free end of said plate with the arcuate edge of the other of the webs whereby a comparatively quick outward movement of the valve plate and opening of the inlet port is effected.

3. In a rotary motor, the combination with a water jacketed casing, of a power shaft centrally positioned therethrough, a rotor secured upon said shaft and positioned within the casing, packing rings carried by said rotor and disposed in semi-circular grooves in the opposite sides of said casing, said rotor being disposed in spaced concentric relation to the inner wall of said casing, a radially extending vane integrally formed with the rotor, strengthening webs extending from the opposite sides of said vane to the periphery of the rotor, an actuating fluid inlet port, a valve plate pivoted at one end in said inlet port and having a curved surface adapted to form a continuation of the inner wall of the casing when closed, the actuating fluid being adapted to impinge upon said valve plate and open the same, the free end of the plate bearing upon the periphery of the rotor and preventing the backward movement of the fluid, the radially extending vane of the rotor being adapted to receive the impact of the gases to rotate the same.

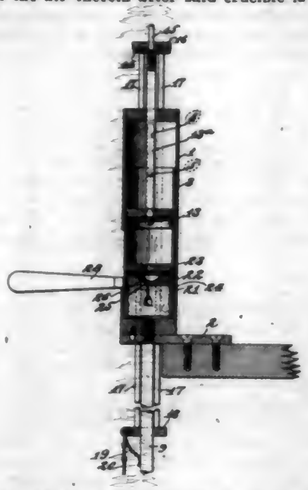
971,855. DENTAL CASTING-MACHINE. WILLIAM F. LAWRENZ, St. Louis, Mo., assignor to James A. Carr, St. Louis, Mo. Filed June 20, 1907. Serial No. 379,855.

1. A casting machine comprising an integral tubular mold open at one end, a crucible constituting the other end of said mold and having a sprue hole communicating with said mold, an air compressor, and means whereby the pressure of air may be applied directly to the crucible.

2. A casting machine comprising an integral tubular mold flask open at its lower end and having a perforated crucible in its upper end, a vertically movable cylinder arranged to inclose said crucible, and means for compressing air within said cylinder after said crucible is inclosed.

3. A casting machine comprising a mold, a crucible having a sprue hole communicating with said mold, a cylinder movable relative to said crucible and arranged to seal the same, a piston in said cylinder, means for mov-

ing said cylinder and piston simultaneously toward said crucible, and then moving said piston in said cylinder to compress the air therein after said crucible is sealed.

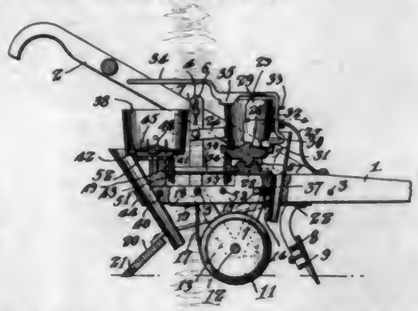


4. A casting machine comprising a frame adapted to receive a mold, an air compressor slidingly mounted in said frame and having a member adapted to form an airtight connection with said mold, and means for moving said compressor into operative position and then actuating the air compressing member thereof.

5. A casting machine comprising a frame adapted to receive a mold, a cylinder mounted in said frame, and movable toward and from said mold, an air compressor in said cylinder, means for forming an airtight connection between said cylinder and said mold, and means for actuating said air compressor after said airtight connection is made, whereby the surface of the mold is subjected to the pressure in said cylinder.

[Claims 6 and 7 not printed in the Gazette.]

971,856. COMBINED SEED-PLANTER AND FERTILIZER-DISTRIBUTER. WILLIAM DANIEL LEMONS, Shelby, N. C., assignor of one-half to William D. Babington and Thomas J. Babington, Shelby, N. C. Filed Mar. 16, 1910. Serial No. 549,785.

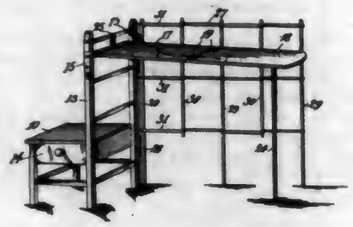


1. In an implement of the character described, the combination of a beam, front and rear bearings upon the same, a longitudinal shaft arranged between said bearings and having its ends rotatable therein, fertilizer and seed hoppers supported above said bearings, rotary fertilizer and seed dropping plates, gears on said longitudinal shaft and meshing with the first mentioned gears, a ground wheel, a swinging bearing pivoted on one side of said beam, a transverse shaft journaled in said swinging bearing, a gear on the inner end of said transverse shaft to mesh with one of the gears on said longitudinal shaft, a hand lever connected to said swinging bearing, a locking means for said hand lever, and sprocket chain gearing between the ground wheel and said transverse shaft.

2. In an implement of the character described, the combination of a beam formed intermediate its ends with a longitudinal slot, a pair of V-shaped hangers arranged on opposite sides of said beam, and each having one arm pivoted to the beam, and its other arm formed with a longitudinal slot to intersect the longitudinal slot in said beam, the last mentioned arms being also formed on their inner faces with inwardly projecting teeth to engage the side faces of the beam, a transverse clamping bolt passed through the slots in said hangers and beam, a ground wheel journaled in the lower portions of said hangers, an adjustable bearing carried by said beam, a shaft in the last mentioned bearing, a sprocket chain gearing between said shaft and the ground wheel, and a dropping mechanism actuated from said shaft.

3. In an implement of the character described, the combination of a beam, hangers depending from the opposite sides of the same, a transverse shaft journaled in the lower ends of said hangers, a ground wheel fixed to the central portion of said shaft, a shovel carrying standard depending from the beam in advance of the ground wheel, a dropping mechanism carried by the beam, a shaft for said mechanism, a sprocket chain gearing between the last mentioned shaft and the shaft of the ground wheel, angle brackets projecting forwardly from the lower portions of said hangers, and a vertically disposed guard plate adjustably mounted on said angle brackets, and arranged adjacent to the ground wheels, and in front of the ground wheel shaft, and its bearings whereby said plate will prevent earth from being thrown against said parts and said sprocket chain gearing.

971,857. IRONING-BOARD. GEORGE E. LILLY and GEORGE H. HARTMANN, New York, N. Y. Filed Sept. 1, 1909. Serial No. 515,683.

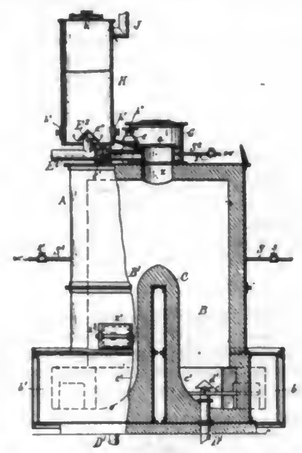


A piece of kitchen furniture comprising a chair having two upright parts, rearwardly-extending plates secured to said parts and having a plurality of rearwardly and upwardly opening notches in the rear-edge thereof, a board consisting of two portions hinged together at their adjacent ends, the opposite end of one being provided with oppositely-projecting round pins adapted to engage in said notches, whereby said board is vertically adjustably and pivotally attached to said upright parts, a leg hinged to the outermost of said portions, and means for holding said portions in the same plane with each other.

971,858. APPARATUS FOR MANUFACTURING GAS. BURDETT LOOMIS, Hartford, Conn., assignor to Loomis Utilization Company, a Corporation of New Jersey. Filed Feb. 2, 1906. Serial No. 299,127.

1. An upright gas-generator having a lower horizontal extension or neck provided with a pipe extending through the top down to near the bottom and having a steam-inlet pipe and a gas-outlet pipe connecting with it, substantially as described.

2. An upright gas-generator having a lower horizontal extension or neck, a water jacket pipe extending down to near the bottom, a valved steam supply pipe and a valved gas outlet pipe connecting with said downwardly extending pipe, substantially as described.



3. A gas generator constructed with a partition rising from the base thereof and forming two fuel chambers in the base, each of which is provided with a curved, outwardly sloping lower end and with a horizontal extension chamber, provided with an outer door and with a downwardly extending pipe with which are connected a valved steam inlet and a valved gas outlet, substantially as described.

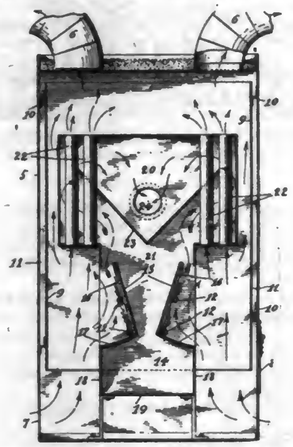
4. A gas generator constructed with two lower fuel chambers, connecting at the top and being curved downward and outward at their lower ends and having horizontal extension chambers provided with doors at their outer ends, downwardly extending pipes for admitting steam and for taking off gas, connecting with said extension chambers, substantially as described.

5. The combination with two fuel chambers, connecting at the top and having outwardly curved lower ends and horizontal extension chambers provided with doors and gas take-off pipes, of an air heater with which said gas pipes connect, an air blower and pipe connecting with said heater, and a pipe for hot air connecting the heater with the top of the generator, substantially as described.

971,859. GAS-FURNACE. WILLIAM A. LYNCH, Los Angeles, Cal. Filed Apr. 8, 1909. Serial No. 488,786.

1. An improved gas heater comprising an outer casing of sheet metal having a pipe connected to the top to carry off the heated air, and having air inlets at the bottom in the sides thereof; a burner projecting into said casing and across the lower portion thereof; a back plate behind said burner inclined to project above and in front of the vertical plane of the burner; a fume chamber extending upwardly above said back plate having the top portion above the back plate projecting beyond the vertical plane of the back plate with an opening into the fume chamber above the back plate and an outlet passage at one end; and a plurality of air heating tubes extending vertically through the projecting portions of said fume chamber.

2. An improved gas heater comprising an outer casing of sheet metal having a pipe or pipes connected to the top thereof to carry off the heated air; a lining separated from the casing to form an air flue therebetween, said lining extending around the side and end walls of the casing, except at the top and the bottom; a plurality of gas burners projecting into said casing across the lower portion thereof; back plates behind said burners inclined to project above and in front of the vertical plane of the burners; a fume chamber extending upwardly having an outlet passage at one end near the center thereof, said fume chamber being situate above said back plates and overhanging them and having an opening in the bottom thereof above the back plates to receive the products of combustion; and a plurality of air heating tubes extending through the projecting portions of said fume chamber.



3. An improved gas heater comprising an outer quadrangular casing of sheet metal having pipes connected to the top thereof to carry off the heated air; a lining extending around the side and end walls of the casing except at the top and bottom and separated from the casing to form an air flue therebetween; a plurality of gas burners projecting into said casing across the lower portion thereof; back plates behind said burners inclined to project above and in front of the vertical plane of the burners; asbestos on said back plates at and above said burners; a fume chamber extending upwardly above said back plates having an outlet passage at one end near the top thereof and having an inlet at the bottom thereof, said inlet being wider than the distance between the top edges of said back plates; a plurality of vertical air heating tubes extending through the outer portions of said fume chamber; and a deflector in said fume chamber.

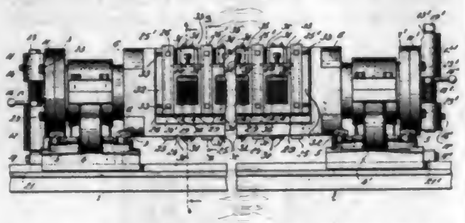
4. An outer casing having air inlets at the bottom thereof, and air outlets at the top thereof; gas burners within the outer casing above the plane of the air inlets; deflecting plates back of the burners, said plates projecting at the top thereof beyond the vertical plane of the burners and terminating above the burners; a fume chamber above and projecting beyond the back plates and having an opening in the bottom thereof a little larger than the opening between the top edges of the back plates and having an outlet port above said bottom opening; vertical flues extending through the portion of the fume chamber which projects beyond the back plates; and a deflector in said fume chamber separating the bottom opening from the outlet port, said deflector extending upwardly and outwardly and terminating at the outer vertical tubes a distance from the top of the chamber.

971,860. GRINDING-MACHINE. WILLIAM E. NICKERSON, Cambridge, Mass. Filed Nov. 11, 1907. Serial No. 401,623.

1. A grinding machine comprising a grinding device, a work carrier, means for securing different pieces of work to different faces of the carrier and detaching the same therefrom independently of one another, and means for holding the carrier in fixed position to present either of its work-carrying faces to the grinding device.

2. A grinding machine comprising a grinding device, a carrier, and a work holder adapted to expose opposite faces of the work on opposite faces of the holder at the same time, said work holder being reversibly mounted on the carrier.

3. A grinding machine comprising a grinding device, a carrier, a work holder reversible on the carrier, and means for detachably securing the work holder to the carrier.

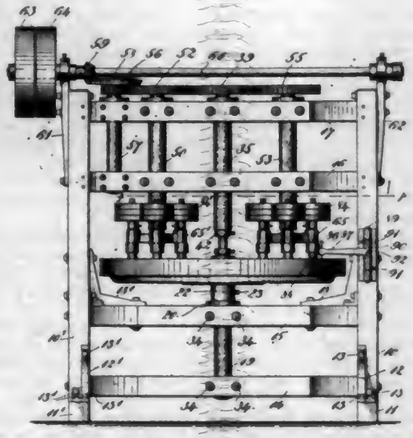


4. A grinding machine comprising a grinding device, a rotatable carrier provided on opposite faces with removable work holders, and means for locking the carrier in position to present either of its work-carrying faces to the grinding device.

5. A grinding machine comprising a grinding device, a movable carrier having means for detachably securing the work thereto, a locking device to hold the carrier in position to present the work to the grinding device, and means independent of said locking device for adjusting the carrier with relation thereto.

[Claims 6 to 28 not printed in the Gazette.]

971,861. GRINDING-MACHINE. WILLIAM E. NICKERSON, Cambridge, Mass. Filed Nov. 26, 1907. Serial No. 403,852.



1. A grinding machine comprising a grinding surface, a work holder mounted to move freely under the resistance developed by the grinding action between the work and the grinding surface and adapted to hold the work in contact with said grinding surface, and means for positively imparting bodily movements to the work holder over the grinding surface.

2. A grinding machine comprising an upwardly facing grinding surface, a vertically movable work holder mounted to rotate freely on a vertical axis and provided with means for securing the work thereto at a distance from said axis, and means for positively imparting bodily movements to the work holder over the grinding surface.

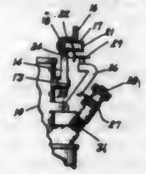
3. A grinding machine comprising a grinding disk and means for rotating the same, a frame mounted to rotate on an axis parallel with and to one side of the axis of the grinding disk, means for rotating said frame, and a work holder journaled in said frame and mounted to turn freely on an axis parallel with and to one side of the axis of the frame, said work holder being provided with means for securing the work thereto at a distance from its own axis and in position to bear against the grinding surface of the disk.

4. A grinding machine comprising a substantially horizontal pan mounted to rotate on a vertical axis, a grinding disk contained in said pan and mounted to rotate therewith, means for leveling the grinding surface of the disk with respect to the pan, and a work holder located above the disk and adapted to hold the work against the grinding surface thereof.

5. A grinding machine comprising a substantially horizontal grinding disk and means for rotating the same on a vertical axis, the upper surface of said disk being provided with grooves located beneath the surface of the work to be ground and adapted to receive abrasive material, means for supplying the abrasive material to the top of said disk, and a work holder located above the disk and adapted to hold the work against the grinding surface thereof.

[Claims 6 to 25 not printed in the Gazette.]

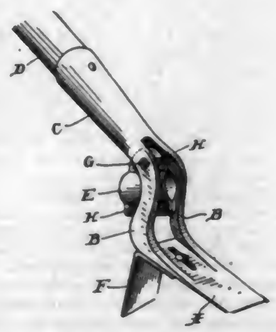
971,862. CARBURETER. GEORGE M. SCHEBLER, Indianapolis, Ind., assignor to Wheeler & Schebler, Indianapolis, Ind., a Copartnership. Original application filed Apr. 5, 1909, Serial No. 487,911. Divided and this application filed May 20, 1910. Serial No. 562,446.



1. In a carbureter, the combination with a needle valve operating-member, of a laterally flexible strip 24 engaging said operating-member, and means for adjusting said strip laterally, comprising a rotary pin 17, having a cam groove 22 receiving the edge of said strip, means for indicating the angular position of said rotary pin, and a movable carrier for said strip movable substantially longitudinally of the strip.

2. In a carbureter, the combination with a needle valve operating-member, of a laterally flexible strip 24 engaging said operating-member, and means for adjusting said strip laterally, comprising a rotary pin 17 having a cam groove 22 receiving the edge of said strip, and a movable carrier for said strip movable substantially longitudinally of the strip.

971,863. POTATO-FORK. HENRY SCHLARF, Maple Rapids, Mich. Filed June 24, 1910. Serial No. 568,624.

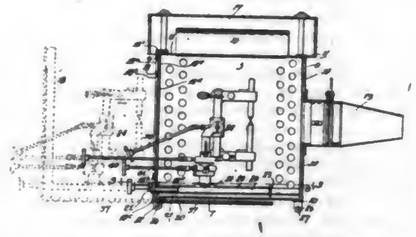


1. A fulcrum support for potato fork and the like, consisting of a spade-like implement having its blade and handle connected by a pair of curved shanks uniting in a socket in which the handle is secured, and a clamping collar pivotally suspended between the shanks near the junction with the socket free to swing through the space between the shanks.

2. A fulcrum support for potato fork and the like consisting of a spade like implement having its blade and handle connected by two bent shanks offsetting the handle from the blade and forming a space between them, a clamping collar pivotally secured in the space between the shanks and a gage plate adjustably secured to the back of the blade.

3. A fulcrum support for potato fork and the like, consisting of a spade-like implement having its blade and handle connected by a pair of curved shanks uniting in a socket offsetting the handle from the blade, a clamping collar pivotally suspended between the shanks near the junction with the socket free to swing through the space between the shanks and a gage plate secured to the back of the blade.

971,864. MOVING-PICTURE PROJECTING-LANTERN. WILLIAM N. SELIG, Chicago, Ill., assignor to Selig Polyscope Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 20, 1909. Serial No. 491,025.



1. In a projecting lantern, the combination of a box open at one end, a closing wall for the open end, guide tubes fixedly secured to and lying within the box, rods carried by the closing wall and telescoping into the guide tubes, and furnishing a slidable mounting between the box and the closing wall, and lighting devices connected to and movable with the closing wall, substantially as described.

2. In a projecting lantern, the combination of a box open at one end, a closing wall for the open end, guide tubes fixedly secured to and lying within the box, outer and inner rods carried by the closing wall, the inner rods telescoping into the guide rods, and furnishing a slidable mounting between the box and closing wall, lighting devices, the inner rods furnishing a mounting for the lighting devices, whereby said lighting devices are movable with the closing wall, substantially as described.

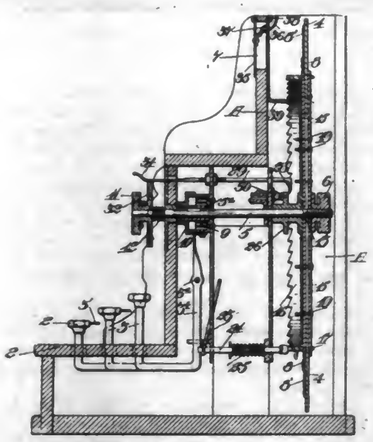
3. In a projecting lantern, the combination of a box open at one end, a closing wall for the open end, guide tubes fixedly secured to and lying within the box, rods carried by the closing wall and telescoping into the guide tubes, and furnishing a slidable mounting between the box and the closing wall, lighting devices connected to and movable with the closing wall, and a tray carried by the closing wall and underlying the lighting devices when the same are withdrawn from the interior of the box, substantially as described.

4. In a projecting lantern, the combination of a box open at one end, a closing wall for the open end, guide tubes fixedly secured to and lying within the box, outer and inner rods carried by the closing wall, the outer rods telescoping into the guide rods, a cross-head plate attached to the free ends of the inner rods and slidably mounted on the guide tubes, the crosshead plate and outer rods coöperating to form a slidable mounting between the closing wall and box, lighting devices, the inner rods furnishing a mounting for the lighting devices, whereby said lighting devices are movable with the closing wall, substantially as described.

5. In a projecting lantern, the combination of a box, lighting devices within said box, a base frame, longitudinally extending rods fixedly secured with respect to said base frame, transversely extending rods, bracket arms, downwardly projecting lugs on the bracket arms embracing longitudinally extending rods, and forming a sliding connection between said arms and rod, upwardly projecting lugs on the bracket arms in which the transverse rods are secured, lugs depending from the box, embracing the transverse rods and forming a sliding connection between the box and transverse rods, whereby transverse and longitudinal adjustment of the box with respect to the base frame is obtained, substantially as described.

[Claim 6 not printed in the Gazette.]

971,865. EDUCATIONAL NOVELTY. MATTHIAS STOCKLMIER, Cupertino, Cal., assignor of one-sixth to Alfred P. Lahmer and one-sixth to G. John Lens, San Jose, Cal. Filed Dec. 2, 1909. Serial No. 530,970.



1. The combination of a rotary member having a series of display portions, means for placing said member under tension to cause it normally to turn in one direction, and means including a series of key-levers and a corresponding series of escapement devices, to control the rotative movement of said member step by step.

2. The combination of a casing having a window, a rotary member within the casing having a series of display portions adapted to be brought in succession in front of said window, means for placing the member under tension to cause it normally to turn in one direction, and means including a series of key-levers and a corresponding series of escapement elements, to control the rotative movement of said member step by step.

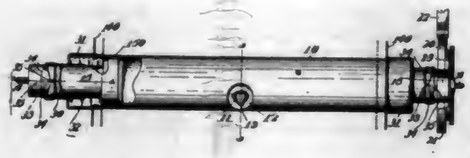
3. The combination of a casing having a window, a rotary disk housed in the casing and having a series of display members adapted to be brought in succession in front of the window, a series of stops on the disk, and means to control the rotative movement of the disk, said last-named means including a series of keys and a series of escapement-rods engageable with corresponding stops on the disk.

4. The combination of a casing having a window, a rotary disk housed in the casing and having a series of display members adapted to be brought in succession in front of the window, a series of stops on the disk, and means to control the rotative movement of the disk, said last-named means including a series of keys and a series of escapement-rods engageable with corresponding stops on the disk, with means independent of the rods and operable by the keys for otherwise limiting the movement of the disk.

5. The combination with a cabinet, of a rotary disk housed therein, means for causing the disk to tend to turn normally in one direction, a series of keys, stops carried by the disk, and a series of escapement elements under the control of corresponding keys whereby the disk may rotate a definite predetermined distance only on the operation of a particular and predetermined group of keys.

[Claims 6 to 20 not printed in the Gazette.]

971,866. METALLIC TAKE-UP SPOOL. PETER WELIN, Worcester, Mass., assignor, by mesne assignments, to Krell Auto-Grand Piano Co. of America, Connersville, Ind., a Corporation of Indiana. Filed Sept. 12, 1907. Serial No. 392,537.



1. A take-up spool comprising a metal drum for receiving a music sheet, having a sunken surface near the center thereof, and a tongue integral with said drum extending from said sunken surface, said tongue being located entirely within the cylindrical surface of the drum.

2. A take-up spool comprising a drawn metal drum for receiving a music sheet, having a sunken surface near the center thereof, a perforation through said surface, and a tongue projecting over said perforation, said tongue being located entirely within the cylindrical surface of the drum and having its outside surface coincident therewith.

3. A take-up spool comprising a drawn metal drum for receiving the music sheet, having an integral hook thereon near the center, metallic flanges on the ends of the drum, and reduced cylindrical portions at the ends of said drum secured to the drum.

4. A take-up spool comprising a metal drum having flanges thereon, reduced cylindrical portions at the end of the drum formed of drawn metal and secured to the drum, centering studs held by said reduced portions, an outer flange at the end of one reduced portion, and a gear wheel fastened to said flange.

5. A take-up spool comprising a drum, flanges thereon, cylindrical reduced portions at the ends of said drum, a disk at the end of one of said reduced portions having an inwardly extending face constituting a brake wheel, and a gear wheel secured to said disk.

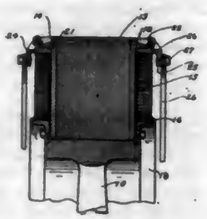
[Claims 6 to 13 not printed in the Gazette.]

971,867. BED-SPRING-SUPPORTING FRAME. WILLIAM F. WEPPNER, Pittsburg, Pa., assignor to Fort Pitt Bedding Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 3, 1910. Serial No. 536,213.



In combination a bed-spring supporting frame formed of bars provided with openings therein, hangers hinged within said bars by an eye portion fitting in said openings and adapted to swing around a portion of said bars included within said eye portion for engaging with a bed to support said frame, and means on said hangers for engagement with said bars to hold said hangers in position.

971,868. DYNAMO-ELECTRIC MACHINE. ROBERT B. WILLIAMSON, Milwaukee, Wis., assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Oct. 29, 1909. Serial No. 525,243.



1. In a dynamo-electric machine, a field pole consisting of laminæ and flanged end plates between which the laminæ are clamped, a coil mounted on the pole, a damping device for the pole comprising a collar having a portion surrounding the pole and located between the coil and the flanges of the end plates, a pair of flanges extending radially outward from the collar along the flanges of the end plates, and a plurality of bars extending through the pole and secured to said flanges of the collar.

2. In a dynamo-electric machine, a field magnet comprising a pole formed of laminæ and end plates between which the laminæ are clamped, said laminæ and plates having coil-retaining portions extending outwardly from the four sides of the pole, a coil mounted on the pole, a damping device for the magnet comprising a collar having a portion surrounding the pole and located between the coil and the coil-retaining portions of the pole, a pair of flanges extending radially outward from said portion of the collar and located beyond the coil-retaining portions of the end plates, and damping bars extending through the pole and secured to said outwardly extending flanges.

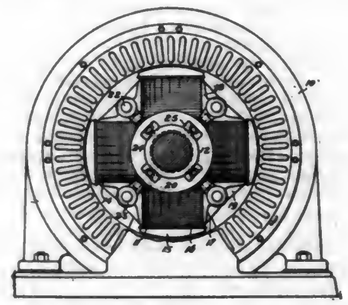
3. In a dynamo-electric machine, a plurality of field magnets, each comprising a pole having coil-retaining portions at its outer end, and a coil surrounding the pole, a collar at the outer end of each field magnet and comprising a portion located between the coil and the coil-retaining portions of the pole, each collar having flanges extending radially inward along opposite sides of the field magnet, and short-circuiting rings secured to said flanges.

4. In a dynamo-electric machine, a frame or spider, a plurality of field magnets secured thereto, each field magnet comprising a pole having coil-retaining portions at its outer end, and a coil mounted on the pole, collars surrounding the outer ends of the poles and each having flanges extending radially outward and flanges extending radially inward along opposite sides of the corresponding magnet, damping bars extending through the poles and secured to the outwardly extending flanges, and a pair of short-circuiting rings secured to the inwardly extending flanges.

5. A rotary field member for a dynamo-electric machine comprising a frame or spider, field magnets secured to said spider and each having a pole formed of punchings and end plates, the latter having laterally projecting coil-retaining portions, a coil mounted on each pole, a collar surrounding the outer end of each pole and having flanges extending radially outward along the coil-retaining portions of the end plates and flanges extending radially inward along opposite sides of the coil, damping bars extending through each pole and secured to the outwardly extending flanges of the corresponding collar, and a pair of short-circuiting rings secured to the inwardly extending flanges of the collars.

971,869. DYNAMO-ELECTRIC MACHINE. ROBERT B. WILLIAMSON, Milwaukee, Wis., assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Apr. 8, 1910. Serial No. 554,162.

1. In a dynamo-electric machine, an element having projecting poles and coils thereon, bracing members applied to the sides of the coils and located between adjacent poles, and means comprising a ring located at the side of the poles for holding the bracing members in position.



2. In a dynamo-electric machine, an element having projecting field magnets including poles and field coils thereon, bracing members for the sides of the coils, retaining members for the coil bracing members located at the sides of the field magnets, and means connecting the bracing members to the retaining members.

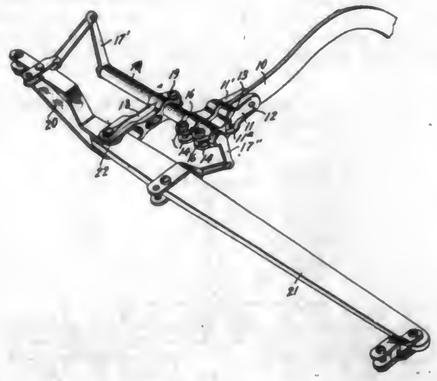
3. In a dynamo-electric machine, an element having projecting field magnets including poles and field coils thereon, bracing members for the sides of the coils, and rigid rings located on opposite sides of the field magnets and connected to the bracing members.

4. In a dynamo-electric machine, a rotary element comprising a shaft and a core having projecting field magnets including poles and coils, bracing members bearing against the sides of the coils and located between adjacent field magnets, and means for holding the bracing members in position comprising annular members mounted on the shaft and connected to the bracing members.

5. In a dynamo-electric machine, a rotary element comprising a shaft and a core having projecting field magnets including poles and coils, bracing members bearing against the sides of the coils and located between adjacent field magnets, annular members mounted on the shaft at the ends of the core, and means connecting the bracing members to the said annular members.

[Claims 6 and 7 not printed in the Gazette.]

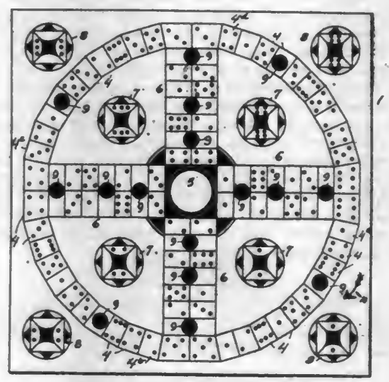
971,870. DRAFT APPLIANCE. WILLIAM W. WINGER, Wolcott, Ind. Filed Jan. 29, 1910. Serial No. 540,843.



1. In a draft appliance, the combination with a beam, of a pair of clamp members embracing the end of the beam, means to connect said members to the beam whereby the front ends of the members may be adjusted up or down with respect to the beam end, each of said members comprising a pair of jaws with a horizontal space therebetween, a draft bar adjustably clamped at one end in the horizontal spaces of said clamp members, a double armed crank journaled in said draft bar, and a set of draft levers connected to the crank arms and to the draft bar, substantially as set forth.

2. In a draft appliance, the combination with a beam, of a pair of clamp members pivoted at their rear ends to opposite sides of the beam, means to adjustably secure said members from pivotal movement, each of said members having a pair of jaws at its forward end with a horizontal cylindrical space between the jaws, a cylindrical tubular draft bar adjustably clamped in said jaw spaces, a double armed crank journaled in said draft bar, a fulcrum bar adjustably clamped to the tubular draft bar at one side of the clamp members aforesaid and extending forwardly from the draft bar, and a pair of draft levers pivoted at their adjacent ends to the front end of the fulcrum bar and also connected to the several crank arms, substantially as set forth.

971,871. GAME-BOARD. WILLARD SCOVILLE WOODRUFF, Brooklyn, N. Y. Filed Jan. 6, 1910. Serial No. 536,726.



1. A game board having a circumferential pathway composed of a series of spaces designated by numbers corresponding to the numbered faces of a die and a limited number of spaces designated as safety spaces, and radially arranged double pathways leading to the center each composed of numbered spaces and safety spaces.

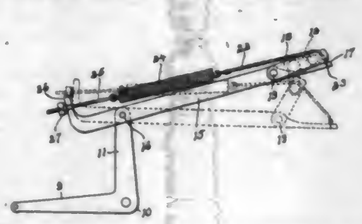
2. A game board having a circumferential pathway composed of a series of spaces designated by numbers corresponding to the numbered faces of a die and a limited number of spaces designated as safety spaces, and radially arranged double pathways leading to the center each composed of numbered spaces and safety spaces, and separate home spaces arranged between the double pathways.

971,872. AUTOMATIC CUT-OUT. NORMAN A. WRIGHT, Pontiac, Mich., assignor to Champion Manufacturing Company, Pontiac, Mich., a Corporation of Michigan. Filed July 12, 1909, Serial No. 507,055. Renewed Aug. 12, 1910. Serial No. 576,909.

1. The combination with a crank and a connecting rod for transmitting motion from said crank, of a link pivotally attached to the side of the connecting rod at one end and to the crank at its opposite end, a flexible member attached at one end to the rod and engaging the link, and a coiled spring attached to the opposite end of said member.

2. The combination of a crank, a connecting rod for transmitting motion from said crank having a reduced end, a link pivotally attached to the crank, a roll on the.

link, a flexible member attached at one end to the reduced end of the rod and passing over the roll, and a coiled spring attached to the end of said member.

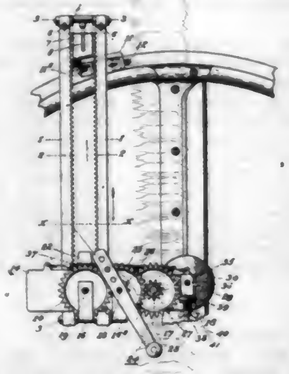


3. The combination of a crank, a connecting rod, links pivotally attached to the sides of the rod at one end and to the crank at the opposite end, a roll between the links in engagement with the rod, a flexible member attached to the rod and engaging the roll, and a coiled spring attached at one end to said member and at its opposite end to the rod.

4. The combination of a crank, a connecting rod, links pivoted at one end to the rod at a distance from its end, a roll between the opposite ends of said links, a chain attached at one end to the end of the rod and extending over the roll, a crank pin extending through the links, and the roll, a coiled spring attached to the end of the chain at one end and to the rod at the other end.

5. The combination of a crank, a connecting rod having an upwardly extending end, links pivoted at one end to the rod near its opposite end and at their other end to the crank, a roll between said links, a chain engaging the roll and attached to the end of the rod, a coiled spring attached at one end to the chain, a screw-threaded rod attached to the other end of said spring and passing through an opening in the upturned end of the connecting rod, and a nut on said screw-threaded rod in engagement with said upturned end.

971,873. GRINDER FOR ENSILAGE-CUTTER AND OTHER KNIVES. ERNEST JOHN YOUNG, Fleming, N. Y. Filed Dec. 2, 1909. Serial No. 531,075.



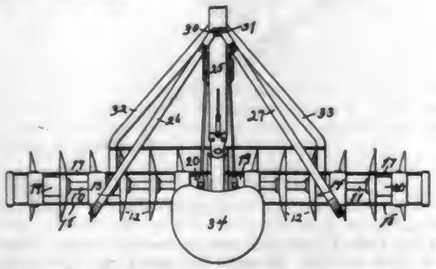
1. In a grinder for ensilage cutter and other knives, equidistant guides conforming to the contour of the cutting edge of the knife, closed at their ends, having adjustable clamping pieces on one end and a supporting piece adapted to move thereon from one end to the other end and supporting an abrasive wheel mounted on a shaft carried on a pivoted box and means for rotating the same substantially as described.

2. In a grinder for ensilage cutter and other knives, equidistant guides conforming to the contour of the cutting edge of the knife, closed at their ends, having adjustable clamping pieces on one end and a supporting piece having a retaining piece on one side and a shelf at one end, an abrasive wheel mounted on a shaft carried on a pivoted box on said shelf, means between said pivoted box and said shelf for vertically adjusting the side plane of said abrasive wheel and assuring such adjustment, and means for rotating said abrasive wheel, substantially constructed in the manner and for the purpose herein described.

3. In a grinder for ensilage cutter and other knives equidistant guides conforming to the contour of the cutting edge of the knife, closed at their ends, having adjustable clamping pieces at one end, ways on one side thereof and rack teeth on their inner edges combined with a supporting piece provided with a retaining piece and moving on said guides from one end to the other end thereof, and having a shelf at one end, an abrasive wheel mounted rearwardly of said supporting piece on a shaft carried by a pivoted box on said shelf, a rotatable wedge between the bottom of said pivoted box and said shelf adapted to vertically adjust the side plane of said abrasive wheel and means for assuring said adjustment, means between the side of said pivoted box next to the abrasive wheel and a suitable point on said supporting piece for assuring the yieldable action of said abrasive wheel, and a train of wheels for rotating said abrasive wheel and a pinion carried on a shaft midway and between said guides, and a way-piece in the ways of the guides having a curved slot and a switch pivoted thereon above said curved slot adapted to throw said shaft of said pinion from one end of said slot to the other end and engaging said pinion with said teeth of said guides substantially constructed and arranged in the manner and for the purpose herein described and set forth.

4. In a grinder for ensilage cutter and other knives equidistant guides conformable to the contour of the cutting edge of the knife, closed at their ends, one end provided with adjustable clamping pieces, ways on their rearward side and rack-teeth on their inner edges combined with a supporting piece having a retaining piece adapted for its passing on the front side of said guides from end to end, and having a shelf at one end; an abrasive wheel rearwardly mounted from said supporting piece on a shaft carried in a box having a pivot post on its bottom side passing through said shelf and adapted to turn therein, and a rotatable wedge on said pivot post between the bottom of said box and the surface of said shelf, a tension-spring and a thumb-nut on said pivot-post below said shelf, a spiral spring between the abrasive wheel side of said box and a convenient point on said supporting piece; a suitable train of wheels adapted to rotate said abrasive wheel, and a pinion carried on a shaft passing midway between the toothed sides of said guides and through a curved slot in a way piece in said ways of said guides provided with a switch pivoted thereon above said slot and adapted to control said shaft with its pinion substantially in the manner and for the purpose herein described and set forth.

971,874. GUARD FOR DISK HARROWS. GEORGE R. ALLISON, Indianola, Iowa. Filed Jan. 26, 1910. Serial No. 540,692.

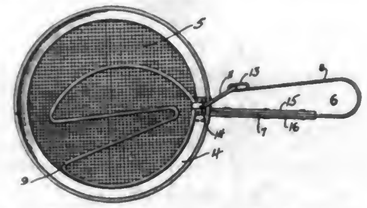


1. A guard for disk harrows, comprising bearings mounted on the axles of said harrow, posts fixed to and rising from said bearings, and guard bars fixed to said posts at one end and extending forward in converging planes and fixed at their other ends to the tongue of said harrow in front of the driver's seat.

2. A guard for disk harrows, comprising bearings loosely mounted on the axles of said harrow, posts fixed to and rising from said bearings on either side of the driver's seat of said harrow, guard bars fixed to said posts at different vertical points and extending forward and fixed at their other ends to the tongue of said harrow.

3. The combination of a disk harrow and a guard comprising posts fixed to and rising from bearings on the axles of said harrow, and guard bars fixed at one end to said posts, extending forward therefrom on opposite sides of the seat of said harrow, and fixed at their other ends to the tongue of said harrow in front of said seat.

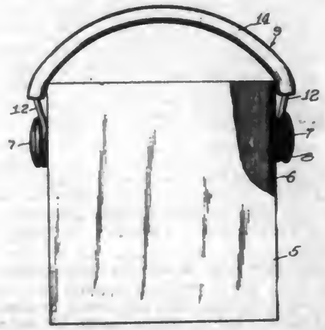
971,875. FLOUR-SIFTER. CHARLES ANDREWS, Jr., Rockford, Ill., assignor to Andrews Wire & Iron Works, Rockford, Ill., a Corporation of Illinois. Filed Mar. 15, 1910. Serial No. 549,498.



1. In a sifter, a body portion, a sifting member, and a compressible gripping member in the form of a handle and forming an actuating member for the sifting member, the compressible gripping member being in the form of a U-shaped spring, one end of said U-shaped spring being rigidly attached to the body portion and the free end of the spring being operatively connected to the sifting member whereby compression and relaxation of the compressible gripping member serves to actuate the sifting member, substantially as described.

2. In a sifter, a body portion, a sifting member including a sifting foot, and a compressible gripping member in the form of a handle and directly actuating the sifting member, the compressible gripping member comprising a U-shaped spring, one end of said U-shaped spring being rigidly attached to the body portion and the free end of the spring being slidably connected to the sifting foot whereby compression and relaxation of the compressible gripping member serve to actuate the sifting member, substantially as described.

971,876. BATTERY-CARRIER. VINCENT G. APPLE, Dayton, Ohio. Filed Dec. 21, 1908. Serial No. 468,518.



1. The combination of a casing providing integral buttons, each having a head and a narrower neck, and a storage battery handle comprising a closed band of flexible insulating material, and a sleeve enveloping the central portion of said closed band to form an integral central hand grasp and leave the end thereof projecting in the form of closed loops for engagement around the neck and engagement by the head thereof.

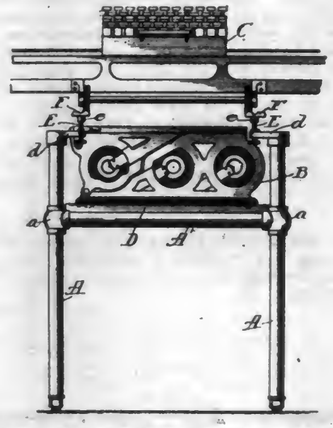
2. A storage battery handle comprising an insulating closed band of flexible material, and a rubber tube enveloping the central portion of said closed bands and vulcanized thereto to form an integral hand grasp, and leaving its ends extending in the form of closed loops.

3. A storage battery handle consisting of a non-elastic cord in the form of a closed band, a tubular insulating envelop for said band, and an insulating sleeve surrounding the mid-portion of the said insulated band to leave its ends projecting in the form of closed loops, the said sleeve and the envelop for the core being vulcanized together.

4. The combination of a storage battery casing provided with diametrically opposite buttons each consisting of a head and a relatively narrower neck, and a handle comprising an insulated loop and an insulating tube slipped thereover to leave opposite end loops extending from said tube for engagement over the buttons of the casing.

5. The combination of a storage battery casing provided on its sides somewhat below the upper edge thereof with diametrically opposite buttons, each consisting of a head and a relatively narrower neck, and a handle comprising a closed loop and an insulating tube slipped thereover to leave opposite end loops extending from said tube for engagement over the buttons of the casing, said tube being of a length such that it extends from a point between the button and the upper edge of the casing sides upward, around, and downward to a similar point on the opposite side of the casing.

971,877. AUTOGRAPHIC-REGISTER STAND FOR TYPE-WRITING MACHINES. ENGLAND J. BARKER, Morgan Park, Ill. Filed July 11, 1908. Serial No. 443,083.



1. An autographic register stand for typewriting machines comprising suitable legs, a support for a register sustained by said legs, tracks located above the plane of the register, and means for adjusting the ends of each track independently of the other.

2. An autographic register stand for typewriting machines comprising suitable legs, a platform supported thereby below the tops of said legs, tracks located above the plane of the top of said legs, and means for adjusting the ends of each track independently of the other.

3. An autographic register stand for typewriting machines comprising suitable legs, a platform supported thereby below the tops of said legs, tracks located above the plane of the tops of said legs, and means secured to the upper ends of said legs for supporting and adjusting each end of said tracks vertically.

4. An autographic register stand for typewriting ma-

chines comprising suitable legs, a platform supported thereby below the tops of said legs, tracks located above the plane of the tops of said legs, and means secured to the upper ends of said legs for supporting and adjusting the ends of each track independently of the other.

5. An autographic register stand for typewriting machines comprising suitable legs, a platform supported thereby below the tops of said legs, arms secured to and projecting therefrom, parallel tracks above said arms, and adjusting screws extending vertically up through said arms and supporting each end of said tracks.

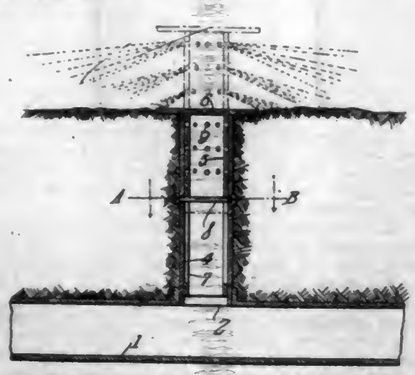
[Claims 6 to 16 not printed in the Gazette.]

971,878. ADJUSTABLE SUPPORTING DEVICE. ARNOLD V. BROWN, Chicago, Ill., assignor to Kabo Corset Company, Chicago, Ill., a Corporation of West Virginia. Filed Sept. 21, 1909. Serial No. 518,818.



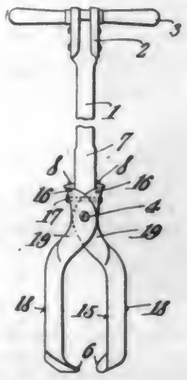
In an adjustable supporting device, the combination of a base member, a clamping member pivoted thereto, the base member having transversely extending slots therein and webbing woven through said slots whereby the base member is surrounded by fabric on either side thereof and whereby a double thickness of fabric is produced along the outer face of the base member extending from the lower transverse slot to the upper edge of the base member and a single thickness in front of the base member below the slots, the clamping member when thrown to clamping position having upper, lower and intermediate points of contact with the fabric and adapted to clamp with its upper and intermediate points against the double thickness of fabric, the lower point adapted to clamp against the single thickness of fabric below the lower transverse slot and forcing said single thickness against the base member whereby a crimp is produced in the fabric lying adjacent the clamping member, substantially as described.

971,879. IRRIGATING APPARATUS. HENRY M. CHEEK, Little Rock, Ark., assignor of one-half to John A. Fretwell, Little Rock, Ark. Filed Sept. 17, 1909. Serial No. 518,250.



Apparatus of the class described including a distributing pipe, a branch pipe of uniform internal diameter extending perpendicularly from the distributing pipe and constituting a guide and guard, a cylindrical nozzle fitted snugly, and slidably mounted within the branch pipe and having a plurality of discharge orifices disposed radially in the nozzle, there being diametrically opposed longitudinal slots within the nozzle and adjacent the lower end thereof, a diametrically disposed guide bolt extending through the slots and secured within the branch pipe, said bolt constituting means for limiting the movement of the nozzle within the branch pipe, and a cap upon the upper end of the nozzle normally bearing upon the upper end of the branch pipe and extending laterally beyond said pipe.

971,880. POST-HOLE AUGER. GEORGE MERRIHUE FENN, Charlotte, Mich. Filed Nov. 23, 1909. Serial No. 529,612.



1. A device of the class described comprising a shank; coöperating blades pivoted intermediate their ends to the shank; and adjusting blocks arranged to be inserted between the upper ends of the blades and the shank, the blocks being provided at their upper ends with outstanding lugs arranged to engage the upper ends of the blades, so to position the blocks that the side walls of the blades are disposed in parallel relation.

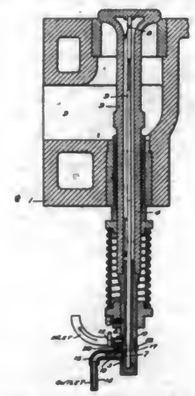
2. A post hole auger comprising a shank, a pair of blades each having a vertically extending cutting edge, said blades having interfitting channel portions embracing opposite sides of the shank and secured thereto, one side of the channel portion of each blade forming a continuation of the cutting edge of said blade and being on the inside of the side of the channel portion of the other blade which forms a continuation of the non-cutting edge of said other blade and substantially overlaps and braces the continuation of said cutting edge.

3. A post hole auger comprising a shank, a pair of blades having channel shaped interfitting portions embracing opposite sides of said shank and secured thereto, one side of the channel portion of each blade lying directly against the shank, and the other side of the channel portion of each blade lying on the outside of the channel portion of the other blade and substantially overlapping and bracing the same, the side of each channel portion which lies directly against the shank having its edge extended downward and sharpened to form a cutting edge.

971,881. GAS-ENGINE-EXHAUST-VALVE WATER CONNECTION. WILLIAM P. FLINT, Pittsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Jan. 14, 1910. Serial No. 538,023.

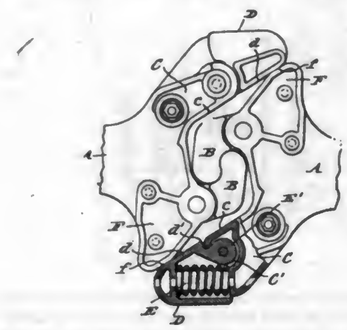
1. In combination with an exhaust valve having a flat seating face with liquid openings therein, of a tubular connection communicating with the liquid openings and having a flat seating face corresponding to the flat face on the valve, and means for securing these faces together.

2. The combination with a movable part to be water cooled, said part having a perforated flat seating face, a perforated plate having a pipe connecting nipple with which a perforation in the plate communicates, and a U-bolt for securing said plate to said movable part.



3. The combination with a hollow member having inlet and outlet ports, a flat seated plate having ports coinciding with inlet and outlet ports in the hollow member and provided with nipples surrounding said second mentioned ports, a gasket between said plate and said hollow member and means for securing said plate to said hollow member.

971,882. RAILWAY-CAR COUPLING. RICHARD D. GALLAGHER, Jr., New York, N. Y., assignor to Standard Coupler Company, New York, N. Y., a Corporation of New Jersey. Filed June 20, 1908. Serial No. 439,587.



1. In a railway car coupler, a head, a knuckle pivoted in the head and having an end forming a hook for engagement with a similar hook in a coöperating head, said head having a forwardly and outwardly projecting guard arm rigid and integral therewith forming a seat for the coöperating knuckle to prevent bodily relative transverse movement of coöperating knuckles and consequent disengagement of the couplers, and a yielding nose piece pivotally mounted on and having an operative face forming a continuation of the operative face of the guard arm for guiding the coöperating coupler into coupling position and coöperating with the body of the coupler for yieldingly resisting pivotal movement of the couplers with relation to each other.

2. In a railway car coupler, the combination of a head having a rigid forwardly and outwardly projecting guard arm on one side for holding the knuckles in engagement and a rearwardly and outwardly inclined rigid projection on the opposite side, a yielding nose piece pivotally mounted on and having an operative face forming a continuation of the operative face of the guard arm, and a knuckle pivotally mounted in the head intermediate the guard arm and projection.

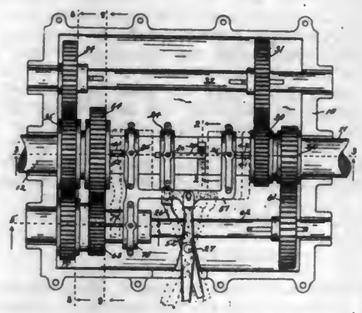
3. In a railway car coupler, the combination with a head having a knuckle pivotally mounted therein, of a rigid projection on the head at one side of said knuckle having a rearwardly and outwardly inclined face, a rigid guard arm on the opposite side of said knuckle and having a forwardly and outwardly inclined face, extending beyond the plane of the knuckle for holding the knuckles in engagement, a nose piece pivoted on the guard arm and having its inner face formed as a continuation of the inner face of the guard arm, the nose pieces and projections of coöperating couplings being adapted to resist pivotal movement of the coupling heads upon each other.

4. In a railway car coupler, the combination with a coupler head having a knuckle pivotally mounted therein, of a rigid projection on the head at one side of said knuckle having a rearwardly and outwardly inclined face, a rigid guard arm on the opposite side of said knuckle and having a forwardly and outwardly inclined face for holding the knuckles in engagement and a yielding nose piece pivotally mounted on and forming a continuation of the guard arm extending beyond the plane of the knuckle, the nose pieces and projections of coöperating couplers being adapted to resist pivotal movement of the coupler heads upon each other.

5. The combination of couplers having coupler heads and pivoted knuckles shaped to interlock together, rigid forwardly and outwardly projecting guard arms having operative faces for preventing the disengagement of the knuckles, yielding nose pieces having inner faces forming extensions of the operative faces of guard arms and inclined faced projections on the heads in rear of the knuckles with which projections the nose pieces cooperate to resist pivotal movement of the heads with relation to each other.

[Claim 6 not printed in the Gazette.]

971,883. CHANGE-SPEED MECHANISM. KENNETH W. GANT, Indianapolis, Ind., assignor of ten one-hundredths to Harry B. Warren and fifty one-hundredths to Charles Becker, Indianapolis, Ind. Filed Jan. 14, 1909. Serial No. 472,223.



1. Change speed mechanism including driving and driven shafts in alinement with each other, each of said shafts being provided with longitudinal slots, a plurality of gears revolubly mounted on each shaft over said slots and provided with internal ratchets or shoulders, gearing driven by some of said gears for effecting different speeds, clutch keys in said slots for engaging said gears on said shafts, and means simultaneously operated on both shafts for permitting the keys to engage one set of said gears and preventing the engagement of the other keys.

2. Change speed mechanism including driving and driven shafts in alinement with each other, each of said shafts being provided with longitudinal slots, a plurality of gears revolubly mounted on each shaft over said slots and provided with internal ratchets or shoulders, means driven by some of said gears for effecting different speeds.

clutch keys in said slots for engaging said gears on said shafts, springs tending to force said keys outwardly, and means simultaneously operated on both shafts for permitting the keys to engage one set of said gears and preventing the engagement of the other keys.

3. Change speed mechanism including driving and driven shafts in alinement with each other, each of said shafts being provided with longitudinal slots, a plurality of gears revolubly mounted on each shaft over said slots and provided with internal ratchets or shoulders, means driven by some of said gears for effecting different speeds, clutch keys in said slots for engaging said gears on said shafts, said clutch keys in each shaft being located side by side and the outer surfaces being provided with elevated and recessed portions, springs tending to force said keys outwardly, rings on both of said shafts surrounding the keys and in fixed relation to each other, and means for simultaneously sliding said rings in either direction over said keys, whereby all the keys may be depressed when the rings are in one position and either set of keys be released when the rings are in other positions, the arrangement of the keys, however, being such that when one set of keys is released by said rings, the companion keys will be depressed.

4. Change speed mechanism including a longitudinally slotted shaft, a pair of gear wheels revolubly mounted on the shafts over said slot and provided with internal ratchets or shoulders, a pair of clutch keys in said slot and pivoted to the shaft at one end, springs embedded in the shaft for forcing the free ends of the keys into engagement with the respective gears, there being one key for each gear, a ring laterally slidable on said shaft for depressing said keys excepting when over a recess in the keys, both of said keys having elevated surfaces near the fulcrums thereof, whereby the ring will pass over both of the keys and render the gears idle, and the keys being oppositely recessed and elevated so that when the ring is in one position it will depress one key and release the other into engagement with its gear, and in another position the rings will depress the last mentioned key and release the other key for engagement with its gear.

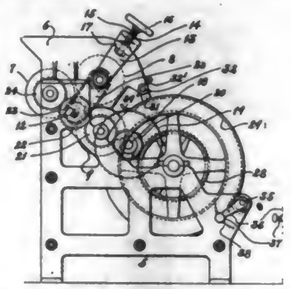
5. Change speed mechanism including driving and driven shafts in alinement with each other, a countershaft parallel with and bridging the ends of said shafts, gears secured on said countershaft, gears revolubly mounted on said driving and driven shafts to mesh with the gears on the countershaft, the dimensions of said gears being such as to produce the desired speed, clutch keys in said shafts for locking the gears thereon with the shafts, springs for actuating said keys, a ring slidably mounted on each shaft in position to engage said keys, a frame with which said rings are connected, and a lever for laterally sliding said frame, whereby said rings may be simultaneously moved to release or permit the engagement of said clutch keys.

[Claims 6 to 8 not printed in the Gazette.]

971,884. MACHINE FOR FORMING PLASTIC MATERIAL. GEORGE E. GOWDY, New York, N. Y. Filed Feb. 15, 1909. Serial No. 477,995.

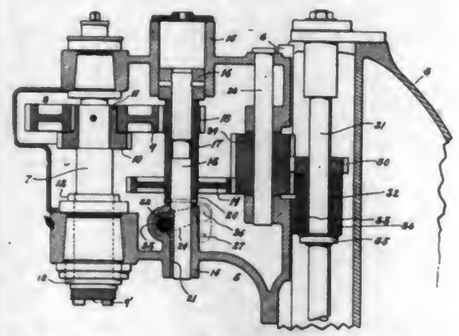
1. A machine of the class described comprising a rotary drum, a rotary roller in contact with said drum to form a pocket and being adapted to feed a sheet of plastic material directly onto said drum and said drum serving to initially curl the sheet while in said pocket and a compression device disposed over and separated from the drum the space between said drum and compression device serving as a passageway for the curled body and the compression device being so located as to act on the curled body as soon as coiled.

2. A machine of the class described comprising a rotary drum, a roller in contact with and for feeding a sheet of plastic material directly onto said drum the latter serving to initially curl said sheet into a curled body, and a relatively fixed compression-plate disposed over and separated from the drum to provide a passageway for the curled body the drum and compression-plate conjointly applying a pressure to the curled body as the same is advanced by said drum.



3. A machine of the class described comprising a rotary drum, a roller in contact with and for feeding a sheet of plastic material directly onto said drum the latter serving to initially curl said sheet into a curled body, and a compression plate mounted over and separated from the drum the space between said compression plate and drum presenting a passageway for the said body and the inner or entering end of the said plate being rounded and coöperative with the said drum to effect the final curling operation.

971,885. MILLING-MACHINE. CARL L. GROHMANN, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Jan. 21, 1909. Serial No. 473,518.

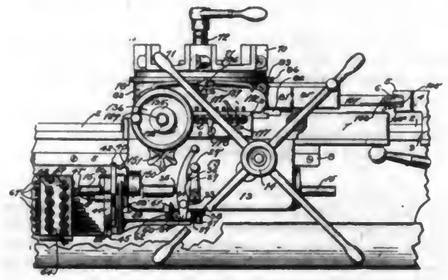


1. In a milling machine, a head, a cutter spindle rotatively supported by said head, a pair of rigidly connected gears rotative with said spindle, an endwise movable shaft provided with a collar, the head having a tubular bearing to slidably receive said collar, and two rigidly connected gears fastened to said shaft and of different diameters the endwise movement of the shaft being adapted to vary the meshed relations of the two sets of gears and to also carry one of the gears thereon into said tubular bearing.

2. In a milling machine, a head, a cutter spindle rotatively supported by said head, two rigidly connected gears of different diameters fastened to said spindle, an endwise movable shaft, a pair of rigidly connected gears fastened to said shaft for shifting movement therewith the movement of the shaft serving to vary the meshed relation between the two sets of gears, and a collar at one end of the shaft, the head having a tubular bearing to receive said collar and also having a bearing for the other end of said shaft the latter on the endwise movement thereof in one direction being adapted to move one of the gears thereon into said tubular bearing.

3. A milling machine comprising a head, a cutter spindle rotatively supported by said head, a pair of rigidly connected gears of different diameters connected with said spindle for rotation therewith, an endwise movable shaft, a pair of rigidly connected gears also of different diameters said shaft on its movement serving to vary the meshed relation between the two sets of gears, a collar fastened to said shaft, and adjacent to the smaller gear thereon said collar being located near one end of the shaft, a tubular bearing for slidingly receiving said collar and for also receiving the smaller gear on said shaft when the latter is moved in one direction, and a bearing on the head for supporting the other end of said shaft.

971,886. TURRET-LATHE. BENGT M. W. HANSON, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Feb. 5, 1906. Serial No. 299,557.



1. The combination of a carriage, mechanism for feeding said carriage, a series of stops, a stop element movable with the carriage said series of stops being positioned to engage said stop element at different points in the advancing movement of said carriage, a turret supported by said carriage, mechanism operated from said turret for operating said stop element step by step to bring it into position to engage different stops of said series at different points in the travel of the carriage said series of stops being mounted on the framework and said stop element being manually adjustable whereby it may be shifted into position to engage any one of said series of stops independently of said automatic operation, and mechanism for throwing the carriage feeding mechanism out of action when any stop of said series is engaged by said stop element when the carriage is under automatic control.

2. The combination of a traveling carriage, a pair of stop elements one movable with the carriage and the other supported independently thereof one stop element comprising a series of stops coöperative with the other stop element to effect the stoppage of the carriage at different points in its advancing movement, means for automatically operating one of said stop elements to effect an automatic stoppage of the carriage by the engagement of said stop elements, one of the latter comprising two members one of which is manually adjustable with respect to the companion member to position the same for engagement by any one of said series of stops, and means for rigidly fastening said manually-adustable member to said companion member.

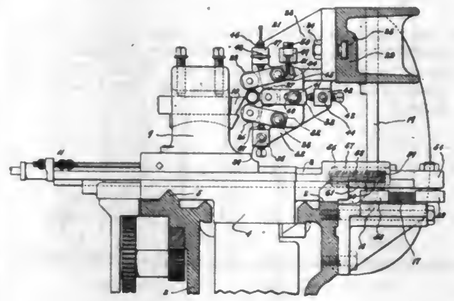
3. The combination of a traveling carriage, a turret supported by said carriage, a series of stops supported independently of the carriage, a disk, means operable by the turret for oscillating said disk, and a stop member to engage any one of said stops angularly adjustably connected with said disk.

4. The combination of a traveling carriage, a turret supported by said carriage, a series of stops supported independently of the carriage, a disk movable with the carriage, mechanism operable from the turret for oscillating said disk, a stop member angularly adjustably connected with said disk and adapted to engage any one of said stops, a device for movably connecting said stop member and disk and adapted to normally hold said stop member in a central position, the disk having a plurality of notches which are in number twice those of said series of stops, and a detent supported by said stop member and adapted to engage any one of said notches.

5. The combination of a traveling carriage, a turret supported by said carriage, a series of stops supported independently of the carriage, a disk movable with the carriage, mechanism operable from the turret for oscillating said disk, a stop member angularly adjustably connected with the disk, a coupling device supported by said stop member the disk having an opening to receive said coupling device, and a detent also carried by the stop member, the disk being notched to receive said detent to hold the stop member in its various adjusted positions.

[Claims 6 to 29 not printed in the Gazette.]

971,887. METAL-WORKING MACHINE. BENGT M. W. HANSON, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Feb. 18, 1909. Serial No. 478,698.



1. The combination of means for rotatively supporting the work, a tool-supporting carriage mounted for movement in a direction corresponding to the axis of motion of the work, a normally stationary steady-rest supported independently of the carriage, and automatic means for causing the tool to move away from the work when the tool reaches a point in proximity to said steady-rest.

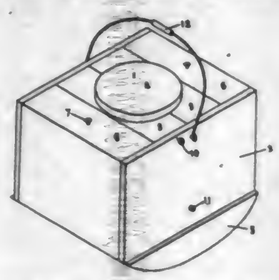
2. The combination of a traveling tool-supporting carriage, work-supporting means, a steady-rest supported independently of the carriage, and automatic means for causing the tool to move away from and then approach the work at successive and predetermined points in the travel of the carriage.

3. The combination of a bed, a carriage to travel longitudinally of and on said bed, a cross slide supported by the carriage and provided with means for supporting a tool, work supporting means, a steady rest supported independently of the carriage, and automatic mechanism for successively retracting and advancing said cross slide on the carriage during the motion of the latter.

4. The combination of a traveling tool supporting device, means for supporting the work, a steady rest supported independently of said tool supporting device, and a forming device and spring means active jointly to move said tool supporting device away from and then toward the work at successive and predetermined points in the travel of said tool supporting device.

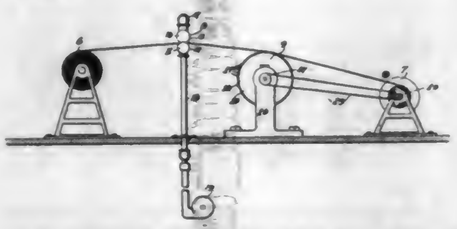
5. The combination of work supporting means, a tool carrying device movable in the direction of the axis of the work, a steady rest provided with means for engaging the work at three separated points, two being on the tool side of the work and the other being on the opposite side of said work, and automatic mechanism for causing the tool to recede from the work before it reaches the said steady rest and for causing said tool to approach the work after it has passed said steady rest.

971,888. ICE-CREAM FREEZER. THOMAS J. HARTON, Dallas, Tex. Filed Aug. 24, 1909. Serial No. 514,357.



In a device of the character described, the combination with a receptacle, increasing in size from top to bottom, of a casing in which said receptacle is centrally mounted, an aperture being provided in the top of said casing through which the receptacle extends, removable closures in the top of said casing, and rockers upholding the casing.

971,889. APPARATUS FOR PREPARING MOVING-PICTURE FILMS. GUSTAV E. HOGLUND, Chicago, Ill., assignor to Selig Polyscope Company, Chicago, Ill., a Corporation of Illinois. Filed July 16, 1909. Serial No. 507,941.



1. In apparatus of the class described, the combination of a rotatably mounted sprocket drum provided near its periphery with rows of teeth adapted to feed forward a section of photographic film contacting the upper edge of the drum, and further provided with a row of stencil holes in close proximity to one of the rows of teeth, a fixedly mounted light cylinder entered into the sprocket drum and provided with an exposure opening located at the point where the film contacts the top of the drum and with which the stencil holes are adapted to successively register, and an electric light within the light cylinder, substantially as described.

2. In apparatus of the class described, the combination of a sprocket drum provided, on its periphery, with a plurality of stencil holes, an illuminating device within the drum, a screen surrounding the light and provided, at a suitable point, with an exposure hole with which the stencil openings are adapted to register, a dust removing device located in proximity to the sprocket drum and comprising upper and lower slotted sucker heads, between which the film is adapted to travel, means for creating a suction through the slots, and pipe connections between the sucker heads and the suction producing means, substantially as described.

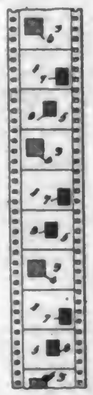
3. In apparatus of the class described, the combination of a drum adapted to feed forward a photographic film and provided, on its periphery, with a plurality of stencil holes, an illuminating device within the drum, a screen surrounding the light and provided, at a suitable point, with an exposure hole with which the stencil openings are adapted to register, a dust removing device located in proximity to the sprocket drum and comprising upper and lower slotted sucker heads, between which the film is adapted to travel, means for creating a suction through the slots, and pipe connections between the sucker heads and the suction producing means, substantially as described.

4. In apparatus of the class described, the combination of a sprocket drum provided with a plurality of stencil holes, an illuminating device within the drum, a screen surrounding the light and provided, at a suitable point, with an exposure hole with which the stencil openings are adapted to register, a dust removing device located in proximity to the sprocket drum and comprising upper and lower slotted sucker heads, between which the film is adapted to travel, means for creating a suction through the slots, and pipe connections between the sucker heads and the suction producing means, substantially as described.

5. In apparatus of the class described, the combination of a drum adapted to feed forward a photographic film and provided with a plurality of stencil holes, an illuminating device within the drum, a screen surrounding the light and provided, at a suitable point, with an exposure hole with which the stencil openings are adapted to register, a dust removing device located in proximity to the sprocket drum and comprising upper and lower slotted sucker heads, between which the film is adapted to travel, means for creating a suction through the slots, and pipe connections between the sucker heads and the suction producing means, substantially as described.

[Claim 6 not printed in the Gazette.]

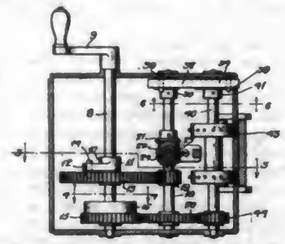
971,890. PROCESS FOR PRODUCING COLORED FILMS FOR ANIMATED PICTURES. GUSTAV E. HOGLUND, Chicago, Ill., assignor to Selig Polyscope Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 10, 1909. Serial No. 512,240.



1. The process of coloring animated picture films, which consists of dividing a film into series containing a selected number of pictures, cutting out a selected image from each picture, each corresponding picture of the series of pictures having a like image cut out therefrom, superimposing the stencil thus formed over a duplicate film of that from which the stencil was made, said latter film having a tinted background, and applying selected coloring matter to each exposed part of the film lying below the stencil, thereby producing a film having a general color for a background, each picture having an image thereon of a color distinct from the background, the colors blending when the pictures are projected to produce a completely colored picture, substantially as described.

2. The process of coloring animated picture films, which consists in dividing a film into series containing a selected number of pictures, cutting out a like image from each corresponding picture of the series of pictures, superimposing the stencil thus formed over a duplicate film of that from which the stencil was made, and applying selected coloring matter to each exposed part of the film lying beneath the stencil, thus producing a series of pictures, each containing a selected number of pictures, each corresponding picture of the series of pictures having the corresponding image therein of the same color, the colored images of the different pictures blending when the pictures are projected to produce a completely colored picture, substantially as described.

971,891. MOVING-PICTURE MACHINE. GUSTAVE E. HOGLUND, Chicago, Ill., assignor to Selig Polyscope Co., Chicago, Ill., a Corporation of Illinois. Filed Nov. 4, 1909. Serial No. 526,318.



1. In a device of the class described, the combination of a shaft carrying a set of feed rolls, a main driving shaft, a shaft intermediate the two first named shafts, means connected to the main driving shaft for rotating the intermediate shaft, means on the intermediate shaft for permitting and arresting the rotation of the shaft carrying the feed rolls, means operating independently of the above mechanism, for initially placing a spring tension upon the shaft carrying the feed rolls, and means for regenerating said spring tension during the periods of rest of the shaft carrying the feed rolls, substantially as described.

2. In a device of the class described, the combination of a shaft carrying a set of feed rolls, a main driving shaft, a shaft intermediate the two first named shafts, means connected to the main driving shaft for rotating the intermediate shaft, means for permitting the main driving shaft to rotate independently of the intermediate shaft for a predetermined length of time, to place an initial spring tension on the shaft carrying the feed rolls, means on the intermediate shaft for automatically permitting and arresting the rotation of the shaft carrying the feed rolls, and means for automatically regenerating the above mentioned spring tension during the periods of rest of the feed rolls, substantially as described.

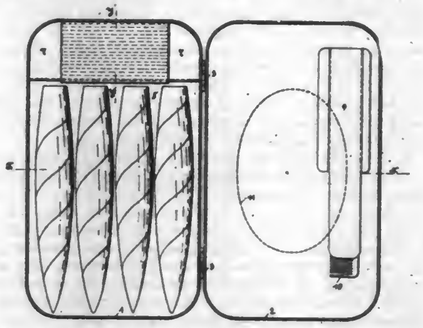
3. In a device of the class described, the combination of a shaft carrying a set of feed rolls, a main driving shaft, a shaft intermediate the two first named shafts, a gear wheel loosely mounted on the main driving shaft, means attached to the main driving shaft for rotating said gear wheel, means for permitting the rotation of said shaft independently of said gear wheel, to place an initial spring tension upon said shaft carrying the feed rolls, a gear wheel fixedly secured upon the intermediate shaft and meshing with the gear wheel on the main driving shaft, means actuated by the intermediate shaft for permitting and arresting the rotation of the shaft carrying the feed rolls, and means for regenerating the above mentioned spring tension during the periods of rest of the feed rolls, substantially as described.

4. In a device of the class described, the combination of a shaft carrying a set of feed rolls, a main driving shaft, a shaft intermediate the two first named shafts, a gear wheel loosely mounted on the main driving shaft, a member fixed on the main driving shaft, consisting of a hub and a finger extending out from said hub, a pin on the gear wheel adapted to be contacted by the finger, the main driving shaft rotating independently of the gear wheel until the pin and finger contact, such rotation serving to place an initial spring tension on the shaft carrying the feed rolls, a gear wheel fixedly attached to the intermediate shaft, means actuated by the intermediate shaft for permitting and arresting the rotation of the shaft carrying the feed rolls, and means for regenerating the above mentioned spring tension during the periods of rest of the feed rolls, substantially as described.

5. In a device of the class described, the combination of a shaft carrying a set of feed rolls, a main driving shaft, a shaft intermediate the two first named shafts, a gear wheel loosely mounted on the main driving shaft, means attached to the main driving shaft for rotating said gear wheel, a gear on the intermediate shaft meshing with the gear wheel on the main driving shaft, a cam carried by the intermediate shaft, a slidable plate actuated by the cam, a ratchet wheel on the shaft carrying the feed rolls and coöperating with the sliding plate to permit and arrest the rotation of said shaft, and means for applying a spring tension to said shaft, substantially as described.

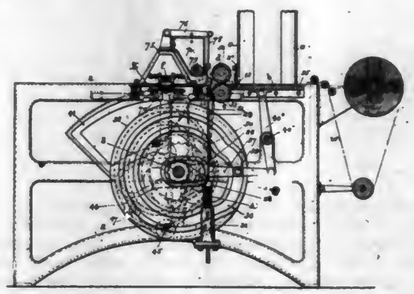
[Claims 6 to 9 not printed in the Gazette.]

971,892. COMBINATION POCKET-CASE. ZENO HUDSON, Chicago, Ill. Filed Oct. 28, 1909. Serial No. 525,060.



A combination pocket case comprising a pair of concave case members hingedly connected, a partition in one of said members near one end dividing it into two compartments, one adapted to receive cigars and the other matches, blocks fixed in the ends of said match compartment, and a flexible flap of greater width than the space between said blocks and adapted to fold over said match compartment, with the edges resting on said blocks, substantially as described.

971,893. MACHINE FOR WRAPPING NEWSPAPERS. IRA R. HUTCHINSON, Fresno, Cal., assignor to Hutchinson Mailer Manufacturing Company, Fresno, Cal., a Corporation of Arizona. Filed Nov. 20, 1907. Serial No. 402,961.



1. In a machine for wrapping papers the combination of a rotatable wrapping-mandrel, a presser-plate beneath the mandrel extending at one side beyond the end of the man-

drel, and movable in a direction parallel with the mandrel and longitudinally thereof, so as to expose the end of the wrapped paper beyond the presser-plate; means for intermittently moving said presser-plate, and an extracting-device operating to receive the exposed end of the wrapped paper and draw it off the mandrel.

2. In a machine for wrapping papers, a wrapping-mandrel of less dimensions in the length of its paper-holding portion than the paper to be wrapped, in combination with a movable presser-plate having a recess to receive the mandrel and paper; means for moving the presser-plate longitudinally from beneath the end of the wrapped paper that extends over the mandrel at one end; and an extracting-device operating to receive the exposed end of the paper and draw it off the mandrel.

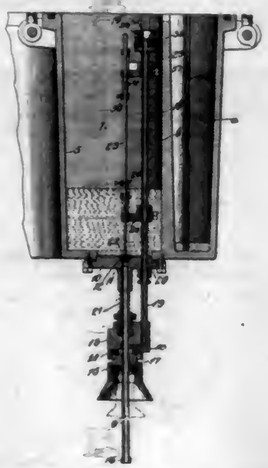
3. In a machine for wrapping papers, the combination of a mandrel upon which the paper is wrapped, a presser plate for holding the paper against the mandrel, a reciprocating device for grasping and moving the paper from the mandrel, and means for reciprocating the said device along rectilinear lines and directing its movements to cause it to move in a path which is parallel with the axis of the mandrel.

4. In a machine for wrapping papers, the combination of a rotatable wrapping mandrel, a presser plate, having a recess to receive the mandrel and the coils of paper as the same is wound thereon, and movable longitudinally of the mandrel, an extracting device, a reciprocating carrier in which the extracting device and the presser plate are mounted, yielding supports on the carrier for the presser plate, and means for reciprocating the carrier relative to the mandrel, substantially as set forth.

5. In a machine for wrapping papers, the combination of the rotatable wrapping-mandrel, the yielding presser-plate, having a recess to receive the mandrel and the coils of paper as the same is wound thereon, supports, on which the presser-plate is mounted movable longitudinally of the mandrel, the extracting-rolls, the reciprocating-carrier in which the rolls are mounted for rotation, means for reciprocating the carrier and for moving the presser-plate backward from beneath the end of the wrapped paper in the advance movement of the rolls.

[Claims 6 to 11 not printed in the Gazette.]

971,894. FILLING-MACHINE. LUDWIG JAEGER, Chicago, Ill., assignor to Bottlers Machinery Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 2, 1907. Serial No. 395,472.



1. In a bottle filling machine, the combination of a liquid tank, a liquid valve, an air connection between the tank and the bottle being filled to permit an equalization of pressure in the bottle and tank before the liquid flows into the bottle, and means for controlling the escape of air from the bottle during the filling operation to enable the liquid to flow into the bottle at a constant velocity regardless of the loss of hydrostatic head during the filling operation.

2. In a bottle filling machine, the combination of a liquid tank, a liquid valve, an air connection between the tank and the bottle being filled to permit an equalization of pressure in the bottle and tank before the liquid flows into the bottle, and means for automatically regulating the escape of air from the bottle during the filling operation to enable the liquid to flow into the bottle at a constant velocity regardless of the loss of hydrostatic head during the filling operation.

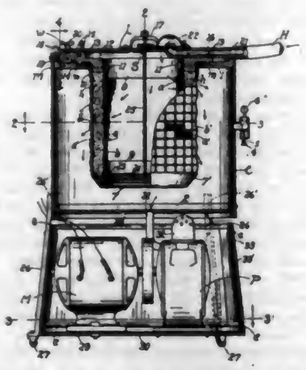
3. In a bottle filling machine, the combination of a liquid tank, a liquid valve, an air connection between the tank and the bottle being filled to permit an equalization of pressure in the bottle and tank before the liquid flows into the bottle, and means for maintaining a higher pressure in the bottle than in the tank after the flow of liquid commences and at the same time automatically regulating the pressure in the bottle to compensate for the loss of hydrostatic head of the liquid as the bottle is filled.

4. In a bottle filling machine, the combination of a liquid tank, a liquid valve, an air connection between the tank and the bottle being filled to permit an equalization of pressure in the bottle and tank before the liquid flows into the bottle, and means for retarding the escape of the air in the bottle after the flow of liquid commences and at the same time automatically regulating this retardation to compensate for the loss of hydrostatic head of the liquid as the bottle is filled.

5. In a bottle filling machine, the combination of a liquid tank, a liquid valve, an air connection between the tank and the bottle being filled to permit an equalization of pressure in the bottle and tank before the liquid flows into the bottle, and a water check for automatically regulating the escape of air from the bottle during the filling operation to enable the liquid to flow into the bottle at a constant velocity regardless of the loss of hydrostatic head during the filling operation.

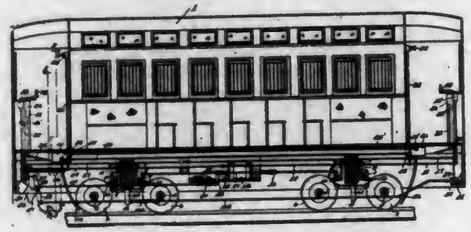
[Claims 6 to 35 not printed in the Gazette.]

971,895. DUST-COLLECTOR. URBAN JOEDICKE, St. Louis, Mo. Filed Jan. 27, 1910. Serial No. 540,402.



In combination with a cylindrical vacuum chamber or casing, an upper angle-iron ring disposed along the inner wall of the same, a cylindrical filter chamber spaced therefrom and provided with an upper flanged member, an annular rib and groove connection between the ring and flange, the latter having an outer annular groove, a lid provided with an annular rib engaging said groove, and swinging latch-bolts pivoted to the ring and engaging the lid and drawing the latter into positive engagement with the flanged member of the filter chamber, substantially as set forth.

971,896. COMPRESSED-AIR SYSTEM FOR RAILWAY-CARS. OSCAR JOHNSON, Chicago, Ill. Filed Apr. 25, 1910. Serial No. 557,466.



1. In a compressed air system for railway cars, the combination with the car operator's or motorman's brake valve and controller shaft, of a main air reservoir; a compressed air supply for said reservoir; an auxiliary air reservoir; a pipe connecting said reservoir; a pressure regulator interposed in said pipe; an air brake cylinder operatively connected with the car brake; a pipe connecting said auxiliary reservoir and said cylinder, said before named brake valve being interposed in said last mentioned pipe; a by-pass pipe in said last mentioned pipe, on opposite sides of said air valve; means controlling the passage through said by-pass pipe; and an operative connection between the car brakes and said controller shaft, whereby operation of said brakes causes the retrograde rotation of said shaft, substantially as described.

2. In a compressed air system for railway cars, the combination with the car operator's or motorman's brake valve and controller shaft; and the sand boxes of the car; of a main air reservoir; a compressed air supply for said reservoir; an auxiliary air reservoir; a pipe connecting said reservoirs; a pressure regulator interposed in said pipe; an air brake cylinder operatively connected with the car brakes; a pipe connecting said auxiliary reservoir and said cylinder, said before named brake valve being interposed in said last named pipe; a by-pass pipe in said last mentioned pipe, on opposite sides of said air valve; hand-operable means controlling the passage through said by-pass pipe, said means being located adjacent the car conductor's station in the car; a pipe connection between the said by-pass pipe and said sand boxes; and an operative connection between the car brakes and said controller shaft, whereby operation of said brakes causes the retrograde rotation of said shaft, substantially as described.

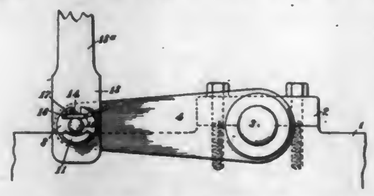
3. In a compressed air system for railway cars, the combination with an operator's or motorman's brake valve and controller shaft, and the sand boxes of the car; of an air reservoir; a compressed air supply therefor; an air brake cylinder operatively connected with the car brakes; a pipe connecting said reservoir and said cylinder, said brake valve being interposed in said last mentioned pipe; a by-pass pipe in said last mentioned pipe, on opposite sides of said air valve; hand-operable means controlling the passage through said by-pass pipe, said means being located adjacent the car conductor's station in the car; a pipe connection between the said by-pass pipe and said sand boxes; and an operative connection between the car brakes and said controller shaft, whereby operation of said brakes causes the retrograde rotation of said shaft, substantially as described.

4. In a compressed air system for railway cars, the combination with the car operator's or motorman's brake valve and controller shaft, and the sand boxes of the car, of an air reservoir; a compressed air supply for said reservoir; an air brake cylinder; a piston operating in said cylinder; an operative connection between said piston and the car brakes; a pipe connection between said reservoir and said cylinder, said before mentioned brake valve being interposed in said last mentioned pipe; a by-pass pipe in said last mentioned pipe, on opposite sides of said air valve; a stop cock controlling the passage through said by-pass pipe, said stop cock being located adjacent the car conductor's station in the car; a pipe connection between the said by-pass pipe and said sand boxes whereby opening of said stop cock effects the discharge of sand from said boxes; and an operative connection between the brake cylinder piston and said controller shaft, whereby operation of said brakes causes the retrograde rotation of said shaft, substantially as described.

5. In a compressed air system for railway cars comprising the car operator's or motorman's brake valve; an air reservoir; a compressed air supply for said reservoir; an air brake cylinder and piston; an operative connection between said piston and the car brakes; a pipe extending between said reservoir and said cylinder, said before mentioned brake valve being interposed in said last named pipe, said reservoir being provided with a drain opening, of a valve governing said opening; and compressed air-operable means for opening said valve, said means being in operative connection with said reservoir, substantially as described.

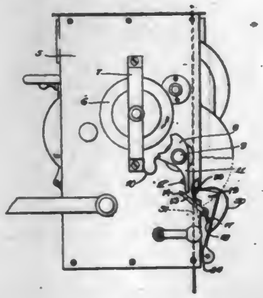
[Claims 6 and 7 not printed in the Gazette.]

971,897. CRANK-PIN CONNECTION FOR WELL-DRILLING MACHINERY. JOHN FREDERIC KEITH, Naples, N. Y. Filed May 19, 1909. Serial No. 496,882.



A crank having a pin provided with oppositely arranged transverse grooves, and a disk having a radial slot, the inner end of the slot being rounded to fit the periphery of the pin, and the side walls of the slot seating in the grooves, said disk having on one face an integral laterally extending boss for the purpose specified, and a spring latch pivoted to the face of the disk on one side of the slot, the opposite side having an integral tooth for engagement by the latch, the engaging face of the tooth being undercut.

971,898. MOVING-PICTURE MACHINE. JEREMIAH KELLER, Chicago, Ill., assignor to The Selig Polyscope Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 27, 1909. Serial No. 530,130.



1. In brake mechanism for moving picture machines, a brake wheel positively connected with the film driving mechanism, and a tripping brake adapted to engage the brake wheel when tripped, in combination with automatic means for tripping the brake when the tension on the film is reduced, substantially as described.

2. In brake mechanism for moving picture machines, a brake wheel positively connected with the film driving mechanism, a brake shoe adapted to engage the brake

wheel, and a spring connected with the brake shoe, in combination with automatic means for applying the brake shoe when the tension on the film is reduced, substantially as described.

3. In brake mechanism for moving picture machines, a brake wheel positively connected with the film driving mechanism, a locking brake shoe adapted to engage the brake wheel, a toggle spring connected with the brake shoe, and a stop for retaining the brake shoe in normal position, in combination with automatic means for setting the brake when the tension on the film is reduced, substantially as described.

4. In brake mechanism for moving picture machines, a brake wheel positively connected with the film driving mechanism, a brake shoe adapted to engage the brake wheel, a spring connected with the brake shoe, and a stop for retaining the brake shoe in normal position, in combination with a lever mechanism for tripping the brake shoe, and a film contactor adapted to engage the lever mechanism when the tension on the film is reduced, substantially as described.

5. In brake mechanism for moving picture machines, a brake shoe for arresting the motion of the film driving mechanism, in combination with a lever mechanism adapted to trip the brake shoe and adapted to be operated by a film contactor said film contactor normally retained in non-operative position by the tension on the film, substantially as described.

[Claim 6 not printed in the Gazette.]

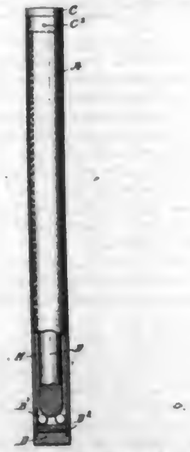
971,899. EXTENSIBLE ELECTRIC-LIGHT CHANDELIER. CYRUS C. KENNEDY, South Rock Island, Ill. Filed Apr. 2, 1910. Serial No. 552,961.



1. A chandelier of the class described, comprising a tubular ceiling section, a tubular lamp-carrying section telescoping in the ceiling section, said ceiling section having a longitudinal slot, a spring pressed latch pivoted on the lower end of the ceiling section and having a pin extending into the slot, said lamp-carrying section having spaced openings into any one of which the said pin is adapted to engage, a pin on the lamp-carrying section engaging in the said slot for coöperating with the latch pin to prevent relative turning of the sections, a cord conductor extending through both sections, and means in the upper end of the lamp-carrying section to which the cord is rigidly secured, the portion of the conductor above the said means being adapted to coil and uncoil in the ceiling section during the movement of the lamp-carrying section.

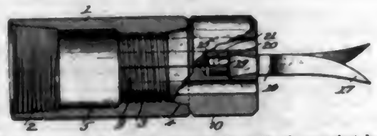
2. A chandelier of the class described, comprising a tubular ceiling section, a tubular lamp-carrying section telescoping in the ceiling section, said ceiling section having a longitudinal slot, a spring pressed latch pivoted on the lower end of the ceiling section and having a pin extending into the slot, said lamp-carrying section having spaced openings into any one of which the said pin is adapted to engage, a pin on the lamp-carrying section engaging in the said slot for coöperating with the latch pin to prevent relative turning of the sections, a device secured in the lamp-carrying section by the last mentioned pin, and a cord conductor fastened to the said device and extending through the sections for connecting the lamps of the chandelier in circuit, the said cord conductor being adapted to coil and uncoil in the portion of the ceiling section above the upper end of the lamp-carrying section.

971,900. JAIL-BAR. WILLIAM F. KLETT, Mobile, Ala. Filed May 21, 1910. Serial No. 562,712.



A bar for jails and the like comprising a casing, a rod mounted to turn therein and explosive means between the rod and casing and adapted to produce an alarm when the rod is turned relatively to the casing.

971,901. DRILL-CHUCK. ARTHUR KNAPP, Houma, La. Filed Dec. 6, 1909. Serial No. 531,554.

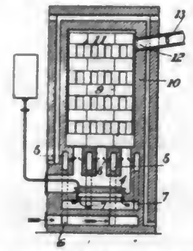


1. In a device of the character described, a point having a transverse shank with undercut side walls, and a lug at the center of the shank, a split nut comprising a head and a reduced threaded portion and having a shoulder between the head and the reduced portion, the abutting faces of the sections having each a notch with an undercut side wall, the notches coöperating to form a transverse groove for receiving the shank, said faces having each a recess at the center of the notch, the recesses coöperating to form an opening for receiving the lug, and a collar having an internally threaded portion for receiving the reduced portion of the nut, and a square end against which the shoulder abuts, said split nut having longitudinal openings therethrough, for the purpose specified.

2. A device of the character specified, comprising a collar, a split nut having a reduced portion threaded into the collar, a head outside of the collar and a shoulder between the head and the reduced portion and engaging the end of the collar, each section of the said nut having on its inner face a transverse notch with an undercut side wall and a longitudinal groove at the center of the notch, the notches and the grooves registering with each other when the sections are in place, and a drill having a shank with undercut side walls to fit the notches and having a pin for engaging the grooves.

3. A device of the character specified, comprising a clamp composed of sections, each having a flat face abutting the other section, each of the flat faces having a transverse notch at its outer end, the side wall of the notch being undercut, and a recess at the center of the nut, a drill having a shank fitting the notches and a pin engaging the recesses, and means for clamping the sections together.

971,902. OIL-BURNING FURNACE. LUDWIG KOCZWARA, Prague-Kgl. Weinberge, Austria-Hungary. Filed Mar. 7, 1910. Serial No. 547,741.



1. In an oil burning furnace the combination with an oil burner, of a plurality of spaced apart air heating channels surrounding the said oil burner and adapted to be heated by the latter, the said air channels extending transversely across the oil burner, discharge openings connected with said air heating channels and adapted to discharge the hot air as primary combustion air under the said oil burner and discharge openings provided in said air heating channels and adapted to discharge the hot air as secondary combustion air above the said oil burner into the flames produced by the latter, substantially as and for the purpose set forth.

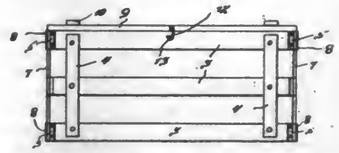
2. In an oil burning furnace the combination with a casing, an oil burner therein comprising a plurality of spaced apart troughs which contain porous material, means for supplying the troughs with oil, a plurality of air ducts formed in the casing and which extend across the burner, the said ducts communicating with the atmosphere and terminating at one end under the burner to introduce air to the spaces between the troughs, and a checker work above the air ducts to retain the heat generated by the combustion of the oil at the burner.

3. In an oil burning furnace, the combination with a casing, a burner therein, a hollow partition formed with an opening over which the burner is located, a series of spaced apart air ducts in the casing and communicating with the hollow partition under the burner and extending over the burner and communicating with the atmosphere below the plane of the hollow partition, a checker work in the casing above the ducts to retain the heat from the burner, and an exit flue near the top of the casing.

4. In an oil burning furnace, the combination with a casing, a burner therein, a hollow partition formed with an opening over which the burner is located, a series of spaced apart air ducts in the casing and communicating with the hollow partition under the burner and extending over the burner and communicating with the atmosphere below the plane of the hollow partition, there being openings in the side walls of the ducts which communicate with the spaces between the latter, and checker work in the casing above the spaced ducts.

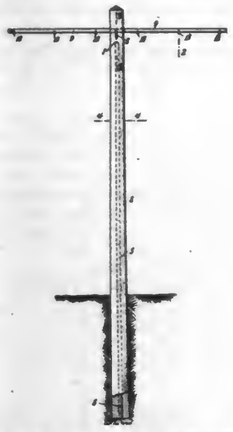
5. In an oil burning furnace, the combination with a casing, an oil burner therein, said burner comprising a plurality of spaced apart troughs, porous members in said troughs, means for introducing heated air under the burner to pass upwardly between the troughs, checker work of porous fire proof material located above the burner to absorb the heat, an exit flue communicating with the casing near the top of the checker work and a damper for closing the flue.

971,903. FOLDING BOX AND CRATE. ELIZABETH LACEY, Oakland township, Butler county, Pa. Filed June 7, 1910. Serial No. 565,508.



A collapsible crate comprising a removable bottom, front and rear walls, sectional end walls hinged to the vertical edges of said front and rear walls and adapted to fold inwardly against said front and rear walls, a lid hinged to the upper edge of the rear wall and adapted to fold rearwardly upon the outer side of said rear wall, longitudinal members carried by the lower confronting edges of the front and rear walls and adapted to support said bottom between said front, rear and end walls, cleats provided on the front and rear walls, and cleats provided on said lid and bottom and so disposed with respect to the cleats of the front and rear walls that the cleats of the lid and bottom will wedge between the cleats of the front and rear walls.

971,904. CONCRETE POST FOR CLOTHES-LINES. THOMAS H. LAURENT, Nutley, N. J. Filed Jan. 19, 1910. Serial No. 538,803.



A concrete post for clothes lines comprising a reinforcing hollow metal pipe extended longitudinally therein; a hook having a straight depended extension mounted within the hollow upper end of said pipe and extending beyond the side of the completed post; and a concrete body molded in post shape to surround said reinforcing pipe and the shank of said hook.

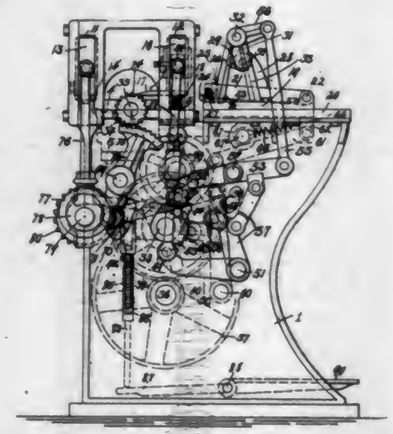
971,905. SHEET-TRIMMING AND EDGE-FOLDING MACHINE. HENRY L. LEILICH and JOHN P. BURGER, Delphos, Ohio, assignors to The Delphos Manufacturing Company, Delphos, Ohio, a Corporation of Ohio. Filed Dec. 13, 1909. Serial No. 532,759.

1. In a machine of the class described, the combination with edge folding means, of mechanism for automatically gripping the work and moving it for successive folds.

2. In a machine of the class described, the combination with edge folding means, of mechanism automatically operative to grip the work, move it for successive folds and then release it.

3. In a machine of the class described, the combination with edge folding means, of a reciprocatory work grip-

ping part at one side of such means, and mechanism operative to cause said part to grip work fed thereto, move the same to receive successive folds and then to release the work.

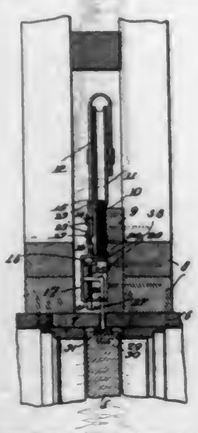


4. In a machine of the class described, the combination with a frame, and edge folding means carried by the frame, of a reciprocatory part mounted at one side of the folding means, means movable with such part for gripping work fed to the folding means, and mechanism operative to actuate said gripping means to grip and hold the work during the folding operations, and to move said part and gripping means to place the work in position to receive successive folds.

5. In a machine of the class described, the combination with work trimming means, edge folding means spaced from said trimming means, and means associated with the folding means to clamp the work during the folding operations, of reciprocatory means for gripping the work, and mechanism operative to actuate said reciprocatory means to grip and hold the work during the successive trimming and folding operations, and to move the work from trimming to folding position.

[Claims 6 to 51 not printed in the Gazette.]

971,906. DOOR-HANGER. MANUEL LIMA, Melrose, Cal. Filed Mar. 2, 1910. Serial No. 546,785.

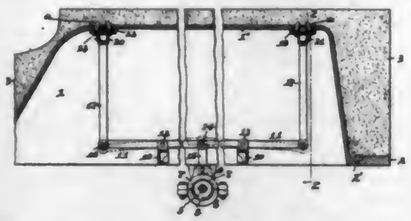


1. The combination with a door, of a hanger therefor having a vertical slot, a non-traveling screw carried by the hanger, and a member connected to the door, and having a laterally extending horizontal portion through which the screw is threaded, and said portion extending into the slot to guide the member.

2. The combination with a door, of a hanger therefor comprising separable sections, one of said sections having projecting tongues, and the other section having slots through which the tongues pass, and from which they project, keys passing through the projecting portions of the tongues, a wheel carried by one of the sections, and an adjustable connection including a screw between the other section and the door hanger member.

3. The combination with a door, of a hanger therefor comprising a wheel-carrying section, a door strap section, and a connecting section, the latter section being separably connected to the wheel-carrying section, and an adjustable connection between the aforesaid connecting section to the door strap section.

971,907. MOLDING APPARATUS. WILLIAM H. LOSH, Zelienople, Pa., assignor to Iron City Sanitary Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Aug. 5, 1908. Serial No. 447,056.



1. In a device for forming lugs on cast ware, the combination of a pattern and mold formed thereby, movable guided plates connected to a head and adapted to project through openings in the pattern, means on said pattern and connected to said head for projecting said movable plates into the mold to form cavities in said mold for the casting of said lugs, and spring means on said head and engaging with said plates to hold said plates in position.

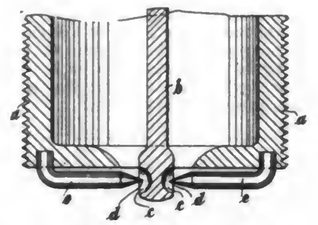
2. In a device for forming angular faced lugs on cast ware, the combination of a pattern and mold formed thereby, movable guided plates resting on and connected to a head, said plates being mounted angularly and adapted to project through openings in the pattern, headed pins projecting from the lower ends of said plates and passing through slots in said head, and means on said pattern and connected to said head for projecting said movable plates into the mold to form angular shaped cavities in said mold for the casting of said lugs.

3. In a device for forming angular faced lugs on cast ware, the combination of a pattern and mold formed thereby, movable guided plates resting on and connected to a head, said plates being mounted angularly and adapted to project through openings in the pattern, headed pins projecting from the lower ends of said plates and passing through slots in said head, and cam operated means on said pattern and connected to said head for projecting said movable plates into the mold to form angular shaped cavities in said mold for the casting of said lugs.

4. The combination, with a bathtub pattern having space within for the mechanism described and brackets projected from its lower side with an eccentric shaft journaled therein, of two eccentrics upon said shaft with eccentric rods extended upwardly therefrom, two beams extended across inside of the pattern and provided each with two bearings, four levers journaled upon said bearings and connected in pairs to the upper ends of the eccentric rods, prongs connected to the outer ends of the levers and extended through the surface of the pattern to mold the lugs for four feet simultaneously, and means for turning the eccentric shaft.

5. In a device for forming lugs on cast ware, the combination of a pattern and mold formed thereby, movable guided plates resting on the top of and connected to a head and adapted to project through openings in the pattern, and means on said pattern and connected to said head for projecting said movable plates into the mold to form cavities in said mold for the casting of said lugs.

971,908. ELECTRIC IGNITION APPLIANCE. ARCHIBALD MONTGOMERY LOW, Brook Green, London, England. Filed Aug. 30, 1909. Serial No. 515,213.

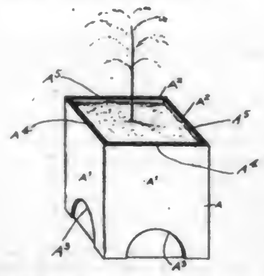


1. An electric ignition appliance comprising a pair of electrodes disposed with a spark gap therebetween, one of said electrodes having a hemispherical concavity of a size commensurate with the spark gap and the other electrode having a point entering said concavity and terminating at substantially the axial center thereof so that the spark may reach any part of the wall of the concavity with a uniform jump.

2. An electric ignition appliance comprising an electrode having a plurality of hemispherical concavities each commensurate with the desired spark gap, and a plurality of pointed electrodes one for each concavity, and terminating at substantially the axial center thereof so that the spark may reach any part of the wall of the concavity with a uniform jump.

3. An electric ignition appliance comprising a plurality of pairs of electrodes, each pair being disposed with a spark gap therebetween, one electrode of each pair having a hemispherical concavity of a size commensurate with the desired spark gap and the other electrode of each pair having a point entered into the hemispherical concavity of the related electrode to a point adjacent the axial center thereof so that the spark will be uniform between the point and any part of the wall of the concavity.

971,909. TRANSPLANTING-POT. LUNDY SHANNON LUNDY, Niagara Falls South, Ontario, Canada. Filed May 28, 1910. Serial No. 563,972.



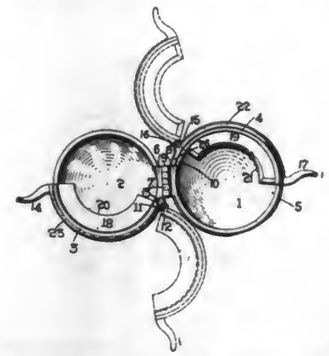
1. A transplanting pot comprising an outer wall provided with bottom notches in the sides thereof, and an inner wall located within the outer wall and capable of telescopic movement within the same said box having both ends open as and for the purpose specified.

2. A transplanting pot comprising an outer wall of foldable material provided with bottom notches in the sides thereof and an inner wall of foldable material located within the outer wall and capable of telescopic movement within the same said box having both ends open as and for the purpose specified.

3. A transplanting pot comprising an outer wall of foldable material provided with bottom notches in the sides thereof and an inner wall of foldable material located within the outer wall and capable of telescopic movement within the same said box having both ends open, the sides being designed to lie in flat form one against the other in the collapsed condition as and for the purpose specified.

4. A transplanting pot comprising an outer wall provided with bottom notches in the sides thereof, and an inner wall located within the outer wall and capable of telescopic movement within the same, both walls being bottomless as and for the purpose specified.

971,910. EGG-CUP. ELIZA ESTELLE AMANDA MACNAUGHTON, Yonkers, N. Y. Filed Mar. 17, 1910. Serial No. 550,020.



1. A receptacle of the class described comprising a lower cup member, an upper cup member arranged in opposed position with respect to the lower cup member and hinged to said lower cup member, and segmental members intermediate the upper and lower cup members and hinged respectively to the upper and lower cup members; said segmental members carrying cutting blades.

2. A receptacle of the class described comprising a lower cup member having an upwardly extending portion, an upper cup member having a depending portion hinged at its lower end to the lower member, and two curved segmental members one of which is hinged to the upwardly extending portion of the lower member and the other of which is hinged to the depending portion of the upper member; said segmental members carrying inwardly extending cutting blades.

3. A receptacle of the class described comprising two hinged members which are hollowed out and arranged in opposed position to inclose an article such as an egg, and two segmental cutting members; one of said cutting members being hinged to one of the hinged members, and the other cutting member being separately and independently hinged to the other hinged member; said segmental cutting members being constructed and arranged to cut the shell of the article by movement on their hinges toward each other, and to separate the upper and lower portions of the cut shell by movement in conjunction with the separating movement of the hinged members.

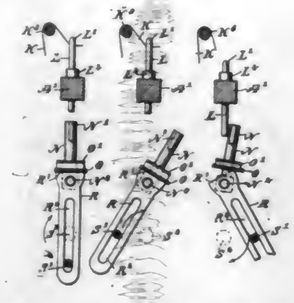
4. In a device of the class described, the combination with two opposed cup members hinged to each other on one side and adapted to inclose an article, of two segmental cutting members arranged intermediate of the cup members and adapted to extend nearly around the circumference of the receptacle when closed; one of said segmental cutting members being hinged to one cup member and the other segmental cutting member being separately and independently hinged to the other cup mem-

ber, and said segmental cutting members being constructed and arranged to have movement with the cup members independent of, and at an angle to their cutting movement.

5. A receptacle of the class described comprising a lower cup member, an upper cup member arranged in inverted position on the lower cup member and movable relatively to open and close the receptacle, said upper and lower cup members when closed having an intervening space between them, and segmental cutting members arranged between the upper and lower cup members, one segmental cutting member being attached to the upper cup member and the other segmental cutting member being independently and separately attached to the lower cup member, said segmental cutting members being adapted to serve both as cutting devices and separating devices, and also to close the intervening space between the cup members.

[Claim 6 not printed in the Gazette.]

971,911. STOP-MOTION. JOHN MCGINNIS, Scranton, Pa. Filed May 25, 1909. Serial No. 498,190.



1. A stop motion for knitting and other machines, comprising a continually rocking tripping lever, a rock arm having a releasing arm engaging the said tripping lever for the latter to normally rock the said rock arm, means suspended on the yarn and adapted to arrest the motion of the rock arm on the breaking of the yarn, a stopping mechanism and actuating means connected with the mechanism and normally locked against movement by the said releasing arm, the said tripping lever disengaging the said releasing arm from the said actuating means on stopping the said rock arm.

2. A stop motion for knitting and other machines, comprising a continually rocking tripping lever, a rock arm with which the tripping lever is loosely connected and having a releasing arm engaging the said tripping lever to permit the rocking movement of the tripping lever to be imparted to the rock arm, a yarn-carried pin normally out of the path of the said rock arm and adapted to arrest the motion of the rock arm on the breaking of the yarn, a stopping mechanism and a spring-pressed member connected with the stopping mechanism and normally held against movement by the said releasing arm, the said tripping lever disengaging the releasing arm from the spring pressed member when the rock arm is stopped.

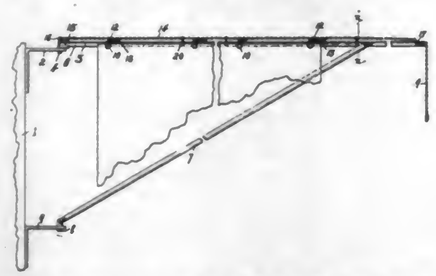
3. A stop motion for knitting and other machines, comprising a rock arm, means hung suspended from the yarn and adapted to arrest the rock arm, a releasing arm carried by the rock arm, and a continually rocking tripping lever fulcrumed on the rock arm and engaged by the releasing arm, whereby the movement of the tripping lever will be imparted to the rock arm until the latter is arrested when the releasing arm will be operated by said tripping lever.

4. A stop motion for knitting and other machines, comprising a slotted tripping lever having a flat heel, a crank arm having its wrist pin extending into the slot of the said tripping lever to rock the latter, a rock arm carrying a spring-releasing arm provided with a tooth, the arm resting on the said flat head of the tripping lever, a stopping mechanism, a spring-pressed band wheel connected with the stopping mechanism and having a recess for engagement by the said tooth, and a pin having a hook hung on a yarn, the pin being adapted to drop into the path of the said rock arm to arrest the latter on the breaking of the yarn.

5. A stop motion for knitting and other machines, comprising a slotted tripping lever having a flat heel, a crank arm having its wrist pin extending into the slot of the said tripping lever to rock the latter, a rock arm carrying a spring-releasing arm provided with a tooth, the arm resting on the said flat heel of the tripping lever, a stopping mechanism, a spring-pressed band wheel connected with the stopping mechanism and having a recess for engagement by the said tooth, a pin having a hook hung on a yarn, the pin being adapted to drop into the path of the said rocking arm to arrest the latter on the breaking of the arm, and an overhead guideway for the pin to slide in.

[Claim 6 not printed in the Gazette.]

971,912. DISPLAY-RACK. JOHN MCLAUGHLIN, Bellefontaine, Ohio, assignor of one-third to Judson R. Casey and one-third to James W. Shaver, Bellefontaine, Ohio. Filed Jan. 27, 1910. Serial No. 540,319.



1. In an apparatus of the class described, the combination of a suspending arm having openings therein, article engaging means adapted to project through such openings, members coöperating with the arm to hold said means in suspended state, and trip means attached to said members and movable to release the same from engagement with the article engaging means.

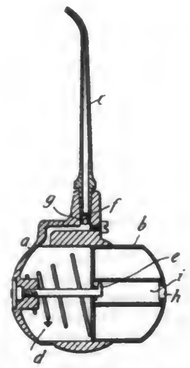
2. In an apparatus of the class described, the combination of a suspending arm having openings therein, article engaging means adapted to project through such openings, a flexible trip member associated with the arm and yieldingly movable relative thereto, and parts coöperating with the arm to hold said means in suspended state and being attached to said member whereby a tripping movement of the member effects a movement of said parts to release the article engaging means.

3. In an apparatus of the class described, a horizontal swinging arm comprising a pair of angle iron bars secured together in parallelism, said bars having openings in their horizontal flanges, trip members extending longitudinally of such bar and yieldingly connected to the arm adjacent one end thereof, pins connected to each trip member and article engaging means having parts adapted to project through the openings in said bars and to be engaged by said pins to prevent their removal from such openings, said pins being released from the article engaging means by a tripping movement of the associated trip member.

4. In an apparatus of the class described, the combination of a suspending arm, article engaging members projecting through portions of such arm, and means having attached pin portions coöperating with the arm to retain such article engaging members in suspended position, said means being movable to effect a simultaneous release of all of said members from the arm.

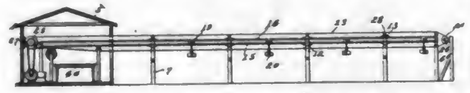
5. In an apparatus of the class described, the combination of a suspending arm, article engaging members having looped portions projected through portions of such arm, trip means yieldingly movable longitudinally of the arm and having attached portions adapted to engage the looped ends of said members to coöperate with the arm to suspend the same, said attached portions being movable by a movement of said trip means to effect a release of said members from engagement with the arm.

971,913. DENTAL AIR-PUMP. EDUARD MESSMER, Gratz, Austria-Hungary. Filed May 27, 1909. Serial No. 498,715.



In a metallic dental air pump, the combination with a casing, of a plunger provided with a cover operating therein and being provided with centrally arranged holes in its cover and bottom portion, a hollow member inserted into said holes having a hole at the front portion thereof and an elongated opening in the bottom portion of the same, opening thus a communication between the atmosphere and the interior of said casing, a pin attached to said casing having a projection adapted to protrude through said elongated opening, whereby said plunger is held in engagement with said casing when the former is shifted so that the longitudinal axes of said elongated opening and said projection are out of alinement and capable of being disengaged from said casing when said axes coincide, a spring arranged in said casing bearing against the same and the bottom portion of said plunger whereby the latter is caused to project out of the casing, a hollow stem detachably mounted upon said casing, and communicating with the interior of said casing, and a check valve in said stem, for the purpose specified.

971,914. MAIL DELIVERING AND COLLECTING APPARATUS. THOMAS MIDDLEBROOK, Sault Ste. Marie, Mich. Filed Apr. 16, 1910. Serial No. 555,947.

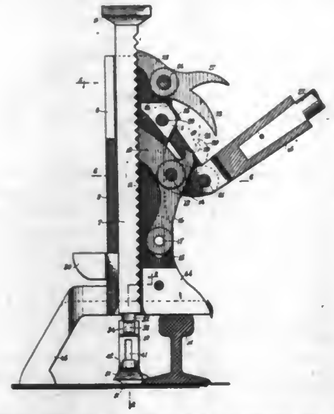


1. In a delivery and collecting apparatus of the class described comprising terminal and intermediate supporting posts, pulleys carried by the said terminal supports, a track having rails in vertical alinement and secured to said supports, a grooved sheave positioned between and engaging said rails, a depending hook carried by said sheave, an endless belt trained over said pulleys and arranged above and below said rails, said belt having a loop to receive said hook, and a carrier suspended from said hook.

2. In a delivery and collecting apparatus of the class described, the combination with a plurality of supports, and a track including vertically alined rails carried by said supports; of a grooved sheave arranged between and in engagement with said rails, a depending hook carried by said sheave, pulleys carried by certain of said supports, an endless belt trained over said pulleys and provided with a loop to receive said hook, a carrier suspended from said hook, and means positioned adjacent to one end of said track adapted to deflect the said belt upwardly and effect the disengagement of said hook and carrier from said loop.

3. In a delivery and collecting apparatus of the class described, the combination with terminal and intermediate supports, and a track including vertically alined rails carried by said intermediate supports; of a grooved sheave arranged between and in engagement with said rails, a depending hook loosely secured to said sheave, pulleys carried by said terminal supports, an endless belt trained over said pulleys and provided with a loop to receive said hook, a carrier provided with a bail to receive said hook and bearing on the sides of said loop, and means positioned adjacent to one end of said track adapted to deflect said belt upwardly and to effect disengagement of the said hook and carrier from said loop.

971,915. SPIKE-PULLER. JOHN B. MILLER, Mount Pleasant Mills, Pa. Filed May 18, 1910. Serial No. 561,971.



1. A spike puller, comprising a reciprocating ram bar; means for lifting said bar; a plurality of gripping jaws pivotally and slidably mounted in the lower end of said bar, said jaws being provided with outwardly and upwardly inclined outer walls; and a connecting pin mounted on said lower end of said bar in joining relation with said gripping jaws and in contact with said outwardly inclined walls.

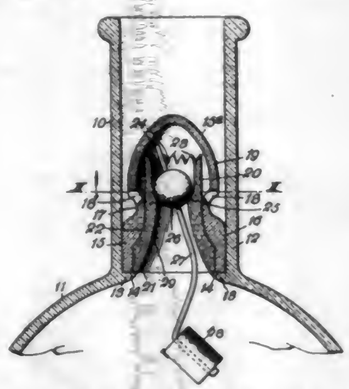
2. A spike puller, comprising a reciprocating ram bar; means for lifting said bar; a plurality of gripping jaws pivotally and slidably mounted in the lower end of said bar, said jaws being provided with outwardly and upwardly inclined outer walls; a connecting pin mounted on the lower end of said bar in joining relation with said gripping jaws and in contact with said outwardly inclined walls; and resilient devices mounted upon and extended inwardly from the inner walls of said jaws in the path of said bar.

3. A spike puller, comprising a reciprocating ram bar; means for lifting said bar; a plurality of gripping jaws pivotally and slidably mounted in the lower end of said bar, said jaws being provided with outwardly and upwardly inclined walls and with inwardly and downwardly inclined inner walls disposed in the path of said bar; a connecting pin mounted on the lower end of said bar in joining relation with said gripping jaws and in contact with said outwardly inclined walls; and resilient devices mounted upon and extended inwardly from the inner walls of said jaws in the path of said bar.

4. A spike puller, comprising a reciprocating ram bar; means for lifting said bar; a plurality of gripping jaws pivotally and slidably mounted in the lower end of said bar, said jaws being provided with outwardly and upwardly inclined outer walls and with inwardly and down-

wardly inclined inner walls disposed in the path of said bar; and a connecting pin mounted on the lower end of said bar in joining relation with said gripping jaws and in contact with said outwardly inclined walls.

971,916. NON-REFILLABLE BOTTLE. JOHN MISBALL and ALBERT SOMMER, New York, N. Y. Filed Jan. 5, 1909. Serial No. 470,861.



1. The combination with a bottle neck provided at its base with an internal annular shoulder, of a device comprising an outer member and an inner member both resting on said shoulder, said inner member being open at both ends and having an external contour conforming to the internal contour of said outer member, said outer member being open at its lower end and having a closed dome-shaped upper portion, and a contracted portion formed with pouring openings and a weighted valve supported within said inner member.

2. The combination with a receptacle having a neck provided at its base with an internal annular shoulder, of a device comprising an outer member resting on said shoulder, and wholly within said neck, open at its lower end and having a closed dome-shaped upper end, of less diameter than said neck, and contracted intermediate its ends and formed with pouring openings, and an inner tubular member open at both ends and flared at its lower end to adapt it to also rest upon said shoulder and having an external contour conforming to the internal contour of said outer member the upper end of said inner member terminating below the upper end of the outer member but above the openings therein, and having a valve seat, and a valve supported on said seat.

971,917. SEED-HOPPER. PRESTON C. MITCHELL, Homer, Mich. Filed Jan. 27, 1910. Serial No. 540,361.

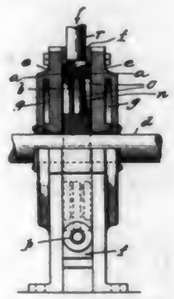


1. In a seed hopper of the class described, a feed plate arranged in the bottom of the hopper, said plate having formed therein a series of feed openings, a trough arranged below said feed plate, said trough having formed therein a series of feed openings, said openings being out of alinement with the openings in the feed plate, a tubular slide adjustably mounted in said trough, said slide having formed in its upper and lower sides feed openings, said openings being out of alinement and being adapted to be brought more or less into alinement with the feed openings in said feed plate and trough thereby regulating the size of the feed openings from the hopper.

2. In a seed hopper of the class described, a feed plate arranged in the bottom of the hopper, said plate having formed therein a series of feed openings, a trough arranged below said feed plate, said trough having formed therein a series of feed openings, said openings being out of alinement with the openings in the feed plate, a tubular slide adjustably mounted in said trough, said slide having formed in its upper and lower sides feed openings, said openings being out of alinement with the openings in the feed plate and trough thereby regulating the size of the feed openings from the hopper, and an agitator arranged in said slide to positively feed the seed therefrom.

3. A seed hopper of the class described having formed in its lower side a longitudinal slot, a feed plate arranged in said hopper over said slot, said plate having formed therein a series of elongated feed openings, a trough secured to the outer side of the hopper below said feed plate, said trough having formed therein a series of elongated feed openings and arranged between or out of alinement with the feed openings in said feed plate, a tubular slide adjustably mounted in said trough, said slide having formed in its upper and lower sides series of elongated feed openings, said feed openings being out of alinement, an adjusting lever connected with said slide whereby the latter may be adjusted to bring the feed openings therein more or less into alinement with the feed openings in the feed plate and trough whereby the size of said openings is regulated, and a corrugated agitating rod arranged in said slide and adapted to be reciprocated therein to positively feed the seed therefrom.

971,918. STEAM-TURBINE. THOMAS R. MORGAN, ARCHIBALD L. ATWATER, and BENJAMIN A. CROWTHER, Pittston, and WILLIAM M. ASH, Williamsport, Pa. Filed Feb. 3, 1910. Serial No. 541,931.



1. In combination with a casing and means for jetting steam in through the side walls thereof, a shaft, and a rotor within the casing having blades on its outer faces and being annularly separated into two members, the space between the members affording an exhaust chamber.

2. In combination with a casing and means for jetting steam in through the side walls thereof, a shaft, and a rotor within the casing having blades on its outer faces and being annularly separated into two members, the space between the members affording an exhaust chamber, said two members being provided with numerous ports leading from the blade side into said exhaust chamber.

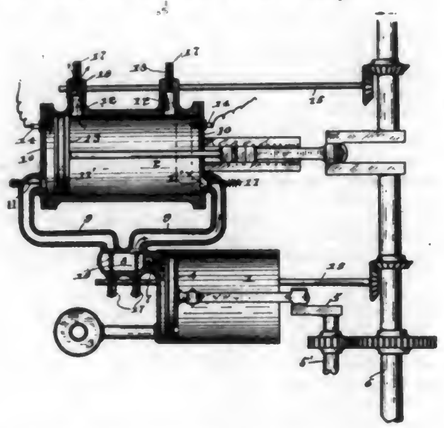
3. In combination with a casing and means for jetting steam in through the side walls thereof, a shaft, and a rotor within the casing having blades on its outer faces and being annularly separated into two members, the space between the members affording an exhaust chamber, said blades being closely and radially arranged having impact surfaces lying at approximately right angles to the jets.

4. In combination, a casing having side walls each being hollow and connected to live steam pipes, the chamber in each side wall being annular and divided transversely by partitions, the inner wall of each of said annular chambers being provided with nozzles, one half of which are inclined in one direction and the other half in the opposite direction, a shaft extending through the casing and carrying a rotor having an annular series of blades on each of its side faces, and means for alternately admitting steam to opposite pairs of said chambers in the casing walls.

5. In combination with a casing having hollow side walls, said spaces extending entirely around the shaft, a rotor within the casing provided with blades at opposite surfaces and the inner wall of the casing having a series of jets or nozzles, one-half these nozzles extending in one direction and the other half in the opposite direction, means for supplying fluid alternately to the opposite sets of nozzles.

[Claim 6 not printed in the Gazette.]

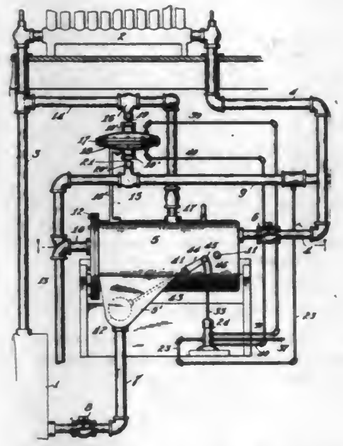
971,919. GAS-ENGINE. GEORGE R. MORRIS, Chicago, Ill. Filed Nov. 15, 1909. Serial No. 528,182.



1. A gas engine comprising a double headed power cylinder; a power crank shaft; a single-acting charge pumping cylinder with a piston therein; a supplemental crank shaft geared to run at twice the speed of said power shaft; an operative connection between said supplemental crank shaft and the piston of said pump cylinder; means for supplying a gaseous charge to said pumping cylinder; during the outstroke of the piston thereof; a check valve in the head of said pumping cylinder adapted to permit the outward flow of gas therefrom and to check the return flow thereto; a charge distributing chamber to receive the charge flowing by said check valve; an inlet port in each head of said power cylinder; inlet pipes leading from said charge distributing chamber to said inlet ports; check valves in said inlet pipes; mechanically operated valves in said inlet pipes; a piston operating in said power cylinder and connected with said power crank shaft; exhaust ports in said power cylinder adapted to be covered and uncovered by the piston operating therein; mechanically operated valves in said exhaust ports; and means for controlling the mechanically operated valves of said inlet pipes and exhaust ports comprising cams and cam shafts geared to said power shaft and adapted to run at the same speed as said power shaft, substantially as described.

2. A gas engine comprising a double headed power cylinder; a power crank shaft; a single-acting charge pumping cylinder with a piston therein; a supplemental crank shaft geared to run at twice the speed of said power shaft; an operative connection between said supplemental crank shaft and the piston of said pump cylinder; means for supplying a gaseous charge to said pumping cylinder during the outstroke of the piston thereof; a check valve in the head of said pumping cylinder to permit the outward flow of gas therefrom but to check the return flow thereto; a charge distributing chamber to receive the charge flowing by said check valve; an inlet port in each head of said power cylinder; inlet pipes leading from said charge distributing chamber to said inlet ports; check valves in said inlet pipes; mechanically operated valves in said inlet pipes; a piston operating in said power cylinder and connected with said power crank shaft; exhaust ports in said power cylinder adapted to be covered and uncovered by the piston operating therein; mechanically operated valves in said exhaust ports; and means for controlling the mechanically operated valves of said inlet pipes and exhaust ports comprising cams and cam shafts geared to said power crank shaft and adapted to run at the same speed, the disposition of said exhaust ports being diagonally opposite the coöperating inlet ports of said power cylinder, substantially as described.

971,920. FLUID-CIRCULATING APPARATUS. GEORGE W. NISTLE, Muskegon, Mich., and ROBERT L. GIFFORD, Chicago, Ill. Filed Mar. 11, 1909. Serial No. 482,698.



1. The combination with a motive fluid system, of a boiler for supplying fluid to said system, a condensing tank connected to the exhaust side of said system and having its lower side elevated above the bottom of the boiler, a condensing coil seated in said tank and connected to an external source of cold fluid, a conduit connecting the boiler with said tank to supply the latter with live fluid, valve mechanism regulating the supply of cold liquid to said condensing coil, and the supply of live fluid to the tank, means controlling the operation of said valve mechanism and a conduit connecting the tank to the boiler to permit the condensed exhaust fluid to reënter the latter, and normally closed valve mechanism interposed in said conduit.

2. In a fluid-circulating apparatus, the combination of a boiler, a circulating system external to the boiler, a condensing tank connected to the return side of said system, surface condensing apparatus for subjecting the steam in said condensing tank to the action of a condensing medium, means for intermittently interrupting the action of said condensing medium, connections for conducting live steam substantially at boiler pressure to said condensing tank, a conduit connecting the lower part of said

tank with said boiler, and automatic valve mechanism controlling the admission of live steam to said condensing tank.

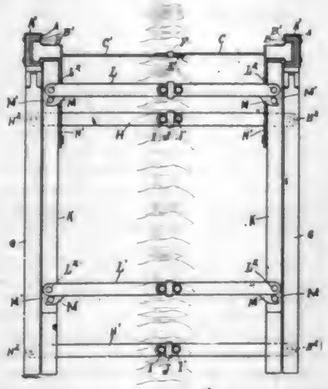
3. In a fluid-circulating apparatus, the combination of a boiler, a circulating system external to the boiler, a condensing tank connected to the return side of said system, surface condensing apparatus for subjecting the steam in said condensing tank to the action of a condensing medium, means for intermittently interrupting the action of said condensing medium, connections for conducting live steam substantially at boiler pressure to said condensing tank, a conduit connecting the lower part of said tank with said boiler, automatic valve mechanism controlling the admission of live steam to said condensing tank, automatic valve mechanism controlling the flow of condensing medium, and means operated by the accumulation of water of condensation for controlling both of said automatic valve mechanisms.

4. The combination with a motive fluid system, of a boiler for supplying live fluid to said system, a condensing tank connected to the exhaust side of said system, and having its lower side elevated above the bottom of said boiler, a condensing coil seated in said tank and connected to an external source of condensing fluid, means for supplying fluid at substantially boiler pressure to said tank, automatically controlled valve mechanism regulating the supply of condensing fluid to said coil and the supply of live fluid to said tank, and a conduit connecting said tank to the boiler and normally closed valve mechanism interposed in said conduit.

5. In a fluid-circulating apparatus, the combination of a boiler, a closed circulating system external to the boiler, a condensing tank connected to the return side of said system, a closed surface condensing coil arranged within said tank, valve mechanism for controlling the flow of condensing medium through said coil, connections for conducting live steam substantially at boiler pressure to said condensing tank, valve mechanism controlling said connections, a conduit connecting the lower part of said tank with said boiler, valve mechanism controlling said conduit, a source of power, independent of the hydrostatic head of collected water of condensation, for actuating said first two valve mechanisms, and means actuated by the accumulation of water of condensation in said tank for controlling said source of power.

[Claim 6 not printed in the Gazette.]

971,921. EXTENSION EMBALMING-COUCH. CHARLES NUGENT, Philadelphia, Pa. Filed Dec. 30, 1907. Serial No. 408,519.



1. In a device of the character described, a frame composed of two channel iron side bars, a second frame also composed of two channel iron side bars, the last named frame adapted to telescope within the first named frame, a pair of cross bars pivoted to the side bars of one of the frames, said cross bars also being pivoted together, a pin carried by one of the cross bars adapted to fit into a hole in the other bar, a sleeve adapted to slide over the overlapping ends of said cross bars, a pair of legs pivoted to each of the frames, sectional braces pivoted to the legs, hooks projecting from the heel end of the braces, pins projecting from the legs with which the hooks engage, pins projecting from the inner ends of one member of each sectional brace adapted to fit into slots formed in the other members, and sleeves adapted to slide over the overlapping ends of each sectional brace as specified.

2. In a device of the character described, a frame composed of two channel iron side bars, a second frame also composed of two channel iron side bars, the last named frame adapted to telescope within the first named frame, a pair of cross bars pivoted to the side bars of one of the frames, said cross bars also being pivoted together, a pin carried by one of the cross bars adapted to fit in a hole in the other bar, a sleeve adapted to slide over the over-lapping end of the other bar, a pair of legs pivoted to each of the frames, sectional braces pivoted to the legs and adapted to hold the latter in a distended position or permit them to be collapsed, braces for holding the legs in a vertical position, angle iron shields adapted to secure a cloth or covering upon the frame, the inner shields sliding with the inner side bars into the outer side bars, extension feet fitted to slide in hollows formed in the front legs, teeth formed upon the shanks of the extension feet, lugs formed with the legs for engaging said teeth, springs for normally holding said teeth in engagement with said lugs, and lugs formed on said feet by which the latter may be extended, as specified.

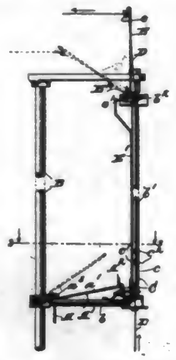
971,922. WINDOW-SCREEN. JOSEPH BENTON OGBORN, San Mateo, Cal. Filed Dec. 7, 1908. Serial No. 466,313.



1. The combination with a frame having a pocket above the opening thereof, and two closures hinged to the frame, one above the other, of a screened frame sliding in the pocket when not in use, and means on the lower closure for supporting the screen in the upper part of the opening of the frame.

2. The combination with a frame having a pocket above the opening thereof, and two doors hinged to the frame one above the other, of a screened frame sliding in the pocket and provided with a base for limiting its movement in the pocket, and a bracket on the upper end of the lower door upon which the base of the screened frame rests when the same is in use.

971,923. STOP DEVICE FOR KNITTING-MACHINES AND THE LIKE. EXILIAS PAQUETTE, Lowell, Mass., and CHARLES F. DEEG, Elyria, Ohio, assignors to Lamartine B. Fay, Elyria, Ohio. Filed Dec. 28, 1908. Serial No. 469,521.



1. In a device of the character described, the combination of a normally inoperative stop-actuating rod; a lever adapted, upon movement, positively to render said rod operative; means tending thus to move said lever; a catch engaging the free end of said lever and adapted to restrain such movement; and a trip member retained against falling by the thread, said member carrying a projection adapted, upon falling of said member, to contact with said catch and disengage the catch from said lever.

2. In a device of the character described, the combination of a rod designed, upon movement, to operate a mechanism to stop the machine; a lever adapted, upon movement, positively to actuate said rod; means tending thus to move said lever; a catch normally engaging said lever and adapted to restrain such movement, said catch being held in such engagement only by the tendency of the lever toward such movement; and means controlled by the tension of the thread adapted positively to trip said catch.

3. In a device of the character described, the combination of a rod designed, upon movement, to operate a mechanism to stop the machine; a lever adapted upon movement, positively to actuate said rod; means tending thus to move said lever; a catch normally engaging said lever and adapted to restrain such movement, said catch being held in such engagement only by the tendency of the lever toward such movement; a second lever, across the free end of which the thread passes in a substantially horizontal line; resilient means normally retaining said lever in a substantially vertical position, undue tension of such thread being effective to depress said lever; and a rod connecting said lever with said catch and adapted upon such depression of the former, positively to trip the latter.

4. In a device of the character described, the combination of normally inoperative stop-actuating means; a lever adapted, upon movement, to render said means operative; means tending thus to move said lever; a catch adapted to restrain such movement; a second lever across the free end of which the thread passes; resilient means normally retaining the second lever in its normal position, undue tension on such thread being effective to move said lever; means connected with the second lever and adapted, on movement of such lever, to trip said catch; a fixed and a movable cutter blade located to one side of the thread in the normal position of parts, but disposed to receive the same between said blades upon such movement of the second lever, the latter being connected with the movable blade to operate the same near the final position of the second lever.

5. In a device of the character described, the combination of normally inoperative stop-actuating means; a lever adapted, upon movement, to render said means operative; means tending thus to move said lever; a catch adapted to restrain such movement; a second lever, across the free end of which the thread passes in a substantially horizontal line; resilient means normally retaining said lever in a substantially vertical position, undue tension on such thread being effective to depress said lever; a fixed and a movable cutter blade, constituting thread-severing means, located to one side of the thread in the normal position of parts, but disposed to receive the same between said blades upon such depression of said lever, the latter being connected with said movable blade to operate the same near the final depressed position of said lever.

[Claims 6 and 7 not printed in the Gazette.]

971,924. CHISEL-BAR. ROBERT P. PENROD, Pitcairn borough, Pa. Filed Nov. 17, 1909. Serial No. 528,472.



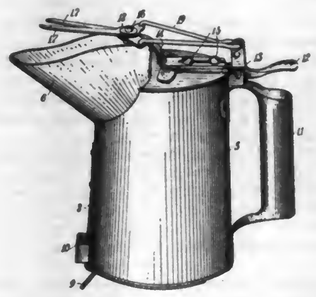
1. In a tool of the character described, a swinging shield mounted on said tool adjacent to its cutting end, and means operated from the handle end of the tool for throwing said shield into its operative position.

2. In a tool of the character described, a swinging shield mounted on said tool adjacent to its cutting end, means for normally maintaining said shield in its inoperative position, and means operated from the handle end of the tool for throwing said shield into its operative position.

3. In a tool of the character described, a swinging spoon-shaped shield mounted on the tool adjacent to its cutting end and adapted to be thrown into proximity with said cutting end to intercept flying fragments, and means operated from the handle end of the tool for throwing the shield into its operative position.

4. In a tool of the character described, a swinging spoon-shaped shield mounted on the tool adjacent to its cutting end and adapted to be thrown into proximity with said cutting end to intercept flying fragments, means for normally maintaining said shield in its inoperative position, and means operated from the handle end of the tool for throwing the shield into its operative position.

971,925. FRUIT-PICKER. ANTHONY J. PETERYL, Traverse City, Mich. Filed Feb. 5, 1910. Serial No. 542,203.



1. A fruit picker comprising a receptacle having a handle, a fruit clipper carried by the receptacle and having pivotally-connected shear blades movable in a plane approximately transverse to and over the receptacle in a position to permit of the fruit dropping into the receptacle as it is cut off, and means to swing the blades of the clipper on their pivots each relatively to the other and to the receptacle, carried by the receptacle with the said means arranged over the top of the handle in a position to be operated by a finger of the hand with which the handle is grasped.

2. A fruit picker comprising a vessel having an upright handle attached to the side and spaced therefrom for the

passage of the hand, a fruit clipper secured directly to the top of said vessel and located in a position to permit of the fruit dropping into the vessel as it is cut off, and a thumb-actuated lever fulcrumed to the vessel independently of and operatively connected to the clipper and arranged at a point over the top of the handle to be operated by the thumb of the hand with which the handle is grasped.

3. A fruit picker comprising a vessel to receive the fruit, shears carried by the vessel having blades pivoted together to clip the fruit and movable in a plane approximately transverse to and over the vessel, and a thumb-actuated lever fulcrumed to the vessel near the top thereof and operatively connected to both of the blades of the shears to swing the blades together when the lever is depressed.

4. A fruit picker comprising a vessel to receive the fruit, a pair of shears to clip the fruit, arranged over and connected to the vessel, an operating lever fulcrumed to the vessel, and a spring fork having its arms rigidly connected and operatively connecting the lever to the blades of the shears and normally tending to force the blades of the shears apart.

5. A fruit picker comprising a vessel having a flaring throat arranged at the top adjacent to one side, shears for severing the fruit, arranged over the throat and connected to the vessel, a handle attached to the side of the vessel, and a thum-actuated lever fulcrumed to the vessel and arranged over and directly operative from the handle and operatively connected to the blades of the shears.

[Claim 6 not printed in the Gazette.]

971,926. TEMPORARY BINDER. ALBERT D. RAY, Cleveland, Ohio. Filed July 9, 1910. Serial No. 571,123.



1. A temporary binder, comprising independent binding strips, protecting covers hingedly secured thereto, means for detachably connecting the ends of said binding strips to each other, leaf holding flexible needles pivotally mounted on the inner side of one of said binding strips, and means for securing the bent over portions of said needles beneath the opposite binding strip.

2. A temporary binder, comprising binding strips, protecting covers carried thereby, binding straps at either end of said strips, leaf piercing and holding needles pivotally carried on the inner side of one of said binding strips, and means for securing the bent over portions of said needles on the under side of the other or opposite binding strip.

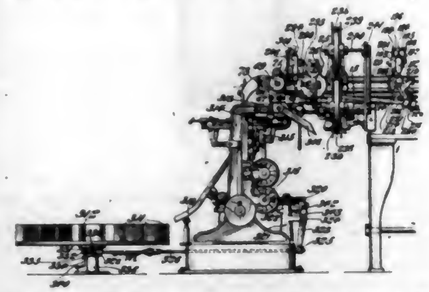
3. A temporary binder, comprising binding strips provided on their inner sides with longitudinally extending grooves, protecting covers carried by said strips, leaf holding bendable needles pivotally mounted in the groove of one of said strips and adapted to have their ends bent over and seated in the groove of the opposite strip, and means for detachably connecting said binding strips.

4. A temporary binder, comprising independent binding strips provided with pocket-grooves, protecting covers carried thereby, leaf holding needles pivotally mounted in one of said pocket-grooves and adapted to have their free ends bent over and seated in the opposite pocket-groove, each of said needles comprising a wire of metallic material covered with non-metallic flexible material, and connecting straps and buckles at either end of said binding strips.

5. A temporary binder, comprising independent binding strips provided with pocket-grooves on the inner sides, staple hinge members secured to one of said strips and extending transversely over the grooved side thereof, a reinforced cover member secured on said staple hinge members, leaf holding needles mounted on said staple hinge members and adapted to be seated in said pocket-grooves, and means for detachably connecting the ends of said strips together.

[Claim 6 not printed in the Gazette.]

971,927. TAG-MACHINE. HARRY L. ROTH, Philadelphia, Pa., assignor to Industrial Equipment Company, Philadelphia, Pa., a Corporation of Delaware. Filed May 8, 1909. Serial No. 494,882.



1. In a device of the character stated, a frame, a spool adjacent thereto carrying a strip of material for making tags, a plurality of rolls mounted on said frame for feeding said strip of material in a straight line along said frame, means to produce a step by step movement of said rolls, a printing press arranged to print on one side of said strip of material, guide rolls angularly disposed with respect to said frame to produce a quarter twist in said strip of material, a plurality of printing presses arranged to print on the opposite side of said strip of material from said first mentioned press, means to operate said presses between the step by step movement of said strip, and means for applying a reinforcing washer to said strip of material.

2. In a device of the character stated, a frame, a spool adjacent thereto carrying a strip of material for making tags, a plurality of rolls mounted on said frame for feeding said strip of material in a straight line along said frame, means to produce a step by step movement of said rolls, a printing press arranged to print on one side of said strip of material, guide rolls angularly disposed with respect to said frame to produce a quarter twist in said strip of material, a plurality of printing presses arranged to print on the opposite side of said strip of material from said first mentioned press, means to operate said presses between the step by step movement of said strip, means for applying a reinforcing washer to said strip of material, and a cutting mechanism for severing said strip of material into predetermined lengths.

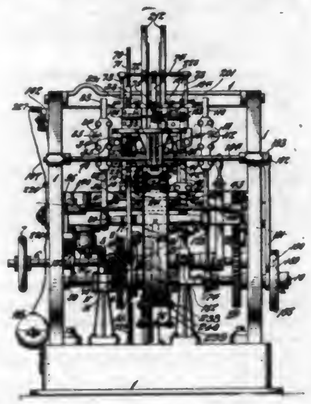
3. In a device of the character stated, a frame, a spool adjacent thereto carrying a strip of material for making tags, a plurality of rolls mounted on said frame for feeding said strip of material in a straight line along said frame, means to produce a step by step movement of said rolls, a printing press arranged to print on one side of said strip of material, guide rolls angularly disposed with respect to said frame to produce a quarter twist in said strip of material, a plurality of printing presses arranged to print on the opposite side of said strip of material from said first mentioned press, means to operate said presses between the step by step movement of said strip, means for applying a reinforcing washer to said strip of material, a cutting mechanism for severing said strip of material into predetermined lengths, and means to vary the time of operation of said cutting mechanism.

4. In a device of the character described, a frame, a spool adjacent thereto carrying a strip of material for making tags, a plurality of rolls mounted on said frame for feeding said strip of material, means to produce a step by step movement of said rolls, guides to vary the angular relation of said strip to said frame, a plurality of printing presses arranged to engage opposite sides of said strip, means to operate said presses between the step by step movement of said strip, a step by step mechanism for feeding a reinforcing strip adjacent the path of movement of said tag strip, and means for applying a portion of said reinforcing strip to said tag strip.

5. In a device of the character stated, a frame, a spool adjacent thereto carrying a strip of material for making tags, a plurality of rolls mounted on said frame for feeding said strip of material, means to produce a step-by-step movement of said rolls, guides to vary the angular relation of said strip to said frame whereby said strip may be positioned for printing, a plurality of printing presses arranged to print on opposite sides of said strip, means to operate said presses between the step-by-step movement of said strip, a step-by-step mechanism for feeding a reinforcing strip adjacent the path of movement of said tag strip, a punch operatively mounted in proximity to said reinforcing strip, and means to operate said punch to apply a portion of said reinforcing strip to said tag strip.

[Claims 6 and 7 not printed in the Gazette.]

971,928. TAG-STRINGER MACHINE. HARRY L. ROTH, Philadelphia, Pa., assignor to Industrial Equipment Company, Philadelphia, Pa., a Corporation of Delaware. Filed May 8, 1909. Serial No. 494,883.



1. In a tag stringing machine, the combination of a chute to which apertured tags are adapted to be fed, means for looping strings through the apertures of the tags, a hook having a non-flexible barb and coacting with said means for effecting the tying of said strings, and means for passing said hook through the loop and retracting it through the loop with the ends of the strings, said hook moving in the same rectilinear path on both its forward and rearward movements.

2. In a tag stringing machine, the combination of a chute through which apertured tags are adapted to be fed, devices for intermittently arresting the movement of said tags, means for inserting looped strings through the apertures of the tags, a hook having a non-flexible barb and arranged to pass through said loops and engage the free ends of the string, means for advancing and returning said hook to draw the free ends of the string through the loop and effect the tying operation, said hook moving in the same rectilinear path on both its forward and rearward movements, means for retaining the ends of the string, and means for positively moving the tags after the ends of the string have been pulled through the loop.

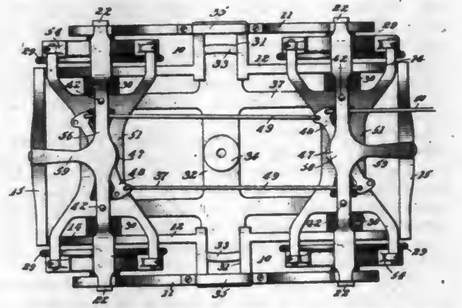
3. The combination in a tag stringing machine, of a chute to which the tags are adapted to be fed, string feeding means, means for cutting the string, means for looping said string through the eye of a tag, a hook having a non-flexible barb and arranged to pass through said loop and engage the free ends of the string, and means for moving said hook forwardly and rearwardly in the same rectilinear path to effect the tying of the string.

4. The combination in a tag stringing machine, of a chute to which apertured tags are adapted to be fed, means for looping string through the apertures of the same, a hook having a non-flexible barb and arranged to pass through said loop in both directions to engage and pull the free ends of the string through the loop, means for moving said hook forwardly and rearwardly in the same rectilinear path to effect the tying operation, means for retaining the ends of the string, and means for moving the tags to draw the loop taut against the same.

5. The combination in a tag stringing machine, of a chute to which apertured tags are adapted to be fed, devices for positioning such tags, string feeding and cutting mechanism, means for looping and passing the string through the apertures of the tags, a hook having a non-flexible barb and arranged to pass through said loop and engage and pull the free ends of the string through the loop, means for moving said hook forwardly and rearwardly in the same rectilinear path to effect the tying operation, means for retaining the ends of the string, and means for moving the tags to draw the loop taut against the same.

[Claims 6 to 38 not printed in the Gazette.]

971,929. CAR-TRUCK. GUSTAVE ROUY, New York, N. Y. Filed May 20, 1910. Serial No. 562,463.



1. In a car truck, pairs of longitudinal frames, wheels mounted for independent rotation between said frames of each pair, and end pieces connecting the extremities of said inner frames only, whereby said frames of said pairs are separated at the ends.

2. In a car truck, pairs of longitudinal frames, cross frames connecting said pairs, axle spindles carried by said frames of each of said pairs, wheels mounted for independent rotation upon said spindles, between said frames, and end pieces connecting the extremities of said inner frames only.

3. In a car truck, pairs of longitudinal frames having intermediate the ends, sockets, cross frames connecting said longitudinal frames at both sides of said sockets, a bolster having the ends loosely supported in said sockets, end pieces connecting said inner frames only, of said pairs, and wheels mounted for independent rotation between said frames of each of said pairs, near the ends thereof.

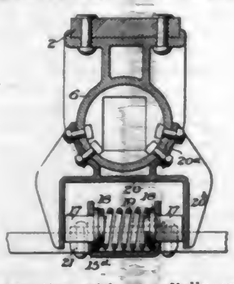
4. In a car truck, pairs of spaced, longitudinal frames, cross frames rigidly connecting said pairs of longitudinal frames, transoms rigidly connecting all of said longitudinal frames, and end pieces connecting the inner frames only, of said pairs.

5. In a car truck, longitudinal frame members, cross frames connecting the same, wheels journaled upon the truck, brake beams mounted for movement toward and away from said wheels, transoms connecting said longi-

tudinal frames, and guide rods extending from said cross frames to said transoms and serving to guide the movements of said brake beams.

[Claims 6 to 8 not printed in the Gazette.]

971,930. RADIAL-DRAFT GEAR. ERNEST H. SCHMIDT, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 3, 1909. Serial No. 531,124.



1. The combination with a radially swinging arm, a coupler, and a draft rigging carried by said arm, of a guiding connection for the coupler consisting of a member secured to the truck frame, a jaw member carried by the radially swinging arm, and a spring device carried by the first named member and adapted to engage the jaw member upon pivotal movement of the truck frame in either direction; substantially as described.

2. The combination with a radially swinging arm having a depending portion, a coupler shank and draft rigging supported by said depending portion, a bracket secured to the truck frame, a pair of oppositely acting spring plungers carried by said bracket, and another member secured to the said depending portion and engaging said plungers; substantially as described.

3. In a draft gear, a radially swinging arm having a depending portion near its forward end, a coupler having a shank extension passing through said portion, a member secured to said portion and having opposite jaws, a bracket secured to the truck frame, a pair of oppositely acting plungers seated in said bracket, and engaging the said jaws, and a centering spring between said plungers; substantially as described.

4. In a draft gear, the combination with a radially swinging arm and a coupler carried by said arm, of means for guiding said coupler radially, comprising a jaw member carried by said arm, a member secured to the truck frame and having a socket portion, a pair of oppositely acting plungers seated in the last named member and arranged to engage the jaws of the jaw member, and a spring seated in said socket portion and engaging both plungers to force them outwardly into engagement with said jaws; substantially as described.

971,931. ANIMAL-SHEARS. JAMES D. SCOVEL, Detroit, Mich. Filed Aug. 23, 1909. Serial No. 514,125.



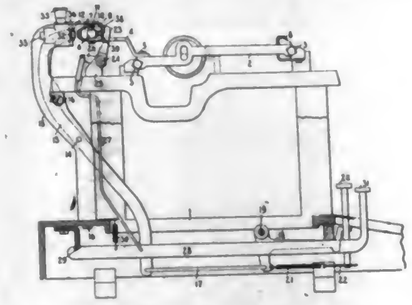
1. In an animal shears, in combination with a frame work, fixed serrated members supported thereby, a guard comb having teeth of sufficient breadth to space said serrated members from the surface against which the shears are placed, a reciprocating serrated member engaging between said fixed members, and adapted to cooperate therewith in cutting material interposed therebetween, and means for actuating the reciprocating member within a limited path of travel with respect to the other parts, substantially as described.

2. An animal shears, having in combination with a frame member, a reciprocating member having a serrated cutting edge slidably mounted therein, a pair of serrated plates between which the body portion of said reciprocating member engages, means for actuating said reciprocating member and means for regulating the degree of forward projection of said serrated plates with respect to the frame member, substantially as described.

3. In an animal shears, the combination of a frame member having its operating edge in the form of centrally cut-away individual projections, a pair of stationary shear blades having serrations located at corresponding intervals to the projections on the frame mounted therein and spaced from one another, a serrated shear blade engaging therebetween, and adapted to reciprocate with respect thereto, and means for actuating said blade with respect to the frame and said shear blades, substantially as described.

4. In an animal shears, a guard member, a pair of stationary serrated shear blades, means for adjusting said stationary shear blades in said guard member, and a reciprocating serrated shear blade engaging between the stationary shear blades, substantially as described.

971,932. TYPE-WRITING MACHINE. GEORGE A. SEIB, Ilion, N. Y., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed June 9. 1910. Serial No. 565,948.



1. In a typewriting machine and tabulating mechanism, the combination of a stop bar, a series of stops mounted on said stop bar for movement into and out of operative position, means for moving the stops on the stop bar, means independent of but coöperative with said stop bar to resist straining the bar when said stops are being moved on the bar by said stop moving means, and a key controlled stop coöperative with said first mentioned stops.

2. In a typewriting machine and tabulating mechanism, the combination of a stop bar, a series of stops mounted on said stop bar for movement into and out of operative position, means for moving the stops on the stop bar, a carriage, the stop bar and stop moving means being carried one on the carriage and the other on the frame of the machine, and means carried by the same part that carries the stop moving means to resist straining the bar when the stops are being moved on said bar by said stop moving means, and a key controlled coöperative stop.

3. In a typewriting machine and tabulating mechanism, the combination of a carriage, a stop bar carried thereby, stops mounted on said bar for movement into and out of operative position, stop moving means for moving said stops on the bar, said stop moving means being carried by the frame of the machine, and a device fixed to the frame of the machine and coöperative with said stop bar to resist straining the bar when the stops are being moved thereon by said stop moving means, and a coöperative key controlled stop.

4. In a typewriting machine and tabulating mechanism, the combination of a carriage, a column stop bar carried thereby, and a bracket fixedly connected with the frame

of the machine and coöperative with said column stop bar to resist strain thereon.

5. In a typewriting machine and tabulating mechanism, the combination of a carriage, a stop bar carried thereby, stops mounted on said bar for movement into and out of operative position, a resetting device carried by the frame of the machine and coöperative with said stops to move them on the stop bar to inoperative position, and a device fixedly connected to the frame of the machine and coöperative with the stop bar on the side thereof opposite the resetting device and resisting strain on the bar due to the operation of the resetting device on the stops.

[Claims 6 to 8 not printed in the Gazette.]

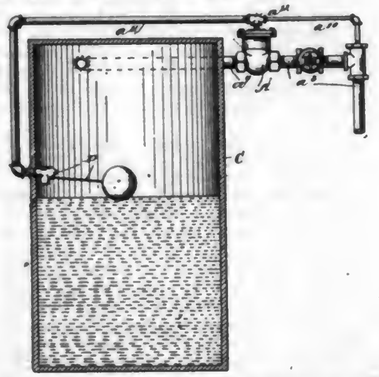
971,933. PNEUMATIC STACKER. JOSEPH K. SHARPE, Jr., Indianapolis, Ind., assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed July 13, 1908. Serial No. 443,262.



1. A pneumatic stacker comprising a material-receiving chamber, a discharge-fan at one side thereof, a beater in the opposite side of said chamber, a guide for directing material to said beater, and means for actuating said beater to impel material toward said discharge fan.

2. A pneumatic stacker comprising a material-receiving chamber, a discharge fan at one side thereof, a beater at the opposite side of said chamber, a casing partially inclosing said beater, a guide above said beater, and means for actuating said beater to impel material toward said discharge fan.

971,934. VALVE. CHARLES F. SIEGRIST, Cleveland, Ohio, assignor, by mesne assignments, to The Cleveland Steel Tool Company, Cleveland, Ohio, a Corporation of Ohio. Filed Feb. 25, 1909. Serial No. 480,032.



1. In a device of the character described, the combination of a casing having inlet and outlet openings; a member movably secured in said casing, said member being operable outwardly by the pressure of fluid in said casing against the member; a valve, carried by said member, controlling connection between such inlet and outlet openings; an open connection for supplying pressure fluid against the outer face of said member; and a normally open escape exteriorly of the casing for the fluid thus supplied.

2. In a device of the character described, the combination of a casing having inlet and outlet openings; a member movably secured in said casing, said member being operable outwardly by the pressure of fluid in said casing against the member; a valve, carried by said member, controlling connection between such inlet and outlet openings; an open connection for supplying pressure fluid against the outer face of said member; a normally open escape exteriorly of the casing for the fluid thus supplied; and automatically operated means for closing said escape.

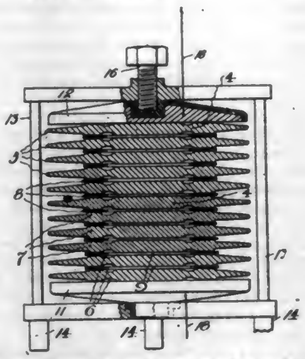
3. In a device of the character described, the combination with a receiving tank; of a casing having inlet and outlet openings; supply and discharge pipes connected with said openings, respectively, said discharge pipe leading to said tank; a member movably secured in said casing, said member being operable outwardly by the pressure of fluid in said casing against the member; a valve, carried by said member, controlling connection between such inlet and outlet openings; an open connection for supplying pressure fluid against the outer face of said member; a normally open escape exteriorly of the casing for the fluid thus supplied; and means adapted to close such escape, operation of said means being dependent on the level of fluid in said receiving tank.

4. In a device of the character described, the combination of a casing having inlet and outlet openings; a piston reciprocable in said casing, said piston being operable outwardly by the pressure of fluid in said casing against the piston; a valve, carried by said piston, controlling connection between such inlet and outlet openings; an open connection for supplying pressure fluid against the outer face of said piston; and a normally open escape exteriorly of the casing for the fluid thus supplied.

5. In a device of the character described, the combination of a casing having inlet and outlet openings; a differential piston reciprocable in said casing, said piston having its face of smaller area directed inwardly and being operable outwardly by the pressure of fluid in said casing against such face; a valve, carried by said piston, controlling connection between such inlet and outlet openings; an open connection for supplying such pressure fluid against the outer face of said piston; and a normally open escape exteriorly of the casing for the fluid thus supplied.

[Claims 6 to 12 not printed in the Gazette.]

971,935. SPARK-GAP FOR RADIOTONE WIRELESS-TELEGRAPH SYSTEMS. EMIL J. SIMON, New York, N. Y., assignor to The Radio Telephone Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 17, 1910. Serial No. 549,974.



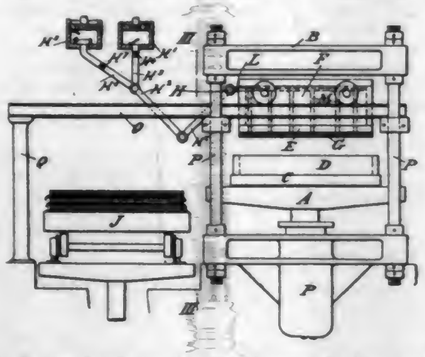
1. In an apparatus for producing powerful electrical oscillations, a plurality of electrodes having soft rubber gaskets interposed therebetween.

2. In an apparatus for producing powerful electrical oscillations, a plurality of metal disks having thin soft rubber gaskets interposed therebetween to form short air-tight sparking spaces between the opposed surfaces thereof.

3. In an apparatus for producing powerful electrical oscillations, a plurality of metal disks superimposed the one upon another, means for clamping said disks upon each other, and soft rubber gaskets interposed between the opposed surfaces of adjacent disks.

4. In an apparatus for producing powerful electrical oscillations, a plurality of metal disks superimposed the one upon another, and having bearing surfaces formed in the opposing faces thereof, and soft rubber gaskets interposed between the bearing surfaces of adjacent disks.

971,936. APPARATUS FOR THE MANUFACTURE OF SHEETS OF PULP. DANIEL MANSON SUTHERLAND and DANIEL MANSON SUTHERLAND, Jr., Sunbury Common, England. Filed Oct. 19, 1908. Serial No. 458,371.



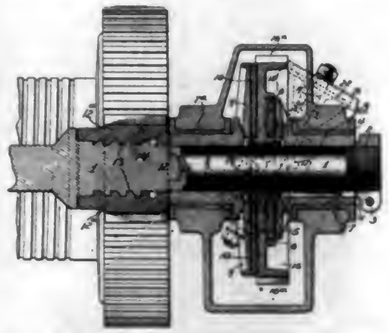
1. In apparatus for the manufacture of thick large sheets of paper pulp, wood pulp or the like, the combination of a press, a lower mold part adapted to contain pulp and fitted to the press, a movable upper mold part detached from the press normally mounted above the lower mold part and adapted to cooperate therewith, a suction box attached to the upper mold part, means for pressing said mold parts together to form a sheet, and means whereby the upper mold part, the sheet and the suction box may be moved from above the lower mold part to a position external to the press.

2. In apparatus for the manufacture of thick large sheets of paper pulp, wood pulp or the like, the combination of a press, a lower mold part adapted to contain pulp and fitted to the press, a movable upper mold part detached from the press normally mounted above the lower mold part and adapted to cooperate therewith, a suction box attached to the upper mold part, a series of ducts in the suction box communicating with an exhausting device and the upper mold part, means for pressing said mold parts together to form a sheet, and means whereby the sheet and the upper mold part may be moved from above the lower mold part to a position external to the press.

3. In apparatus for the manufacture of thick large sheets of paper pulp, wood pulp or the like the combination of a press, a lower mold part adapted to contain pulp and fitted to the press, a movable upper mold part detached from the press normally mounted above the lower mold part and adapted to cooperate therewith, a suction box attached to the upper mold part, a series of ducts in the suction box communicating with the suction box, with an exhausting device, and with a source of compressed air, means for pressing said mold parts together to form a sheet, and means for removing both the sheet from between the said mold parts and the upper mold parts to a position external to the press.

4. In apparatus for the manufacture of thick large sheets of paper pulp, wood pulp or the like, the combination of a press, a track fixed to, located within and projecting externally and laterally of the press, a lower mold part containing pulp and fitted to the press, an upper mold part movably mounted on the track and adapted to cooperate with the lower mold part, a suction box attached to the upper mold part, means for pressing said mold parts together to form a sheet, and means for removing said sheet from between the mold parts to a position exterior to the press.

971,937. AUTOMATIC BRAKE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed June 10, 1909. Serial No. 501,423.



1. In an automatic brake, the combination with friction gearing comprising a toothed wheel and friction devices cooperating therewith, of a worm meshing with said toothed wheel, the said worm being free to be rotated by the toothed wheel in one direction, and means for preventing rotation of the worm in the opposite direction.

2. In an automatic brake, the combination with friction gearing comprising a toothed wheel and friction devices cooperating therewith, of a worm meshing with said toothed wheel and having a slight longitudinal movement, the said worm being free to be rotated by the toothed wheel in one direction, and means for locking the worm against rotative movement in the opposite direction.

3. In an automatic brake, the combination with friction gearing comprising a toothed wheel and friction devices cooperating therewith, of a worm meshing with said toothed wheel and freely rotated in one direction by the latter, and having a friction thrust bearing which prevents its rotation in the opposite direction.

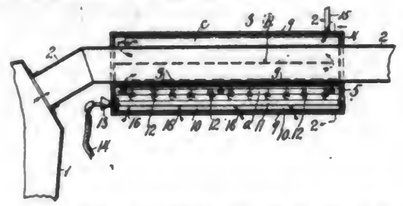
4. In an automatic brake the combination with friction gearing comprising a toothed wheel and friction devices cooperating therewith, of a worm meshing with the teeth of said wheel, the said worm having an anti-friction thrust bearing which permits it to be revolved freely in one direction by the toothed wheel, and a friction thrust bearing which prevents it from being revolved in the opposite direction.

5. In an automatic brake, the combination with friction gearing comprising a toothed wheel and friction devices cooperating therewith, of a worm disposed obliquely to the toothed wheel and meshing with and freely revolved by the latter in one direction, and a thrust friction bearing for preventing said worm from rotating in the opposite direction.

[Claims 6 to 9 not printed in the Gazette.]

971,938. GAS-HEATING ATTACHMENT FOR PIPES OF HEATING SYSTEMS. WALTER THOMAS, Vancouver, British Columbia, Canada. Filed Nov. 23, 1909. Serial No. 529,634.

1. A sectional detachable heating jacket attachment for a heating pipe, having a gas pipe and burners, longitudinal baffle plates of a suitable width to fit against an internal pipe and form connecting passages for causing hot products of combustion to circulate in contact with the pipe, and fastening devices for securing the sections on a pipe, substantially as described.

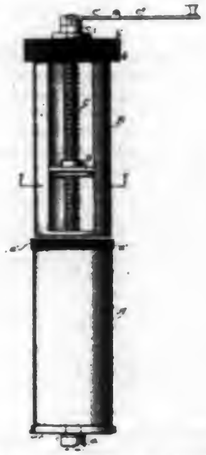


2. A sectional detachable heating jacket attachment composed of sections hinged together and provided with fastening devices at the meeting edges and having attached longitudinal baffle plates providing connecting passages and adapted to fit against an internal pipe and having a gas pipe and burners in one of the sections.

3. A detachable heating jacket attachment, composed of longitudinal sections hinged together and provided internally with attached baffle plates, forming connecting passages, one of the sections being provided with a longitudinal channel containing a gas pipe and burner, and the hinged sections being adapted to be clamped about a hot air pipe.

4. An auxiliary gas heater for a heating pipe, comprising a section of pipe provided with cross pipes, a surrounding heating jacket forming a circulating space around the inner pipe, into which the cross pipes open for passage of part of the products of combustion therethrough, a gas pipe and burners in the jacket, and means for causing hot products of combustion to circulate in contact with the inner pipe, substantially as described.

971,939. GREASE-GUN. SAMUEL P. TOWNSEND, Orange, N. J. Filed June 12, 1908. Serial No. 438,154.



1. A grease gun consisting of a cylinder having in its side an opening for the introduction of material and provided with an outlet, a piston in the cylinder having means to prevent the escape of material past its edge through the opening in said cylinder, means for causing the piston to move longitudinally of the cylinder, and a cover for said opening in the cylinder, said cover being mounted on the cylinder so as to be free to rotate when it is applied to or removed therefrom.

2. The combination of two cylinders constructed to fit together, one cylinder having an elongated side opening extending the greater part of its length and normally closed by the other cylinder, a nozzle for one of the cylinders, and means including a piston extending into the side opening of said cylinder for expelling the material in the cylinders through said nozzle.

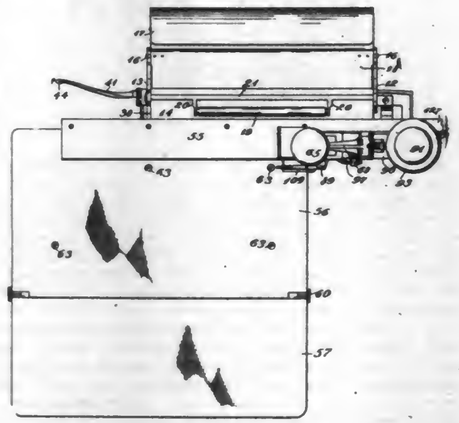
3. The combination in a grease gun of two cylinders fitting together, of which the inner one is provided with an elongated opening, a piston having a projection extending through the opening of the inner cylinder into engagement with the inner wall of the outer cylinder, means for causing said piston to move longitudinally through the cylinder, and a nozzle for the outer cylinder.

4. The combination of two cylinders capable of fitting together, one having a nozzle, and the other having a threaded cap for the reception of the first cylinder, the inner one of said cylinders having an elongated side opening, a screw extending axially of the cylinders, means for turning said screw, and a piston mounted on the screw and extending into the side opening of said inner cylinder.

5. The combination of two cylinders fitting together, the inner cylinder having a longitudinally extending side opening, a screw mounted in said cylinder, a piston mounted on the screw and having a removable portion provided with a projection fitting the opening in said inner cylinder, means for turning the screw, and a nozzle for one of said cylinders.

[Claims 6 and 7 not printed in the Gazette.]

971,940. STAMP-AFFIXING MACHINE. CLARENCE E. VAN DUZER, Cleveland, Ohio. Filed Apr. 10, 1909. Serial No. 489,223.



1. In a stamp affixing machine, the combination with a support for an envelop, of a receptacle for liquid, a plate having a series of pins normally projecting into the liquid, means for applying a stamp to the envelop, and means for lifting the plate out of the tank and moving it over the envelop, whereby the pins deposit drops of liquid upon the envelop before the stamp is affixed thereto.

2. In a stamp affixing machine, the combination with a support for an envelop, of a receptacle for liquid, a plate having a series of pins normally projecting into the liquid, means for applying a stamp to the envelop, and connections between said means and the plate for lifting the latter out of the tank and moving it over the envelop, whereby the pins deposit drops of liquid upon the envelop before the stamp is affixed thereto.

3. In a stamp affixing machine, the combination with a support for an envelop, of a receptacle for liquid, a pivoted lever having means thereon for applying a stamp to the envelop, means for transferring a plurality of independent drops of liquid from the tank to the envelop, and means connected with said lever for controlling the movement of said transferring means.

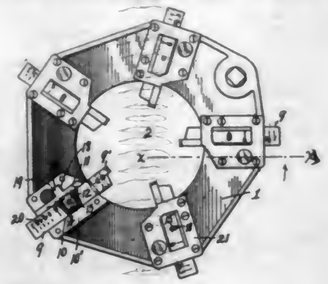
4. In a stamp affixing machine, the combination with a support for an envelop, of a receptacle for liquid, a pivoted

lever having means thereon for applying a stamp to the envelop, means for transferring a plurality of independent drops of liquid from the tank to the envelop, and a cam on the said lever for controlling the movement of said transferring means.

5. In a stamp affixing machine, the combination with a guide plate for stamps, means for feeding a sheet of stamps over said guide plate, a plunger above the guide plate adapted to be depressed, a support for an envelop beneath said plate and beneath said plunger, means for applying a plurality of separated drops of liquid to the envelop beneath the plunger, and means carried by the plunger for forcing a stamp below the said plate, separating it from the sheet and pressing the stamp against the envelop over the drops of liquid thereon.

[Claims 6 to 38 not printed in the Gazette.]

971,941. PIPE-THREADING MACHINE. WILLIAM W. VOSPER, Toledo, Ohio, assignor to The Toledo Pipe Threading Machine Company, Toledo, Ohio, a Corporation of Ohio. Filed Mar. 11, 1910. Serial No. 548,572.



1. In a machine of the class described, the combination with a head having radial chaser-ways therein, and tapered pins movable through the head adjacent such ways, of chasers radially movable in said ways, members mounted in said ways and capable of movements relative to the chasers and having parts coacting with the tapered faces of said pins, and means carried by the chasers and coacting with said members to prevent outward movements of the chasers relative to the members.

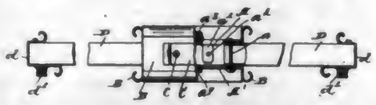
2. In a machine of the class described, the combination with a die-head having radial chaser-ways therein, of chasers mounted in such ways, yieldingly movable pawls carried by such chasers, ratchet-members mounted in the ways with said chasers and having a plurality of teeth capable of being selectively engaged by said pawls to prevent an outward movement of the chasers relative to the engaged ratchet-members and a part having tapered portions which work through the head in contact with the ratchet members whereby to permit outward radial movements of such members when the head and part are relatively moved.

3. In a machine of the class described, the combination with a die head having radial chaser-ways therein, and a part having tapered portions movable through the head adjacent such ways when the head and part are relatively moved, of chasers mounted in such ways and having sockets opening toward a side wall of the ways, toothed members yieldingly movable in said sockets, ratchet bars mounted for radial movements within said ways at one side of the chasers and having parts projecting therefrom in engagement with the tapered surfaces of said tapered portions, said bars also having teeth on their inner sides with which said toothed members may be selectively engaged, said toothed members having control parts projecting without the chasers.

4. In a machine of the class described, the combination of the work-holder, and chaser controlling members carried by such holder and capable of limited longitudinal movements relative thereto.

5. In a machine of the class described, the combination of a workholder, and tapered chaser controlling pins attached to such holder for revolving movements around the same, said pins having limited longitudinal play relative to the holder for the purpose described.

971,942. LIGHTING-FIXTURE. FREDERICK W. WAKEFIELD, Vermilion, Ohio. Filed Sept. 7, 1909. Serial No. 516,418.



1. As a new article of manufacture, a body for lighting fixtures comprising two substantially parallel plates, means for clamping the plates together, a casing laterally inclosing the plates; said casing being provided with apertures, and means for closing unused apertures.

2. As a new article of manufacture, a body for lighting fixtures comprising two substantially parallel plates, arms having their ends inserted between said plates, means for clamping the plates together, a casing laterally inclosing the plates, said casing being provided with apertures through which said arms project, and plates closing unused apertures in said casing, said casing and closing plates being attached to said parallel plates.

3. As a new article of manufacture, a body for lighting fixtures comprising two horizontal parallel plates, the upper of said plates being adapted for attachment to a stem, and the lower plate being adapted to receive a pendent socket, arms having their ends inserted between said plates, means for clamping the plates together, a casing laterally inclosing the plates, said casing being provided with apertures through which said arms extend, a plurality of pairs of lugs provided on the inner face of one of said plates, each pair of said lugs lying along two sides of one of said apertures, and plates closing unused apertures in said casing, said casing and said closing plates being attached to said lugs.

4. As a new article of manufacture, a lighting fixture comprising two substantially parallel plates, arms having their ends inserted between said plates, screws adapted to clamp said plates together, a casing laterally inclosing the plates, said casing being provided with apertures from which said arms extend, and plates closing unused apertures in the casing, said casing and said closing plates being attached to said parallel plates.

5. As a new article of manufacture, a lighting fixture comprising two horizontal parallel plates, arms having their ends inserted between said plates, screws adapted to clamp said plates together, a casing laterally inclosing the plates, said casing being provided with apertures through which said arms extend, a plurality of pairs of lugs provided on the inner face of one of said plates, each pair of lugs lying along two sides of one of said apertures, sheet metal plates closing the outer ends of the arms, and plates closing unused apertures in the casing, said casing and closing plates being attached to said lugs.

[Claims 6 to 9 not printed in the Gazette.]

971,943. LIGHTING-FIXTURE. FREDERICK W. WAKEFIELD, Vermilion, Ohio. Filed Mar. 2, 1910. Serial No. 546,793.



1. As a new article of manufacture, a lighting fixture arm provided at its outer end with a slot, a member extending across the outer end of said arm, and a nipple extending through said member and engaging the sides of said slot.

2. As a new article of manufacture, a lighting fixture arm provided at its outer end with a slot, a member extending across the outer end of said arm, and a nipple extending through said member and provided with flanges engaging the sides of said slot.

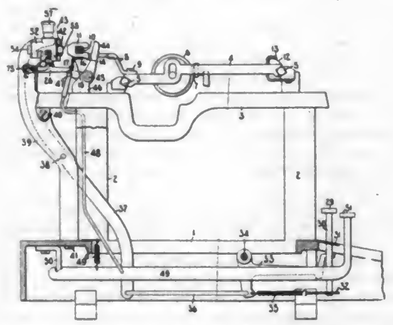
3. As a new article of manufacture, a lighting fixture arm provided at its outer end with a longitudinal slot, a member extending across the outer end of said arm and provided with a transverse slot, and a nipple extending through said slots and engaging the sides thereof.

4. As a new article of manufacture, a lighting fixture arm provided at its outer end with a longitudinal slot, a member extending across the outer end of said arm and provided with a transverse slot, and a nipple extending through said slots and provided with flanges engaging the sides thereof.

5. As a new article of manufacture, a lighting fixture arm provided at its outer end with a slot and with a projection, a member extending across the outer end of said arm and provided with a hole engaging said projection, and a nipple extending through said member and provided with flanges engaging the sides of said slot.

[Claims 6 to 10 not printed in the Gazette.]

971,944. TYPE-WRITING MACHINE. JOHN WALDHEIM, Newark, N. J., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed July 15, 1910. Serial No. 572,149.



1. In a typewriting machine, the combination of a carriage, a series of stops movable into and out of operative position, a wiper for moving said stops into inoperative position, hand actuated means for moving said wiper into coöperative relation with said stops, and means for locking said wiper against return movement.

2. In a typewriting machine, the combination of a carriage, a series of stops movable into and out of operative position, a wiper for moving said stops into inoperative position, hand actuated means for moving said wiper into coöperative relation with said stops, means for locking said wiper against return movement, and automatically operating means for releasing said locking means.

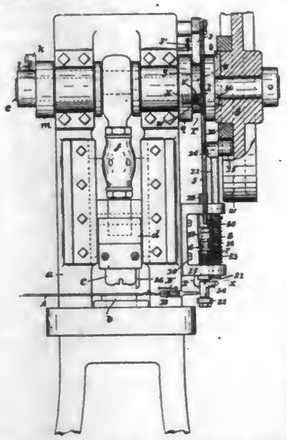
3. In a typewriting machine, the combination of a carriage, a series of stops movable into and out of operative position, a wiper for moving said stops into inoperative position, hand actuated means for moving said wiper into coöperative relation with said stops, means for locking said wiper against return movement, and automatically operating means for releasing said locking means, said releasing means being under control of said stops and being released when all of said stops have been cammed back by the wiper to inoperative position.

4. In a typewriting machine, the combination of a carriage, a series of stops movable into and out of operative position, a wiper for moving said stops into inoperative position, hand actuated means for moving said wiper into coöperative relation with said stops, and means for locking said wiper against return movement, said locking means comprising a device with which all of said stops co-operate and which is held in its locking position when any one of said stops is in the operative position.

5. In a typewriting machine, the combination of a series of stops movable into and out of operative position, means for moving said stops to inoperative position, and automatically operating locking means for locking said moving means in coöperative relation with said stops and when the moving means is effective to move the stops back to inoperative position.

[Claims 6 to 35 not printed in the Gazette.]

971,945. STOP MECHANISM FOR POWER-PRESSES. GEORGE W. WHEELWRIGHT, Paterson, N. J., assignor of one-half to Sleeth Manufacturing Company, Belleville, N. J., a Corporation of New Jersey. Filed May 21, 1909. Serial No. 497,483.

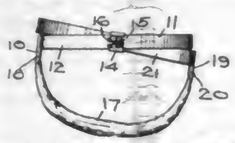


1. The combination of the frame, a driving member having a cam, a driven member, means, actuated by the driven member, for operating on the work, a clutch device normally operative to connect the driving and driven members, a movable member controlling the clutch device, a slide operated by said cam and guided in the frame, another slide guided in the frame, operative connecting means between said movable member and the second slide, and a part, movable in one of said slides into and out of interposed relation between the slides, for transmitting movement from the first to the second slide, substantially as described.

2. The combination of the frame, a driving member having a cam, a driven member, means, actuated by the driven member, for operating on the work, a clutch device normally operative to connect the driving and driven members, a movable member controlling the clutch device, a slide operated by said cam and guided in the frame, another slide guided in the frame, operative connecting means between said movable member and the second slide, and a work-controlled part, pivotally movable in one of said slides into and out of interposed relation between the slides, for transmitting movement from the first to the second slide, substantially as described.

3. The combination of the frame, a driving member having a cam, a driven member, means, actuated by the driven member, for operating on the work, a clutch device normally operative to connect the driving and driven members, a movable member controlling the clutch device, a slide operated by said cam and guided in the frame, another slide guided in the frame, operative connecting means between said movable member and the second slide, said means comprising a part movable to render the same operative or inoperative, and a part, movable in one of said slides into and out of interposed relation between the slides, for transmitting movement from the first to the second slide, substantially as described.

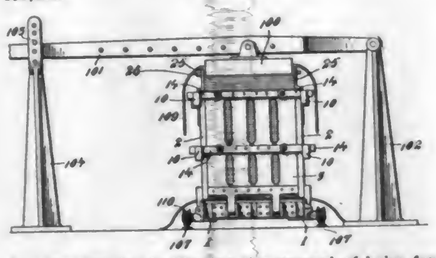
971,946. SUPPORTING-BELT. MABEL E. WILLIAMS, Fresno, Cal. Filed Sept. 14, 1908. Serial No. 452,949.



1. A catamenial sack supporter comprising two belts, tabs on said belts, said tabs on said belts being adapted to be oppositely disposed, sleeves about said belts for holding the same in position, and fasteners for said belts.

2. A catamenial sack comprising two belts adapted to be oppositely disposed, tabs on said belts, pins on said tabs for supporting said sack, fasteners on said belts, and sleeves on said belts for engagement over said fasteners.

971,947. BALING DEVICE. JAMES N. WOOD, Richmond, Va., assignor to The Neely Compress and Cotton Co., Inc., Richmond, Va. Filed Apr. 23, 1909. Serial No. 491,854.



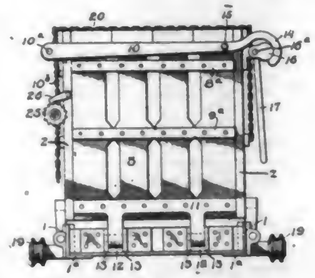
1. Apparatus for facilitating the removal of bales from knock down bale boxes, comprising among its members, a support for the bale box, a top block for engaging the top of the bale, provided with recesses for the insertion of bale-ties, means for forcing said top block down upon the top of the bale, to relieve the same from the bale retaining means with which the bale box is provided, and permit the box to be opened.

2. Apparatus for facilitating the removal of bales from knock down bale boxes, comprising among its members, a support for the bale box, a top block for engaging the top of the bale, provided with recesses for the insertion of bale ties, and with recesses to accommodate the bale retaining devices with which the bale box is provided, and means for forcing the top block down upon the top of the bale to relieve it from the bale retaining devices, and hold it under compression while the box is opened and the bale ties are applied.

3. The combination with a knock down bale box provided with bale retaining devices extending over the top of the bale, of apparatus for facilitating the removal of the bale, including means for supporting and positioning the bale box, a top block provided with recesses in its lower face to accommodate the said retaining devices and with bale tie recesses, mechanism for forcing said top block down upon the top of the bale, and means for holding said top block in operative position to permit the box to be opened and the bands applied without relieving the bale from its compression.

4. The combination with a knock down bale box provided with bale retaining devices extending across the top of the box, and having supporting wheels or rollers, of means for facilitating the removal of the bale comprising a supporting track for engaging said wheels or rollers, a top block supported in predetermined relation to said wheels or rollers, so as to engage the top of the bale, said block being provided with bale tie recesses, and with recesses to accommodate and permit the removal of said retaining devices, means for forcing said block down upon the bale, and locking means for holding the block in operative position.

971,948. BALE-BOX. JAMES N. WOOD, Richmond, Va., assignor to The Neely Compress and Cotton Company, Inc., Richmond, Va. Filed Sept. 16, 1909. Serial No. 518,058.



1. The combination with a bale box provided with hinged walls, of a shaft secured to one of the side walls, and provided at each end with perpendicular locking arms connected with said shaft, and adapted to engage the exterior of the adjacent end walls, the other side wall being provided with a shaft extending longitudinally thereof and provided with means adjacent to each end for detachably engaging said locking arms, whereby said shafts and locking arms form a rectangular frame entirely surrounding the box when the latter is in closed position.

2. The combination with a bale box provided with hinged walls, of a longitudinally disposed bar secured to one of the side walls, a longitudinally disposed bar secured to the opposite side wall, one of said bars being provided with perpendicular locking arms rigidly secured thereto for joint movement and having their free ends constructed to engage the other of said longitudinal bars, said bars and locking arms forming a rectangular frame entirely surrounding the box, when the latter is in closed position.

3. The combination with a bale box provided with oppositely disposed hinged walls, of a shaft rotatably secured to one of said walls, a pair of locking arms connected with said shaft and provided with hook portions at their opposite ends, a rock shaft secured to the opposite wall, eccentric devices on said rock shaft in position to engage said hook portions, and an operating device for said rock shaft.

4. The combination with a bale box having hinged side and end walls, of a pair of locking arms, pivotally secured to one of the side walls, and connected together for joint movement, said arms being located outside of the end walls when the box is in closed position and being provided at their outer ends with hook portions, of a rock shaft secured to the opposite side wall, eccentric devices on said rock shaft in position to be engaged by said hook portions, and means for rotating said rock shaft and eccentric devices.

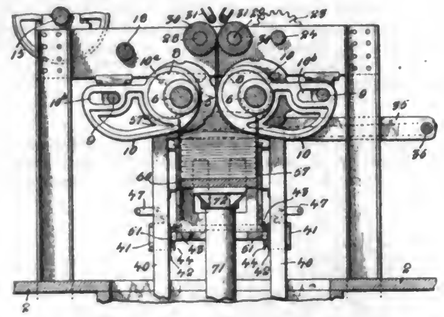
5. The combination with a bale box, of flexible bale retaining devices, means for securing the same to the bale box at one side of the same, and means for adjustably securing said flexible retaining devices, to the opposite side of the box.

[Claims 6 and 7 not printed in the Gazette.]

971,949. BALING-PRESS. JAMES N. WOOD, Richmond, Va., assignor to The Neely Compress and Cotton Co., Inc., Richmond, Va. Filed Apr. 1, 1909, Serial No. 487,229. Renewed Mar. 22, 1910. Serial No. 551,003.

1. In a baling press, the combination with baling rollers provided with spaces at intervals throughout their length, the spaces of one roller being in a line transversely of the roller shafts, with those of the other roller, a baling box, bale retaining devices adapted to be passed through the spaces in said rollers, and means for securing the bale securing devices to the bale box.

2. In a baling press, the combination with baling rollers provided with spaces at intervals throughout their length, the spaces of one roller being in a line transversely of the roller shafts, with those of the other roller, and a bale box provided with retaining bar securing devices, adapted to extend into said spaces, and the retaining bars for engaging said securing devices.



3. In a baling press, the combination with baling rollers provided with spaces at intervals throughout their length, the spaces of one roller being in a line transversely of the roller shafts, with those of the other roller, and a bale box provided with retaining bar securing devices, adapted to extend into said spaces, means for detachably locking said bale box in operative relation with the baling rollers, and the retaining bars for engaging said securing devices.

4. In a baling press, the combination with baling rollers provided with spaces at intervals throughout their length, the spaces of one roller being in a line transversely of the roller shafts, with those of the other roller, and a bale box provided with retaining bar securing devices, adapted to extend into said spaces, an oscillating baling frame, a bale box movable vertically therein, detachable locking devices for holding said bale box in operative relation to said rollers during the formation of the bale, and the retaining bars, for engaging the said securing devices after the formation of the bale.

5. In a baling press, the combination with baling rollers provided at intervals longitudinally with recesses, of an oscillating baling frame, a removable bale box therefor provided on opposite sides with bar securing devices adapted to extend into said recesses of the baling rollers, the retaining bars, means for elevating said bale box in said baling frame into operative relation with the baling rollers, and locking means for holding the bale box in operative position.

[Claims 6 to 8 not printed in the Gazette.]

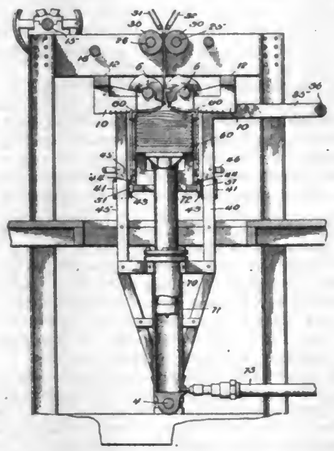
971,950. BALING-PRESS. JAMES N. WOOD, Richmond, Va., assignor to Neely Compress and Cotton Company, Inc., Richmond, Va. Filed Apr. 25, 1910. Serial No. 557,515.

1. In a baling press, the combination with a pair of baling rollers each having major and minor peripheral faces, of pressure bars provided with bale engaging faces extending horizontally from each of said rollers.

2. In a baling press, the combination with a pair of baling rollers, each comprising spaced sections provided with major and minor peripheral surfaces, of a series of pressure bars, adjacent to each roller having horizontally disposed bale engaging faces, and interposed between certain of said spaced sections of the roller.

3. In a baling press, the combination with a laterally movable bale holding frame, of a pair of baling rollers provided each with major and minor peripheral surfaces, the major surfaces only being adapted to engage the bale, and stationary pressure bars having horizontally disposed bale engaging faces, extending from said baling rollers outwardly in opposite directions.

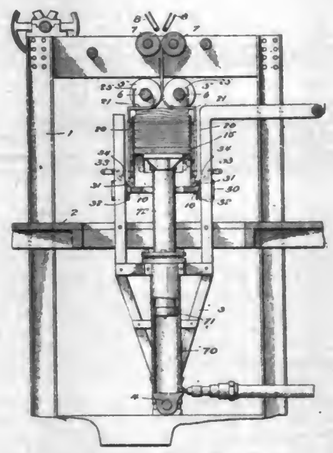
4. In a baling press, the combination with a pair of rollers, each comprising a plurality of spaced sections having bale forming major peripheral portions extending part way around the same, and minor peripheral portions of shorter radius adapted to remain out of contact with the bale, of means for rotating said rollers continuously in opposite directions, while forming the bale.



5. In a baling press, the combination with a pair of rollers, each comprising a plurality of spaced sections having bale forming major peripheral portions extending part way around the same, and minor peripheral portions of shorter radius adapted to remain out of contact with the bale, means for operating said rollers continuously in opposite directions during the formation of a bale, and pressure bars provided with horizontal bale engaging faces, extending from said rollers in opposite directions.

[Claims 6 and 7 not printed in the Gazette.]

971,951. BALING APPARATUS. JAMES N. WOOD, Richmond, Va., assignor to Neely Compress and Cotton Company, Inc., Richmond, Va. Filed Apr. 25, 1910. Serial No. 557,516.



1. The combination with a bale box, of retaining devices pivoted thereto, and having portions extending horizontally above the box, and arresting arms adapted to engage stationary portions of the press to limit the movement of said retaining devices, and springs engaging said

retaining devices and holding them normally in operative relation with the box.

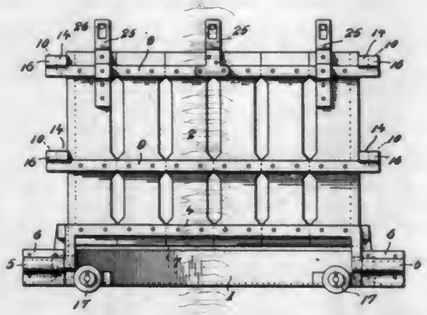
2. The combination with bale forming devices, of a bale box, means for moving it laterally with respect to the bale forming devices, retaining devices pivoted to the bale box, and having portions extending horizontally above the same, means for alternately arresting the said retaining devices on opposite sides of the box, and means for maintaining said retaining devices in operative position when the bale box is in its median position.

3. The combination with the bale forming devices, of a laterally movable bale box, retaining devices pivotally connected therewith, and having portions extending horizontally above the bale box, springs normally tending to hold said retaining devices in operative position, and parts connected with said retaining devices for engaging stationary portions of the press, when the bale box passes its median position.

4. The combination with a bale box, of retaining devices pivoted thereto, and having portions extending horizontally above the box, and arresting arms adapted to engage stationary portions of the press to limit the movement of said retaining devices, and springs engaging said retaining devices and holding them normally in operative relation with the box and locking mechanism for positively securing said retaining devices in operative position.

5. The combination with bale forming devices, of a bale box, means for moving it laterally with respect to the bale forming devices, retaining devices pivoted to the bale box, and having portions extending horizontally above the same, means for alternately arresting the said retaining devices on opposite sides of the box and means for maintaining said retaining devices in operative position when the bale box is in its median position and locking mechanism for positively securing said retaining devices in operative position.

971,952. BALE-BOX. JAMES N. WOOD, Richmond, Va., assignor to The Neely Compress and Cotton Co., Inc. Filed Apr. 23, 1909, Serial No. 491,853. Renewed May 17, 1910. Serial No. 561,903.



1. A bale box comprising a bottom frame, end and side walls hinged thereto, means for locking said end and side walls together, when closed, a bottom adapted to rest upon said bottom frame and be supported thereby, said bottom being movable vertically with respect to the bottom frame.

2. A bale box comprising a bottom frame, end and side walls hinged thereto, a bottom movable vertically with respect to said walls, and stops on said walls adjacent to the top for arresting the upward movement of the bottom with respect thereto.

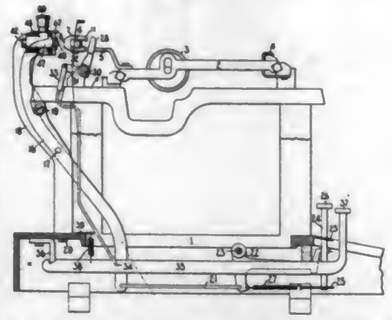
3. A bale box comprising a bottom frame, a bottom superimposed thereon and provided on its upper face with bale band recesses, lateral walls hinged to the bottom frame and having their lower edges cut away, end walls and means for connecting said side and end walls.

4. A removable knock down bale box provided with a bottom frame having a central aperture therein, lateral walls hinged to said bottom frame, a bottom of greater size than the said aperture, located above the bottom frame and movable vertically in said box, bale retaining devices adapted to extend across the top of said box, and means for securing said retaining devices to two opposite lateral walls of the box.

5. A bale box comprising a bottom frame, a bottom superimposed thereon but vertically movable with respect thereto and provided with bale band recesses, end walls secured to said bottom frame, lateral walls pivotally connected to the bottom frame, securing devices on two opposite walls for engaging transverse retaining bars and means for connecting said side and end walls.

[Claim 6 not printed in the Gazette.]

971,953. TYPE-WRITING MACHINE. OSCAR WOODWARD, Montclair, N. J., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed June 8, 1910. Serial No. 565,846.



1. In a typewriting machine, the combination of a toothed column stop bar, bifurcated flat sheet metal column stops received in the interdental spaces between the teeth on said bar and mounted for movement in said spaces into and out of operative position, and a bar removably fixed to the column stop bar and closing the interdental spaces at one end and against which the stops are adapted to abut at the limit of these movements in one direction to prevent the detachment of the stops from the stop bar.

2. In a typewriting machine, the combination of a toothed column stop bar, bifurcated flat sheet metal column stops received in the interdental spaces between the teeth on said bar and mounted for movement in said spaces into and out of operative position on said bar and adapted to be maintained indefinitely in either of said positions, each of said stops having an inwardly extending projection, and a bar removably fixed to the column stop bar and standing in the path of said projections on the stops to afford a movement of each of said stops into and out of operative position but preventing the removal of the stops from the column stop bar.

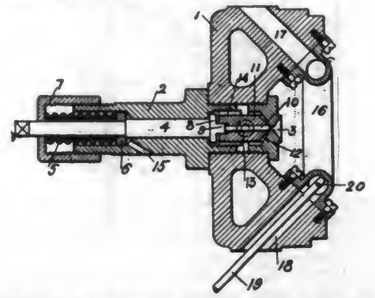
3. In a typewriting machine, the combination of a toothed column stop bar, bifurcated flat sheet metal column stops received in the interdental spaces between the teeth on said bar and mounted for movement in said spaces into and out of operative position, each of said stops having a spring that coacts with the column stop bar to retain the associated stop in either of the positions to which it may be moved, and each stop also having an inwardly extending projection which limits the movement of the associated stop in one direction and prevents the withdrawal of the stop from the column stop bar.

4. In a typewriting machine and tabulating mechanism, the combination of a series of tabulator stops movable into and out of operative position, a coöperative tabulator stop, and resetting means for said first mentioned stops, said resetting means comprising a wiper movable into and out of coöperative relation with the first mentioned stops, an actuating member, and cam connections between the wiper and actuating member for camming the wiper into and out of said coöperative relation.

5. In a typewriting machine and tabulating mechanism, the combination of a series of tabulator stops movable into and out of operative position, a coöperative tabulator stop, and resetting means for said first mentioned stops, said resetting means comprsing a wiper movable into and out of coöperative relation with the first mentioned stops, an actuating member, cam connections between the wiper and actuating member for camming the wiper into and out of said coöperative relation, a finger piece for moving said actuating device in one direction, and a spring for moving the actuating device in the opposite direction and for causing the wiper to be withdrawn to inoperative position.

[Claims 6 to 15 not printed in the Gazette.]

971,954. LIQUID-FUEL INTERNAL-COMBUSTION ENGINE. LEON WYGODSKY, New York, N. Y. Filed July 28, 1909. Serial No. 510,138.



1. A liquid fuel sprayer comprising a casing having a nozzle, a plug having grooves formed in one end coöperatively located with reference thereto, and means for adjusting said plug relative to said nozzle.

2. A liquid fuel sprayer comprising a casing having a nozzle, a plug abutting said nozzle, one of said elements having a groove adapted to impart a rotary movement to the fuel, said groove being disposed to form a passage between the end of said plug and said nozzle.

3. A liquid fuel sprayer comprising a casing having a nozzle, a plug abutting said nozzle, one of said elements having a groove adapted to impart a rotary movement to the fuel, and located between the end of said plug and said nozzle, and means for adjusting said plug relative to said nozzle.

4. A liquid fuel sprayer comprising a casing having a nozzle, a plug abutting said nozzle, one of said elements being provided with a plurality of curved grooves disposed to form a plurality of passages between the end of said plug and said nozzle, and adapted to impart a rotary movement to the fuel.

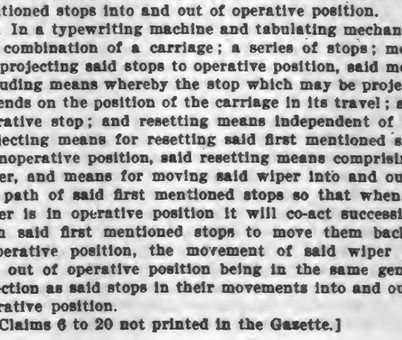
5. A liquid fuel sprayer comprising a casing having a nozzle, a sprayer plug having a plurality of grooves in one end which converge toward its axis, means for adjusting said plug relative to said nozzle, and a needle valve extending through said plug and controlling said nozzle.

[Claims 6 to 24 not printed in the Gazette.]

971,955. TYPE-WRITING MACHINE. CLIO B. YAW, Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed May 31, 1910. Serial No. 564,227.

1. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops; means for projecting said stops individually to operative position, said means including means whereby the column stop which may be projected depends on the position of the carriage in its travel; a key controlled coöperative stop; and resetting means carried by the frame of the machine for moving the projected column stops to inoperative position, the movement of said resetting means being toward and away from said column stops in the same general direction that the said stops move in as they are projected to and moved from operative position.

2. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means carried by the frame of the machine for projecting said column stops separately to operative position; a coöperative stop carried by the frame of the machine; key controlled means for projecting said coöperative stop into the path of the projected column stop or stops; and resetting means carried by the frame of the machine for moving the projected column stops back to inoperative position, the movement of said resetting means being toward and away from said column stops in the same general direction that the said stops move in as they are projected to and moved from operative position.



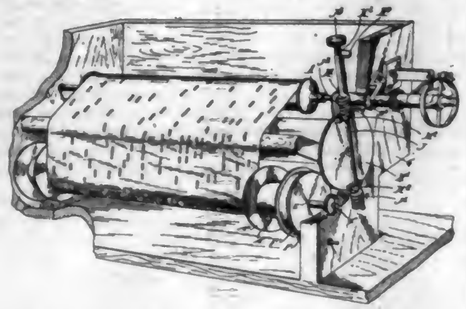
3. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops situated a letter space distance apart and mounted for individual movement into and out of operative position and for maintenance indefinitely in either of such positions; key actuated means for moving any desired individual column stop to operative position; a coöperative stop; key controlled means for moving said coöperative stop to a position where it will coöperate only with the column stop or stops which are in the coöperative position; and resetting means carried by the frame of the machine for moving the projected column stops back to inoperative position, the movement of said resetting means being toward and away from said column stops in the same general direction that the said stops move in as they are projected to and moved from operative position.

4. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of stops; means for projecting said stops to operative position, said means including means whereby the stop which may be projected depends on the position of the carriage in its travel; a cooperative stop; and means independent of said projecting means for resetting said first mentioned stops to inoperative position, said resetting means including a part on the frame of the machine, and means for moving said part into and out of coöperative relation with said first mentioned stops, such movement of said part being in the same general direction as the movement of said first mentioned stops into and out of operative position.

5. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of stops; means for projecting said stops to operative position, said means including means whereby the stop which may be projected depends on the position of the carriage in its travel; a cooperative stop; and resetting means independent of said projecting means for resetting said first mentioned stops to inoperative position, said resetting means comprising a wiper, and means for moving said wiper into and out of the path of said first mentioned stops so that when the wiper is in operative position it will co-act successively with said first mentioned stops to move them back to inoperative position, the movement of said wiper into and out of operative position being in the same general direction as said stops in their movements into and out of operative position.

[Claims 6 to 20 not printed in the Gazette.]

971,956. PLAYER FOR PIANOS. ADAM TURQUAND YOUNG, London, England. Filed Sept. 23, 1909. Serial No. 519,122.



1. In transposing mechanism for a piano player the combination of a music roll for the music sheet, a receiving roller to receive the music sheet from the music roll, a device for adjusting the music roll axially, a device for adjusting the receiving roller axially, means for operating the adjusting devices for both rolls normally out of engagement therewith, and means to shift the operating means into engagement with both adjusting devices for the purpose of operating them simultaneously; substantially as described.

2. In transposing mechanism for a piano player the combination of a music roll for the music sheet, a receiving roller to receive the music sheet from the feed roller, a device for adjusting the music roll axially, a device for adjusting the receiving roller axially, an operating member whose opposite ends carry means for operating the adjusting devices and arranged to actuate said devices simultaneously, and means for moving the ends of the actuating member into and out of engagement with the adjusting devices; substantially as described.

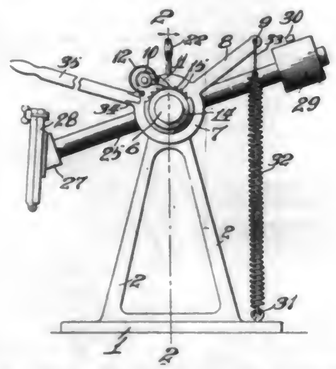
3. In transposing mechanism for a piano player, a music roll for the music sheet, a receiving roller to receive the music sheet from the music roll, means to adjust the music roll axially, means to adjust the receiving roll axially, means for operating the adjusting devices for both rolls, means to move the operating means into and out of engagement with the music roll adjusting devices, and means to lock the operating means in either of its adjusted positions; substantially as described.

4. In transposing mechanism for a piano player the combination of a music roll for the music sheet, a receiving roller to receive the music sheet from the music roll, a device for adjusting the music roll axially, a device for adjusting the receiving roller axially, a spindle whose opposite ends carry means for operating the adjusting devices, a bearing for the spindle that permits the latter to be rotated, and a support for the bearing that is free to swing about an axis that is transverse to the axis of the spindle and is situated approximately midway betwen the operating means carried at the ends of the spindle, the arrangement being such that the spindle which is normally in such position that its operative ends do not engage the adjusting devices may be swung around to engage both of said devices and then rotate in its bearing to operate them simultaneously; substantially as described.

5. In transposing mechanism for a piano player the combination of a music roll for the music sheet, a receiving roller to receive the music sheet from the music roll, a device for adjusting the music roll axially, a spindle whose opposite ends carry means for operating the adjusting devices, a bearing for the spindle that permits the latter to be rotated, a support for the bearing that is free to swing about an axis that is transverse to the axis of the spindle and is situated approximately midway between the operating means carried at the ends of the spindle, the arrangement being such that the spindle which is normally in such position that its operative ends do not engage the adjusting devices may be swung around to engage both these devices and then rotate in its bearing to operate them simultaneously, and an extension to the spindle whereby it may be rotated in its bearing and also swung from one position to the other; substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

971,957. CENTRIFUGAL CASTING-MACHINE. JAMES M. ALLEN, St. Louis, Mo., assignor to Martin Feilhauer, St. Louis, Mo. Filed Feb. 17, 1910. Serial No. 544,505.



1. In a centrifugal casting machine, a rotatable shaft, a flask carried by the shaft, an arm carried by the shaft, a contractile coil spring carried by the arm and means for locking the arm at times against movement relative the shaft.

2. In a centrifugal casting machine, a rotatable shaft, a bearing for the shaft, an arm carried by the shaft and rotatable therewith, means for locking said arm and shaft against rotation relative the bearing, a flask carried by said arm, a lever rotatably mounted relative the shaft, means for locking the lever against rotation at times relative the shaft and springs secured to the free end of said lever.

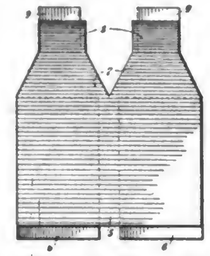
3. In a centrifugal casting machine, a bearing, a shaft rotatably mounted in the bearing, an arm carried by and rotatable with said shaft, means for locking the arm against movement at times relative the shaft, a flask carried by one end of said arm, a weight for counterbalancing the flask carried by the opposite end of the arm, a collar embracing the bearing, a lever carried by the collar, springs secured to the free end of said lever and means to lock said collar against movement at times relative the shaft.

4. In a centrifugal casting machine, a bearing, a flange having a slot carried by one end of the bearing, a shaft rotatably mounted within the bearing, a T-coupling secured to and rotatable with the shaft, a flange carried by the T-coupling, there being a slot in said flange, means carried by the T-coupling for engagement with both of said slots for locking the coupling against movement relative the bearing, an arm carried by the T-coupling, a flask carried by one end of said arm, a counterbalancing weight carried by the opposite end of the arm, a collar embracing the bearing, an arm carried by the collar, springs acting on said arm, a collar embracing the shaft and secured against movement relative the shaft and a pawl and ratchet connection between said collars.

5. In a centrifugal casting machine, a bearing, a flange having a slot carried by one end of the bearing, a shaft rotatably mounted within the bearing, a T-coupling secured to and rotatable with the shaft, a flange carried by the T-coupling, there being a slot in said flange, means carried by the T-coupling for engagement with both of said slots for locking the coupling against movement relative the bearing, an arm carried by the T-coupling, a flask carried by one end of said arm, a counterbalancing weight carried by the opposite end of the arm, a collar embracing the bearing, an arm carried by the collar, springs acting on said arm, a collar embracing the shaft and secured against movement relative the shaft, a pawl and ratchet connection between said collars, and a lever detachably secured to said first mentioned collar.

[Claim 6 not printed in the Gazette.]

971,958. TUBULAR RECEPTACLE. WILLIAM W. BAGLEY, New York, N. Y. Filed Mar. 12, 1910. Serial No. 548,828.



1. A receptacle comprising a tubular body portion, a tubular neck of reduced diameter, and a tapering portion connecting the body and neck, the receptacle constructed of a single piece of sheet material and having a joint at one side extending continuously through the body, tapering portion and neck, and having a joint at the opposite side extending through the neck and tapering portion only.

2. A receptacle comprising a tubular body portion, a tubular neck portion of reduced diameter, having a closely-fitting tubular portion extending thereabove, and a tapering portion connecting the body and neck, the receptacle constructed of a single piece of sheet material and having a joint at one side extending through the body, tapering portion, neck and the inner tubular portion of the neck, and having a butt joint at the opposite side extending through the neck, the inner tubular portion of the neck and the tapering portion only.

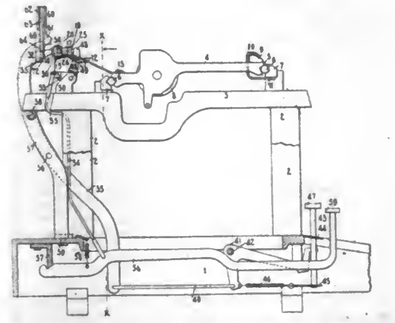
3. A receptacle comprising a tubular body portion, a tubular neck of reduced diameter, a tubular portion closely fitting within and extending slightly beyond the neck, and a tapering portion connecting the body and neck, all constructed of a single piece of sheet material and having butt joints.

4. A receptacle comprising a tubular body portion, a tubular neck of reduced diameter, a tapering portion connecting the body and neck, tubular portions respectively closely fitting the body portion and neck portion and respectively extending a substantial distance to the outside of the body portion and neck portion, the receptacle constructed of a single piece of sheet material, with the closely-fitting tubular portions respectively formed integral with and folded inwardly from the abutting edges of the body portion and neck.

971,959. TYPE-WRITING MACHINE. GEORGE F. BALLOU, New York, N. Y., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Feb. 4, 1910. Serial No. 541,905.

1. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops; means for projecting said stops individually to operative position, said means including means whereby the column stop which may be projected depends on the position of the carriage in its travel; a key controlled coöperative stop; and means carried by the frame of the machine for moving the projected column stops to inoperative position.

2. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means carried by the frame of the machine for projecting said column stops separately to operative position; a coöperative stop carried by the frame of the machine; key controlled means for projecting said coöperative stop into the path of the projected column stop or stops; and means carried by the frame of the machine for moving the projected column stops back to inoperative position.



3. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops situated a letter-space distance apart and mounted for individual movement into and out of operative position and for maintenance indefinitely in either of such positions; key actuated means for moving any desired individual column stop to operative position; a coöperative stop; key controlled means for moving said coöperative stop to a position where it will coöperate only with the column stop or stops which are in the operative position; and means carried by the frame of the machine for moving the projected column stops back to inoperative position.

4. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of stops; means for projecting said stops to operative position, said means including means whereby the stop which may be projected depends on the position of the carriage in its travel; a coöperative stop; and means independent of said projecting means for re-setting said first mentioned stops to inoperative position, said re-setting means including a part on the frame of the machine, and means for moving said part into and out of coöperative relation with said first mentioned stops.

5. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of stops; means for projecting said stops to operative position, said means including means whereby the stop which may be projected depends on the position of the carriage in its travel; a coöperative stop; and means independent of said projecting means for re-setting said first mentioned stops to inoperative position, said re-setting means comprising a wiper, and means for moving said wiper into and out of the path of said first mentioned stops so that when the wiper is in operative position it will co-act successively with said first mentioned stops to move them back to inoperative position.

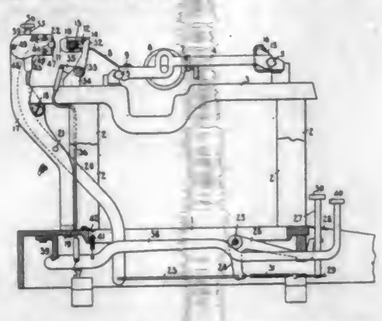
[Claims 6 to 26 not printed in the Gazette.]

971,960. TYPE-WRITING MACHINE. GEORGE F. BALLOU, New York, N. Y., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed July 22, 1910. Serial No. 573,231.

1. In a typewriting machine and tabulating mechanism, the combination of column stops movable into and out of operative position; and means for moving the said stops out of operative position, said means comprising a contact device coöperative with the stops and movable into and out of coöperative relation therewith, a finger piece for controlling said device, and geared connections between said finger piece and said device.

2. In a typewriting machine and tabulating mechanism, the combination of column stops movable into and out of

operative position; and means for moving the said stops out of operative position, said means comprising a contact device coöperative with the stops and movable into and out of coöperative relation therewith, a finger piece for controlling said device, and a rack and pinion intermediate said finger piece and said device.



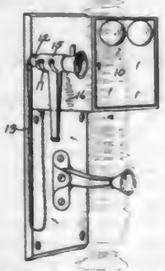
3. In a typewriting machine and tabulating mechanism, the combination of column stops movable into and out of operative position; and means for moving the said stops out of operative position, said means comprising a contact device coöperative with the stops and movable into and out of coöperative relation therewith, a finger piece for controlling said device, a rack connected with and moved by said finger piece, a pinion with which said rack meshes, and operative connections between said pinion and said device.

4. In a typewriting machine and tabulating mechanism, the combination of column stops movable into and out of operative position; and means for moving the said stops out of operative position, said means comprising a cam movable into and out of coöperative relation with the operative column stops, a finger piece for controlling the movement of said cam; a rack and pinion intermediate said finger piece and cam, and a spring for moving the finger piece and cam to normal position.

5. In a typewriting machine and tabulating mechanism, the combination of column stops movable into and out of operative position; and means for moving the said stops out of operative position, said means comprising a contact device coöperative with the stops and movable into and out of coöperative relation therewith, a finger piece for controlling said device, and a rack and pinion intermediate said finger piece and said device, the construction and relation of the parts being such that there is a dead centering of certain of the parts controlled by said finger piece which resists a return movement of said device under the action of the column stops thereon.

[Claims 6 to 16 not printed in the Gazette.]

971,961. TELEPHONE-RECEIVER HANDLE. CHARLES A. BARNES, Sr., Greenfield, Ind. Filed June 3, 1910. Serial No. 564,898.

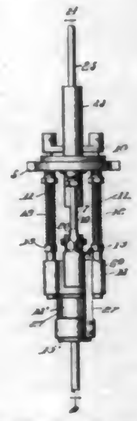


1. A handle for a telephone receiver including a holder portion adapted to embrace and hold a receiver between its ends and a handle portion rigidly extending at an angle therefrom and adapted to be inserted vertically between the ends of a telephone hook, whereby the handle will be supported on the hook and the receiver supported horizontally by the handle while the latter is on the hook.

2. A handle for a telephone receiver formed of a single piece of spring metal bent about midway its ends so as to provide at one end a circular holder for the telephone receiver and handle members extending from the sides of said holder at a right angle thereto.

3. A handle for a telephone receiver formed of a single piece of spring metal bent about midway its ends so as to provide at one end a circular holder for the telephone receiver and handle members extending from the sides of said holder at a right angle, the extreme end of one of said handle members having a spring catch adapted to receive and hold the extreme end of the other handle member.

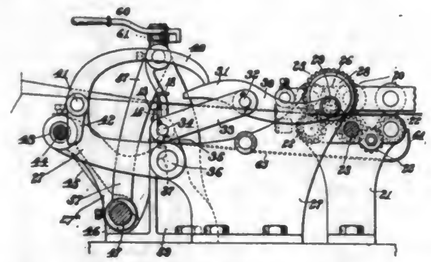
971,962. BOTTLE-FILLING MACHINE. CHARLES L. BASTIAN, Chicago, Ill., assignor to Bottlers Machinery Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 23, 1906. Serial No. 313,147.



In a bottle filling mechanism, the combination of a body adapted to be secured to a liquid tank, a filling tube depending from the body, a main head movable on said filling tube, a seat for the bottle at the bottom of the main head, a supplemental head adapted to be arranged on the filling tube to engage said seat and movable with the main head when so engaged, said supplemental head having a seat for the bottle at the bottom thereof, and both of said heads having air passages therein and adapted to communicate with each other, and spring arms on the supplemental head projecting upwardly therefrom, said arms having shoulders adjacent to their upper ends to engage the top of the main head whereby said supplemental head may be held on said main head.

971,963. DEVICE FOR PREVENTING SINGLES IN ROVING AND SIMILAR FRAMES. THOMAS BENTLEY, Dracut Center, Mass., assignor to Bentley Single-and-Stop Motion Company, Augusta, Me., a Corporation of Maine. Filed Apr. 6, 1908. Serial No. 425,555.

1. In an apparatus of the class described, the combination with a stopping mechanism therefor; of a rocker shaft; an arm thereon; a revoluble disk upon a gear in mesh with the drawing roll gears; a two-part pivoted connector one part of which is pivoted to said arm and the other part is eccentrically connected to said disk adapted normally to impart a rocking movement to said shaft but also adapted to break whenever the movement of said shaft is limited; means for limiting the movement of said shaft operable by the breaking of a thread; and means interposed between said pivoted connector and said stopping mechanism for operating the latter by the abnormal movement of the former.



2. In an apparatus of the class described, the combination with a stopping mechanism therefor; of a rocker shaft; an arm thereon; a revoluble disk upon a gear in mesh with the drawing roll gears; toggle mechanism, the two ends of which are respectively pivotally connected to said arm and disk, adapted normally to impart a rocking movement to said shaft but also adapted to break whenever the movement of said shaft is limited; means for limiting the movement of said shaft operable by the breaking of a thread; a spring-pressed rod for operating said stopping mechanism; a latch pivoted to a fixed member in substantially the same plane with said toggle mechanism and normally engaging and locking said rod; and means for moving said latch about its pivot by the breaking of said toggle mechanism.

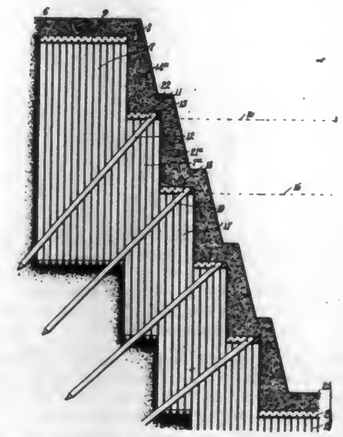
3. In an apparatus of the class described, the combination with a stopping mechanism therefor; of a rocker shaft; an arm thereon; a revoluble disk upon a gear in mesh with the drawing roll gears; a toggle mechanism, the two ends of which are respectively pivotally connected to said arm and disk, adapted to impart a rocking movement to said shaft but also adapted to break whenever the movement of said shaft is limited; means for limiting the movement of said shaft operable by the breaking of a thread; a spring-pressed rod for operating said stopping mechanism; an extension to one part of said toggle mechanism; and a latch pivoted to a fixed member in substantially the same plane with said toggle mechanism and normally engaging and locking said rod, said latch having an arm co-acting with said extension and adapted to be moved thereby to move said latch about its pivot when said toggle mechanism is broken.

4. In an apparatus of the class described, the combination with a stopping mechanism therefor; of a rocker shaft; an arm thereon; a revoluble disk upon a gear in mesh with the drawing roll gears; a toggle mechanism, the two ends of which are respectively pivotally connected to said arm and disk, adapted to impart a rocking movement to said shaft but also adapted to break whenever the movement of said shaft is limited; means for limiting the movement of said shaft operable by the breaking of a thread; an extension to one part of said toggle mechanism; a spring-pressed rod for operating said stopping mechanism having a peripheral notch; and a latch pivoted to a fixed member in substantially the same plane with said toggle mechanism and normally engaging said locking rod, said latch having an arm co-acting with said extension and adapted to be moved thereby to move said latch about its pivot when said toggle mechanism is broken.

5. In an apparatus of the class described, the combination with a stopping mechanism therefor; of a rocker shaft; an arm thereon; a revoluble disk upon a gear in mesh with the drawing roll gears; toggle mechanism, the two ends of which are respectively pivotally connected to said arm and disk; a spring-pressed rod for operating said stopping mechanism provided with a peripheral notch; a latch in substantially the same plane with said toggle mechanism pivoted to a fixed member and normally engaging said notch; means for disengaging said latch from said notch by the breaking of said toggle mechanism; a member retained normally in raised position by a thread; and means adapted upon the breaking of said thread to permit said member to engage with said rocker shaft and limit the movement thereof.

[Claims 6 to 8 not printed in the Gazette.]

971,964. METHOD OF BUILDING DOCKS. TORJE NIELSEN BERGE, Hoboken, N. J. Filed June 15, 1910. Serial No. 566,966.



1. The method herein described of building docks, which consists in beginning at the surface of the earth, excavating downwardly therefrom to a definite level, completing a portion of a wall from the upper level of the earth to the level thus reached, next again excavating so as to reach a lower level, and next extending the wall downwardly to the level last reached, these steps being repeated until the wall reaches a proper depth.

2. The method herein described of building docks, which consists in driving piling into the earth so as to bring the top of the piling substantially flush with the upper surface of the earth, excavating adjacent to said piling so as to form a new earth level, driving piling into said last-mentioned earth level, and forming a wall of plastic material supported partly by said last-mentioned piling and partly by said first-mentioned piling.

3. The method herein described of building docks, which consists in driving piling into the earth, removing portions of earth from one side of said piling, driving other piling into the earth, beginning at the level to which the excavation is carried, and spreading a plastic material upon all of the piling.

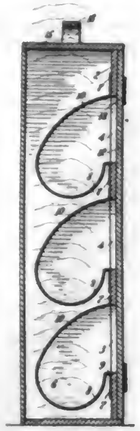
4. The method herein described of building docks, which consists in beginning at the normal surface of the earth, excavating downwardly and forming a succession of steps, placing a charge of plastic material upon the uppermost of said steps, allowing the same to set, placing another charge of plastic material upon the next lower step, the upper surface of said last-mentioned charge of plastic material reaching above the lowermost portion of the first-mentioned charge and adhering thereto, next excavating farther and forming another step, and filling in another charge, the process being repeated until the wall reaches the desired depth.

5. The method herein described of building docks, which consists in driving piles into the earth, removing portions of earth away from one side of said piling, driving other piles into the earth so that the upper level of said last-mentioned piles is lower than the upper level of said first-mentioned piles, thereby forming a step, tying together the piles thus placed, excavating again so as to reach the

lower level, driving down other piles, and continuing this process until the dock wall has reached the desired level.

[Claims 6 and 7 not printed in the Gazette.]

971,965. NAIL OR SCREW CASE. FRANK ALBERT BILLSTONE, Findlay, Ohio. Filed Oct. 29, 1909. Serial No. 525,350.



1. A case of the class described having a plurality of openings and provided with a plurality of curved pockets, said pockets being secured to the case with their edges coinciding with the upper and lower edges of the said openings.

2. A case of the class described having a plurality of openings and provided with a plurality of curved pockets, said pockets being provided at their edges with flanges by which they are secured to the case at the openings thereof.

3. A case of the class described comprising a casing having its front wall countersunk and provided with a plurality of openings, a plurality of pockets secured to the front wall at the openings thereof, said pockets having bowl-shaped bottoms and forwardly curved upper portions, and a hinged door for said casing.

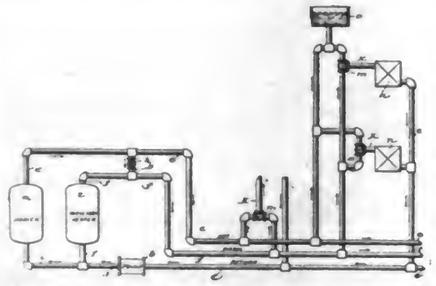
4. A case of the class described, having a forward wall with openings therein, and a plurality of pockets attached at said openings and presenting faces flush with the edges thereof, said pockets having bowl-shaped bottoms with upwardly curved forward walls.

5. A case of the class described, having a forward wall with a plurality of openings therein, and a plurality of pockets formed of sheet metal attached at the edges of said openings, said pockets presenting faces constituting extensions of said edges, said pockets having bowl-shaped bottoms and upwardly and forwardly inclined upper portions constituting extensions of said bottoms.

971,966. HOT-WATER HEATING APPARATUS. HEINRICH ATHANASIUS BOLZE, Hanover, Germany. Filed Sept. 25, 1905. Serial No. 279,973.

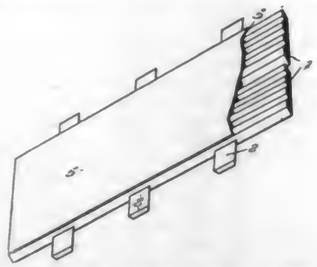
1. In a circulating hot water heating system, the combination, with a hot water supply main, a warm water supply main, radiators, a return main, and heating means inserted in the circuit, of valved connections between each of the supply mains and the intake of the respective radiators, a direct connection from the outlet of each radiator to the return main, and a valved by-pass from the hot water main to the warm water main.

2. In a circulating hot water heating system, the combination, with a hot water supply main, a warm water supply main, radiators, a return main, and heating means inserted in the circuit, of a three-way valve connecting the two supply mains to the intake of the respective radiator, a direct connection from the outlet of each radiator to the return main, and a valved by-pass from the hot water supply main to the warm water supply main.



3. In a circulating hot water heating system, the combination, with a heater, a hot water supply main fed thereby, a warm water supply main, radiators, a return main leading to the heater and also to the warm water supply main, a valved by-pass from the hot water supply main to the warm water supply main, valved connections between each of the supply mains and the intake of the respective radiators, and a direct connection from the outlet of each radiator to the return main.

971,967. BUILDING MATERIAL. WILLIAM E. BROCK, North Plainfield, N. J. Filed May 27, 1908. Serial No. 435,285.



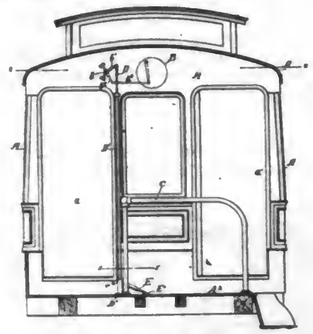
In a sectional wall covering, a series of separate sections adapted each to be formed and applied as a unitary article, and each consisting of a series of parallel slats arranged parallel and having their faces roughened, a series of thinner slats of trapezoidal section fitted to slots of similar form in the back of the parallel slats to connect the latter firmly together, and a coating of plaster applied to the roughened surfaces.

971,968. OPERATING DEVICE FOR CAR-FARE REGISTERS. EZRA S. BUCKNAM, Philadelphia, Pa., assignor to The J. G. Brill Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 15, 1908. Serial No. 416,051.

1. The combination of a car, a register, a rod connected to the register and extending to a point near the floor of the car, a casing inclosing the rod, said casing having an opening near its lower end, a detachable treadle extending through the opening and engaging the rod, the casing preventing the operation of the register when the treadle is detached.

2. The combination of a car having a floor, a register, a rod connected to the register and extending to a point near the floor and having an eye at its lower end, a pivot plate in the floor having a slot therein, a detachable treadle having a lug adapted to the slot in the plate, and a projecting finger extending through the eye in the rod.

3. The combination of a car having a floor, a fare register, a rod connected to the fare register and extending to a point near the floor and having an eye, a tube inclosing the rod and slotted at its lower end opposite the eye in the rod, a treadle detachably pivoted to the floor and having a finger projecting through the slot in the tube and through the eye in the rod, the lower edge of the finger being beveled, and means for normally holding the rod in its raised position.



4. The combination of a car, a register on the inside of the car, a shaft extending through the partition of the car and having two arms, one on one side of the partition and the other on the opposite side, one of said arms connected to the register, a rod connected to the other arm, a tubular casing inclosing the rod, a slot in the lower portion of the casing, and a treadle pivoted to the platform and extending through the slot in the casing and connected to the rod.

971,969. DEVICE FOR STRETCHING FURS OR SKINS. ROY H. BULLIS, Winnebago, Minn. Filed Oct. 14, 1909. Serial No. 522,561.



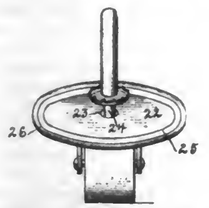
1. A pelt stretcher, comprising a frame formed of a wire rod bent between the ends providing two side members, a cross bar bent on an end of one side member and extending across the end of the other side member, a depending hook on the free end of the last mentioned side member, spaced ring eyes on the cross bar, any one of which may be engaged by the said hook, a member mounted on the cross bar, and a hook for engagement with the pelt and connected with said member.

2. A pelt stretcher, comprising a frame formed of a wire rod return bent to give the bend ovate form and provide two side members that may be diverged at one end thereof, a cross bar bent on an end of one side member and extended across the other side member, a depending hook on the free end of said side member, and spaced ring eyes on the cross bar, any of which may be engaged by the hook.

3. A pelt stretcher, comprising a frame formed of a wire rod, bent between its ends providing two side members, a cross bar formed on the end of one side member, means for detachably securing the end of the other side member on the cross bar at a selected point, a link rod mounted at one end on the cross bar, and having a series of spaced eyes formed thereon and a coupling hook for engagement with one of the eyes of the link rod, the said coupling hook being formed with an open ring and two limbs diverging from the ring and terminating in oppositely bent hooks.

4. A pelt stretcher, comprising a frame formed of a wire rod bent between its ends, providing two spaced side members, a hook on one side member, a cross bar on the other side member that extends toward the hook, spaced ring eyes on the cross bar either of which may receive the hook, a link rod having ring eyes thereon, and mounted at one end on the cross bar, and a duplex hook that is formed with an open ring that may be engaged with any of the ring eyes on the link rod.

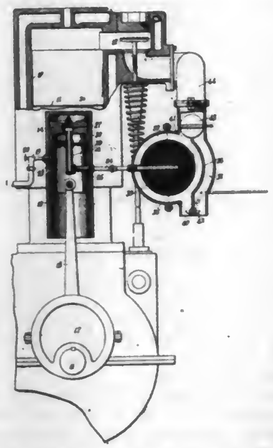
971,970. BUFFER. JOHN W. CAMPBELL, Colorado Springs, Colo. Filed Oct. 19, 1909. Serial No. 523,388.



1. In a buffer, the combination with a caster having a shank, of a disk rotatably mounted thereon, said plate having an annular seat formed in its periphery and a length of resilient material secured to said plate.

2. In a buffer, the combination with a caster having a shank, of a plate having an aperture therein to receive the shank whereby the plate may be rotated on the shank, said plate having a peripheral seat and a band of resilient material in said seat.

971,971. CHARGE-FORMING DEVICE FOR INTERNAL-COMBUSTION ENGINES. HIRAM CASSEDY, Sr., and ROBERT SEAL PURSER, Brookhaven, Miss. Filed May 6, 1910. Serial No. 559,739.



1. A charge-forming device for internal combustion engines, including a pump having separate fuel and air inlet ports, and a mixing chamber, to which said pump delivers, and provided with an air inlet port.

2. A charge-forming device for internal combustion engines, having a pump provided with a liquid fuel inlet and an air inlet, a delivery passage, a mixing chamber to which said passage delivers, connections between said mixing chamber and the inlet of the engine, and an independent air inlet for the engine.

3. A charge-forming device for internal combustion engines, having a pump including a cylinder and a piston,

said cylinder having a liquid fuel inlet, an air inlet and an outlet conduit, a spray nozzle on said outlet conduit, and a mixing chamber, having a partition subdividing the same into two substantially parallel passages, both delivering to the inlet of the engine, one of which incloses said spray nozzle and the other of which constitutes an air passage.

4. A charge-forming device for internal combustion engines, including a pump having a cylinder and a piston, said cylinder having an inlet port for liquid fuel and an inlet port for air, both of which ports are uncovered by the piston and in the order named when said piston is adjacent the end of its suction stroke, an outlet passage communicating with the interior of the cylinder when the piston is adjacent the end of its compression stroke, and a mixing chamber connected to said outlet passage and provided with an air inlet independent of said passage.

5. A charge-forming device for internal combustion engines, including a pump cylinder, a piston movable therein, said cylinder having a fuel inlet port and an air inlet port uncovered in succession as said piston approaches the end of its suction stroke, an outlet conduit, a conduit leading through said piston and communicating with said outlet conduit when the piston is adjacent the end of its compression stroke, means for diluting the charge delivered through said outlet conduit, and connections between said diluting means and the inlet of the engine.

[Claims 6 to 8 not printed in the Gazette.]

971,972. WIRE FENCE. DANIAL AARON CLAWSON, Waynesville, Ill. Filed June 5, 1909. Serial No. 500,449.



1. A wire fence, comprising stretched line wires, a wire stay connecting the line wires with each other, the wire stay having doubled up portions each looped around a corresponding line wire, each doubled up portion forming an eye, and a reinforcing wire passing through the eye and twisted with the wire stay.

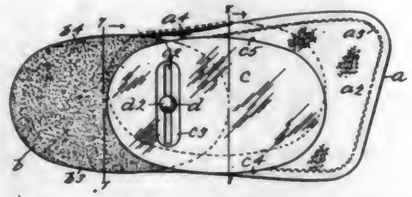
2. A wire fence, comprising stretched line wires, a wire stay connecting the line wires with each other, the stay having doubled up portions looped around a corresponding line wire and forming an eye, and a reinforcing wire connected at its ends with line wires and passing through the said eyes.

3. A wire fence, comprising stretched top, bottom and intermediate line wires, a wire stay having twisted ends engaging the said top and bottom line wires and having spaced doubled up portions intermediate the said twisted ends and looped around the said intermediate line wires, the said doubled up portions forming eyes, and a reinforcing wire twisted around the wire stay between adjacent line wires and passing through the eye of the doubled up portion.

4. A wire fence, comprising stretched top, bottom and intermediate line wires, a wire stay having twisted ends engaging the said top and bottom line wires and having spaced doubled up portions intermediate the said twisted ends and looped around the said intermediate line wires, the said doubled up portions forming eyes, and a reinforcing wire twisted around the wire stay between adjacent line wires and passing through the eye of a doubled up portion, the twisted ends of the reinforcing wires engaging the top and bottom line wires.

5. A wire fence, comprising stretched line wires, a wire stay connecting the line wires with each other, the wire stay having doubled up portions, each looped around a corresponding line wire, and a reinforcing wire connected with the line wires and connected with the said stay at the doubled up portions.

971,973. FOOT-SUPPORT. HYMAN COHEN, New York, N. Y. Filed Jan. 17, 1910. Serial No. 538,404.



1. A foot support, comprising an in-sole, a heel cushion, and a pivot secured in said in-sole and passing through said heel cushion adjacent the forward end thereof, whereby said cushion may be swung forwardly of said pivot to the arch of said in-sole.

2. A foot support, comprising an in-sole, a pad thereunder, and a pivot secured in said in-sole intermediate of the arch and heel portions thereof, said pivot passing through said pad adjacent one end thereof, whereby it may be used at either said heel or arch portions of said in-sole.

3. A foot support, comprising an in-sole, a pad, a cushion, and a pivot secured in said in-sole intermediate the arch and heel portions thereof, said pivot passing through the pad adjacent the rear end thereof and through said cushion adjacent the forward end thereof, whereby the positions of said pad and cushion may be reversed, singly or jointly.

4. A foot support, comprising an in-sole, a pad tapered transversely in one direction, a cushion tapered transversely in the opposite direction, and a pivot secured in said in-sole intermediate the arch and heel portions thereof, said pivot passing through said pad and cushion adjacent contiguous ends thereof, whereby the positions thereof may be reversed, singly or jointly.

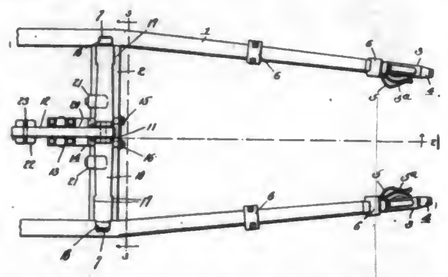
5. A foot support, comprising an in-sole, a pad, and a pivot secured in said in-sole intermediate the arch and heel portions thereof and passed through said pad adjacent one end thereof, whereby said pad may be used at either the arch or heel portions of said in-sole, and said pad being slotted transversely to receive said pivot for transverse adjustment with relation to said in-sole.

[Claims 6 to 12 not printed in the Gazette.]

971,974. HORSE-DETACHER. JOHN W. COURSEY, Agudo, N. Mex. Filed May 28, 1910. Serial No. 563,884.

1. The combination of a vehicle, a lever mounted upon the vehicle, horse detaching means adapted to be operated by the lever, and a weight applied to the lever, the said weight being insufficient to operate the lever when the vehicle is at a standstill but the jolts of the vehicle when in motion causing the weight to exert a series of jerks upon the lever for operating the same.

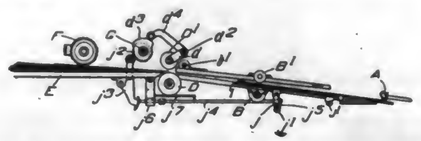
2. The combination of a vehicle, a lever carried by the vehicle and pivotally mounted at a point between its ends, horse detaching means having an operative connection with the lever, a spring engaging the lever upon one side of the pivot thereof for holding the lever yieldingly against operation, and a weight applied to the lever upon the opposite side of the pivot, the said weight being insufficient to operate the lever when the vehicle is at a standstill, but the jolts of the vehicle when in motion causing the weight to exert a series of jerks upon the lever for operating the same.



3. In a horse detacher, the combination of a pair of shafts, a cross bar connecting the shafts, a bracket applied to the cross bar, a lever pivotally mounted upon the bracket, a swingletree, a pivot pin upon which the swingletree is mounted, the said pivot pin having an operative connection with the lever so as to be withdrawn through the medium thereof, means for normally holding the lever yieldingly against operation, and means operated by the jolts of the vehicle when in motion for operating the lever to withdraw the pivot pin and release the swingletree.

4. In a horse detacher, the combination of a vehicle, a swingletree, a pivot pin upon which the swingletree is mounted, a lever having an operative connection with the pivot pin, a weight detachably applied to the lever, the said weight being insufficient to operate the lever when the vehicle is at a standstill, but the jolts of the vehicle when in motion causing the weight to exert a series of jerks upon the lever for operating the same.

971,975. PAPER-FEEDING MACHINE. FRANK L. Cross, Mystic, Conn. Filed Dec. 4, 1903. Serial No. 183,729.



1. The combination with front gages of delivery devices for delivering sheets at the gages, bars arranged below the path of the sheets, pushers secured to the bars in position to engage the rear edge of the sheet, and means for raising and advancing the bars to lift the sheet and advance it against the front gages.

2. The combination with front gages of delivery devices for delivering sheets at the gages, a sheet support over which the sheets pass to the gages, bars arranged below the path of the sheets, pushers adjustably secured to the bars, and means for raising the bars above the support and advancing them to carry the sheet forward against the front gages.

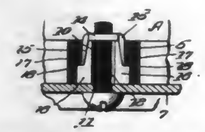
3. The combination with front gages of a sheet support over which the sheets pass to the gages, bars arranged below the path of the sheets, pushers secured to the bars, devices whereby the pushers may be adjusted to engage the rear edge of sheets of different length, and means for raising the bars above the surface of the sheet support and advancing the bars.

4. The combination with front gages of a sheet support over which the sheets pass to the gages, sheet lifting devices arranged below the path of the sheets, means for raising and advancing the lifters to lift the sheet from the support and carry it forward, and adjustable pushers arranged to engage the rear edge of the sheet and push the sheet forward against the front gages.

5. The combination with front gages of delivery devices for delivering sheets to the front gages, a stationary sheet support over which the sheets pass to the gages, sheet lifting devices arranged below the surface of the sheet support, means for raising and advancing the lifters to lift the sheet from the support and carry it forward, and pushers arranged to engage the rear edge of the sheet and push the sheet forward against the front gages.

[Claim 6 not printed in the Gazette.]

971,976. SECURING MEANS FOR ELECTRIC-LAMP SOCKETS AND THE LIKE. JAMES S. CROSSLEY, Solvay, N. Y., assignor to Pass & Seymour, Inc., Solvay, N. Y., a Corporation. Filed Sept. 1, 1909. Serial No. 515,558.



1. A securing means for electric lamp sockets and the like comprising a securing bolt and an engaging nut therefor provided with opposite integral downward extensions having their tips outwardly bent to clamp the nut in position on the body.

2. The combination with a porcelain body and a securing means therefor, said securing means comprising a bolt and an engaging nut for the bolt provided with finger-like extensions depending therefrom and said body being recessed to receive said bolt and extensions, said recess being enlarged to form shoulders to be engaged by the extension tips and to give access to bend over the tips permanently to clamp the nut on the body.

3. In a securing means for devices of the character described, a nut adapted to be secured in position on a wall of the device, said nut having integral portions at one end to engage with one surface of the wall, tips extending substantially at a right angle to said portions to engage with opposite surfaces on the wall and a screw threaded hole in the nut between the extensions.

4. A securing means for devices of the character described, consisting of a securing bolt and of a nut, said nut consisting of a flat body having a threaded aperture to receive the bolt, opposite portions on the body to engage with one surface of the wall of the device to which the nut is applied, and opposite downward extensions on the body having tips bent to engage with an opposing surface of the wall.

5. In a securing means for electrical devices, a nut adapted to be applied to a perforated lug on such a device, said nut being of sheet metal and having a flat main portion larger than the perforation to engage with one side of the lug and having opposite extensions downwardly extending at a right angle to the main portion into the perforation, said extensions having tips bent outwardly to engage with shoulders in the perforations and said main portion having a central threaded hole to receive a bolt.

971,977. UMBRELLA-STAND. KARL DETZNER, Newark, N. J. Filed Apr. 26, 1910. Serial No. 557,786.

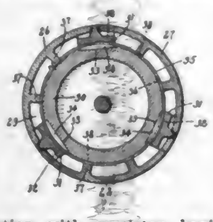
In an umbrella-stand, the combination of a trough-shaped bottom-part, a plurality of annularly-arranged rings supported above the trough-shaped part, a ring-shaped top-part above said series and provided with radially-disposed outwardly-opening recesses one above each ring respectively, an auxiliary ring or disk projecting outwardly above and beyond said recesses and rings, a fixed

jaw screwed to the bottom-wall of each recess, a movable jaw fulcrumed at its intermediate part to each fixed jaw and provided with a rearwardly-disposed shoulder, a spring-pressed stop-plate fulcrumed in each recess and adapted to engage said shoulder, with its outer end, when the fixed and movable jaws are closed together, an armature secured to the inner end of each stop-plate, a stop-



screw secured to a wall of each recess for limiting the movement of the armature therein, an electro-magnet secured to a side-wall of each recess and adapted to act upon the armature therein to move the stop-plate from engagement with the shoulder, a switchboard, and a separate circuit between each electro-magnet and the switchboard.

971,978. PISTON-PACKING. JOSEPH DITTRICH, New York, N. Y. Filed May 18, 1910. Serial No. 562,040.

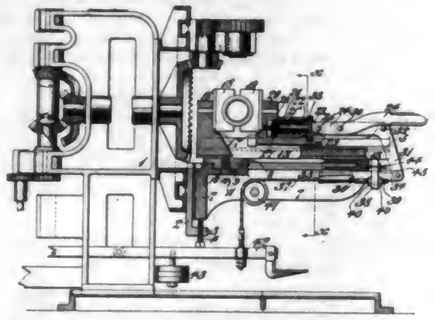


The combination with a piston having an annular groove in its peripheral portion and a cylindrical pocket leading from said groove toward the axis of said piston, of a split ring seated in said groove, the edges of the ends of said ring diverging from the outer periphery of the same to the inner periphery thereof, a cylindrical member arranged in said pocket and having a recess into which the ends of said piston ring fit, whereby the walls of said recess overlap the gap between the two ends of said piston ring, resilient means between said cylindrical member and said piston for forcing said ring outwardly, and a wedge-shaped projection in said recess and in the space formed between the divering edges of said ring, said projection being shorter than the walls of said cylindrical member, whereby said projection is normally out of contact with said ring.

971,979. CHUCK FOR MACHINE-WORK. HENRY O. EVANS, Detroit, Mich. Filed May 19, 1909. Serial No. 497,038.

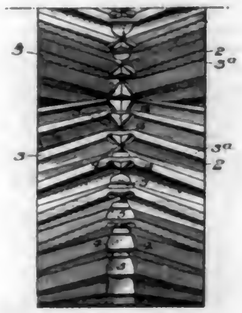
1. In a device of the character stated, a table, a carriage slidingly mounted thereon provided with a jaw member, a second jaw mounted on said carriage for movement relative thereto, a spring operatively secured to said second jaw, a lever pivotally mounted on said carriage, and connecting means between the said spring and lever, whereby the lever opens said jaw when moved in one direction and releases said jaw to the action of the spring when moved in the opposite direction.

2. In a device of the character stated, a carriage, a jaw carried thereby, a second jaw slidingly mounted adjacent thereto, a lever pivoted to said carriage, a bushing connected to said lever, a member secured to said second jaw and having sliding engagement with said bushing, means on said member to impart movement of said lever in one direction to said second jaw, and yielding means between said lever and said member.



3. In a device of the character stated, a carriage, a jaw carried thereby, a second jaw slidingly mounted adjacent thereto, a lever pivoted to said carriage, a bushing connected to said lever, a member secured to said second jaw and having sliding engagement with said bushing, means on said member to impart movement of said lever in one direction to said second jaw, a spring between said lever and said member, and means to adjust the tension of said spring.

971,980. DOUBLE HELICAL GEAR-WHEEL. THOMAS FAWCUS, Pittsburg, Pa. Filed Jan. 4, 1910. Serial No. 536,283.

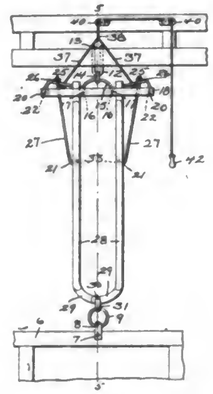


1. A gear wheel having thereon two sets of oppositely directed helical teeth, the teeth of the two sets being connected by an intermediate portion of less thickness than the thickness of the teeth and which has a flattened face at one side approximately parallel to the axis of the wheel, and which, upon its opposite side is recessed by prolongations of the spaces between the teeth; substantially as described.

2. A gear wheel having thereon two sets of oppositely directed helical teeth, joined at their inner ends by connecting portions, the spaces between adjacent teeth being enlarged at the inner ends of the two sets of teeth and such enlargements extending into said connecting portions upon one face of the latter, the opposite face thereof being cut away and extending approximately parallel to the axis of the wheel; substantially as described.

3. A pair of similar intermeshing gear wheels, each of which has two sets of oppositely directed helical teeth, the two sets of teeth on each wheel being joined at their inner ends, the inner ends of the adjacent teeth being recessed on one side and being also cut away at their opposite sides to permit the two similar wheels to mesh into each other; substantially as described.

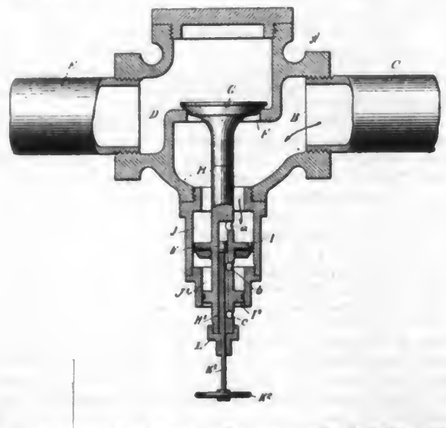
971,981. CATTLE-STANCHION. WALTER H. FLEWELL, Mountain Home, Idaho. Filed Oct. 25, 1909. Serial No. 524,482.



1. The combination with a movably held yoke, of two bars secured to said yoke in parallel spaced relation, of latches pivotally secured between the ends of said bars, two pivotally connected stanchion bars having their upper ends slidably held between said parallel bars, a connecting rod extending from each stanchion bar, and means to adjustably secure said connecting rods to said latches.

2. The combination with a manger, of two parallel held bars, of a yoke centrally positioned between said bars, latches secured between the ends of said bars and being directed toward one another, connecting rods adjustably secured to said latches, two pivotally connected stanchion bars held between said bars, said yoke limiting the movement of said stanchion bars in one direction and said latches the movement in an opposite direction, said stanchion bars being carried by said connecting rods, and means to loosely connect the lower ends of said stanchion bars to the manger.

971,982. PRESSURE-REDUCING VALVE. THOMAS P. FOAD, New York, N. Y. Filed Dec. 11, 1909. Serial No. 532,584.



1. A pressure reducing valve, comprising a valve body having a seat, an inlet and an outlet, a valve controlling said seat and movable in the outlet side of the valve body, and a plurality of manually-controlled pistons of different areas connected with the said valve at the inlet side of the valve body and bodily moving with the said valve, only one of the said pistons being active at a time under the influence of the initial pressure of the fluid, the area of the largest of the said pistons being less than the area of the said valve, the said valve and the said pistons being directly and solely controlled by fluid pressure, so that the valve opens under the influence of initial pressure of the fluid and closes on reduced pressure of the fluid.

2. A pressure reducing valve, comprising a valve body having a seat, an inlet and an outlet, a valve controlling the said seat and movable in the outlet side of the valve body, a plurality of pistons in the inlet side of the valve body and of different areas, and a stem connecting the pistons with each other and with the said valve by way of the said valve seat, only one of the said pistons being at a time under the influence of the initial pressure, the area of the largest of the said pistons being less than the area of the face of the said valve at the initial pressure side of the valve body, the area of the face of the valve at the reduced pressure side of the valve body being greater than the difference in area between the active piston and the face of the valve at the initial or high pressure side of the valve body, the said valve and the said pistons being directly and solely controlled by fluid pressure, the valve opening under the influence of initial pressure and closing under reduced pressure.

3. A pressure reducing valve, comprising a valve body having a seat, an inlet and an outlet, a valve controlling the said seat and movable in the outlet side of the valve body, a plurality of pistons in the initial side of the valve body and of different areas, a stem connecting the pistons with each other and with the said valve by way of the said valve seat, only one of the said pistons being at a time under the influence of the initial pressure, the area of the largest of the said pistons being less than the area of the face of the said valve at the initial pressure side of the valve body, the area of the face of the valve at the reduced pressure side of the valve body being greater than the difference in area between the active piston and the face of the valve at the initial or high pressure side of the valve body, and manually-controlled means for rendering one only of the said pistons active at a time relative to the fluid at initial pressure, the said valve and the said pistons being directly and solely controlled by fluid pressure, the valve opening under the influence of initial pressure and closing under reduced pressure.

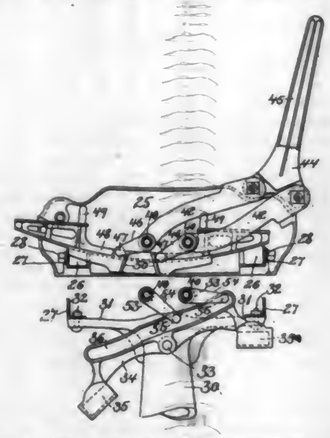
4. A pressure reducing valve, comprising a valve body having a seat, a high pressure inlet side and a low pressure outlet side, a valve controlling the said seat and movable in the said low pressure side, a plurality of pistons in the said high pressure side and of different areas, only one of the said pistons being at a time under the influence of the high pressure of the fluid, and the opposite side of at least one of the said pistons being under atmospheric pressure, a stem common to the said pistons and the said valve, the stem connecting with the valve at the high pressure face thereof, the area of the largest of the said pistons being less than the area of the high pressure face of the valve and the area of the reduced pressure face of the valve being greater than the difference in area of the active piston and the high pressure face of the valve, and manually-controlled means for rendering only one of the said pistons active at a time relative to the fluid at high pressure, the said valve and the said pistons being directly and solely controlled by fluid pressure, the valve opening under the influence of initial pressure and closing under reduced pressure.

5. A pressure reducing valve, comprising a valve body having a seat, a high pressure inlet side and a reduced pressure outlet side, a valve controlling the said seat and movable in the reduced pressure side of the valve body, a plurality of cylinders at the said high pressure inlet side and having bores of different diameters, pistons in the said cylinder bores, one of the pistons being active at a time under the influence of the high pressure of the fluid, and a stem common to the said pistons and the said valve and connecting with the said valve at the high pressure side thereof, the area of the largest of the said pistons being less than the area of the high pressure side of the valve and the area of the reduced pressure face of the

valve being greater than the difference in the area of the active piston and the high pressure side of the valve, the said valve and the said pistons being directly and solely controlled by fluid pressure, the valve opening under the influence of initial pressure and closing under reduced pressure.

[Claim 6 not printed in the Gazette.]

971,983. CAR-SEAT. CHARLES W. H. FREDERICK, Melrose, Mass. Filed Apr. 24, 1908. Serial No. 428,952.



1. A car seat comprising seat-supporting rockers, provided with bearing faces presented toward both the front and the rear of the seat, a pair of rock shafts extended across the upper edges of said rockers, back supporting arms secured to said rock shafts, and crank arms carried by said rock shafts and independent of said back supporting arms, said crank arms being provided with lateral projections engaging said bearing faces.

2. A car seat comprising end plates provided with lugs, angle iron sills secured to said lugs, seat supporting rockers resting on said lugs and provided adjacent each end with stop shoulders arranged to engage said sills, said rockers being also provided with centrally located bearing faces presented toward both the front and the rear of the seat, a pair of rock shafts extended across the upper edges of said rockers, crank arms on said shafts engaging said bearing faces, and means for operating said rock shafts.

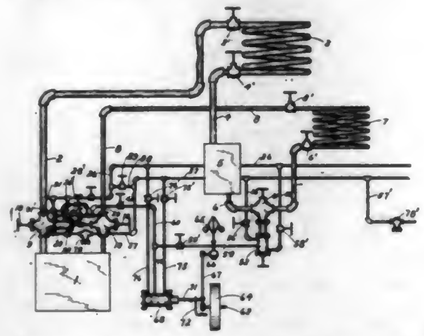
3. A car seat comprising end plates provided with lugs, angle iron sills secured to said lugs, seat supporting rockers resting on said lugs and provided adjacent each end with stop shoulders arranged to engage said sills, said rockers being also provided with centrally located bearing faces presented toward both the front and the rear of the seat, a pair of rock shafts extended across the upper edges of said rockers, crank arms mounted on said rock shafts and having lateral extensions engaging said rock shafts, and back supporting arms also secured to said rock shafts.

4. A car seat comprising seat supporting rockers having bearing faces presented toward both the front and the rear of the seat, a pair of rock shafts extended across the upper edges of said rockers, oscillating bars provided with means for supporting foot rails, crank arms provided with means for operating said rockers and said oscillating bars, and back supporting arms independent of said crank arms and secured to said rock shafts.

5. A car seat comprising in its construction seat supporting rockers having bearing faces presented toward both the front and rear of the seat, a pair of rock shafts extended across the upper edges of said rockers and having crank arms provided with lateral projections engaging said bearing faces, back-supporting arms secured to said rock shafts, oscillating bars provided with means for supporting foot-rails, and arms secured to said rock shafts and having lateral projections for actuating the rockers and arms of said oscillating bars.

[Claims 6 to 9 not printed in the Gazette.]

971,984. SAFETY SYSTEM FOR REFRIGERATING APPARATUS. ALBERT GAIDE, Chicago, Ill. Filed May 2, 1910. Serial No. 558,777.



1. The combination in a refrigerating apparatus, of a compressor; inlet and outlet pipes for said compressor; a check valve in the outlet pipe; a valve in the inlet pipe arranged to stop the passage to the compressor; a differential piston and cylinder; an operative connection between said inlet valve and said piston so arranged that the action of the larger piston unseats said valve and the action of the smaller piston seats the valve; an open connection between the outlet pipe on the compressor side of said check valve and the larger cylinder; and an open connection between said outlet pipe on the other side of said check valve and the smaller cylinder, substantially as described.

2. The combination in a refrigerating apparatus, of a compressor; inlet and outlet pipes for said compressor; a check valve in the outlet pipe; a valve in the inlet pipe arranged to stop the passage to the compressor; manual means for operating said valves; a differential piston and cylinder; an operative connection between said inlet valve and said piston so arranged that the action of the larger piston unseats said valve and the action of the smaller piston seats the valve; an open connection between the inlet pipe on the compressor side of said check valve and the larger cylinder; and an open connection between said outlet pipe on the other side of said check valve and the smaller cylinder, substantially as described.

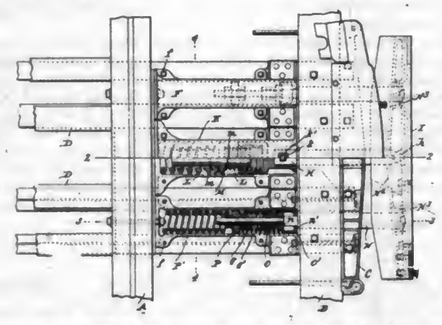
3. The combination in a refrigerating apparatus of a compressor; inlet and outlet pipes for said compressor; a valve casing for said outlet pipe, the said valve casing being divided into inlet and outlet compartments by a portion having a port; a valve in the outlet compartment arranged to close said port, said valve being carried by a threaded valve stem having a connection with said valve permitting longitudinal movement of the valve; a differential cylinder arranged in said casing with its larger cylinder in open communication with said inlet compartment; a pipe connecting said outlet compartment with the smaller cylinder; a valve casing for said inlet pipe; a valve in said casing carried by a threaded stem having a connection therewith which permits of longitudinal movement therein; and an operative connection between said piston and the valve in said inlet casing, substantially as described.

4. The combination in a refrigerating apparatus of a compressor; inlet and outlet pipes for said compressor; a valve casing for said outlet pipe, the said valve casing being divided into inlet and outlet compartments by a portion having a port; a valve in the outlet compartment arranged to close said port, said valve being carried by a threaded valve stem having a connection with said valve permitting longitudinal movement of the valve; a differential cylinder arranged in said casing with its larger cylinder in open communication with said inlet compartment; a pipe connecting said outlet compartment with the smaller cylinder; a valve casing for said inlet pipe; a valve in said casing carried by a threaded stem having a connection therewith which permits of longitudinal movement therein, the said valve being arranged in axial alinement with said piston; a piston rod connecting said piston and said inlet valve; and a turn-buckle connection for said piston rod, substantially as described.

5. The combination in a refrigerating apparatus, of a compressor, inlet and outlet pipes for said compressor; a check valve in the outlet pipe; a valve in the inlet pipe arranged to stop the passage to the compressor; a differential piston and cylinder; an operative connection between said inlet valve and said piston so arranged that the action of the larger piston unseats said valve and the action of the smaller piston seats the valve; an open connection between the outlet pipe on the compressor side of said check valve and the larger cylinder; an open connection between said outlet pipe on the other side of said check valve and the smaller cylinder; machinery for operating the refrigerating apparatus; a belt controlling the operation of said machinery; a differential cylinder and piston; a connection between said piston for shifting said belt to inoperative position upon operation of the smaller piston; an open connection between the outlet pipe on the compressor side of said check valve and said last mentioned larger cylinder; and an open connection between said outlet pipe on the other side of said check valve and said last mentioned smaller cylinder, substantially as described.

[Claim 6 not printed in the Gazette.]

971,985. BUFFING MECHANISM FOR RAILWAY-CARS. RICHARD D. GALLAGHER, Jr., New York, N. Y., assignor to Standard Coupler Company, New York, N. Y., a Corporation of New Jersey. Filed May 25, 1909. Serial No. 498,321.



1. In a buffing mechanism, the combination with the buffer beam and end sill, of the substantially cylindrical buffer spring barrel formed in longitudinal sections and with the ends abutting the beam and sill respectively, supporting flanges integral with said barrel, a spring confined in the barrel, a buffer and a stem for advancing the buffer extending through the beam and into the front end of the barrel to coöperate with the spring.

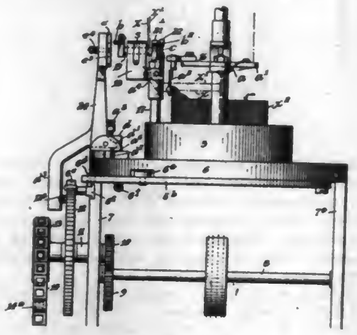
2. In a buffing mechanism the combination with the buffer beam and end sill, and angle iron in rear of and resting against the beam, of the independent substantially cylindrical buffer spring barrels formed in longitudinal sections and with their ends abutting the end sill and angle iron on the beam whereby the beam is reinforced, transversely extending supporting flanges integral with said barrels, springs confined in the barrels, a buffer, stems for advancing the buffer passing through the beam and into the front ends of the barrels, and followers interposed between the stems and springs.

3. In a buffing mechanism, the combination with the buffer beam, buffer, center stem and side stems, of independent springs for advancing the center and side stems, a stop for limiting the outward movement of the center stem, stops for limiting the outward expansion of one of the side stem springs on each side when the buffer is at right angles to the axis of the car, and other springs coöperating with the side stems and tending to move them outward after the expansion of the first-mentioned side stem springs has been arrested.

4. In a buffing mechanism, the combination with the buffer beam, buffer, center stem pivotally connected with the buffer and means for limiting the outward movement of the center stem and center of the buffer, of the side stems coöperating with the buffer on opposite sides of the center stem, two springs coöperating with each side stem for resisting inward movement of the ends of the buffer and stops for limiting the outward expansion of one only of the springs coöperating with each side stem when the buffer is in normal position at right angles to the axis of the car whereby inward movement of each end of the buffer is resisted by both springs and one spring normally tends to move the buffer outwardly.

5. In a buffing mechanism, the combination with the buffer, center stem on which the buffer is pivotally mounted and means for limiting the outward movement of the center stem and center of the buffer, of side stems pivotally connected with the ends of the buffer, springs coöperating with said side stems and normally under compression tending to push the ends of the buffer beyond its normal position at right angles to the center stem, and other side stem springs coöperating with the side stems to resist inward movement, with stops for limiting the expansion of said last mentioned springs when the buffer is in normal position and at right angles to the center stem.

971,986. AUTOMATIC YARN-CHANGING MECHANISM FOR KNITTING-MACHINES. ALBERT GEE, Philadelphia, Pa., assignor of one-half to William P. Moore, Philadelphia, Pa. Filed June 4, 1910. Serial No. 565,013.

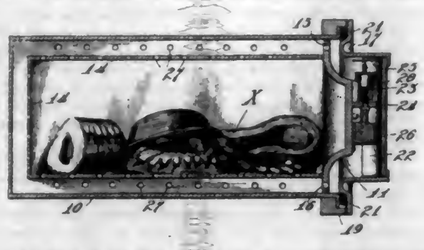


1. In a knitting machine, a yarn changing device, comprising movable yarn guides, means to shift one of said guides into yarn feeding position and to remove the other guide from such position, comprising a crank-shaft rotating with the needle-cams, a rocker-arm on said shaft having means to contact with the respective guides to lift them, a pin eccentrically placed on said shaft and extending radially of the machine and a relatively fixed switch-cam mounted on the frame of the machine and pattern-means to move said cam into and out of the path of said pin, said cam being shifted by the impact of said pin to cause said pin to pass on opposite sides thereof, at alternate operations.

2. In a knitting machine, a yarn changing device, comprising movable yarn guides, means to shift one of said guides into yarn feeding position and to remove the other

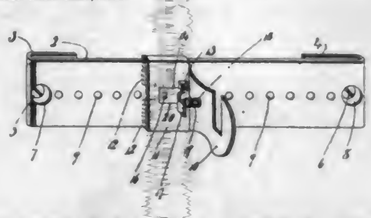
guide from such position, comprising a crank-shaft, a rocker-arm on said shaft having means to contact with the respective guides to lift them, a pin eccentrically placed on said shaft and extending radially of the machine and a switch-cam, pattern-means to move said cam into and out of the path of said pin, said cam being shifted by the impact of said pin to cause said pin to pass on opposite sides thereof, at alternate operations and means to cause relative rotation between the parts carrying said crank-shaft and the parts carrying said switch-cam.

971,987. STORAGE-RECEPTACLE. ROBERT J. GIBBON, Chicago, Ill. Filed May 10, 1909. Serial No. 495,168.



In a device of the kind described, in combination, a case, a duct located within the case and perforated to communicate with the chamber thereof, a cover for the case having an aperture registering with the duct, an outer cover for the case and adapted to hermetically seal the same, and a torch carrier located between the covers.

971,988. WINDOW-SHADE BRACKET. FREDERICK A. GOPPELT, Jr., Waterbury, Conn. Filed Nov. 1, 1909. Serial No. 525,791.

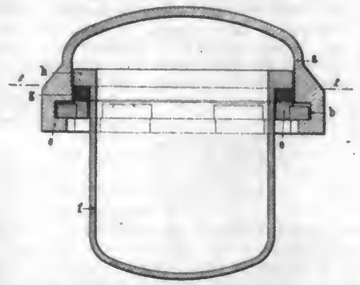


1. A window shade bracket comprising a bar having inwardly turned ends, clearance holes at opposite ends of the bar, perforations between said clearance holes, a bracket arm having a plate with ends turned over the edges of said bar whereby it may slide back and forth thereon, and a latch mounted in said plate and adapted to engage with said perforations.

2. A window shade bracket comprising a bar having a series of longitudinally arranged perforations, a bracket arm formed with a plate having ends turned over the edges of said bar, whereby it may be moved longitudinally thereon, said plate formed with an opening, a latch in said opening and formed with a stud to engage with said perforations, said latch formed with a finger-piece, and a spring between said finger-piece and bracket arm.

3. A window shade bracket comprising a bar having a longitudinal series of perforations, a bracket arm formed with a plate having ends turned over the edges of said bar, whereby it may be moved longitudinally thereon, said plate formed with an opening, trunnion bearings struck outward from opposite edges of said opening, a latch adapted to be entered through said opening and formed with trunnions to enter said trunnion bearings, said latch also formed with an inwardly turned lug and an outwardly projecting finger-piece, said bracket arm formed with a stud in line with said finger-piece, and a spring on said stud and bearing against said finger-piece.

971,989. SELF-CLOSING JOINT FOR VESSELS. LOUIS GRANGES, Paris, France. Filed Jan. 24, 1910. Serial No. 539,713.



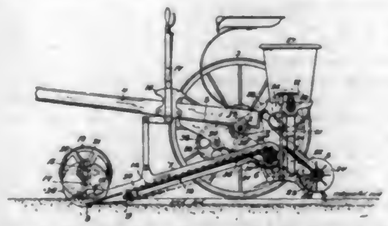
1. In a self-closing joint for vessels a circular flange at the edge of the vessel, a cover surrounding the flange and having an enlarged edge extending beyond the flange of the vessel, an annular groove in the enlarged edge, a washer fitting in the groove and capable of sliding on the body of the vessel, and a resilient packing ring between the washer and the circular flange on the vessel.

2. In a self-closing joint for vessels, a circular flange at the edge of the vessel, a cover with enlarged edge fitting on the vessel, an annular groove in the said enlarged edge, recesses cut in the outer flange formed by the groove, a washer fitting in the groove of recesses cut in the washer and corresponding to that of the outer flange of the annular groove, and a resilient packing ring between the washer and the circular flange of the vessel.

3. In a self-closing joint for vessels, a circular flange at the edge of the vessel, a circular shoulder between said flange and the body of the vessel, a cover surrounding the flange and having an enlarged edge extending beyond the flange of the vessel, an annular groove in said enlarged edge, a washer fitting in the groove and bearing on the shoulder on the vessel, and a resilient packing ring around said shoulder, between the washer and the circular flange of the vessel.

4. In a self-closing joint for vessels, a circular flange at the edge of the vessel, a circular shoulder between said flange and the body of the vessel, a cover surrounding the flange and having an enlarged edge extending beyond the flange of the vessel, an annular groove in said enlarged edge, recesses cut in the outer flange formed by the groove, a washer fitting in the groove and bearing on the shoulder of the vessel, recesses cut in said washer, corresponding to that of the outer flange of the groove, and a resilient packing ring around said shoulder, between the washer and the circular flange of the vessel.

971,990. SEEDER. JAMES M. GRANTHAM, Wauwatosa, Wis. Filed June 30, 1909. Serial No. 505,143.



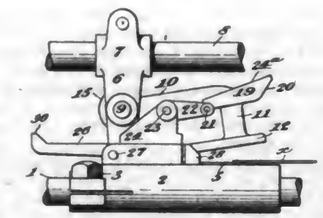
1. A seeding machine comprising a truck, an adjustable driven conveyer, a soil shovel in connection with the forward end of the conveyer, a pulverizing mechanism into which the conveyer is adapted to discharge, and means for distributing seed under the conveyer.

2. A seeding machine comprising a truck, a traveling elevator in adjustable connection with the truck, whereby soil is lifted, held in suspension and discharged rearwardly, a seeding mechanism carried by the truck, and means in connection with the seeding mechanism whereby seed is distributed upon the ground from which the surface soil has been lifted, the seed distributing means being forward of the point of the soil discharge.

3. A seeding machine comprising soil lifting means, a traveling elevator in connection therewith, a series of seed delivery boots having their discharge ends located upon a plane below the highest point of the traveling elevator and a broad-cast device disposed adjacent to the discharge end of each boot.

4. A seeding machine comprising soil lifting means to provide a seed bed, a traveling elevator in connection with the soil lifting means, and seed delivery means located upon a plane below the highest point of the elevator, the seed delivery means being arranged to discharge forward of the point upon which the soil is returned from said elevator to the seed bed.

971,991. REGISTERING DEVICE. BERNHARD GUSTAFSON, Jamaica Plain, Mass. Filed Apr. 20, 1908. Serial No. 428,267.



1. A sheet registering device having sheet moving means comprising a reciprocatory part pivoted for movement in and out of engagement with a sheet to be registered, a gage capable of operation to limit the movement of such sheet when impelled by said sheet moving means and a cam engaging device movable in and out of operative position and held against reciprocatory movement in unison with the sheet engaging part, and adapted for engagement with said part at a point remote from the pivotal connection of the sheet engaging part to lift said part out of contact with the sheet, and adapted to hold the sheet engaging part out of contact with the sheet during further reciprocatory movement of said part.

2. A sheet registering device having sheet moving means comprising a reciprocatory part pivoted for movement in and out of engagement with a sheet to be registered, a gage capable of operation to limit the movement of such sheet when impelled by said sheet moving means a cam engaging device held against reciprocatory movement in unison with the sheet engaging part and adapted, when the sheet engaging part is moved in one direction, for engagement with said part at a point remote from the pivotal connection of the sheet engaging part to lift the latter out of contact with the sheet, and adapted to hold the sheet engaging part out of contact with the sheet during further movement of said part in that direction, and means for moving said device out of position for lifting engagement with the sheet engaging part to permit the latter to contact with the sheet to be registered.

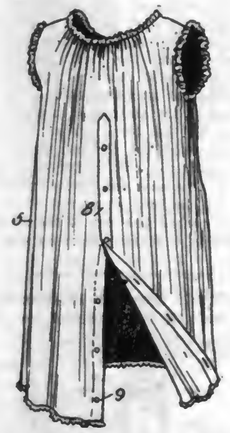
3. A sheet registering device having sheet moving means comprising a part adapted for engagement with a sheet to be registered, a gaging device movable in and out of position for contact with the sheet to be registered, said sheet engaging part, when in contact with a sheet to be registered, being adapted for reciprocatory movement independent of said gaging device to move the sheet in registering engagement therewith, and means for operating the gaging device from the reciprocatory movement of the sheet engaging part.

4. A sheet registering device having sheet moving means comprising a part adapted for engagement with a sheet to be registered, a gaging device adapted for contact with the sheet to be registered, said sheet engaging part, when in contact with the sheet to be registered, being adapted for reciprocatory movement independent of the gaging device to move the sheet in registering engagement therewith, and means connected for reciprocatory movement in unison with the sheet engaging part and arranged to withdraw the gaging device out of position for contact with the sheet.

5. A sheet registering device having a reciprocatory gripper pivoted for movement in and out of contact with a sheet to be registered, and means for withdrawing the gripper out of position for contact with the sheet and comprising relatively movable members one of which is held against movement in unison with the gripper and is adapted for lifting engagement therewith at a point remote from the pivotal connection of the gripper, when the gripper is reciprocated in one direction, to lift the gripper out of position for contact with the sheet, and is adapted to hold the gripper in lifted position during its further movement in that direction, the other member being carried by the gripper and being adapted, when the latter is reversely moved, to throw the lifting member out of operative position.

[Claim 6 not printed in the Gazette.]

971,992. BED-ROBE. EMMA C. HAMPTON, New York, N. Y. Filed Dec. 2, 1909. Serial No. 531,118.

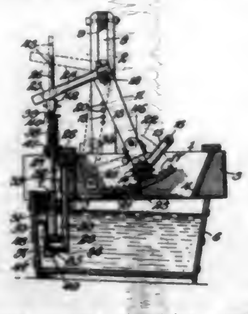


An invalid's bed robe having a neck opening, and opening at the front from the neck opening downwardly to a point at or near the waistline, and opening at the back from the bottom to a point above the waistline and below the shoulders, below which point at the front and above which point at the back the garment is inseparable, the neck opening being sufficiently large for the passage of the head when the opening at the front of the garment is closed.

971,993. WASHING-MACHINE. SIMON J. HARDING, Harrisburg, Pa. Filed Jan. 16, 1909. Serial No. 472,674.

1. A washing machine comprising a supporting frame, a lower rubbing surface, a pump located in rear of the said rubbing surface and having a vertically reciprocatable pump rod provided with spaced upper and lower stops, an oscillatory frame having an upper rubbing device and provided with an arm operating between the stops of the pump rod and having a limited movement independently of the latter during the movement of the oscillatory frame toward the front of the machine to cause the pump to remain inactive until the clothes are

exposed, said oscillatory frame operating the pump during the latter portion of its movement toward the front of the machine and on the down stroke of the pump rod to discharge water upon the clothes, and a spring connected with the pump rod and arranged to be compressed on the down stroke of the same so as to move the pump rod upward while the arm of the oscillatory frame is moving upward in the space between the stops.



2. A washing machine comprising a supporting frame, a lower rubbing surface, a pump located in rear of the said rubbing surface and having a vertically reciprocatable pump rod provided with spaced upper and lower stops, an oscillatory frame having an upper rubbing device and provided with an arm operating between the stops of the pump rod and having a limited movement independently of the latter during the movement of the oscillatory frame toward the front of the machine to cause the pump to remain inactive until the clothes are exposed, said oscillatory frame operating the pump during the latter portion of its movement toward the front of the machine and on the down stroke of the pump rod to discharge water upon the clothes, and a coiled spring mounted on the pump rod and arranged to be compressed between the lower stop and the frame of the machine on the down stroke of the said pump rod so as to move the pump rod upwardly while the arm of the oscillatory frame is moving upward in the space between the stops.

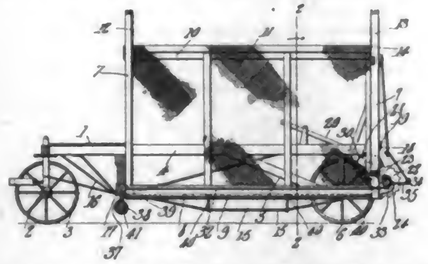
971,994. HAIR-PIN. LOUIS T. HARKNESS, Jamestown, N. Y. Filed Dec. 18, 1909. Serial No. 533,786.



1. A hair pin comprising a pair of hollow tines having a connector at one end, said tines each having an opening at their connected ends and having oppositely disposed inwardly facing openings intermediate their length, and a locking device having side legs slidable through said openings and tines and provided with end and intermediate means for engaging with the edge of the end openings for holding said device in either a locked or unlocked position.

2. A hair pin comprising a pair of connected hollow tines having end and side openings, and a locking device formed of a single length of resilient material shaped to provide side legs having inturned ends adapted to be projected through the side openings of the tines and intermediate and end bowed portions adapted for engagement with the edge of the end openings of the tines, said legs having an end connector that projects beyond the connected ends of the tines to provide a finger grip.

971,995. GRAIN-STACKER. AREND HASPER, Westfield, N. D. Filed May 3, 1910. Serial No. 559,076.



1. A stacker comprising a frame, side uprights mounted thereon and inclined toward each other at their upper ends, an end gate hinged at one edge to one side of the stacker, and a removable bottom for the stacker.

2. A stacker comprising a frame, side uprights located at the sides thereof, a hinged gate attached to one side, and a bottom adapted to be removed from under the sides and end of the stacker.

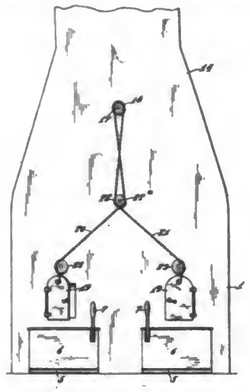
3. A stacker comprising a frame, uprights located at the sides thereof, an end gate hinged at one edge to one side of the stacker, a shaft pivotally and hingedly mounted at one side of stacker, cables connected at their forward ends to the forward portion of the stacker and connected at their rear ends with said shaft, and means for holding the shaft in a closed position across the rear end of the stacker.

4. A stacker comprising a frame, uprights located at the sides thereof, an end gate hinged at one side of the frame, a shaft pivotally and hingedly attached to one side of the frame, cables connected at their forward ends with the forward portion of the frame, chain sections attached to the rear ends of the cable, said shaft carrying pins adapted to enter the links of the chain, a locking device for holding the shaft against rotation, means for holding the shaft in a closed position across the end of the stacker, and a removable foraminous bottom located below said cables.

5. A stacker comprising a frame, uprights located at the sides thereof, an end gate hinged at its edge to one side of the frame, a shaft pivotally and hingedly connected at one end to one side of the frame, means for holding said shaft against rotation, means for holding the shaft in closed position across the rear end of the stacker, outstanding pins carried by the shaft, cables connected at their forward ends to the forward portion of the stacker, link sections attached to the rear ends of said cables and adapted to engage the pins carried by the shaft, a roller journaled at the forward portion of the stacker, guides extending longitudinally of the stacker and at the opposite sides thereof, a screen arranged to wind upon said roller and having slats located at their ends in said guides, said screen normally forming a bottom for the stacker and located below said cables.

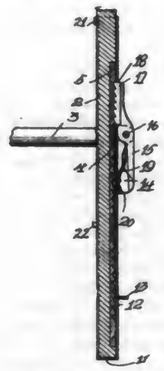
971,996. STEAM-BOILER FURNACE. AUGUST H. HAUSLER, South Chicago, Ill. Filed Apr. 5, 1909. Serial No. 487,940.

In an apparatus of the character described, the combination with twin fire boxes, and a stack communicating with both of said fire boxes, a shaft in said stack, a damper secured on said shaft and adapted to close communication between either of said fire boxes and the stack, pulleys on said shaft, charging doors for said fire boxes, pulleys on the outside of said casing, and chains so connecting said first mentioned pulleys with said doors and



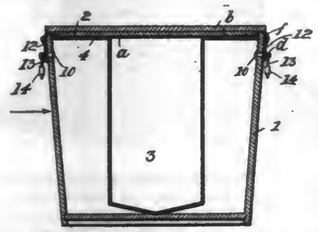
passed around said other pulleys, whereby when one door is opened the other door will be closed, and the damper will be swung to a position to close communication between the fire boxes having the open door and the stack.

971,997. LADDER. NATHAN W. HENNING, Lock No. 4, Pa. Filed Mar. 28, 1910. Serial No. 551,939.



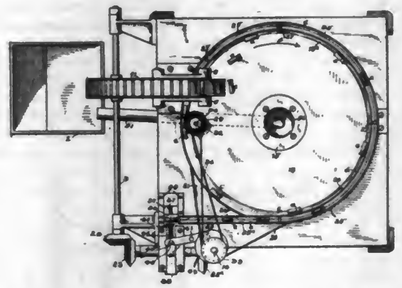
The combination with the side rail of a ladder having the longitudinal marginal portions of its inner face at the lower end thereof cut away to provide longitudinally-extending seats, said rail further having its outer face formed with a longitudinally-extending rectangular recess, of a bar seated in said recess and provided with a row of teeth extending from a point removed from the upper to a point removed from the lower end of the bar thereby providing each end of the bar with a smooth portion, said smooth portion being flush with the outer face of said rail, means extending through the smooth portions of the bar for fixedly securing it in position, a vertically-adjustable channel-shaped leg slidably mounted upon the lower end of said rail and having its inner portion provided with a pair of inwardly-projecting longitudinally-extending flanges mounted in said seats and flush with the inner face of the rail, said leg provided with an opening near the upper end thereof, a pair of spaced bearing plates secured to the outer side of said leg and formed at their inner sides with outwardly-extending flanges spaced from each other, said plates positioned below said opening, a spring pressed pawl positioned between and pivotally connected with the flanges of the bearing plates, a rectangular toothed gripping block carried by the upper end of the pawl and extending through said opening and engaging the teeth of the rack for maintaining the leg stationary, a pin projecting inwardly from the inner face of said rail near the lower end thereof, a projection carried by the upper end of said leg and adapted to engage the pin whereby the downward movement of the leg is arrested, and a laterally-extending lug constituting a hand grip struck from the outer side of said leg near the lower end thereof.

971,998. OYSTER-PAIL. WILLIAM HEYSER, Baltimore, Md. Filed Feb. 3, 1910. Serial No. 541,849.



In an oyster pail, a bucket having in its wall horizontal rivets with transverse holes near their outer ends, and an ice receptacle situated in the bucket, the said receptacle having a pendent flange which is provided with slots and extends over the edge of the circular wall of the bucket, combined with perforated sheet metal strips which are passed through the slots in the pendent flange and folded and their perforated ends placed over the rivets, and wires which are strung through the holes in the rivets and their ends brought together and sealed, substantially as specified.

971,999. CARTRIDGE-SHELL-FEEDING MACHINE. HOWARD D. HODGE, Bridgeport, Conn., assignor to Nobel's Explosives Company, Limited, Glasgow, Scotland. Filed Aug. 6, 1907. Serial No. 387,327.

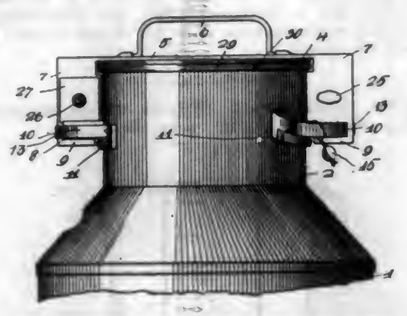


1. In a cartridge shell feeding machine, a rotatable dial having an incline face and a beveled edge of greater pitch or inclination than such face, an inner and an outer stationary guard spaced to form a channel-way through which the shells are carried by the dial and delivered outside thereof, said inner guard made shorter than the outer guard so as to form a mouth for the channel-way, means to prevent the entrance of more than one shell at a time therein, and means to prevent the shells assuming an upright position while in said channel-way.

2. In a cartridge shell feeding machine, a shell receiving tube having a narrow bridge spanning the same and central therewith and located below the mouth of the

tube, combined with shell feeding mechanism adapted to feed the shells in a path at right angles to the axis of the tube so that when the shell contacts or falls on said bridge, it will be tilted by gravity and fall head foremost into the tube.

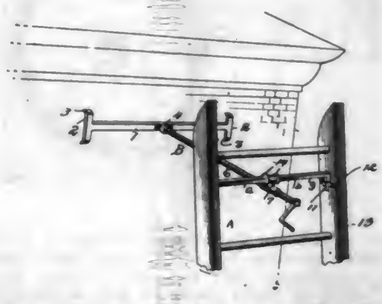
972,000. MILK-CAN LOCK. LOUIS HOFER, Pittsburg, Pa. Filed Aug. 13, 1910. Serial No. 577,018.



1. In combination with a milk can having a neck and a lid adapted to fit thereon, of diametrically opposed keepers carried by the neck of said can, diametrically opposed locking frames carried by said lid and having the lower ends thereof hook-shaped and adapted to ride into engagement with said keepers, and means arranged in said frames for locking said frames in engagement with said keepers, said means including a spring pressed yoke, a latch carried thereby, and a key-bolt for moving said yoke.

2. In combination with a milk can having a neck and a lid adapted to fit thereon, of cam shaped keepers carried by opposite sides of said neck, diametrically opposed locking frames carried by said lid and having the lower ends thereof hook-shaped and adapted to ride into engagement with said keepers, means for limiting the movement of the hook-shaped ends of said frames upon said keepers, and means adapted to engage said keepers for obstructing the path of the hook-shaped ends of said frames.

972,001. LADDER ATTACHMENT. ROBERT HOLDORF and WILLIAM HOLDORF, La Grange, Ill. Filed Apr. 29, 1910. Serial No. 558,340.



1. In a ladder attachment, the combination of a wall engaging bar like base piece, a screw connected with and extending at right angles to the base piece, a device constructed for connection with a ladder, and a nut on the device engaging the screw.

2. In a ladder attachment, the combination of a wall engaging base piece, an adjusting screw, a ball and socket joint between the screw and base piece, a brace bar adapted to be connected with the ladder, and a swinging nut on the said bar and in which the screw is threaded.

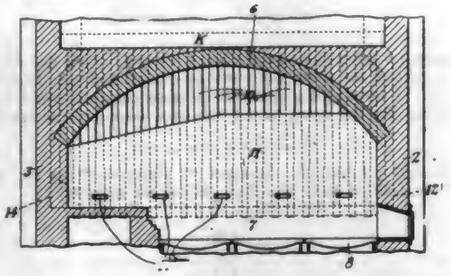
3. In a ladder attachment, the combination of a wall-engaging base piece, an adjusting screw, a ball and socket between the screw and base piece, a device for connection with the ladder consisting of separable sections, a nut swiveled between the sections and with which the screw engages, and means on the screw for turning the same.

4. In a ladder attachment, the combination of a wall-engaging device in the form of a bar having terminal feet, a socket at the middle of the bar, a screw having a ball disposed in the socket, and a device for operatively connecting the screw with a ladder.

5. In a ladder attachment, the combination of a device adapted to be connected with the ladder, said device comprising members and a coupling connecting the members together, a nut, a sleeve on the coupling and connected with the nut and disposed at right angles thereto, a screw threaded in the nut, and a wall-engaging device carried by the screw.

[Claims 6 to 8 not printed in the Gazette.]

972,002. KILN FOR REVIVIFYING CHAR. ROBERT S. KENT, Brooklyn, N. Y. Filed May 21, 1909. Serial No. 497,399.



1. In a kiln for revivifying char, the combination with a fire-box, of a set of retort pipes constructed to be filled with char throughout their whole cross-sectional area bounded by their inner walls, and means for circulating the major portion of the products of combustion from said fire-box from the upper toward the lower ends of said retort pipes wholly outside of said pipes said means including a baffle-wall disposed lengthwise of the kiln between the fire-box and said set of retort-pipes and of sufficient height to direct the heated products of combustion up to the upper portions of the retort-pipes.

2. In a kiln for revivifying char, the combination with a fire-box, of a set of retort pipes the walls of which are thickest at the upper ends and thinnest at the lower ends thereof, and means for circulating the major portion of the products of combustion from said fire-box in contact with first the thick upper portions and then the thin lower portions of said retort pipes.

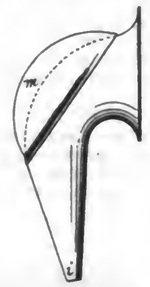
3. In a kiln for revivifying char, the combination with a fire-box, of a set of retort pipes at one side of said fire-box, an outlet near the bottom of the kiln for the products of combustion, and a baffle-wall disposed lengthwise of the kiln between the fire-box and said set of retort pipes and of sufficient height to direct the hottest products of combustion up to the upper portions of the retort pipes and cause said products of combustion to circulate downward from said point and out through said outlet.

4. In a kiln for revivifying char, the combination with a fire-box, of a plurality of retort pipes arranged in sets at opposite sides of the fire-box, outlets near the bottom of the kiln at opposite sides thereof for the products of combustion, and a pair of baffle-walls disposed lengthwise of the kiln between the fire-box and the respective sets of retort pipes and of sufficient height to direct the hottest products of combustion up to the upper portions of the retort pipes and cause said products of combustion to circulate downward from said points and out through said outlets.

5. In a kiln for revivifying char, the combination with a fire-box, of a set of retort pipes at one side of said fire-box, an outlet near the bottom of the kiln for the products of combustion, and a baffle-wall disposed lengthwise of the kiln between the fire-box and said set of retort pipes and of sufficient height to direct the hottest products of combustion up to the upper portions of the retort pipes, said wall being of different heights at its opposite ends.

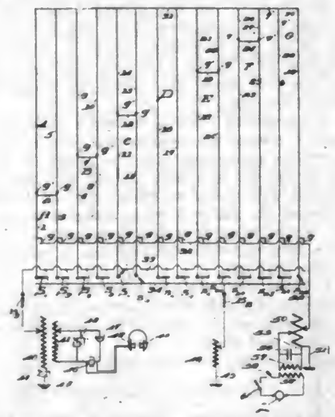
[Claims 6 to 8 not printed in the Gazette.]

972,003. HORN. EDWARD A. LEET, New York, N. Y. Filed Jan. 4, 1910. Serial No. 536,277.



A horn for transmitting sound vibrations formed with a concave deflecting surface disposed diagonally opposite the inlet, said concave deflecting surface presenting in central longitudinal section a quadrantal segment of a circle, the center of the quadrantal segment coinciding with the axial line of the inlet passage, said horn being also formed with an external modulating chamber eccentric to and covering the whole of said concave quadrantal deflecting surface, said deflecting surface being also formed with an opening into the modulating chamber on each side of the axial line of the inlet passage, for the purpose described.

972,004. ANTENNA. ROBERT H. MARRIOTT, Brooklyn, N. Y., assignor to The United Wireless Telegraph Company, New York, N. Y., a Corporation of Maine. Filed Apr. 8, 1910. Serial No. 554,294.



1. In a wireless telegraphic apparatus the combination of a sending means; a receiving means; a plurality of receiving antennæ of different inductances and capacities, and, therefore having different natural periods connected to said receiving means; and connections with said sending means by which said antennæ may be employed as a single antenna when sending, substantially as described.

2. In a wireless telegraphic apparatus the combination of a sending means; a receiving means, a plurality of receiving antennæ having different natural periods connected to said receiving means; and automatic connections with said sending means by which said antennæ may be employed as a single antenna when sending, substantially as described.

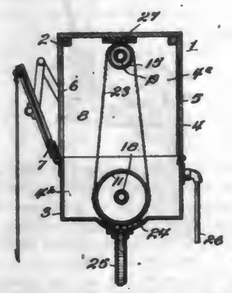
3. In a wireless telegraphic apparatus the combination of a sending means; a receiving means; a plurality of receiving antennæ having different natural responsive periods; and means for so connecting said antennæ with said sending means as to cause said antennæ to act as a single antenna while sending, substantially as described.

4. In a wireless telegraphic apparatus the combination of a sending means, a receiving means, a plurality of receiving antennæ having different natural responsive periods; and automatic means for so connecting said antennæ with said sending means as to cause said antennæ to act as a single antenna while sending, substantially as described.

5. In a wireless telegraphic apparatus the combination of a plurality of antennæ of different inductances and capacities and therefore having different natural periods; and means adapted to insulate said antenna from each other for low potentials and to electrically connect said antennæ together for high potentials, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

972,005. VENTILATOR. ROBERT W. MARTIN, Buhl, Minn. Filed Jan. 5, 1909. Serial No. 470,750.

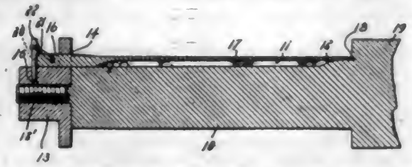


In a ventilator, the combination with a receptacle having a foraminous portion at one side and formed at the other to provide an opening, a closure for the opening, the said receptacle being formed to provide a substantially trough-like bottom, a water feed connection opening directly into the said trough-like bottom, of superimposed hollow rollers extending the entire length of the receptacle, the lower roller having a portion extending into the trough portion of the bottom of the receptacle to be partly submerged in the liquid therein, a fabric belt extending over the rollers, the said belt being arranged immediately between the opening and the foraminous portion respectively of the said receptacle and dividing the receptacle into separate compartments, heating elements extending through the rollers, and driving mechanism geared to one of the rollers and operating to continuously revolve the belt and to cause the same to be saturated by the liquid in the trough-like bottom of the receptacle.

972,006. AXLE-LUBRICATOR. JAMES L. MASTERS, Littles, Ind. Filed Feb. 28, 1910. Serial No. 546,443.

1. An axle lubricator comprising an axle spindle provided on its upper side with a longitudinal groove, an axle nut mounted on the outer end of said spindle provided with an aperture adapted for alinement with said groove in the locked position thereof, a slide disposed in said aperture and groove, said slide having its inner end reduced in thickness and said groove being provided with a sup-

porting step in the inner end thereof for supporting the reduced portion of the slide in spaced relation to the base of the groove, and means for locking said slide against longitudinal displacement from the aperture and groove.



2. An axle lubricator comprising an axle spindle provided on its upper side with a longitudinal lubricant receiving groove, an axle nut mounted on the outer end of the spindle provided with an aperture adapted for alinement with said groove in the locked position thereof and with a recess in one of the side faces of its head, a slide disposed in the aperture of the nut and the groove of the spindle, a link swiveled to the outer end of said slide, and a pin pivoted to said link and adapted for engagement in the recess in the head of the nut to lock said slide against longitudinal displacement from said aperture and groove.

972,007. AUTOMATIC DANGER-SIGNAL AND INTERMITTENTLY-ILLUMINATING ADVERTISER FOR ELECTRIC CARS. AUGUSTUS MAY, New Orleans, La. Filed June 16, 1909. Serial No. 502,594.



4. In a system of illumination for electric street cars, the combination with a controller handle and a display sign including electric lamps, of a source of current and a circuit for the lamps, a housing arranged in line with the path of movement of the controller handle and having an open end, a switch block including a body part which projects through the open end of the housing and a contact part which is disposed within the housing and is carried by and insulated from the body part, a pivot for the switch block, means for holding the switch block in a normal position, the contact part being included in the lamp circuit and a stationary contact piece also included in the lamp circuit and which is fitted in the housing and engaged by the switch block in one position thereof, the controller handle being adapted to engage the projecting end of the body part and to move the switch block against the tension of the means.

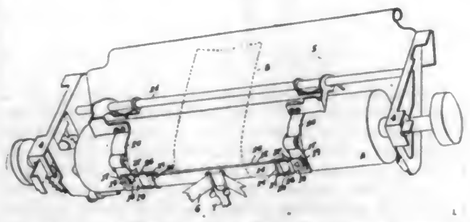
2. In a system of illumination for electric street cars, the combination with a controller handle and two alternately lighted display signs including electric lamps, of a source of current, a circuit for each sign, a common feed wire for the circuits, a housing arranged in line with the path of movement of the controller handle and having an open end, a switch block including a body part which projects through the open end of the housing and a contact part which is disposed within the housing and is carried by and insulated from the switch body part, the contact part being connected to the common feed wire, a pivot for the switch block, means for holding the switch block in a normal position, and two stationary contact pieces fitted in the housing, one being included in one circuit and the other being included in the other circuit, the said means holding the switch block to normally engage one of the contact pieces and the controller handle being adapted to engage the projecting end of the body part and to move the switch block against the tension of the means into engagement with the other contact piece.

972,008. SHOT. ELIJAH H. McCLELLAN, Somerville, Ala. Filed June 7, 1910. Serial No. 565,400.



A shot, a flexible connection extending through the shot, and pairs of stops formed on the connection, the stops of each pair being arranged at intervals in excess to the diameter of the shot so that the stops are positioned immediately at the sides of the shot to prevent the same from sliding movement on the connection.

972,009. TYPE-WRITING MACHINE. HARRY S. McCORMACK, New Rochelle, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed June 18, 1908. Serial No. 439,228.



1. An attachment for a typewriting machine, comprising a set of short lengths of ribbon having a single catch at each end, and means to take up the slack in all the ribbons simultaneously.

2. In a typewriting machine having a platen, a platen frame and a ribbon, the combination with a set of additional ribbons superposed upon the platen, of means at the ends of the set to attach the set to a part on the platen frame, and means to adjust the set bodily along the platen.

3. In a typewriting machine having a platen, a platen frame and a ribbon, the combination with a set of additional ribbons superposed upon the platen, of means at the ends of the set to attach the set to a part on the platen frame, and means to adjust the set bodily to different positions along the platen to bring different parts thereof into use.

4. In a typewriting machine having a platen, a platen frame and a ribbon, the combination with a set of additional ribbons superposed upon the platen, of means at the ends of the set to attach the set to a part on the platen frame, and means to adjust the set to different positions along the platen to bring different parts thereof into use; means being provided to permit the set to be attached in different widthwise positions to bring different lines thereon into use.

5. In a typewriting machine, the combination with a revoluble platen, a platen frame, and paper-guiding fingers mounted in front of the platen, of a ribbon detachably mounted upon said fingers.

[Claims 6 to 23 not printed in the Gazette.]

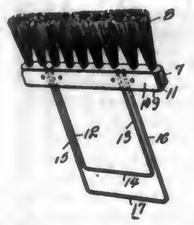
972,010. WATER-MOTOR. ELIJAH R. McCREARY, Bush, La. Filed Oct. 11, 1909. Serial No. 522,025.

1. In a water motor, a floating frame, a pair of endless belts mounted to operate in the frame, paddles journaled to said belts and between the same, pressure tracks depending from the frame, brackets carried by the paddles and adapted to engage the tracks to hold the paddles transverse to the current, supporting tracks carried by the frame, and means carried by the paddles for holding them in line with the current in their inactive course.



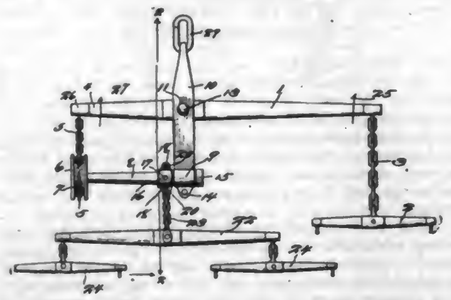
2. In a water motor, a floating frame, a pair of endless belts mounted therein, paddles journaled to and lying between said belts, pressure tracks depending from said frame, brackets carried by said paddles and adapted to engage the tracks to hold the paddles transverse to the current during their active course, doors pivoted to the paddles, supporting tracks carried by the frame adapted to support the paddles in line with the current during their inactive course, and friction rollers carried by the doors and adapted to engage the tracks to support the doors in line with the paddles.

972,011. BRUSH. CHARLES Z. McKINNEY, Canton, Ohio. Filed Jan. 8, 1910. Serial No. 537,006.



A hat brush comprising a stock, an angular-shaped shield fixedly secured to one side and the top of said stock, a U-shaped clamping member having the terminals of its opposite ends extending through that side of the shield bearing on the top of the stock and fixedly secured between the opposite side of the shield and adjacent surface of the stock, a second U-shaped clamping member of greater length than the first-named clamping member and overlying and spaced from the said first-named clamping member, having the terminals of its opposite limbs fixedly secured between the shield and stock and adjacent to and parallel with the terminals of the first-named member, the structure being such that when the outer ends of said members are sprung in opposite directions an opening will be presented for the side of a sweat-band.

972,012. DRAFT-EQUALIZER. DANIEL W. McNATT, Ridge, Tex. Filed June 30, 1910. Serial No. 569,793.



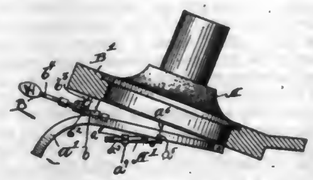
1. In an equalizer, a main equalizing beam having a pivoted clevis member near one end thereof, a swingletree connected to one end of said beam, a rocking shaft carried by the clevis member and provided with a pulley at its end, said pulley having a chain connection with the other end of the beam, a doubletree having swingletrees, and connections between the doubletree and the shaft.

2. In an equalizer, a main equalizing beam having a clevis member and provided with a swingletree at one end and a chain at the other, a rocking shaft carried by the clevis member having a downwardly projecting arm and a pulley at its end to which said chain is connected, and a doubletree having swingletrees provided with connections with said arm.

3. In an equalizer, a main equalizing beam having a clevis member and provided with a swingletree at one end and a chain at the other, a rocking shaft carried by the clevis member having a collar and a pulley at its end to which said chain is connected, an arm projecting downwardly from said collar, means to hold the collar to the shaft, and a doubletree having swingletrees provided with connections with said arm.

4. In an equalizer, a main equalizing beam having a clevis member and provided with a swingletree at one end and a chain at the other, a rocking shaft carried by the clevis member having a collar and a pulley at its end to which said chain is connected, a forked arm projecting downwardly from said collar having means for connecting the forks thereto, means to hold the collar to the shaft, means to coöperate with the collar to prevent lateral movement of the shaft, and a doubletree having swingletrees and provided with connections to said arm.

972,013. PHONOGRAPH-REPRODUCER. HARRY B. McNULTY, East Cleveland, Ohio, assignor, by mesne assignments, to The United States Phonograph Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 28, 1909. Serial No. 474,835.



1. In a phonograph reproducer, the combination of the diaphragm; a floating weight; stylus-holding means including a member mounted on said weight so as to be pivotal about two angularly related axes passing through said member, said member being provided with a plurality of styluses; and means connecting said member with the diaphragm.

2. In a phonograph reproducer, the combination of the diaphragm; a floating weight; stylus-holding means including a member mounted on said weight so as to be pivotal about two angularly related axes passing through said member, said member being provided with a plurality of styluses; and a link connecting said member with the diaphragm while still permitting rotation of said member about both its axes.

3. In a phonograph reproducer, the combination of the diaphragm; a floating weight; stylus-holding means including an elongated member mounted on said weight so as to be pivotal about a longitudinal axis and also about a transverse axis intermediate between its ends, said member being provided at one end with a plurality of styluses respectively adapted to contact with a record in different positions of said member about its longitudinal axis; and means connecting the other end of said member with the diaphragm.

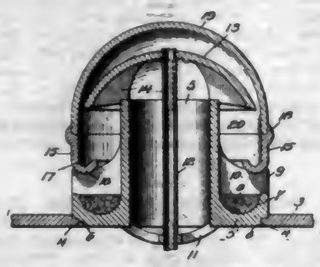
4. In a phonograph reproducer, the combination of the diaphragm; a floating weight; stylus-holding means including an elongated member mounted on said weight so as to be pivotal about a longitudinal axis and also about a transverse axis intermediate between its ends, said member being provided at one end with a plurality of sty-

luses respectively adapted to contact with a record in different positions of said member about its longitudinal axis; a sleeve upon the other end of said member; and a link attached at its upper end to the diaphragm and pivotally connected at its lower end to said sleeve.

5. In a phonograph reproducer, the combination of the diaphragm; a floating weight; stylus-holding means including a member mounted on said weight so as to be pivotal about two angularly related axes passing through said member, said member being provided with a plurality of styluses; a link connecting said member with the diaphragm while still permitting rotation of said member about both of its axes; and means projecting beyond said reproducer and adapted to rotate said member.

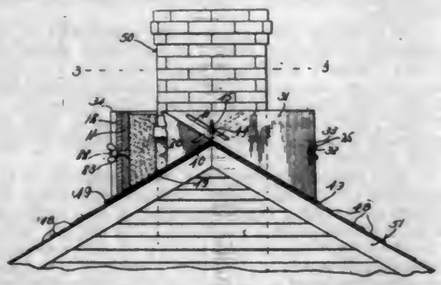
[Claims 6 to 19 not printed in the Gazette.]

972,014. HYDROCARBON-BURNER. GEORGE J. MCPHERSON, Salt Lake City, Utah, assignor to International Oil Gas Producer Company, a Corporation of Utah. Filed Dec. 10, 1909. Serial No. 532,438.



In a device of the character described, a cylindrical tubular body having a grooved flange adjacent to its lower end and provided with laterally extending webs having notches in their upper edges, a burner ring seated upon the notched webs and having an inturned annular flange forming an annular receiving groove or gutter, a feed tube extending through the tubular cylinder, a spider threaded upon the feed tube and engaging the lower end of the cylinder, a spreader threaded upon the feed tube and having webs engaging the upper end of the cylinder, and a dome seated upon the burner ring and inclosing the spreader and the upper end of the tubular cylinder.

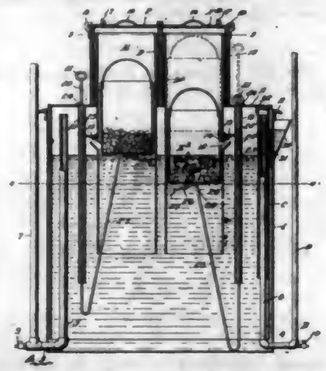
972,015. ADJUSTABLE CEMENT-MOLD. WILLIAM H. MILLER, Indianola, Iowa. Filed Nov. 16, 1909. Serial No. 528,359.



1. A mold box of the class described comprising side members each formed of end sections spaced apart and an intermediate section overlapping the end sections, filler sections located between the confronting ends of the end sections of the side members and bearing against the intermediate section, end members formed of a plurality of overlapping sections, a filler member located between one of the end member sections at each end of the box and the adjacent end section of the side members, means for adjustably coupling the intermediate sections and the end sections of the side members, means for adjustably coupling the end member sections, and means for detachably coupling the end member sections and the end sections of the side members.

2. A mold box of the class described comprising side members formed of a plurality of overlapping sections of uniform width throughout, end members formed of a plurality of overlapping sections having reversely inclined lower edges and with obliquely extending slots which register when the end sections are overlapped, clamp bolts operating through said oblique registering slots, and providing means for coupling said end sections for longitudinal adjustment, and means for coupling said side sections for longitudinal adjustment.

972,016. ACETYLENE-GAS GENERATOR. MELVIN S. MISHLER, Little River, Fla. Filed May 20, 1910. Serial No. 562,467.



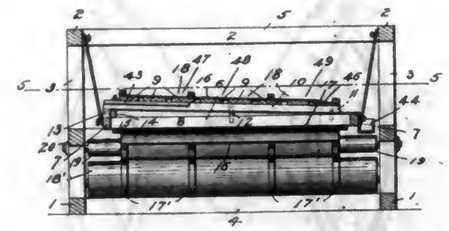
1. In a device of the character described, an outer tank, a bell movable therein, tubes extending through the top of the bell and having ports, gravity valves supported adjacent to said ports, carbid tanks movable in the tubes, means for supporting said carbid tanks in upper, lower and intermediate positions, stems connected with the valves extending through the ports and lying in the path of the carbid tanks to open the valves when the tanks are in the lower or intermediate positions, and sealing covers for the tubes.

2. In a device of the character described, an outer water containing tank, a bell movable therein and having tubes extending therethrough, sealing covers for the tubes, carbid tanks movable in the tubes, auxiliary tubes depending from the top plate of the bell, adjusting rods extending through said auxiliary tubes and having upturned limbs and terminal brackets, the latter carrying anti-friction members engaging the walls of the tank containing tubes, said limbs serving to support the carbid tanks, and means supporting the rod at various adjustments to maintain the tanks in upper, lower and intermediate positions.

3. In a device of the character described, an outer water containing tank, a bell movable therein and having a tube extending through the top plate thereof, a valved port for the tube, a carbid tank adjustably supported in the tube, means for sustaining the tank in various positions, and means connected with the valve and extending in the path of the carbid tank whereby the valve will be opened when the said carbid tank is lowered, said valve being adapted to be seated by gravity when the tank is raised.

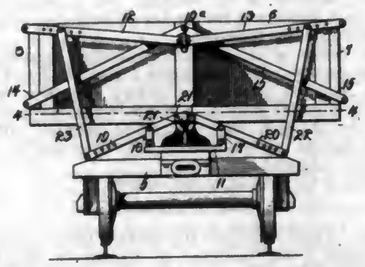
4. In a device of the character described, an outer water containing tank, a bell movable therein and having tubes extending therethrough, sealing covers for said tubes, valved ports upon said tubes communicating with the interior space of the bell, carbid tanks movable in the tubes, means for adjusting the carbid tanks and for supporting them in various positions, means connected with the port obstructing valves whereby said valves may be unseated by lowering the tanks, a U-shaped vent tube extending through the wall of the water containing tank adjacent to the bottom thereof, said tube having one limb extending within the tank and above the water level, and a closure member for said tube connected with the bell and normally extending below the water level, said U-shaped tube having a pet cock adjacent to the bend thereof.

972,017. ORE-CONCENTRATOR. IRA F. MONELL, Boulder, Colo. Filed Jan. 31, 1910. Serial No. 541,070.



In an ore concentrator, a shaking frame consisting of side and cross pieces, adjustable supporting strips superimposed upon the cross pieces and extending under the first pocket of the belt at the feed side of the frame, a bed or flooring for the shaking frame consisting of a series of longitudinal spaced strips arranged on the supporting strips, spacing blocks insertible between the front ends of the supporting strips and the cross pieces for securing the required lateral slant to the floor, a flexible belt mounted in the main frame with its top portion passing over and resting upon the floor of the shaking frame, a plurality of continuous longitudinal ribs or riffles formed upon the exterior surface of the belt for dividing it into a number of laterally spaced pockets, and adjusting blocks in the front ends and upper edges of the supporting strips to adjust the strips of the flooring under the first pocket of the belt relative to the adjustment of the flooring as a whole.

972,018. DUMP-CAR CLOSURE. JOHN W. MOORE, Bartow, Fla. Filed Oct. 28, 1909. Serial No. 525,154.



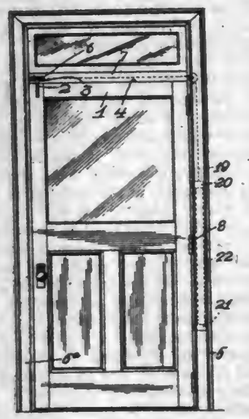
1. In a dump car the combination of a support, a car body pivotally mounted thereon for tilting laterally in either direction and having discharge openings in opposite sides, closures for said openings, arms each having its outer end pivotally connected to the upper side of one of the closures and its inner end pivotally connected to the car body, rods each having its outer end pivotally connected to the lower side of one of the closures and its inner end pivotally connected to the car body, rocking elements mounted on the support and levers fulcrumed on said rocking elements, said levers having their inner ends connected together and their outer ends pivotally connected to said arms.

2. In a dump car, the combination of a support, a car body pivotally mounted thereon for tilting laterally in either direction and having discharge openings in opposite sides, closures for said openings, arms each having its outer end pivotally connected to the upper side of one of the closures and its inner end pivotally connected to the car body, rods each having its outer end pivotally connected to the lower side of one of the closures and its inner end pivotally connected to the car body, rocking elements mounted on the support, levers fulcrumed on said rocking elements and having their inner ends connnected together, and links connecting the outer portions of said levers to said arms.

3. In a dump car, the combination of a support, a car body pivotally mounted thereon for tilting laterally in either direction and having discharge openings in opposite sides, closures for said openings, arms each having its outer end pivotally connected to the upper side of one of the closures and its inner end pivotally connected to the car body, rods each having its outer end pivotally connected to the lower side of one of the closures and its inner end pivotally connected to the car body, rocking elements mounted on the support, levers fulcrumed on said rocking elements and having their inner ends connected together and links having their lower ends adjustably pivotally connected to the outer portions of said levers and their upper ends adjustably pivotally connected to the outer portions of said arms.

4. In a dump car, the combination of a support, a car body pivotally mounted thereon for tilting laterally in either direction and having discharge openings in opposite sides, closures for said openings, arms each having its outer end pivotally connected to the upper side of one of the closures and its inner end pivotally connected to the car body, rods each having its outer end pivotally connected to the lower side of one of the closures and its inner end pivotally connected to the car body, rocking elements mounted on the support, vertical guide elements on said support between said rocking elements, collars movable vertically on said guide elements, levers fulcrumed on said rocking elements and having their inner ends pivotally connected to said collars, and links connecting the outer portions of the said levers to the said arms.

972,019. DOOR-CHECK. JOSEPH F. NAUGLE, Meyersdale, Pa. Filed Feb. 21, 1910. Serial No. 545,054.

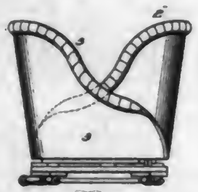


1. In a door check and closer, the combination with a door frame and a door, and means for automatically closing the door, including a flexible cord fast over sheaves, and a counterbalance plunger connected to said cord, of a vertically disposed checking cylinder secured to the door frame in line with the movement of said plunger, said cylinder having an outlet removed from its lower ends

and a valved hollow screw plug seated in the lower end of the cylinder constructed to admit air upon the movement of the plunger in one direction and to close the same when the plunger moves in the opposite direction, said plug adapted to partially cover the opening in the cylinder to restrict the outflow therefrom and to form a stop to limit the downward movement of the plunger.

2. In a door check and closer, the combination with a door frame and a door, and means for automatically closing the door, including a flexible cord fast over sheaves, and a counterbalance plunger connected to said cord, of a vertically disposed checking cylinder secured to the door frame in line with the movement of said plunger, said cylinder having an outlet removed from its lower ends and a valved hollow screw plug seated in the lower end of the cylinder constructed to admit air upon the movement of the plunger in one direction and to close the same when the plunger moves in the opposite direction, said plug adapted to partially cover the opening in the cylinder to restrict the outflow therefrom and to form a stop to limit the downward movement of the plunger, a packing disk secured upon the top of said plunger, and a packing disk secured to the bottom of said plunger, each of said packing disks snugly engaging the inner face of the cylinder.

972,020. ATTACHMENT FOR AUTOMOBILES. OMAR F. NEFF, Milford, Ind. Filed Sept. 21, 1909. Serial No. 518,736.



1. A vehicle seat comprising a seat frame, a seat fastened permanently to said seat frame and occupying approximately one-half thereof, a second seat adapted to occupy the remaining half of the seat frame, a pivot pin extending from the bottom of the second seat, a slotted bar fastened to the seat frame and receiving said pin, and screw actuated means on the seat frame for clamping and releasing the second seat, whereby said second seat may be shifted and thrown to face either forward or backward, substantially as described.

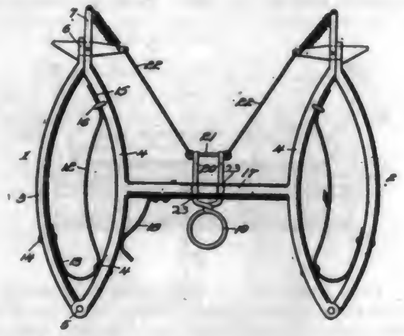
2. A vehicle seat comprising a double seat frame, a seat occupying substantially one-half of said seat frame and fastened permanently thereto, a second seat occupying the remaining half of the seat frame, and means for shifting and reversing said second seat comprising a bottom bar extending diagonally of and secured to the seat, a pivot pin extending downward from said bottom bar, a bar extending diagonally of and secured to the seat frame and provided with a longitudinal slot in which said pin works, a clamp shaft journaled in bearings on the seat frame, and a pair of clamps operable simultaneously in opposite directions by said clamp and shaft and movable into and out of engagement with said bar on the bottom of the seat, substantially as described.

3. The combination of a seat frame, a pivoted and laterally movable seat including a notched member, devices movably mounted on the frame to releasably engage in the notches of the member, and an operating screw mounted on the frame to actuate the devices.

4. The combination of a vehicle frame having a diagonal slot, a seat disposed over the frame, a bar secured to the seat and having notched extremities, a pivot on the bar slidably engaged in the slot, devices on the frame for releasably engaging the notched extremities of the bar, and means for actuating the devices.

5. The combination of a vehicle frame having a diagonal slot, a seat disposed over the frame, a bar secured to the seat and having notched extremities, a pivot on the bar slidably engaged in the slot, devices on the frame for releasably engaging the notched extremities of the bar, and an actuating screw for moving the devices, said screw being rotatably mounted on the seat frame and having means on one extremity located outside the seat frame for turning the screw.

972,021. COW-TAIL HOLDER. CHARLES H. PERKETT, Willsboro, N. Y. Filed Aug. 31, 1909. Serial No. 515,544.



1. A device of the character described comprising a pair of shackles, latches for holding the shackles closed, and a cow tail holder carried by the shackles and connected with the latches, whereby upon a rearward movement of said holder the latches may be retracted.

2. A device of the character described comprising shackles, each embodying a pair of pivoted jaws, leg clamping springs carried by the shackles, latches for holding the jaws thereof closed, a tail holder carried by the shackles, and means operable thereby for retracting said latches.

3. A device of the character described comprising a pair of shackles, each embodying a pair of pivotally connected jaws, a clamping spring associated with each of said shackles to engage the leg of the animal and hold the shackles thereon, and a tail holder carried by said shackles.

4. A device of the character described comprising leg engaging shackles, each embodying pivoted jaws, latches for holding the jaws closed, a tail holder carried by and movably mounted on the shackles, and a connection between said holder and the latches whereby the latter may be simultaneously retracted.

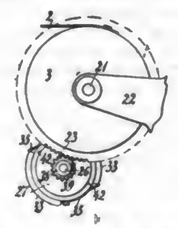
5. A device of the character described comprising a pair of shackles, each embodying a pair of pivoted jaws, spring actuated latches for locking the jaws of the shackles in closed position, a tail holder slidably mounted upon the shackles, and connections between said tail holder and the latches, whereby the latter may be simultaneously retracted.

[Claim 6 not printed in the Gazette.]

972,022. TYPE-WRITING MACHINE. EMIL L. PFUNDER, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 26, 1908. Serial No. 459,489.

1. The combination of a fixed cylinder, a revoluble case fitting over said cylinder, and a pair of arms carried upon opposite sides of said case to bear upon said shoes contained in said case, to press said shoes against the periphery of said cylinder, said shoes in the form of segments of a ring and loosely confined between the case and the cylinder and having between their ends grooves to receive bearing-pins or rollers against which said arms press.

2. The combination of a cylinder, a head having shoes to bear on the periphery of said cylinder, weighted levers pivoted upon said head to press said shoes against said periphery, a pinion connected to said head to revolve the same, and a carriage-driving spring barrel having a gear meshing with said pinion, the cylinder fixed upon a bracket arm extending from an axle on which said spring barrel turns.



3. In a braking device to reduce or control the speed of the carriage of a typewriter, comprising a fixed friction device having a stem, a rotatable annular casing inclosing the friction device and provided with a ratchet, brake shoes carried within said casing to engage the friction device, weighted arms pivoted in the annular wall of the casing and provided with fingers to engage the brake shoes, said arms curving around said casing close thereto, springs for said arms, and a pinion connected with the carriage.

4. A rotary braking device connected to the carriage of a typewriter, comprising a fixed friction device having a stem, a head rotatably mounted on said stem to surround the friction device and provided with a ratchet, brake shoes carried by the head to engage the friction device, weighted arms pivoted in slots in said head, said arms curving around the head close thereto, and provided with fingers to engage the brake shoes, and a pinion connected with the carriage and also provided with a ratchet; said weighted arms being thrown outwardly by centrifugal force when the casing is rotated, rocking said arms and causing them to impinge upon the brake shoes to force them against the friction device.

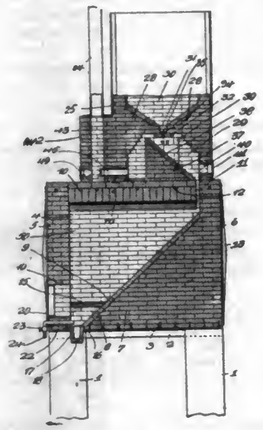
5. A rotary braking device comprising a cylindrical friction device having a stem, an annular casing rotatably mounted on said stem to inclose the friction device, brake shoes within the casing to engage the friction device, and levers pivoted on the casing, each lever comprising a weighted arm curving around the casing, and also provided with a shoulder to engage a brake shoe.

[Claims 6 to 8 not printed in the Gazette.]

972,023. BONE-BURNER. VINCENT O. RITCHAY and FRANK W. BESSELMAN, Coraopolis, Pa. Filed June 15, 1910. Serial No. 566,986.

1. A burner of the type described embodying main oven having the inner face of its rear wall formed substantially throughout with an inclined conveying surface, an auxiliary oven located upon said main oven and in communication therewith at the upper end of the conveying surface of said oven, said auxiliary oven having an inclined feeding surface formed therein and a hopper for feeding material onto said surface, said feeding surface being oppositely disposed with respect to said conveying surface, means adapted to control the passage of material from the hopper onto the feeding surface of said auxiliary oven, and means located in the main oven at the bottom of said conveying surface for subjecting the material to the action of fire and heat.

2. A burner of the type described comprising a main oven having the inner face of its rear wall formed substantially throughout with an inclined conveying surface, the lower portion of said surface extending in proximity to the front wall of said oven, means to constitute an outlet arranged in the bottom wall of said oven and in proximity to the front wall thereof, an auxiliary oven located upon said main oven and having an inclined feeding surface formed therein and a hopper for feeding material to said surface, said feeding surface being oppositely disposed with respect to said conveying surface, the top wall of said main oven provided with a transversely-extending slot in proximity to the upper end of said conveying surface and constituting means for establishing communication between the auxiliary oven and the main oven, and means located in the main oven in proximity to said outlet for subjecting the material to the action of heat.



3. A burner of the type described comprising a main oven having the inner face of its rear wall formed substantially throughout with an inclined conveying surface, the lower portion of said surface extending in proximity to the front wall of said oven, means to constitute an outlet arranged in the bottom wall of said oven and in proximity to the front wall thereof, an auxiliary oven located upon said main oven and having an inclined feeding surface formed therein and a hopper for feeding material to said surface, said feeding surface being oppositely disposed with respect to said conveying surface, the top wall of said main oven provided with a transversely-extending slot in proximity to the upper end of said conveying surface and constituting means for establishing communication between the auxiliary oven and the main oven, means located in the main oven in proximity to said outlet for subjecting the material to the action of heat, and means arranged in the auxiliary oven for controlling the passage of the material from the hopper onto said feeding surface.

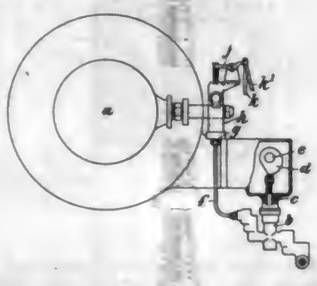
4. A burner of the type described comprising a main oven having the inner face of its rear wall formed substantially throughout with an inclined conveying surface, the lower portion of said surface extending in proximity to the front wall of said oven, means to constitute an outlet arranged in the bottom wall of said oven and in proximity to the front wall thereof, an auxiliary oven located upon said main oven and having an inclined feeding surface formed therein and a hopper for feeding material to said surface, said feeding surface being oppositely disposed with respect to said conveying surface, the top wall of said main oven provided with a transversely-extending slot in proximity to the upper end of said conveying surface and constituting means for establishing communication between the auxiliary oven and the main oven, means located in the main oven in proximity to said outlet for subjecting the material to the action of heat, means arranged in the auxiliary oven for controlling the passage of the material from the hopper onto said feeding surface, and partitions supporting said feeding surface.

5. A burner of the type described embodying a main oven having the inner face of its rear wall formed substantially throughout with an inclined conveying surface and further having the lower portion of its side walls extending at an inclination to assist in the discharge of material from said main oven, said inclined conveying

surface extending in proximity to the lower portion of the front wall of said main oven, means constituting a discharge outlet for said main oven, said means arranged in the bottom of said oven and in proximity to the front wall thereof, an auxiliary oven located upon said main oven and having an inclined feeding surface oppositely disposed with respect to said conveying surface and further including a hopper for feeding material onto said surface, means for establishing communication between the auxiliary oven and the main oven, and means for subjecting the material as it passes through said ovens to the action of fire and heat.

[Claims 6 to 8 not printed in the Gazette.]

972,024. INTERNAL-COMBUSTION ENGINE. DAVID ROBERTS and CHARLES JAMES, Grantham, England. Filed Dec. 13, 1909. Serial No. 532,864.



1. In an internal combustion engine, the combination with the vaporizing chamber, of a liquid hydrocarbon pump, provided with a delivery passage communicating with the vaporizer, a by-pass for surplus liquid connected with said passage, a valve controlling said by-pass, mechanism operated by the engine, for positively opening said valve holding it open during a part of the cycle, to permit the liquid to return through the by-pass, and for closing said valve at a predetermined point in the cycle to force the liquid into said vaporizing chamber.

2. In an internal combustion engine, the combination with the vaporizer chamber, of a liquid hydrocarbon pump, provided with a delivery passage communicating with the vaporizer, a by-pass for surplus liquid connected with said passage, a valve controlling said by-pass, mechanism operated by the engine, for holding said valve open during a part of the cycle, to permit the liquid to return through the by-pass, and for closing said valve at a predetermined point in the cycle to force the liquid into said vaporizing chamber, a second by-pass for said delivery passage, a normally closed valve controlling said second by-pass, and mechanism operated by the engine for opening the said normally closed valve, after the closing of the first mentioned by-pass.

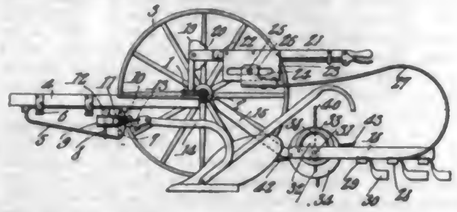
3. In an internal combustion engine, the combination with the vaporizing chamber, of a liquid hydrocarbon pump, provided with a delivery passage communicating with the vaporizer, a by-pass for surplus liquid connected with said passage, a valve controlling said liquid, mechanism operated by the engine, for holding said valve open during a part of the cycle, to permit the liquid to return through the by-pass, and for closing said valve at a predetermined point in the cycle to force the liquid into said vaporizing chamber, a second by-pass for said delivery passage, a normally closed valve controlling said second by-pass, and governor controlled mechanism operated by the engine for opening said normally closed valve at varying periods in the cycle, after the closing of the first mentioned by-pass.

4. In an internal combustion engine, the combination with a vaporizer, of a spraying nozzle, and check valve therefor, a liquid hydrocarbon pump connected with said spraying nozzle, a by-pass for surplus liquid, a valve controlling said by-pass, means operated by the engine for positively opening and closing said valve at predetermined times in the cycle, a second by-pass for surplus liquid, a second valve controlling said by-pass, and a governor controlled mechanism for operating said second valve, at varying times in the cycle, to automatically control the amount of liquid admitted for each charge.

5. In an internal combustion engine, the combination with the vaporizing chamber, of a valve casing provided with a delivery passage communicating with said chamber, an inlet passage for liquid hydrocarbon, and means for by-passing surplus liquid, a normally open by-pass valve, a normally closed by-pass valve, means operated by the engine for closing the normally open valve and thereafter opening the normally closed valve, and a pump connected with the inlet of the valve casing.

[Claims 6 and 7 not printed in the Gazette.]

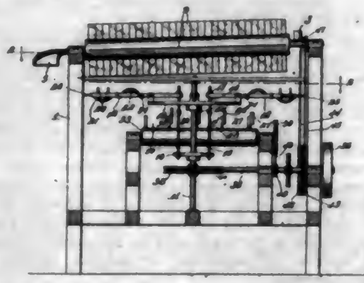
972,025. SOIL-PULVERIZING ATTACHMENT FOR PLOWS. JAMES WILEY ROBERTS, Pope, Tenn. Filed Feb. 24, 1910. Serial No. 545,573.



1. A soil-pulverizer comprising a frame, a rotor journaled in the frame, blades carried by the rotor, some of said blades being mounted to move radially with relation to the axis of the rotor as they move about the same and other of the blades being fixed with relation to the axis of the rotor.

2. A soil-pulverizer comprising a frame, a rotor journaled in the frame and consisting of disks, blades fixed at their ends to the disks, other blades carried by the disks and adapted to move with relation to the axis of the rotor, the last said blades having projecting pins and disks eccentrically mounted upon the frame with relation to the axis of the rotor and engaged by said pins.

972,026. FRUIT CLEANER AND GRADER. HERBERT K. ROWLAND and LARS H. LARSEN, Toppenish, Wash. Filed Nov. 28, 1908. Serial No. 464,871.



1. In an assorting apparatus, the combination of a feeder, a rotary table, a series of vertically movable weighing beams mounted upon the table, fruit receptacles carried by the outer ends of the beams, spring means connected with the inner ends of the beams for supporting the same in normal position, means for releasing the fruit from the receptacle, and means for regulating the tension of the spring.

2. In an assorting apparatus, the combination of a feeder, a vertical shaft, a rotary table carried by the shaft, a disk upon the shaft below the table, radial weighing beams pivotally mounted upon the table for movement in a vertical plane, article holders mounted upon the outer ends of said beams, bolts connected with the inner ends of the beams slidable vertically through the table, and spring connections between said bolts and disk for maintaining the beams in normal position, such connections including means for regulating the tension of the spring.

3. In an assorting apparatus, the combination of a feeder, a series of receptacles, a rotary table, a series of radially arranged weighing beams pivotally mounted upon the table for movement in a vertical plane, said beams carrying pivoted holders movable beneath said feeder and over said receptacles, laterally sliding latches upon the beams for retaining the holders in normal position, spring contacts upon the beams connected with said latches, and contact devices arranged adjacent the receptacles to engage said spring contacts, said contact devices being disposed at different levels.

4. In an assorting apparatus, the combination of a slotted feed table, a series of receptacles, a rotary carrier, vertically movable weighing beams separated by the carrier and having forked outer ends movable beneath said feed table and over said receptacles, a pair of oppositely arranged and alternately reversible cups mounted upon the fork of each beam, upright projections upon the rear arms of the forks in line with the outer cups and movable through the slots in the feed table to push the articles therefrom into said cups, a laterally slidable latch upon the rear arm of each fork to engage and retain the cups in normal position, a spring contact upon the rear arm of each fork for retracting the latch, and contacts disposed at different levels adjacent the receptacles for engaging said spring contacts to retract the latches.

972,027. AIR-BRAKE MECHANISM. HUGH T. RYDER and JOHN P. JOHNSON, Greensboro, N. C. Filed June 25, 1910. Serial No. 568,913.



1. The improvement in brake setting devices substantially as herein described comprising in combination with the trucks, a balanced release valve common to both trucks, said valve comprising a casing having a train pipe port, a release port, and an escape port and provided with a piston having a valve plate controlling the escape port, a ported valve plate operating in connection with the release port and a rod connecting said valve plates, a spool sliding on the said rod and having a head plate operating in connection with the ported valve plate, a head plate operating in connection with the valve plate opposite said ported plate, the latter spool head plate being of greater area than the former, a trapped air pipe leading from the release port of the release valve to the opposite trucks, valve casings connected with said trapped air pipe and supported from the car body adjacent their respective trucks and having valves provided with projecting stems, and ring-like yokes on the trucks and receiving the stems of their respective valves all substantially as and for the purposes set forth.

2. The combination with the spaced apart trucks, of a release valve common to both said trucks, a trapped air pipe leading from the release valve to the opposite trucks, and automatically operated devices at the opposite trucks for releasing pressure in the trapped air pipe, substantially as set forth.

3. The combination with the train pipe, of an air balanced release valve connected therewith, a trapped air pipe leading from said release valve to the opposite trucks and automatically operated devices in connection with the opposite trucks for releasing pressure in the trapped air pipe, substantially as set forth.

4. The combination with a train pipe and a release valve connected therewith, of a trapped air pipe leading from said release valve and having branches extending into relation with spaced apart trucks, and automatically operated devices remote from the release valve for releasing pressure in the trapped air pipe, substantially as set forth.

5. In an apparatus substantially as described, a release valve comprising a casing having a train pipe port, a release port, and an escape port opposite each other, a piston between the escape and release ports and having a connecting rod, a head plate controlling the escape port and a head plate operating in connection with the release port, and a spool sliding on the connecting rod and having a head movable toward and from the head operating in connection with the release port, said head being ported, substantially as set forth.

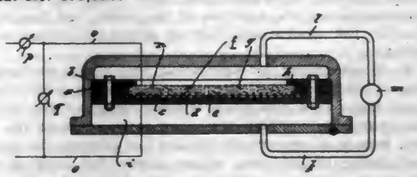
[Claims 6 to 9 not printed in the Gazette.]

972,028. DEVICE FOR REMOVING PHONOGRAPHIC DISK RECORDS. FRANK A. SCHIMANSKI, Racine, Wis. Filed May 20, 1910. Serial No. 562,436.



A device for removing phonographic record disks comprising a bar having a bifurcated end; and non-abrasive transverse strips secured to both sides of said bifurcations intermediate their ends, the said strips being transversely arched in form, substantially as described.

972,029. METHOD OF AND APPARATUS FOR GENERATING ELECTRICITY. BOTHO SCHWERIN, Frankfort-on-the-Main, Germany. Filed May 12, 1909. Serial No. 495,519.



1. The herein described process of generating electric currents which consists in forcing an electrolyte through a capillary substance, and collecting the electricity from said substance, using as an electrolyte a basic substance, when the capillary substance is an electronegative body.

2. The herein described process of generating electric currents, which consists in forcing the same body of electrolyte in a continuous circuit through a capillary substance and collecting the electricity from said substance.

3. In apparatus for generating electric currents, the combination of an electrically active body having minute apertures, means to force the same liquid through said apertures in a continuous circuit, and means to collect the electricity generated in the apparatus from said body.

4. In an apparatus for generating electric currents, the combination with a casing, of a member in said casing having minute apertures, means for supplying an electrolyte to said casing under pressure and for forcing it through said apertures, and means for collecting the current generated.

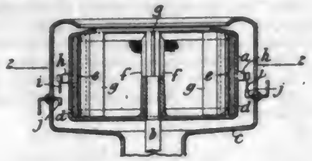
5. In an apparatus for generating electric currents, the combination with a member having minute apertures, of means for forcing an electrolyte through said apertures, and apertured electrodes engaging said member for collecting the current generated.

[Claims 6 and 7 not printed in the Gazette.]

972,030. MANUFACTURE OF INDIA-RUBBER AND APPARATUS THEREFOR. HARRY SIDNEY SMITH, Caledonia, Tobago, British West Indies. Filed Apr. 5, 1909. Serial No. 487,953.

1. In apparatus for separating the liquid portions of rubber latex from the gum, the combination with a rota-

table drum having imperforate walls, and provided with normally closed liquid discharging means, of a layer of porous material extending around the drum within the same, a screen for collecting the gum extending around the drum within the layer of absorbent material, and means for opening the said discharging means for the drum while the latter is rotating.

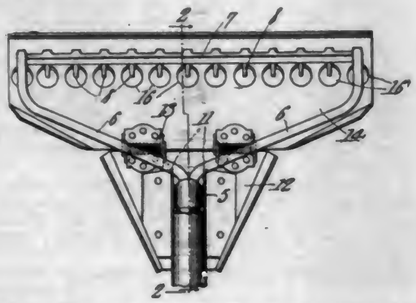


2. In apparatus for separating the liquid portions of rubber latex from the gum, the combination with a rotatable imperforate drum, of an annular lining of porous absorbent material, within and adjacent to the wall of the drum, an annular screen within the said porous absorbent lining, for collecting the gum thereon, removable devices for holding the said screen and lining in position, and normally closed devices for discharging liquid from said porous absorbent material from the drum during the rotation of the same, and means for opening said discharging devices while the drum is rotating.

3. In apparatus for separating the liquid portions of rubber latex from the gum, the combination with a rotatable imperforate drum, of a removable lining of porous absorbent material, a removable screen composed of material which will permit the passage of liquid therethrough but will retain and collect the gum, arranged within the layer of absorbent material normally closed devices for discharging liquid from the absorbent material during the rotation of the drum, and means for opening the discharging devices while the drum is rotating.

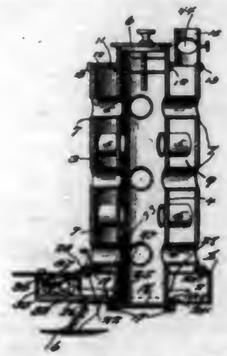
4. In apparatus for separating the liquid portions of rubber latex from the gum, the combination with a rotatable drum, of a removable annular lining of felt within the casing, an annular screen of canvas within the lining, segmental removable frames for holding the screen and lining in position, wedge pieces for holding said frames in position, said drum being provided with apertures in its outer wall, normally closed valves controlling said apertures, actuating arms connected with said valves, and a rotatable device, located adjacent to the travel of said arms and provided with a tripping projection adapted to be turned into or out of engagement with said arms.

972,031. RAKE. JOHN L. SPALDING and FRED G. SCHADEGG, Aitkin, Minn. Filed May 21, 1910. Serial No. 562,625.



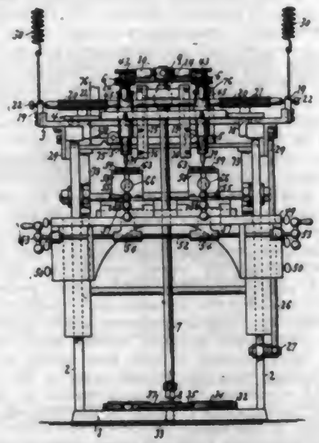
The combination with a rake having a bowed head and teeth, of a sleeve fixed upon the handle of the rake and formed in its forward end with notches receiving the bows of the head, a plate hinged to the sleeve, springs pressing the said plate normally in one direction, the plate being formed with openings located one at the extremity of each tooth, the plate being movable against the tension of the spring, upon its hinges, to position with the teeth projecting through the openings.

972,032. STOVE. HENRY PETWAY SPENCER, Quinlan, Okla. Filed Mar. 29, 1910. Serial No. 552,211.



In a heating stove or furnace, inner and outer casings spaced apart, said outer casing having a lower rectangular hollow portion, said inner casing being extended down to and secured to the bottom of said hollow portion, in combination with a slide comprising a U-shaped flanged portion to be received in said hollow portion to straddle the inner casing, said slide having an inclined bottom and provided with an extended casing, an oil cup disposed in said extended casing, said extended casing having supports corresponding in shape to the cup for supporting the same, and a slide damper for the extended casing having an opening through which fuel is fed into the cup.

972,033. ENGRAVING-MACHINE. WALTER STEERS, Brooklyn, N. Y., assignor to Walter Steers & Co., Brooklyn, N. Y. Filed Sept. 8, 1909. Serial No. 516,787.



1. In combination a routing and engraving machine a vertically removable head plate, ball bearings in said head plate, corrugated rollers mounted in brackets on said head plate, a vertically removable spindle carrying plate, corrugated rack beds on the upper side of said spindle carrying plate, means for causing the spindle carrying plate to move in any direction, rotating spindles in said spindle carrying plate, cutting tools in said spindles, a tracer arm connected to and passing through the spindle carrying plate, a pointer on the lower end of the said tracer arm, an adjustable universal joint attached to the upper end of said tracer arm and to the spindle carrying plate, an adjustable ball and socket joint through which the tracer arm passes, means for increasing and decreasing the size of the character to be cut without changing the size of the pattern or former, means for obviating loose motion in the spindle, means for automatically oiling the spindle, means for changing from one pattern to another without removing the pattern plate, and a work holding block having jaws for clamping the work to be engraved, a lever for opening and closing said jaws, and vertically adjustable means on the work holding block for holding the work to be engraved.

2. In combination a routing and engraving machine containing a vertically removable head plate, a movable and vertically removable spindle carrying plate, a tracer arm having a pointer at its lower end and secured at its upper end to the movable carrier plate, means for having the driving belt move in the same plane and in unison with the spindle carrying plate, and means for exerting the proper tension on the spindle driving belt.

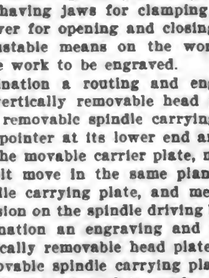
3. In combination an engraving and routing machine having a vertically removable head plate, a movable and vertically removable spindle carrying plate, ball bearings for said spindle carrying plate, and a tracer arm attached to the said spindle carrying plate, a tapered inner sleeve on the spindle or spindles, an automatic oiling cup attached to the said spindle, said cup consisting of a receptacle attached to the spindle having a wick for drawing the oil from the cup to the spindle, a rotatable pattern dial having various figures or characters thereon by which the character or figure to be engraved may be changed without removing the character from the dial and means for fastening the dial in any desired position.

4. In combination an engraving and routing machine having a vertically removable spindle carrying plate, a tracer arm attached thereto, driving mechanism for the spindles, a pattern dial, means for varying the size of the work to be done without varying the size of the pattern, an engraving bed, work holders in said engraving bed, jaws for holding the article to be engraved, a lever for operating said jaws, slots in said jaws and pins operated by the lever and working in said jaws.

5. In combination an engraving and routing machine having a vertically movable head plate, and a movable and vertically movable spindle carrying plate, a lever for vertically lifting the head plate and spindle carrying plate from the machine, ball bearings for said spindle carrying plate a tracer arm secured to the movable spindle carrying plate, having a pointer at its lower end.

[Claim 6 not printed in the Gazette.]

972,034. PERCUSSION-FUSE FOR PROJECTILES. HARRY BLAND STRANGE, Dore, England, assignor to Messrs. Thomas Firth & Sons Limited, Sheffield, England. Filed July 7, 1910. Serial No. 570,853.



1. In a percussion fuse for a projectile the combination of a hollow fuse body, a detonator in said body, a conduit leading from said detonator to an explosive charge, a safety disk closing said conduit, a needle-carrying pellet adapted to move in the hollow fuse body and explode the detonator when the flight of the projectile is arrested by impact with an object and a punch mounted on such needle pellet and adapted to hold it normally away from the detonator and to be carried forward by the pellet to pierce the safety disk as set forth.

2. In a percussion fuse for a projectile the combination of a hollow fuse body, a detonator in said body, a conduit leading from said detonator to an explosive charge, a safety disk closing said conduit, a needle-carrying pellet adapted to move in the hollow fuse body and explode the detonator when the flight of the projectile is arrested by impact with an object and a punch rigidly mounted on such needle pellet and adapted to hold it normally away from the detonator and to be carried forward by the pellet to pierce the safety disk as set forth.

3. In a percussion fuse for a projectile the combination of a hollow fuse body, a cap closing said body and having conduits leading to an explosive charge, a detonator-carrier mounted in said cap and having passages registering with the conduits in the cap, a safety disk normally preventing communication between the conduits in the cap and the passages in the carrier, a detonator mounted in the carrier, a needle-carrying pellet adapted to move in the hollow fuse body and explode the detonator when the flight of the projectile is arrested by impact with an object and punches mounted on the needle pellet guided by the conduits in the carrier and adapted to pierce the safety disk as set forth.

4. In a percussion fuse for a projectile the combination of a hollow fuse body, a cap closing said body and provided with conduits, a detonator carrier having passages registering with the conduits in the cap, a safety disk held between the cap and the detonator carrier and supported by the cap at its central and circumferential portions the only parts unsupported being those which normally close the passages as set forth.

5. In a percussion fuse for a projectile the combination of a hollow fuse body, a cap closing said body and having conduits leading to an explosive charge, a detonator carrier mounted in said cap and having passages registering with the conduits in the cap, a safety disk normally preventing communication between the conduits in the cap and the passages in the carrier, a detonator mounted in the carrier, a needle-carrying pellet adapted to move in the hollow fuse body and explode the detonator when the flight of the projectile is arrested by impact with an object and punches rigidly mounted on the needle pellet guided by the conduits in the carrier and adapted to pierce the safety disk, said punches being reduced in diameter to allow free communication to be established between the passages in the detonator and the conduits in the cap when the disk is pierced as set forth.

[Claims 6 and 7 not printed in the Gazette.]

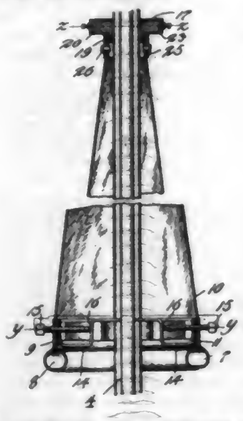
972,035. DUST-CATCHER FOR DRILLS. MARTIN STUCKEL, Macé, Idaho. Filed Nov. 6, 1909. Serial No. 526,599.

1. In a dust catcher for drills, a flexible sack encircling the drill bar, a lower annular base for said sack adapted to bear upon the ground, means for fixedly securing the upper portion of the sack to the drill bar, and a clamp engaging the drill and carried by the base and adapted to turn with and slide on the drill bar.

2. A dust catcher for drills comprising a lower annular base, yielding arms extending rigidly from the inner periphery of the base, the free ends of said arms bearing on the drill bar and adapted to turn with and slide on the drill bar, set screws carried by the base for holding the arms in engagement with the bar, a clamp fixedly secured to the drill bar above the base, and a flexible sack having its opposite ends secured to the clamp and base.

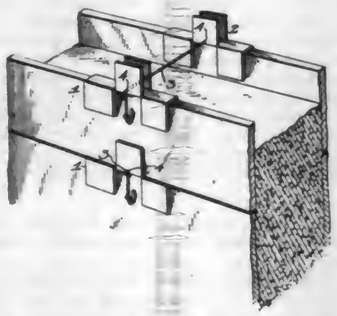
3. A dust catcher for drills comprising an annular base to surround the drill bar, means for loosely securing said base to the drill bar, an upper clamp including a pair of semi-annular blocks adapted to be secured to the drill bar, a metallic casing surrounding the blocks and including

two semi-circular sections, curved spring arms interposed between the casing and blocks, means for holding said arms in binding contact with the blocks, and a flexible sack having one end secured to the base and its opposite end fixed to the said clamp.



4. A dust catcher for drills comprising an annular base, a band secured on the inside of the base, a central ring encircling the drill bar, radially arranged arms connecting said ring to the band, yielding arms attached to the band and having their inner ends shaped to correspond substantially to the shape of the drill shaft, set screws passing through the base and bearing against the said arms, a clamp surrounding the drill bar at a point above the base, means for fixedly securing the clamp to the drill bar, and a conical-shaped flexible sack encircling the drill bar and having its opposite ends secured to the clamp and base.

972,036. MOLD-TIE. JOHN H. SULLIVAN, Grand Rapids, Mich. Filed Feb. 24, 1910. Serial No. 545,716.

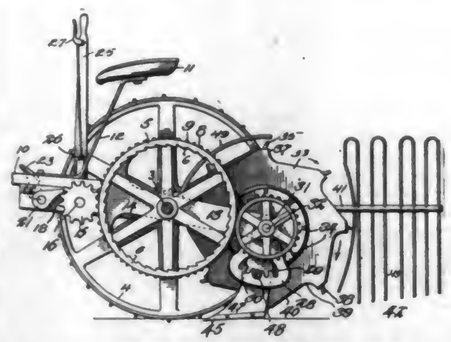


1. The combination with plank holders having apertures therein, a wire extended through the apertures in said holders with the ends thereof projecting beyond the holders and bent downwardly around said holders at a sharp angle directly below the apertures in the holders and detachable means for securing said ends to the mold.

2. The combination with a mold having spaced side walls, plank holders arranged on the upper edge of said walls and provided with apertures extending transversely therethrough, a wire extending through the apertures in said holders and projecting at opposite ends beyond said holders, said ends being bent outwardly around the holder into close contact with the side walls of the mold, staples for securing said ends to the side walls of the mold, the terminals of said ends being bent upwardly around said staples.

3. The process of forming a mold for a concrete construction consisting of arranging two portions or planks edgewise and spacing them laterally from each other, placing plank holders on the upper edges of the said planks and then extending a wire transversely across the mold through apertures in said holder, then bending the ends of said wire downwardly at a sharp angle below said holders into engagement with the outer faces of the mold, securing said ends to the mold and then bending the terminals of said ends upwardly.

972,037. POTATO-DIGGER. OMERIL TARDIF, Plessisville, Quebec, Canada. Filed Dec. 11, 1908. Serial No. 467,096.



1. A potato digging machine comprising a frame having an axle shaft and traction wheels on said axle shaft; a set shaft mounted on the frame and having pinions, a set lever and means to lock said set shaft; levers pivotally mounted on the axle shaft and having sectors engaged by the pinions, a revoluble rake mechanism having a shaft mounted in bearings in said levers, a plow under the rake mechanism having standards at its sides pivoted on the rake shaft, means to secure the plow in an adjusted position with respect to said levers and driving means for the rake mechanism.

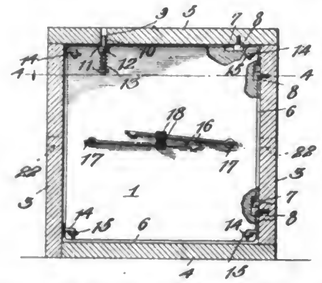
2. A potato digging machine comprising a frame having an axle shaft and traction wheels on said axle shaft; levers pivotally mounted on the axle shaft and having depending arms at their rear ends, a revoluble rake mechanism having a shaft mounted in bearings in said levers, a plow under the rake mechanism having standards at its sides pivoted on the rake shaft, means to secure the plow in an adjusted position with respect to the arms of said levers, a driving means for the rake mechanism and means coacting with said levers to simultaneously raise or lower the plow and the rake mechanism.

3. In a machine of the class described, in combination with pivotally mounted lever arms movable in a vertical plane, a plow having standards pivotally connected to said lever arms depending therefrom and adjustable angularly with respect thereto, a revolving rake mechanism also carried by said lever arms and disposed above said plow and means to raise and lower said lever arms.

4. A potato digging machine comprising a frame having an axle shaft and traction wheels on said axle shaft, gears on and revoluble with said axle shaft, levers pivotally mounted on the axle shaft, a revoluble rake mechanism having a shaft mounted in bearings in said levers and provided with gears engaging those of the axle shaft and driven thereby, a plow under said rake mechanism and connected to and carried by said levers and means to raise and lower said levers to raise and lower said rake mechanism and said plow.

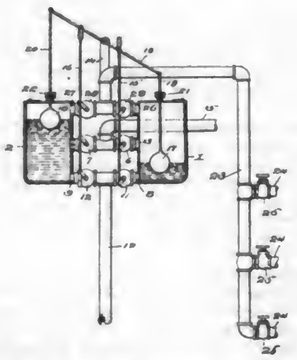
5. A potato digging machine comprising a frame having traction elements, levers pivotally connected to the frame, a revoluble rake mechanism carried by said levers, a plow under said rake mechanism and also carried by said levers, means to revolve the rake mechanism, means to raise and lower said levers and hence also raise and lower said rake mechanism and said plow, and a fender attached to one of said lever and disposed in rear of said rake mechanism and said plow.

972,038. KNOCKDOWN BOX. PAUL C. THAYER, Oroville, Cal. Filed Mar. 31, 1910. Serial No. 552,602.



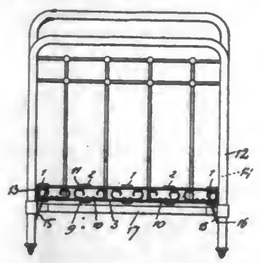
A knock down box comprising end pieces, top, bottom and side pieces, said top, bottom and side pieces having formed therein passages, means to securely hold the parts of the box together in operative position, fastening hooks loosely connected to the inner side of one of the ends of the box and adapted to be inserted through the passages in the top, bottom and sides of the box, when the latter are stacked together in knock down position, apertured fastening plates secured to the opposite end pieces of the box, spring catches secured to said fastening plates and adapted to receive the ends of the hooks after being passed through the apertures in the top, bottom, and sides of the box, whereby said parts are held together in knock down stacked position, and clips adapted to hold said hooks in inoperative position against the inner side of the end pieces of the box, when the parts of the latter are in set up or operative position.

972,039. HYDRAULIC AIR-EXHAUST MECHANISM. JOHN WILLIAMS THOMAS, Allentown, Pa. Filed July 28, 1909. Serial No. 510,089.



In a device of the class described, adjacent receptacles, an air inlet pipe extending transversely between the receptacles, an air supply pipe communicating with the inlet pipe intermediate the receptacles, a water inlet pipe extending transversely between the receptacles, a water supply pipe communicating with the inlet pipe intermediate the receptacles, a water outlet pipe extending transversely between the receptacles, a water discharge pipe communicating with the outlet pipe intermediate the receptacles, valves located in each of the transverse pipes upon opposite sides of the communicating pipes, a walking beam fulcrumed above the receptacles, floats disposed within each of the receptacles and pivotally connected with opposite ends of the walking beam, and links connected with the walking beam and adapted to simultaneously operate all of the valves of the transverse pipe upon the same side of the communicating pipes.

972,040. SPRING BED-BOTTOM. JOSEPH TÖTH, AMBROSIUS BELEZNAY, and JOHN LIPTAK, Pittsburg, Pa. Filed Mar. 5, 1910. Serial No. 547,488.



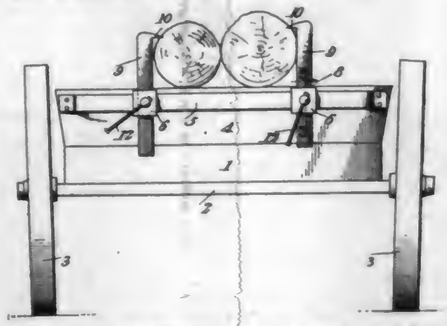
1. A spring bed bottom consisting of a pair of hinged sections each comprising a pair of superposed sets of longitudinally-extending slats with the outer slats of each set of greater length than the others of the set, a pair of superposed sets of transversely-extending slats and with one of the slats secured to a set of longitudinal slats and with the other of the sets secured to the other set of longitudinal slats, the elongated longitudinal slats of each set projecting beyond the inner slats of the transverse sets, resilient elements interposed between the sets of transverse slats and each consisting of a body portion and a pair of curved ends, means for fixedly securing the body portions of said elements to the slats of the lower set of transverse slats, straps secured to the slats of the upper set of transverse slats and extending around the curved ends of said elements for loosely connecting said ends to the upper set of transversely-extending slats, said straps disposed longitudinally with respect to said bed bottom, vertically-disposed resilient bands interposed between the sets of longitudinal slats and extending at right angles with respect to said elements, transversely-extending straps secured to the inner faces of the slats of each of the sets of longitudinal slats and extending around said bands for loosely connecting them to said slats, combined with means for hinging the elongated longitudinal slats of one section to the other.

2. A spring bed bottom consisting of a pair of hinged sections each comprising a pair of superposed sets of longitudinally-extending slats, a pair of superposed sets of transversely-extending slats and with one of the sets secured to a set of longitudinal slats and with the other of the sets secured to the other set of longitudinal slats, resilient elements interposed between the sets of transverse slats and each consisting of a body portion and a pair of curved ends, means for fixedly securing the body portions of said elements to the slats of the lower set of transverse slats, straps secured to the slats of the upper set of transverse slats and extending around the curved ends of said elements for loosely connecting said ends to the upper set of transverse slats, vertically-disposed resilient bands interposed between the sets of longitudinal slats and extending at right angles with respect to said elements, straps secured to the inner faces of the slats of each of the sets of longitudinal slats and extending around said bands for loosely connecting them to said slats, combined with means for hinging one section to the other.

3. A spring bed bottom consisting of a pair of hinged sections each comprising a pair of superposed sets of longitudinally-extending slats, a pair of superposed sets of transversely-extending slats and with one of the sets

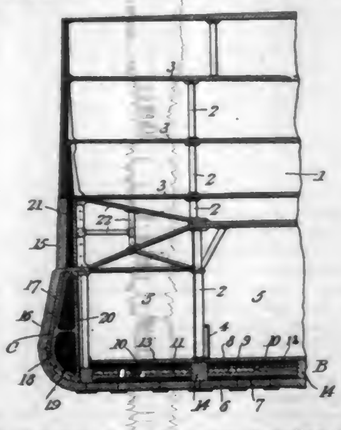
secured to a set of longitudinal slats and with the other of the sets secured to the other set of longitudinal slats, resilient elements interposed between the sets of transverse slats and each consisting of a body portion and a pair of curved ends, means for fixedly securing the body portions of said elements to the slats of the lower set of transverse slats, straps secured to the slats of the upper set of transverse slats and extending around the curved ends of said elements for loosely connecting said ends to the upper set of transverse slats, vertically-disposed resilient bands interposed between the sets of longitudinal slats, straps secured to the inner faces of the slats of each of the sets of longitudinal slats and extending around said bands for loosely connecting them to said slats, combined with means for hinging one section to the other.

972,041. BUNK-DOG. BEDFORD TUCKER, Bernie, Mo., assignor of one-third to J. T. Laster, Dunklin county, Mo., and one-third to G. W. Laster, Stoddard county, Mo. Filed June 1, 1910. Serial No. 564,406.



In a wagon, the combination with wagon bunks of bars secured to said bunks and extending from end to end thereof, said bars being spaced upon the bunks, slotted bearings mounted upon the bars, log dogs slidably mounted in the bearings at right angles to the bars and having log engaging prongs, and means carried by the bearings for clamping the same upon the bars, and holding the dogs in adjusted position.

972,042. SHIP CONSTRUCTION. MATHIAS WAILGUM, JR., Holyoke, Mass. Filed Jan. 28, 1910. Serial No. 540,726.



1. A protective armor for vessels including inner and outer skins, layers of india rubber, sponge and armor plating interposed therebetween, and struts or blocks abutting upon the layers of plating.

2. A protective armor for vessels including a bulk head consisting of a casing having interior struts and containing a filling of india rubber reinforced by longitudinal and transverse rods or wires.

972,043. TICKET OR TAG HOOK. FRANK SAMSON WEBSTER, Lexington, Nebr. Filed Nov. 9, 1909. Serial No. 526,976.



1. The fastener herein described composed of a hook section having a hook proper at one end and having a broad base at its other end, said broad base being provided with a central opening and with a spur entering the same from its lower side and deflected forwardly to the same side of the hook section as the hook proper, a tongue section formed from a plate of metal and having an outer or frame portion and an inner portion or plate united at its lower edge with the frame portion and free at its upper edge or point and the point of the frame section being deflected forwardly to operate as a tongue in connection with the hook proper and means securing the upper end or point of the inner or plate portion of the tongue section to the hook section at a point between the upper and lower ends of the hook section, the lower ends of the hook and tongue sections being detached and adapted to be sprung apart, all substantially as and for the purposes set forth.

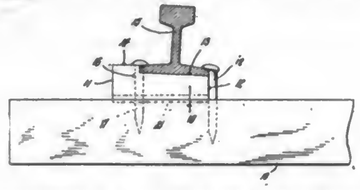
2. A fastener comprising a hook section having a hook proper at one end and having at its other end a projecting spur deflected to the same side of the section as the hook proper and a tongue section secured to the hook section at a point approximately midway between the ends of the hook section and arranged at its free end opposite the spur of the hook section, said end of the tongue section being separated from the corresponding end of the hook section whereby the sections may be sprung apart at such end, substantially as set forth.

3. A fastener comprising a hook section and a tongue section secured at one end to the hook section at a point approximately mid-way between the ends of the latter, the said tongue section having a tongue coöperating with the hook proper and the free end of said tongue section being separated from the corresponding end of the hook section and adapted for coöperation therewith, substantially as set forth.

4. A fastener consisting of two separate sections secured together, the said fastener having at one end plates spaced apart to receive between them a ticket and having at its other end a hook formed on one of the sections and a tongue carried by the other section for coöperation with said hook, one of the end plates for the reception of a ticket being formed on the hook section, and the other end plate being formed on the other section, substantially as set forth.

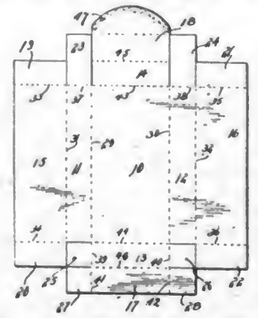
5. A fastener composed of a hook section having a hook proper at one end, a tongue section secured at its upper end to the hook section and having at its lower end a separated portion projecting upwardly and deflected to coöperate as a tongue with the hook proper of the hook section, the free end of the tongue section and the corresponding end of the hook section being separated and adapted for coöperation, substantially as set forth.

972,044. RAILWAY-RAIL PLATE. RANSOM A. WHATLEY, Greenville, S. C. Filed July 2, 1909. Serial No. 505,728.



In combination with a railway tie, a plate thereon presenting a laterally inclined upper surface and a longitudinal shoulder at the outer side of said inclined upper surface, a rail having its base bearing on said inclined upper surface, the width of the latter corresponding with that of the rail base so that the inner sides of said plate and rail base are flush, said plate and the outer side of said rail base having vertical openings which are also partially formed in the said shoulder, securing spikes driven through said openings in said plate and outer rail base and into said tie, the heads of said spikes bearing partly on said shoulder and partly on said outer rail base, and spikes driven into the tie, bearing against the inner sides of said plate and rail base and the heads thereof bearing on the inner side of the rail base, the last-mentioned spikes serving not only as securing means for the plate and rail but also serving as a gage to indicate the extent of movement of the plate in the event of spreading of the rails.

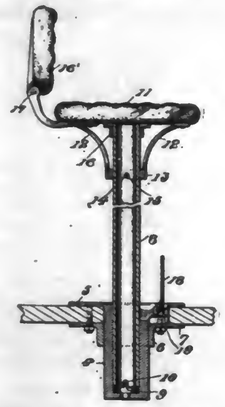
972,045. ENVELOP. SAMUEL T. WINGEIER, Zanesville, Ohio. Filed Jan. 10, 1910. Serial No. 537,252.



An envelop of the class described comprising a body having side flaps, a lower end flap and an upper end flap, an extension at one end of each of said side flaps, a side extension to each of said side flaps, a side extension to said lower end flap, a side extension to said upper end flap, end extensions to each of said side flap extensions, end extensions to said lower flap and end extensions to the side extension of said lower flap, said lower flap being foldable at right angles to said body and the end extensions of said lower flap and of its side extension being arranged for interlocking and interfolding, said side flaps foldable at right angles to said body and said side flap extensions foldable at right angles to said side flaps and spaced from said body with the end extensions of said side flap extensions interfolded and interlapper over the lower end flap.

972,046. DETACHABLE AND KNOCKDOWN FOLDING SEAT FOR AUTOMOBILE-TONNEAUS. ALEXANDER WINTON and HAROLD B. ANDERSON, Cleveland, Ohio, assignors to The Winton Motor Carriage Company, Cleveland, Ohio. Filed Aug. 25, 1906. Serial No. 331,993.

1. The combination with an automobile having a front seat and a tonneau seat in rear thereof and separated therefrom the floor of the tonneau having a depending supporting socket located between the tonneau and front seats, a seat support having its lower end constructed to be detachably supported in said socket, and a seat portion having at its lower side a socket constructed to detachably receive the upper end of said seat support.



2. The combination with an automobile having a front seat and a tonneau seat in rear thereof and separated therefrom the floor of the tonneau having a depending supporting socket located between the said tonneau and front seats, a seat support having its lower end constructed to detachably engage said socket, the socket and seat support constructed to interlock to prevent rotation of the support in the socket, and a seat portion detachably and non-rotatably carried by the upper end of said seat support.

3. The combination with an automobile having a front seat and a tonneau seat in rear thereof, and separated therefrom, the floor of the tonneau having a depending supporting socket located between the tonneau and front seats, a seat support having its lower end constructed to be detachably supported in the socket and held against rotation, and a seat portion having a socket in its lower side constructed to detachably receive the upper end of the seat support and held against rotation on the support.

4. The combination with an automobile having a front seat and a tonneau seat in rear thereof, and separated therefrom, the floor of the tonneau having a depending supporting socket located between the tonneau and front seats, a transverse pin in the lower end of the socket, a seat support constructed to be detachably supported in said socket and having its lower edge provided with a transverse notch to receive the transverse pin of the socket, a transverse pin carried by the upper end of the seat support, and a seat portion having at its lower side a socket constructed to detachably receive the upper end of the said seat support, and having transverse notches to receive the pin carried by the seat support.

5. The combination with an automobile having a front seat and a tonneau seat in rear thereof, and separated therefrom, the floor of the tonneau having a depending supporting socket adapted to detachably receive the seat support, and an upwardly swinging cover for closing said socket when the seat support is removed.

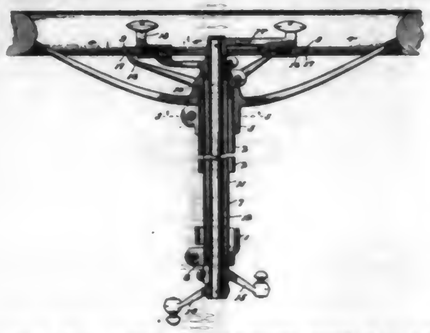
[Claims 6 and 7 not printed in the Gazette.]

972,047. CONTROLLER FOR MOTOR-VEHICLES. ALEXANDER WINTON, Cleveland, Ohio. Filed July 19, 1907. Serial No. 384,576.

1. The combination with the steering wheel of a motor vehicle, of a stationary concentrically-arranged controller circle having in its edge a smooth walled groove, of two separate controller levers projecting in opposite directions from the axis of the steering wheel, each lever having a

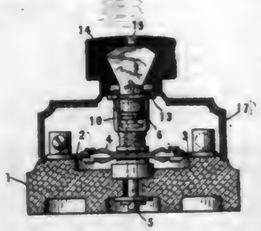
spring projected plunger extending into and slidably engaging the wall of said groove for the purpose described.

2. The combination with the steering wheel of a motor vehicle, of a stationary concentrically arranged controller



circle having a V-shaped smooth walled groove in its edge, of two separate controller levers each having a V-shaped spring projected plunger entering and slidably engaging the wall of said groove for the purpose described.

972,048. INDICATING SWITCH-BUTTON. JOHN A. YORK, Franklin, Conn. Filed Feb. 17, 1909. Serial No. 478,459.



1. A switch handle provided with means of attachment to a switch mechanism and inclosing a movable indicator for indicating the position of the switch parts, and operative connections for moving said indicator upon movement of the switch parts.

2. A switch handle having means of attachment to a switch mechanism and inclosing an automatically actuated indicator and interengaging mechanical connections intermediate the switch mechanism and indicator for moving said indicator upon changes of position of the switch mechanism.

3. A switch handle provided with means of attachment to a switch mechanism and provided with a movable indicator borne within and inclosed by the button, and automatic means for moving said indicator upon predetermined movements of the button and switch mechanism.

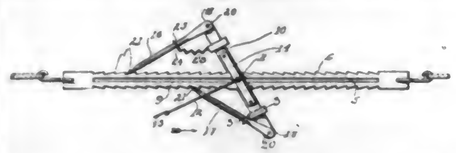
4. A switch handle having means of attachment to a switch mechanism and provided with an interiorly arranged pivoted indicator, and means intermediate said pivoted indicator and switch mechanism for controlling the movements and position of the indicator.

5. A switch handle provided with a housing having means of attachment to the switch mechanism, an indicator lever pivoted within said housing, and operative connections intermediate said pivoted indicator lever and switch mechanism for controlling the movements of the former dependent upon the position of the latter.

[Claims 6 to 12 not printed in the Gazette.]

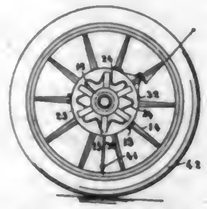
972,049. WIRE-STRETCHER. CALEB W. BABB, Weiser, Idaho. Filed June 3, 1910. Serial No. 564,879.

In a wire stretcher the combination with an oblong frame bar having on each of its longitudinal sides a double series of oppositely extending ratchet teeth, a stretcher arm slidingly fitted on said bar and extending transverse the latter, a pair of pawl levers pivoted to the opposite ends of said arm, a pair of helical retractile springs arranged on one side of the arm and adjacent to the opposite ends thereof and adapted to be detachably secured to said



levers to hold the same in engagement with one series of the ratchet teeth, and a second pair of springs arranged on the opposite side of the arm adapted to be detachably secured to the opposite sides of the levers after the latter have been disengaged from the first-named springs and serving to hold said levers in engagement with the other series of teeth.

972,050. TIRE-INFLATING DEVICE. ROBERT BARNFATHER, Croydon, England. Filed Oct. 21, 1909. Serial No. 523,837.



1. An inflator comprising a frame, a series of cylinders mounted upon said frame, suction and delivery valves to said cylinders, a reservoir into which each cylinder delivers air, a drum concentric with said frame, said drum being external of the series of cylinders and said reservoir being internal of said series, a cam surface upon said drum, pistons fitting in said cylinders, connections from said pistons to said cam surface, and means for causing relative rotation between said frame and said drum.

2. A tire inflator comprising a frame, a series of cylinders mounted radially upon said frame, suction and delivery valves to said cylinders, a drum concentric with said frame, said drum being external of the series of cylinders and said reservoir being internal of said series, a cam surface upon said drum, pistons in said cylinders, connections from said pistons to said cam surface, a compressed-air chamber into which the cylinders deliver, an air pipe from said chamber to the tire-valve, and means for causing relative rotation between said frame and said drum.

3. A tire inflator comprising a frame, a series of cylinders mounted upon said frame, suction and delivery valves to said cylinders, a drum concentric with said frame, a cam groove upon said drum, said cam groove having a plurality of undulations, pistons in said cylinders, operating pins connected to said pistons, said pins traveling in said cam groove, a compressed air chamber with which each of said cylinders connects, an air pipe leading from said chamber to the tire valve, and means for causing relative rotation between said frame and said drum.

4. A readily applied and removable tire inflating attachment for road vehicle wheels, said inflator comprising a frame, cylinders mounted on said frame, said frame being adapted to be mounted upon the rotating wheel so as to revolve therewith, suction and delivery valves to said cylinders, a drum concentric with said frame, a cam surface upon said drum, pistons fitting in said cylinders, connections from said pistons to said cam surface and means for causing relative rotation between said frame and said drum.

5. An inflator comprising a frame, a series of cylinders mounted upon said frame, suction and delivery valves to said cylinders, a drum concentric with said frame, a reservoir into which the cylinders deliver compressed air, a cam surface upon said drum, pistons fitting in said cylinders, connections from said pistons to said cam surface, a protective casing inclosing said cylinders and cam surface, and means for causing relative rotation between said frame and said drum.

[Claims 6 to 8 not printed in the Gazette.]

972,051. GASOLENE-STOVE. ATWELL JAMES BLACKFORD, Cleveland, Ohio, assignor to American Stove Company, St. Louis, Mo. Filed Dec. 2, 1909. Serial No. 531,015.



1. The combination with a gasolene supply tank having a horizontally projecting gasolene exit passage therein above its bottom, of a combined water and dirt trap having its upper end located vertically under the inlet end of the horizontal exit passage.

2. The combination with a gasolene supply tank having a gasolene exit and a trap chamber below the exit, of a removable trap located within said chamber.

3. The combination with a gasolene supply tank for gasolene stoves, having a gasolene exit adjacent its bottom and a dirt and water chamber adjacent but below said exit, of a water and dirt receiving trap having its upper end communicating with the said dirt and water receiving chamber.

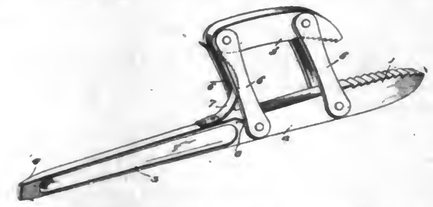
4. The combination with a gasolene supply tank having a gasolene exit, a trap chamber depending below the bottom of the tank, and a removable trap in said trap chamber having its upper end in communication with the tank below the said gasolene exit.

5. The combination with a gasolene supply tank for gasolene stoves having a gasolene exit adjacent its bottom and a depending trap casing communicating with the tank adjacent the said opening, of a removable water and dirt receiving trap within the said depending casing, the upper end of the trap communicating with the tank at a point in a horizontal plane below the gasolene exit.

[Claims 6 to 9 not printed in the Gazette.]

972,052. WRENCH. JOHN BOULIEU, Sault Ste. Marie, Mich., assignor of one-half to James R. Ryan, Sault Ste. Marie, Mich. Filed Sept. 30, 1909. Serial No. 520,240.

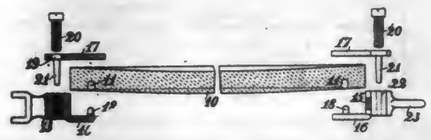
1. The herein described wrench, comprising a shank provided with a relatively stationary jaw and a handle, a relatively movable jaw, and two pairs of links pivotally connected at their ends to the opposite sides of the movable jaw and shank respectively, the shank being provided on opposite sides with laterally projecting stop lugs designed to engage the rear edges of one pair of links.



2. The herein described wrench comprising a shank provided with a relatively stationary jaw and a handle, a movable jaw, links pivotally connecting the movable jaw to the shank, and a plate spring connected at one end to the rear edge of the shank, the free end of the spring bearing against the rear end of the movable jaw.

3. The herein described wrench, comprising a shank provided with a relatively stationary jaw and a handle, and a relatively movable jaw, two pairs of links pivotally connected at their ends to the opposite sides of the movable jaw and shank respectively, the shank being provided on opposite sides with laterally projecting stop lugs adapted to engage the rear pair of links to limit the swinging movement of the movable jaw in one direction, and a plate spring connected at one end to the rear edge of the shank just in rear of and between said lugs, the free end of the spring bearing against the rear end of the movable jaw.

972,053. RIMLESS EYEGLASSES AND SPECTACLES. ROBERT ENNIS BOYD, Birmingham, England. Filed Oct. 18, 1909. Serial No. 523,302.



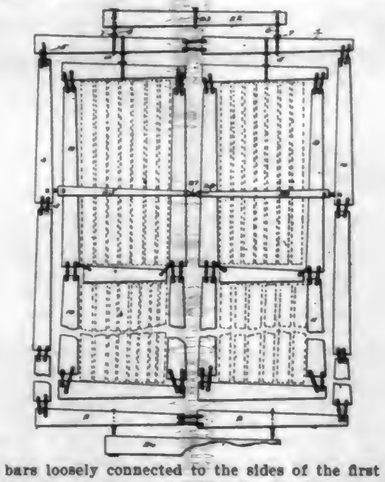
In eyeglasses and spectacles, the combination of a lens having a recess in one face extending but partially through the thickness thereof, and a mount comprising relatively adjustable and detachable members having straps to clamp the opposite faces of the lens, one of said straps having a projection to engage in said recess in the lens, one of said members having a plurality of spaced pins or dowels located outwardly beyond the lens edge and extending transverse to the plane of the lens, the complemental member of the mount having apertures to receive such dowels, and a screw also located outwardly beyond the lens edge with its axis arranged transverse to the plane of the lens, said screw adjustably and detachably connecting said members in order that the mount may accommodate lenses of different thicknesses, said connecting screw extending parallel to said pins or dowels.

972,054. RAFT APPLIANCE. MICHAEL F. BROWN, Seattle, Wash. Filed Feb. 2, 1910. Serial No. 541,533.

1. A logging raft comprising a system of loosely connected booms arranged so that the preceding booms will form a clearance for the succeeding booms, a plurality of minor boom systems arranged in said first mentioned system and formed in sections, means for connecting said sections to said first mentioned boom system and a pair of log retaining members connected with said first mentioned system and spanning certain of said minor systems for holding the logs in the same.

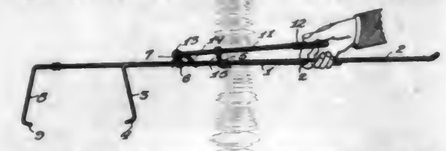
2. A logging raft comprising a system of booms flexible means for connecting said booms, a plurality of minor

boom systems arranged in said first mentioned system, flexible means for connecting said minor boom systems together, flexible means for connecting the forward minor systems to said first mentioned system and a pair of span-



ning bars loosely connected to the sides of the first mentioned system and spanning certain of said minor boom systems and means for flexibly connecting the abutting ends of said spanning bars.

972,055. PLATE-LIFTER. WILLIAM F. BROWN, Oakland, Cal. Filed Feb. 26, 1910. Serial No. 546,201.



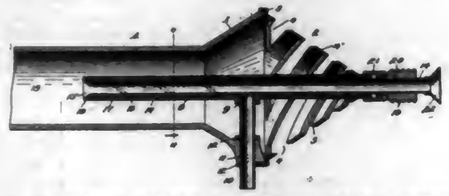
1. A plate lifter comprising a handle provided with a jaw at one end, a slide carried by said handle and provided with a jaw at one end, said slide having its bottom portion formed of relatively spaced side members, and a lever pivotally connected to said handle and provided with a handgrip complemental to said handle and a locking lip adapted to be forced between the side members of said slide to lock the same to the handle.

2. A plate lifter comprising a handle provided with a gripping jaw at one end, guides carried by said handle, a slide mounted in said guides and provided with a gripping jaw at one end, a lever pivotally connected to said handle and provided with a handgrip complemental to said handle and a lip for locking engagement with said slide, and a hook adjustably connected to said slide and adapted for engagement with one of the guides of said handle.

3. A plate lifter comprising a handle and a gripping jaw formed of a single length of wire, a slide and a gripping jaw also formed of a single length of wire, means for adjustably connecting said slide to said handle, and a lever and a locking lip formed of a single length of wire, said lever provided with a handgrip complemental to said handle and adapted for pivotal engagement with said handle and said lip adapted for binding engagement with said slide.

4. A plate lifter comprising a handle, a gripping jaw carried thereby, guiding means carried by said handle, a slide adjustably engaging said guiding means, a gripping jaw carried by said slide, a lever pivotally connected to said handle and provided with a handgrip, a lip carried by said lever and adapted for locking engagement with said slide, and a hook carried by said lever adapted for engagement with said handle.

972,056. NATURAL-GAS BURNER. CHARLES E. BUNNER, Grafton, W. Va. Filed June 10, 1910. Serial No. 566,210.



1. A burner of the class described comprising a tubular body open at one end, a conical head on the inlet end of the body, said head having air inlet ports, a conical valve rotatably mounted on the head and having inlet ports adapted to be moved into or out of register with the ports of the head, a centrally-disposed longitudinally-extending pipe terminating within the said body, means for connecting the pipe with a source of gas, means for imparting a whirl to the gas while in the said pipe, and a deflector for distributing the gas into the air passing through the said body.

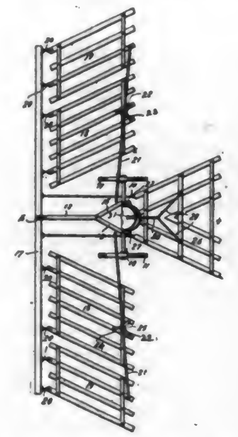
2. A burner comprising a tubular body having a flaring mouth or inlet end, a head fastened over the inlet end and having air inlet ports, means for opening and closing the said ports, a pipe extending longitudinally through the body and extending out of the head, a gas supply pipe extending transversely into the body at the inlet end thereof and secured to the first-mentioned pipe to supply gas thereto and to support the pipe rigidly in place, an element extending longitudinally through the first-mentioned pipe and of less diameter than the bore of the latter, means between the element and the surrounding pipe to form a spiral passage for the gas to pass into the burner, a deflector on the said element for distributing the gas outwardly toward the body of the burner, and means for discharging air axially into the said body.

3. A burner comprising a tubular body having a flaring mouth or inlet end, a head fastened over the inlet end and having air inlet ports, means for opening and closing the said ports, a pipe extending longitudinally through the body and extending out of the head, a gas supply pipe extending transversely into the body at the inlet end thereof and secured to the first-mentioned pipe to supply gas thereto and to support the pipe rigidly in place, an element extending longitudinally through the first-mentioned pipe and of less diameter than the bore of the latter, means between the element and the surrounding pipe to form a spiral passage for the gas to pass into the burner, a deflector on the said element for distributing the gas outwardly toward the body of the burner, said element being hollow from one end to the other to admit air to the said body in the axial region thereof, and means for longitudinally adjusting the element to control the gas supply through the said passage.

4. A burner comprising a body open at one end to receive air and open at the opposite end to deliver a mixture of gas and air, a pipe extending longitudinally into the said body from the inlet end thereof and terminating short of the discharge end to provide an intermediate mixing chamber, a pipe extending longitudinally of the first-mentioned pipe and of less diameter than the latter, means between the pipes for forming a spiral passage, means for discharging gas through the said passage, a stuffing box on the first-mentioned pipe and through which the second-mentioned pipe extends, threads on the second-mentioned pipe, a sleeve engaging the threads, a swivel joint between the said sleeve and stuffing box to prevent longitudinal movement of the sleeve as the same is rotated to move the second pipe longitudinally, a deflector on the inner end of the said movable pipe coöperating with the inner end of the first-mentioned pipe to vary the effective outlet area for the gas, controllable means for admitting air to the burner body at a point behind the gas, and means for supplying air to the said mixing chamber through the second pipe.

5. A burner comprising a body open at one end to receive air and open at the opposite end to deliver a mixture of gas and air, a pipe extending longitudinally into the said body from the inlet end thereof and terminating short of the discharge end to provide an intermediate mixing chamber, a pipe extending longitudinally of the first-mentioned pipe and of less diameter than the latter, means between the pipes for forming a spiral passage, means for discharging gas through the said passage, a stuffing box on the first-mentioned pipe and through which the second-mentioned pipe extends, threads on the second-mentioned pipe, a sleeve engaging the threads, a swivel joint between the said sleeve and stuffing box to prevent longitudinal movement of the sleeve as the same is rotated to move the second pipe longitudinally, a deflector on the inner end of the said movable pipe coöperating with the inner end of the first-mentioned pipe to vary the effective outlet area for the gas, a conical head extending over the inlet end of the body and having an opening at its vertex to receive the outer end of the first-mentioned pipe, said head having air inlet ports, a conical valve rotatably mounted on the head for opening and closing the said ports, and means on the outer end of the second-mentioned pipe for admitting air thereto.

972,057. HARROW. HENRY ALVIN CAMPBELL, Rolette, N. D. Filed June 28, 1910. Serial No. 569,329.



1. In a device of the class described, the combination with a harrow cart, of a transverse draft bar secured thereto, a plurality of harrow frames connected to said draft bar on each side of said harrow cart, and a centrally disposed harrow frame adapted to operate to the rear of said harrow cart, the path of said central harrow frame adapted to overlap the paths of said side frames.

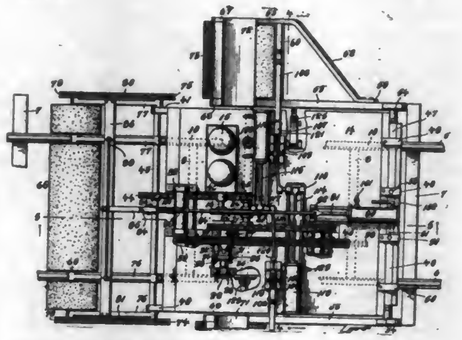
2. In a device of the class described, the combination with a harrow cart, having a forwardly extending tongue, of a transverse draft bar carried at the outer terminal of said forwardly extending tongue, a plurality of toothed harrow frames pivotally secured to said draft bar on each side of said cart, a central harrow frame adapted to operate in the rear of said cart, and means whereby the inner of said frames secured to said draft bar may be raised independently of the outer frames and vice versa.

3. In a device of the class described, the combination with a harrow cart, having a forwardly extending tongue, of a transverse draft bar carried at the outer terminal of said forwardly extending tongue, a plurality of toothed harrow frames pivotally secured to said draft bar on each side of said cart, a central harrow frame adapted to operate in the rear of said cart, means whereby the inner of said frames secured to said draft bar may be raised independently of the outer frames and vice versa, and means whereby the central frame may be lifted independently of said side frames.

4. In a device of the class described, the combination with a harrow cart, having a forwardly extending tongue, of a transverse draft bar carried at the outer terminal of said forwardly extending tongue, a plurality of toothed harrow frames pivotally secured to said draft bar on each side of said cart, a central harrow frame adapted to operate in the rear of said cart, a lever pivoted to each extreme frame carried by said draft bar, and means whereby said lever may operate on the inner of said frames.

5. In a device of the class described, the combination with a harrow cart, having a forwardly extending tongue, of a transverse draft bar carried at the outer terminal of said forwardly extending tongue, a plurality of toothed harrow frames pivotally secured to said draft bar on each side of said cart, a central harrow frame adapted to operate in the rear of said cart, a lever pivoted to each extreme frame carried by said draft bar, and a tripod carried by each of the inner of said frames adapted to form a bearing for said lever.

972,058. TRACK-WEEDER. DANIEL AUGUSTINE CHISHOLM, Gilby, N. D. Filed Apr. 29, 1910. Serial No. 558,345.



1. In a track weeder, the combination with a wheeled support; of a pivoted frame, a rotary weeder carried by said frame, an extension hinged to the frame for movement relative to the latter, said extension being provided with a brush located to the rear of the weeder, for the purposes described.

2. In a track weeder the combination with a wheeled support; of a frame pivotally secured to one side of said support, a rotary weeder carried by the frame, an extension hinged to the rear end of the frame for movement relative to the latter, a brush carried by the extension, and a hood carried by the extension and overlying a portion of the weeder.

3. In a track weeder the combination with a wheeled support, a motor arranged on said support, and a shaft driven by said motor; of a weeder positioned beyond one side of the frame to operate on the surface beyond the end of the cross ties of the track, and a shaft having its opposite ends pivoted to the weeder and the said shaft, for the purposes described.

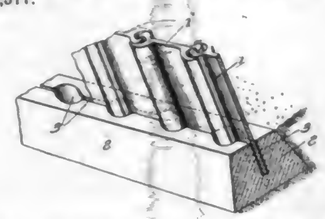
4. In a track weeder the combination with a wheeled support, a motor arranged on said support, and a shaft driven by said motor; of a weeder positioned beyond one side of the support, a shaft section having its opposite ends universally connected to one end of the weeder and the first-named shaft, and means for yieldingly holding said shaft section against movement relative to the first-named shaft and the weeder.

5. In a track weeder the combination with a wheeled support, a motor arranged in said support, and a shaft driven by said motor; of a rotary weeder positioned beyond one side of the support, a shaft section having its opposite ends connected for universal movement to the first-named shaft and weeder, and a reciprocating mem-

ber carried by the support and connected with the shaft section serving to yieldingly hold the latter against movement relative to the first-named shaft and weeder.

[Claims 6 to 8 not printed in the Gazette.]

972,059. TEMPORARY WALL. THOMAS CURTIS CLARKE, New York, N. Y. Filed May 11, 1910. Serial No. 560,577.



1. In a structure of the character described, the combination with a foundation having a continuous groove, of a series of metal sheet piles adapted to be set in said groove to form a temporary wall.

2. In a structure of the character described, a masonry foundation base formed with a continuous groove or slot of suitable depth, and in combination therewith a series of steel sheet piles adapted to be set in said groove to form a temporary wall.

3. In a wall adapted for temporary use as a protection against floods, the combination with a masonry foundation of length corresponding to the length of the protecting wall and having its upper surface substantially level with the surface of the earth, said foundation being provided with a continuous slot extending from the upper surface a suitable depth in the foundation to receive and sustain piling, and steel sheet piles adapted to be set in said slot with their edges in contact.

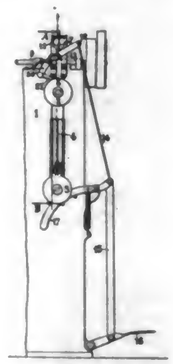
4. In a wall for temporary use, the combination with an elongated masonry foundation provided with a continuous slot, of interlocking steel sheet piles adapted to be set in said grooves with their edges interlocking and extending above said foundation to form a continuous wall of suitable height, said slot being formed alternately with narrow portions to fit the pile webs and with enlarged portions to receive the interlocking portions.

5. In a wall of the character described adapted for temporary use, the combination with a masonry foundation provided with a continuous slot, of interlocking, steel sheet piles adapted to be supported by said wall with their ends inserted in the slot and their edges interlocking, metal projections fixed in the upper portion of the wall, and tightening means arranged each to engage with one of said projections and with an adjacent pile to tighten the wall of piling longitudinally.

972,060. APPARATUS FOR SMOOTHING HANKS OF TEXTILE MATERIALS. ALEXANDER CLAVEL, Basel, Switzerland, assignor to Färberei- & Appretur-Gesellschaft (vormals A. Clavel & Fritz Lindenmeyer), Basel, Switzerland. Filed Jan. 31, 1910. Serial No. 540,965.

1. In a device for smoothing hanks of textile material, especially hanks of dyed silk, a suspending roller upon which the hanks are to be suspended, a device for imparting to the suspending roller a stepwise rotation on its own axis, a vertically movable stretching roller arranged beneath the said suspending roller, a lifting rod attached to the said stretching roller, a rotating engaging fork and two guides placed one on each side of the lifting rod, the said engaging fork being so placed with regard to the lifting rod and to the said guides that the fork in the course of its rotation passes between the said guides and that during this passage its limbs are pressed against the lifting rod frictionally by means of the said guides, whereby the lifting rod together with the stretching roller, is lifted, and after the passage of the fork limbs between the guides, is allowed to fall down again.

2. In a device for smoothing hanks of textile material, especially hanks of dyed silk, a suspending roller upon which the hanks are to be suspended, a device for imparting to the suspending roller a stepwise rotation on its own axis, a vertically movable stretching roller arranged beneath the said suspending roller, a lifting rod attached to the said stretching roller, a rotating engaging fork and two roll levers placed one on each side of the lifting rod, the said engaging fork being so placed with regard to the lifting rod and to the said roll levers that the fork in the course of its rotation passes between the rolls of the said levers and that during this passage its limbs are pressed against the lifting rod frictionally by means of the said rolls, substantially as described.



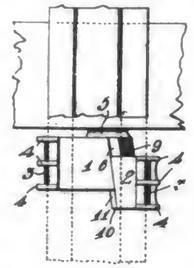
3. In a device for smoothing hanks of textile material, especially hanks of dyed silk, a suspending roller upon which the hanks are to be suspended, a device for imparting to the suspending roller a stepwise rotation on its own axis, a vertically movable stretching roller arranged beneath the said suspending roller, a lifting rod attached to the said stretching roller, a rotating engaging fork, two roll levers placed one on each side of the lifting rod and maintained in their normal position by a spring connecting the free ends of the said levers and a releasing lever for pushing the said roll levers into such a position that their influence upon the limbs of the fork is suspended, the said engaging fork being so placed with regard to the lifting rod and to the said roll levers that the fork in the course of its rotation passes between the rolls of the said levers and that during this passage its limbs are pressed against the lifting rod frictionally by means of the said rolls, substantially as described.

4. In a device for smoothing hanks of textile material, especially hanks of dyed silk, a suspending roller upon which the hanks are to be suspended, a vertically movable stretching roller arranged beneath the said suspending roller, a lifting rod attached to the said stretching roller, a rotating engaging fork, two guides placed one on each side of the lifting rod, a ratchet wheel connected to the suspending roller, a device by means of which the engaging fork acts on its rotation upon the said ratchet wheel and produces a stepwise rotation of the suspending roller, the said engaging fork being so placed with regard to the lifting rod and to the said guides, that the fork in the course of its rotation passes between the said guides and that during this passage its limbs are pressed against the lifting rod frictionally by means of the said guides, substantially as described.

5. In a device for smoothing hanks of textile material, especially hanks of dyed silk, a suspending roller upon which the hanks are to be suspended, a device for imparting to the suspending roller a stepwise rotation on its own axis, a vertically movable stretching roller arranged beneath the said suspending roller, a lifting rod attached to the said stretching roller, a rotating engaging fork provided on the inside of its limbs with linings of

material advantageous for frictional contact and two guides placed one on each side of the lifting rod, the said engaging fork being so placed with regard to the lifting rod and to the said guides that the fork in the course of its rotation passes between the said guides and that during this passage its limbs are pressed against the lifting rod frictionally by means of the said guides, whereby the lifting rod together with the stretching roller, is lifted, and after the passage of the fork limbs between the guides, is allowed to fall down again.

972,061. RAIL-ANCHOR. CHARLES F. CLAWSON, Mount Pleasant, Iowa. Filed June 20, 1910. Serial No. 567,918.



1. A rail anchor comprising a rail and tie engaging member having formed therein adjacent to its inner edge a rabbeted groove, a tie engaging lug formed on one end of said member, a rail engaging member adapted to coact with the tie member whereby said members are adapted to firmly grip a rail and a tongue formed on the inner edge of said rail member said tongue having a projecting rib adapted to engage the rabbeted portion of the groove in the tie member whereby an interlocking connection is had between said members.

2. In a rail anchor a rail and tie engaging member having formed on its inner edge a downwardly extending enlargement provided with a longitudinally disposed rabbeted groove, a corrugated bearing surface formed on the inner edge of said enlargement, a rail engaging member having on its lower side a corrugated surface adapted to engage the corrugated surface on the enlargement of the tie member and a tongue formed on the inner edge of said rail member, said tongue having a rib adapted to engage the rabbeted portion of the groove in the tie member whereby said members have interlocking connection.

972,062. SHOE-TIE. DAVID W. CONARD, Unionville, Ind. Filed Apr. 28, 1910. Serial No. 558,166.



1. A shoe tie consisting of members adapted to be secured to the edges of the opening in a shoe upper, means for expanding and retracting the members whereby to spread apart or draw together the edges of said opening, resilient, longitudinally extensible means for locking the members in closed position, and a device for restraining said means against longitudinal extension.

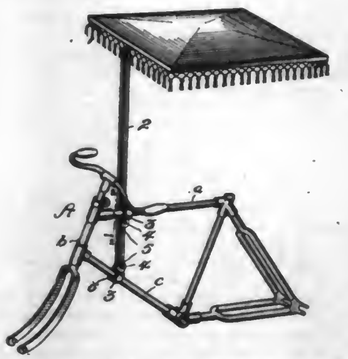
2. A shoe tie consisting of members adapted to be secured to the edges of the opening in a shoe upper, an arm movably mounted between said members, links connecting said arm with said members whereby to expand and retract the members when the arm is actuated, spring fingers arranged at their remote ends to interlock with said members, and means for adjustably holding the adjacent ends of the fingers upon the arm.

3. A shoe tie consisting of members adapted to be secured to the edges of the opening in a shoe upper, an arm mounted for longitudinal movement between the members, links connecting the arm with the members for the expansion and retraction of the members when the arm is actuated, a resilient latch secured transversely to the arm, and interlocking elements upon the latch and the members.

4. A shoe tie consisting of members adapted to be secured to the edges of the opening in a shoe upper, an arm mounted for longitudinal movement between the members, fingers projecting laterally from the arm adapted to bear yieldingly upon said members, links connecting the arm with said members whereby to expand and retract the members when the arm is actuated, and keepers carried by said members engageable with said fingers for locking the members in closed position.

5. A shoe tie consisting of members secured to the edges of the opening in a shoe upper, an arm mounted for longitudinal movement between the members, links connecting said arm with said members and adapted to expand and retract the members when the arm is actuated whereby to spread apart or draw together the edges of said opening, said links having laterally extending portions against which the operator's thumb may be placed in applying pressure to actuate said arm, and fingers carried by the arm engageable with said members for locking the members in closed position.

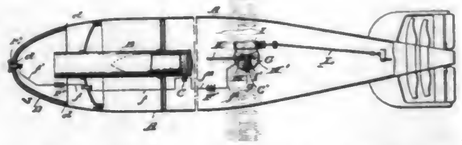
972,063. BICYCLE-SHADE. LEONARD COOPER and JOHN COOPER, Adel, Ga. Filed Oct. 23, 1907. Serial No. 398,805.



In combination with a bicycle frame having a top tube and a reach tube, said tubes being disposed at an angle with relation to each other, a canopy having a supporting bar, and clamps pivotally connected to said supporting bar and respectively engaging said top tube and said reach tube, each of said clamps comprising a strip of spring material having its central portion bent around one of said tubes and having its ends disposed in overlapping relation, one end of said strip being straight, tangentially with respect to said tube and bearing against said canopy supporting bar, a cushion on the inner side of said clamp between the same and the tube and comprising a strip coextensive in length with said strip of spring material and having its ends extending between

the ends of said clamp, and a bolt connecting the clamp ends together, also extending through the ends of the cushion strip and through the said supporting bar and serving to pivotally connect the clamp to the bar and to enable the clamp and, hence, also the cushion strip to be tightened and loosened on said frame tube.

972,064. GYROSCOPICALLY-CONTROLLED TORPEDO-FIRING APPARATUS. CLELAND DAVIS, U. S. Navy. Filed May 9, 1910. Serial No. 560,171.



1. The combination with a torpedo carrying an explosive charge, of a gyroscope mounted in said torpedo, and means actuated by said gyroscope for firing said charge when the torpedo is deflected through a predetermined angle from its original course.

2. The combination with a torpedo, provided with an explosive charge, and an electric primer adapted to fire said charge, of a gyroscope, an electric battery, an electric connection between said gyroscope and said electric primer, and means controlled by said gyroscope for closing said electric circuit when the torpedo is swerved through a predetermined angle from its original course, substantially as described.

3. The combination with a torpedo provided with an explosive charge and an electric primer adapted to fire said charge, of an electric battery and an electric circuit through said primer, with means for automatically closing said circuit when the nose of the torpedo strikes the target, a second electric battery connected to said primer and gyroscope, an electric circuit connecting said primer and said gyroscope, and means controlled by said gyroscope for closing said second electric circuit when the torpedo is swerved through a predetermined angle from its original course.

4. The combination with a torpedo provided with an explosive charge, an electric primer for exploding said charge, a steering engine and an Obry gear for operating said steering engine of an electric battery with an electric circuit connecting said primer and said Obry gear, and means controlled by said Obry gear for closing said electric circuit when the torpedo swerves through a predetermined angle from its original course.

972,065. PROCESS OF DYEING AND PRODUCT THEREOF. JOSEPH DEINET, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Apr. 29, 1909. Serial No. 492,990.

1. The process of dyeing textile fiber which consists in reacting on dibenzoyl-1.8-diaminoanthraquinone with suitable reducing agents to form leuco compounds which are then applied to the fiber and finally oxidized, thus producing on the fiber a yellow shade of extreme fastness.

2. The process of dyeing textile fiber which consists in reacting on dibenzoyl-1.8-diaminoanthraquinone with alkaline reducing agents to form leuco compounds which are then applied to the fiber and finally oxidized, thus producing on the fiber a yellow shade of extreme fastness.

3. The process of dyeing textile fiber which consists in reacting on dibenzoyl-1.8-diaminoanthraquinone with hydrosulfite and caustic soda lye to form leuco compounds which are then applied to the fiber and finally oxidized, thus producing on the fiber a yellow shade of extreme fastness.

4. As a new article of manufacture, yellow colored textile fiber impregnated with the oxidation products of the leuco compound of dibenzoyl-1.8-diaminoanthraquinone which treated fiber remains unchanged upon boiling with 10% muriatic acid, and remains also unchanged upon being touched with cold dilute and cold concentrated nitric acid and which upon being touched with a watery solution containing 0.4% of anhydrous hydrosulfite of sodium and 0.8% of caustic soda changes its color of yellow to rust brown which on exposure to air assumes again its original appearance.

972,066. PROCESS OF DYEING AND PRODUCT THEREOF. JOSEPH DEINET, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Apr. 29, 1909. Serial No. 492,989.

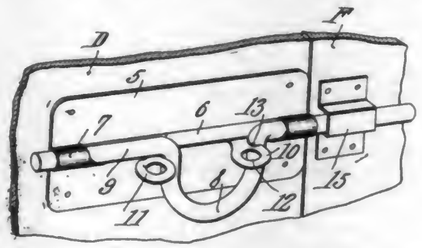
1. The process of dyeing textile fiber which consists in reacting on dibenzoyl-1.5-diaminoanthraquinone with suitable reducing agents to form leuco compounds which are then applied to the fiber and finally oxidized, thus producing on the fiber a yellow shade of extreme fastness.

2. The process of dyeing textile fiber which consists in reacting on dibenzoyl-1.5-diaminoanthraquinone with alkaline reducing agents to form leuco compounds which are then applied to the fiber and finally oxidized, thus producing on the fiber a yellow shade of extreme fastness.

3. The process of dyeing textile fiber which consists in reacting on dibenzoyl-1.5-diaminoanthraquinone with hydrosulfite and caustic soda lye to form leuco compounds which are then applied to the fiber and finally oxidized, thus producing on the fiber a yellow shade of extreme fastness.

4. As a new article of manufacture, yellow colored textile fiber impregnated with the oxidation products of the leuco compound of dibenzoyl-1.5-diaminoanthraquinone which treated fiber remains unchanged upon boiling with 10% muriatic acid, and remains also unchanged when touched with cold concentrated sulfuric acid and dilute caustic potash; and which upon being touched with a watery solution containing 0.4% of anhydrous hydrosulfite of sodium and 0.8% of caustic soda changes its color of yellow to olive brown which on exposure to air assumes again its original appearance.

972,067. LOCKING-BOLT. WILLIAM T. S. DICKEY, Mineralbluff, Ga. Filed Mar. 23, 1910. Serial No. 551,162.



1. In a device of the class described, an attaching plate, a bolt slidably mounted upon the plate and having an intermediate bend, and a plurality of eyes projecting from one face of the plate, either of said eyes being arranged to be received in the bend in the bolt.

2. In a device of the class described, an attaching plate, a bolt slidably mounted upon the plate and having an intermediate bend, and a plurality of eyes projecting from one face of the plate, the said intermediate bend of the bolt being movable to position to receive one of the eyes and engage the other eye.

3. In a device of the class described, an attaching plate, a bolt slidably mounted upon the plate, and a plurality of eyes projecting from one face of the plate, the said bolt having an intermediate bend and each of the eyes being formed with a notch presented toward the adjacent end of the plate and adapted to receive one or the other side of the bend of the bolt.

972,068. MANUFACTURE OF SIZING OR FINISHING MEDIUMS. GEORG DONAUER, Trieste, Austria-Hungary, assignor to The Firm of Erste Triester Reisschäl-Fabriks-Aktien-Gesellschaft, Trieste, Austria-Hungary. Filed July 9, 1909. Serial No. 506,832.

1. The process for manufacturing sizing or finishing media, which consists in steaming substances containing starch and gluten, then mixing the substance with a substance having an alkaline reaction, then mixing the product with a solution of an organic acid, and finally subjecting the product so obtained to treatment for the purpose of changing the constitution of the starch.

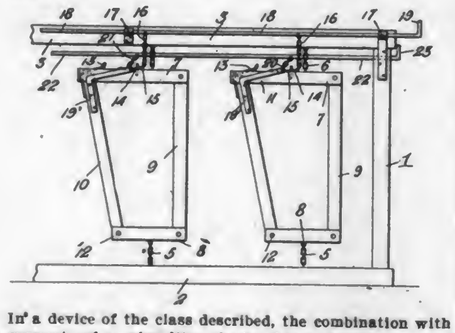
2. The process for manufacturing sizing or finishing media, which consists in steaming substances containing starch and gluten, then mixing the substance with a substance having an alkaline reaction, then mixing the product with a solution of an organic acid, and then subjecting the product so obtained to treatment with acids and alkalies.

3. The process for manufacturing sizing or finishing media, which consists in steaming substances containing starch and gluten, then mixing the substance with a substance having an alkaline reaction, then mixing the product with a solution of an organic acid, then treating the product so obtained with sulfuric acid, and finally neutralizing the mass with an alkali.

4. The process for manufacturing sizing or finishing media, which consists in steaming substances containing starch and gluten, then mixing the substance with a substance having an alkaline reaction, then mixing the product with a solution of an organic acid, then adding water to the mass so obtained so as to form a uniform paste, then treating the mass with sulfuric acid, treating the mass with steam, allowing to boil, and finally neutralizing the mass with soda.

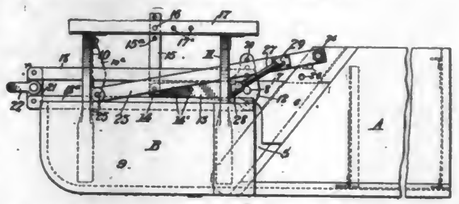
5. The process for manufacturing sizing or finishing media, which consists in steaming a substance containing starch and gluten, then mixing the substance with a solution of ammonium carbonate, then mixing the product with a solution of lactic acid, then drying the mass, adding water to the product so obtained with accompanying stirring so as to form a uniform paste, adding further quantities of water, treating the mass with sulfuric acid with accompanying stirring, treating the mass with steam, allowing to boil, neutralizing the mass with soda, and allowing to cool while stirring.

972,069. CATTLE-STANCHION. MARTIN H. DOOLEY, North Adams, Mass. Filed June 7, 1909. Serial No. 500,619.



In a device of the class described, the combination with a support, of a plurality of stanchions flexibly secured thereto and each comprising a frame, a locking bar pivoted thereto, means for securing the locking bars of said stanchions in locked position, means for forcibly displacing said securing means, said displacing means throwing the locking bars to open position, a common operating bar, flexible connections from the operating bar to the displacing means, a reciprocating bar, and means connecting said bar with the locking bars of the stanchions, whereby they may be opened or closed.

972,070. BALLAST-UNLOADER. WALTER FERRIS, South Milwaukee, Wis., assignor to The Bucyrus Company, South Milwaukee, Wis., a Corporation of Wisconsin. Filed July 17, 1909. Serial No. 508,228.



1. In a ballast unloader, a main plow and a pilot plow having relative vertical movement, and means interposed in the draft connection to convert a constant fraction of the varying tractive force pulling on the unloader into opposite pulls on the respective plows in a vertical direction.

2. In a ballast unloader, a main plow and a pilot plow having a relative vertical movement, and means having connection with the draft to convert a constant fraction of the varying tractive force pulling on the unloader into a downward pressure on the pilot plow.

3. In a ballast unloader, front and rear plows connected for relative vertical movement, and means in connection with the draft to convert a constant fraction of the varying tractive force acting on the unloader as a whole into an upward pressure on the rear plow.

4. In a ballast unloader, front and rear plows connected together and capable of relative movement in a vertical plane, means to apply tractive force to the unloader at the forward end of the rear plow, and means interposed in the draft connection whereby a constant fraction of the varying tractive force is converted into an upward pull on the front or nose portion of the rear plow, and a corresponding downward pull on the forward plow.

5. In a ballast unloader, a pilot plow, and means interposed in the draft connection to force the pilot plow in downward direction in correspondence with the draft pull on the unloader.

[Claims 6 to 28 not printed in the Gazette.]

972,071. EXPLOSIVE-ENGINE. JOHN H. FITCH, Ludington, Mich. Filed Oct. 28, 1909. Serial No. 525,032.

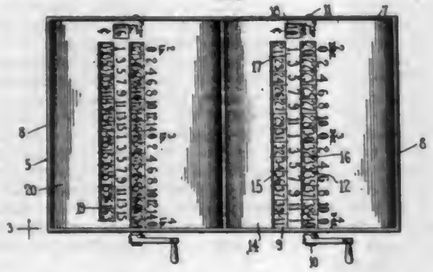


1. In an explosive engine, the combination of a casing provided with an annular cylinder therein; a revolving piston in said cylinder and mounted upon the engine shaft; a rotary valve intersecting said cylinder and provided with an opening adapted to permit the passage of said piston and to serve as an exhaust port, and an admission port; an inwardly projecting arm connected with said valve, the said arm being provided at its inner end with a segmental arm; a spring for yieldingly holding said valve

in exhausting position; and a pin mounted upon said engine shaft and adapted to engage said arm to rotate said valve to a position to permit the passage of said piston, and said segmental arm to momentarily hold said valve in this position to permit the passage of said piston, substantially as described.

2. In an explosive engine, the combination of a casing provided with an annular engine cylinder therein; an engine shaft; a revolving piston in said cylinder and mounted upon said engine shaft; a rotary valve intersecting said cylinder and provided with an opening adapted to permit the passage of said piston and to serve as an exhaust port and an admission port; means for operating said valve, a compression piston and cylinder adjacent said engine cylinder and provided with a port adapted to connect with said admission port; a pressure seated valve closing said compression cylinder port; a spring-held lever for operating said valve and arranged to be operated by the piston at the compression end of its stroke, a segmental gear carried by said rotary valve; a spring-held arm pivoted to said casing and carrying a segmental gear meshing with said first mentioned segmental gear; and a pin carried by said engine shaft and adapted to engage said arm to operate said valve, substantially as described.

972,072. CALCULATING-MACHINE. LESS T. FITE, Nashville, Tenn. Filed Nov. 19, 1909. Serial No. 528,903.

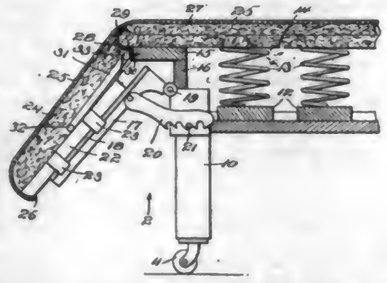


In a calculating machine, a curved shield provided with parallel spaced slots, one having a row of indices designating units of measure and odd fractional parts thereof along its edge, and the other having a row of indices designating the even fractional parts of said unit of measure along its edge, a rotary cylinder concentrically arranged with respect to the shield having parallel rows of indices, the indices of one row designating the total price of the unit of measure or odd fractional parts thereof and being adapted to register with the corresponding slot in the shield, and the indices of the next adjacent row designating the total price of the unit of measure or even fractional parts thereof and being adapted to register with the corresponding slot in the shield.

972,073. FOOT-REST. JOHN FLINDALL, Chicago, Ill. Filed Aug. 18, 1908, Serial No. 449,085. Renewed Apr. 6, 1910. Serial No. 553,844.

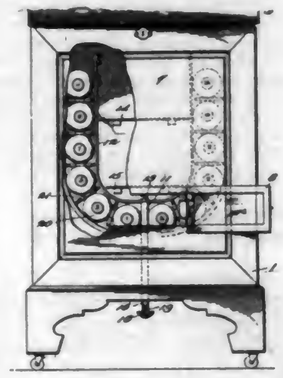
1. In an article of furniture, a spring seat, an adjustable foot rest hinged to the article and embodying a slidable portion, a fabric covering the seat and unbrokenly continuing to cover the foot rest and secured at its edge to the slidable portion, a strip of material secured to the article and to the fabric and adapted to hold the seat portion of the fabric in position, and means carried by the foot rest adapted to act upon the slidable portion and maintain the fabric taut.

2. In an article of furniture, a spring seat, an adjustable foot rest hinged to the article and embodying a slidable portion, a fabric covering for the seat unbrokenly continuing to cover the foot rest and having its edge secured to the slidable portion, a strip of material secured to the article and to the fabric adjacent the edge of the article and adapted to engage said arm to rotate said valve to a position to permit the passage of said piston, and said segmental arm to momentarily hold said valve in this position to permit the passage of said piston, substantially as described.



3. In an article of furniture, a spring seat, an adjustable foot rest hinged to the article and embodying a slidable portion, a fabric covering the seat and unbrokenly continuing to cover the foot rest and secured at its edge to the slidable portion, a strip of material secured to the article and to the fabric adjacent the edge of the article and adapted to hold the seat portion of the fabric in position, and a U-shaped spring exerting tension upon the slidable portion and adapted to maintain the fabric taut.

972,074. REFRIGERATOR. VICENTE L. FORMENTOS, Manila, Philippine Islands. Filed Feb. 16, 1910. Serial No. 544,279.



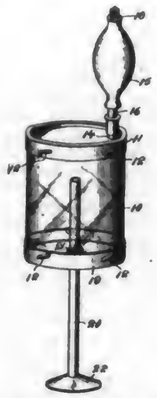
1. In a refrigerator, the combination of a housing containing an internal compartment of U-shaped construction, a division plate at the base of said U-shaped compartment, a vertically disposed internal member of U-shaped construction having its sides arranged parallel to the sides of said compartment and having its base supported by said division block, whereby two guideways are formed at each side of the refrigerator, substantially as described.

2. In a refrigerator, the combination of a housing having an interior compartment of U-shaped construction, a division plate at the base of said compartment extending from front to rear, an interior U-shaped member supported at its base by said division plate, the bottom of said interior U-shaped member forming a support for the ice, and said U-shaped member and the walls of said U-shaped compartment forming guideways on each side of the ice support, substantially as described.

3. In a refrigerator, the combination of a housing having a U-shaped compartment, a division plate extending across said compartment, an interior U-shaped member supported at its base by said division plate, a shelf mounted within said U-shaped member at a substantial distance from the bottom thereof, forming a support for food, the space between the base of said U-shaped member and said shelf forming an ice chamber, and said U-shaped member and U-shaped compartment forming a curved hopper or guideway for receiving and feeding downwardly a series of receptacles at each side of the ice compartment, substantially as described.

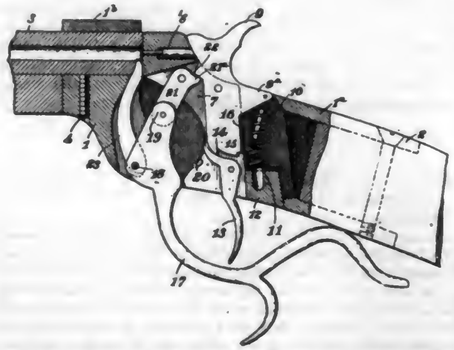
4. In a refrigerator, the combination of a housing having a compartment of U-shaped construction, a plurality of rods of U-shaped construction supported within said U-shaped chamber and spaced from each other and from the rear wall of said chamber, said U-shaped rods forming an open support for the ice, and said rods and U-shaped chamber forming a U-shaped guideway or hopper for receiving and holding receptacles out of contact with the food and ice, and delivering said receptacles to the base of said compartments where the temperature is lowest, substantially as described.

972,075. CREAM-COLLECTING PUMP. GEORGE M. FREEMAN, Seattle, Wash. Filed Nov. 18, 1909. Serial No. 528,793.



In a device of the class described, a body, a bottom removable from the body, an inlet tube carried by and removable with the bottom, a cover and air exhausting means carried by and removable with the cover.

972,076. ACTION FOR FIREARMS. TREPHLE B. GOYETTE, Chicopee Falls, Mass. Filed July 9, 1908. Serial No. 442,768.



1. An action for fire arms comprising a frame formed with a vertical opening therethrough, the opposite walls of the opening being formed with cam shoulders extending downward and rearward, the lower end of the opening being rearwardly enlarged or cut away, a breech block slidably mounted within said opening, the rear opposite edges of the breech block having inclined faces extending downward from the upper end thereof and adapted to engage the cam shoulders when moved into operative position, said breech block being formed with a rearwardly extending projection fitting the rearwardly enlarged portion of the frame opening, a hammer pivoted in the breech block, a coil spring carried upon the rearward extension of the breech block and engaging the hammer, a trigger mounted in the lower end of the breech block, and a finger lever pivoted intermediate of its ends in said frame, and a connection from the finger lever to the breech block.

2. An action for fire arms comprising a frame formed with a vertical opening therethrough, the opposite walls of the opening at the rear thereof being formed with opposite cam shoulders extending downward and rearward along the whole extent of said opening, the lower end of said opening being rearwardly enlarged or cut away, a breech block slidably mounted within said opening, said block being composed of integral side pieces and top and bottom connecting pieces, the upper portion of the rear edges of the side walls being downwardly and rearwardly inclined to fit against the faces of the opposed shoulders, the lower end of said block having a rearwardly extending portion adapted to fit into the cut away portion at the lower end of the rear wall of the frame, cartridge exploding means mounted upon the breech block and between the side walls thereof, a hammer pivoted to the breech block and having a rearward prolongation thereon extending into the space between said cam shoulders, a spring mounted upon the rearwardly extending portion of the breech block and engaging with the prolongation of the hammer, and a finger lever pivoted to the frame and having a link connection with said breech block.

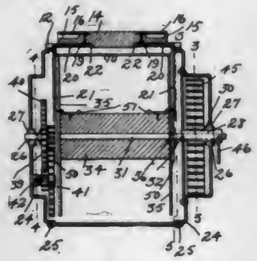
3. An action for fire arms, comprising a frame formed with a vertical opening, the rear of said opening having two separated cam shoulders extending downwardly from the upper end of the opening nearly to the lower end thereof, the rear wall of the opening below said frame being also downwardly and rearwardly inclined, a breech block slidably mounted within the opening, the upper portion of the breech block being rearwardly and downwardly inclined to fit against said shoulders, the lower portion of the block being rearwardly extended to fit against the lower ends of said shoulders, said extended portion having a socket, a hammer pivotally mounted upon the breech block, and having a rearward prolongation, a pin pivoted to said prolongation, a spring surrounding said pin and engaging said rearward prolongation, trigger mechanism mounted on the breech block and adapted to operate the hammer, and a finger lever pivotally mounted upon the frame and having a linked engagement with said breech block to raise or lower the same.

4. In an action for fire arms, the combination of a frame formed with a vertical opening, the rear wall of said opening being provided with downwardly extending separated cam shoulders, the face of said shoulders being rearwardly and downwardly inclined, the frame below the shoulders being cut away, a breech block slidably mounted within the vertical opening of the frame and formed with a rearward prolongation adapted to fit said cut-away portion of the frame, the rear face of the breech block being upwardly and forwardly inclined to fit against said cam shoulders and to be forced tightly against the breech end of the barrel when moved upwardly, a firing pin mounted upon the breech block, a hammer mounted upon the breech block, said hammer being formed with a projection, a trigger mounted upon the breech block for actuating the hammer, a removable pin upon the frame, a finger pivotally mounted upon the pin and formed at its pivoted end with a shoulder and also with an arm which projects within a cut-away portion of the breech block, a link connecting the arm of the finger lever to the breech block and formed with a cam finger designed to engage the before-mentioned projection upon the hammer to move the hammer to a half-cock when the finger lever is

lowered to lower the breech block, and an extractor pivotally mounted upon the before-mentioned pin and adapted to be engaged by the shoulder upon the finger lever to withdraw a cartridge when the finger or lever is lowered.

5. In an action for fire arms, the combination with a frame having rearwardly and downwardly inclined cam shoulders, of a breech block, the rear face of which is rearwardly and downwardly inclined, a firing pin mounted in the upper end of the breech block, a hammer pivoted in the breech block, said hammer having a rearward prolongation intermediate its ends, opposite to the pivot of the hammer, a coil spring mounted at its lower end upon the breech block, the upper end of said spring engaging with said rearward prolongation of the hammer, a finger lever pivoted to said frame, and a link pivoted at one end to the extremity of the finger lever and at its other end pivoted to the breech block, said link having a rearward and upward extension adapted to hold the hammer at half cock when the breech block is lowered.

972,077. ELECTRIC-CABLE RETRIEVER. HENRY R. GRAVES and EDWIN B. GRAVES, Reno, Nev. Filed Sept. 4, 1909. Serial No. 516,261.



1. A device of the class described comprising a cylindrical casing closed at its ends, a sleeve carried revolubly in one side of the casing, a shaft carried revolubly in the sleeve, said shaft projecting through and being supported revolubly in the ends of the casing, said shaft having an enlarged head outwardly of the sleeve, said sleeve having a recess in its outer end, a spring engaged in the recess and bearing against the head of the shaft, rosette ratchet teeth formed upon the inner edge of the sleeve, a transverse pin engaged with the shaft and resiliently engaged by the ratchet teeth, a revoluble drum carried upon the shaft, a train of gears engaged between the shaft and the drum, a pin engaged through the shaft adjacent one side of the drum, a dog adapted to be engaged with the last named pin under action of gravity at times, and adapted to be thrown out of such engagement under the action of centrifugal force at other times, a spring carried by the casing and engaged with the revoluble sleeve, electrical terminals carried by the drum, means for securing a cable thereon, a cable escape opening being formed in the side of the casing, supporting means for the casing, electrical connections therewith and brush contact connections with the terminal connections upon the drum.

2. A device of the class described comprising a cylindrical casing having outwardly recessed heads engaged therein, a sleeve engaged revolubly in one of the heads, a spring secured within the recessed portions of the heads and engaged with the sleeve, said sleeve having rosette ratchet teeth formed on its inner end and having an enlarged recess at its outer end, a shaft engaged revolubly through the sleeve and projecting through and being supported revolubly in the opposite side of the casing, an enlargement carried at the end of the shaft outwardly of the sleeve, resilient means engaged in the recess in the sleeve and bearing against the enlargement, ratchet engaging means carried by the shaft and held resiliently against the rosette ratchet teeth under the action of said spring, means for rotating the sleeve against the action of the spring, a drum carried revolubly on the shaft, gear train connections between the shaft and the drum, electrical terminal connections carried by the drum, means for securing the cable thereto, said casing having an opening formed therethrough for the slidable movement of a cable therethrough, and means for checking rotation of the drum under action of said coil spring at times, and supporting connections for the casing and electrical commutating means carried thereby in circuit with the terminal members upon the drum.

3. A device of the class described comprising a cylindrical casing formed of a non-conducting anchor member, a rectangular strip of sheet material secured thereto with its end edges in spaced relation, circular head members having central outwardly pressed portions secured in opposite ends of the cylindrical portion, a drum member carried revolubly within the casing, resilient means carried by the casing and connected with the drum under tension to rotate the drum, electrical terminal connections carried by the drum, commutator rings disposed on opposite sides of the drum, said anchor member having a circular boss upon its upper side, contact clamps carried thereby, the anchor member having transversely extending recesses in its under side, L-shaped brush members having a horizontal arm disposed within the recesses in spaced relation and having a pendent arm extending inwardly through the casing and contacting with the commutator rings respectively, and fastening means engaged through the contact clamp and said horizontal arm of the brushes, and a socket member having a terminal contact therein adapted for engagement with the clamp to support the casing and connected clamp in an electrical circuit.

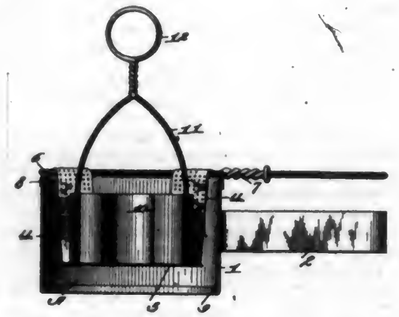
4. In a device of the class described, the combination with a casing having registering journals therein of a revoluble sleeve engaged in one of the journals, a shaft engaged revolubly in the sleeve and one of the journals, a spring carried by the shaft and engaged with the sleeve, a rosette ratchet formed on the inner end of the sleeve, a transverse pin carried by the shaft, resilient means engaged between the sleeve and the shaft to force the pin into engagement with the ratchet teeth, means for rotating the sleeve against the action of the spring, and a cable-carrying drum connected with the shaft, and means for checking the drum against rotation at times.

5. In a device of the class described, the combination with a casing having registering journals therein, of a sleeve engaged revolubly in one of the journals, a shaft engaged revolubly in the sleeve and one of the journals, said sleeve having rosette ratchet teeth formed on its inner edge, projections carried by the shaft engaged with the ratchet teeth, resilient means engaged within the shaft and sleeve to hold the projections in resilient engagement with the ratchet teeth, a drum revolubly engaged upon the shaft, a gear carried by the drum, a gear carried by the shaft, a gear train connecting the two first mentioned gears, a projection on the shaft adjacent the drum, a pivoted dog adapted to engage the projection at times under action of gravity and adapted to be thrown out of such engagement at other times under action of centrifugal force, said casing having an opening therethrough, said drum having terminal electrical connections thereon, means for securing a cable thereto, electrical connections carried by the casing and commutator means connected with the terminal connections upon the drum, and means for supporting the casing in an electrical circuit.

972,078. CULINARY ARTICLE. SALLIE B. HARRISON, Martinsburg, W. Va. Filed Sept. 23, 1909. Serial No. 519,302.

1. A cooking utensil including a strainer and a support therefor, said strainer consisting in its entirety of a perforated bottom member adapted to support the articles to be cooked, said member having a plurality of upstanding legs, and a rim connected to the terminals of the legs, said legs being arranged in spaced relation to each other, to permit said articles to be removed from the strainer through the spaces between adjacent legs when said strainer is withdrawn from its support.

2. A cooking implement comprising an open-ended cylindrical member adapted to rest at its lower edge upon the bottom of a skillet or the like; a strainer arranged within said member and completely removable from the same, said strainer having its upper edge supported upon that of said member; and a molding element removably supported within said strainer upon the bottom of the latter.

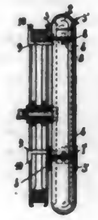


3. A cooking utensil consisting, in combination, of an open-ended cylindrical member adapted to rest at its lower edge upon a skillet or the like to inclose the frying fat therein; and a strainer arranged within said member and comprising a perforated plate having upstanding legs, and a wire rim connected to the terminals of said legs and adapted to rest upon the upper edge of said member, for supporting the strainer in place.

972,079. METHOD OF AUTOGENOUS WELDING, CUTTING, OR SOLDERING METALS. BERTHOLD HOFFMANN, Griesheim, Germany, assignor to Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main, Germany, a Corporation of Germany. Filed May 18, 1910. Serial No. 562,013.

The herein described method of autogenous welding, etc., which consists in supplying the burner with ethane as the principal combustion agent.

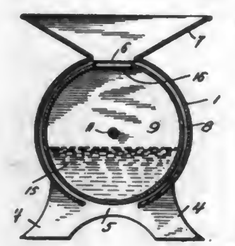
972,080. SPARE WHEEL FOR MOTOR-CARS AND THE LIKE. GEORGES HUYSMANS, Brussels, Belgium. Filed July 8, 1909. Serial No. 506,545.



1. In a device of the class described, the combination with a vehicle-wheel, and a spare rim, of a number of jaws, secured to each side-flange of the reserve-wheel, the jaws on one side being arranged on a circle of larger diameter than the jaws of the opposite side, said jaws being intended to bear on the outer side-flange of the vehicle-wheel, movable jaws carried by said reserve-wheel and intended to bear on the inner flange of the vehicle-wheel, and means for tightening said jaws, substantially as set forth.

2. In a device of the class described, the combination with a vehicle wheel and a spare rim, of a number of jaws secured to each side flange of the reserve-wheel, and intended to bear on the outer flange of the vehicle wheel, brackets secured on the inner face of the flange of the reserve-wheel, screw-nuts, pivots made integral with the nuts and the axis of which passes at a little distance from the nut-hole, said pivots being journaled in said brackets, screw-bolts screwed into said nuts, yokes screwed onto said bolts and jaws carried by said yokes and intended to bear on the inner flange of the vehicle wheel, substantially as set forth.

972,081. CUSPIDOR. LADISLAUS JAKAB, South Bend, Ind. Filed Mar. 12, 1910. Serial No. 548,763.



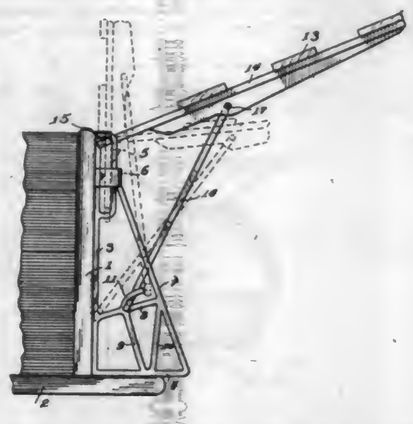
A cuspidor comprising a cylindrical casing having an integral end wall and a detachable end wall, and further having its bottom provided with a relatively wide opening extending from one end wall to the other, said casing furthermore provided with an oblong opening extending at a point removed from one end wall to a point removed from the other end wall, a mouth piece integral with the top of said casing and opening into the shorter of said openings, said mouth piece being rectangular in plan and funnel-shaped in cross-section, each of said walls provided with an opening, a cylindrical drum having closed ends and an oblong opening in its top to register with the opening in the top of the casing when the cuspidor is in normal position and to register with the opening in the bottom of the casing when the cuspidor is upside down, the ends of said drum provided with openings registering with the openings in the ends of the casing, a headed bolt extending through said openings and having its head abutting against the outer face of one of the end walls of the casing and its threaded end projecting from the other end wall of the casing, and a nut mounted upon the threaded end of the bolt for securing the latter in position, said bolt constituting means for maintaining the detachable end of the casing in position and furthermore constituting a pivot for the drum.

972,082. FARM-WAGON BRACKET. JOHN KAMINSKI, Hilliards, Mich. Filed Oct. 14, 1909. Serial No. 522,521.

1. A bracket for farm wagons comprising a vertical member having a vertically extending loop at its upper end and having a lateral projection at the upper end of the loop terminating in a forwardly extending lug, a brace having connection at its upper end with the vertically extending loop and inclined outwardly and downwardly, an upwardly and outwardly inclined stay having connection at its ends with the lower portions of said vertical member and brace and having a stop in its length, a rack arm having a hook at its lower end making running connection with the vertical loop at the upper end of the bracket, said rack arm when in vertical position being engaged by the lateral projection, lug, and vertical loop at the upper end of the bracket, and a brace pivoted at its upper end to the rack arm and having a hook at its lower end to adjustably engage the aforesaid stay.

2. In combination with a farm wagon and a rack, a bracket secured to a side of the wagon and comprising vertical and horizontal members, the vertical member be-

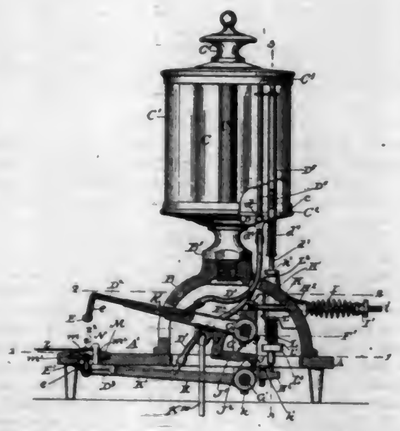
ing provided at its upper end with a vertically extending loop and a lateral projection, a horizontal keeper located intermediate the ends of the loop, a brace between the loop and horizontal member, an upwardly and outwardly inclined stay arranged between the lower portions of the vertical member and brace, other braces between said stay and the horizontal member of the bracket, and a hook pro-



vided upon said stay, a rack arm having a laterally extending hook at its lower end to make running connection with the vertical loop of the bracket, and a brace pivoted at its upper end to the rack arm and provided at its lower end with a laterally extending hook to engage the hook applied to said stay, or to rest in the angle formed between said stay and the vertical member.

972,083. [WITHDRAWN.]

972,084. MACHINE FOR DAMPENING THE EXTRA-THICK END SEAMS OF COLLARS. HENRY C. MILLER, Waterford, N. Y. Filed Dec. 28, 1903. Serial No. 186,927.



1. In a machine for dampening collars, the combination with a device for supporting a collar, having formed in it a concavity and an opening located in said supporting device, a gage-stop for gaging the seam of a collar, mechanism for projecting said gage stop upward through the opening, and means for drawing the stop downward and from the opening.

2. In a machine for dampening collars, the combination with a means for supporting a collar and having formed in it a cavity and an opening located in said supporting device, a vertically movable gage stop for gaging an end of a collar, mechanism for thrusting said gage stop upward through the opening, means for drawing said stop downward below the upper surface of the supporting device, an upper dampening pad adapted to be reciprocated vertically toward and from the cavity, a lower pad adapted to be reciprocated vertically in direction toward and from the upper dampening pad, and means for supplying said two dampening pads with dampening liquid.

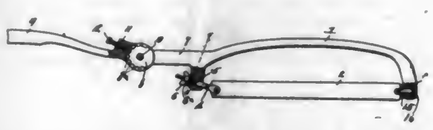
3. In a machine for dampening collars, the combination with a support for collars, a cavity in said support into which the end of a seam of a collar may be depressed, a gage stop projected above said support, an upper dampening pad for depressing said end of the seam and applying a dampening liquid to the upper side thereof, a conduit for supplying the upper dampening pad from a source of supply of the dampening liquid, mechanism through which an operator may move said dampening pad down upon the end of the same, and means for raising said pad up from said seam.

4. In a machine for dampening collars, the combination with a support for a collar, a concavity in said support into which the end of a seam of a collar may be depressed, a movable gage projecting above the upper surface of said collar support prior to placement of an end of a collar, means for moving the gage down below the upper surface of the collar support, a source of supply of dampening liquid, a dampening pad, mechanism for conducting the liquid from the source of supply to the pad, mechanism for imparting to said pad a reciprocating movement, first for dampening the end of the seam, and then for withdrawal of the pad from said seam.

5. In a machine for dampening collars, the combination with a support for a collar, an opening formed in said support, a movable gage stop projecting above the plane of the upper surface of the support prior to the placement of a collar, means for moving said gage stop down below the upper surface of the collar support, a source of supply of a dampening liquid, a movable dampening pad adapted to be moved upward against the lower side of the seam of the collar, a conduit between said liquid supply and the pad, a valve for controlling the supply of liquid, a reciprocating arm for moving the dampening pad to the lower side of the seam and then down from the same, and mechanism for actuating said arm.

[Claims 6 to 53 not printed in the Gazette.]

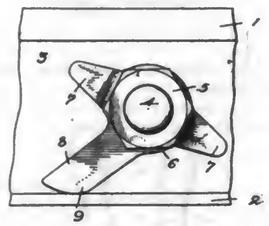
972,085. HACKSAW. JOHN T. NACEY, Superior, Wis., assignor of one-half to Henry J. Nacey, Superior, Wis. Filed Nov. 9, 1909. Serial No. 526,953.



1. In a hack saw, the combination of a saw frame, a saw carried by the saw frame, an extension projecting from the saw frame and terminating in a toothed head having a pivot opening therein, a handle also provided with a pivot opening, a removable pivot pin adapted to be received within the before mentioned openings and constructed to have an interlocking connection with the extension and the handle, and a set screw carried by the handle and engaging the toothed head for locking the handle in an adjusted position.

2. In a hack saw, the combination of a saw frame, a saw carried by the saw frame, an extension projecting from the saw frame and terminating in a toothed head having a pivot opening therein which is in communication with a notch, a handle formed with a bifurcated end embracing the toothed head and provided with pivot openings communicating with notches, the said notches of the handle and head normally being out of registry with each other, a pivot pin adapted to pass through the before mentioned pivot openings and provided at its ends with lugs adapted to pass through the notches when the handle is turned to throw the notches into registry, but engaging the toothed head to hold the pivot pin against displacement when the notches are not in registry, and means for locking the handle in an adjusted position.

972,086. NUT-LOCK. DUGALD S. PATERSON, Philadelphia, Pa. Filed July 23, 1909. Serial No. 509,146.



1. The herein described nut lock consisting of a plate of metal having a substantially circular central portion provided with a centrally disposed bolt receiving opening, the metal surrounding said opening being dished to form an annular projection from one side of the plate, said projection having a cross-section arcuate in shape with its inner end having an edge projecting beyond the remainder of the nut lock in the direction of said side whereby said edge contacts primarily with the surface to which the plate is applied, a locking arm extending from the edge of the circular portion and adapted to contact with a fixed object when the nut lock is in position whereby the rotation of the plate is prevented, and locking ears extending outward from the central portion and bent in a direction opposite to the dish of said central portion.

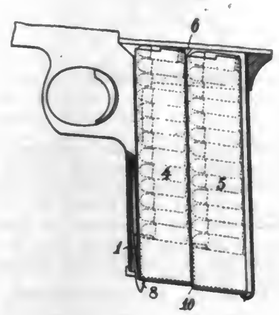
2. The herein described nut lock consisting of a plate of metal having a portion provided with a bolt receiving opening, the metal surrounding said opening being dished to form an annular projection from one side of the plate, said projection having a cross-section arcuate in shape with its inner end having an edge projecting beyond the remainder of nut lock in the direction of said side whereby said edge contacts primarily with the surface to which the plate is applied, a locking arm extending from the edge of the portion surrounding the opening and adapted to contact with a fixed object when the nut lock is in position whereby the rotation of the plate is prevented, and a locking ear extending outward from the said portion and bent in a direction opposite to the dish of said portion.

972,087. AUTOMATIC FIREARM. HARALD SUNNGÅRD, Christiania, Norway. Filed Jan. 11, 1910. Serial No. 537,416.

1. An automatic pistol comprising a hollow handle adapted to receive a plurality of cartridge holders one behind the other, means to secure one of said holders in operative position within the handle, and means coöperating with said positioned holder to secure the second holder in inoperative position.

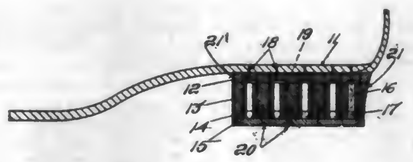
2. An automatic pistol, comprising a hollow handle adapted to receive two cartridge holders, means for securing one of said holders near the front wall of the handle in operative position and means for securing between this cartridge holder and the rear wall of the handle an auxiliary cartridge holder in inoperative position.

3. An automatic pistol, comprising a handle adapted to receive two cartridge holders, means for securing one of said holders near the front wall of the handle in operative position, said means adapted to release the holder so it may be withdrawn in its longitudinal direction, means for securing between this cartridge holder and the rear wall of the handle an auxiliary cartridge holder in inoperative position, said inoperative holder adapted to be moved into operative position after removal of the front cartridge holder, without being taken out of the handle.



4. An automatic pistol, comprising a hollow handle adapted to receive a plurality of cartridge holders, a spring behind the front wall of the handle having a nose projecting below the latter adapted to engage the lower edge of the front holder, a flange formed on the lower edge of the rear wall of the handle adapted to engage the lower edge of the rear cartridge holder, and laterally projecting lugs formed on the upper interior edges of the handle behind the front holder, for the purpose specified.

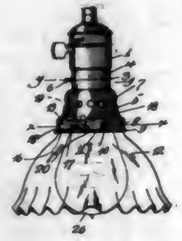
972,088. CUSHION-HEEL. WILLIAM H. WATSON, Keene, N. H. Filed Mar. 11, 1908. Serial No. 420,382.



A cushion heel comprising a relatively thin lift or layer of felt through which the fastening nails by which the heel is attached to the shoe may pass, a relatively thick lift or layer of felt provided with a series of holes, and a lift or layer of leather also provided with a series of holes registering with the holes of the thicker felt layer, and through which holes the fastening nails may be inserted, these several lifts or layers being secured together by stitching, and the said heel, when completed, having, in addition to the lifts or layers aforesaid, an outer lift or layer of leather properly secured in place.

972,089. GLOBE, SHADE, AND CHIMNEY HOLDER. WILLIAM W. ABBOTT, Ingram, Pa. Filed Apr. 6, 1910. Serial No. 553,752.

1. A holder of the type described comprising a sleeve, inwardly-extending integral lugs carried by the sleeve, and a shiftable resilient clasp movably mounted against the outer face of the sleeve and having a portion thereof extending through and into the sleeve for clamping the article to be held to the lugs when the clasp is shifted in one direction.

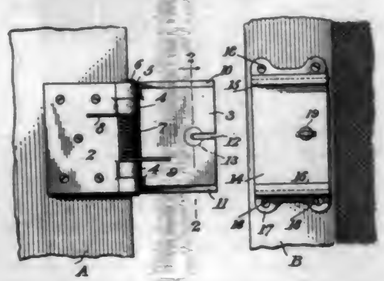


2. A holder of the type described comprising a sleeve provided with inwardly-extending lugs, and a shiftable resilient clasp mounted against the outer face of the sleeve and including a head, said clasp having one end thereof extending through and into the sleeve for clamping the article to be held to the lugs when the clasp is shifted in one direction and said head of the clasp having one end extending through the sleeve.

3. A holder of the type described comprising a sleeve provided with inwardly-extending lugs, and a shiftable resilient clasp mounted against the outer face of the sleeve and including a head, said clasp having one end thereof extending through and into the sleeve for clamping the article to be held to the lugs when the clasp is shifted in one direction and said head of the clasp having one end extending through the sleeve, said sleeve provided with a bent edge, and said head having its other end engaging under the bent edge of the sleeve.

4. A holder of the type described comprising a sleeve provided with an opening and a slot, said sleeve further having inwardly projecting lugs, and a resilient clasp slidably mounted upon the outer face of the sleeve and having one end thereof projecting through said openings for clamping the article to be held to the lugs when the clasp is shifted in one direction, said clasp including a head having one end extending through said slot and its other end engaging in the sleeve.

972,090. HINGE. WILLIAM S. AULT, Wabash, Ind., assignor of one-half to Harry L. Gray, Wabash, Ind. Filed June 5, 1909. Serial No. 500,410.

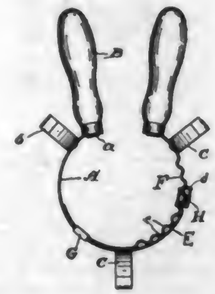


1. A hinge comprising a pair of pivoted leaves, one of the said leaves having an elongated slot therein which extends to one of the side edges of the leaf, the said leaf having a substantially circular recess therein which is arranged in direct communication with the slot, a bracket, guides on the bracket for receiving the said slotted leaf of the hinge, and a revolnbly mounted locking element located between the guides and adapted for insertion through the said elongated slot and adapted for movement into locking engagement with the walls of the said circular recess to hold the bracket operatively associated with the said slotted leaf.

2. A hinge comprising pivotally connected leaves, one of the leaves having a slot therein which extends to one side edge of the leaf, a bracket for detachable engagement with the said slotted leaf of the hinge, and a locking element movably mounted on the bracket for locking engagement in the said slot.

3. A hinge comprising pivotally mounted leaves, one of which having a slot therein which opens at one end onto one side edge of the leaf, a bracket for detachable engagement with the slotted leaf, and a rotatably mounted locking member on the bracket for locking engagement in the slot.

972,091. FRUIT-JAR HOLDER. GEORGE T. BAGULEY, Toronto, Ontario, Canada, assignor of one-half to William J. Lytle, Toronto, Canada. Filed Nov. 19, 1909. Serial No. 528,887.



1. In a jar holder, the combination of a clamping band; handles secured to the ends of said clamping band whereby it may be contracted around a jar or similar article and support the same; spring fingers secured to and depending from said clamping band and adapted to releasably engage with the side of a pan or similar article and support the same beneath a jar or other article engaged by and held in said clamping band.

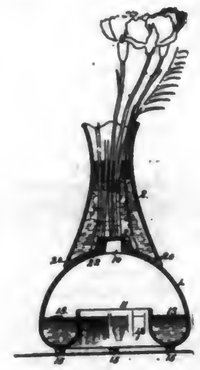
2. In a jar holder the combination of a divided clamping band, handles secured to the ends of said band whereby it may be held and also contracted around a jar or similar article, and a plurality of fingers secured to said band and adapted to support a pan or other article and to be engaged with and disengaged from the said pan by the action of contracting or expanding the band.

3. In a jar holder the combination of a divided clamping band; handles secured to the ends of said band whereby it may be held and also contracted around a jar or similar article, means for adjusting the length of said band, and a plurality of fingers secured to said band adapted to support a drip pan or similar article and to be engaged with and disengaged from the edge of said drip pan by the action of contracting or expanding the divided band.

972,092. FLOWER-HOLDER AND INSECT-TRAP. THEODORE L. BERLINGER, Soldiers Home, Cal. Filed Feb. 28, 1910. Serial No. 546,457.

An appliance for the purposes described, comprising a dome-shaped receptacle having a central bottom opening and the wall of which projects upwardly and inwardly whereby to form an annular internal liquid holding

trough, the bottom of the receptacle having pendent projections, the dome portion having a centrally projected tubular and threaded neck, and a holder having an annu-



larly enlarged base concaved to snugly rest on the top of the dome-shaped receptacle, said concaved base having a centrally disposed hub formed with an internally threaded socket to engage the threaded neck of the dome.

972,093. [WITHDRAWN.]

972,094. NON-REFILLABLE BOTTLE. JOHN T. BLUFF, Butte, Mont., assignor of one-half to Frank F. Hayes, Butte, Mont. Filed May 6, 1910. Serial No. 559,722.

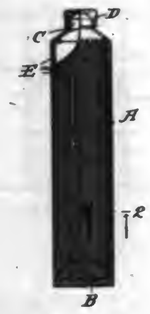


1. A bottle, provided with a tapering neck, an inwardly projecting flange at the top of the bottle, a series of inwardly projecting longitudinal flanges spaced from each other, a plurality of downwardly inclined teeth carried by said flanges, and an integral stop member at the bottoms of the inwardly projecting flanges.

2. A bottle provided with a tapering neck, an inwardly projecting flange at the top of the bottle, a series of inwardly projecting longitudinal flanges spaced from each other, a plurality of downwardly inclined teeth carried by said flanges, said teeth being also inclined inwardly and adapted to engage a cork for preventing the withdrawal of the latter, and a stop member extending between the flanges for limiting the downward movement of the cork, the spaces between adjacent longitudinal flanges communicating with the interior of the bottle neck when the cork is in its lowest position.

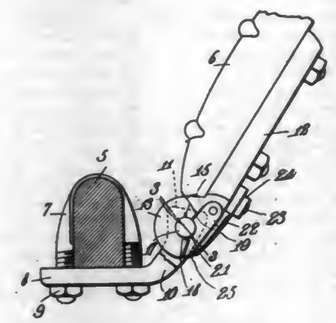
3. A bottle provided with a tapering neck, a series of inwardly projecting flanges at the top of the bottle, a series of inwardly projecting longitudinal flanges spaced from each other, each of said longitudinal flanges being beneath one of said series of inwardly projecting flanges, a plurality of downwardly inclined teeth carried by said longitudinal flanges, said teeth being also inclined inwardly and adapted to engage a cork for preventing the withdrawal of the latter, and an integral spider connecting the bottoms of said flanges and constituting a stop member for limiting the downward movement of the cork.

972,095. COMPRESSIBLE TUBE. THOMAS C. BOOTH, New Rochelle, N. Y., assignor to The Consolidated Fruit Jar Company, New York, N. Y., a Corporation of New York. Filed Apr. 2, 1909. Serial No. 487,553.



A compressible integral cylindrical tube or container having the material at one end thereof collapsed upon itself, whereby said tube is permanently closed at such end, said tube having a removable cap at the other end, the exterior surface of the body of such tube being corrugated or grooved in parallel lines, the interior surface of said tube being free from corrugations.

972,096. THILL-COUPLING. WILLIAM A. BUCHANAN, Asheville, N. C., assignor to Ball Bearing Coupler Company. Filed Apr. 30, 1909. Serial No. 493,166.

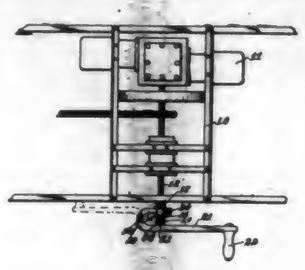


In a device of the class described, a thill iron having a head formed with a bearing, a rigid non-resilient cap plate carried by the head to close the bearing, a coupling pin seated in the bearing, the cap plate having a portion engaging with the coupling pin whereby to afford an additional bearing therefor, a stud upon the thill iron, a rigid non-resilient plate formed with an opening receiving said stud, the said plate overlapping the cap plate, and a nut threaded upon the stud whereby to hold the last mentioned plate in position against the cap plate, the cap plate being formed with a rib and the last mentioned plate being formed with a seat for receiving said rib whereby to hold the last mentioned plate against turning upon the stud as a pivot except subsequent to turning the nut to position spaced from the said plate.

972,097. CRANKING DEVICE. RAY H. CLIFTON, East Peru, Iowa. Filed Nov. 12, 1909. Serial No. 527,718.

1. The combination with a shaft of an explosive engine, of a ratchet device fixed thereto, an arm rotatably mounted upon the engine shaft, a crank fulcrumed to said arm, a ratchet device carried by said crank and designed to

coact with the ratchet device on the engine shaft, and means for supporting said crank in position at one side of the shaft.



2. The combination with the shaft of an explosive engine, of a ratchet device fixed thereto, an arm rotatably mounted thereon, a crank fulcrumed to said arm, a ratchet device fixed to the crank, a handle for the crank, said crank being capable of swinging from position with its ratchet device in engagement with that of the shaft to position with its ratchet device moved to its limit of movement away from the engine shaft, and a frame having a slotted opening therein to receive said handle.

3. A device of the class described, comprising a frame, an engine carried by the frame, a ratchet device fixed to the engine shaft, a sleeve rotatably mounted on the engine shaft, ball bearing devices interposed between the sleeve and the engine shaft, an arm carried by said sleeve, a crank having a forked end to receive the end of said arm, an internally screw threaded cylinder mounted in one of said forked ends, a cylinder with a tapered opening mounted in the other one of said forked ends, a bolt having a tapered portion extended through said forked ends and through the arm with its tapered portion in engagement with the tapered cylinder, said bolt being provided with a screw threaded portion to engage said screw threaded cylinder, and said bolt also being provided with a reduced screw threaded portion, a nut on said reduced screw threaded portion, a handle fixed to the crank having an enlarged outer end and a reduced portion adjacent to the outer end, a ratchet device carried by the crank to coact with the ratchet device on the engine shaft, said frame being provided with a slot and with a round opening at the upper end of the slot designed to receive said handle when swung to its limit of movement away from the engine shaft, substantially as and for the purposes stated.

972,098. SICKLE. AMOS J. COOVER, Medway, Ohio, assignor of one-half to A. B. Mumma, Dayton, Ohio. Filed Apr. 24, 1909. Serial No. 491,994.



In a device of the character specified, the combination with a finger bar, a sickle bar having a plurality of blades mounted thereon, a strap bifurcated at one end and terminating in hooks which engage an extension of the sickle bar at that end of said sickle bar, the other end of said strap terminating in a hook which incloses the other end of the sickle bar, a clip, a screw penetrating said hook end of said strap and engaging said clip, said clip being adapted to bind the blades assembled on the sickle bar between said clip and the other end of the sickle bar, and guards adapted to prevent the sickle bar from buckling under the pressure exerted to bind the blades in rigid contact.

972,099. BED. ARTHUR F. CRANDALL, Beresford, S. D., assignor of one-half to Andrew M. Strand, Beresford, S. D. Filed Sept. 20, 1909. Serial No. 518,470.



1. An extensible bedstead, and a support automatically raised by the extension of the bedstead into a position for the patient on the bed to rest in the use of a commode.

2. A bedstead composed of a head and foot section movable to and from each other, and a support for the patient on the bed to rest in the use of a commode, automatically movable into and out of the space between the two sections of the bed by the extension and contraction of the bed.

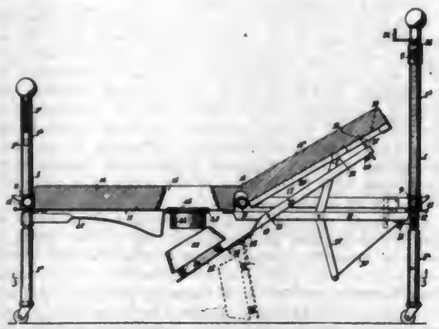
3. An extensible bedstead having head and foot sections movable to and from each other, a support mounted to rock between the said sections when the bed is extended, having a commode opening, and means to actuate the support by the extension and contraction of the bedstead.

4. A bedstead composed of a head and a foot section adjustable to and from each other, a support for the patient on the bed to rest in the use of a commode, mounted to swing into and out of the space afforded between the two sections of the bed when the bedstead is extended, and means to automatically actuate the support by the extension and contraction of the bedstead.

5. A bedstead having a head and foot section provided with telescoping side rails adapting the bed to be extended and contracted in length, a support carried on the side rail sections of one section of the bed and having a commode opening, and means to automatically move the support into the space between the bed sections when the said sections are separated.

[Claims 6 to 18 not printed in the Gazette.]

972,100. BED FOR INVALIDS. ARTHUR FREMONT CRANDALL, Beresford, S. D. Filed Feb. 24, 1910. Serial No. 545,672.



1. In a bed having a bar, a mattress support in two sections, one of which is adapted to be moved relatively to the other section, there being a commode opening in one of the sections, a plug adapted to be disposed in the opening,

a lever pivoted to the bar, on which the plug is mounted, and a locking member for connecting the lever with the other section of the mattress support.

2. In a bed having a bar, a mattress support in two sections, one of which is adapted to be moved relatively to the other section, there being a commode opening in one of the sections, a plug adapted to close the opening, a plate having a guideway, on which the plug is mounted, a member having a guideway adapted to be moved relatively to the bar, the plate being hinged to the member, a bolt adapted to be disposed in the guideways for holding the plate rigid relatively to the member, and a locking member for connecting the member with the other section of the mattress support.

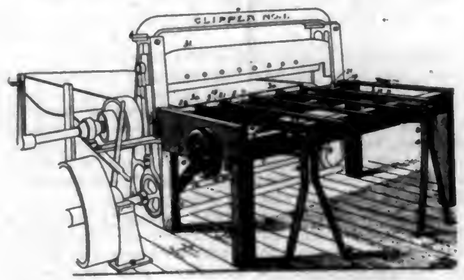
3. In a bed having a frame, a mattress support in two sections, one of which is adapted to be moved relatively to the other section, there being a commode opening in one of the sections, a plug, adapted to close the opening, a lever pivoted to the frame to which the plug is secured, means for holding the pivoted member in position with the plug in the opening at the will of the operator, a lever pivoted to the frame adapted for raising the other mattress section, and locking means for connecting the first-mentioned lever with the last-mentioned mattress section.

4. In a bed having a frame, a mattress support in two sections, one of which is pivoted to the frame, the other section having a commode opening, a plug for closing the commode opening, a lever pivoted to the frame on which the plug is mounted, a second lever pivoted to the frame, a roller mounted thereon, adapted for engaging the pivoted section of the mattress support, and a locking member for connecting the first-mentioned lever with the pivoted section of the mattress support and with the frame respectively.

5. In a bed having a frame, a mattress support in two sections, one of which is pivoted to the frame, the other section having a commode opening, a plug for closing the commode opening, a lever pivoted to the frame on which the plug is mounted, a second lever pivoted to the frame for engaging the pivoted mattress support section, and a locking member having arms pivoted to the first-mentioned lever, one of the arms being adapted for engaging the pivoted mattress support and another arm being adapted for engaging the frame.

[Claims 6 to 13 not printed in the Gazette.]

972,101. GAGE-TABLE. REUBEN C. DAYTON, Rhinelander, Wis. Filed Aug. 28, 1909, Serial No. 515,022. Renewed Aug. 20, 1910. Serial No. 578,242.



1. As a new article of manufacture, a gage table for clipping machines comprising a support separate from the clipping machine, a bar mounted on said support, a carriage slidable on said bar, and means for moving said carriage from place to place along said bar.

2. As a new article of manufacture, a gage table for clipping machines comprising a support separate from said clipping machine, a bar mounted thereon, a carriage slidable on said bar, means for moving said carriage from place to place along said bar, and means for holding said carriage in its various positions.

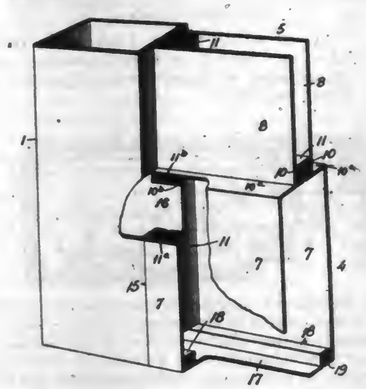
3. As a new article of manufacture, a gage table for clipping machines comprising a supporting frame separate from the clipping machine, a pair of bars mounted thereover, a carriage mounted on each of said bars, means operatively connecting said carriages together to move in unison, and means forming a coöperative part of said last named means for moving said carriages along said bars.

4. As a new article of manufacture, a gage table for clipping machines comprising a supporting frame separate from that of the clipping machine, a pair of bars mounted thereover, a carriage mounted on each of said bars, means operatively connecting said carriages together to move in unison, means forming a coöperative part of said last named means for moving said carriages along said bars, said bars having recesses in one face, and gage bars held in said recesses with the exposed faces of said gage bars flush with those of the respective bars in which said gage bars are mounted.

5. As a new article of manufacture, a gage table for clipping machines comprising a supporting frame separate from that of the clipping machine, a pair of bars mounted thereover, a carriage mounted on each of said bars, means operatively connecting said carriages together to move in unison, means forming an operative part of said last named means for moving said carriages along said bars, said bars having recesses in one face, and gage bars removably held in said recesses with the exposed faces of said gage bars substantially flush with those of the respective bars in which said gage bars are mounted.

[Claims 6 to 21 not printed in the Gazette.]

972,102. HOLLOW FIREPROOF DOOR. HENRY P. A. A. EICHMANN, Corona, N. Y., assignor of one-half to Charles F. Lehman, Corona, N. Y. Filed Apr. 23, 1909. Serial No. 491,720.



1. In a sheet metal door composed of panel, stile and rail sections, the combination with said rails and stiles, of pliable flanges along the edges of the latter and around the panel recess, a pair of panel members having correspondingly pliable flanges adapted to engage and interlock said stile and rail flanges, and an interior brace-key having a longitudinal opening which receives said other members, whereby the key embraces the latter and serves to stiffen and brace the joint.

2. In a sheet metal door composed of hollow panel, stile and rail sections, the combination with said sections, of pliable interlocking integral flanges, panel halves provided with corresponding pliable flanges, and a substantially C-shaped internal pliable key-brace, whereby when pressed together said flanges and key will form a stiffening and strengthening joint and rib in the door.

3. A sheet metal door composed of panel, stile and rail portions having integral pliable flanges which project into the panel recess, in combination with a panel composed of two duplicate halves composing the front and back of the panel, integral pliable flanges on the edges of said

halves arranged and adapted to interlock those on the other members whereby pressure brought to bear on all the loosely assembled flanges rigidly clenches the flanges, stretches said halves, and sets the panel permanently in the door.

4. A hollow sheet metal door composed of stile, rail and panel sections interiorly secured together at their contiguous edges by integral interlocking flanges constituting seams, in combination with an interior cross-brace composed of an elongated web of metal which connects the interior opposite sides of the door.

5. A hollow metal door composed of the usual stile, panel and rail sections, in combination with seams formed out of the interclenched contiguous edges of said sections, and a longitudinal interior cross-web connecting the opposite sides of the door at the seams.

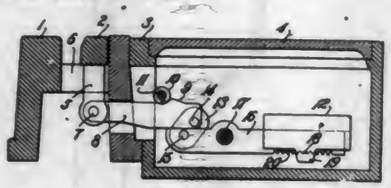
[Claim 6 not printed in the Gazette.]

972,103. PROCESS OF GRINDING BRAN. DITTMAR FINKLER, Bonn, Germany. Original application filed June 22, 1906, Serial No. 322,928. Divided and this application filed Sept. 1, 1909. Serial No. 515,681.

1. The process of increasing the digestibility of the bran of cereals, which consists in forming it into hard-caked masses by the addition to the uncooked bran of an agglutinant and then comminuting such masses the comminuting process being continued until the cell walls of the bran are broken and emptied.

2. The process of increasing the digestibility of the bran of cereals, which consists in forming it into hard-caked masses by the addition to the uncooked bran of dextrin and then comminuting such mass, the comminuting process being continued until the cell walls of the bran are broken and emptied.

972,104. SWITCH STRUCTURE. CHARLES N. GLYNN, Philadelphia, Pa., assignor to Barbour-Stockwell Company, a Corporation of Massachusetts. Filed Feb. 25, 1909. Serial No. 480,079.



1. The combination in a switch structure, of a movable tongue; a link pivoted to said tongue having a cam surface thereon coacting with a stationary roll secured in the casing; said stationary roll; a casing; a lever mounted on a pivot in said casing; links connecting said lever with the first-mentioned lever; and a weight on the second-mentioned lever arranged to yieldingly hold the cam surface on the first-mentioned lever in contact with the roll.

2. The combination in a switch structure of a switch tongue; means for yieldingly retaining said switch tongue in a predetermined position, comprising a weight; a lever upon which said weight is mounted; a pivot upon which said lever is fulcrumed; a link connecting said lever with a longitudinally moving link; means for connecting said link to the switch tongue; a cam upon said link held in yielding contact against a roll by the lever and weight; and said roll.

3. The combination in a switch structure of a casing attached to one side of the structure; a movable tongue in the switch structure; a movable link pivoted to said movable tongue; a cam on said link; a roll mounted on a pivot in said casing against which the sides of the cam may contact; a link connecting said movable link with a lever fulcrumed to the casing; pivots in the end of said lever and said movable link upon which a link is movably mounted; a weight adjustably mounted on said lever; and means for retaining the weight in a predetermined position.

4. In a yielding locking device for switch structures, a switch tongue; a casing, a weight and a lever; longitudinally moving links having cam surfaces thereon connecting said lever with the switch tongue; a stationary roll; and a weight to yieldingly hold the switch tongue in its operative positions.

972,105. TOOL-SOCKET. LEWIS GREGSON, New Bedford, Mass., assignor to Morse Twist Drill & Machine Company, New Bedford, Mass. Filed May 17, 1909. Serial No. 496,399.



1. In combination, a socket for a rotating cutting-tool provided with two oppositely disposed recesses in the forward end thereof, a sleeve arranged within said socket said sleeve being slotted throughout a portion of its length to form two oppositely-disposed longitudinally-extending jaws constructed to receive the non-circular shank of a cutting-tool, and a projection on the forward end of each of said jaws fitting into one of said recesses.

2. In combination, a socket for a rotating cutting-tool provided with two oppositely-disposed recesses in the forward end thereof, a sleeve arranged within said socket, said sleeve being slotted throughout a portion of its length to form two oppositely-disposed longitudinally-extending jaws beveled to receive a shank having a cross-section thinner at the middle than at the edges thereof and a projection on the forward end of each of said jaws fitting into one of said recesses.

972,106. BEAM-COMPASS. THOMAS F. HANNAN, Schenectady, N. Y. Filed Feb. 20, 1909. Serial No. 479,193.

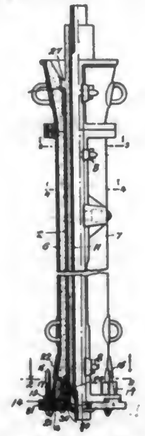


1. A beam compass comprising a beam, a marker, a yoke provided with bearings for the marker and bent around the beam, and a device arranged to clamp the ends of the yoke together to bind the yoke to the beam, said device being provided with a bearing for the marker movable into and out of alinement with the other bearings.

2. A beam compass comprising a beam, a marker, a yoke having bearings for the marker, one of which is struck up from the yoke intermediate its ends, bent around the beam, a device passing through the ends for clamping the yoke to the beam, said device being provided with a bearing movable into and out of alinement with the other bearings as the yoke is respectively loosened and tightened on the beam.

972,107. APPARATUS FOR USE IN CASTING PIPES. FRED HERBERT, Coshocton, Ohio. Filed July 14, 1909. Serial No. 507,487.

1. The combination with a mold flask, of a centering plate having a central sleeve, a core received longitudinally within the flask and having one end extended to be engaged and centered by said sleeve, means carried by the other end of said core to be engaged and centered by the mold in said flask, and means for securing the plate to the end of the flask.



2. The combination with a flask and mold, the latter having a flaring end surface at one end thereof, of a core adapted to be inserted longitudinally into the flask and mold, and having an integral collar thereon at one end to engage within the mold adjacent the flaring end surface thereof to center the parts, and means for automatically centering the other end of the core within the mold by the insertion of the core into the mold.

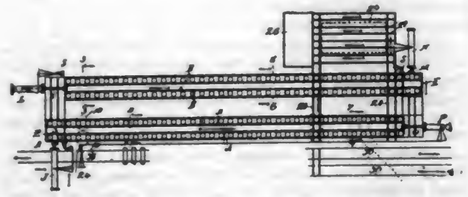
3. The combination with a flask and mold, the latter having a flaring end surface at one end thereof, the mold having a pouring gate passage formed therein, adjacent its flaring end, of a core adapted to be inserted longitudinally into the flask and mold, and having an integral collar to engage within the mold adjacent the flaring end surface thereof to center the parts, and means for automatically centering the other end of the core within the mold by the insertion of the core into the mold.

4. The combination with a mold flask, of an end plate having a central seat, and the flange to encompass the end of the flask, said plate having bent openings therethrough and a recess and a central sleeve, a pattern sand head fitted over said sleeve and received in said seat, a core seated in the end of said sleeve, the flange, recess, sleeve and seat of said plate being machined to true concentric relation.

5. The combination with a mold flask, of a core adapted to be inserted longitudinally into the mold flask, and having an integral collar at one end to engage the mold and center the parts and means for automatically centering the other end of the core when inserted into the flask.

[Claims 6 to 16 not printed in the Gazette.]

972,108. PIPE-FOUNDRY PLANT. FRED HERBERT, Coshocton, Ohio. Filed Oct. 11, 1909. Serial No. 522,112.



1. In a foundry plant, a truck, elevated track-rails on which the truck operates, a flask supported upon said truck in vertically suspended position with reference to said rails, and means for advancing the truck intermittently step by step along its supporting rails.

2. In a foundry plant, a truck, a flask supported thereon in vertically suspended position, elevated track-rails on which the truck operates, and means for transferring the truck from one to another of said track-rails.

3. In a foundry plant, a system of elevated level track-rails, trucks operating on said track rails, flasks suspended in vertical position on said trucks, and a transfer bogie for transferring the trucks from one set of said elevated track-rails to another.

4. In a foundry plant, a system of elevated track-rails, independent trucks operating on said rails, flasks suspended in vertical position upon said trucks, and means for progressing said trucks along said rails intermittently step by step.

5. In a foundry plant, a system of elevated track-rails, trucks operating on said rails, flasks supported in vertically suspended position on said trucks, means for transferring said trucks from one line of track rails to another, and means for intermittently progressing the trucks along the rails step by step.

[Claims 6 to 28 not printed in the Gazette.]

972,109. MAGNETIC ORE-SEPARATOR. ANDERS GUSTAF HOLMBERG, Långgrufvan, Sweden. Filed Nov. 27, 1908. Serial No. 464,757.



1. In a magnetic ore separator, an elongated trough, an endless belt therein spaced therefrom, a plurality of sets of magnets above the lower run of the belt, the trough being formed with a pit in advance of each group of magnets, a foraminated plate in each such pit, a water delivery tube for each such pit having a nozzle projected downwardly through the foraminated plate and terminating in the space below said plate, the trough being also formed with a pit under each group of magnets, each such pit having a transversely sloping bottom and being provided with a discharge at the end of the bottom, and means for feeding material to the trough.

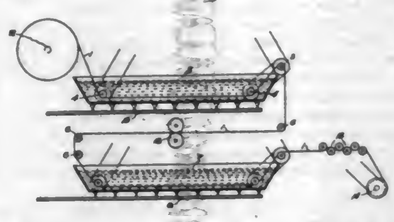
2. In a magnetic ore separator, an elongated trough, an endless belt therein spaced therefrom, a plurality of sets of magnets above the lower run of the belt, the trough being formed with a pit in advance of each group of magnets, a foraminated plate in each such pit, a water delivery tube for each such pit having a nozzle projected downwardly through the foraminated plate and terminating in the space below said plate, said tube having on its top surface a plurality of outlets directed toward the belt, the trough being also formed with a pit under each group of magnets, each such pit having a transversely sloping bottom and being provided with a discharge at the end of the bottom, a water delivery tube for each pit under the groups of magnets, said tube having a plurality of outlets directed toward the belt, and means for feeding material to the trough.

972,110. CARBONIZED FABRIC. FREDERIC L. HORTON, Bridgeport, Conn. Filed Aug. 18, 1909. Serial No. 513,388.

1. A material of the character described, comprising asbestos impregnated with a coherent mass of carbon derived from a carbo-hydrate.

2. A material of the character described, comprising woven asbestos impregnated with a coherent mass of carbon derived from a carbo-hydrate.

3. A material of the character described, comprising asbestos impregnated with a coherent mass of carbon derived from a carbo-hydrate, said mass being broken up or softened.

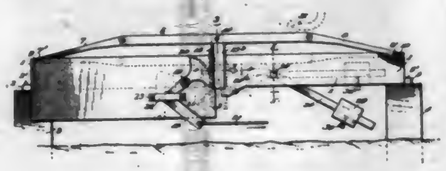


4. A material of the character described, comprising asbestos impregnated with a coherent mass of carbon derived from a mixture of sulfur and a carbo-hydrate.

5. A material of the character described, comprising woven asbestos impregnated with a coherent mass of carbon derived from a mixture of sulfur and a carbo-hydrate.

[Claim 6 not printed in the Gazette.]

972,111. RAILWAY TRIP DEVICE. ALBERT M. JONES, Hagerstown, Md., assignor of one-fourth to George C. Snyder and one-fourth to Otho M. Snyder, Hagerstown, Md. Filed Oct. 11, 1909. Serial No. 522,001.



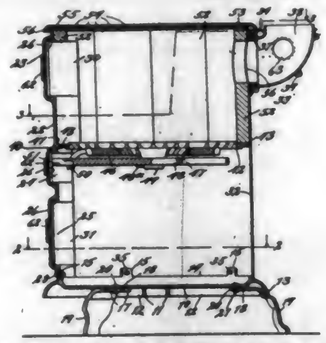
1. A railway trip device comprising a casing, a contact member slidably secured thereon, inclined arms pivotally secured at the ends of said contact member said arms being slidably supported and means for moving said contact member into and out of operating position.

2. A railway trip device comprising a casing, a rack slidably mounted thereon, a contact member secured to said rack, inclined arms pivotally secured at the ends of said contact member said arms being slidably supported at their outer ends and a gear section arranged to engage said rack for moving the latter.

3. A railway trip device comprising a casing, a rack slidably mounted thereon, a horizontal bar secured to the upper end of said rack, inclined arms pivotally secured at the ends of said bar, said arms being slidably secured to said casing, a bell-crank lever pivoted to said casing and provided with a gear section arranged to mesh with the teeth on said rock and a pull-rod for operating said gear section.

4. A railway trip device comprising a casing, pins carried thereby, a rack slidably mounted thereon, having a portion arranged to slide within said casing and an extended portion adapted to project outside of said casing, a contact bar secured at the top of said rack, arms pivotally secured at the ends of said contact bar, said arms being slotted to receive said pins and adapted to slide on the latter, a bell-crank lever pivoted on the exterior portion of said casing and provided with a gear section on one end arranged to mesh with the teeth on said rack, a pull-rod for operating said lever, an emergency lever pivotally mounted within said casing and having one end pivotally connected with said rack and an adjustable weight secured to the opposite end of said second lever for operating said rack.

972,112. FURNACE. EDWARD KATZINGER, Chicago, Ill. Filed Mar. 19, 1908. Serial No. 422,077.



1. In a furnace, the combination of a supporting base, a body including a rigid section with one end thereof resting upon and partially surrounding the base, means for securing the section to the base, said section having door openings and being provided with flanges projecting laterally from one face thereof and longitudinally for substantially the entire length of the section, said flanges being located on each side of the door openings, said body also including a flexible member resting upon and extending around the base with the edges thereof engaging the rigid section and abutting the respective flanges, means for securing said edges to the rigid section, said flexible member being of a height substantially equal to the height of the rigid section, said rigid section being provided with a laterally projecting horizontal flange intermediate its ends and said flange being provided with a projection, brackets secured to the flexible member and coöperating with the horizontal flange, a grate including a supporting ring adapted to rest upon the brackets and horizontal flange, said ring being provided with a notch adapted to receive the said projection for positioning the grate, and a closure for the body.

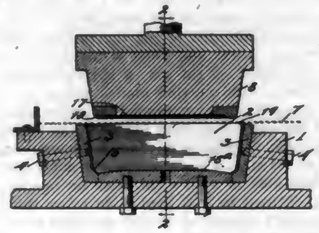
2. In a furnace, the combination of a supporting base, a body including a rigid section with one end thereof resting upon and partially surrounding the base, means for securing the section to the base, said section having door openings and being provided with flanges projecting laterally from one face thereof and longitudinally for substantially the entire length of the member, said flanges being located on each side of the door openings, said body also including a flexible member resting upon and extending around the base with the edges thereof engaging the rigid section and abutting the respective flanges, means for securing said edges to the rigid section, said flexible member being of a height substantially equal to the height of the rigid section, said rigid section being provided with a laterally projecting horizontal flange intermediate its ends and said flange being provided with a projection, brackets secured to the flexible member and coöperating with the horizontal flange, a grate including a supporting ring adapted to rest upon the brackets and horizontal flange, said ring being provided with a notch adapted to receive the said projection for positioning the grate, and a series of concentric rings resting upon the upper edge of the body and constituting a closure for the body.

3. In a furnace, the combination of a supporting base, a body including a rigid section with one end thereof resting upon and partially surrounding the base, means for securing the section to the base, said section having door openings and being provided with flanges projecting laterally from one face thereof and longitudinally for substantially the entire length of the member; said flanges being located on each side of the door openings, said body also including a flexible member resting upon and extending around the base with the edges thereof engaging the rigid section and abutting the respective flanges, means for securing said edges to the rigid section, said flexible

member being of a height substantially equal to the height of the rigid section, said rigid section being provided with a laterally projecting horizontal flange intermediate its ends and said flange being provided with a projection brackets secured to the flexible member and coöperating with the horizontal flange, a grate including a supporting ring adapted to rest upon the brackets and horizontal flange, said ring being provided with a notch adapted to receive the said projection for positioning the grate, a fire brick lining supported by the said ring, and a closure for the body.

4. In a furnace, the combination of a supporting base, a body including a rigid section with one end thereof resting upon and partially surrounding the base, means for securing the section to the base, said section having door openings and being provided with flanges projecting laterally from one face thereof and longitudinally for substantially the entire length of the member, said flanges being located on each side of the door openings, said body also including a flexible member resting upon and extending around the base with the edges thereof engaging the rigid section and abutting the respective flanges, means for securing said edges to the rigid section, said flexible member being of a height substantially equal to the height of the rigid section, said rigid section being provided with a laterally projecting horizontal flange intermediate its ends and said flange being provided with a projection, brackets secured to the flexible member and coöperating with the horizontal flange, a grate including a supporting ring adapted to rest upon the brackets and horizontal flange, said ring being provided with a notch adapted to receive the said projection for positioning the grate, a removable water chamber supported by the ring, fire brick also supported by the said ring and coöperating with the water chamber to form a lining, pipe connections extending through the body and detachably engaging the water chamber, and a closure for the body.

972,113. DIES FOR MAKING PANS. EDWARD KATZINGER, Chicago, Ill. Filed Oct. 23, 1908. Serial No. 459,140.



1. The combination of a female die having passages at the corners thereof for the protrusion of the metal to be formed, inwardly projecting lips extending upwardly along one edge of each of said passages, and a male die having grooved or recessed corners for receiving said lips.

2. The combination of a female die having passages at the corners thereof for the protrusion of the metal to be formed, the lower inner corners of said die being rounded or curved where the walls conjoin with the bottom and the edges of said passages having inwardly projecting lips also curved at their lower ends to conform to the curvature of said corners, and a male die having its inner edges or corners where the sides and bottom conjoin, curved to conform to the said curved corners of the female die, and the upright corners of the male die being also provided with grooves complementary in shape to said lips.

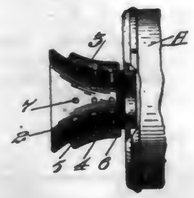
3. The combination of male and female dies, one of said dies having openings at the corners thereof for the reception of portions of the stamped sheet, said die being also provided with a projecting lip along one edge of each opening, and the other of said dies being provided with recessed corners for receiving said lips.

4. The combination of male and female dies, one of said dies being provided with openings at the corners thereof for the reception of portions of the stamped sheet and with a projecting lip along one edge of each opening, the other of said dies being provided with recessed corners for receiving said lips, and said dies being further provided with extended clamping portions for clamping a pan prior to the end of the stamping operation.

5. The combination of a female die having passages at the corners thereof for the protrusion of the metal to be formed and being provided with a flat elevation in the bottom thereof extending throughout substantially the entire bottom, the lower inner corners of said die being rounded or curved where the walls conjoin with the bottom and the edges of said passages having inwardly projecting lips also curved at their lower ends to conform to the curvature of said corners, a male die having its inner edges or corners where the sides and bottoms adjoin curved to conform to the said curved corners of the female die, the upright corners of the male die being provided with grooves complementary in shape to said lips, said male die being also provided with a depression adapted to receive said elevation for stretching the metal.

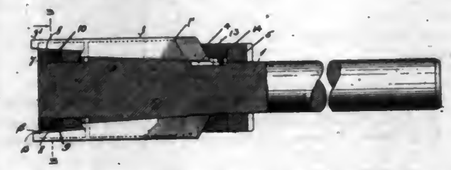
[Claim 6 not printed in the Gazette.]

972,114. TELEPHONE-MOUTHPIECE ATTACHMENT. ALVAN P. LEVI, HYMEN SCHLESSINGER, and MAURICE SCHLESSINGER, San Francisco, Cal. Filed May 12, 1909. Serial No. 495,435.



An improved attachment for telephone mouth-piece, said attachment consisting of a substantially bell-shaped member open at both ends and adapted to be slipped on to the mouth-piece from the rear, and having a free telescoping movement with the mouth-piece, said attachment having inwardly turned flanges at both ends forming an intermediate chamber which extends substantially the major length of the mouth-piece, the outer wall of the attachment being substantially parallel and flared symmetrically with the mouth-piece, and an absorbent material in said chamber carrying a disinfecting medium and producing a skin friction sufficient to hold the attachment on the mouth-piece, said mouth piece having perforations communicating with the absorbent material.

972,115. ADJUSTABLE REAMER. CHARLES H. MALMEDIE, New Bedford, Mass., assignor to Morse Twist Drill & Machine Company, New Bedford, Mass. Filed May 6, 1909. Serial No. 494,458.



In an adjustable reamer, a stock, cutting blades each having a beveled portion and a beveled washer coöperating with the beveled portions of said blades, said washer being provided with slots for receiving and supporting the forward ends of said blades.

972,116. ADJUSTABLE REAMER. CHARLES H. MALMEDIE, New Bedford, Mass., assignor to Morse Twist Drill & Machine Company, New Bedford, Mass. Filed May 6, 1909. Serial No. 494,459.



In an adjustable reamer, a stock provided with a central bore and having a plurality of longitudinal slots extending from its circumference to said central bore, the rear end of each slot making an angle with the central axis of the stock, a cutting blade located in each slot and having its under side inclined to the axis of the stock, the rear end of each blade being beveled to make the same angle with the axis of the stock as the coöperating end of its slot, a beveled collar located on the forward end of said stock and having slots for receiving and supporting the forward end of each of said blades, said collar coöperating with a correspondingly beveled portion of each blade, means for adjustably securing said collar to the forward portion of said stock, and a tapered pin screw-threaded to the stock and located in the central bore thereof, said pin coöperating with the inclined under sides of the cutting blades, whereby the longitudinal movement of said pin will cause said blades to move radially.

972,117. ADJUSTABLE REAMER. CHARLES H. MALMEDIE, New Bedford, Mass., assignor to Morse Twist Drill & Machine Company, New Bedford, Mass. Filed May 17, 1909. Serial No. 496,397.

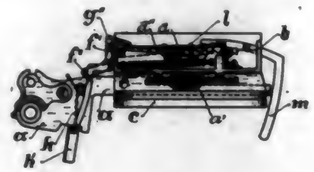


1. In an adjustable reamer, a stock, a cutting blade supported in said stock, said blade having its rear end beveled and provided with a beveled portion on its under side near the front end thereof, a portion of the cutting surface of said blade projecting beyond the forward end of said stock, beveled washers coöperating respectively with the beveled portions of the blade, means adjustably securing said washers on the stock, and a cam-collar located in the forward beveled washer and arranged to coöperate with the forward portion of said blade.

2. In an adjustable reamer, a stock, cutting blades supported in said stock, each blade being provided with a beveled portion on its under side near the front end thereof, a washer coöperating with the beveled portion of each blade and provided with slots each supporting the forward end of one of the blades, a collar located on the forward portion of the stock and provided with a plurality of cams, each constructed to be forced against the under side of the forward end of a blade, and a lock-nut threaded on said stock and arranged to secure said washer and collar thereon.

972,118. THREAD-CUTTING DEVICE FOR AUTOMATIC WEFT-REPLENISHING LOOMS. JOHANN MAATINEK, Viersen, Germany. Filed May 10, 1909. Serial No. 495,006.

1. An automatic cutting device for automatic weft-replenishing looms, comprising a base plate mounted on the temple stand, an arm and a casing slidably mounted on said base plate, pivotally connected cutting blades slidably arranged in a slot in said arm and adapted to cut the thread ends close to the selvage of the fabric, an arm on one of said blades adapted to be actuated by the lay of the loom when the device is in operative position so as to close the blades for cutting the thread and thereupon to withdraw them into the slot, means for retaining the cutting blades in the slot in inoperative position after a predetermined number of cutting operations, and means for releasing the blades through the action of the replenishing mechanism, substantially as set forth.

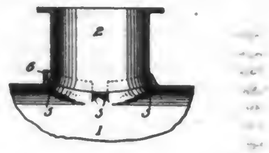


2. An automatic cutting device for automatic weft-replenishing looms, comprising a casing mounted with a base plate on a temple stand, an arm connected to said casing, cutting blades actuated by the lay slidably arranged in a slot in said arm and adapted to cut the thread ends from the selvage of the fabric and then to withdraw into said slot, a spring tending to hold said cutting blades in operative position, an actuating lever mounted in said casing and pivoted to one of said blades, a spring-actuated slide, provided on its upper edge with serrations, arranged at the side of said lever, a pin on said lever adapted to engage with the serrations of said slide so as to move it the space of a serration, against the action of its spring, for each reciprocating movement with the cutting blades, means for locking said slide and said lever in inoperative position when the slide has been sufficiently advanced by the lever, and means for putting the device into operation through the action of the replenishing mechanism, substantially as set forth.

3. An automatic cutting device for automatic weft-replenishing looms, comprising a casing mounted with a base plate on a temple stand, an arm connected to said casing, pivotally connected cutting blades arranged in a slot in said arm and adapted to cut the thread ends from the selvage of the fabric and then withdraw into said slot through the action of the lay, a spring adapted to open and to advance said cutting blades when the lay moves back, an actuating lever arranged in said casing and connected to one of said cutting blades so as to follow their movements and thereby to advance a spring-actuated slide mounted at its side, a double-armed locking lever pivoted at the other side of said slide, pins on one arm of said lever, one adapted to lock said slide when the latter has been sufficiently advanced by the acuating lever, and the other to lock the actuating lever and thereby the cutting blades in inoperative position, a spring controlling the vertical movements of said levers, and a starting lever coöperating with the replenishing mechanism and engaging with said locking lever so as to release said slide and said actuating lever with the cutting blades when the replenishing mechanism is operated, substantially as set forth.

4. An automatic cutting device for automatic weft-replenishing looms, comprising a casing mounted with a base plate on the temple stand, pivotally connected cutting blades arranged in an arm on said casing and held in cutting position by a spring and adapted to be actuated by the lay so as to close for the purpose of cutting the thread ends and then to withdraw into a slot in said arm, an actuating lever connected to one of said cutting blades and adapted to advance a spring-actuated slide provided with serrations through the space of a serration for each movement, a lever adapted to lock said slide and said actuating lever when the pin on said locking lever has passed the last serration of said slide, and a starting lever coöperating with the replenishing mechanism and engaging with said locking lever so that the cutting device is put into temporary operation as soon as the said replenishing mechanism is actuated, substantially as set forth.

972,119. PIPE-JOINT. CHARLES R. MCKIBBEN, Pittsburg, Pa. Filed Nov. 6, 1909. Serial No. 526,539.

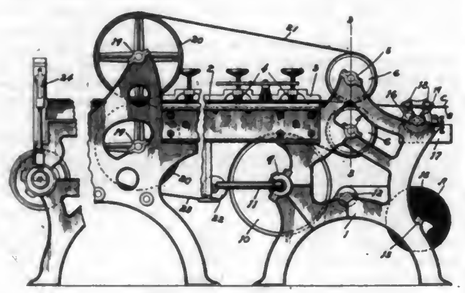


1. A joint composed of two members arranged at an angle to each other, one member having tongues on which the other rests, and a flange against which the face of the other rests, said members being welded together.

2. A joint composed of main and branch tubular members, the main member having tongues on which the end of the branch member rests, and flanges between successive tongues, arranged to surround and fit against the outer face of the said end of the branch member, said members being welded together.

3. A joint composed of main and branch tubular members, the main member having tongues on which the end of the branch member rests, and flanges between successive tongues, arranged to surround and fit against the outer face of the said end of the branch member, said branch member having the end thereof next to the said tongues flared and said members being welded together.

972,120. CORRUGATED-PAPER-BOARD MACHINE. JOHN H. MCPIKE, Alton, Ill. Filed Aug. 16, 1909. Serial No. 513,090.



1. In a machine of the class described, means for applying adhesive to one side of a corrugated sheet, a heating roller around which a plain sheet passes, a belt engaging against the heating roller whereby the plain sheet is pressed against the surface of said roller and a second belt coöperating with the first mentioned belt whereby the plain sheet is forced into contact with the gummed surface of the corrugated sheet and caused to pass through the machine therewith.

2. In a machine of the class described, a frame, a heating roll journaled therein, a pair of feed rolls journaled in the frame, endless carriers operating on said rollers one of which endless carriers bears against the heating roll, a paste roll arranged for operation in front of the feed rolls, a bed plate on the frame, and an ironing plate yieldingly mounted above the bed plate.

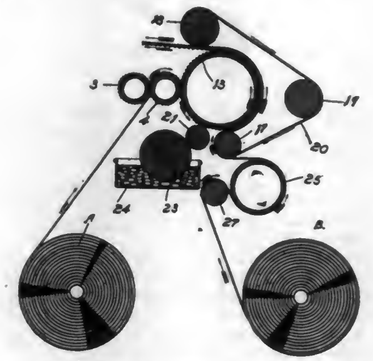
3. In a machine of the class described, a frame, a pair of feed rolls arranged for rotation therein, belts passing around the pair of feed rolls, a bed plate over which the belts travel, an ironing plate yieldingly mounted above the bed plate, a heating roll journaled in the frame against which one belt engages, and a paste-applying roll journaled in the frame in front of one pair of feed rolls.

4. In a machine of the class described, a pair of feed rolls, endless carriers operating on said rolls, a gumming roll adjacent the feed rolls over which a sheet of corrugated paper board passes, and a heating roll adjacent the feed rolls around which a plain sheet of paper board passes, which sheet of plain paper board is brought into contact with the sheet of corrugated paper board between the feed rolls.

5. In a machine of the class described, a pair of feed rolls, endless carriers operating on said feed rolls, a gumming roll adjacent the feed rolls over which a sheet of corrugated paper board passes, a heating roll adjacent the feed rolls around which a plain sheet of paper board passes, which sheet of plain paper board is brought into contact with the sheet of corrugated paper board between the feed rolls, and yielding pressure means adapted to engage the two sheets of paper board after the same passes between the feed rolls.

[Claims 6 to 12 not printed in the Gazette.]

972,121. CORRUGATED-PAPER-BOARD MACHINE. JOHN H. MCPIKE, HENRY G. MCPIKE, Jr., and HARRY B. HARLOW, Alton, Ill.; said Harlow and Henry G. McPike, Jr., assignors to said John H. McPike. Filed Jan. 10, 1910. Serial No. 537,148.



1. In a machine of the class described, a pair of rollers for simultaneously heating and corrugating a sheet of thin material, a drying roller arranged for operation immediately adjacent one of the corrugating rollers for receiving the sheet after the same is corrugated, the surface of which drying roller is corrugated, and means for holding the sheet against the periphery of the corrugated drying roller.

2. In a machine of the class described, a pair of rollers for simultaneously heating and corrugating a sheet of thin material, a drying roller arranged for operation immediately adjacent one of the corrugating rollers for receiving the sheet after the same is corrugated, the surface of which drying roller is corrugated, and a belt adapted to hold the material against the periphery of the corrugated drying roller.

3. In a machine of the class described, a pair of rollers for simultaneously heating and corrugating a sheet of thin material, a corrugated drying roller which receives the sheet from one of the corrugating rollers, means for holding the sheet of material against the periphery of the corrugated drying roller, means whereby an adhesive is applied to the tips of the corrugations of the sheet as it passes onto the corrugated drying roller, and means whereby a plain sheet of thin material is held in contact with the gummed surface of the corrugated sheet during its passage around the corrugated drying roller.

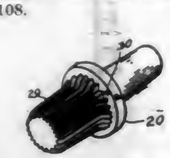
4. In a machine of the class described, a pair of heated rollers having corrugated surfaces for simultaneously heating and corrugating a sheet of thin material, a drying roller adapted to receive the corrugated sheet as the same

leaves the heating and corrugating rollers, means for applying an adhesive to the tips of the corrugations of said sheet while the same is on the drying roller, means for holding a sheet of plain thin material in contact with the gummed surface of the corrugated sheet during its passage around the drying roller and means whereby said plain sheet is heated before it is brought into contact with the corrugated sheet.

5. In a machine of the class described, a drying roller having a corrugated surface adapted to receive a corrugated sheet of thin material, means whereby the corrugated sheet is heated before it is brought into contact with the drying roller, means whereby an adhesive is applied to the tips of the corrugations of said corrugated sheet while the same is on the drying roller, and means for bringing a heated sheet of plain thin material into contact with the gummed surface of the corrugated sheet and holding both of said sheets against the drying roller.

[Claims 6 to 11 not printed in the Gazette.]

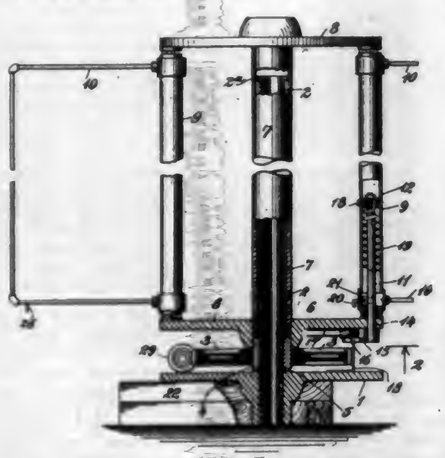
972,122. TOOL FOR MAKING FERRULES. ROBERT A. MERRILL, Cincinnati, Ohio. Filed Jan. 26, 1910. Serial No. 540,108.



1. A tool adapted to be rotated for expanding the end of a pipe consisting of a bar having longitudinal teeth, with enlargements at their bases, adapted to form a collar upon the end of a pipe.

2. A tool consisting of a bar having longitudinal teeth with rounded edges, adapted to be rotated to expand the end of a pipe and a knife located upon the bar and adapted to trim the end of the pipe.

972,123. DISPLAY MECHANISM. ERNEST D. MEYER, Trenton, N. J., assignor to A. V. Manning's Sons, Trenton, N. J., a Corporation of New Jersey. Filed Mar. 13, 1909. Serial No. 483,116.



1. In a display mechanism, a rotatable frame; a display frame movably mounted on said rotatable frame; a shaft mounted in said rotatable frame, and having a lateral projection; a spring connection between said shaft and said display frame, and a cam, wherewith said projection on said shaft contacts to rotate the shaft when the rotatable frame is rotated, and means for temporarily holding said display frame, to expose a side thereof to full view and to put the spring under tension.

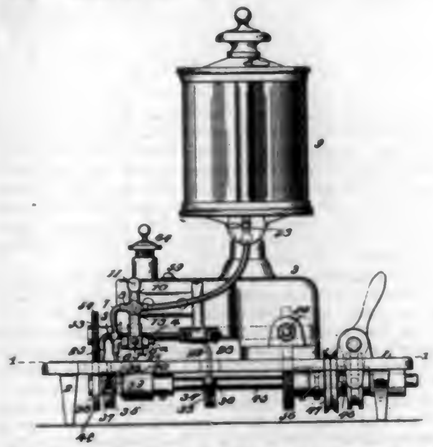
2. In a display mechanism, a rotatable frame; a display frame movably mounted on said rotatable frame; a shaft mounted in said rotatable frame, and having a lateral projection; a spring connection between said shaft and said display frame; a cam, wherewith said projection on said shaft contacts to rotate said shaft when the rotatable frame is rotated, and means for stopping said display frame, to successively expose each of its sides to full view.

3. In a display mechanism, a rotatable frame; a display frame having a hollow supporting member movably mounted on said rotatable frame; a shaft partly located within the supporting member of said display frame, and having a lateral projection extending without said supporting member; a spring connection between said shaft and said supporting member of the display frame; a cam wherewith said lateral projection on said shaft contacts to rotate said shaft, and two stops so located in the path of said display frame as to successively catch and temporarily hold said display frame to expose each of its sides to full view when said rotatable frame is rotated.

4. In a display mechanism, a rotatable frame; a series of display frames movably mounted on said rotatable frame; a series of shafts having lateral projections; a spring connection between each of said shafts and one of said display frames; a cam wherewith the lateral projections on said shafts respectively contact to rotate said shafts, and two stops so located in the path of said display frames as to successively contact therewith, and simultaneously hold two of said display frames to expose a side of each to full view.

5. In a display mechanism, a rotatable frame; a series of display frames movably mounted on said rotatable frame; a series of shafts having lateral projections; a spring connection between each of said shafts and one of said display frames; a cam wherewith the lateral projections on said shafts respectively contact to rotate said shafts; two stops so located in the path of said display frames as to successively contact therewith, and simultaneously hold two of said display frames, to expose a side of each to full view, and means for preventing undue frictional contact between said display frames when in motion.

972,124. MACHINE FOR DAMPENING COLLARS. HENRY C. MILLER, Waterford, N. Y. Filed Nov. 24, 1903. Serial No. 182,561.



1. In a collar dampening machine, the combination with a collar supporting plate having in it an opening, two coacting revolving feed wheels, the lower wheel being adapted to be revolved in contact with the lower side of a collar and the upper wheel adapted to be revolved in contact with the upper side of the same, a seam guide located forward of the point of contact said two wheels have with a collar, pens contacting with opposite sides of the collar, a reservoir, and means between the pens and the reservoir to control the flow of liquid, said latter means being operable by the passage of a collar.

2. In a collar dampening machine, the combination with a collar supporting plate formed with an opening, two coacting feed wheels which contact with both sides of a collar, mechanism for simultaneously revolving said feed wheels, an elastically supported blade located above said plate and forward of the axles of the feed wheels for bearing against the edge of a seam which unites the top of a collar with the band of the same, and two pens which are arranged to have their discharge openings at opposite sides of a collar for delivering liquid parallel with the edge of the seam with which the guide blade operates.

3. In a collar dampening machine, the combination with a collar supporting plate, two revoluble feed wheels for moving a collar over said plate, a blade which operates with the edge of a collar seam, an elastic arm supporting said blade over said plate forward of said rollers, a pen for delivering dampening liquid against the lower side of a collar, a second pen for delivering liquid against the upper side of a collar, means for supplying liquid to the pens, and mechanism between the respective discharge ends of the pens and the supplying means for controlling the discharge of dampening liquid from both pens.

4. In a collar dampening machine, the combination with a collar supporting plate, two revoluble feed wheels for moving the collar over said plate, a guide which bears against the edge of the seam which unites the top of a collar with its band, an elastic arm holding said guide over said plate and forward of the axles of the feed wheels, two pens for conveying dampening liquid to opposite sides of a collar, means for supplying liquid to the pens, valves for controlling the discharge of liquid, and mechanism operated by the movement of a collar for operating said valves.

5. In a collar dampening machine, the combination with a collar supporting plate formed with an opening over which a collar may be moved, a pair of revoluble feed wheels for moving the collar over said plate, mechanism for actuating said wheels, a guide located above the collar supporting plate and forward of the wheels, said guide bearing against the edge of the seam which unites the top and the band of the collar, a reservoir, valves at the bottom of said reservoir for controlling the discharge of liquid therefrom, a pen connected to the reservoir for discharging liquid against the lower side of a collar while being moved, a second pen connected to the reservoir for discharging the liquid on the upper side of the same collar, and mechanism between the valves and the respective discharge ends of the pens for operating said valves by the passage of the collar.

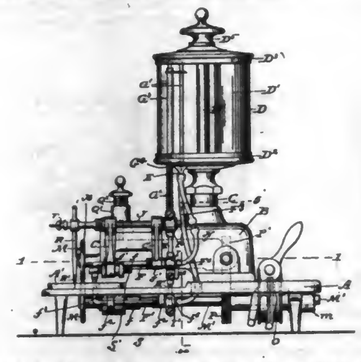
[Claims 6 to 42 not printed in the Gazette.]

972,125. DAMPENING-MACHINE. HENRY C. MILLER, Waterford, N. Y. Filed Aug. 12, 1904. Serial No. 220,570.

1. In a machine for dampening fabric along a predetermined line, the combination with a fabric support, a pen, means for laterally adjusting the pen, a fluid supply tank, means connecting the pen with the fluid supply tank, and means operated by the passage of a collar under the pen to control the flow of the dampening fluid.

2. In a machine for dampening fabric along a predetermined line, the combination with a fabric support, a pen, a fluid supply tank, a flexible connection between the pen and the supply tank, means for laterally adjusting the pen, and means controlling the flow of fluid, said means being operated by the passage of a collar under the pen.

3. In a machine for dampening fabric along a predetermined line, the combination with a fabric support, a pen, a fluid supply tank, an elastic connection between the pen and the supply tank, a rocking arm having a projection impinging the elastic connection, the rocking arm connected to the pen and being actuated by the collar passing under said pen to control the fluid.

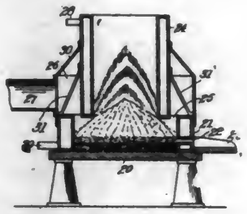


4. In a machine for dampening fabric along a predetermined line, the combination with a fabric support, a pen, a fluid supply tank, means connecting the supply tank and pen, a valve, and means connecting the valve and pen, the passage of a collar under the pen actuating the valve.

5. In a machine for dampening fabric along a predetermined line, the combination with a fabric support, a pen having its point normally in the plane of the support, means for holding the pen in normal position, means for adjusting the pen, a source of supply of fluid, means connecting the pen and the supply of fluid, a valve, means connecting the valve and pen, the pen being elevated by a collar to be operated upon.

[Claims 6 to 66 not printed in the Gazette.]

972,126. CONTINUOUS-TWYER FURNACE. CORYDON W. MUNSON, Toledo, Ohio, assignor, by mesne assignments, to Mary Owen Munson. Filed Mar. 7, 1908. Serial No. 419,696.



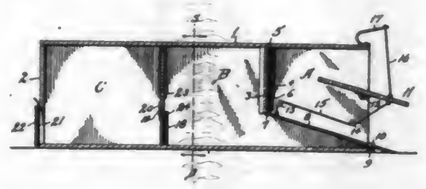
1. A smelting furnace comprising a hearth and having side walls in two entirely separated portions with an annular space between them, and means for forcing an air blast through said annular space in a downward direction upon surface portions of a heap of ore on said hearth.

2. A smelting furnace with a top or upper section and a hearth or lower section of greater diameter, the two sections separated by a space, and an air box permanently attached to both top and bottom sections, and inclosing or covering the opening or space between said sections the plane of said space being above the plane of the base of a heap of ore on said hearth and adapted to direct the air in a downward direction on said base.

972,127. TRAP. ALONZO L. NEWELL, Frost, Tex. Filed May 20, 1910. Serial No. 562,356.

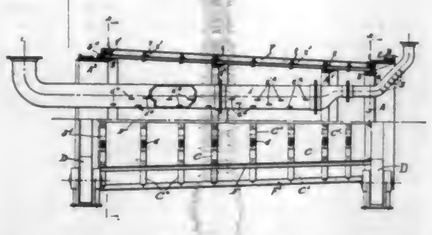
The combination in a trap, of a structure comprising a trapping chamber, an intermediate chamber and a cage, a partition between the cage and the intermediate chamber, a light admitting door hung in the partition, a verti-

cal mirror arranged in the structure and terminating short of the bottom thereof, an upwardly inclined depressible platform having its upper end engaging below the mirror, the platform and the mirror separating the trapping chamber and the intermediate chamber, a nor-



mally open door pivoted in the entrance of the trapping chamber and over the platform, the platform having connection with the door for closing the same, and spring members mounted on the trapping chamber for returning the door to its normal position.

972,128. REVOLVING SCREEN FOR WASHING, &c. LEON PERRET, Perm, Russia. Filed Mar. 21, 1908. Serial No. 422,480.

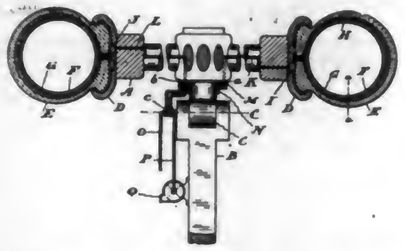


1. In a wash-barrel, a horizontally-disposed barrel-body having elongated horizontally-disposed openings in its walls, a water-supplying means within said barrel comprising a pipe having elongated horizontally-disposed water-discharge openings, and water-supplying means outside of said barrel and comprising a casing having elongated horizontally-disposed water-discharge openings, the elongated water discharges and the opposed openings of the casing, being so related as to aline in the path of water discharge, substantially as described and for the purpose of directing wide sheets of water upon the contents of the barrel from both the inside and outside thereof.

2. In a wash-barrel, a horizontally-disposed barrel-body composed of notched end-rings one of which is provided with gear teeth, and of metallic strips extending lengthwise of the body and with longitudinally-extending elongated spaces between said strips, said strips being secured within the notches of the end rings, a gear wheel engaging the toothed end ring aforesaid, and means for rotating said gear wheel, in combination with a water-supply pipe passing longitudinally through the interior of said barrel-body and having elongated horizontally-disposed water-discharge openings, and with a water-supply casing exterior of and disposed longitudinally of the barrel and having elongated horizontally-disposed openings directed toward said barrel said elongated water discharges and the opposed openings of the casing being so related as to aline in the path of the water discharge.

972,129. TIRE-VENTILATING DEVICE. DONALD RAWSTRON, Chicago, Ill. Filed Sept. 25, 1909. Serial No. 519,618.

1. The combination of a pneumatic tire having air channels formed transversely in its walls; a wheel rim having separated annular channels formed therein communicating with opposite ends of the tire channels and one communicating with the outer air; and an air pump with which the other annular channel is connected.



2. The combination of a pneumatic tire comprising an inner tube and a cover and having air channels formed between the inner tube and the cover; and means for pumping a current of air through said channels.

3. The combination of a pneumatic tire comprising an inner tube and a cover and having air channels formed transversely between the inner tube and the cover; and means for passing a current of air through said channels.

4. The combination of a pneumatic tire comprising an inner tube and a cover and having air channels formed between the inner tube and the cover; a wheel rim having separated annular channels formed therein communicating with opposite ends of the tire channels and one communicating with the outer air; and an air pump with which the other annular channel is connected.

5. The combination of a pneumatic tire comprising an inner tube and a cover; of an interlining placed between the tube and cover and provided with transverse channels in one face and means for placing opposite ends of the channels in communication with separate air tubes.

[Claims 6 and 7 not printed in the Gazette.]

972,130. PIGMENT-COLOR. FRIEDRICH RUNKEL, Elberfeld, and MARTIN HERZBERG, Opladen, near Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed June 18, 1910. Serial No. 567,695.

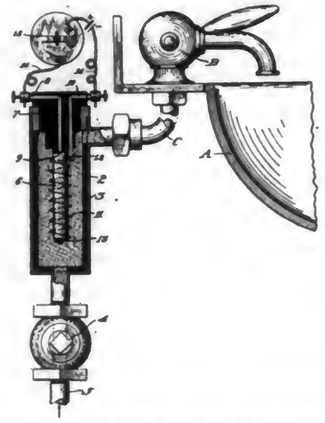
The new lake prepared from the azo dye derived from diazotized 1-naphthylamin and 1-naphthol-5-sulfonic acid, said lake being distinguished by its valuable brilliant Bordeaux-red shade and its fastness to light and oil, substantially as described.

972,131. ELECTRICAL HEATER. MILTON H. SHOENBERG and GEORGE T. MARSH, San Francisco, Cal., assignors to Appliance and Electric Device Company, a Corporation of California. Filed Jan. 28, 1909. Serial No. 474,789.

1. The combination with a supply pipe and a controlling cock, of a casing having axially alined openings at opposite ends, a non-conducting lining within the casing, said casing having its upper end internally threaded and having an extension from the lower end adapted to connect with said supply pipe, a non-conducting tube within the casing having an enlarged head externally threaded to engage the internal threads on the casing, said tube having the portion below the head of reduced diameter, and terminating above the lower end of said casing, a resistant conducting coil surrounding the reduced body of the tube, an electrical conductor projecting from the lower end of the tube and connected with one end of the coil, a second conductor passing through the head and connected with the upper end of the coil, and binding posts upon the opposite sides of the head exterior to the casing, with which posts the conductors are connected.

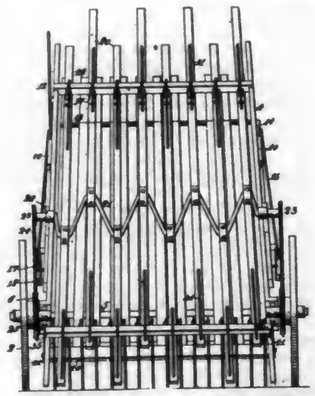
2. The combination with a water supply system of a heating device, said device including an enlarged casing

with insulating lining, interposed in the water conducting pipe, an insulating tube of smaller diameter extending axially into the casing and out of contact therewith, said tube having an enlarged screw-threaded upper end connecting it with the casing, and an exterior flange or head, said head having conductors extending into it transversely,



and turning at right angles, one of said conductors extending through the center of the inner tube, and the other through the shoulder formed at the junction of the tube and its head, and an electric resistance wire coiled about the tube having one end connected with each of the conductors.

972,132. HAY-LOADER. CHARLES H. SIES, Cedar Rapids, Iowa, assignor of one-half to B. F. Sies, Davenport, Iowa. Filed May 11, 1908. Serial No. 432,328.



1. In a hay-loader having carrying wheels and means for attaching the loader to the rear of a wagon, the combination of a supporting frame, a carrier body pivoted thereto, supporting standards adjacent to the carrier, springs connecting said carrier with the upper ends of said standards, and means for gathering hay from the ground.

2. In a hay-loader having carrying wheels, means for attaching the loader to the rear of a wagon and chain driving mechanism substantially as described, the combination of a supporting frame, a carrier mounted thereon by pivot joints, jointed levers pivotally connecting the frame and carrier at each side, means for actuating said levers, sprockets carried by said jointed levers, chains

connecting said sprockets with the driving mechanism and means for gathering hay from the ground substantially as and for the purpose set forth.

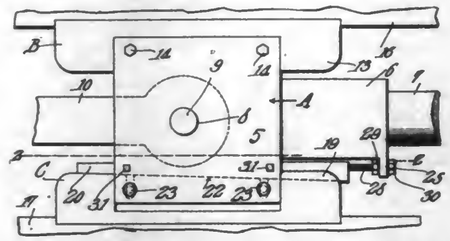
3. In a hay-loader having carrying wheels, means for attaching the loader to the rear of a wagon and sprocket and chain drive-gear, substantially as described, the combination of a supporting frame, a carrier pivoted thereto, jointed levers connecting the carrier and the frame, an auxiliary lever pivoted to the carrier, a link connecting said lever with the center joint of the hinged levers, a sprocket at said joint, another sprocket at the frame joint, a chain engaging said sprockets and the driving mechanism, means adapted to deflect said jointed levers, and means for gathering hay from the ground substantially as and for the purpose set forth.

4. In a hay-loader having carrying wheels and means for attaching the loader to the rear of a wagon, the combination of a multiple crank shaft, a series of rake-bars, springs connecting the rake-bars and cranks, and means for gathering hay from the ground.

5. In a hay-loader having carrying wheels and means for attaching the loader to the rear of a wagon, the combination of a multiple crank shaft, a series of rake-bars, flat springs attached to said rake-bars, bearings near the upper ends of said springs to connect them with the cranks, and means for gathering hay from the ground.

[Claims 6 and 7 not printed in the Gazette.]

972,133. CROSS-HEAD. FREDRICK H. SMITH, Pittsburg, Kans., assignor of one-half to Clarence R. Widby, Pittsburg, Kans. Filed Nov. 13, 1908. Serial No. 462,525.



1. In a cross head, a head block having an extension, a cheek block fixedly secured at the upper side of the head block, a cheek block disposed at the lower side of the head block, a gib disposed between the under side of the head block and the upper face of the last mentioned cheek block, a notched ear upon the head block extension, and an adjusting screw threaded into one end of the gib and formed with a collar and a head between which the said ear is confined.

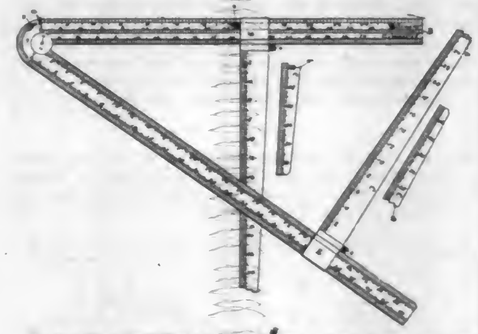
2. In a cross head, a head block having an extension, a cheek block fixedly secured at the upper side of the head block, a cheek block disposed at the lower side of the head block, a gib disposed between the under side of the head block and the upper face of the last mentioned cheek block, said gib being formed with a longitudinally extending slot, a notched ear upon the head block extension, and an adjusting screw threaded into the end of the gib and formed with a collar and a head between which the said ear is confined.

3. In a cross head, a head block having an extension, a cheek block fixedly secured at the upper side of the head block, a cheek block disposed at the lower side of the head block, a gib disposed between the under side of the head block and the upper face of the last mentioned cheek block, the said last mentioned cheek block being formed in its sides with bolt receiving slots, and being formed also in its side faces with recesses, the head block being formed with portions seating in the recesses, bolts engageable with said portions of the head block and extending through the slots in the said cheek block, a notched ear upon the head block extension, and an adjusting screw threaded

into one end of the gib and formed with a collar and a head between which the said ear is confined.

4. In a cross head, a head block having an extension, a cheek block fixedly secured at the upper side of the head block, a cheek block disposed at the lower side of the head block, said cheek block being formed with bolt receiving slots, the head block being formed with portions fitting against the side faces of the cheek block, bolts passed through the said portions of the head block and the slots in the side portions of the cheek block, a gib disposed between the under side of the head block and the upper face of the last mentioned cheek block, set screws threaded through the side portions of the head block and bearing against the side edges of the cheek block, a notched ear upon the head block extension, and an adjusting screw threaded into one end of the gib and formed with a collar and a head between which the said ear is confined.

972,134. JOINTED RULE. LEVI J. SWETT, Burlington, Vt. Filed May 11, 1907. Serial No. 373,150.



1. A rule consisting of two limbs A and B pivoted together at one end, means for holding the limbs in their adjusted position, slides carried by the limbs and longitudinally movable thereon, flexible tapes carried by the lower edge of the slides and divided on their inner edges into feet and inches, verniers carried by the slides adjacent the limbs whereby the same can be read in inches, the inner and outer edges of the limb A divided into feet and inches, the inner edge of the limb B divided into feet and inches, and its outer edge into diagonal feet and inches on the same scale, and the center of the limb B divided into octagonal feet and inches on the same scale.

2. A rule consisting of two limbs A and B pivoted together, adjacent one end at their inner edges, outwardly extending plates carried by the limbs beyond the pivot and having registering segmental slots, a thumb-bolt passing through the slots and locking the limbs in their adjusted position, slides carried by the limbs and longitudinally movable thereon, flexible tapes carried by the lower edge of the adjustable slides and flush therewith, whereby they pass under the limbs and upon which the limbs rest, said tapes divided on their inner edges into feet and inches, the inner and outer edges of the limb A divided into feet and inches, the inner edges of the limb B divided into feet and inches and its outer edge into diagonal feet and inches on the same scale, and the center of the limb B divided into octagonal feet and inches on the same scale.

972,135. PROCESS OF DETINNING. FRANZ VON KÜGELGEN, Holcombs Rock, Va., and GEORGE O. SEWARD, East Orange, N. J., assignors, by mesne assignments, to Tin Products Company, New York, N. Y., a Corporation of New York. Original application filed Jan. 16, 1904, Serial No. 189,272. Divided and this application filed Jan. 22, 1908. Serial No. 412,080.

1. Detinning with dry chlorin while cooling the reaction vessel sufficiently to cause the resulting stannic chlorid to be recovered in liquid form within the vessel.

2. Detinning with dry chlorin while maintaining the temperature adjacent to the walls of the reaction vessel at approximately 100 degrees Fahrenheit.

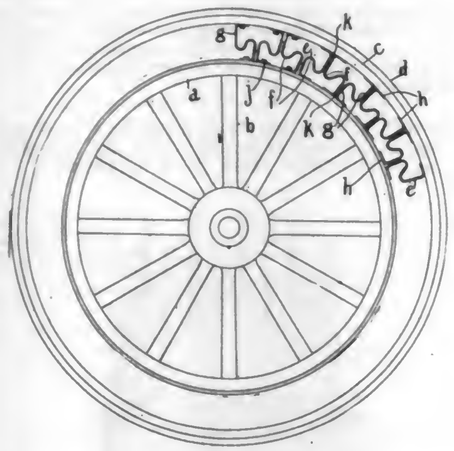
3. The recovery of tin from tin scrap by treating the latter in a closed vessel with dry chlorin, and cooling the vessel to maintain within the vessel a temperature below the vaporizing point of stannic chlorid, but sufficiently high to effect complete detinning.

4. The recovery of tin from tin scrap by treating the latter in a closed vessel with dry chlorin to form stannic chlorid, heating internally by the heat of reaction to a temperature sufficiently high to effect complete detinning, and controlling the temperature by cooling the reaction vessel, to keep the temperature below that at which the iron is attacked.

5. The recovery of tin from tin scrap by treating the latter in a closed vessel with dry chlorin to form stannic chlorid, controlling the temperature by cooling the vessel to keep it high enough to effect complete detinning but low enough to prevent attacking the iron and to condense within the vessel such of the stannic chlorid as is vaporized, and draining the liquid stannic chlorid from the residue of iron scrap within the vessel.

[Claims 6 and 7 not printed in the Gazette.]

972,136. SPRING-WHEEL. ROBERT WELFORD and GEORGE HENRY WELFORD, North Hylton, England. Filed Dec. 29, 1908. Serial No. 469,831.

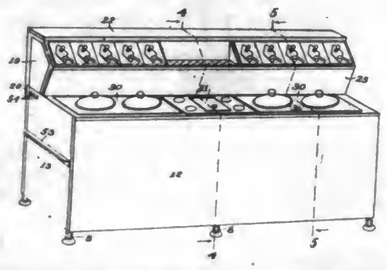


1. In a spring wheel an inner rim or felly, an outer rim, and springs secured to both said felly and said outer rim said springs being approximately in the shape of the letter N with the corners rounded off and the side members disposed approximately radially of the wheel.

2. In a spring wheel an inner rim or felly, an outer rim a plurality of springs of flat steel sections approximately the shape of the letter N with the angles rounded off all facing one direction and a plurality of springs similar in shape to said first plurality of springs arranged alternately with the springs of said first plurality between said inner rim and said felly and facing in the opposite direction to the springs of said first plurality of springs.

3. In a spring wheel an inner rim or felly, an outer rim, springs of approximately N shape with the angles rounded off said springs being arranged alternately facing in different directions between said felly and said inner rim, means for securing the side members of each said springs one to the felly and the other to the outer rim and buffer devices between adjacent springs.

972,137. COOLER AND SODA-FOUNTAIN CONSTRUCTION. GEORGE W. WISE and HENRY A. WISE, Cleveland, Ohio, assignors to The Wise Soda Apparatus Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 29, 1909. Serial No. 530,523.



1. A cooler for soda-fountains, comprising a plurality of cooling-cylinders and pipes alternately connected in pairs at diagonally opposite ends by metallic heads provided with pipe conduits, and a drip-plate interposed between said cooling-cylinders and pipes.

2. A cooler for soda-fountains, comprising a plurality of cooling-cylinders and cross-pipes, each made up of inner and outer metallic tubes and alternately connected in pairs by metallic conduit heads soldered to the ends of said tubes.

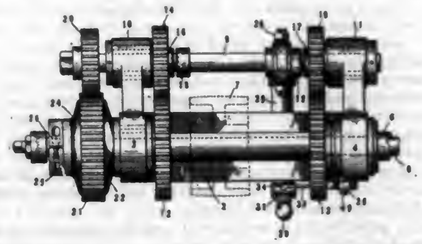
3. In a cooler for soda-fountains, a plurality of cooling-cylinders and pipes each made up of inner and outer metallic tubes, said inner tubes being provided at their ends with peripheral flanges abutting against the adjacent ends of said outer tubes, and metallic conduit heads soldered to and covering the abutting portions of said tubes.

4. A cooler for soda-fountains, comprising a plurality of cooling cylinders and cross pipes alternately connected in pairs at diagonally opposite ends by metallic heads having abutting lugs provided with openings, pipe-conduits mounted in said openings, and a perforated drip-plate interposed between said cooling cylinders and cross pipes.

5. A cooler for soda-fountains, comprising a plurality of cooling-cylinders and cross-cooling pipes provided at their ends with metallic heads and communicating with each other by means of alternately arranged pipe-conduits disposed within and connecting said metallic heads in pairs, said pipe conduits having their receiving ends depressed and disposed near the bottom portions of said cooling-cylinders and pipes.

[Claims 6 to 12 not printed in the Gazette.]

972,138. VARIABLE-SPEED MECHANISM. GEORGE E. WITHERELL and ERNEST R. SEWARD, Hartford, and GEORGE L. MASON, Warehouse Point, Conn., assignors to The Hartford Machine Screw Company, Hartford, Conn., a Corporation of Connecticut. Filed Apr. 17, 1908. Serial No. 427,587.



1. In combination with a support, concentric spindles mounted to rotate therein, gears mounted upon the outer spindle, intermeshing gears operatively mounted with respect to the gears upon said outer spindle, a gear mounted upon the inner spindle, an intermeshing gear operatively mounted to mesh therewith and clutch devices for operatively connecting either one or the other of the intermeshing gears of the outer spindle with the intermeshing gear of the inner spindle whereby a difference in rotation is effected between the inner and outer spindles.

2. In combination with a support, concentric spindles mounted to rotate therein, gears mounted upon the outer spindle, gears intermeshing respectively with the gears of the outer spindle, intermeshing gears intermediate the inner spindle and the intermediate gears of the outer spindle, and clutch devices for operatively connecting either one or the other of the sets of intermeshing gears of the outer spindle with the intermeshing gears of the inner spindle, whereby a difference in rotation is effected between the inner and outer spindles.

3. In combination with a support, a spindle mounted to rotate therein, a pair of gears mounted upon said spindle, a second spindle member concentrically arranged within the first named, outer spindle, a gear carried by the inner spindle, a pair of loosely mounted gears meshing respectively with the gears on the outer spindle, a gear meshing with the gear upon the inner spindle, and clutch devices interposed between the first named pair of gears and the gear upon the inner spindle.

4. In combination with a support, concentric spindles mounted therein, a gear operatively mounted with respect to the inner spindle, a friction disk secured to said inner spindle and bearing against the gear, a coöperating friction disk operatively arranged to exert a clamping action upon the gear with respect to the first named disk, a gear meshing with the gear of the inner spindle, gears mounted upon the outer spindle, gears intermeshing with the respective gears of the outer spindle and clutch devices for operatively connecting either of the sets of intermeshing gears of the outer spindle with the intermeshing gears of the inner spindle.

5. In combination with a support, concentric spindles mounted to rotate therein, a gear frictionally held to one of said spindles and connections intermediate said gear and the other spindle for transmitting to it a movement of either greater or less speed than the speed of the first named spindle.

[Claims 6 to 11 not printed in the Gazette.]

972,139. ADJUSTABLE REAMER. WILLIAM E. YORK and GEORGE D. HAYDEN, New Bedford, Mass., assignors to Morse Twist Drill & Machine Company, New Bedford, Mass. Filed May 6, 1909. Serial No. 494,499.



1. In an adjustable reamer, a stock provided with longitudinal and radial slots having parallel walls, each slot having a longitudinally extending rectangular shoulder inclined with respect to the axis of said stock, a blade having parallel sides, such a blade being located in each slot but not extending to the bottom thereof and having a shoulder corresponding to and coöperating with the shoulder of the slot, the inclination of the shoulder of the blade with respect to the axis of the stock being the reverse of that of the shoulder of the slot, whereby each blade is supported longitudinally solely by the shoulder of its slot. means for securing each blade to said stock and means whereby the blades may be simultaneously moved radially and longitudinally.

2. In an adjustable reamer, a stock provided with longitudinal and radial slots having parallel walls, each slot having a longitudinally extending rectangular shoulder inclined with respect to the axis of said stock, a blade having parallel sides, such a blade being located in each slot but not extending to the bottom thereof and having its forward cutting portion projecting beyond the forward

end of said stock, each blade having a shoulder corresponding to and coöperating with the shoulder of the slot, the inclination of the shoulder of the blade with respect to the longitudinal axis of the stock being the reverse of that of the shoulder of the slot, whereby each blade is supported longitudinally solely by the shoulder of its slot, means for securing each blade to said stock and means whereby the blades may be simultaneously moved radially and longitudinally.

3. In an adjustable reamer, a stock provided with longitudinal and radial slots having parallel walls, each slot having a longitudinally extending rectangular shoulder inclined with respect to the axis of said stock, a blade having parallel sides, such a blade being located in each slot but not extending to the bottom thereof and having a shoulder corresponding to and coöperating with the shoulder of the slot, the inclination of the shoulder of the blade with respect to the longitudinal axis of the stock being the reverse of that of the shoulder of the slot, whereby each blade is supported longitudinally solely by the shoulder of its slot, a lock-nut threaded on the rear portion of the stock, a beveled collar interposed between said nut and the rear end of each blade and engaging the corresponding beveled ends of said blades, and means whereby the blades may be simultaneously moved radially and longitudinally.

4. In an adjustable reamer, a stock provided with longitudinal and radial slots having parallel walls, each slot having a longitudinally extending rectangular shoulder inclined with respect to the axis of said stock, a blade having parallel sides, such a blade being located in each slot but not extending to the bottom thereof and having a shoulder corresponding to and coöperating with the shoulder of the slot, the inclination of the shoulder of the blade with respect to the longitudinal axis of the stock being the reverse of that of the shoulder of the slot, whereby each blade is supported longitudinally solely by the shoulder of the slot, means for securing each blade to said stock, said means comprising a screw threaded in a chamber in the front end of said stock and a beveled washer interposed between said screw and a correspondingly beveled portion of the blades near the front ends thereof, said washer engaging said beveled portion of each blade.

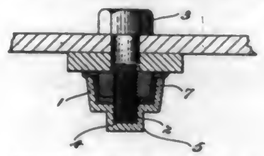
5. In an adjustable reamer, a stock provided with longitudinal and radial slots having parallel walls, each slot having a longitudinally extending rectangular shoulder inclined with respect to the axis of said stock, a blade having parallel sides, such a blade being located in each slot but not extending to the bottom thereof and having a shoulder corresponding to and coöperating with the shoulder of the slot, the inclination of the shoulder of the blade with respect to the longitudinal axis of the stock being the reverse of that of the shoulder of the slot, whereby each blade is supported longitudinally solely by the shoulder of its slot, a lock-nut threaded on the rear portion of the stock, a beveled collar interposed between said nut and the rear end of each blade and engaging the correspondingly beveled ends of said blades, a screw threaded in a chamber in the front end of said stock, and a beveled washer interposed between said stock and a correspondingly beveled portion of the blades near the front ends thereof, said washer engaging said beveled portions of each blade.

[Claims 6 to 8 not printed in the Gazette.]

972,140. MEANS FOR PROTECTING BOLTS, NUTS, &c. ANTOINE ADAM, Philadelphia, Pa., assignor to The Electric Storage Battery Company, Philadelphia, Pa., a Corporation of New Jersey. Filed June 21, 1904. Serial No. 213,492.

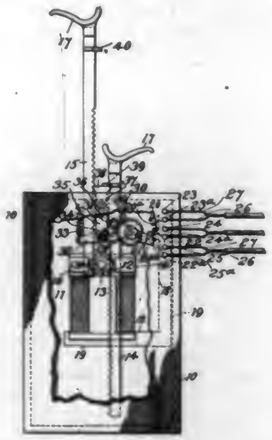
1. Means for protecting the ends of bolts and their holding nuts and the like from the attack of fumes or gases which comprise the combination of the bolt and its holding nut and an imperforate cuplike receptacle of noncorrosive material adapted to receive and cover and inclose both the holding nut and the bolt-end and provided with means for securing it thereto, substantially as described.

2. Means for protecting bolt-ends and their holding nuts and the like from the attack of fumes or gases which comprise the combination of the bolt-end and holding nut, an imperforate cuplike receptacle covering and inclosing



the holding nut and bolt-end with space between and provided with means for securing it to place, and protecting material arranged in said space and contained in the receptacle, substantially as described.

972,141. FUSE-BATTERY. ALONZO E. PORTER, Pompton Lakes, N. J., and EUGENE P. SEARING, New York, N. Y.; said Searing assignor of one-fourth to said Porter; Mary Le Fevre Porter administratrix of said Alonzo E. Porter, deceased. Filed Jan. 27, 1909. Serial No. 474,559.



1. A device of the character described, comprising a casing, a generator supported within the said casing, a plurality of contacts arranged in pairs, each pair adapted to be connected to a fuse, an electric circuit including the generator and contacts, an arm to complete the circuit through each pair of contacts in sequence, and means for operating the arm with a step-by-step movement and for operating the generator to produce the current.

2. A device of the character described, comprising a casing, a plurality of contacts arranged in pairs, an electric circuit, means whereby connections may be made from each pair of contacts to a fuse, an arm adapted to successively engage and complete the circuit through each pair of contacts, a ratchet wheel carrying the arm, a pawl engaging the ratchet wheel, a lever carrying said pawl, a spring for holding the pawl against the teeth of the ratchet wheel, a spring for normally forcing the lever in one direction, a bar pivotally held to the lever at one end and having engaging means at the other end, and two vertically movable devices having handles at one end and provided with means adapted to engage the bar at each inward movement to move the lever and rotate the ratchet wheel and arm carried thereby.

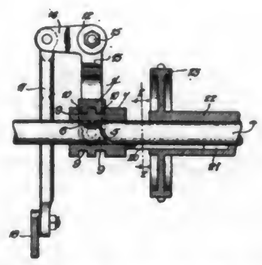
3. A device of the character described, comprising a casing, a plurality of contacts arranged in pairs, an electric circuit, means whereby connections may be made from each pair of contacts to a fuse, an arm adapted to successively engage and complete the circuit through each pair of contacts, a ratchet wheel for moving the arm, two oppositely movable devices, and means coöperating with said devices to rotate the ratchet wheel.

4. A device of the character described, comprising a plurality of contacts, an electric circuit, means whereby independent connections may be made from the contacts to independent fuses, means adapted to successively engage and complete the circuit through the contacts, two reciprocatory devices, and means coöperating therewith to operate the circuit completing means.

5. A device of the character described, comprising a casing, a plurality of contacts arranged in pairs, an electric circuit, means whereby connections may be made from each pair of contacts to a fuse, an arm adapted to successively engage and complete the circuit through each pair of contacts, a ratchet wheel carrying the arm, a pawl engaging the ratchet wheel, a lever carrying said pawl, a spring normally forcing the lever in one direction, and two oppositely movable devices having handles at one end, and means operated by said devices at each inward movement to move the lever and rotate the ratchet wheel and arm carried thereby.

[Claims 6 and 7 not printed in the Gazette.]

972,142. MOVING-PICTURE MACHINE. EDWARD H. SPREBERG, Chicago, Ill., assignor to The Selig Polyscope Company, Chicago, Ill., a Corporation. Original application filed Apr. 17, 1909, Serial No. 490,465. Divided and this application filed Dec. 2, 1909. Serial No. 531,031.



The combination, with a film driving shaft having a helical channel in its surface, of a film driving sprocket rotatably mounted thereon and provided with a longitudinal keyway adjacent to the shaft, a sleeve on the shaft, having an annular groove in its outer periphery, a key on its inner portion for engaging the channel of the shaft, a longitudinal feather key for engaging the keyway of the sprocket, and means engaging the annular groove, for moving the sleeve longitudinally with respect to the shaft, whereby the sleeve, feather key, and sprocket are rotated with respect to the shaft, substantially as described.

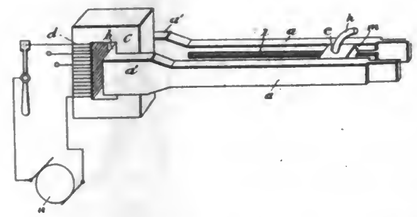
REISSUES.

13,154. DEVICE FOR SINGEING TEXTILE FABRICS. GUSTAVE GIN, Paris, France. Filed July 16, 1910. Serial No. 572,383. Original No. 962,828, dated June 28, 1910, Serial No. 424,174.

1. A device for singeing textile fabrics comprising a pair of electrically heated bars and, contacting therewith, a movable conducting member to limit the extent of said bars so heated.

2. A device for singeing textile fabrics comprising a pair of electrically heated singeing bars constituting part of the secondary circuit of an induction transformer and, contacting with said bars, a movable conducting member to limit the extent of said bars so heated.

3. A device for singeing textile fabrics comprising a pair of electrically heated singeing bars constituting part of the secondary circuit of an induction transformer and of smaller cross section than other parts of said secondary and, contacting with said bars, a movable conducting member to limit the extent of said bars so heated.



4. A device for singeing textile fabrics comprising a pair of electrically heated singeing bars constituting part of the secondary circuit of an induction transformer, both said bars having equally extensive and parallel operative portions supported and disposed to simultaneously singe said fabrics substantially as described.

5. A device for singeing textile fabrics comprising a pair of electrically heated singeing bars constituting part of the conductor of the secondary circuit of an induction transformer, said bars being of smaller cross-section than other parts of said conductor.

DESIGNS.

40,928. RING. LARS A. LARSON, Elgin, Ill. Filed June 20, 1910. Serial No. 568,054. Term of patent 7 years.



The ornamental design for a ring, as shown.

40,929. TROPHY. ALBERT G. SPALDING, Point Loma, Cal. Filed July 16, 1910. Serial No. 572,388. Term of patent 14 years.



The ornamental design for a trophy, as shown.

40,930. TROPHY. ALBERT G. SPALDING, Point Loma, Cal. Filed July 16, 1910. Serial No. 572,389. Term of patent 14 years.



The ornamental design for a trophy, as shown.

40,931. HOLDER FOR TUMBLERS OR OTHER ARTICLES. HARRY B. TAYLOR, East Orange, N. J., assignor to Searls Manufacturing Company, Newark, N. J., a Corporation of New Jersey. Filed June 29, 1910. Serial No. 569,604. Term of patent 7 years.



The ornamental design for a holder for tumblers or other articles, as shown.

TRADE-MARKS

PUBLISHED OCTOBER 4, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 36,932. (CLASS 8. SMOKERS' ARTICLES, NOT INCLUDING TOBACCO PRODUCTS.) MARECHAL, RUCHON & CO., LTD., London, England, and Paris, France. Filed Aug. 25, 1908.

GBD
1911

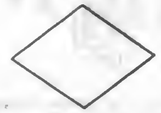
Particular description of goods.—Tobacco-Pipes, Cigar and Cigarette Holders.

Ser. No. 37,297. (CLASS 38. PRINTS AND PUBLICATIONS.) CYRUS J. ALBERT, Chicago, Ill. Filed Sept. 10, 1908.

GET THE HABIT

Particular description of goods.—Personal and Household Monthly-Expense Books.

Ser. No. 41,611. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) THE SELIG POLYSCOPE COMPANY, Chicago, Ill. Filed Apr. 5, 1909.



Particular description of goods.—Motion-Picture Films and Projecting-Machines Therefor.

Ser. No. 44,995. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SAMUEL A. MURPHY, Columbia, S. C. Filed Sept. 28, 1909.

Pop

Particular description of goods.—A Remedy for Colic in the Large and Small Intestines.

Ser. No. 45,268. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FOGG & HIBBS COMPANY, Salem, N. J. Filed Oct. 12, 1909.

SALEM BEAUTY

Which consists of the word "Beauty," the geographical term "Salem" being disclaimed.

Particular description of goods.—Canned Vegetables.

Ser. No. 46,256. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) THE BERGER MANUFACTURING COMPANY, Canton, Ohio. Filed Dec. 2, 1909.

Keystone

Particular description of goods.—Metallic Plates to be Used to Reinforce Composition Flooring.

Ser. No. 46,281. (CLASS 12. CONSTRUCTION MATERIALS.) PHILIP F. APFEL, Seattle, Wash. Filed Dec. 4, 1909.

Sorelenite.

Particular description of goods.—A Dry Powdered Cement and a Liquid Composition Forming a Plastic Flooring Material and Blocks or Tiles of a Cement Composition to be Used in the Making of Floors.

Ser. No. 47,763. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) ELKHART MOTOR CAR COMPANY, Elkhart, Ind. Filed Feb. 12, 1910.

L

Particular description of goods.—Automobiles.

Ser. No. 48,577. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) HARRIS-LIPSITZ COMPANY, Dallas, Tex. Filed Mar. 21, 1910.

ELBERTA



Particular description of goods.—Ginghams.

Ser. No. 49,155. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) LOVELL-MCCONNELL MANUFACTURING COMPANY, Newark, N. J. Filed Apr. 16, 1910.

KLAXONET

Particular description of goods.—Mechanically-Operated Signal Horns and Alarms.

Ser. No. 49,160. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) CONRAD C. GAUTIER, Greencastle, Ind. Filed Apr. 16, 1910.

PLEZEE

Particular description of goods.—Carbonated Tonic Beverage and Syrup for Making Same.

Ser. No. 49,274. (CLASS 32. FURNITURE AND UPHOLSTERY.) EMIL WILLBRANDT, St. Louis, Mo. Filed Apr. 25, 1910.

ASEPTIBLE

Particular description of goods.—Tables, Chairs, Stools, Cabinets, Stands, Washstands, Bedsteads, Bedside-Tables, Commodes, Screens, Dressers, Lockers, Couches, and Rocking-Chairs.

Ser. No. 49,398. (CLASS 17. TOBACCO PRODUCTS.) ERWIN-NADAL TOBACCO CO., Wilson, N. C. Filed Apr. 30, 1910.

Contentnea

Particular description of goods.—Cigarettes.

Ser. No. 49,474. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) SHATTUCK-GEORGE IRON CO., Wichita, Kans. Filed May 3, 1910.

G

Particular description of goods.—Vehicle and Automobile Tops and Trimmings, Vehicle Poles and Shafts, and Wagon Tongues, Reaches, Bolsters, Axles, Rims, Felloes, and Spokes.

Ser. No. 49,580. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) PLANSIFTER MILLING COMPANY, Oklahoma, Okla. Filed May 7, 1910.

SPLIT SILK

Particular description of goods.—Wheat-Flour.

Ser. No. 49,656. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) FREDERICK MEINHARD, Peoria, Ill. Filed May 12, 1910.

NORIDA

Particular description of goods.—Cold-Cream.

Ser. No. 49,947. (CLASS 39. CLOTHING.) DANIEL GREEN FELT SHOE COMPANY, New York and Dolgeville, N. Y. Filed May 27, 1910.



Particular description of goods.—Shoes and Slippers Made Wholly or in Part of Leather and Felt Shoes and Slippers.

Ser. No. 49,949. (CLASS 39. CLOTHING.) DANIEL GREEN FELT SHOE COMPANY, New York and Dolgeville, N. Y. Filed May 27, 1910.



Particular description of goods.—Shoes and Slippers Made Wholly or in Part of Leather and Felt Shoes and Slippers.

Ser. No. 49,954. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KOTHE, WELLS & BAUER COMPANY, Indianapolis, Ind. Filed May 27, 1910.

PET BRAND

Particular description of goods.—Canned Fruits, Vegetables, Pork and Beans, Sauer-Kraut, and Hominy.

Ser. No. 49,974. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) AMERICAN COFFEE COMPANY OF NEW ORLEANS, LT'D., New Orleans, La. Filed May 27, 1910.

HONEYMOON

Particular description of goods.—Tea and Compound of Coffee and Chicory.

Ser. No. 49,995. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ARTHUR L. HENLEY, Greensboro, N. C. Filed May 28, 1910.

Soothene

Particular description of goods.—A Veterinary Salve.

Ser. No. 50,084. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ISAAC EMANUEL BLOCK, Chicago, Ill. Filed June 3, 1910.



The picture being fanciful.
Particular description of goods.—All Kinds of Candies.

Ser. No. 50,197. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WESTERN FLOUR MILL COMPANY, Davenport, Iowa. Filed June 8, 1910.

IOWANA

Particular description of goods.—Wheat-Flour.

Ser. No. 50,211. (CLASS 32. FURNITURE AND UPHOLSTERY.) DIXIE COTTON FELT MATTRESS COMPANY, Chicago, Ill. Filed June 9, 1910.



Particular description of goods.—Mattresses, Box-Springs, and Pillows.

Ser. No. 50,229. (CLASS 47. WINES.) SOBRINOS DE DON DOMINGO RODRIGUEZ, Habana, Cuba. Filed June 10, 1910. Used ten years.



Particular description of goods.—Sherry-Wine.

Ser. No. 50,233. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CARL SORGER, Frankfort-on-the-Main, Germany. Filed June 10, 1910.

ASFERRYL

Particular description of goods.—A Preparation for the Treatment of Anemia Chlorosis and General Debility.

Ser. No. 50,289. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SCHUYLER COLFAX BOROM, Minneapolis, Minn. Filed June 13, 1910.

ÆSTHEDERM

Particular description of goods.—An Ointment, a Face and Massage Cream, a Lotion for External Skin Applications, and a Pasty Ointment for External Skin Applications.

Ser. No. 50,392. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE WINDSOR PRINT WORKS, North Adams, Mass. Filed June 17, 1910. Used ten years.

WINDSOR

PEKINADE

Particular description of goods.—Plain White, Dyed, and Printed Percale.

Ser. No. 50,393. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE WINDSOR PRINT WORKS, North Adams, Mass. Filed June 17, 1910. Used ten years.

WINDSOR

Particular description of goods.—Plain White, Dyed, and Printed Percale.

Ser. No. 50,409. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE BURCKHARDT COMPANY, Cincinnati, Ohio. Filed June 17, 1910.

Big Fiddle



Particular description of goods.—Soap.

Ser. No. 50,523. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WM. A. COOMBS MILLING COMPANY, Coldwater, Mich. Filed June 23, 1910. Used ten years.

WHITE WONDER

Particular description of goods.—Wheat-Flour.

Ser. No. 50,601. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) SEVERIN ROBERT DROESCHER, New York, N. Y. Filed June 27, 1910.

SWASTIKA

Particular description of goods.—Hones, Oilstones, Whetstones.

Ser. No. 50,718. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) THE INCINERATOR COMPANY OF AMERICA, New York, N. Y. Filed July 5, 1910.

INCINERITE

Particular description of goods.—Garbage-Crematories.

Ser. No. 50,829. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) MLLE. WOLFE CO., Philadelphia, Pa. Filed July 14, 1910.

JUNOFORM

Particular description of goods.—Ruffles.

Ser. No. 50,916. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MILLER BROS. & CO., Baltimore, Md. Filed July 19, 1910.



The portrait being that of Napoleon Bonaparte, deceased.

Particular description of goods.—Canned Oysters, Canned Tomatoes, and Canned Peas.

Ser. No. 50,947. (CLASS 12. CONSTRUCTION MATERIALS.) MAGNESITE BUILDING MATERIAL COMPANY, LIMITED, Boise, Idaho. Filed July 20, 1910.

"HERCULITH"

Particular description of goods.—Plastic Compositions for Flooring, and Coating Bricks and Walls, and for Fireproofing.

Ser. No. 50,965. (CLASS 37. PAPER AND STATIONERY.) LOUIS E. FULLER, New York, N. Y. Filed July 21, 1910.

DERMATYPE

Particular description of goods.—Stencil-Paper and Stencils.

Ser. No. 51,014. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) DEITSCH BROTHERS, New York, N. Y. Filed July 23, 1910.

KLENZO

Particular description of goods.—Tooth, Nail, Hair, Clothes, and Complexion Brushes.

Ser. No. 51,119. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) WALLACE MUSIC CO., Marion, Ind. Filed July 28, 1910.

BEN HUR

Particular description of goods.—Pianos.

Ser. No. 51,187. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) STETSON-BARRET CO., Los Angeles, Cal. Filed July 30, 1910.

RED HUSSAR



The picture being fanciful.

Particular description of goods.—Canned Pears.

TRADE-MARKS

REGISTERED OCTOBER 4, 1910.

79,713. CANNED OLIVES. AKERMAN & TUFFLEY, North San Diego, Cal.
Filed March 19, 1910. Serial No. 48,534. PUBLISHED MAY 3, 1910.

79,714. FRESH OYSTERS. AUBREY G. BAILEY, Norfolk, Va.
Filed June 3, 1910. Serial No. 50,108. PUBLISHED AUGUST 2, 1910.

79,715. PERFUMED SOAPS. BAYLEY & CO., London, England.
Filed October 11, 1909. Serial No. 45,252. PUBLISHED AUGUST 2, 1910.

79,716. STOMACH-BITTERS. CARL BIENEK, Oakland, Cal.
Filed October 16, 1909. Serial No. 45,360. PUBLISHED AUGUST 2, 1910.

79,717. CORN-SALVE. CHARLES HERMAN BUDDE, Dayton, Ohio.
Filed November 20, 1909. Serial No. 46,038. PUBLISHED MARCH 29, 1910.

79,718. CERTAIN CUTLERY. THE CANTON CUTLERY COMPANY, Canton, Ohio.
Filed February 1, 1910. Serial No. 47,513. PUBLISHED AUGUST 2, 1910.

79,719. ALL KINDS OF CANDIES. CENTRAL CANDY COMPANY, Chicago, Ill.
Filed June 17, 1910. Serial No. 50,351. PUBLISHED AUGUST 2, 1910.

79,720. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,433. PUBLISHED AUGUST 2, 1910.

79,721. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,434. PUBLISHED AUGUST 2, 1910.

79,722. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,435. PUBLISHED AUGUST 2, 1910.

79,723. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,436. PUBLISHED AUGUST 2, 1910.

79,724. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,437. PUBLISHED AUGUST 2, 1910.

79,725. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,438. PUBLISHED AUGUST 2, 1910.

79,726. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,439. PUBLISHED AUGUST 2, 1910.

79,727. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,440. PUBLISHED AUGUST 2, 1910.

79,728. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,442. PUBLISHED AUGUST 2, 1910.

79,729. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,444. PUBLISHED AUGUST 2, 1910.

79,730. [WITHDRAWN.]

79,731. [WITHDRAWN.]

79,732. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,448. PUBLISHED AUGUST 2, 1910.

79,733. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,449. PUBLISHED AUGUST 2, 1910.

79,734. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,452. PUBLISHED AUGUST 2, 1910.

79,735. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,453. PUBLISHED AUGUST 2, 1910.

79,736. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,455. PUBLISHED AUGUST 2, 1910.

79,737. FAUCETS. CORDLEY & HAYES, New York, N. Y.
Filed June 13, 1910. Serial No. 50,272. PUBLISHED AUGUST 2, 1910.

79,738. CERTAIN FOODS. CROCKER GROCERY COMPANY, Wilkes-Barre, Pa.
Filed September 21, 1907. Serial No. 30,124. PUBLISHED JUNE 30, 1908.

79,739. CERTAIN FOODS. CROCKER GROCERY COMPANY, Wilkes-Barre, Pa.
Filed March 23, 1908. Serial No. 33,550. PUBLISHED MAY 26, 1908.

79,740. PREPARED COMPOSITION ROOFING. DEAN LUMBER COMPANY, Elmira, N. Y.
Filed January 19, 1910. Serial No. 47,239. PUBLISHED MARCH 29, 1910.

79,741. OINTMENT FOR EXTERNAL USE. DENNIS MANUFACTURING COMPANY, Sutter Creek and Berkeley, Cal.
Filed February 21, 1910. Serial No. 47,940. PUBLISHED AUGUST 2, 1910.

79,742. STOGIES AND CIGARS. MAX ENELOW, Pittsburg, Pa.
Filed April 12, 1909. Serial No. 41,742½. PUBLISHED SEPTEMBER 21, 1909.

79,743. SMOKING-TOBACCO. FALK TOBACCO CO., New York, N. Y., and Richmond, Va.
Filed May 28, 1907. Serial No. 27,736. PUBLISHED JUNE 25, 1907.

79,744. CANNED VEGETABLES. FARIBAULT CANNING COMPANY, Faribault, Minn.
Filed March 16, 1910. Serial No. 48,485. PUBLISHED AUGUST 2, 1910.

79,745. HONEY AND JELLIES. CHARLES W. FINCH, Chicago, Ill.
Filed April 4, 1910. Serial No. 48,844. PUBLISHED AUGUST 2, 1910.

79,746. PERIODICAL FINANCIAL PUBLICATIONS. CORNELIA KNOWLES FITCH, Passaic, N. J.
Filed April 25, 1910. Serial No. 49,287. PUBLISHED AUGUST 2, 1910.

79,747. STOVES, RANGES, AND FURNACES. THE FLOYD-WELLS COMPANY, Royersford, Pa.
Filed June 23, 1910. Serial No. 50,529. PUBLISHED AUGUST 2, 1910.

79,748. STOVES, RANGES, AND FURNACES. THE FLOYD-WELLS COMPANY, Royersford, Pa.
Filed June 23, 1910. Serial No. 50,530. PUBLISHED AUGUST 2, 1910.

79,749. FLAVORING-SYRUP FOR NON-ALCOHOLIC BEVERAGES. FOOTE & JENKS, Jackson, Mich.
Filed December 22, 1906. Serial No. 24,224. PUBLISHED JULY 19, 1910.

79,750. PERFUMES, FACE-POWDERS, AND TOILET WATERS. A. FRANCIS & Co., Detroit, Mich.
Filed February 11, 1910. Serial No. 47,731. PUBLISHED AUGUST 2, 1910.

79,751. MONTHLY FINANCIAL JOURNAL. JOSEPH H. FRANCIS, Chicago, Ill.
Filed August 31, 1909. Serial No. 44,444. PUBLISHED AUGUST 2, 1910.

79,752. CHEWING-TOBACCO. GEORGE L. FULLWOOD, Philadelphia, Pa., assignor, by mesne assignments, to Tobaclets, Inc., Richmond, Va., a Corporation of Virginia.
Filed April 5, 1910. Serial No. 48,855. PUBLISHED AUGUST 2, 1910.

79,753. FILES. F. W. GESSWEIN COMPANY, New York, N. Y.
Filed December 28, 1905. Serial No. 15,715. PUBLISHED AUGUST 2, 1910.

79,754. CANNED FRUITS. GOLDEN GATE PACKING COMPANY, San Jose, Cal.
Filed December 10, 1909. Serial No. 46,395. PUBLISHED FEBRUARY 8, 1910.

79,755. COTTON PIECE GOODS. HAYWARD & THURSTON Co., New York, N. Y.
Filed May 27, 1910. Serial No. 49,968. PUBLISHED AUGUST 2, 1910.

79,756. MEDICINAL WINE. JOSEPH EMILE HEROUX, Woonsocket, R. I.
Filed October 25, 1909. Serial No. 45,539. PUBLISHED DECEMBER 28, 1909.

79,757. GAS BURNERS AND HEATERS. HARRY HERTZBERG, Brooklyn, N. Y.
Filed July 1, 1910. Serial No. 50,672. PUBLISHED AUGUST 2, 1910.

79,758. CANNED FRUITS, VEGETABLES, FISH, PORK AND BEANS WITH TOMATO SAUCE, AND SAUERKRAUT. CHARLES HEWITT & SONS COMPANY, Des Moines, Iowa.
Filed June 2, 1910. Serial No. 50,070. PUBLISHED AUGUST 2, 1910.

79,759. SCISSORS, RAZORS, AND POCKET-KNIVES. WIEBUSCH & HILGER, LIMITED, New York, N. Y.
Filed April 15, 1905. Serial No. 1,784. PUBLISHED AUGUST 2, 1910.

79,760. BISMUTH OXYIODO-GALLATE. THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Y.
Filed December 31, 1909. Serial No. 46,817. PUBLISHED JULY 26, 1910.

79,761. CANNED FRUITS AND CANNED VEGETABLES. HUNT BROTHERS COMPANY, San Francisco, Cal.
Filed January 3, 1910. Serial No. 46,880. PUBLISHED APRIL 12, 1910.

79,762. STOMACH-BITTERS. HARTWIG KANTOROWICZ, Posen, Germany, assignor to Hartwig Kantorowicz Actien Gesellschaft, Posen, Germany, a Corporation of Germany.
Filed February 20, 1907. Serial No. 25,486. PUBLISHED JANUARY 19, 1909.

79,763. DIARIES. KIGGINS & TOOKER Co., New York, N. Y.
Filed May 21, 1910. Serial No. 49,849. PUBLISHED AUGUST 2, 1910.

79,764. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed April 26, 1910. Serial No. 49,311. PUBLISHED AUGUST 2, 1910.

79,765. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed June 24, 1910. Serial No. 50,554. PUBLISHED AUGUST 2, 1910.

79,766. CANDIES. CHARLES D. LANE, Bridgeport, Conn., assignor to Frederick W. Lipps Company of Baltimore City.
Filed October 5, 1909. Serial No. 45,149. PUBLISHED DECEMBER 28, 1909.

79,767. COTTON CLOTHES-LINE. FRANCIS H. LEGGETT & Co., New York, N. Y.
Filed June 1, 1910. Serial No. 50,032. PUBLISHED AUGUST 2, 1910.

79,768. BIRD-SEED. FRANCIS H. LEGGETT & Co., New York, N. Y.
Filed June 1, 1910. Serial No. 50,034. PUBLISHED AUGUST 2, 1910.

79,769. BIRD-SEED. FRANCIS H. LEGGETT & Co., New York, N. Y.
Filed June 1, 1910. Serial No. 50,035. PUBLISHED AUGUST 2, 1910.

79,770. CERTAIN FOODS. FRANCIS H. LEGGETT & Co., New York, N. Y.
Filed June 1, 1910. Serial No. 50,040. PUBLISHED AUGUST 2, 1910.

79,771. MALT EXTRACT. THE LEISY BREWING COMPANY, Peoria, Ill.
Filed December 10, 1907. Serial No. 31,656. PUBLISHED DECEMBER 14, 1909.

79,772. COTTON-SEED OIL. LOUISVILLE COTTON OIL Co., Louisville, Ky.
Filed October 9, 1909. Serial No. 45,202. PUBLISHED DECEMBER 21, 1909.

79,773. SALVE. ELIJAH H. LYNN, Sr., Brookport, Ill.
Filed November 27, 1909. Serial No. 46,144. PUBLISHED AUGUST 2, 1910.

79,774. LOTIONS. ELIJAH H. LYNN, Sr., Brookport, Ill.
Filed November 27, 1909. Serial No. 46,145. PUBLISHED AUGUST 2, 1910.

79,775. SHAVING-CREAMS. DANIEL J. MAHLER, East Providence, R. I.
Filed April 7, 1910. Serial No. 48,883. PUBLISHED JUNE 14, 1910.

79,776. CIGARS. LUCY J. MENDEZ, Brooklyn, N. Y.
Filed July 1, 1908. Serial No. 35,892. PUBLISHED JUNE 28, 1910.

79,777. SUSPENSORIES, TRUSSES, AND BANDAGES. MEYERS MANUFACTURING COMPANY, Watertown, N. Y.
Filed May 31, 1910. Serial No. 50,005. PUBLISHED JULY 5, 1910.

79,778. CANDY. THE NATIONAL CANDY COMPANY, St. Louis, Mo.
Filed July 14, 1909. Serial No. 43,522. PUBLISHED JULY 26, 1910.

79,779. LANTERNS. NORVELL-SHAPLEIGH HARDWARE COMPANY, St. Louis, Mo.
Filed January 17, 1910. Serial No. 47,151. PUBLISHED AUGUST 2, 1910.

79,780. HOSIERY. ONEIDA HOSIERY COMPANY, Philadelphia, Pa.
Filed June 21, 1910. Serial No. 50,482. PUBLISHED AUGUST 2, 1910.

79,781. FOUNTAIN-PENS. THE PARKER PEN COMPANY, Janesville, Wis.
Filed June 23, 1910. Serial No. 50,536. PUBLISHED AUGUST 2, 1910.

79,782. COMPOUND OF MOLASSES AND CORN-SYRUP. PENICK & FORD, LTD., Shreveport and New Orleans, La.
Filed June 6, 1910. Serial No. 50,146. PUBLISHED AUGUST 2, 1910.

79,783. STOCK FOOD COMPOSED OF ALFALFA, CORN, AND RICE BRAN. PEOPLES OIL & COTTON Co., Wharton, Tex.
Filed October 19, 1909. Serial No. 45,400. PUBLISHED AUGUST 2, 1910.

79,784. OINTMENT FOR THE TREATMENT OF CERTAIN NAMED DISEASES. PRAIRIE MEDICINE COMPANY, Rolling Prairie, Ind.
Filed March 9, 1910. Serial No. 48,307. PUBLISHED AUGUST 2, 1910.

79,785. COMPOUND CIDER AND COMPOUND PHOSPHATE BEVERAGE. PRICE & LUCAS CIDER & VINEGAR Co., Louisville, Ky.
Filed May 14, 1909. Serial No. 42,412. PUBLISHED MARCH 1, 1910.

79,786. SILK PIECE GOODS. ROGERS & THOMPSON, West New York, N. J., and New York, N. Y.
Filed March 10, 1910. Serial No. 48,321. PUBLISHED AUGUST 2, 1910.

79,787. HAMS, BACON, AND LARD. W. C. ROUTH & COMPANY, Logansport, Ind.
Filed June 17, 1910. Serial No. 50,404. PUBLISHED AUGUST 2, 1910.

79,788. HAMS, BACON, AND LARD. W. C. ROUTH & COMPANY, Logansport, Ind.
Filed June 17, 1910. Serial No. 50,405. PUBLISHED AUGUST 2, 1910.

79,789. RUBBER TIRES AND RUBBER TUBING. RUTHERFORD RUBBER COMPANY, Rutherford, N. J.
Filed April 18, 1910. Serial No. 49,178. PUBLISHED AUGUST 2, 1910.

79,790. LEAD-PENCILS. A. L. SALOMON & Co., New York, N. Y.
Filed July 1, 1910. Serial No. 50,657. PUBLISHED AUGUST 2, 1910.

79,791. SHEET-METAL TRANSFORMER AND DYNAMO PLATES. JOSEPH SANKEY & SONS, LTD., Bilston, England.
Filed October 31, 1908. Serial No. 38,386. PUBLISHED AUGUST 2, 1910.

79,792. TEA, BLENDED COFFEE, COCOA, SPICES, FLAVORING EXTRACTS. SCHORN & BROWER, New York, N. Y.
Filed November 12, 1909. Serial No. 45,852. PUBLISHED AUGUST 2, 1910.

79,793. TOILET-PAPER. ARTHUR H. SCOTT, Philadelphia, Pa.
Filed July 8, 1909. Serial No. 43,433. PUBLISHED JULY 26, 1910.

79,794. BEER. GABRIEL SEDLMAYR, BRAUEREI ZUM SPATEN, Munich, Germany.
Filed August 6, 1909. Serial No. 44,006. PUBLISHED AUGUST 2, 1910.

79,795. JEWELRY FOR PERSONAL ADORNMENT. R. F. SIMMONS COMPANY, Attleboro, Mass.
Filed June 14, 1910. Serial No. 50,305. PUBLISHED JULY 26, 1910.

79,796. GOLF-BALLS. A. G. SPALDING & BROS., Jersey City, N. J., and New York, N. Y.
Filed June 25, 1910. Serial No. 50,582. PUBLISHED AUGUST 2, 1910.

79,797. GLOVES AND HAND-LEATHERS. SPECIAL GLOVE AND NOTION COMPANY, Pittsburg, Pa.
Filed May 6, 1910. Serial No. 49,553. PUBLISHED AUGUST 2, 1910.

79,798. CERTAIN NAMED HAIR GOODS. A. STEINHARDT & BRO., New York, N. Y.
Filed June 10, 1910. Serial No. 50,245. PUBLISHED AUGUST 2, 1910.

79,799. CONFECTIONS MADE FROM CONSERVED FRUIT. MAY TYNDALE, Fresno, Cal.
Filed May 18, 1910. Serial No. 49,790. PUBLISHED AUGUST 2, 1910.

79,800. EVAPORATED APPLES. J. WASSERMANN & Co., New York, N. Y.
Filed April 16, 1910. Serial No. 49,157. PUBLISHED AUGUST 2, 1910.

79,801. PREPARATIONS FOR THE REMOVAL OF FRECKLES. OTHO H. WHITE, Buffalo, N. Y.
Filed June 21, 1910. Serial No. 50,483. PUBLISHED AUGUST 2, 1910.

79,802. CERTAIN PREPARATIONS FOR DENTISTS' USE. J. D. WISE, Jackson, Tenn.
Filed April 12, 1910. Serial No. 49,037. PUBLISHED AUGUST 2, 1910.

79,803. ANTISEPTIC. GUY L. WIDUP, Oakland, Cal.
Filed May 1, 1909. Serial No. 42,167. PUBLISHED JULY 19, 1910.

79,804. CONDENSED MILK. WILLAMETTE VALLEY CONDENSED MILK COMPANY, Portland, Oreg.
Filed May 3, 1910. Serial No. 49,484. PUBLISHED AUGUST 2, 1910.

LABELS

REGISTERED OCTOBER 4, 1910.

15,336.—*Title:* "O. U. AUTO 5¢ CIGAR." (For Cigars.) BURNS CIGAR COMPANY, Brooksville, Fla. Filed August 15, 1910.

15,337.—*Title:* "FULTON'S STEAMBOAT HAVANA CIGARS." (For Cigars.) BURNS CIGAR COMPANY, Brooksville, Fla. Filed August 15, 1910.

15,338.—*Title:* "CELTIC TEA." (For Blended Tea.) ACKER, MERRALL & CONDIT COMPANY, New York, N. Y. Filed September 8, 1910.

15,339.—*Title:* "ROYAL EXERCISE BOOK." (For Writing Books or Tablets.) OSBORN PAPER COMPANY, Marion, Ind. Filed September 24, 1910.

15,340.—*Title:* "LITTLE CHERUB." (For Dolls.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed September 1, 1910.

15,341.—*Title:* "KNOCK OUT." (For Dolls.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed September 1, 1910.

15,342.—*Title:* "DAINTY DOROTHY." (For Dolls.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed September 1, 1910.

15,343.—*Title:* "WEAR WELL." (For Dolls.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed September 1, 1910.

15,344.—*Title:* "TINY TOT." (For Dolls.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed September 1, 1910.

15,345.—*Title:* "THE GAME OF UNCLE SAM." (For a Card Game.) GEORGE ADAM KRANER, Marion, Ohio. Filed September 21, 1910.

PRINTS

REGISTERED OCTOBER 4, 1910.

2,643.—*Title:* "HELLO BILL!" (For Cigars.) EDWARD E. HOLIPETER, Detroit, Mich. Filed July 27, 1910.

2,644.—*Title:* "MARGATE AN ARROW COLLAR." (For Collars.) CLUETT, PEABODY & COMPANY, Troy, N. Y. Filed September 15, 1910.

2,645.—*Title:* "ONLY A DIP." (For Laundry Bluing.) RECKITTS (U. S. A.), LTD., New York, N. Y. Filed June 25, 1910.

2,646.—*Title:* "'BEST' SNOW PANTS." (For Boys' Knit Pants.) BEST & CO., New York, N. Y. Filed August 31, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE HARDINGE.

Decided September 23, 1910.

RENEWAL APPLICATION—PETITION NECESSARY—PAYMENT OF FEE.

The mere filing of a fee with an assistant treasurer of the United States does not constitute a "second application" within the meaning of section 4897, Revised Statutes, and the Office has no authority to accept such a fee where the petition was not filed within the statutory period.

ON PETITION.

COMPOSING-MACHINE.

Mr. R. J. Jacker for the applicant.

BILLINGS, *Acting Commissioner:*

This is a petition that the renewal fee be accepted in the above-entitled application and that the application be renewed.

The record shows that this application was allowed September 1, 1908, but became forfeited by reason of failure to pay the final fee. It appears from the affidavit of R. J. Jacker, attorney for the applicant, that on August 30, 1910, he paid a fee of fifteen dollars to the assistant treasurer of the United States and on August 31 received a certificate of deposit from said United States treasurer and that upon the same day he forwarded the duplicate certificate to the Patent Office, together with a petition for the renewal of the application. This petition for renewal, together with an amendment which accompanies the petition, bears the receiving-stamp of the Chief Clerk of the United States Patent Office under date of September 2, 1910.

Section 4897, Revised Statutes, which governs the filing of renewal applications, provides that—

> such a second application must be made within two years after the allowance of the original application.

In the present case the petition was not filed in the Patent Office until September 2, which is one day after the period allowed by law for the renewal of applications.

For reasons fully stated in *ex parte Ryan* (117 O. G., 599; 1905, C. D., 245) the mere filing of a fee with an assistant treasurer of the United States does not constitute a "second application" within the meaning of the statute. It is well settled that the Commissioner is without authority to extend the time set by statute. It must therefore be held that the Office was without authority to accept the fee.

The petition is denied.

FOSTER *v.* BELL.

Decided September 26, 1910.

INTERFERENCE—MOTION TO DISSOLVE FILED AFTER TAKING OF TESTIMONY—TRANSMISSION.

A motion to dissolve an interference based upon matters growing out of the testimony should not be transmitted unless the facts alleged to constitute a bar to the issue are so clear and apparent that the propriety of the dissolution of the interference as to the specified counts cannot be seriously questioned.

APPEAL on motion.

SUPERHEATER-BOILER.

Messrs. Kerr, Page & Cooper and *Mr. Marcellus Bailey* for Foster.

Messrs. Bakewell & Byrnes for Bell.

BILLINGS, *Acting Commissioner:*

This is an appeal by Foster from a decision of the Examiner of Interferences refusing to transmit his motion to dissolve the above-entitled interference as to ground 1 thereof.

It appears from the record that Foster has taken his testimony and that Bell, the senior party, has commenced taking his testimony. The motion to dissolve the interference is based upon matters growing out of the testimony of John E. Bell given in his own behalf.

It is well settled that motions to dissolve an interference will not ordinarily be transmitted when filed late and when the ground alleged grew out of the testimony. To justify the transmission of a motion filed so late, especially when it is based upon matters growing out of the testimony, the facts alleged to constitute a bar to the issue must be so clear and apparent that the propriety of the dissolution of the interference as to the counts specified could not be seriously questioned. Otherwise it is better to proceed with the interference in regular order. No special hardship will accrue by this course, for parties to the interference may call attention to any matter they may see fit at final hearing and request a reference under Rule 126. The arguments presented at the hearing convince me that an exception to the general rule should not be made in this case.

The decision of the Examiner of Interferences is affirmed.

LANDAU *v.* SPITZENBERG.

Decided September 26, 1910.

INTERFERENCE—PRINTING TESTIMONY—POVERTY.

A party should not be excused from printing testimony unless it appears that because of poverty it is practically impossible for him to meet the additional charge.

APPEAL on motion.

FILLER FOR SIPHON-BOTTLES.

Mr. Francis M. Wright and *Mr. Joseph L. Levy* for Landau.

Mr. Frank T. Wentworth for Spitzenberg.

BILLINGS, *Acting Commissioner:*

This is an appeal by Spitzenberg from a decision of the Examiner of Interferences refusing to excuse him from printing his testimony.

As has been pointed out in like cases, to excuse a party in interference from printing his testimony would result in taxing the other party in the cause with printing that testimony should the latter find it necessary to appeal to the Court of Appeals of the District of Columbia. Under these circumstances a party should not be excused unless it clearly appears that because of poverty it is practically impossible for him to meet the additional charge. While the item of expense connected with the printing of testimony is considerable in many cases, the cases are few in which that item can be compared with the expense of taking the testimony itself. If it were a mere matter of Office convenience, I should be inclined to grant the request made in this case. I do not think the showing justifies an order which might result in the expense of printing being shifted to the opposing party.

The decision of the Examiner of Interferences is affirmed.

THE LESTER H. GREENE COMPANY *v.* SCOTT & BOWNE.

Decided August 23, 1910.

1. TRADE-MARK INTERFERENCE—PRIOR REGISTRATION AS EVIDENCE OF ADOPTION—DIFFERENCE IN MARKS.

Where the mark in interference is a triangle inclosing the letters "P. P. P." and an antedating registration to one of the parties is in evidence, consisting of a triangle inclosing the letters "P. P. P." and the words "Scott's Emulsion," *Held*, in the absence of other testimony, that the evidence is sufficient to establish priority of adoption and use for that party, inasmuch as the marks differ only by the presence of the descriptive words "Scott's Emulsion" in one and are therefore the same in substance.

2. SAME—SAME—INTERVENING RIGHTS.

"If it be once granted that the first to adopt and use a trade-mark is the owner thereof, a second party who adopts a trade-mark so nearly identical therewith as to be likely to cause confusion in the mind of the public, cannot acquire a right to register that trade-mark to the exclusion of the first to adopt the mark."

3. SAME—SAME—USE OF A PLURALITY OF TRADE-MARKS.

Held that the fact that an applicant may use upon his label or wrapper other trade-marks than the one he is seeking to register is immaterial to the question of priority, and that his failure to file the complete wrapper, or the failure of the Office to require it, constitutes no error, as it is well established that a party may use several trade-marks upon a single article if he so desires.

ON APPEAL.

TRADE-MARK FOR MEDICAL COMPOUNDS, ETC.

Messrs. C. A. Snow & Co. for The Lester H. Greene Company.

Messrs. Kenyon & Kenyon for Scott & Bowne.

TENNANT, *Acting Commissioner:*

This is an appeal from the decision of the Examiner of Interferences awarding priority of adoption and use to Scott & Bowne and adjudging that they are entitled to register the trade-mark for which application for registration has been made.

The issue of this interference comprises the representation of a triangle as a trade-mark for remedies for pulmonary diseases, coughs, colds, and catarrh. The interference as originally declared included an application of Scott & Bowne, No. 40,363, filed Feburary 5, 1909; a registered trade-mark of the Columbia Drug Company, No. 34,418, registered April 3, 1900, upon an application filed August 2, 1899; the registered trade-mark of The Lester H. Greene Company, No. 29,588, registered February 23, 1897, and registered trade-mark of Jehu R. Smith, No. 27,048, registered September 10, 1895.

Subsequent to the declaration of this interference Scott & Bowne presented motions to shift the burden of proof and for judgment on the record based on a prior registration to that company, No. 19,225, registered March 24, 1891.

These motions were granted by the Examiner of Interferences, who thereupon entered an order against the remaining parties to show cause on or before December 30, 1909, why peremptory judgment upon the record should not be entered against them. No response was filed by any of these companies within the time set, and peremptory judgment was rendered in favor of Scott & Bowne January 25, 1910. On January 26, 1910, however, judgment against the Lester H. Greene Company was vacated and the time within which the order to shown cause issued against this company was extended.

The Lester H. Greene Company filed a motion to dissolve the interference, which was transmitted to the Examiner of Trade-Marks and after hearing duly had was denied. Upon appeal to the Commissioner the decision of the Examiner of Trade-Marks upon the motion for dissolution was affirmed. The case having been returned to the Examiner of Interferences peremptory judgment upon the record was entered against the Lester H. Greene Company, and it was adjudged that Scott & Bowne was entitled to register its trade-mark.

The present appeal is from the decision of the Examiner of Interferences upon final hearing. The reasons for appeal are set out in twenty-seven counts; but it is not deemed necessary to discuss these assignments of error in detail, since the subject-matter thereof may be considered under three heads—first, that Scott & Bowne is not entitled to the benefit of the date of the original registration, for the reason that the mark now sought to be registered by that company differs from the mark claimed in its original registration; second, that intervening rights have accrued in favor of the appellants which would bar registration by Scott & Bowne; third, that in its application Scott & Bowne did not claim as its trade-mark the mark actually used upon the labels which were applied to its merchandise.

As to the first of these it is contended that the mark originally claimed by Scott & Bowne comprises the representation of a triangle including the letters "P. P. P." and the words "Scott's Emulsion," whereas the application now under consideration comprises merely the representation of a triangle including the letters "P. P. P." It is contended that under the decision of the Court of Appeals of the District of Columbia in *Planten* v. *Canton Pharmacy Company* (143 O. G., 1113; 33 App. D. C., 268) an applicant has no right to register a portion of the trade-mark which it claimed in its original application. It is also asserted that the decisions of the Assistant Commissioner upon an appeal from the decision of the Examiner of Interferences upon a motion to shift the burden of proof and of the First Assistant Commissioner upon an appeal from the decision of the Examiner of Trade-Marks upon a motion for dissolution conflict upon this point.

This statement is erroneous. In the decision of the Assistant Commissioner it is stated:

> The present case differs from the *Planten* v. *Canton Pharmacy Co., supra*, in that the mark now sought to be registered contains the same arbitrary features as were covered by the prior registration, the features omitted being merely the descriptive words "Scott's Emulsion" which under the decision of *Johnson* v. *Brandau, supra*, must necessarily have been eliminated from the present application.

In the decision of the First Assistant Commissioner it is stated:

> The difference between the previously-registered mark and the one now sought to be registered is that the words "Scott's Emulsion" are now omitted. The words "Scott's Emulsion" are clearly descriptive and if they had been presented in connection with the triangle surrounding the letters "P. P. P." it would have been necessary to require elimination of these words before registration could be effected under the doctrine announced by the Court of Appeals of the District of Columbia in the case of *Johnson* v. *Brandau*, (139 O. G., 732; 32 App. D. C., 348,) which prohibits the inclusion of descriptive words, such as "Scott's Emulsion," as a part of a technical trade-mark.

The statements made in these decisions are clearly well founded, and there appears to be no reason for further discussion of this matter. The applicant's contention is held to be unfounded, and it is adjudged that the trade-mark now sought to be registered by the applicant, Scott & Bowne, is not a different trade-mark from that previously registered.

As to the second contention, that intervening rights have accrued, I find no substantial basis for this contention. If it be once granted that the first to adopt and use a trade-mark is the owner thereof, a second party who adopts a trade-mark so nearly identical therewith as to be likely to cause confusion in the mind of the public cannot acquire a right to register that trade-mark to the exclusion of the first to adopt the mark. The fact that the Lester H. Greene Company's mark has already been registered affords no reason for refusing to register the mark of Scott & Bowne under the provisions of the act of 1905 where, as has been held above, the mark sought to be registered under the later act is the same mark as that previously registered.

As to the third contention it is urged that no proper labels were presented by Scott & Bowne in its application for registration. It is asserted that the merchandise of Scott & Bowne is sold in bottles the wrappers for which contain not only the triangle containing the letters "P. P. P.," associated with the words "Scott's Emulsion," but also upon the back a paster bearing the words "Scott's Emulsion" and the representation of a fisherman supporting a fish.

It is contended that it was error for the Office to hold that a plurality of alleged trade-marks used simultaneously on the same package of goods can be lawfully registered by merely filing one portion of the label with one application for registration and another portion of the label with the other application; that the statute of 1905, by requiring the filing of specimens of the trade-marks as actually used, prevents registration of a plurality of trade-marks for simultaneous use on a single package of goods. This contention is clearly without force. The statute does not require the filing of "labels." Section 1 requires the filing of—

> such number of specimens of the trade-mark as actually used as may be required by the Commissioner of Patents.

The application of Scott & Bowne included specimens of the trade-mark claimed as actually used upon the merchandise in full compliance with the statute. The fact that Scott & Bowne may use a second trade-mark upon the merchandise has nothing to do with the present case. It is well settled that a merchant is not limited to the use of a single trade-mark upon his merchandise.

In the case of *Capewell Horse Nail Co.* v. *Mooney* (167 Fed. Rep., 575) the court had under its consideration certain trade-marks for horseshoe-nails, and considering the same question as that presented herein said:

> While the check-mark is applied to the nail itself, and is also shown on the representation of nails forming the monogram-mark above mentioned, the monogram trade-mark is applied to the packages containing these nails and to the boxes containing the packages, but not to the nails themselves. It results that the complainant, as to its first and second grade nails, uses to denote origin one trade-mark on the nail itself, which is not seen when sold in packages, and another on the packages containing the nails and the boxes containing the packages. It follows that the complainant has doubly guarded itself as to these nails. The monogram indicating origin says this package or box contains nails manufactured by the Capewell Horse Nail Company and it is unnecessary to open the package. When the box and package therein contained are opened, the nails therein contained are found to bear the second trade-mark, indicating the same origin or manufacture. If packages bearing the one mark are destroyed or the nails are taken from the package and used or sold loosely, they bear the trade-mark imprinted on the nails themselves, and there is no chance for imposition on the user or the one on whose horse the nails are to be used. If complainant has the right to adopt these trade-marks to indicate the origin of the goods manufactured by it and to register them, I cannot see that it loses the right to use the one on the nail by using the other on the boxes and packages, or vice versa. I find nothing in the statute that indicates a manufacturer cannot adopt and register as many trade-marks as he pleases to indicate the goods of his make. The trend of the authorities is that he may. The argument in opposition to this view is that it would tend to confusion. I cannot see that such result would follow. If the trade-mark adopted and registered indicates origin or ownership, that fact ends the matter, and I do not see that confusion arises in the minds of dealers and users for the reason the manufacturer indicates the same origin or ownership by two marks or a dozen marks, provided they all indicate the same origin or ownership. Clearly a dozen notices in express words on the same package or article stating the same origin or ownership will not produce confusion or uncertainty if the language be clear, even if worded differently.

In the case of *Enoch Morgan Sons* v. *Ward* (152 Fed. Rep., 690) it is also stated:

> It is insisted that, because appellant adopted the two marks in connection with one article, appellee may lawfully use either alone. Appellant's marks were adopted and registered separately. They have been used separately in the advertisements. The word mark has always been employed for denoting the compound, the pictoral mark for stating a characteristic. We are of the opinion that appellant acquired and has maintained a separate property right in each mark, which was not dependent upon a conjoint use.

In view of the rulings above cited it is clear that because Scott & Bowne may have used other arbi-

trary features than the mark sought to be registered they are not precluded from registration of the trade-mark claimed. I find no error in the decision of the Examiner of Interferences awarding priority of adoption and use to Scott & Bowne and adjudging that it is entitled to register the trade-mark for which it has made application.

The decision of the Examiner of Interferences is affirmed.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—First Circuit.

WILSON TROLLEY CATCHER COMPANY *v.* FRANK RIDLON COMPANY *et al.*

Decided June 27, 1910.

PATENTABILITY—TROLLEY-CONTROLLER.

The Lord patent, No. 548,074, for a trolley pole and rope controller, claim 4 is void, as broader in its terms than the real invention described in the specification.

Mr. William K. Richardson (*Mr. J. Stewart Rusk* on the brief) for the appellant.

Mr. Allen Webster for the appellees.

Before PUTNAM and LOWELL, Circuit Judges, and ALDRICH, District Judge.

LOWELL, *Cir. J.:*

This was a bill in equity to restrain the infringement of Letters Patent No. 548,074, granted to Lord, October 15, 1895, for improvements in trolley pole and rope controllers. Claim 4 alone is in issue, and reads as follows:

In combination with a trolley-pole and with a trolley-rope, a tension device for the rope and an automatic lock for locking the tension device when the trolley leaves the conductor.

The circuit court was of opinion that the claim was valid, but that the defendant did not infringe, and so it dismissed the bill. The complainant appealed to this court.

The trolley art has two connected needs: First. "A take-up," which shall absorb the slack of the trolley-rope, a slack of varying length, inasmuch as the trolley-wire is not always at the same height above the ground. The spring for taking up this slack must be of slight tension, so as not to check considerably the operation of the much more powerful spring which keeps the trolley-wheel in touch with the trolley-wire. Second. Inasmuch as the trolley-wheel sometimes leaves the trolley-wire, the spring last mentioned, if uncontrolled, will throw the trolley-pole into a position substantially perpendicular. As the car may hold its motion for a time, the trolley-pole may thus be brought into collision with the cross-wires, or even with the feed-wires, doing damage to some part of the structure. Control of the trolley-pole in this respect was formerly had in two ways: (*a*) By a so-called "retriever," a spring stronger than that which holds up the trolley-pole, yet one which does not operate so long as the trolley-wheel remains in place against the trolley-wire. The retriever is released only when the wheel leaves the wire. Catching the pole, the retriever pulls it down nearly parallel with the top of the car. (*b*) By a "check," which differs in its object from the retriever in that it does not draw down the pole, but only checks its upward movement. Until something happens the check is held inoperative. When the trolley-wheel leaves the wire, a detent is released, and the check becomes immediately operative.

As has been said, the circuit court somewhat doubtfully held the claim to be valid, though it dismissed the bill for want of proof of infringement. Like the circuit court, we also are required to pass upon the claim's validity before coming to the issue of infringement. The claim in suit is expressed broadly, and its language covers the combination of any kind of "tension device" or "take-up" with any kind of "automatic lock" or "check." Now take-ups were old in the art; so were retrievers; so were the two in combination. The complainant urges that Lord was the first to combine a take-up with a check, and therefore that the claim in suit is entitled to the broadest construction. If a mere check is generally preferred to a retriever (a retriever necessarily contains a check), it is hard to see why the obvious adaptation of a patent like that of Yeakley, No. 476,028, by omitting the machinery to retrieve, would not be covered by the claim in suit. But the Lord patent is concerned with a particular sort of locking device, not with locking devices in general).

My invention, therefore, consists of two parts: first, a tension device for keeping the rope taut while the car is proceeding in the ordinary way; and, secondly, in a means for locking such device when the roller leaves the conductor, and thus preventing the end of the pole from being thrown above the level of the conductor itself.

With this explanation, and still referring to the drawings, I now proceed to describe the locking device.

Still again:

In practical operation I prefer to use the construction shown in the drawings, in which the trolley-roller is mounted in a sliding casing acted upon by a coil-spring; but I can accomplish the same result and still keep within the limits of my invention by attaching two springs near the trolley-head and causing them to bear directly upon the pin on which the roller rotates.

In other words, the patentee declares that he does not limit himself to the "sliding casing," but expresses as its equivalent "two springs near the trolley-head." This limited equivalency is far from the unlimited "automatic lock" of the claim in suit. The specifications show also that the tension device of the claim in suit is in effect a "spring-actuated reel."

We are of opinion that the language of the claim in suit is broader than Lord's real invention. There are other claims in the patent which are not here in suit, and which may protect that invention. We are not required to save the fourth claim in order to save the patent. We are unable to allow the validity of a claim so broad and unrestricted as is the one claim upon which the complainant here relies.

The decree of the circuit court is affirmed, and the appellees recover their costs of appeal.

ADJUDICATED PATENTS.

The Neureuther patent, No. 666,390, for a regenerative retort-heating furnace *Held* void for lack of patentable invention in view of the prior art. *Neureuther* v. *Mineral Point Zinc Co.*, (C. C. A.,) 179 Fed. Rep., 850.

The Clark patent, No. 734,161, for an upsetting-machine for plowshares, claim 1 is void for prior public use for more than two years of the combination claimed therein. *Star Mfg. Co.* v. *Crescent Forge & Shovel Co.*, (C. C. A.,) 179 Fed. Rep., 856.

Disclaimer.

754,473.—*Alexander H. Mathesius*, Brooklyn, N. Y. GUIDE-WHEEL. Patent dated March 15, 1904. Disclaimer filed September 24, 1910, by the inventor.

Enters this disclaimer to those parts of the specifications and claims of said Letters Patent which are in the following words:

"Page 1, line 12, moving rope, or the like;
"Page 1, lines 39 and 40, guide, or rope;
"Page 1, line 44, guide-rope, or the like;
"Page 1, line 54, &c.;
"Page 2, lines 5 and 6, in contact with a rope of circular cross-section;
"Page 2, line 87, or moving rope;
"Page 3, lines 13 and 14, or moving rope, &c.;
"Page 3, line 17, or moving rope;
"Page 3, line 21, or moving rope;

"Page 3, lines 51 and 52, or moving rope;
"Page 5, line 8, or rope;
"Page 5, line 16, or rope;
"Page 5, line 20, or rope;
"Page 5, line 43, or rope;
"Page 5, line 45, or rope;
"Page 5, line 52, rope or the like;
"Page 5, lines 57 and 58, rope or the like;
"Page 5, lines 61 and 62, rope or the like;
"Page 5, line 66, rope or the like;
"Page 5, lines 71 and 72, rope or the like;
"Page 5, line 79, rope or the like;
"Page 5, lines 84 and 85, rope or the like;
"Page 5, line 92, rope or the like;
"Page 5, lines 97 and 98, rope or the like;
"Page 5, lines 101 and 102, rope or the like;
"Page 5, line 107, rope or the like;
"Page 5, lines 112 and 113, rope or the like;
"Page 5, line 116, rope or the like;
"Page 5, line 122, rope or the like;
"Page 5, lines 127 and 128, rope or the like;
"Page 6, line 5, rope or the like;
"Page 6, lines 10 and 11, rope or the like;
"Page 6, line 17, rope or the like;
"Page 6, lines 22 and 23, rope or the like;
"Page 6, line 30, rope or the like;
"Page 6, line 36, rope or the like;
"Page 6, line 41, rope or the like;
"Page 6, lines 46 and 47, rope or the like;
"Page 6, line 51, rope or the like;
"Page 6, lines 56 and 57, rope or the like;
"Page 6, line 62, rope or the like;
"Page 6, lines 67 and 68, rope or the like;
"Page 6, line 77, rope or the like;
"Page 6, line 89, rope or the like;
"Page 6, line 101, rope or the like."

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 29, 1910.

George A. Knox, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of The Voegeli Brothers Drug Company, of No. 2 Washington avenue south, Minneapolis, Minn., for registration of a trade-mark and the trade-mark registration to George A. Knox, of Rochester, N. Y., and the notice of such declaration sent by registered mail to the said George A. Knox at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George A. Knox, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Harry W. Russell, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Beall Brothers, of Alton, Ill., for registration of a trade-mark and the trade-mark registration to Harry W. Russell, of Huntsville, Ala., and the notice of such declaration sent by registered mail to the said Harry W. Russell at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Harry W. Russell, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Amman Iron Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Th. Goldschmidt, 16 Selkenberge Weg, Essen a. d. Ruhr, German Empire, for registration of a trade-mark and the trade-mark registration of the Amman Iron Co., of Swansea, county of Glamorgan, Wales, and the notice of such declaration sent by registered mail to the said Amman Iron Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Amman Iron Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Theo. Noel Company, of Chicago, Ill., for registration of a trade-mark and the trade-mark registration of Samuel J. Brinkerhoff and George D. Brinkerhoff, of Minneapolis, Minn., and the notice of such declaration sent by registered mail to the said Samuel J. Brinkerhoff and George D. Brinkerhoff at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Charles C. Brooks, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Wehrman Medicine Company, 1269 Michigan avenue, Columbus, Ohio, and the application of G. H. Mullen, of Guyandotte, W. Va., for the registration of a trade-mark; the trade-mark registration of the Good Samaritan Ointment Company, 222 Broadway, Camden, N. J.; the trade-mark registrations of Samuel A. Richmond, of Tuscola, Ill.; and the trade-mark registration of Charles C. Brooks, of Waverly, N. Y., and the notice of such declaration sent by registered mail to the said Charles C. Brooks at the address given has been returned by the post-office as undeliverable.

Notice is therefore given to the said Charles C. Brooks, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Newell Coal Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Hokkaido Tanko Kisen (Kabushiki) Kaisha, of Mororan, Japan, for registration of a trade-mark and the trade-mark registration of the Newell Coal Company, of Peoria, Ill., and the notice of such declaration sent by registered mail to the said Newell Coal Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Newell Coal Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

James E. Blauvelt, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Edward Wright Dodez, No. 714 Washington Boulevard, Fort Wayne, Ind., for registration of a trade-mark and the trade-mark registration of James E. Blauvelt, No. 6 South Broadway, Nyack, N. Y., and the notice of such declaration sent by registered mail to the said James E. Blauvelt at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said James E. Blauvelt, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 8, 1910.

Luin F. Mangis, his assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Hitchcock-Hill Company, of 100 Lake street, Chicago, Ill., for registration of a trade-mark and a trade-mark registered to Luin F. Mangis, of 435 Main street, Portland, Oreg., and a communication having been received from the post-office to the effect that it has been unable to deliver the letter to said Mangis, notice is hereby given to the said Mangis, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

Maud Meyberg, her assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of G. R. Springer, of 1332 Grand avenue, Kansas City, Mo., for registration of a trade-mark and a trade-mark registered to Maud Meyberg, of Chicago, Ill., and the notice of said declaration sent by registered mail to the said Maud Meyberg having been returned undelivered, notice is hereby given to the said Maud Meyberg, her assigns or legal representatives, that if they or any of them desire to coutest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

William Johnson Nelson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Lanman & Kemp, of 135–137 Water street, New York, N. Y., for registration of a trade-mark and trade-mark registration to the following named parties: (1) Minard's Liniment Manufacturing Company, Framingham, Mass.; (2) George H. Rundle, Piqua, Ohio; (3) Adelia B. De Grath, 302 West Thirty-fourth street, New York, N. Y.; (4) William Johnson Nelson, Bridgewater, county of Lunenberg, Province of Nova Scotia, Canada, and the notice of such declaration sent by registered mail to the said William Johnson Nelson at the address given above has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said William Johnson Nelson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 6, 1910.

George J. Washburn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of William S. Scull, of Front and Federal streets, Camden, N. J., for registration of a trade-mark and the trade-mark registrations to Wolfe, McMillan and Company, of 11 South Front street, Philadelphia, Pa.; George J. Washburn, of 115 East Second street, Davenport, Iowa; The Brewster Manufacturing Company, of Newark, N. J.; Chase and Sanborn, of Boston, Mass.; Bensdorp and Company, of Amsterdam, Netherlands, and Walter McEwan, of Albany, N. Y., and the notice of such declaration sent by registered mail to the said George J. Washburn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George J. Washburn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

ISSUE OF OCTOBER 4, 1910.

Patents	631—No. 971,512 to No. 972,142, inclusive.
Designs	4—No. 40,928 to No. 40,931, inclusive.
Trade-Marks	92—No. 79,713 to No. 79,804, inclusive.
Labels	10—No. 15,336 to No. 15,345, inclusive.
Prints	4—No. 2,643 to No. 2,646, inclusive.
Reissues	1—No. 13,154.
Total	742

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	.....	Ohio	51	3
Arkansas	2	.....	Oklahoma	4	.....
California	38	7	Oregon	.....	1
Colorado	9	.....	Pennsylvania	59	9
Connecticut	22	1	Rhode Island	2	2
Delaware	1	.....	South Carolina	1	.....
Florida	2	2	South Dakota	2	.....
Georgia	2	.....	Tennessee	7	1
Idaho	3	.....	Texas	10	1
Illinois	64	11	Utah	1	.....
Indiana	19	4	Vermont	3	.....
Iowa	13	1	Virginia	8	2
Kansas	7	.....	Washington	6	.....
Kentucky	1	2	West Virginia	3	.....
Louisiana	4	1	Wisconsin	19	1
Maine	.....	.....	Wyoming	1	.....
Maryland	4	.....			
Massachusetts	33	1	Alaska, District of	.....	.....
Michigan	21	3	Arizona Territory	.....	.....
Minnesota	5	1	District of Columbia	1	.....
Mississippi	2	.....	Hawaii Territory	.....	.....
Missouri	13	2	New Mexico Ter't'y	1	.....
Montana	1	.....	Panama	.....	.....
Nebraska	4	.....	Philippine Islands	1	.....
Nevada	2	.....	U. S. Army	.....	.....
New Hampshire	2	.....	U. S. Navy	1	.....
New Jersey	23	4			
New York	81	23	Total to citizens of the United States	573	83
North Carolina	3	.....			
North Dakota	6	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	.....	.....	Netherlands	.....	.....
Austria-Hungary	4	.....	Newfoundland	.....	.....
Belgium	2	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	.....	.....
British West Indies	1	.....	Norway	2	.....
Canada	9	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Russia	1	.....
China	.....	.....	Scotland	.....	.....
Costa Rica	.....	.....	South Australia	.....	.....
Cuba	.....	.....	Spain	.....	15
Denmark	1	.....	Sweden	5	.....
Ecuador	.....	.....	Switzerland	3	.....
England	11	4	Tasmania	.....	.....
France	4	.....	Transvaal, South Africa	.....	.....
Germany	17	2	Victoria	.....	.....
Haiti	.....	.....	Western Australia	.....	.....
Ireland	.....	.....			
Italy	.....	.....			
Japan	.....	.....	Total to citizens of foreign countries	61	21
Mexico	1	.....			

THE
OFFICIAL GAZETTE
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CONTENTS.

	Page.
AMENDMENT TO RULES OF THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA	247
APPLICATIONS UNDER EXAMINATION	248
NOTICE	248
PATENTS GRANTED	249
REISSUES	471
DESIGNS	473
TRADE-MARKS—REGISTRATION APPLIED FOR	477
TRADE-MARKS—REGISTERED	485
LABELS AND PRINTS	488
COMMISSIONER'S DECISIONS—	Page.
Ex parte Pfautz	489
Ex parte Mastaglio	489
Vanderveld v. Smith	490
Ex parte Boving	490
Ex parte Beaumont Manufacturing Company	491
ADJUDICATED PATENTS	492
CITATION OF DECISIONS	492
REGISTRATION OF PATENTS IN PERU	492
INTERFERENCE NOTICES	493
ISSUE OF OCTOBER 11, 1910	494

AMENDMENT TO RULES OF THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

The following amendment to the rules of the Court of Appeals of the District of Columbia is published for the information of those practicing before that court.

EDWARD B. MOORE,
Commissioner of Patents.

In view of the large number of cases on the calendar awaiting hearing, and in consideration of the time which must necessarily be consumed if the full four hours are taken in the argument as allowed by section 2 of Rule VIII, it is by the court this day ordered that said section 2 of Rule VIII be, and the same is hereby, amended, so as to read that only one hour on each side shall be allowed in the argument, unless by special leave the time is extended by the court before the argument is commenced; but counsel, in order to avail themselves of the opportunity to apply for additional time, must make request therefor in their briefs, and said briefs must be filed within the time prescribed by sections 3 and 4 of this rule in order to be considered. Such time may be apportioned between counsel on the same side, at their discretion. In all cases, however, a full and fair opening must be made.

PER CURIAM.

October 4, 1910.
Test:
HENRY W. HODGES, Clerk.
Promulgated October 4, 1910.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 4, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Aug. 15	Aug. 18	365
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Aug. 3	Aug. 22	207
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Sept. 6	Sept. 2	163
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Aug. 31	Aug. 8	449
167	5. Bookbinding; Harvesters; Jewelry; Music.	July 7	June 30	652
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Aug. 4	Aug. 5	356
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Aug. 22	Aug. 11	409
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Aug. 25	Sept. 1	370
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	July 2	July 28	425
235	10. Carriages and Wagons	July 27	July 29	682
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Aug. 5	Aug. 13	366
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	July 26	July 29	690
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	June 25	Aug. 15	529
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Aug. 10	Aug. 9	326
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	July 6	Aug. 12	667
109	16. Telegraphy; Telephony	July 5	July 15	230
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Aug. 22	Aug. 22	230
337	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Aug. 19	Aug. 1	340
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Aug. 20	Aug. 22	382
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Aug. 26	Aug. 16	244
112	21. Brakes and Gins; Carding; Cloth-Finishing; Coronge: Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	July 26	Aug. 3	377
240	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	July 1	July 5	655
370	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Aug. 16	Aug. 15	394

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
144	24. Apparel; Apparel Apparatus; Electricity, Medical and Surgical; Sewing-Machines; Surgery.	Aug. 1	July 20	601
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Sept. 16	Sept. 13	129
106	26. Electricity, Generation; Motive Power.	July 19	July 30	304
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Aug. 26	Sept. 1	324
65	28. Internal-Combustion Engines	July 29	July 23	405
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	July 27	Aug. 23	385
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	July 11	Aug. 31	418
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Aug. 15	Aug. 25	255
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Aug. 13	Sept. 1	330
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Aug. 3	Aug. 22	312
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Aug. 10	Aug. 3	468
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Sept. 6	Sept. 10	513
264	36. Drafting; Driers: Engraving; Measuring Instruments; Photography.	Aug. 6	July 29	658
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	July 29	July 26	414
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Aug. 1	Aug. 4	508
321	39. Water Distribution	July 26	July 7	418
280	40. Baggage: Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Aug. 15	Sept. 1	588
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	July 5	July 1	620
279	42. Electric Railways; Electric Signaling; Railway Signaling; Signals.	June 17	July 21	651
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	July 22	Aug. 4	296

Oldest new case, June 17; oldest amended, June 30.

Total number of applications awaiting action..... 18,167

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Aug. 1	Sept. 20	769
	Designs	Sept. 6	Sept. 22	85
	Labels and Prints	Sept. 29	Sept. 29	17

Notice.

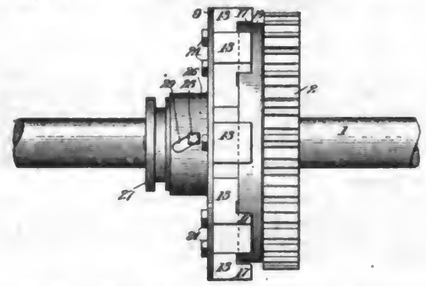
Decision leaflets of the OFFICIAL GAZETTE are sold as a separate publication—

Single numbers..... 5 cents
Subscription per year..... $2.00

PATENTS

GRANTED OCTOBER 11, 1910.

972,143. TRANSMISSION-GEAR. FRANK B. ALLEN, Salt Lake City, Utah. Filed Dec. 23, 1908. Serial No. 469,023.



1. The combination of a driven member, a transmitting ring carried by said driven member and projecting laterally therefrom, a driving member, a hub splined to said driving member and rotating therewith, clutch members having clutching faces located on opposite sides of said ring, and having a swinging connection with said hub, a disk provided with means for engaging said clutch members, said disk being mounted to rotate freely on said hub, and means for rotating said disk to cause the clutch members to clutch the transmitting ring.

2. The combination of a driven member, a transmitting ring carried by said driven member and projecting laterally therefrom, a driving member, a hub splined to said driving member and rotating therewith, clutch members having clutching faces located on opposite sides of said ring and having a swinging connection with said hub, a friction member located between the transmitting ring and the clutching faces of the clutch members, a disk provided with means for engaging said clutch members, said disk being mounted to rotate freely on said hub, and means for rotating said disk to cause the clutch members to clutch the transmitting ring.

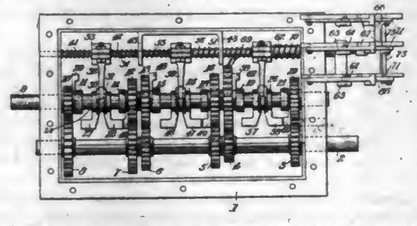
3. The combination of a driven member, a transmitting ring carried by said driven member and projecting laterally therefrom, a driving member, a hub mounted on said driving member, clutch members having clutching faces located on opposite sides of said ring, and having a pivotal connection with said hub, a friction member located between said transmitting ring and the clutching faces of the clutch members, a disk to which said clutch members are pivoted, mounted to rotate freely on said hub, and means for oscillating said disk to cause the clutching members to clutch the transmitting ring.

4. The combination of a driven member, a transmitting ring carried by said driven member and projecting laterally therefrom, a driving member, a hub mounted on said driving member, clutch members having clutching faces located on opposite sides of said ring and having a pivotal connection with said hub, a friction member located between said transmitting ring and the faces of the clutch members, a disk to which said clutch members are pivoted mounted to rotate freely on said hub, a collar movable with said hub, and means operated by a sliding movement of the collar for oscillating said disk to cause the clutch members to clutch the transmitting ring.

5. The combination of a shaft, a gear mounted to rotate on said shaft, a transmitting ring carried by said gear, a hub mounted on said shaft and rotating therewith, clutch members having clutching faces located on opposite sides of said ring, and having heads pivotally connected to said hub, a disk, to which said clutch members are pivoted, mounted to rotate freely on said hub, means for preventing longitudinal movement of said disk, a collar carried by said shaft, and rotating therewith, and means operated by a sliding movement of said collar for oscillating said disk, to cause the clutch members to clutch the transmitting ring.

[Claims 6 to 9 not printed in the Gazette.]

972,144. TRANSMISSION-GEAR. FRANK B. ALLEN, Salt Lake City, Utah. Filed Jan. 13, 1909. Serial No. 472,133.



1. The combination of a driving shaft, a driven shaft, a plurality of pairs of intermeshing gears carried by said shafts, the gears on one of said shafts being loosely mounted thereon, and means for connecting any one of said loosely mounted gears to its supporting shaft, including a plurality of telescoping reciprocating members, and a lever for reciprocating independently any one of said members.

2. The combination of a driving shaft, a driven shaft, a plurality of pairs of intermeshing gears carried by said shafts, the gears on one of said shafts being loosely mounted thereon, and means for connecting any one of said loosely mounted gears to its supporting shaft, including a plurality of telescoping tubes and a lever for operating each of said tubes independently of the other.

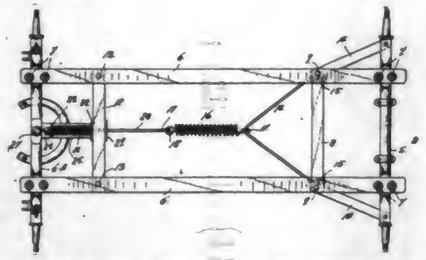
3. The combination with a shaft, of a plurality of spaced gears loosely carried by said shaft, a plurality of clutching devices located intermediate said spaced gears, means for shifting said clutching devices including a plurality of telescoping tubes, and a lever for operating each of said tubes.

4. The combination with a shaft, of a plurality of spaced gears loosely carried by said shaft, a plurality of clutching devices located intermediate said spaced gears, means for shifting said clutching devices including a plurality of telescoping tubes, levers for shifting said tubes independent of each other, and springs operating to shift said tubes so that said clutch members are held in neutral position.

5. The combination of a shaft, a plurality of spaced gears loose on said shaft, a clutch intermediate each pair of gears, independent members for shifting said clutches, a lever for each of said independent members, a latch dog for locking each of said levers with a clutch in engagement with either of the gears, and means for releasing the latch dog of a lever so locked upon the lifting of any other of the latch dogs.

[Claim 6 not printed in the Gazette.]

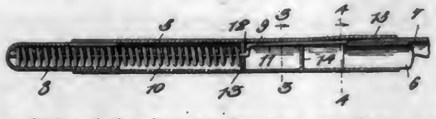
972,145. SPRING-GEAR FOR VEHICLES. NELS J. ANDERSON, Denver, Colo. Filed July 16, 1909. Serial No. 507,984.



1. In spring gears for vehicles, the combination with the front and rear axles of longitudinally disposed, separated side-bars connecting the axles, a rearwardly located cross bar connected with the side bars, a centrally located rod, having its rear extremity connected with the said cross bar, and a second named crossbar connecting the said side bars near their forward extremities, a plate connecting the second named cross bar with the forward axle, the plate and cross bar having registering openings to receive the said rod, the forward extremity of the rod having a tension nut, and a coil spring interposed between the tension nut and the cross bar, substantially as described.

2. The combination with the forward and rear axles of a vehicle, of longitudinally disposed separated, side bars connecting the axles a rearwardly located cross bar, a V-shaped rod whose extremities are anchored in the said cross bar, said rod extending forwardly from its anchorage, a spiral spring connected at one extremity with the apex of the V-shaped rod, a centrally located rod connected with the opposite extremity of the spring, a cross bar connecting the side bars near the forward extremities and having an opening through which the central rod passes, a coil spring surrounding the center rod forward of the cross bar, and a tension nut applied to the forward extremity of the center rod for the purpose set forth.

972,146. PEN-EXTRACTOR. FRANK R. BAILEY, Kalamazoo, Mich. Filed May 7, 1910. Serial No. 560,069.

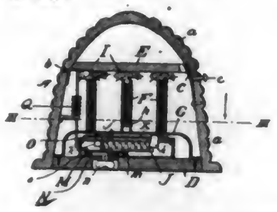


A device of the character described comprising a pen barrel, a pen clamping sleeve arranged in one end of said barrel, said sleeve and the pen barrel each having a longitudinal groove therein, said grooves being disposed in opposed relation, a plunger rod longitudinally movable in the barrel, means arranged in said barrel to prevent transverse movement of the rod, one end of said rod being disposed in the opposed grooves of the barrel and clamping sleeve and movable between the same to engage and eject the pen, a tubular plunger telescopically disposed in the other end of the pen barrel, said rod being secured to said plunger, a partition arranged in the barrel, and a spring disposed on said rod between the partition and the plunger to return the rod to its normal position.

972,147. TOY BEEHIVE. MINNIE AYRAILL, Joplin, Mo. Filed July 16, 1909. Serial No. 507,881.

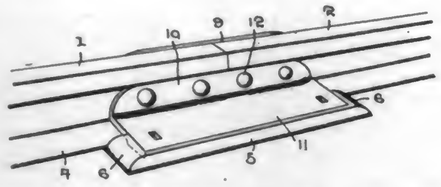
1. A toy comprising a hollow casing having a movable cover, a series of relatively long flexible coiled springs supported within the casing and arranged to be put under tension when the cover is closed, and insect figures carried at the three ends of the springs.

2. A toy comprising a casing in the form of a bee-hive, the casing being formed of two parts, the lower portion of which is hollow and the upper hinged to the lower part, a catch for holding the parts together with the casing closed, a series of relatively long flexible coiled springs secured at their lower ends within the casing, and a series of figures representing bees secured at the outer free ends of the springs.



3. A toy comprising a hollow casing having a movable cover or cap, a plurality of relatively long flexible springs supported at their inner ends within the casing, insect figures supported at the free ends of the springs, a buzzer mounted within the casing and means for causing the buzzer to operate whenever the cover is released to free the insect figures.

972,148. RAIL-JOINT. GILBERT BACON and MILTON L. BACON, Antigo, Wis. Filed Mar. 22, 1910. Serial No. 550,877.



1. In a device of the class described, the combination with a pair of rails, of a base plate below said rails, one edge of said plate having ribs theeron and a fish plate integral with the opposite edge, said fish plate having a shoulder and a bearing edge extending flush with the tops of said rails and an auxiliary fish plate having an extension thereon adapted to fit between the ribs of the base plate, the upper end of said auxiliary fish plate engaging the lower face of the heads of the rails and means to secure said fish plates and rails together.

2. In a device of the class described, the combination with a pair of rails, of a base plate adapted to fit below the meeting ends of said rails and extending beyond the flanges of the rails, one edge of said base plate having longitudinally and transversely extending ribs thereon and a fish plate integral with the opposite edge of the base plate, said integral fish plate having a shoulder adapted to engage the lower face of the head of the rails and a bearing surface at its upper edge extending on opposite sides of the joint of the rails and an auxiliary fish plate having an extension thereon adapted to enter between the transversely disposed ribs, the upper end of said auxiliary fish plate engaging the lower faces of the heads of the rails on the opposite side from the integral fish plate, means to secure the fish plates to the rails and additional means to secure the base plate and parts carried thereby against lateral or longitudinal movement.

3. In a device of the class described, the combination with a pair of rails, of a base plate below said rails having openings therethrough at a point below the meeting ends of the rails, one edge of said plate having ribs thereon, a fish plate integral with the opposite edge, an auxiliary fish plate having an extension thereon adapted to fit between the ribs of the base plate, one of said fish plates having a bearing surface at its upper edge flush with the upper surface of the rails and means to secure the fish plates to the rails.

972,149. METHOD OF TREATING ORES. CHARLES E. BAKER, Chicago, Ill. Filed May 19, 1910. Serial No. 562,331.

1. The method of treating mixed sulfid and oxid ores, which consists in reacting thereon with a gaseous mixture containing hydrochloric acid and free chlorin.

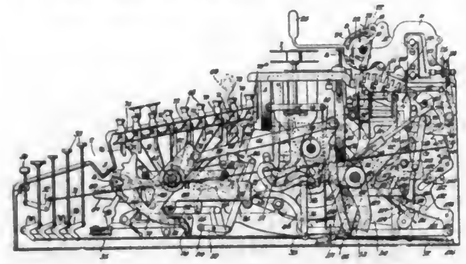
2. The method of treating mixed sulfid and oxid ores, which consists in reacting thereon with a gaseous mixture containing hydrochloric acid, free chlorin and oxygen.

3. The method of treating mixed sulfid and oxid ores, which consists in reacting thereon with a gaseous mixture containing hydrochloric acid and free chlorin, the chlorin in proportion to chloridize the sulfid constituents of the ore.

4. The method of treating mixed sulfid and oxid ores, which consists in reacting thereon with a gaseous mixture containing hydrochloric acid, free chlorin and oxygen, the chlorin in proportion to chloridize the sulfid constituents of the ore.

5. The method of treating mixed sulfid and oxid ores, which consists in reacting thereon with an excess of chlorin in presence of moisture, under such conditions that a portion of the chlorin is converted into hydrochloric acid.

972,150. COMBINED TYPE-WRITING AND AMOUNT-LISTING MACHINE. GLENN J. BARRETT, Syracuse, N. Y., assignor to Burroughs Adding Machine Company, Detroit, Mich., a Corporation of Michigan. Filed Dec. 4, 1906. Serial No. 346,279.



1. The combination with front-strike typewriting means and amount-printing means striking in a different direction, of paper-supporting means shiftable to first present the paper to be typewritten along a line facing the operator and visible to him and then to present the paper to the amount-printed along the same line shifted to face differently.

2. The combination with front-strike typewriting means and amount-printing means striking in a different direction, of paper-supporting platen shiftable to first present the paper to be typewritten along a line facing the operator and visible to him and then to present the paper to be amount-printed along the same line shifted to face differently.

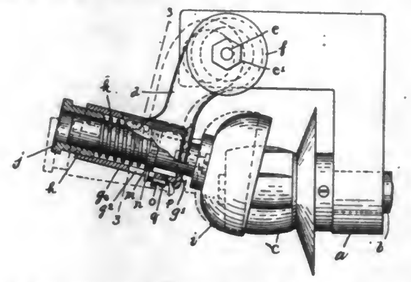
3. The combination with front-strike typewriting means and amount printing means striking in a different direction, of a laterally shifting paper-carriage, and paper-supporting means shiftable therein to first present the paper to be type-written along a line facing the operator and visible to him and then to present the paper to be amount printed along the same line shifted to face differently.

4. The combination with front-strike typewriting means and amount printing means striking in a different direction, of a laterally shifting paper-carriage, and paper-supporting platen shiftable therein to first present the paper to be typewritten along a line facing the operator and visible to him and then to present the paper to be amount printed along the same line shifted to face differently.

5. The combination with typewriting means striking in one direction and amount printing means striking in a different direction, of paper-supporting and feeding means movable in the line of paper feed to first present the paper to be typewritten along a certain line and then to present the paper to be amount-printed along the same line.

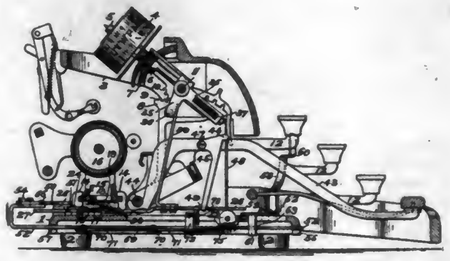
[Claims 6 to 186 not printed in the Gazette.]

972,151. COUNTER-GUARD FOR HEEL-TRIMMING MACHINES. FRANK E. BLAIR, Methuen, Mass. Filed Feb. 6, 1909. Serial No. 476,459.



In a heel trimming machine having a rotary cutter, a base, an arm mounted on said base and universally adjustable in a plane of the axis of the cutter, a head on said arm having a longitudinal bore, a tubular nut mounted in one end of said bore, a rod reciprocally mounted in said nut and in the opposite end portion of said bore in said plane of the cutter's axis, a shoulder on said rod a spring encircling said rod and interposed between said nut and said shoulder for forcing said rod toward the cutter, a stop for limiting said movement, and a counter guard rigidly mounted on the front end of said rod, substantially as described.

972,152. TYPE-WRITING MACHINE. GEORGE C. BLICKENSDERFER, Stamford, Conn. Filed Apr. 10, 1908. Serial No. 426,203.



1. In a typewriting machine, the combination with a carriage, of means for giving it a step by step advancing movement, a carriage retractor, and means for disengaging the carriage from the action of the advancing devices when the retractor is operated to move the carriage backward.

2. In a typewriting machine, the combination with a carriage, of means for giving the carriage a step by step advancing movement, said means including suitable engaging devices, a carriage retractor, and connections whereby when the retractor is operated the engaging devices are disengaged.

3. In a typewriting machine, the combination with a carriage, of means for giving the carriage a step by step advancing movement, said means including engaging members, one of which is mounted on the carriage, an actuator for said feeding device, a carriage retractor, an actuator therefor, and connections between the actuators whereby an operation of the retractor actuator effects the operation of the other actuator.

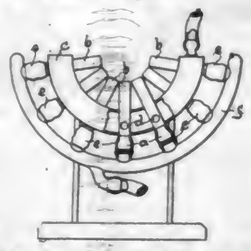
4. In a typewriting machine, the combination with a carriage having a rack, of a feeder, actuating means for

causing the feeder to engage the rack and advance the carriage, a carriage retractor, an actuator therefor, and connections between the actuator and the actuating means.

5. In a typewriting machine, the combination with a carriage having step by step advancing devices, a retractor, actuating means for the retractor, said means including a key, and connections between the retractor actuating means and the advancing devices whereby by the operation of the retractor key the carriage may be fed either forward or backward.

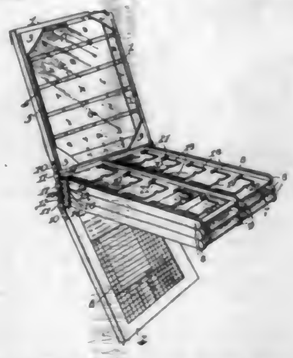
[Claims 6 to 12 not printed in the Gazette.]

972,153. BURNER FOR GLASS-BLOWING APPARATUS. PAUL BORNKESSEL, Mellenbach, Germany. Filed Dec. 8, 1908. Serial No. 466,528.



A pressure gas burner comprising a gas supply chamber, a supply pipe therefor, a plurality of burner tubes projecting from said chamber, the inner ends of said burner tubes having lateral gas inlet orifices within said gas supply chamber, a supply chamber for air under pressure, a supply pipe connected thereto, a plurality of air nipples connected to said air chamber and projecting into the burner tubes, said air nipples being adjustable relatively to the burner tubes, whereby the area of the gas inlet orifices may be varied.

972,154. CREDIT-ACCOUNT APPARATUS. JOHN T. BROOKS, Seattle, Wash. Filed Apr. 10, 1909. Serial No. 489,170.



1. A portable filing cabinet comprising outer covers, a plurality of leaves hinged together, and a detachable hinge connection between the covers and the outermost leaves.

2. A portable cabinet for sales slips comprising covers, a plurality of leaves each having an independent hinge connection with an adjacent leaf, and a detachable hinge connection between each cover and each outermost leaf.

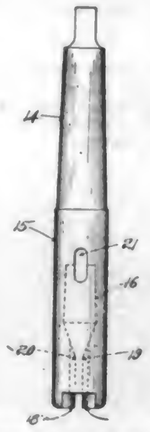
3. A portable filing cabinet, comprising covers each provided with hinge members one end of each of which is provided with a slot, a plurality of leaves each having an independent hinge connection with an adjacent leaf, and pivot lugs carried by the outermost leaves for detachable engagement with the slotted end of the hinge members of the covers.

4. A portable filing cabinet, comprising covers each provided with hinge members the free ends of which are rounded and have transverse slots formed therein, a plurality of leaves, a rounded end link connection between each leaf and an adjacent leaf, and pivot studs carried by each outermost leaf for detachable engagement with the slotted ends of the hinge members of the covers, the links of the leaves being adapted to have binding engagment with each other and with the hinge members of the covers when the cabinet is in a closed position.

5. A filing cabinet comprising a plurality of leaves, hinge members carried by each leaf, a link connection between the hinge members of one leaf and the adjoining leaf, covers for said leaves, and a detachable hinge connection between said covers and the hinge members of the outermost leaves.

[Claim 6 not printed in the Gazette.]

972,155. SOCKET FOR TWIST-DRILLS. CHARLES G. BROWN, Athens, Pa. Filed Aug. 18, 1908. Serial No. 449,020.



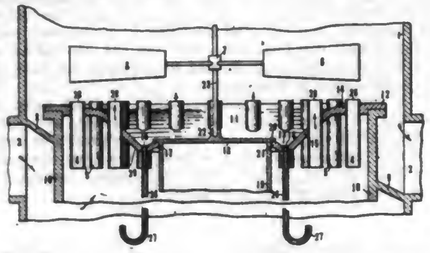
1. The combination with a twist drill with the flutes extending the length of the drill and its shank, said shank tapering throughout substantially its entire length; of a collet having a hole therein corresponding in shape with and for the reception of the tapering shank of the drill and having a pair of shoulders conforming to the shape of the flutes of the drill and engaging the said flutes when the drill is in position.

2. The combination with a twist drill with the flutes extending the length of the drill and its shank, said shank tapering throughout substantially its entire length; of a collet having a hole therein corresponding in shape with and for the reception of the tapering shank of the drill and having a pair of shoulders, the space between which conforms substantially to the cross-section of the drill at the point of contact with the shoulders.

3. The combination with a twist drill with the flutes extending the length of the drill and its shank, said shank tapering throughout substantially its entire length and having a shoulder of a diameter equal to that of the drill; of a collet having a hole therein corresponding in shape with and for the reception of the tapering shank of the drill and having a pair of shoulders conforming to the shape of the flutes of the drill and engaging the said flutes at the shoulder of the drill.

4. The combination with a twist drill with the flutes extending the length of the drill and its shank, said shank tapering throughout substantially its entire length; of a collet having a hole therein corresponding in shape with and for the reception of the tapering shank of the drill and having a pair of shoulders at the mouth of said tapering hole conforming to the shape of the flutes of the drill and engaging the said flutes when the drill is in position.

972,156. PORT-PLATE FOR ROTARY METERS. ERNEST C. BROWN, New York, N. Y., assignor to Rotary Meter Company, a Corporation of New York. Filed Dec. 24, 1909. Serial No. 534,753.



1. A port plate for rotary meters comprising a circular member having an outer seating flange and a portion having an annular downwardly dished top surface with ports opening through said dished top surface.

2. A port plate arranged to be supported horizontally and comprising a disk having a depressed drip ledge and top surface downwardly dished from its outer rim to said depressed drip ledge, in combination with a plurality of port tubes extending through and above said dished surface and providing ducts through said plate.

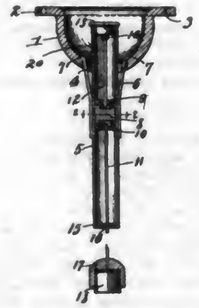
3. A port plate arranged to be supported horizontally and comprising a disk having a depressed drip ledge and top surface downwardly dished from its outer rim to said depressed drip ledge, in combination with a plurality of port tubes extending through and above said dished surface and providing ducts through said plate, said port tubes being arranged vertically and spaced in concentric circles relatively to the dishing of said plate.

4. In combination in a rotary meter, a rotatable vane journaled on a vertical axis; a port plate mounted horizontally below said vane and having its upper surface centrally and downwardly dished concentrically with said vertical axis; and a plurality of port tubes extending upwardly from said dished port plate toward said vane.

5. A port plate for rotary meters having a circular downwardly and centrally dished portion and port tubes projecting above and below said dished portion and providing ducts through the said dished portion.

[Claims 6 to 11 not printed in the Gazette.]

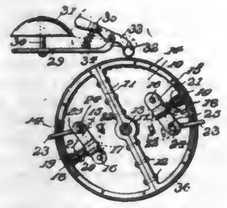
972,157. CHALK-HOLDER. HENRY C. BRUNST and LUTHER R. ROLAND, Covington, Ky. Filed July 16, 1909. Serial No. 508,053.



1. In a device for the purpose set forth, a bell-shaped member provided with an offset securing flange, said member having its lower rounded portion provided with an opening, a tube of lesser diameter than the opening having its upper portion positioned within the bell member and its lower portion extending below the bell member, flexible arms upon the tube having offsets engaging the inner face of the bell shaped member, a flexible chalk receiving cup, and means within the tube connected with the cup for normally forcing the cup toward the tube.

2. A top securing member, a tube flexibly connected with the member, a cap for the upper portion of the tube, a disk provided with a central opening rigidly secured to the lower portion of the tube, a piston within the tube, a resilient element connecting the top of the piston with the cap, a chalk receiving cup constructed of pliable material and a connection between the lower face of the piston and the cup.

972,158. SPEED-INDICATOR. GEORGE C. BUQUO, Fletcher, N. C. Filed Sept. 14, 1909. Serial No. 517,665.



1. A speed indicator including a drum, arms yieldably disposed in said drum, striking pins carried by said arms and extended through the periphery of said drum, a bell mechanism located adjacent said drum and adapted for actuation by said striking pins, means for adjusting the tension of said arms in said drum and a seal carried by said drum for protecting said adjusting means.

2. A speed indicator including a drum, arms pivotally disposed within said drum, springs carried by said drum and engaged with said arms to normally hold the same inwardly in said drum, stops located within said drum to limit the inward movement of said arms, set screws engaged with said drum and said arms to regulate the tension of said springs, striking pins loosely mounted in the outer ends of said arms and extended through the periphery of said drum and a bell mechanism located outwardly of said drum for operation under the action of said striking pins.

3. A speed indicator including a rotary drum, arms pivotally mounted in said drum for outward movement under centrifugal force, springs disposed in said drum and engaged with said arms to regulate the movement of the latter, striking pins loosely disposed in the outer ends of said arms and extended through the periphery of said drum and a bell mechanism located outwardly of said drums for engagement with said striking pins.

4. A speed indicator including a rotatable drum, arms pivotally mounted within said drum and adapted for outward movement upon the rotation of said drum, springs mounted in said drum and engaged against said arms to regulate the tension of the same, set screws carried by said drum to support said springs and extended inwardly from the periphery of the drum to engage said arms, striking pins carried by said arms and extended through the periphery of said drum and a bell mechanism located outwardly of said drum to be actuated by said striking pins.

5. A speed indicator including a rotary drum, arms pivoted in said drum, striking pins slidably disposed through the periphery of said drum and pivotally connected to said arms, said arms adapted to swing outwardly under centrifugal force, set-screws carried by said drum and loosely connected to said arms, springs arranged about said set-screws and engaged against said arms to retard the outward movement thereof, and a sounding device disposed adjacent said drum to be actuated by said striking pins.

972,159. BEDCLOTHES-HOLDER. JOHN CAMPBELL, Harrisburg, Pa. Filed Jan. 22, 1910. Serial No. 539,564.



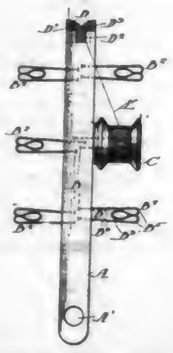
1. In a device of the character described, in combination, a bedstead having legs at each end, a vertically movable bar mounted on said bedstead, means for clamping the bed-covers to said bar, and spring means normally holding said bar in the lowermost position.

2. In a device of the character described, in combination, a bed having a stationary bar at each side and legs, clamps on said legs at one side of the bed, a bar movable relatively to said clamps, springs secured to said bar adapted to exert a downward tension thereon, and separate means for securing the bed-covers to one of said stationary side bars at one side of the bed and to said movable bar at the other.

3. In a device of the character described, in combination, a bed having side bars and legs, a clamp on each leg at one side of said bed having a hole therein, a bar extending between said legs, pins on said bar passing through the holes, springs adapted to exert a downward tension on said bar, and separate means for securing the bed-covers to one of said side bars at one side of the bed and to said movable bar at the other.

4. In a device of the character described, in combination, a bedstead comprising side bars and having legs at each end, a movable bar, means mounting said movable bar upon said bedstead adjacent one of said side bars and adapted to permit up and down movement thereof and guide the same in a path in which it is constantly substantially parallel to the adjacent side bar, a plurality of relatively spaced devices for clamping the bed covers to said movable bar, and spring means normally holding said bar in the lowermost position.

972,160. SPOOL-HOLDER. VICTOR H. CANHAM, Guelph, Ontario, Canada. Filed Feb. 18, 1909. Serial No. 478,705.

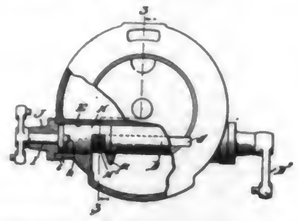


1. As a new article of manufacture, a spool holder comprising a detached body and a series of fingers each rigidly secured thereto at one end and free at the other and increasing in width and elasticity from the body outwardly toward its free end, said free end containing two spring loops formed by bending the wire of which the finger is composed, the said loops approximately parallel to each other but in different planes.

2. As a new article of manufacture, a spool holder comprising a detached body and a series of fingers each rigidly secured thereto at one end and free at the other and increasing in width and elasticity from the body outwardly toward its free end, said free end containing a plurality of spring loops formed by bending the wire of which the finger is composed.

3. A spool holder comprising a flat one-part body, a plurality of fingers rigidly supported therein and protruding therefrom, said fingers made of a plurality of wire loops and increasing in width and elasticity from the body outwardly toward its free end, said fingers located in pairs upon each side of said body.

972,161. AIR-COMPRESSOR. ALLAN O. CARPENTER, Franklin, Pa., assignor to Chicago Pneumatic Tool Company, Chicago, Ill., a Corporation of New Jersey. Filed Jan. 19, 1909. Serial No. 473,174.



1. In combination with an air compressor and its inlet port and inlet valve therefor, an unloader valve governing a portion of the inlet port and adapted to maintain such port open.

2. In combination with an air compressor and its inlet port and inlet valve therefor, an unloader valve governing a portion of the inlet port independently of the inlet valve.

3. In combination with an air compressor and its inlet port and inlet valve therefor, an unloader valve governing a portion of the inlet port and adapted to maintain such port open, and a fluid pressure governor device for operating the unloader valve.

4. In combination with an air compressor and its inlet port and inlet valve therefor, an unloader valve governing a portion of the inlet port and adapted to maintain such port open, and a fluid pressure governor actuated by the excess pressure delivered by the compressor for operating the unloader valve.

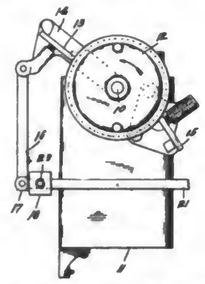
5. In combination with an air compressor and its inlet port and inlet valve therefor, an unloader valve governing a portion of the inlet port independently of the inlet valve, and means for operating the unloader valve manually or automatically.

[Claims 6 to 14 not printed in the Gazette.]

972,162. MECHANICAL MOVEMENT. HARRY C. CLAY, Columbus, Ind., assignor to Reeves & Company, Columbus, Ind., a Corporation of Indiana. Filed Mar. 21, 1908. Serial No. 422,395.

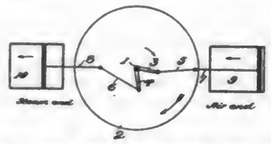
1. The combination, of a pivoted arm, a link connected thereto, a reciprocating operating member, and a connection between said link and operating member adjustable relative thereto, the operating member being so located relative to the pivoted arm that adjustment of the adjustable connection operates to shift the link into various positions from substantial parallelism with the line of movement of the reciprocating member to substantial normalism thereto, the link being substantially normal to the line of movement of the operating member when the minimum effect is produced upon the arm.

2. The combination, of a swinging arm, a reciprocating member movable transversely of the axis of the arm, a link connected at one end to said arm, a block connected to said link, and means for adjusting said block on the reciprocating member, the operating member being located relative to the swinging arm in such position that adjustment of said block operates to cause the link to occupy various angular positions relative to the reciprocating member from substantial parallelism to substantial normalism to the line of movement of the reciprocating member, the link being substantially normal to the line of movement of the operating member when the minimum effect is produced upon the arm.



3. The combination, of a swinging arm, a reciprocating member movable transversely of the axis of the arm, a link connected at one end to said arm, a block connected to said link, means for adjusting said block on the reciprocating member, the operating member being located relative to the swinging arm in such position that adjustment of said block operates to cause the link to occupy various angular positions relative to the reciprocating member from substantial parallelism to substantial normalism to the line of movement of the reciprocating member, a rotary shaft, and a ratchet connection between the swinging arm and shaft, the link being substantially normal to the line of movement of the operating member when the minimum effect is produced upon the arm.

972,163. AIR-COMPRESSOR. WALTER L. CRANE, Denver, Colo. Filed Oct. 18, 1909. Serial No. 523,358.

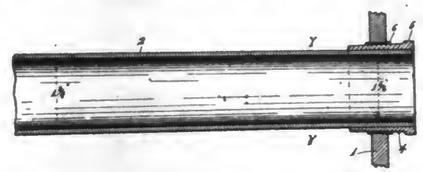


1. An air compressor comprising, in combination, an air cylinder and its piston, a steam cylinder and its piston, said cylinders and pistons being substantially in line with each other, and a shaft having two crank arms set relatively to each other at a degree slightly less than a right angle, and pitmen connecting said cranks to said pistons.

2. An air compressor comprising, in combination, an air cylinder and its piston, a steam cylinder and its piston, said cylinders and pistons being substantially in line with each other, a crank shaft to which the rods of both pistons are connected, the connections between such rods and said crank shaft being so arranged relatively that the steam engine piston will be subjected to the initial action of steam when the piston of the air compressor is under greatest resistance.

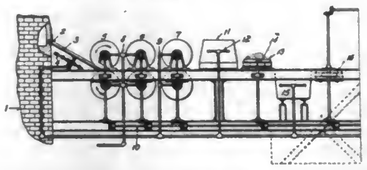
972,164. DETACHABLE BOILER-FLUE. JOHN M. CROZIER, Minneapolis, Minn. Filed June 28, 1909. Serial No. 504,661.

A flue having an end portion that is contracted, both externally and internally, the contracted exterior thereof being of true cylindrical form and of less diameter than the body of said tube, and an externally tapered sleeve



fitting the reduced cylindrical end portion of said flue with a driving steam-tight joint, substantially as described.

972,165. METHOD OF MAKING POLISHED GLASS. GEORGE C. DE BAY, Tarentum, Pa., assignor of one-half to Joseph Heidenkamp, Springdale, Pa. Filed May 26, 1909. Serial No. 498,553.



1. The method of making polished glass consisting in forming a sheet or plate of uniform thickness by pressure between unyielding surfaces, and when rigid fire polishing one surface thereof, and while still plastic subjecting the same to a light rubbing action to smooth the same, and then similarly fire polishing and smoothing the other surface of said plate.

2. The method of making polished glass consisting in forming a sheet or plate of uniform thickness by pressure between unyielding surfaces, and when rigid but still hot fire finishing a surface thereof, and while still plastic subjecting said surface to the light rubbing action of a body of smooth substance non-adhesive to hot glass.

3. The method of making polished plate glass consisting in rolling molten glass to form a sheet or plate of uniform thickness, and when rigid fire polishing both surfaces thereof, and while said surfaces are still plastic subjecting the same to a light rubbing action to smooth the same.

4. The method of making polished plate glass consisting in pouring a thin flat stream of glass of substantially the width of the desired sheet and forming it into a sheet, rolling the same to uniform thickness, then when rigid but still hot fire polishing both surfaces thereof, and finally annealing said sheet or plate.

5. The method of making polished plate glass consisting in forming a sheet or plate of uniform thickness by pressure between unyielding surfaces, then fire polishing the lower face thereof, then delivering the plate endwise onto a carrier having a flat supporting surface in a manner to prevent relative movement between plate and carrier, and while on said carrier annealing said plate.

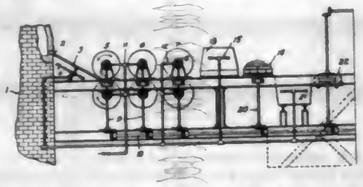
[Claims 6 to 9 not printed in the Gazette.]

972,166. APPARATUS FOR MAKING POLISHED GLASS. GEORGE C. DE BAY, Tarentum, Pa., assignor of one-half to Joseph Heidenkamp, Springdale, Pa. Filed May 26, 1909. Serial No. 498,554.

1. Apparatus for making polished glass, comprising a heater arranged to fire polish the surface of the glass, a rubbing device, means for supporting and guiding said rubbing device to cause the same to move in a fixed plane, and means for moving said rubbing device over the surface of the glass and in contact therewith.

2. Apparatus for making polished glass, comprising plate forming and moving mechanism, a heater arranged to fire polish the surface of the plate, a rubbing device,

supporting and guiding means for said rubbing device arranged to cause the same to move in a fixed plane, and mechanism for reciprocating said rubbing device in contact with the surface of the glass.



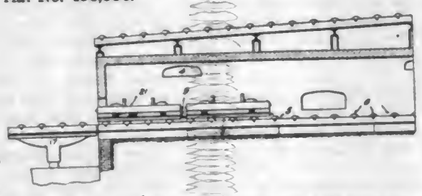
3. Apparatus for making polished glass comprising plate forming and moving mechanism, a heater on each side of the course of the plate, a rubbing device, supporting and guiding means for said rubbing device arranged to cause the same to move in a fixed plane, and mechanism for moving said rubbing device over the surface of the plate and in contact therewith.

4. Apparatus for making polished glass, comprising a table, rolls coöperating therewith and arranged to form the molten glass into a sheet or plate and feed the same forward in horizontal position, heaters arranged above and below the course of said plate in proximity to the rolls and arranged to fire polish both surfaces of said plate, and reciprocating rubbing devices arranged in proximity to said heaters.

5. Apparatus for making polished glass, comprising a table, rolls coöperating therewith and arranged to form the molten glass into a sheet or plate, and feed the same forward in horizontal position, a heater above the course of said plate in proximity to the rolls and arranged to fire polish the upper surface of the plate, a reciprocating rubbing device above the course of the plate in proximity to said heater, a second heater arranged below the course of the plate in advance of said rubbing device, and a second rubbing device arranged below the course of the plate in proximity to said second heater.

[Claims 6 to 16 not printed in the Gazette.]

972,167. GLASS-ANNEALING LEER. GEORGE C. DE BAY, Tarentum, Pa., assignor of one-half to Joseph Heidenkamp, Springdale, Pa. Filed May 26, 1909. Serial No. 498,556.



1. In glass annealing apparatus the combination of a leer, a conveyer therein, a platform mounted on the conveyer and movable transversely thereof to be projected through the side of the leer, and mechanism arranged to be detachably connected to said platform for moving the same transversely off from and onto the conveyer.

2. In glass annealing apparatus the combination of a leer, a conveyer therein, a platform formed in sections flexibly connected together and mounted on the conveyer and movable transversely thereof, and mechanism for moving said platform transversely of the conveyer.

3. In glass annealing apparatus the combination of a leer, a conveyer therein, a platform comprising a number of sections flexibly connected together and mounted on the conveyer to be movable transversely thereof, a pit at the side of the leer into which said sectional platform can project and mechanism for moving said platform transversely of the conveyer.

4. In glass annealing apparatus the combination of a leer, a conveyer therein, a platform comprising sections flexibly connected together and mounted on the conveyer to move transversely thereof, and mechanism arranged to be readily connected to and disconnected from said platform and serving to move the same transversely of the conveyer.

5. In glass annealing apparatus the combination of a leer, a conveyer therein, a platform formed of sections flexibly connected together and mounted on the conveyer to move transversely thereof, and a reciprocating actuating member arranged for ready connection to and disconnection from said platform.

[Claims 6 to 9 not printed in the Gazette.]

972,168. METHOD OF MAKING POLISHED GLASS. GEORGE C. DE BAY, Tarentum, Pa., assignor of one-half to Joseph Heidenkamp, Springdale, Pa. Filed May 26, 1909. Serial No. 498,557.



1. The method of making polished glass consisting of forming a sheet or plate of glass, fire polishing the upper surface thereof, annealing said plate, then turning said plate upside down and fire polishing the other surface of the plate, and again annealing the same.

2. The method of making polished glass consisting in rolling plastic glass into a sheet or plate, fire finishing the upper surface thereof, then turning said plate upside down, and fire polishing its now upper surface.

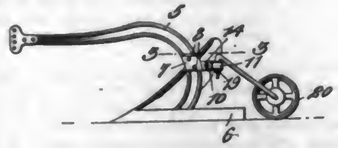
3. The method of making polished glass consisting in rolling plastic glass into a sheet or plate, fire finishing the upper surface thereof, annealing the same, then turning said plate upside down and fire polishing its now upper surface, and again annealing the same.

4. The method of making polished glass consisting in forming a sheet or plate of glass, fire polishing the upper surface thereof and while still plastic smoothing said surface, then annealing the plate, turning said plate upside down, fire polishing the other surface of the glass, and while plastic smoothing the same and again annealing the plate.

5. The method of making polished glass consisting in forming a sheet or plate of glass, fire polishing the upper surface thereof, subjecting said surface while plastic to a light rubbing action to smooth the same, turning said plate upside down and fire polishing the other surface thereof, and while said surface is plastic subjecting the same to a light rubbing action to smooth the same.

[Claims 6 to 10 not printed in the Gazette.]

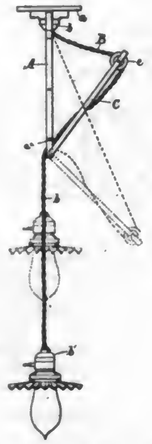
972,169. PLOW ATTACHMENT. EWELL MONROE DOWDY, Water Valley, Tex. Filed July 18, 1910. Serial No. 572,595.



1. In a plow, the combination with a beam, of a U-shaped attaching plate removably secured thereto and having spaced ears integrally formed therewith, a wheel supporting block pivoted between said ears, means for rigidly securing the block in position, said block having a transverse longitudinally extending slot, a wheel supporting rod angularly bent at one end and disposed in said slot, a pivot pin extending through the block and rod and centrally securing the rod in said slot for transverse pivotal movement, said block having a plurality of recesses in its under side, and a nut threaded on the end of said rod to engage in said recesses and secure the wheel in its adjusted position.

2. In a plow, the combination with a plow beam, of a U-shaped attaching plate removably secured thereto and having spaced ears integrally formed therewith, a wheel supporting block having an ear formed thereon disposed between the ears of said plate, means adjustably securing said block between the ears, said block having upper and lower longitudinally convexed surfaces and a longitudinal transverse slot therein, a wheel supporting rod pivoted in said slot for transverse movement to angularly position the wheel in the furrow, a plurality of oppositely disposed recesses in the under side of the block communicating with the slot, and a circular nut threaded on the end of said rod adapted to engage in said recesses and bind against the block to secure the wheel in its adjusted position.

972,170. ADJUSTABLE SUPPORT FOR HANGING LAMPS. HERBERT E. DREW and WILLIAM P. CARROLL, Portland, Me. Filed Apr. 9, 1910. Serial No. 554,364.



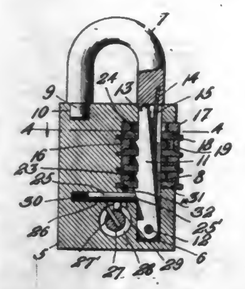
1. In an adjustable support for hanging lamps, the combination of an inverted standard adapted to be secured to the ceiling, an adjusting arm pivoted on said standard and having an antifriction guide at a point distant from the pivoting point, a friction block on the standard and a flexible supporting member extending through said block, around said antifriction guide and secured at the upper end of the standard.

2. In an adjustable support for hanging lamps the combination of an inverted bracket having two parallel side bars and adapted to be secured to the ceiling, an adjusting arm composed of two parallel side bars each pivoted to one of the side bars of the standard and having an antifriction roll journaled between said side bars at a distance from the pivoting point, a friction block secured between the side bars of the standard and a flexible supporting member extending through said friction block around said roll and secured to the upper end of the standard.

3. In an adjustable support for hanging lamps, the combination of an inverted standard adapted to be secured to the ceiling and having a friction opening at its lower portion, an adjusting arm pivoted to the lower portion of the standard, an antifriction guide at the outer portion of said arm and a flexible supporting member extending through the friction opening, over the antifriction guide and secured to the upper end of the standard.

4. In an adjustable support for hanging lamps the combination of an inverted standard comprising a base plate, a pair of parallel side bars secured to the under side of said base plate, a friction block secured between the lower ends of said side bars and having a friction opening therein, an arm composed of two parallel side bars each of which is pivoted to the lower end of the side bars of said standard, an antifriction roll journaled between the outer ends of the side bars of the arm, a cord socket secured to the under side of the base plate between the side arms, and a flexible cord extending through said friction opening over the antifriction roll and secured to said socket.

972,171. COMBINATION-PADLOCK. LOUIS H. DUPONT, Nashville, Tenn. Filed Dec. 7, 1909. Serial No. 531,867.



1. A combination padlock comprising a body, a shackle removably engaged in said body, a locking bar carried by said shackle, a plurality of locking members adapted to be engaged by said bar to lock the shackle in the body, and key actuated means slidably mounted in the body and normally held against actuation by one of said locking members, said actuating means being adapted to move the locking bar when said locking member has been moved to releasing position whereby the shackle may be unlocked from the body irrespective of the positions of the remaining locking members.

2. A combination padlock comprising a body, a shackle removably engaged in said body, a plurality of rotatable locking members arranged in the body, means carried by the shackle adapted to be engaged by said locking members to secure the shackle in its locked position and means movably engaged with one of said locking members adapted to be engaged with the locking means carried by the shackle and normally held against actuation by said member, said means being adapted to release the locking means carried by the shackle from engagement with said members, when said last mentioned member has been moved to a predetermined position whereby the shackle may be released from locking engagement with the body irrespective of the positions of the remaining members.

3. A combination padlock comprising a body, a shackle removably engaged in said body, a locking bar carried thereby a plurality of independently rotatable, combination locking members carried by said body adapted to lock the shackle therein, and means coöperatively engaged with one of said combination locking members adapted to be independently actuated to unlock said shackle when the locking member is rotated to a predetermined position.

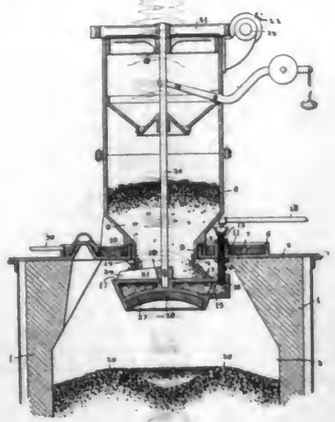
4. A combination padlock comprising a body, a shackle removably engaged in said body, a plurality of independently rotatable, combination locking members disposed in said body, means carried by the shackle engaging with said members to lock the shackle in the body, a key-actuated bolt in said body adapted to engage said locking means to move the same to unlocking position, and means for preventing the actuation of said releasing bolt.

5. A combination lock comprising a body, a shackle removably engaged in said body, a plurality of independently rotatable, combination locking members disposed in said body, pivoted means carried by the shackle engaging with the members to secure the shackle in locked position, a spring actuated sliding bolt adapted to engage with said locking means to move the same to an unlocking position, a pin carried by said bolt engaging in an annular groove in the under side of one of said rotatable members,

whereby said bolt will be held against sliding movement, said member having a radial groove communicating with said annular groove adapted to receive said pin, and means for actuating said sliding bolt.

[Claims 6 to 9 not printed in the Gazette.]

972,172. FEEDING MECHANISM FOR GAS-PRODUCERS. VICTOR E. EDWARDS and JEROME R. GEORGE, Worcester, Mass., assignors to Morgan Construction Company, Worcester, Mass., a Corporation of Massachusetts. Filed Sept. 30, 1904. Serial No. 226,607.



1. A gas producer, having a heating chamber provided with an opening in its top for the admission of coal, a nonrotatable coal receiving surface adjustably suspended beneath said opening, a coal agitator above said coal receiving surface for moving the coal off said surface, and means extending upward from said surface for operating said coal agitator.

2. A gas producer, having a heating chamber provided with an opening in its top for the admission of coal, a nonrotatable coal receiving surface adjustably suspended beneath said opening, a rotatable coal agitator above said coal receiving surface, and a shaft stepped in said coal receiving surface and extending upward therefrom for rotating said agitator.

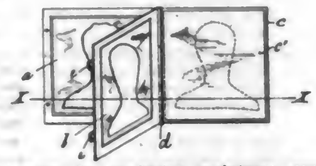
3. In a gas producer, the combination with a gas producing chamber having a cover provided with an opening for the admission of coal, of a nonrotatable coal receiving surface placed beneath said opening, means for adjustably suspending said coal receiving surface from said cover, and a movable member between said coal receiving surface and said cover for removing the coal from said coal receiving surface.

4. In a gas producer, the combination with a gas producing chamber having a cover provided with an opening for the admission of coal, annular flanges on the top of said cover inclosing a water space around said opening, hollow bosses on the top of said cover projecting through said water space, suspension pipes held by said bosses, a shell attached to the lower ends of said pipes and communicating therewith, a source of water supply connected to one of said pipes and another of said pipes communicating with said water space on the cover.

5. In a gas producer, the combination with a gas producing chamber having a top plate provided with an opening for the admission of coal, of a shell having a coal receiving surface suspended from said top plate and beneath said opening, means for maintaining a water circulation through said shell, a rotatable scraper having its lower edge in contact with said surface, and means for actuating said scraper.

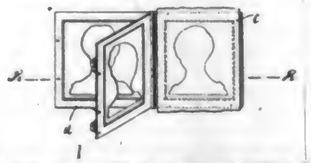
[Claims 6 to 13 not printed in the Gazette.]

972,173. APPARATUS FOR PRODUCING SCULPTURES. GUSTAV ERDBRÜGGER, Anderten, Germany, assignor, by mesne assignments, to Reliefograph Company, a Corporation of New York. Filed Mar. 8, 1910. Serial No. 548,083.



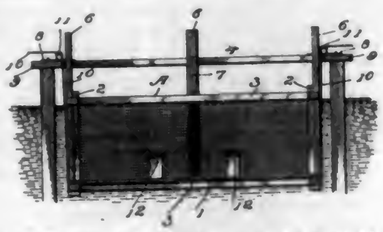
An apparatus for producing sculptures, comprising a plurality of previously prepared stencils, and an elastic base, said stencils and base being hinged to one another to fold one on top of the other and means for locking them at the opposite sides to one another.

972,174. METHOD OF PRODUCING SCULPTURES. GUSTAV ERDBRUEGGER, Anderten, Germany, assignor to Reliefograph Company, a Corporation of New York. Original application filed Mar. 8, 1910, Serial No. 548,083. Divided and this application filed June 7, 1910. Serial No. 565,604.



The herein described method, consisting in first preparing a system of masks or stencils of the picture, design, etc., fixing the picture between said stencils, impregnating or dampening the picture with a fluid capable of rendering it more flexible or elastic, then placing a plastic mass between the thus mounted picture and an elastic base, and treating the said mass by pressing against the said elastic base.

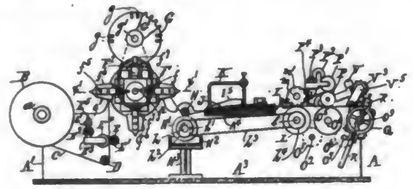
972,175. CRAB-FLOAT. MAJOR A. EVANS, Ewell, Md. Filed Dec. 10, 1909. Serial No. 532,386.



1. A crab float, provided with a stand disposed in a plane below the lower edge of the float and elevated above the bottom of the float, means for supporting the float in the water, and means for raising the float, whereby it may be moved upwardly until the stand is at about the level of the water so that the float can be fished, while the bottom thereof is still under water.

2. A crab float, and a support therefor, the support consisting of a wharf surrounding the float, the float being provided with standards and latches secured to the wharf and arranged to engage said standards to hold the float at the required depth, the float being provided below its upper edge and above its bottom with a stand, and cables connected to the float whereby the float may be raised until the stand is at about the level of the water so that the fisherman can be supported on said stand and fish the float, while the bottom of the float is still under water.

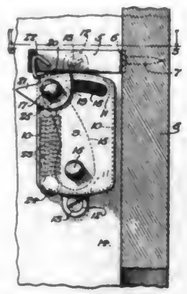
972,176. ENVELOP-MAKING MACHINE. PHILIP H. FARRELL, Flushing, N. Y. Filed Oct. 18, 1905. Serial No. 283,346.



1. In an envelop making machine the combination of a blanking-out drum, means to feed a sheet of material to the drum, means to rotate the drum, a cutter journaled with the drum and arranged to operate through an opening in the surface of the drum, a ring cam adjacent to the drum, and lugs extending from the cutter straddling the ring cam.

2. In an envelop making machine the combination of a blanking out drum, having openings in its circumferential surface, means to feed a sheet of material to the drum, means to rotate the drum, lugs extending from the drum adjacent to said openings, cutter supports pivoted in the lugs, cutters extending from said supports, lugs on the supports, a ring cam in the machine straddled by the latter lugs so that they will follow the path of said ring cam during the rotation of the drum.

972,177. DOOR-CATCH. WILLIAM D. FERRIS, Sterling, Ill. Filed Aug. 3, 1908. Serial No. 446,792.



1. A door-catch comprising catch and pin members, one adapted to be mounted on the door and the other on the door frame, of a pivoted supporting arm whereon said catch member is pivoted, a spring engaging said arm for holding said catch in active position, and a guide for said catch member with a stop at one end of said guide for holding said catch member in inactive position, said pin member being arranged to shift said catch into and out of engagement with said stop as the door is opened and closed.

2. A door-catch comprising catch and pin members, one adapted to be mounted on the door and the other on the door frame, of a pivoted supporting arm whereon said catch member is pivoted, a spring engaging said arm for holding said catch in active position, and a guide for said catch member with a stop at one end of said guide for holding said catch member in inactive position, said catch member having two arms or lugs with which said pin member alternately engages to shift said catch member into and out of engagement with said stop as the door is opened and closed.

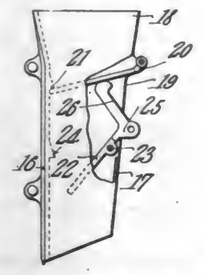
3. A door-catch comprising a bracket, a supporting arm pivoted on the bracket, a catch member pivoted on the arm to swing in a plane parallel to the movement of said arm, a spring mounted on said bracket and engaging said supporting arm for holding said catch in active position, said bracket having a guide for said catch member with a stop at one end of said guide for holding said catch member in inactive position and a pin member coöperating with said catch member and arranged to shift the same into and out of engagement with said stop as the door is opened and closed.

4. A door-catch comprising a bracket adapted to be secured to the door frame, a supporting arm pivoted on said bracket, a two-armed catch member pivoted on said arm to swing in a plane parallel to the movement of said arm, a spring connected to said bracket and said arm for holding said catch member in active position, said bracket having a guide for said catch member with a stop at one end of said guide for holding said catch member in inactive position and a pin member adapted to be mounted and arranged to alternately engage the arms of said catch member to shift the same into and out of engagement with said stop as the door is opened and closed.

5. A door-catch comprising a casing, a shiftable support mounted in said casing, a catch member outside of said casing, a pin extending through a slot in said casing and pivotally connecting said support and said catch member, a spring in said casing for holding said catch member in active position, the end and side walls of said casing forming respectively a guide for said catch member and a stop for holding the same in inactive position, and a pin member coöperating with said catch member and arranged to shift the same into and out of engagement with said side wall or stop.

[Claims 6 to 10 not printed in the Gazette.]

972,178. SEEDER. EDMOND B. FITZGERALD, Rosedale, Miss. Filed Dec. 6, 1909. Serial No. 531,679.

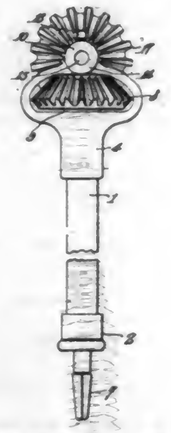


In a seeder, a discharge spout, a valve plate hingedly mounted in the spout and freely movable upon its hinge, a second valve plate hingedly mounted beneath the first mentioned plate and also freely movable upon its hinge, shoulders formed upon the wall of the spout opposite the wall to which the valve plates are hinged and so arranged as to constitute abutments for the free edges of the said plates whereby to limit their upward swinging movement, the last mentioned plate being formed at its hinged end with an upstanding finger, the upper end of said finger being arranged to ride beneath the first mentioned plate in the direction of its free end when the second mentioned plate is swung down upon its hinge, and thereby swing the said first mentioned plate upwardly, said upper end of the finger being also arranged to ride beneath the first mentioned plate in the direction of its hinged end when the second mentioned plate is swung upwardly upon its hinge, and thereby permitting the said first mentioned plate to fall by gravity.

972,179. BIT-HOLDER. WARREN C. FOX, Kansas City, Mo. Filed Apr. 6, 1909. Serial No. 488,289.

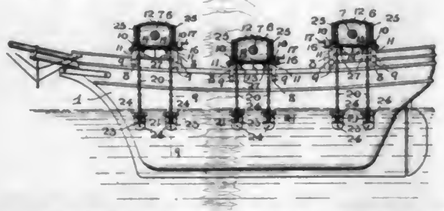
A bit holder comprising a sleeve, a bracket attached to the sleeve and having a head provided with a journal bearing and a thrust bearing, a primary shaft journaled in the sleeve, a beveled pinion located in the bracket and fixed to said shaft, a secondary shaft journaled in the

journal bearing of said head and having an enlarged end portion bearing against the thrust bearing of the head, a beveled pinion fixed to the secondary shaft and having its teeth at that side nearest the enlarged end of the secondary shaft, the pinion upon the secondary shaft



meshing with the pinion upon the primary shaft and being free to move away from the axis of the primary shaft when the secondary shaft moves axially as a result of thrust strain in the direction of the pinion located thereon.

972,180. SAFETY APPLIANCE FOR SHIPS. COSTANTINO FUGAZZI, West Philadelphia, Pa. Filed Jan. 6, 1910. Serial No. 536,755.



1. In a ship, the combination with a portion of the body of the ship, of a safety-appliance comprising an air-containing receptacle adapted to serve as a float or buoy, means for supporting said air-containing receptacle upon a portion of the upper and outer part of the ship, and mechanism for lowering said air-containing receptacle over the side of the ship, comprising sprocket-wheels, sprocket-chains passing over said sprocket-wheels, and flexible connections between said air-containing receptacles and said chains.

2. In a ship, the combination with a portion of the body of the ship, of a safety-appliance comprising an air-containing receptacle adapted to serve as a float or body, means for supporting said air-containing receptacle upon a portion of the upper and outer part of the ship, and mechanism for lowering said air-containing receptacle over the side of the ship, comprising sprocket-wheels, sprocket-chains passing over said sprocket-wheels, and flexible connections between said air-containing receptacles and said chains, and means for securing all of said parts in their fixed positions when the said air-containing receptacle has been lowered.

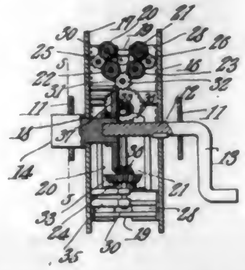
3. In a ship, the combination with a portion of the body of the ship, of a safety-appliance comprising an air-containing receptacle adapted to serve as a float or buoy, means for supporting said air-containing receptacle upon a portion of the upper and outer part of the ship, and mechanism for lowering said air-containing receptacle over the side of the ship, comprising sprocket-wheels, sprocket-chains passing over said sprocket-wheels, and flexible connections between said air-containing receptacles and said chains, a pair of ratchet-wheels and spring-dogs in engagement with said ratchet-wheels for securing all of said parts in their fixed positions when the said air-containing receptacle has been lowered.

4. In a ship, the combination with a means of support, of an air-containing receptacle normally resting upon said support, inclined ways connected with said support, said ways inclining toward the sea-side of the ship, a shaft connected with said receptacle-support, means connected with said shaft for revolving the same, flexible connection-carrying devices mounted upon said shaft and upon the side of the ship, flexible connections passing over said devices, and other flexible connections between said first-mentioned flexible connections and said air-containing receptacle, substantially as and for the purposes set forth.

5. In a ship, the combination with a means of support, of an air-containing receptacle normally resting upon said support, inclined ways connected with said support, said ways inclining toward the sea-side of the ship, a shaft connected with said receptacle-support, means connected with said shaft for revolving the same, flexible connection-carrying devices mounted upon said shaft and upon the side of the ship, flexible connections passing over said devices, and other flexible connections between said first-mentioned flexible connections and said air-containing receptacle, and means for securing all of said parts in their fixed positions when the said air-containing receptacle has been lowered.

[Claims 6 to 20 not printed in the Gazette.]

972,181. SAUSAGE-LINKING MACHINE. HERMAN C. GOHRING, Spokane, Wash. Filed Feb. 23, 1909. Serial No. 479,577.



1. In a sausage linking machine, a rotatable support, and a plurality of twisting devices carried by the support, and brought successively into operative position by rotation of the support.

2. In a sausage linking machine, a plurality of sets of twisting rollers, means for rotating the rollers, and means for rotating the sets to bring them successively into operative position.

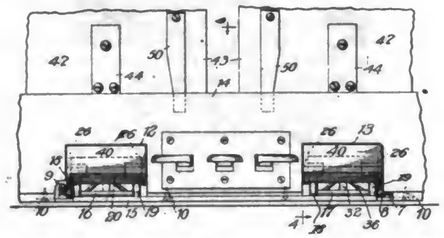
3. In a sausage linking machine, a support, a plurality of sets of twisting rollers, means for rotating the rollers, and means for rotating the support to bring the sets of rollers successively into operative position.

4. In a sausage linking machine, a support, a stationary gear on said support, a rotatable frame, a twisting device carried by the frame, and geared to the aforesaid gear, and means for rotating the frame.

5. In a sausage linking machine, a support, a stationary gear carried by the support, a rotatable frame, a twisting device consisting of a plurality of rollers geared together, and carried by the rotatable frame, said rollers being also geared to the aforesaid stationary gear, and means for rotating the frame.

[Claims 6 to 11 not printed in the Gazette.]

972,182. PEDAL MECHANISM FOR PNEUMATICALLY-OPERATED PIANOS. AXEL G. GULBRANSEN, Chicago, Ill., assignor to Gulbransen, Dickinson Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 27, 1908. Serial No. 464,520.



1. In combination, a piano casing having a front wall provided with openings near its lower edge, cross bars extending lengthwise within the piano casing in the rear of said openings, a horizontal pedal frame, pedals pivoted to said frame, said pedal frame being adapted to slide horizontally through the openings and over the cross bars, said pedals being adapted to fold against the pedal frame to be carried into the piano casing with said frame, locking shoulders provided at the under side at the inner end of the pedal frame for engaging with the front edge of the front cross bar when the pedal frame is drawn out, whereby said pedal frame is locked in the out-position, and means tending to force said shoulders into locking engagement with the front cross bar.

2. In combination, a piano casing having a front wall provided with openings near its lower edge, cross bars extending lengthwise within the piano casing in the rear of said openings, a horizontal pedal frame, pedals pivoted to said frame, said pedal frame being adapted to slide horizontally through the openings and over the cross-bars, said pedals being adapted to fold against the pedal frame to be carried into the piano casing with said frame, locking shoulders provided at the under side at the inner end of the pedal frame for engaging with the front edge of the front cross bar when the pedal frame is drawn out, whereby said pedal frame is locked in the out-position, and means for retaining the inner end of the pedal frame against vertical displacement after locking engagement of the shoulders with the cross bar, swinging of the pedal frame about the inner end causing disengagement of the shoulders from the cross bar.

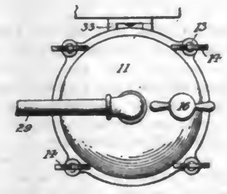
3. In combination, a piano casing having a front wall provided with openings near its lower edge, bars extending longitudinally within the piano casing to the rear of said openings, a pedal frame having extensions, pedals supported from the pedal frame and extensions, shoulders formed at the under side of the extensions near the inner ends thereof, said pedals being adapted to fold against the extensions, and said extensions and frame with the folded pedals being adapted to be slid over the cross bars and through the openings into the piano casing, the inner ends of the extensions dropping down when withdrawn from the piano casing to carry the shoulders thereon into locking engagement with the front edge of one of the cross bars, pins extending laterally from the inner ends of the extensions, and means for engaging said pins to retain the inner ends of the frames against direct vertical displacement, rotation of the extensions about their inner ends causing disengagement of the shoulders from the cross bar to allow said extensions and pedal frame to be slid through the openings into the casing.

4. In combination, a piano casing having a front wall provided with openings near its lower edge, guide bars extending lengthwise within the piano casing in the rear of said openings, guide ways associated with said bars, a pedal frame, extensions from said pedal frame, pedals connected with said pedal frame and extensions and adapted to be folded against said extensions, said pedal frame and extensions with the folded pedals being adapted to be slid over the guide bars and through the openings into the piano casing, pins extending laterally from the inner ends of the extensions and engaging in said guide ways to guide the pedal frame and extensions over the guide bars, and shoulders formed at the under side of the extensions near their inner ends, the pedal frame and extensions when withdrawn from the casing dropping down to carry the shoulders in locking engagement with the front edge of the front guide bar, a primary upward swing of the pedal frame and extensions about the rear ends of the extensions causing disengagement of said shoulders from the guide bar whereby the extensions, pedal frame and pedals may again be slid through the openings into the piano casing.

5. In combination, a piano casing having a front wall provided with openings near its lower edge, guide bars extending lengthwise within the piano casing in the rear of said openings, guide ways formed at the ends of said bars, a pedal frame, extensions from said pedal frame, pedals connected with said pedal frame and extensions and adapted to be folded against said extensions, said pedal frame and extensions with the folded pedals being adapted to be slid over the guide bars and through the openings into the piano casing, pins extending laterally from the inner ends of the extensions and engaging in said guide ways to guide the pedal frame and extensions over the guide bars, and shoulders formed at the under side of the extensions near their inner ends, the pedal frame and extensions when withdrawn from the casing dropping down to carry the shoulders in locking engagement with the front edge of the front guide bar, a primary upward swing of the pedal frame and extensions about the rear ends of the extensions causing disengagement of said shoulders from the guide bar whereby the extensions, pedal frame and pedals may again be slid through the openings into the piano casing, said pins being situated between the shoulders and the inner ends of the extensions and the front ends of the guideways slanting downwardly to engage the pins after dropping of the extensions into locking engagement, whereby the inner ends of said extensions are retained against direct vertical displacement.

[Claims 6 to 8 not printed in the Gazette.]

972,183. AIR-FILTER. CARL GUNTRUM, New York, N. Y. Filed Jan. 20, 1910. Serial No. 539,083.



1. An air filter comprising a liquid vessel, an air nozzle projecting upwardly from the bottom thereof, a flaring shell having a hub that removably engages the nozzle, and a screen carried by the upper end of the shell.

2. An air filter, comprising a vessel, an air nozzle projecting into the same, an open coniform shell surrounding the nozzle, a window fitted into the shell, and a bulged screen carried by the shell.

3. An air filter, comprising a vessel, an air nozzle projecting into the same, a windowed shell having a hub that engages the nozzle, and a bulged screen carried by the shell.

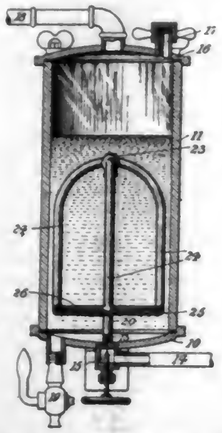
4. An air filter, comprising a vessel, an air nozzle projecting into the same, a windowed shell surrounding the nozzle, a screen carried by the shell, and a valve controlling the nozzle.

5. An air filter, comprising a transparent vessel, an in-

closed transparent and screened pocket, means for admitting air to said pocket, and means for controlling the volume of air thus admitted.

[Claims 6 and 7 not printed in the Gazette.]

972,184. AIR-FILTER. CARL GUNTRUM, Brooklyn, N. Y. Filed Feb. 11, 1910. Serial No. 543,234.



1. An air filter comprising a liquid vessel, an inclosed air nozzle, a surrounding liquid pipe which communicates with the vessel at one end, a branch extending from the other end of said pipe into the vessel below the liquid level thereof, and an apertured outlet pipe communicating with said branch.

2. An air filter, comprising a liquid vessel, an inclosed air nozzle, an apertured liquid pipe which communicates with said nozzle, a plurality of branch pipes communicating with the liquid pipe, and a screened outlet pipe communicating with the branch pipes.

3. An air filter, comprising a liquid vessel, an inclosed air nozzle, an apertured liquid pipe which communicates with said nozzle, a plurality of branch pipes communicating with the upper end of the liquid pipe, and a screened annular outlet pipe communicating with the lower ends of the branch pipes.

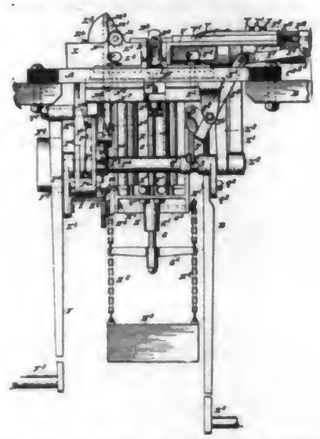
972,185. CIGAR-BANDING MACHINE. OSCAR HAMMERSTEIN, New York, N. Y. Filed Aug. 31, 1908. Serial No. 450,939.

1. In a cigar banding machine, a movable suction device for carrying a band and for supporting the article to be banded and separate mechanism arranged to fold the band about the cigar or similar article.

2. A banding machine comprising a holder for the bands, a band carrier having suction connections to hold a band in position on one of its faces, said band carrier being movable from an inverted position with the band carrying face over the holder to a position with said face uppermost and separate means arranged to fold the band about the cigar or similar article when the carrier is in its last named position.

3. A banding-machine comprising a holder for the bands, a movable band-carrier having suction connections to pick up a band from the holder and hold it in position on said carrier and to act as a support for the article to be banded, means for moistening only the one end of said band and mechanism for folding the band completely around a cigar or similar article.

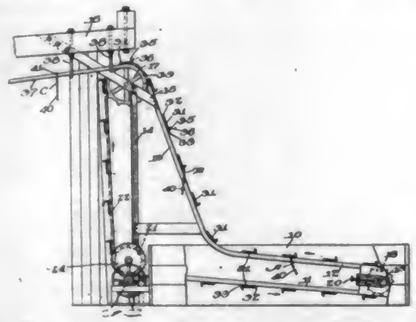
4. A banding machine comprising a holder for the bands, a movable band-carrier or support having suction connections to pick up a band from the holder, said carrier being movable toward and from said holder, an adjustable projection adapted to position the cigar or other article on the band-carrier after the latter has been returned to its initial position and mechanism for folding the band about the cigar or other article.



5. A banding machine comprising a holder for the bands, a movable band carrier having suction connections to pick up a band from the holder, said carrier being movable toward and from the holder, a movable frame and means carried by said frame for folding the band about a cigar or similar article.

[Claims 6 to 23 not printed in the Gazette.]

972,186. HOG-HOISTING MACHINE. ALFRED HANNAFORD, Chicago, Ill. Filed Aug. 5, 1907. Serial No. 387,112.



1. In a hog hoisting machine, the combination with a carrier comprising a single series of connected links and a plurality of hooks connected with said links by relatively narrow projections, and a guide-way extending around said connected links from one side of the projections to the other.

2. In a hog hoisting machine, the combination of a shackling chain provided with a hook-shaped extremity, a receiving rail, an endless carrier embodying a shackling run, a portion of which is arranged to travel in a substantially horizontal plane, and another portion being arranged to travel in a vertically inclined path, and a hook-shaped member supported by and spaced from the carrier, said member being slotted longitudinally.

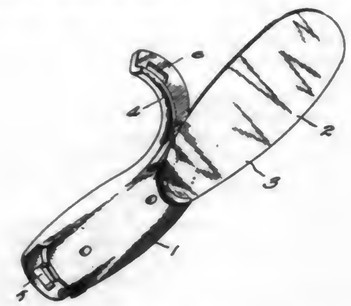
3. In a hog hoisting machine, the combination of a shackling chain provided with a hook-shaped extremity, a receiving rail, an endless carrier embodying a shackling run, a portion of which is arranged to travel in a substantially horizontal plane, and another portion being arranged to travel in a vertically inclined path, and a hook-shaped member supported by and spaced from the carrier, the body of said member being slotted longitudinally whereby said member when on the substantially horizontal moving portion, is adapted to be engaged laterally by the hook on the shackling chain and whereby when on the vertically inclined portion, it is adapted to be engaged in the ends of said slot.

4. In a hog hoisting machine, the combination of a shackling chain provided with a hook-shaped extremity, an endless carrier, a portion of which is arranged to travel in a substantially horizontal plane, and another portion arranged to travel in a vertically inclined path, and a hook-shaped frame supported by the carrier, said frame being provided with longitudinal slots extending around the hook of the frame.

5. In a hog hoisting machine, an endless chain carrier supported along its inner face and provided with shackle-engaging means spaced from its outer face, said carrier having a portion traveling approximately horizontally with said means projecting upwardly.

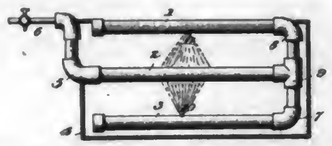
[Claims 6 and 7 not printed in the Gazette.]

972,187. BROOM-CORN KNIFE. GUSTAF W. HANSON, Marquette, Kans. Filed July 11, 1908, Serial No. 443,040. Renewed Apr. 16, 1910. Serial No. 555,932.



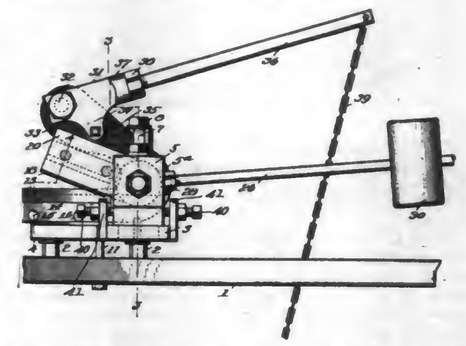
The combination of a knife including a blade, a handle and a curved guard fitting the hand between the thumb and forefinger, and a harness comprising a wrist band, and an adjustable strap connected to the wrist band and passing through eyes in the end of the handle and the guard and serving to retain the knife securely in position in the hand.

972,188. GAS-GENERATOR. ARTHUR HARRIS, Sylvania, Ga. Filed June 28, 1909. Serial No. 504,705.



A gas generator comprising a plurality of longitudinal pipe-members arranged in a common plane and parallel to each other, a transverse pipe-member, pipe-coupling members, connecting said transverse pipe member at its ends and intermediately thereof with said longitudinal pipe-members at one end of each, the intermediate longitudinal pipe-member being adapted for attachment to a source of supply, the lateral longitudinal pipe-members being provided with jet-openings at their midlengths and adapted to deliver the escaping vapor in the direction of said intermediate longitudinal pipe, whereby the flame resulting from said vapor in combustion will impinge against said pipe, upon both sides.

972,189. SHEARING DEVICE. SUMPTER LEA HARWOOD, Dublin, Ga., assignor of one-half to J. M. Finn, Dublin, Ga. Filed Nov. 15, 1909. Serial No. 528,169.



1. A device of the class described, comprising a base, a pair of spaced brackets on the base, one of said brackets having a transverse groove, a cutting blade in the groove, a holder for the blade detachably connected with the bracket, an arm between the brackets, said arm having trunnions, set screws threaded through the brackets and engaging the trunnions, said arm having a groove, a blade in the groove, a holder for the blade detachably connected with the arm, a weight normally holding the arm in an elevated position, a lever pivoted by one end and having a lateral extension, and a roller on the extension engaging the arm.

2. A device of the class described, comprising a base, a pair of spaced brackets on the base, one of said brackets having a transverse groove, a blade seated in the groove, a holder for the blade detachably connected with the bracket, an arm pivoted between the brackets and provided with a longitudinal groove, a blade seated in the groove, a holder for the blade detachably connected with the arm, a counterbalance connected with the arm, means for moving the arm transversely of the base and means for swinging the arm, said means comprising a lever pivoted to the bracket and provided with a lateral extension, a roller journaled on the extension and engaging the arm, and means for swinging the lever.

3. A device of the class described, comprising a base, a pair of spaced brackets on the base, one of said brackets having a transverse groove, a blade seated in the groove, a holder for the blade detachably connected with the bracket an arm pivoted between the brackets and provided with a longitudinal groove, a blade seated in the groove, a holder for the blade detachably connected with the arm, a counterbalance connected with the arm, means for moving the arm transversely on the base, and means for swinging the arm, said means comprising a lever pivoted to one of the brackets and having a lateral extension engaging the arm.

4. A device of the class described, comprising a base, a pair of spaced brackets on the base, one of said brackets having a transverse groove, a blade seated in the groove, a holder for the blade detachably connected with the bracket, an arm pivoted between the brackets and provided with a longitudinal groove, a blade seated in the groove, a holder for the blade detachably connected with the arm, a counterbalance connected with the arm, means for moving the arm transversely of the base and means for swinging the arm.

5. A device of the class described, comprising a base, a pair of spaced brackets thereon, one of said brackets having a groove, a blade removably held in the groove, an arm pivoted between the brackets, means for moving the arm transversely, a blade removably connected with the arm and coöperating with the other blade, a counterbalance for the arm, and a lever pivoted to one of the brackets and having a lateral extension engaging the arm.

[Claims 6 to 11 not printed in the Gazette.]

972,190. MUFFLER. CHARLES GILBERT HAWLEY and EARLE K. BAKER, Chicago, Ill. Filed Dec. 21, 1908. Serial No. 468,507.



1. In a muffler head the combination with a central passage, of side ports for said head, valve means for closing one of said ports and means common to said central passage and said other port for closing one and opening the other.

2. In a muffler the combination with an exhaust chamber and a head therefor having three gas discharge outlets, one of said outlets leading to said exhaust chamber, another of said outlets leading to the atmosphere and another of said outlets being adapted for connection to a signaling device, valve means for closing said second mentioned outlet and separate valve means common to said first and last mentioned outlets for closing one and opening the other.

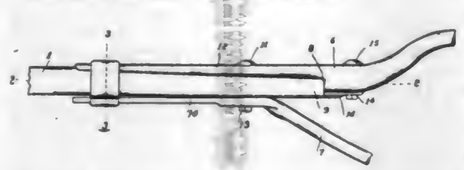
3. In a valve for gas engine exhaust pipes, the combination with an inlet box having a central passage for exhaust gases and two outlets, of valve means for controlling the passage of gases through one of said outlets and separate valve means common to said central passage and said other outlet for opening one and closing the other.

4. In a muffler the combination with an exhaust chamber, of a head of said chamber, an inlet box for said head adapted to discharge gases directly into said exhaust chamber, a signaling device associated with said head, valve means for intercepting the gases in said inlet box and for diverting them into said signaling device, a discharge opening for said inlet box adapted to discharge gases directly into the atmosphere, and valve means for closing said opening.

5. The combination with a muffler of a head for said muffler, a chamber in said head leading directly to said muffler, a side port for said head adapted to discharge gases from said chamber into the atmosphere, another port for said chamber and a signaling device associated therewith, and means associated with said port for diverting gases from said chamber into said signaling device.

[Claims 6 to 11 not printed in the Gazette.]

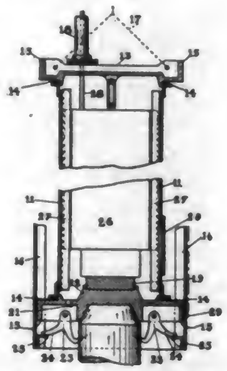
972,191. REACH FOR VEHICLES. HENRY HIGGIN, Newport, Ky., assignor to The Higgin Manufacturing Company, Newport, Ky., a Corporation of West Virginia. Filed Nov. 24, 1909. Serial No. 529,667.



1. In a device of the character specified in combination with a metallic reach, of extension plates for securing the same to the carrying axle, and a clip to embrace the plates to be secured, one of the plates being provided with a slit, and the clip having ends to pass through said slit and lock around the plate to secure same without the use of bolts.

2. In a device of the character specified in combination with a metallic reach, of extension plates for securing the same to the carrying axle, and a clip to embrace the plates to be secured, one of the plates being provided with a longitudinal central slit, and the clip having ends to pass between the reach and plate through said slit and around the plate back to the reach on both sides.

972,192. APPARATUS FOR SUBAQUEOUS PILE-DRIVING. OLAF HOFF, New York, N. Y. Filed May 24, 1909. Serial No. 497,859.



1. An apparatus for subaqueous pile driving, comprising a hollow water-tight, submergible chamber adapted to be placed on a pile, forming when so placed an extension of the pile and containing driving mechanism adapted to force the supporting pile down, and means for maintaining communication between the interior of the extension and the outer air.

2. An apparatus for subaqueous pile driving, comprising a hollow, water-tight, submergible chamber adapted to be placed on a pile, forming when so placed an extension of the pile, driving mechanism within the extension adapted to force down the supporting pile, and means for constantly maintaining communication between the interior of the extension and the outer air.

3. An apparatus for subaqueous pile-driving, comprising a hollow, water-tight, submergible chamber adapted to be placed on a pile, forming when so placed an extension of the pile and containing driving mechanism adapted to force the supporting pile down, and an air-tube connecting the interior of the extension with the outer air.

4. An apparatus for subaqueous pile driving, comprising a hollow, water-tight, submergible chamber adapted to be placed on a pile, forming when so placed an extension of the pile and containing driving mechanism adapted to force the supporting pile down, means for maintaining communication between the interior of the extension and the outer air, and means for recovering the extension from a driven pile.

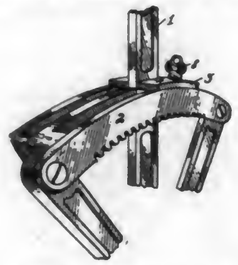
5. An apparatus for subaqueous pile driving comprising a hollow, water-tight, submergible chamber adapted to be placed on a pile, forming when so placed an extension of the pile and containing driving mechanism adapted to force the supporting pile down, means for maintaining communication between the interior of the extension and the outer air, and immersible, extensible guiding means for the extension.

[Claims 6 to 14 not printed in the Gazette.]

972,193. LEVER-LOCK FOR AUTOMOBILES. HERBERT HOOD, Toledo, Ohio. Filed Oct. 2, 1909. Serial No. 520,727.

1. In an article of the class described, the combination with a lever and an H-slot guide therefor, of a member removable from said guide and adapted to rest freely thereon, said member having an end notched to receive the lever when in neutral position within the guide slot and also having a boss adapted to project within a leg of said slot to coact with an end thereof to prevent an endwise movement of the member out of engagement with the lever, and means carried by said boss and adapted to coöperate with the guide to prevent a removal of the member from engagement therewith.

2. In an article of the class described, the combination with a lever and an H-slot guide therefor, of a member removable from said guide and adapted to rest freely thereon, said member having an end notched to receive the lever when in neutral position in the guide slot and also having a plurality of bosses adapted to project into different portions of said slot to coöperate with the walls thereof to prevent lateral or endwise movements of the member relative to said guide, and locking means carried by one of the bosses and adapted to coöperate with the guide to prevent a removal of the member from engagement with the lever.



972,194. MOCCASIN. DAMON HOYT and LAWRENCE A. BURKE, Brockton, Mass. Filed Dec. 3, 1909. Serial No. 531,228.



1. A foot covering comprising a sole, quarters, uppers, a toe portion, and a tongue, said toe portion having projections which are secured to the tongue so as to form openings therebetween.

2. A foot covering comprising a sole, quarters, uppers, a toe portion, and a tongue, said toe portion having peripheral projections which are secured to the tongue so as to form openings therebetween.

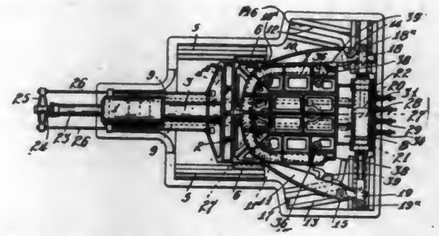
3. A foot covering comprising a sole, quarters, uppers, a toe portion, and a tongue, said toe portion having projections which are secured to the underneath marginal edge of the tongue, the portions of said toe intermediate the projections forming openings.

4. A foot covering comprising a sole, quarters, uppers, a toe portion, and a tongue, said toe portion having projections which are secured to the underneath marginal edge of the tongue, the portion of said toe intermediate the projections being gathered to form a series of openings.

972,195. FLANGING-PRESS. HENRY W. JACOBS, Topeka, Kans. Filed May 31, 1910. Serial No. 564,119.

1. A press of the class described, comprising a pair of formers, one of said formers being movably mounted and consisting of a number of sections, independent means whereby the different sections of the movable former will be guided in their movements toward the other former, and separate means operatively connected with the different sections of the movable former whereby independent coöperation of the sections with the other former and pressure on the respective sections is obtained.

2. In a press of the class described, for forming sections of U-shaped or equivalent form, the combination of a pair of formers, one of which is movable and composed of a crown or arch section and side or wing sections pivotally secured together, the other or stationary former being divided through its horizontal axis, with separate mechanism operatively connected with the respective sections of the movable former whereby the sections are successively made to coöperate with the other or stationary former and independent pressure applied thereto, and means located beneath the stationary former and operatively connected with the upper section or part thereof whereby the two parts of said former may be separated.



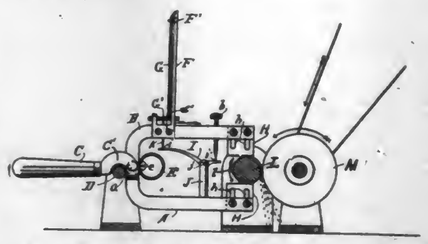
3. A press of the class described, comprising a movable former and a stationary former, the movable former being composed of a crown or arch section and side or end sections, means whereby the different sections will be guided in their movements and the ends of the side sections adjacent to the crown or arch section made to coöperate with the stationary former in advance of the other ends thereof, a power-operated device controllingly connected with each of said sections whereby independent pressure is applied to the respective sections, and a power-operated device whereby the formers are separated.

4. A press of the class described comprising a pair of formers, one of said formers being made in sections, means for separately controlling the different sections, and independent mechanism whereby the respective sections of the one former are guided toward the other former, the relation between the two formers being such that the sections intermediate of the end sections will coöperate with the other former in advance of the end sections and the ends of the end-sections adjacent to the intermediate sections made to coöperate with the other former in advance of their opposite ends.

5. A press of the class described comprising a pair of formers, the one former being composed of pivotally connected sections, pressure mechanism operatively connected with the intermediate section of said former whereby it is independently made to coöperate with the other former, and pressure mechanism slidingly connected with the ends of the end sections of the first mentioned former whereby the free ends of said sections are moved into or out of coöperative relation with the other or second mentioned former.

[Claims 6 to 16 not printed in the Gazette.]

972,196. MICROMETER. CHARLES E. JOHNSON, Muskegon, Mich., assignor to Muskegon Motor Specialties Company, Muskegon, Mich. Filed Apr. 9, 1910. Serial No. 554,563.



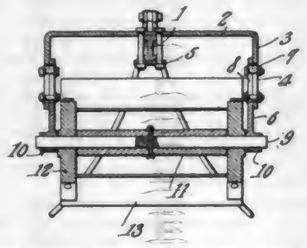
1. In a micrometer, a permanent arm, an arm pivotally connected therewith, a spring for holding said arms

to normal position, a handle on the permanent arm, a guide way between the handle and the pivot point between the arms, adjustable jaws at the ends of the arms, a standard having an indexed segment at its end, a finger parallel with the standard, a lever secured between the arms, and connections between the arms and said lever, and between the lever and the finger for actuating the finger.

2. In a micrometer, two arms pivoted together near one end, a spring for holding said arms to normal position, a handle connected with one of said arms, a bearing surface between the handle and the arms, jaws connected with the other ends of the arms, a standard on one arm having an indexed segment at its upper end, a finger pivotally supported on the arm parallel with the standard, a short arm at right angles with said finger, a lever pivotally supported from the lower arm, a needle between said lever and the short arm on the finger, and a connection between said lever and the upper arm of the micrometer, all arranged to actuate the finger by the movement of the jaws and arms and to greatly increase said movement at the end of said finger.

3. In a micrometer, a permanent arm, a movable arm pivoted thereto, jaws in the free ends of said arms, means for holding said arms to normal position, a standard on the movable arm, a finger pivoted on said arm to stand parallel with the standard, a lever pivotally supported between the arms, an adjusting screw, and a needle connected with said lever for actuating said finger one way, and a spring for actuating it the other way for fine measurements.

972,197. STALK-CHOPPER. JULIAN KING, Tuxedo, Tex. Filed Jan. 11, 1910. Serial No. 537,534.



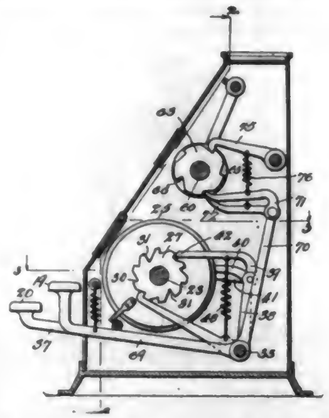
A stalk chopper comprising a cross frame having downwardly disposed end portions, means for attaching said frame to a plow beam, arms adjustably connected with the downwardly extending portions of the cross frame, a shaft positively fixed at the lower ends of the arms, a sleeve fixed to the intermediate portion of said shaft, disks journaled upon the shaft at the ends of the sleeve and chopping blades fixed to the disks.

972,198. REGISTERING MECHANISM. STEPHEN C. KINSEY, Ogden, Utah. Filed July 6, 1909. Serial No. 505,992.

1. In registering mechanism, the combination of two registering devices, a set of keys for each of the devices, actuating means intermediate each set of keys and its registering device and means by which the actuation of one of the devices causes the actuation of the other device.

2. In registering mechanism, the combination of two registering devices, a set of keys for each of the devices, actuating mechanism intermediate each set of keys and its device, and means by which the movement of the keys of one set causes registration on the corresponding registering device only and actuation of the keys of the other set causes registration on both of the registering devices.

3. In registering mechanism, the combination of a shaft, a plurality of character disks thereon, a circular ratchet carried by each disk, a single pawl for one of the ratchets, a double pawl common to two of the ratchets and a triple pawl common to three of the ratchets, keys and actuating mechanism between the keys and pawls.

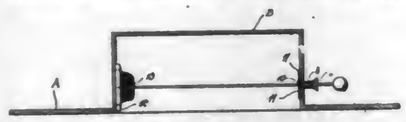


4. In registering mechanism, the combination of a shaft, a plurality of character disks thereon, a circular ratchet carried by each disk, a single pawl for one of the ratchets, a double pawl common to two of the ratchets, a triple pawl common to three of the ratchets, keys and actuating mechanism between the keys and pawls, and a holding pawl engaging each of the ratchets to prevent return movement thereof.

5. In registering mechanism, the combination of a shaft, a units disk, a tens disk and a hundreds disk thereon, a circular ratchet for each disk, the hundreds ratchet being provided with notches of uniform depth, the tens ratchet being provided with a plurality of similar notches and one deep notch and the units disk being provided with notches of uniform depth and one notch deeper than the deep notch of the tens disk, a single pawl engaging the hundreds ratchet, a double pawl engaging the hundreds and tens ratchets and a triple pawl engaging the three ratchets, keys, and actuating mechanism between the keys and pawls.

[Claims 6 to 9 not printed in the Gazette.]

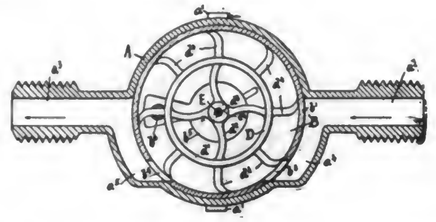
972,199. HAT-PIN HOLDER. ELSIE A. KOCHERSPERGER, Brooklyn, N. Y. Filed Dec. 4, 1909. Serial No. 531,340.



The combination with a hat having at one side an eyelet to receive a hat pin, and a pin receiving element mounted on the inner face of said hat opposite the eyelet comprising a rubber base plate secured to the hat and a perforated member supported by said base plate in spaced relation thereto so as to engage and support a hat pin projecting through a perforation thereof at a point inward of the engaging end of said pin.

972,200. WATER-METER. JOHN B. KOELBLEN, Milwaukee, Wis. Filed Jan. 9, 1909. Serial No. 471,532.

1. A water-meter comprising, in combination, a casing comprising an outer and an inner member, one of which has a peripheral flange fitting within the other and forming therewith a cylindrical wheel-chamber, said flange having peripheral diametrically situated inlet and outlet apertures leading to and from said wheel-chamber and separated from one another at an angle less than 180 degrees on the circumference of said wheel-chamber, a wheel mounted within said chamber, a shaft on which said wheel is secured and a registering mechanism operated by said shaft; said casing having on opposite sides of said wheel-chamber bearings in the center of each of its members in which said shaft turns.



2. In a water-meter, the combination of two casing-members fitting one within the other to form a cylindrical wheel-chamber and having peripheral inlet and outlet passageways, a wheel-shaft pivotally mounted in said casing-members, and a wheel mounted on said shaft within said wheel-chamber; the inner casing-member having in the bottom thereof a depression which forms a collecting-chamber for solid particles and recessed chambers extending around upon opposite sides of the wheel chamber and a drainage outlet connected with said collecting-chamber.

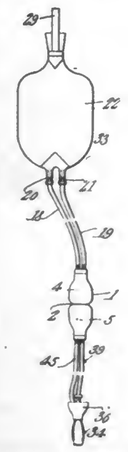
3. A water-meter comprising, in combination, two casing-members which fit one within the other forming a cylindrical wheel-chamber, the outer one of said members having diametrally situated inlet and outlet passages, circumferential recesses in the walls of said member communicating with said passages at one end and lying on the same side of said passages; said inner member having openings in the cylindrical flange thereof registering with the opposite ends of said recesses, said recesses forming in conjunction with the walls of said inner member and said openings therein passages leading circumferentially from said first-named passages and opening into said wheel-chamber at a short circumferential distance from said first named passages; a shaft pivotally mounted centrally upon said casing-members, and a wheel mounted on said shaft within said chamber; said wheel having a cylindrical stop-ring at a point distant from the hub thereof and substantially extending across said wheel-chamber so that any water through the chamber must pass circularly around the same; and said wheel having a plurality of radial buckets which nearly but not quite fill the circumferential space of the wheel-chamber between the walls thereof and said stop-ring, whereby water passing through the chamber produces an impulse acting tangentially upon said wheel.

4. A water-meter comprising, in combination, two casing-members which fit one within the other forming a cylindrical wheel-chamber, the outer one of said members having diametrally situated inlet and outlet passages and circumferential recesses in its walls communicating with said passages at one end and lying on the same side of said passages; said inner member having openings in the cylindrical flange thereof registering with the opposite ends of said recesses, said recesses forming in conjunction with the walls of said inner member and said openings therein passages leading circumferentially from said first-named passages and opening into said wheel-chamber at a short circumferential distance from said first-named passages; a shaft pivotally mounted centrally upon said casing-members, and a wheel mounted on said shaft within said chamber.

5. A water meter comprising in combination two casing members fitting one within the other and forming a cylindrical wheel chamber, the outer one of said members having diametrically situated inlet and outlet passages and circumferential recesses in its wall communicating with said passages at one end and lying on the same side of said passages, said inner member having openings therein registering with the opposite ends of said recesses, a shaft mounted centrally upon said casing members, and a wheel mounted on said shaft within said chamber.

[Claim 6 not printed in the Gazette.]

972,201. SYRINGE. JACOB KUSSART, Greeley, Colo., assignor to The Duplex Rubber Company, Greeley, Colo., a Corporation of Colorado. Filed Nov. 11, 1909. Serial No. 527,468.



1. A device of the class described including a receptacle having separate compartments, a nozzle, a forcing device having separately compressible compartments, and separate connections between the respective compartments in the forcing device and the nozzle, and separate connections between said compressible compartments and the respective compartments in the receptacle, one of the connections of each compressible compartment being extended through and out of communication with the adjoining compartment.

2. A device of the class described including a receptacle having separate compartments, a nozzle, and an elongated compressible forcing device having non-communicating compartments formed by opposed ends thereof, said last named compartments being separately compressible, and separate inlet and outlet means for establishing communication between said compartments and the respective compartments in the receptacle and between the nozzle and the compartments wthin the forcing means, each of said outlet means extending through the forcing compartment out of communication therewith.

3. A device of the class described including a receptacle, a shiftable partition therein forming non-communicating compartments, a nozzle, and a compressible forcing device connected to the nozzle and receptacle for intermittently withdrawing liquid from and collapsing one compartment and directing it to the nozzle and for withdrawing liquid from the nozzle and directing it into and expanding the other compartment, the capacity of each compartment, when expanded, being equal to the full capacity of the receptacle.

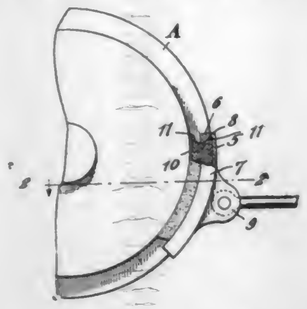
4. A device of the class described including a receptacle having non-communicating compartments, a nozzle, a forcing device having separate independently compressible compartments, and valved inlet and outlet connections between said compartments and the nozzle and between said compartments and the respective compartments within the receptacle, said outlet connections being extended through the compressible compartment out of communication therewith.

5. A device of the class described including forcing means consisting of a flexible bulb having non-communicating separately compressible end portions, a valved inlet opening into each of said end portions, and a valved outlet

tube extending from each of said end portions and through the opposed end portions.

[Claims 6 to 10 not printed in the Gazette.]

972,202. BRAKE-SHOE. CHARLES A. MALCOLM, Minden, W. Va. Filed Feb. 14, 1910. Serial No. 543,720.



1. A brake shoe comprising an arcuate body plate having a flange at each end, an emery block removably secured between said end flanges, a longitudinal flange formed on said plate extending upon one edge of the block, said emery block being adapted for engagement upon the periphery of a wheel, whereby the same will be retained in position thereon between the longitudinal flange and the peripheral flange of the wheel.

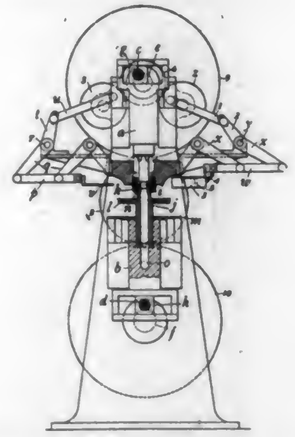
2. A brake shoe comprising a body plate having a lateral flange formed on each end, an emery block engaged with the inner face of said plate between the end flanges, said block extending beyond said flanges for engagement upon the periphery of a wheel, and a longitudinal flange formed on said plate extending upon one edge of the block whereby said block will be retained in engagement with the wheel between said flange and the peripheral flange of the wheel.

3. A brake shoe comprising a body plate having a lateral flange formed on each end, an emery block seated against the inner face of said plate and formed with an inclined portion on each of its ends, the inner faces of the end flanges of said plate being engaged with the inclined end portions of the block, a flange formed upon one of the longitudinal edges of the plate disposed over one edge of the block, said block being adapted to be engaged with the periphery of a wheel and held thereagainst between said longitudinal flange and the wheel flange.

4. A brake shoe comprising a body plate having a lateral flange formed on each end, the inner face of each of said flanges being inclined, a longitudinal flange formed upon one edge of said plate, an emery block disposed upon the inner face of said plate and having a V-shaped groove in each of its ends, one of the inclined walls of said grooves being engaged upon the inner faces of said end flanges, said emery block extending beyond the flanges, a longitudinal flange formed on one edge of the body plate disposed over the edge of the emery block, said body plate and block being arcuate in form, the outer face of the inner block being adapted for engagement upon the periphery of a wheel, said block being held against accidental movement on the wheel by the longitudinal flange of the body plate and the wheel flange.

972,203. MACHINE FOR CUTTING OUT ARTICLES FROM METAL SHEETS OR BARS. FRANK MALTON, Birmingham, England, assignor to Warne, Wright & Rowland Limited, Birmingham, England. Filed Apr. 9, 1910. Serial No. 554,353.

1. In machines for cutting metal articles such as nuts, washers and the like from metal sheets or bars, the combination comprising cutting out tools adapted to remove the articles produced in an upward direction from the original sheet or bar, and a pair of swinging arms respectively adapted to release and deliver the articles clear of the tools during the idle movements of the tools, substantially as described.



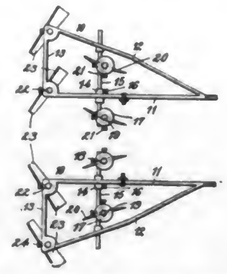
2. In machines for cutting metal articles such as nuts, washers and the like from metal sheets or bars, the combination comprising upper and lower punches, upper and lower vertical slides to which said punches are secured, a die rigidly mounted between the slides, a pair of horizontal swinging arms mounted on opposite sides of the punches, a fork piece on one of the arms adapted to pass between the lower side of the die and the upper side of the blank adhering to the upper punch and a plate on the other arm adapted to pass beneath the lower end of the upper punch, for releasing and receiving the blanks and delivering the same clear of the tools during the idle movements of the punches, substantially as described.

3. In machines for cutting metal articles such as nuts, washers and the like from metal sheets or bars, the combination comprising upper and lower punches, upper and lower slides to which said punches are secured, a die rigidly mounted between the slides, a pair of horizontal swinging arms mounted on opposite sides of the punches, levers supporting the arms, rotating elements and levers for advancing the arms toward the tools during the idle movements of the punches and withdrawing the arms during the operative movements of the punches, a fork piece on one of the arms adapted to pass between the lower side of the die and the upper side of the blank adhering to the upper punch and a plate on the other arm adapted to pass beneath the lower end of the upper punch, for releasing and receiving the blank and delivering the same clear of the tools, substantially as described.

4. In machines for cutting metal articles such as nuts, washers and the like from metal sheets or bars, the combination comprising upper and lower punches, upper and lower slides to which said punches are secured, a die rigidly mounted between the slides, a pair of horizontal swinging arms mounted on opposite sides of the punches, levers supporting the arms, rotating elements and levers for advancing the arms toward the tools during the idle movements of the punches and withdrawing the arms during the operative movements of the punches, a fork piece on one of the arms adapted to pass between the lower side of the die and the upper side of the blank adhering to the upper punch for releasing the blank, a plate pivoted on the other arm and adapted to pass beneath the lower end of the upper punch for receiving the blank, and means whereby the plate is rocked during the outward movement of the arm carrying the plate for delivering the blank clear of the tools, substantially as described.

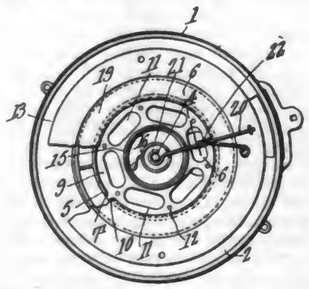
5. In machines for cutting metal articles such as nuts, washers and the like from metal sheets or bars, the combination comprising upper and lower punches, upper and lower vertical slides to which the said punches are secured, the lower slide being formed with an opening for discharge of the portions severed from the blanks, a die rigidly mounted between the slides, cranks and shafts actuating the slides, a support for the plate or bar, a pair of horizontal swinging arms mounted on opposite sides of the punches, an operating crank disk, connecting rod and levers for each arm, both crank disks being rotated from the crank shaft of the upper slide, a fork piece on one of the arms adapted to pass between the underside of the die and the blank adhering to the upper punch and a hinged plate on the other arm adapted to pass beneath the lower end of the said punch during the idle movements of the punches, a fixed abutment piece arranged to rock the said plate during the receding movements of the arm carrying the plate, and a spring whereby the plate is restored to its normal position after disengagement from the abutment piece, substantially as described.

972,204. CULTIVATOR. JOHN CHESTER MAXWELL, Rensselaer, Ind. Filed Nov. 9, 1909. Serial No. 526,991.



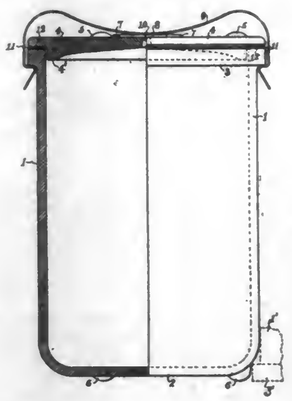
In a cultivator, a main supporting frame, a pair of laterally spaced approximately triangular cultivator frames carried thereby, the side pieces of each frame having a pair of alined bearing sleeves, disk-supporting bars mounted for endwise adjustment in the bearing sleeves of said cultivator frames, disk-holding collars mounted for lateral adjustment on said bars, cultivating disks mounted for angular adjustment in said collars and a pair of scraping blades mounted for vertical and angular adjustment at the rear end of each of said cultivator frames.

972,205. PINDAL OR PEANUT PLANTER. ROBERT BROWN MAY, Stockdale, Tex., assignor of one-half to Richard M. Ware, Stockdale, Tex. Filed July 6, 1910. Serial No. 570,632.



A pindal planter including in combination with a box having an opening in its bottom, a disk provided with openings and mounted for rotation upon the bottom of the box, upstanding pins carried by the disk, means for rotating the disk, a relatively broad and thick ring secured at its edge portion upon the bottom of the box and having its inner edge inclined toward the openings in the disk, a hood mounted at its edge portion upon the ring and having an apron located above the path of movement of the openings in the disk, a radially disposed rod mounted at its outer end portion upon the said ring and supported at its inner end portion at the center of the disk, a spring coiled at its intermediate portion about the said rod and fixed at its upper outer edge to the said ring and having its inner end portion depending above the path of movement of the openings in the disk and of such length as to engage the disk at the ends of the openings therein.

972,206. FRUIT-JAR COVER. THEODORE MAYNARD and DAVID E. LAIN, Bellingham, Wash. Filed Feb. 2, 1909, Serial No. 475,563. Renewed July 18, 1910. Serial No. 572,582.

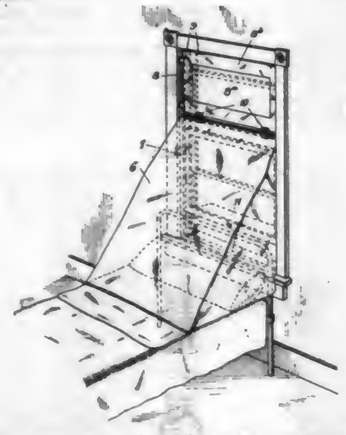


1. In the cover of a jar having a vent through the same, the combination of a segmental boss on the upper side of said cover partly encompassing said vent, and a disk of suitable sealing material over said vent and within the confines of said boss.

2. In the cover of a jar having a vent through the same, the combination of a segmental boss on the upper side of said cover partly encompassing said vent, a disk of suitable sealing material over said vent and within the confines of said segmental boss, a plurality of bosses or extensions from said upper surface being higher above the same than said encompassing boss and being adapted to provide a stable base for said jar when the same is inverted on said cover, an annular boss on the lower side of said cover encompassing said vent, a sealing ring or gasket suited to fit over said boss, and a concave surface encompassed by said boss, said boss and said concave surface being adapted to displace the liquid in the upper part of said jar and force a quantity of the same through said vent when said cover is placed on said jar.

3. In the cover of a jar having a vent through the same, the combination of a segmental boss on the upper side of said cover partly encompassing said vent, a disk of suitable sealing material over said vent and within the confines of said segmental boss, a plurality of bosses or extensions from said upper surface being higher above the same than said encompassing boss and being adapted to provide a stable base for said jar when the same is inverted on said cover, an annular boss on the lower side of said cover encompassing said vent, a sealing ring or gasket suited to fit over said boss, a concave surface encompassed by said boss, said boss and said concave surface being adapted to displace the liquid in the upper part of said jar and force a quantity of the same through said vent when said cover is placed on said jar, a jar being adapted to receive on its upper surface said sealing ring around said annular boss on said cover, and means being adapted for clamping said cover to said jar and said seal over said vent.

972,207. VENTILATING-CANOPY. JAMES N. MOODY, South Boston, Va. Filed Jan. 12, 1910. Serial No. 537,693.



1. The combination with a window having upper and lower sashes, of a canopy adapted to fit over the head of a bed placed adjacent to the window, and a covered frame extending between the upper edge of the canopy and the upper end of the window frame, whereby both the sashes may be opened to permit of free circulation of air through the canopy.

2. The combination with a window having upper and lower sashes, of a covered frame permanently secured within the upper portion of the window, a canopy adapted to fit over the head of a bed placed adjacent the window and having a frame fitting within the lower portion of the window, and means carried by the lower edge of the permanent frame to removably hold the upper edge of the canopy frame thereto.

3. A canopy of the character described comprising a covered frame having securing clips upon its upper and side edges, and attaching hooks upon its lower edge, a second frame adapted to be engaged with said hooks, and a hood fastened to said last named frame and projecting to one side thereof to inclose the head of a bed, said frames being adjustable to fit within a window casing.

972,208. HAT-PIN. GEORGE WILLIAM MOORE, Weehawken, N. J., and JOHN KEYLAND HUTCHISON, New York, N. Y. Filed Sept. 22, 1909. Serial No. 518,952.



1. A hat pin, comprising a sheath, a head movably associated with said sheath, a pin slidable in said sheath and projecting at the head end thereof, and a spring normally engaging said pin to retract the same so that the point thereof is guarded within said sheath, said head extending over said pin to limit the retraction of said pin.

2. A hatpin, comprising a hollow head, a sheath movable with respect to said head and having one end located therein, a pin slidable within said sheath and having at one end a crown, said crown lying within said head, and a spring upon said pin, between said crown and the end of said sheath.

3. A hatpin, comprising a hollow head having a sleeve, a sheath located in said sleeve and having within said head an enlarged end, said sheath having the other end tapered, and an elongated member slidable within said sheath and having a pointed extremity and at the other end an enlarged crown, said crown being located within said head, and a spring upon said elongated member and engaging said crown and said extended end of said sheath, whereby said pointed extremity of said elongated member is normally retracted within said sheath.

972,209. SWIVELING ATTACHMENT DEVICE FOR ELECTRICAL APPARATUS. JOHN H. MOSLEY, Johnstown, Pa. Filed June 26, 1909. Serial No. 504,439.



1. An attachment device comprising a body portion carrying one set of wires, a plug carrying another set of wires, said plug being inserted within the body portion and connected thereto by means of a spring on said plug, a sleeve insulated from said spring and loosely surrounding the sides of the plug to permit rotation, said sleeve being in contact with the body portion, and a spring connecting the sleeve to one of the terminals.

2. An attachment device comprising a terminal-carrying plug, said terminals consisting of an arcuate spring at the side and one or more U-shaped springs at the end of the plug, a metallic sleeve abutting the other end and loosely surrounding the sides of the plug and contacting with the side terminal, and a body portion consisting of a metallic sleeve electrically connected to one feed wire and contacting with the sleeve surrounding the plug, and a member electrically connected to the other feed wire and contacting with the end terminal on the plug.

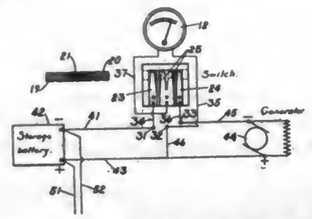
3. An attachment device comprising a terminal-carrying plug, said terminals consisting of an arcuate spring at the side and one or more U-shaped springs at the end of the plug, a threaded metallic sleeve abutting the other end and loosely surrounding the sides of the plug to permit rotation, said sleeve contacting with the side terminal, and a body portion consisting of a threaded metallic sleeve electrically connected to one feed wire and a member electrically connected to the other feed wire, said member being in contact with the end terminal on the plug and the threaded sleeve surrounding the plug being engaged by the threaded sleeve on the body portion.

4. An attachment device comprising a terminal-carrying plug, said terminals consisting of an arcuate spring at the side and one or more U-shaped springs at the end of the plug, a threaded metallic sleeve loosely secured to the plug to permit rotation, said sleeve contacting with the side terminal, a body portion consisting of a threaded metallic sleeve electrically connected to one feed wire and a member electrically connected to the other feed wire, said member being in contact with the end terminal on the plug and the threaded sleeve on the plug being engaged by the threaded sleeve on the body portion, and means for preventing relative motion between the two sleeves.

5. An attachment device comprising a terminal-carrying plug, said terminals consisting of an arcuate spring at the side and one or more U-shaped springs at the end of the plug, a threaded metallic sleeve loosely secured to the plug to permit rotation, said sleeve contacting with the side terminal, a body portion consisting of a threaded metallic sleeve electrically connected to one feed wire and contacting with the sleeve surrounding the plug, and a member electrically connected to the other feed wire and contacting with the end terminal on the plug being engaged by the threaded sleeve on the body portion, and a jam-nut for locking the sleeves in position.

[Claims 6 and 7 not printed in the Gazette.]

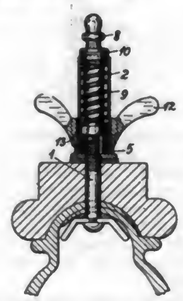
972,210. STORAGE-BATTERY CIRCUIT CONTROLLER AND TESTER. HOMER N. MOTSINGER, Pendleton, Ind., assignor to Motsinger Device Mfg. Co., Pendleton, Ind., a Corporation of Indiana. Filed Feb. 9, 1909. Serial No. 477,014.



1. The combination of a generator, a storage battery, a meter circuit, a meter connected in said meter circuit, a switch block comprising three terminals, a switch pin formed to connect said terminals in pairs, and connections between the generator and one of said terminals, between the storage battery and another of said terminals, between the meter and the other of said terminals, and between the meter and the storage battery and generator, for the purpose described.

2. A switch-meter instrument comprising a main body carrying the following parts, to-wit: an electric meter, three binding posts, three terminals, a switch pin adapted to connect said terminals in pairs, connections between two of said terminals and two of the binding posts, a connection between the remaining binding post and the meter, and a connection between the remaining terminal and the meter.

972,211. SCREWED CONNECTION. GEORG MÜLLER, Gmünd, Germany, assignor to Julius Bloch, Pforzheim, and Philipp Rupp, Ellwangen, Germany. Filed Mar. 10, 1909. Serial No. 482,543.



1. A screw-connection comprising a screw-threaded bolt, a nut provided with a lateral slot wide enough to receive the bolt, in combination with a tongue longitudinally displaceable in and rotatable with said nut.

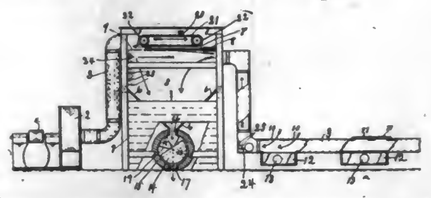
2. A screw-connection comprising a screw-bolt, a nut having a lateral incision larger than the smallest diameter of the bolt, in combination with a smooth tongue longitudinally displaceable in the incision, rotatable with the nut and holding in locked condition the threads of the bolt and nut.

3. A screw-connection comprising a screw-bolt, a nut having a lateral slot larger than the smallest diameter of the bolt, in combination with a smooth tongue displaceable longitudinally in the slot, pressing the threads of the bolt and nut into engagement, and locking them when the nut is turned.

4. A screw-connection comprising a screw-bolt flattened on the side, a nut having a lateral slot wider than the smallest diameter of the bolt, a tongue displaceable longitudinally in the slot and forcing the threads on bolt and nut into engagement, substantially as set forth.

5. A screw-connection comprising a screw-bolt, a nut having a lateral slot larger than the smallest diameter of the bolt, a tongue longitudinally displaceable in the slot, and pressing the threads on bolt and nut into engagement, in combination with means attached to the nut for holding the bolt and nut in locking relation, substantially as set forth.

972,212. PNEUMATIC COTTON-SEED SEPARATOR AND CLEANER. THOMAS MCDONALD, Dublin, Tex. Filed Mar. 19, 1910. Serial No. 550,525.



1. A cotton seed separator and cleaner having a suction pipe and means for creating suction therethrough, a casing intercepting said pipe, and means in said casing for separating dirt and trash from the seed consisting of a series of parallel bars held rigid at one end and a divider board adjacent to the free ends of said bars.

2. A cotton seed separator and cleaner having a suction pipe and means for creating suction therethrough, a casing intercepting said pipe, means in said casing for separating dirt and trash from the seed consisting of a series of parallel bars horizontally disposed therein and held rigid at one end and free at the other end and a divider board mounted adjacent to the free ends of said bars, and a traveling comb moving through and toward the free ends of said bars.

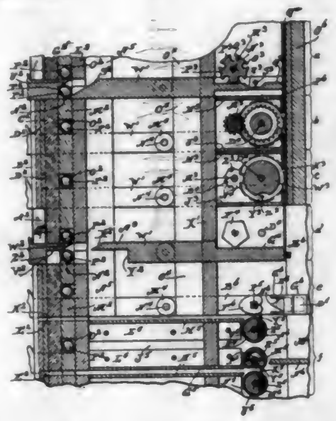
3. A cotton seed separator and cleaner having a suction pipe and means for creating suction therethrough, a casing intercepting said pipe, means in said casing for separating dirt and trash from the seed consisting of a series of horizontally disposed parallel bars held rigid at one end and a divider board mounted adjacent to the free ends of said bars, and shelves below said divider board for gathering seed to form a cushion.

4. A cotton seed separator and cleaner having a suction pipe and means for creating suction therethrough, a casing intercepting said pipe, the outlet of said pipe from said casing being higher than the inlet thereto, a series of parallel bars horizontally disposed between the inlet and the outlet in said casing, a divider board mounted at the free ends of said bars, and means in said pipe and in said casing for preventing the breaking of the seed hulls consisting of shelves for accumulating seed to form cushions.

972,213. VOTING-MACHINE. JOHN HOWARD MCELROY, Chicago, Ill. Filed Mar. 12, 1900. Serial No. 8,568.

1. In a voting machine, the combination with a series of keys grouped according to offices and freely movable forward and backward, and having interlocking mechanism operated by the forward movement of the key and unoperated by the return movement to prevent the operation of more than a determined number of said keys in any group at the same voting operation; of a series of registers corresponding to the keys and adapted to be operated thereby as the key is advanced, and unoperated as the keys are returned by the voter prior to the operation

of the re-setting mechanism, said registers being movable bodily out of operative relation to the keys; and re-setting mechanism for moving the registers out of operative relation to their keys as the operated keys are returned to normal position.



2. In a voting machine, the combination of plural series of keys grouped according to parties and according to offices freely movable forward and backward and having interlocking mechanism operated by the forward movement of the keys and unoperated by the return movement to prevent the operation of more than a determined number of said keys in any group at the same operation, straight ticket mechanisms for simultaneously advancing all the keys of any one party group; with plural series of registers corresponding to the keys and adapted to be operated thereby as the key is advanced, and unoperated as the keys are returned by the voter prior to the operation of the re-setting mechanism, said registers being movable bodily out of operative relation to the keys; and re-setting mechanism for moving the registers out of operative relation to their keys while the operated keys are returned by said mechanism to normal position.

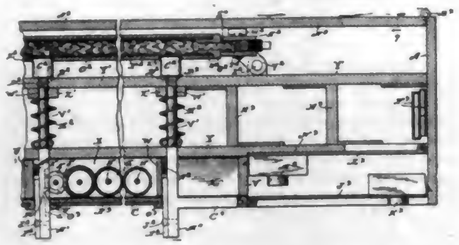
3. In a voting machine, the combination with a series of keys grouped according to offices and freely movable forward and backward and having interlocking mechanism operated by the forward movement of the keys and unoperated by the return movement to prevent the operation of more than a determined number of said keys in any group at the same voting operation; of a movable frame carrying a series of registers corresponding to the keys and adapted to be operated thereby as the key is advanced, and unoperated as the keys are returned by the voter prior to the operation of the re-setting mechanism, and re-setting mechanism for moving said frame bodily to carry the registers out of operative relation to their keys as the operated keys are returned to normal position.

4. In a voting machine, the combination with a series of keys grouped according to offices and freely movable forward and backward, of register actuating members moved back and forth with the keys, interlocking mechanism operated by the forward movement of the keys and unoperated by the return movement thereof to prevent the operation of more than a determined number of said keys in any group at the same operation, a series of registers corresponding to the keys and adapted to be operated by the register actuating member as the keys are advanced, and unoperated as the keys are returned by the voter prior to the operation of the re-setting mechanism, said registers being movable bodily out of operative relation to the actuating member, and re-setting mechanism for moving the registers out of operative relation to their actuating members as the operated keys are returned to normal position.

5. In a voting machine, the combination of a plural series of keys grouped according to parties and according to offices, freely movable forward and backward and having interlocking mechanism operated by the forward movement of the keys and unoperated by the return movement to prevent the operation of more than a determined number of said keys in any group at the same operation, straight ticket mechanisms for simultaneously advancing all the keys of any one party group, register actuating members moved back and forth with the keys; with plural series of registers corresponding to the keys and adapted to be operated by the actuating members moved by the keys as they are advanced, and unoperated as the keys are returned by the voter prior to the operation of the re-setting mechanism, said registers being movable bodily out of operative relation to the actuating members; and re-setting mechanism for moving the registers out of operative relation to the actuating members while the operated keys are returned by said re-setting mechanism to normal position.

[Claims 6 to 26 not printed in the Gazette.]

972,214. VOTING-MACHINE. JOHN HOWARD MCELROY, Chicago, Ill. Filed Apr. 16, 1900. Serial No. 13,157.



1. In a voting machine, the combination of the casing, with a plurality of keys mounted to reciprocate therein, a corresponding plurality of vote tallying mechanisms controlled thereby, and an individual locking and releasing mechanism for each key coöperating with each key solely to hold it in its advanced position and for releasing it without thereby releasing any other key that may be operated.

2. In a voting machine; the combination of the casing, with a plurality of keys mounted to reciprocate therein, a corresponding plurality of vote tallying mechanisms controlled thereby, and locking and releasing mechanism cooperating with each key to hold it in its advanced position, comprising a latch movable relative to said key and engaging with a normally stationary part of the machine, a portion of said latch projecting outside of the casing adjacent the key in both of its positions for releasing it without thereby releasing any other key that may be operated.

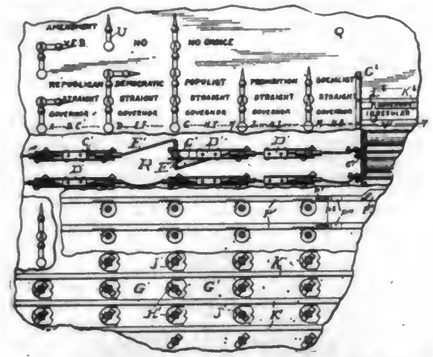
3. In a voting machine, the combination of a casing, with a plurality of keys mounted to reciprocate therein, a corresponding plurality of vote tallying mechanisms controlled thereby, an individual locking and releasing mechanism for each key coöperating with each key to hold it in its advanced position and for releasing it without thereby releasing any other key that may be operated, and means for releasing all the operated keys by the resetting of the machine.

4. In a voting machine, the combination of a casing, with a plurality of keys mounted to reciprocate therein, a corresponding plurality of vote tallying mechanisms controlled thereby, an individual locking and releasing mechanism for each key coöperating with each key solely to hold it in its advanced position and for releasing it without thereby releasing any other key that may be operated, and means for releasing all the operated keys by the resetting of the machine, said means comprising a movable frame with which all of said locking mechanisms engage.

5. In a voting machine, the combination of a casing, with a plurality of keys mounted to reciprocate therein, a corresponding plurality of vote tallying mechanisms controlled thereby, locking and releasing mechanism coöperating with each key to hold it in its advanced position comprising a latch movable relative to said key and engaging with a lug, a portion of said latch projecting outside the casing adjacent the key in both its positions for releasing it, and means for releasing all the keys simultaneously comprising a movable frame carrying all the lugs with which the latches engage.

[Claims 6 to 52 not printed in the Gazette.]

972,215. VOTING-MACHINE. JOHN HOWARD MCELROY, Chicago, Ill. Filed July 27, 1899. Serial No. 725,213.



1. In a voting machine, the combination of the door E movable relative to the booth and having the re-setting mechanism and the flange O thereon, with the registering mechanism reached by said door and re-set thereby, and the shield P coöperating with the flange O to prevent access to said re-setting mechanism when the door is closed, substantially as and for the purpose described.

2. In a voting machine, the combination of a multi-candidate group of registers, keys for controlling the operation of said registers, actuating mechanism for said registers, with re-setting mechanism for said keys, multi-candidate controlling mechanism for said group, and connections between said multi-candidate controlling mechanism and the re-setting mechanism whereby the over-operation of said multi-candidate controlling mechanism will cause the keys to be re-set to normal position before the actuating mechanism fixes the registration.

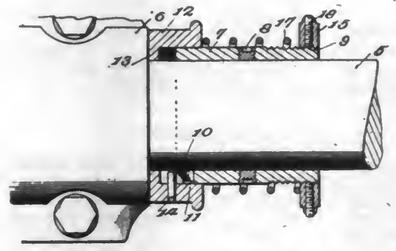
3. In a voting machine, the combination of a multi-candidate group of registers, actuating mechanism for said registers, keys for controlling the operation of said actuating mechanism, with re-setting mechanism for restoring said keys to their unoperated position, multi-candidate controlling mechanism for said group, and connections between said multi-candidate controlling mechanism and the re-setting mechanism whereby the over-operation of said multi-candidate controlling mechanism by the keys will cause all the operated keys to be returned to normal position to prevent over-registration before the actuating mechanism is operated.

4. In a voting machine, the combination of a multi-candidate group of registers, actuating mechanism for said registers, keys for controlling the operation of said actuating mechanism, with re-setting mechanism for restoring said keys to their unoperated position, multi-candidate controlling mechanism for said group, connections between said multi-candidate controlling mechanism and the re-setting mechanism whereby the over-operation of said multi-candidate controlling mechanism by the keys will cause all the operated keys to be returned to normal position to prevent over-registration, and a single movable member for operating said re-setting mechanism and actuating mechanism, and arranged to operate the re-setting mechanism prior to the operation of the actuating mechanism.

5. In a voting machine, the combination of a multi-candidate group of registers, actuating mechanism for said registers, keys for controlling the operation of said actuating mechanism, with re-setting mechanism for restoring said keys to their unoperated position, multi-candidate controlling mechanism for said group, connections between said multi-candidate controlling mechanism and the re-setting mechanism whereby the over-operation of said multi-candidate controlling mechanism by the keys will cause all the operated keys to be returned to normal position to prevent over-registration, and a movable door operating the re-setting mechanism and the actuating mechanism, and arranged to operate said re-setting mechanism prior to the operation of the actuating mechanism.

[Claims 6 to 33 not printed in the Gazette.]

972,216. AUTOMATIC SPRING TAKE-UP COLLAR. CHARLES H. MCLAUGHLIN, Williamsport, Pa., assignor of one-third to John Coleman and one-third to John J. Coleman, Williamsport, Pa. Filed Jan. 13, 1910. Serial No. 537,945.



1. The combination with a bearing, of an arbor journaled therein, a sleeve rigidly secured to the arbor, a collar slidably mounted on the sleeve, means for locking the sleeve and collar in engagement with each other, and means for forcing the collar against the bearing when the locking means is released.

2. The combination with a bearing, of an arbor journaled therein, a sleeve rigidly secured to the arbor, a collar slidably mounted on the sleeve, a spring interposed between the sleeve and collar for forcing the latter against the bearing, and means independent of the spring for supporting the collar in spaced relation to said bearing.

3. The combination with a bearing, of an arbor journaled therein, a sleeve rigidly secured to the arbor, a collar slidably mounted on the sleeve, a pin and slot connection between the sleeve and collar for normally spacing the collar from the bearing, and a spring interposed between the sleeve and collar for forcing the latter against the bearing when said collar is disengaged from the sleeve.

4. The combination with a bearing, of an arbor journaled therein, a sleeve rigidly secured to the arbor, a collar slidably mounted on the sleeve, a spring surrounding the sleeve and bearing against the collar for forcing the latter against the bearing, means for regulating the tension of the spring, and means for locking the collar and sleeve in engagement with each other and in spaced relation to the bearing.

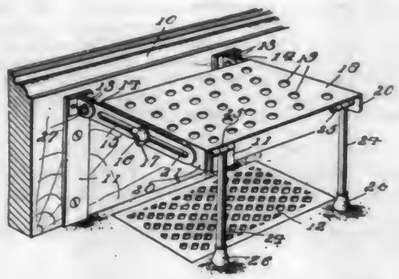
5. The combination with a bearing, of an arbor journaled therein, a sleeve secured to the arbor and having one end thereof threaded and its other end provided with a slot opening through said end, a collar slidably mounted on the sleeve, a pin extending inwardly from the collar and adapted to engage the walls of the slot for locking the collar in engagement with the sleeve, an adjusting collar engaging the threads on the sleeve, and a spring interposed between the adjusting collar and sliding collar.

[Claims 6 to 8 not printed in the Gazette.]

972,217. FOOT-REST. BELLE T. NEUBECKER, Niagara Falls, N. Y. Filed Feb. 9, 1910. Serial No. 542,975.

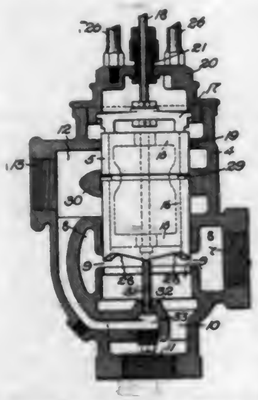
A rest comprising a perforated sheet metal table having depending flanges at its opposite ends with longitudinal

slots therein, a pair of spaced supports for attachment against a wall, ears carried by the supports, longitudinally slotted straps engaging at one end with the ears, bolts passing through the ears and the straps to hold the same in various adjusted positions, clamping bolts disposed



through the straps and the flanges to secure the table in various adjusted positions, hinged legs mounted on the table adjacent to its outer edge, and spring clips carried against the under side of the table to receive the legs and hold the same in a raised position.

972,218. CONTROLLING DEVICE FOR PRESSURE-FLUID ENGINES. ALMON E. NOBLE, Cambridge, Mass. Original application filed Jan. 18, 1908, Serial No. 411,466. Divided and this application filed Feb. 10, 1909. Serial No. 477,060.



1. The combination with a pressure fluid engine, of a controlling device therefor having means for connecting said engine with or disconnecting the same from a source of pressure fluid and also means for simultaneously connecting the said engine with the exhaust at the time of its disconnection from the pressure fluid supply, thereby to relieve the engine of the pressure fluid trapped therein.

2. The combination with a pressure fluid engine, of an engine throttle valve connected in the supply pipe therefor, said valve having means for relieving the pressure trapped in said engine when said throttle valve is closed.

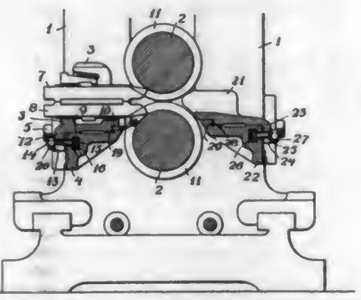
3. A throttle valve provided with a valve chamber, a hollow cylindrical valve member adapted to move therein, a cylinder admission opening communicating with one end of said valve and adapted to be placed in communication with a pressure fluid supply chamber when said valve is moved axially, and an exhaust opening adapted to be placed in communication with the opposite end of the valve when the latter is moved to a closed position.

4. A throttle valve having a valve chamber, a hollow valve, an exhaust chamber, a pressure supply chamber and a cylinder chamber, said valve being connected to open communication between the cylinder chamber and the exhaust chamber about one edge of the valve, when in one position, while cutting off communication between the cylinder chamber and the pressure supply chamber, and, in another position, to open the cylinder chamber to the pressure supply chamber about the opposite edge of the valve, while cutting off communication between the cylinder chamber and the exhaust chamber.

5. A throttle valve having a valve member provided with a cut-off wall for cutting off a suitable pressure fluid supply chamber from, or opening the same to, the valve chamber, and provided also with a plurality of cut-off walls for simultaneously opening the valve chamber to the exhaust or cutting off the same from communication therewith.

[Claims 6 to 8 not printed in the Gazette.]

972,219. GUIDE FOR ROLLING-MILLS. THEODORE H. NYE, Worcester, Mass., assignor to Morgan Construction Company, Worcester, Mass., a Corporation of Massachusetts. Filed Apr. 30, 1908. Serial No. 430,074.



1. A rolling mill housing having a guide supporting bar, a guide mounted thereon, said guide and said bar provided with reëntrant engaging surfaces to hold said guide from vertical movement, and means for holding said surfaces in engagement by a strain toward the rolls of the rolling mill.

2. A rolling mill housing having a guide supporting bar, a guide mounted thereon, said guide and said bar provided with reëntrant engaging surfaces to hold said guide from vertical movement, and a bolt parallel with the longitudinal axis of said guide for holding said surfaces in engagement.

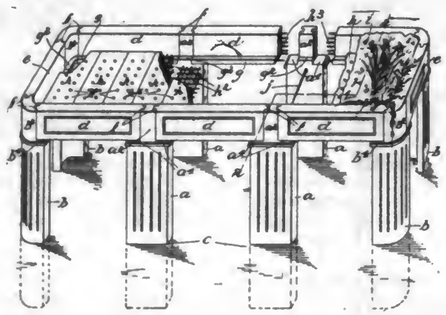
3. A rolling mill housing having a guide supporting bar, a guide mounted thereon, said guide and said bar provided with reëntrant engaging surfaces for holding said guide from vertical movement, but arranged to allow horizontal movement away from the rolls of the rolling mill, said bar having a slot parallel with said surfaces, said guide having a depending flange outside of said bar, and a bolt held in said slot and passing through said flange arranged to draw said guide toward the rolls of the rolling mill.

4. The combination with a rolling mill housing and rolls journaled therein, of a guide bar and a guide mounted on said bar, reëntrant engaging surfaces between said guide and said bar near the end of said guide next said rolls, with the surface on said guide outside of the surface on said bar, and means parallel with the longitudinal axis of said guide at or near the opposite end of the guide for holding said surfaces in engagement by a strain toward said rolls.

5. A rolling mill housing having a guide supporting bar, a guide mounted thereon, said guide and said bar provided with reëntrant engaging surfaces arranged to hold said guide from vertical movement, but to allow horizontal movement of said guide in a direction away from the rolls of the rolling mill, and means for holding said surfaces in engagement.

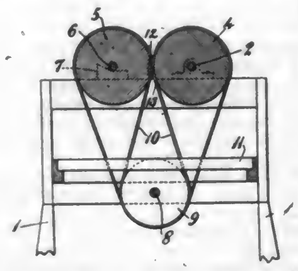
[Claims 6 and 7 not printed in the Gazette.]

972,220. PLANT-BENCH FOR HOTHOUSES. JOHN O'DONOGHUE, Jersey City, N. J. Filed Mar. 8, 1909, Serial No. 481,967. Renewed Aug. 8, 1910. Serial No. 576,079.



A bench for hot houses, conservatories and the like consisting of posts the tops of which are provided with upwardly directed extensions at the bottoms of which are laterally directed shoulders, top, side and end plates placed on said shoulders between the upwardly directed extensions of said posts and connected with said extensions by a tongue and groove construction, the inner sides of said posts and said top, side and end plates being provided with inwardly directed ledges or projections below the tops thereof, and transverse floor plates placed on said ledges or projections, said posts, the top, side and end plates and the transverse floor plates being all composed of reinforced concrete.

972,221. STRIP-SEVERING MACHINE. TRUMAN G. PADDACK, Wyoming, Ohio, assignor to The Stearns and Foster Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Apr. 30, 1909. Serial No. 493,162.

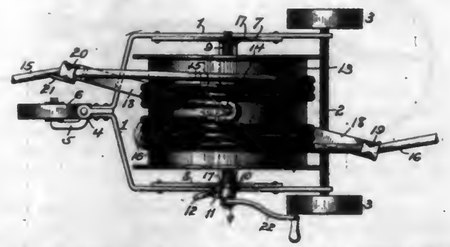


1. In a machine of the character specified, a roller journaled in the framework, with means for driving same, and a similar roller supported on said framework in contact with the driven roller, a plurality of idler pulleys independent of each other mounted in the frame in close proximity to each other, and a plurality of endless belts one for each pulley mounted alternately on the driven roller and the roller driven thereby, the belts being mounted in close proximity to each other, with their surface planes diverging, whereby a sheet of material will be severed at the line of divergence.

2. In a machine of the character specified, a roller journaled in the framework, with means for driving same, and a similar roller supported on said framework in contact with the driven roller, a plurality of idler pulleys independent of each other mounted in the frame in close proximity to each other, and a plurality of endless belts one for each pulley mounted alternately on the driven roller and the roller driven thereby, the belts being mounted in close proximity to each other, with their surface planes diverging, with the belts of one roller running in contact for a short distance with the surface of the opposite roller, whereby a sheet of material will be severed at the line of divergence.

3. In a machine of the character specified, a roller journaled in the framework, with means for driving same, and a similar roller of equal diameter therewith, with inclined supports on the frame therefor to bring said roller into contact with the driven roller, a plurality of idler pulleys, independent of each other, mounted in the frame in close proximity to each other underneath said rollers, and a plurality of endless belts, one for each pulley and mounted alternately on the driven roller, and the roller driven thereby whereby the belts will diverge below said rollers, substantially as and for the purpose described.

972,222. HOSE-REEL. WILLIAM L. PAUL, South Bend, Ind., assignor of one-half to Henry T. Curtwright, St. Louis, Mo. Filed Feb. 23, 1910. Serial No. 545,414.



1. A device of the character described comprising a traveling drum, hose wound in opposite directions upon said drum from between the ends thereof, and means connecting an intermediate portion of the hose with the drum.

2. A device of the character described comprising a traveling drum, hose comprising two sections wound in reverse directions upon said drum, and means connecting the inner ends of the respective hose sections with each other and with the drum.

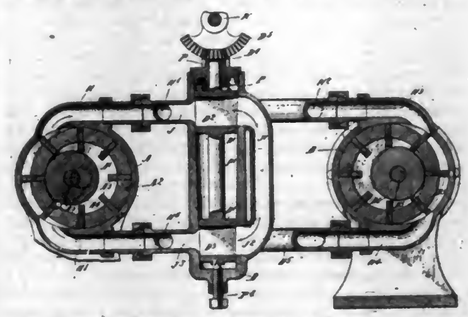
3. A device of the character described comprising a traveling drum, two hose sections wound thereon in reverse directions, and coupling means secured to the drum and connecting the inner ends of the respective hose sections.

4. A device of the character described comprising a traveling drum, a U coupling secured thereto, and two hose sections wound in reverse directions on said drum and having their inner ends attached to said U coupling.

5. The combination with a truck, of a drum revolubly mounted thereon, a guide-bar pivotally supported by the truck, and guide-loops at respective ends of said guide-bar for the passage of the hose.

[Claim 6 not printed in the Gazette.]

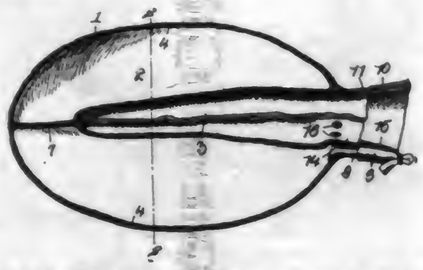
972,223. FLUID POWER TRANSMISSION AND CONTROLLING APPARATUS. WILLIAM E. PEARSON, Boston, Mass. Filed Aug. 31, 1909. Serial No. 515,531.



In an apparatus of this description, a pump constructed to propel any suitable transmitting fluid, three coned plug

valves, each provided with two way-passages, means for conducting the said transmitting fluid to the said plug valves, a motor and means for transmitting the said transmission fluid from the ways of the said plug valves to and from the said motor, a passage way connecting one way of one of the plug valves to the other way of the same plug valve, whereby no restraint of flow of the transmission fluid can take place in the operation of the apparatus; substantially as and for the purpose set forth.

972,224. SLAPPING-GLOVE. HERBERT H. PEASE, Port Williams, Wash. Filed May 16, 1910. Serial No. 561,633.



1. A slapping glove comprising a soft outer casing and an inflatable elastic body for the reception of the hand arranged within the casing and entirely filling the same, said body having thumb and finger stalls centrally located therein and flexibly connected to the walls of said body, whereby the entire hand is surrounded by the inflatable body.

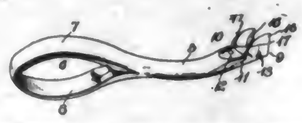
2. A slapping glove comprising a soft outer casing, an inflatable elastic body arranged within the casing and composed of an elongated bag having enlarged end portions and a contracted central portion formed with an opening, said bag being folded upon itself and having the extremities of its large end portions united, whereby a space is provided between the end portions of the bag for the reception of the hand.

3. A slapping glove comprising a soft outer casing, an inflatable elastic body arranged within the casing and composed of an elongated bag having enlarged end portions and a contracted central portion formed with an opening, said bag being folded upon itself and having the extremities of its large end portions united, whereby a space is provided between the end portions of the bag for the reception of the hand, and a hand-receiving mitt or inner casing arranged within the space between the two end portions of the bag and having its wrist portion projecting through said opening in the bag, and united to the outer casing.

4. A slapping glove comprising a soft, oval-shaped outer casing formed at one end with a tubular wrist portion, an inflatable elastic body formed from an elongated bag having enlarged end portions and a contracted central portion provided with an opening, the end portions of said bag being brought together and united at their extremities, whereby a space is formed between said portions for the reception of the hand when the latter is thrust through the opening in the central portion of the bag, an inner casing or mitt arranged within the space between the end portions of said bag and having a wrist portion extending through said opening in the bag and through the wrist portion of the outer casing, the two wrist portions being united and formed with coincident longitudinal slits, reinforcing pads surrounding the wrist portions of the inner and outer casings, means for closing the slit in said wrist portions to fasten the glove to the wrist of the wearer, and an inflating tube projecting from the inflatable body or bag and extending through said outer casing.

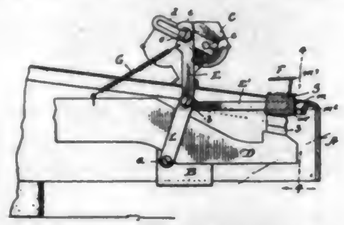
5. A slapping glove comprising a soft outer casing, an inflatable elastic body arranged within the casing and composed of an elongated bag having enlarged end portions and a contracted central portion formed with an opening, said bag being folded upon itself, whereby a space is provided between the end portions of the bag for reception of the hand, a mitt between the spaced portions of the bag to receive the hand, and anchoring strips passed through the central opening of the bag and having their ends attached whereby the bag or body will be prevented from slipping within the inner casing.

972,225. SCRAPING-TOOL. WILLIAM PENNELL, Berrien Springs, Mich. Filed Aug. 30, 1909. Serial No. 515,236.



A tool consisting of a shank having a pair of spaced approximately parallel ears projecting laterally from one end, said shank and ears having their forward ends sharpened, the rear ends of said ears being round and provided with a bearing surface against which the operator's thumb may be placed in applying pressure to the tool.

972,226. WORD-COUNTER FOR TYPE-WRITERS AND SIMILAR MACHINES. RICHARD M. PETTEY, Alexandria, Va. Filed May 6, 1910. Serial No. 559,666.



1. A word counter for typewriters and similar machines, comprising a counting register, a spacing mechanism, means for connecting the spacing mechanism to the counting register for contemporaneous operation, and a key whose initial movement disconnects the counting register from the spacing mechanism and whose final movement operates the spacing mechanism.

2. A word counter for typewriters and similar machines, comprising a counting register, a spacing mechanism, means for connecting the spacing mechanism to the counting register for contemporaneous operation, and a key whose initial movement disconnects the counting register from the spacing mechanism and whose final movement operates the spacing mechanism, said key having an elbow lever whose fulcrum is carried by the spacing mechanism and said elbow lever having a vertical arm with a hook engaging a movable part of the counting register, a spring for holding it so engaged and the other arm of the elbow lever being extended to overlap the spacing bar and operate it by the last portion of its movement.

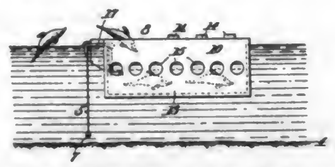
3. A word counter for typewriters and similar machines, comprising a counting register, a spacing mechanism, means for connecting the spacing mechanism to the counting register for contemporaneous operation, and a key whose initial movement disconnects the counting register from the spacing mechanism and whose final movement operates the spacing mechanism, and positive means for permanently locking out the connection with the counting register.

4. A word counter for typewriters and similar machines, comprising a counting register, a spacing mechanism, means for connecting the spacing mechanism to the counting register for contemporaneous operation, a key whose initial movement disconnects the counting register from the spacing mechanism, and whose final movement operates the spacing mechanism, said key having an elbow lever, whose fulcrum is carried by the spacing mechanism, said elbow lever having a vertical arm with a hook engaging a movable part of the counting register, a spring for holding it so engaged, and the other arm of the elbow lever being extended to overlap the spacing bar and operate it by the last portion of its movement, and positive means for permanently locking the elbow lever out of connection with the counting register.

5. A word counter for typewriters and similar machines, comprising a spacing mechanism, a counting register having an oscillating crank arm with a longitudinal slot in it, a crank pin secured adjustably in the slot and a device connecting said crank pin and the spacing mechanism, said connecting device being made adjustable into or out of operative connection with said crank pin.

[Claims 6 to 8 not printed in the Gazette.]

972,227. TRAP FOR CATCHING PORPOISES. CHARLES F. PIKE, Philadelphia, Pa. Filed Sept. 11, 1909. Serial No. 517,247.



1. Apparatus of the character described, comprising an obstruction, and a floating trap or live box in the rear thereof and at a right angle thereto, provided with means for removably connecting it directly to the obstruction and an opening in the top of the trap at the edge adjacent to the obstruction to receive porpoises jumping over the obstruction.

2. Apparatus of the character described, comprising an obstruction, and a floating trap or live box in the rear thereof and at a right angle thereto, provided with means for removably connecting it directly to the obstruction, and an opening in the top of the trap at the edge adjacent to the obstruction to receive porpoises jumping over the obstruction, and means for preventing the porpoises from jumping out of the trap.

3. Apparatus of the character described, comprising an obstruction, and a floating trap or live box in the rear thereof and at a right angle thereto, provided with means at the end adjacent to the obstruction for removably connecting the trap to the obstruction, said connecting means being adapted to be folded over into the trap when not in use.

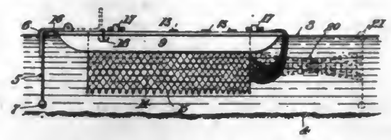
4. Apparatus of the character described, comprising an obstruction, and a floating trap or live box in the rear thereof and at a right angle thereto, provided with means at the end adjacent to the obstruction for removably connecting the trap to the obstruction, said connecting means being adapted to be folded over into the trap when not in use, and a fender to prevent the body of the trap from contacting with the obstruction when secured thereto.

5. Apparatus of the character described, comprising an obstruction, and a floating trap or live box in the rear thereof and at a right angle thereto, provided with means at the end adjacent to the obstruction for removably connecting the trap to the obstruction, said connecting means being adapted to be folded over into the trap when not in use, and an opening in its top near the end adjacent to the obstruction, to receive porpoises jumping over the obstruction, and slats covering the trap beyond the opening.

[Claims 6 and 7 not printed in the Gazette.]

972,228. TRAP FOR CATCHING PORPOISES. CHARLES F. PIKE, Philadelphia, Pa. Filed Sept. 11, 1909. Serial No. 517,248.

1. A porpoise trap comprising an obstruction in the path of the fish, an open floating body at the rear of and substantially at a right angle to the obstruction, said floating body being composed of buoyant sides and ends surrounding a central opening in position to receive fish jumping over the obstruction, a net suspended from the bottom of the side and end walls of, and below said opening, means for keeping the net suspended in proper form, and means for securing the forward end of the floating body directly to the obstruction.



2. A porpoise trap comprising an obstruction in the path of the fish, an open floating body at the rear of and substantially at a right angle to the obstruction, said floating body being composed of buoyant sides and ends surrounding a central opening in position to receive fish jumping over the obstruction, means for partially closing the rear portion of said opening leaving the forward portion open to receive the fish jumping over the obstruction, a net suspended from the bottom of the side and end walls of, and below said opening, means for keeping the net suspended in proper form, and means for removably securing the trap directly to the rear side of the obstruction at substantially a right angle thereto.

3. A porpoise trap comprising an open floating body, composed of buoyant side and end walls completely surrounding a central opening, a net suspended from the bottom of the side and end walls of, and below said opening, means for keeping the net suspended in proper form, means for securing the trap directly to an obstruction in position to receive into the net fish jumping over the obstruction, and means for preventing the fish jumping out of the net.

4. A porpoise trap comprising an open floating body, composed of buoyant sides and ends surrounding a central opening, a net suspended from the sides and ends below said opening, means for keeping the net suspended in proper form, means for securing the trap to an obstruction, means for preventing the jumping out of the fish, means below the floating body for discharging the fish, and means for self propulsion of the floating body.

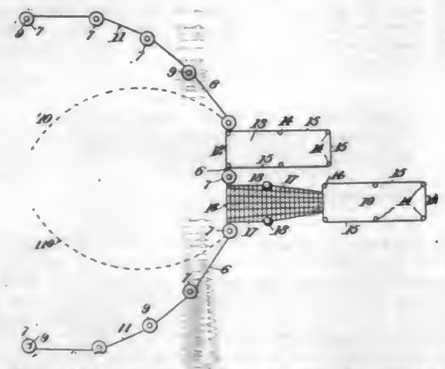
5. A porpoise trap comprising an open floating body composed of buoyant sides and ends surrounding a central opening, a flexible net suspended from the sides and ends below said opening, weights arranged around the bottom edges of the net to keep it suspended in proper form, an opening in the body of the net, and a flexible tubular extension from said opening for discharging the contents of the net.

972,229. TRAP FOR CATCHING PORPOISES. CHARLES F. PIKE, Philadelphia, Pa. Filed Sept. 11, 1909. Serial No. 517,249.

1. An apparatus of the character described, comprising an obstruction in the path of travel of the fish extending above and below the surface of the water, a pound in the rear of the obstruction, that part of the obstruction above the water being removed at the point in front of the pound, and an opening being provided at another point below the water, a tubular guide connected around said opening to the rear side of the obstruction, and a pound located in the rear of and communicating with said guide, substantially as described.

2. An apparatus of the character described, comprising an obstruction in the path of travel of the fish extending above and below the surface of the water, secured against lateral or longitudinal displacement, but permitted to rise and fall with the tide, and provided with an opening below the surface of the water, in combination with a rigidly fixed pound in the rear of and separated from the obstruction having an opening in its front wall, and a flexible tubular guide extending from the rear side of the

obstruction to the front wall of the pound and connecting the opening in the pound with that in the obstruction, substantially as described.

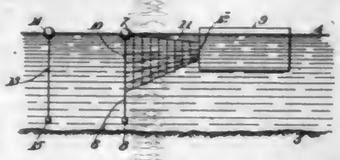


3. An apparatus of the character described, comprising poles planted in the water and extending above the surface thereof, an obstruction extending above and below the surface of the water, buoyant rings slidable on the poles and connected to the top of the obstruction, weighted rings slidable on the poles and connected to the bottom of the obstruction, and a pound in the rear of the obstruction, substantially as described.

4. An apparatus of the character described, comprising poles planted in the water and extending above the surface thereof, an obstruction extending above and below the surface of the water, floats slidable on the poles to which the obstruction is attached, a pound in the rear of the obstruction, that portion of the obstruction which connects with the pound terminating upwardly at the surface of the water, substantially as described.

5. An apparatus of the character described, comprising poles planted in the water and extending above the surface thereof, an obstruction extending above and below the surface of the water, floats slidable on the poles to which the obstruction is attached, a pound in the rear of the obstruction, the obstruction at this point being provided with an opening below the surface of the water, and a tubular passage leading from this opening in the obstruction to the pound, the obstruction being constructed in the form of spreading curved wings forming guides toward that portion behind which the pound is located, substantially as described.

972,230. TRAP FOR CATCHING PORPOISES. CHARLES F. PIKE, Philadelphia, Pa. Filed Sept. 11, 1909. Serial No. 517,250.



1. A device for catching porpoise, comprising two substantially parallel obstructions with an intervening space, the first obstruction being uninterrupted and the second provided with means for securing the porpoise, substantially as described.

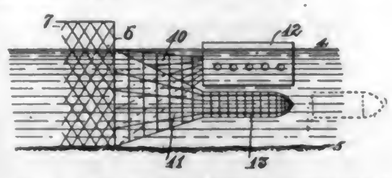
2. A device for catching porpoise, comprising two substantially parallel obstructions with an intervening space, the first obstruction being uninterrupted and the second provided with an opening through which the fish may pass and a receptacle beyond the opening to receive the fish passing through the obstruction, substantially as described.

3. A device for catching porpoise, comprising two substantially parallel obstructions with an intervening space, the first obstruction being uninterrupted and the second provided with an opening, an entrance net fitted about said opening and a receptacle communicating with the outer end of the entrance net, substantially as described.

4. A device for catching porpoise, comprising two substantially parallel obstructions with an intervening space, the first obstruction being uninterrupted and the second provided with an opening, an entrance net fitted about said opening and a receptacle communicating with the outer end of the entrance net, said receptacle being removably attached to said entrance net, substantially as described.

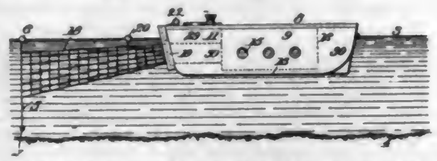
5. A device for catching porpoise, comprising two substantially parallel obstructions with an intervening space, the first obstruction being uninterrupted and the second provided with means for securing the porpoise, and transverse obstructions connecting the two main obstructions and located on opposite sides of the means for securing the fish, substantially as described.

972,231. TRAP FOR CATCHING PORPOISES. CHARLES F. PIKE, Philadelphia, Pa. Filed Sept. 11, 1909. Serial No. 517,251.



A device of the character described, comprising an obstruction adapted to be placed in the water in the path of travel of the porpoise, extending above and below the surface of the water and provided below the surface with an opening, in combination with a tubular guide leading rearwardly from said opening, and a receiver in the rear of and detachably connected to the outer end of said guide, said receiver being in the form of a floating live box having openings to afford free flow of water therethrough and projecting above the surface of the water to afford a contained porpoise free access to the air.

972,232. FISH-TRAP. CHARLES F. PIKE, Philadelphia, Pa. Filed Sept. 11, 1909. Serial No. 517,252.



1. In an apparatus for catching fish, the combination with an obstruction adapted to be placed in the path of the fish and provided with an opening, a sea going receptacle in the rear thereof in the form of a live box and having an opening therein, of a direct connection between the obstruction and the receptacle registering with the openings therein, substantially as described.

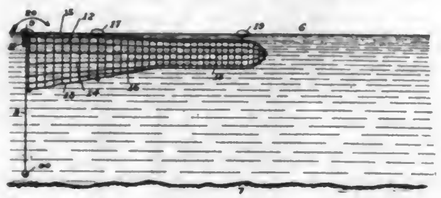
2. In an apparatus for catching fish, the combination with an obstruction adapted to be placed in the path of the fish and provided with an opening, a sea going receptacle in the rear thereof in the form of a live box and having an opening therein, of a tubular passage way leading from the opening in the obstruction to the opening in the receptacle and provided with means for attachment to and detachment from the receptacle, substantially as described.

3. In an apparatus for catching fish, the combination with an obstruction adapted to be placed in the path of the fish and provided with an opening, a sea going receptacle in the rear thereof in the form of a live box and having an opening therein, of a tubular passage way leading from the opening in the obstruction to the opening in the receptacle, and provided with floats and means for attachment to and detachment from the receptacle, substantially as described.

4. In an apparatus for catching fish, the combination with an obstruction adapted to be placed in the path of the fish and provided with an opening, a sea going receptacle in the rear thereof in the form of a live box and having an opening therein, a vertical slide way in front of said opening, a tubular guide way connecting the opening in the obstruction with the opening in the receptacle, and a ring fitted in the tube end of the rear guide way and adapted to fit in the slide way in the receptacle, said ring being provided with a float, substantially as described.

5. In an apparatus of the character described, a sea going live box in the form of a boat, provided with an air chamber at its forward end, a passage way leading through said air chamber from the body of the receptacle to an opening in its forward end, a slide way at the forward end of the receptacle, and a disk attached to the receptacle and adapted to be placed in the slide way to close the opening, in combination with an obstruction in the path of the fish having an opening therein, a tubular guide leading rearwardly from the opening in the obstruction and a float ring attached to the rear end of the tubular guide and adapted to be placed in the slide way of the receptacle to connect its passage way with the tubular guide and the opening in the obstruction, substantially as described.

972,233. TRAP FOR CATCHING PORPOISES. CHARLES F. PIKE, Philadelphia, Pa. Filed Apr. 9, 1908, Serial No. 426,047. Renewed Mar. 1, 1910. Serial No. 546,738.



1. A device of the character described consisting of an extended substantially straight seine, placed directly across the otherwise free path of the porpoise, and a trap in the rear of and at substantially a right angle to the obstruction provided with an opening in its top near the obstruction to admit the fish into the trap when they jump over the obstruction, substantially as described.

2. A device of the character described, comprising an obstruction, such as a seine, in the path of the porpoise, a trap in the rear thereof and at substantially a right angle thereto having an open rear end, and an open top to receive the fish jumping over the obstruction, and a receptacle joining the trap in the rear, having an open front for the reception of the fish from the trap, and an opening in the obstruction leading to the interior of the trap, substantially as described.

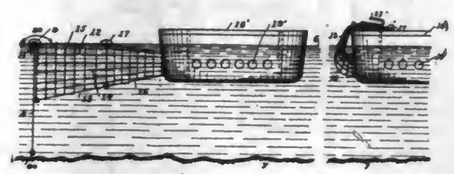
3. A device of the character described comprising a floating obstruction in the path of the porpoise, a floating trap secured on the rear side of the obstruction having an open top to receive the fish jumping over the obstruction, and a floating receptacle communicating with the trap to receive the fish therefrom, substantially as described.

4. A device of the character described comprising a floating obstruction having an opening, a floating trap in the rear of the obstruction having an open top, and an open-end coinciding with the opening in the obstruction, and a floating receptacle in the rear of and communicating with the trap, substantially as described.

5. A device of the character described comprising an obstruction, such as a seine, in the path of the porpoise and a trap in the rear of the obstruction having means whereby it may be temporarily secured to the obstruction and having an open top, substantially as described.

[Claim 6 not printed in the Gazette.]

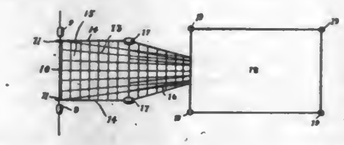
972,234. TRAP FOR CATCHING PORPOISES. CHARLES F. PIKE, Philadelphia, Pa. Filed Apr. 9, 1908, Serial No. 426,048. Renewed Mar. 1, 1910. Serial No. 546,739.



1. A device of the character described comprising an obstruction in the path of the porpoise, a trap securable to the rear side of the obstruction and provided with an open rear end and an open top to receive the fish jumping over the obstruction, a conduit connected to the open rear end of the trap, and a receptacle secured to the open rear end of the conduit, substantially as described.

2. A device of the character described comprising an obstruction in the path of the porpoise, a trap removably securable to the rear side of the obstruction and provided with an open rear end and an open top to receive the fish jumping over the obstruction, a conduit connected to the open rear end of the trap, and a receptacle secured to the open rear end of the conduit, the trap and conduit being flexible and adapted to be loaded on the receptacle and carried with it, substantially as described.

972,235. TRAP FOR CATCHING PORPOISES. CHARLES F. PIKE, Philadelphia, Pa. Filed Apr. 9, 1908, Serial No. 426,049. Renewed Mar. 1, 1910. Serial No. 546,740.



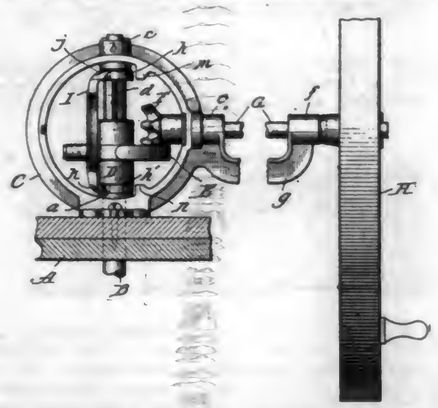
1. A device of the character described comprising an obstruction which extends above the surface of the water at intervals and a trap located to receive and secure the fish which may jump over the parts of the obstructions between said extensions.

2. A device of the character described, comprising an obstruction in the path of travel of the fish, traps in the rear of the obstruction having open tops, to receive fish jumping over the obstruction, and guards on the obstruction above the water between the traps to prevent the fish from jumping over the obstruction at any points other than in front of the traps, substantially as described.

3. A device of the character described comprising an obstruction in the path of travel of the fish, traps in the rear of the obstruction having open tops, to receive fish jumping over the obstruction, and guards of netting comprising double armed frames adapted to be straddled on the obstruction above the water between the traps, to prevent the fish from jumping over the obstruction at any points other than in front of the traps, substantially as described.

4. A guard of the character described, comprising a rigid frame work having its sides constructed in the form of inverted forks, and netting stretched upon the frame, substantially as described.

972,236. MECHANICAL MOVEMENT. ADOLPH PLAGMAN, Davenport, Iowa, assignor to White Lily Manufacturing Company, Davenport, Iowa, a Corporation of Iowa. Filed May 2, 1910. Serial No. 558,943.



1. A mechanical movement comprising a continuously revoluble drive-shaft, a rotary reciprocal driven-shaft disposed at an angle thereto, a pinion on one end of said drive-shaft, a segmental rack engaged by said pinion for transmitting the motion of the drive-shaft to the driven-shaft, and a member having a limited movement and engaged by said rack during the reversal movement of said rack.

2. A mechanical movement comprising a continuously revoluble drive-shaft, a rotary reciprocal driven-shaft disposed at an angle thereto, a pinion on one end of said drive-shaft, a segmental rack engaged by said pinion for transmitting the motion of the drive-shaft to the driven-shaft, and an intermittently movable member having a limited movement and engaged by said rack during the reversal movement of said rack.

3. A mechanical movement comprising a continuously revoluble drive-shaft, a rotary reciprocal driven-shaft disposed at an angle thereto, a pinion on one end of said drive-shaft, a segmental rack engaged by said pinion for transmitting the motion of the drive-shaft to the driven-shaft, and a member adapted to have a movement concentric to the axis of said rack, and having a limited movement and engaged by said rack during the reversal movement of said rack.

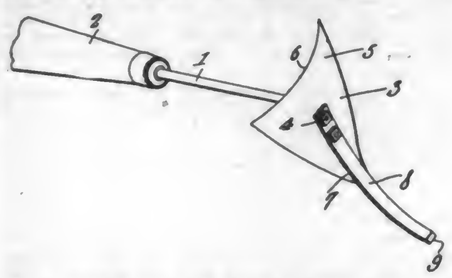
4. A mechanical movement comprising a continuously revoluble drive-shaft, a rotary reciprocal driven-shaft disposed at an angle thereto, a pinion on one end of said drive-shaft, a sleeve slidable longitudinally upon but rotatable with said driven-shaft, and having a segmental rack engaged by said pinion for transmitting the motion of the drive-shaft to the driven-shaft, and a member having a limited movement and engaged by said rack during the reversal movement of said rack.

5. A mechanical movement comprising a continuously revoluble drive-shaft, a rotary reciprocal driven-shaft disposed at an angle thereto, a pinion on one end of said drive-shaft, a sleeve slidable longitudinally upon but rotatable with said driven-shaft, and having a segmental rack engaged by said pinion for transmitting the motion of the drive-shaft to the driven-shaft, and a member having a limited movement and engaged by said rack during the reversal movement of said rack.

[Claims 6 to 14 not printed in the Gazette.]

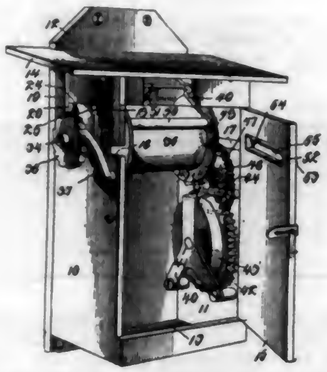
972,237. WORMING-TOOL. ALFRED W. POOLE, Ozark, Ark. Filed Feb. 7, 1910. Serial No. 542,527.

1. A worming tool comprising a shank, an approximately triangular blade attached to the shank, a chisel member mounted upon the forward side of the blade and concaved longitudinally and terminating in a cutting edge, and securing devices passing transversely through the shank, the blade and the chisel member.



2. A worming tool comprising a shank, an approximately triangular blade attached to the shank and disposed at an acute angle to the axis thereof, said blade having an upper rearwardly disposed cutting edge, a longitudinally convexed chisel member applied to the forward surface of the blade and terminating in a cutting edge and securing devices passing transversely through the shank, the blade and the chisel member.

972,238. CLOTHES-LINE REEL. JOHN C. POORMAN, Summerhill, Pa., assignor of one-third to Irwin M. Oldham, Portage, Pa. Filed Jan. 7, 1910. Serial No. 536,833.

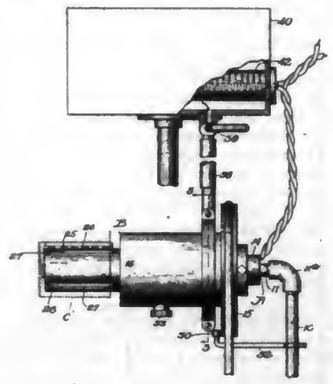


1. A clothes line reel comprising a casing having its sides correspondingly slotted and opening through one edge thereof, said slots having like recesses formed in corresponding walls, a shaft mounted in said recesses, a locking plate slidably mounted on each side of the casing and provided with a recess in its lower edge adapted to receive and hold the shaft against bodily movement in the slots in the sides of the casing, and a reel fixed on said shaft.

2. A clothes line reel comprising a casing having its sides correspondingly slotted and opening through one edge thereof, a shaft having its respective terminals mounted in said slots, a pair of guide rails mounted on each side of the casing, a locking plate slidably mounted in said guide rails and adapted to be moved into engagement with the shaft to secure the latter against bodily movement in the slot in which it is mounted, means for securing said locking plates in adjusted position with respect to the guide rails, and a reel fixed on said shaft.

3. A clothes line reel comprising a casing having its sides correspondingly slotted and opening through one edge thereof, a shaft having its respective terminals mounted in said slots, a pair of guide rails on each side of the casing, a locking plate slidably mounted between each pair of guide rails and adapted to be moved into engagement with the shaft to hold same against bodily movement in the slots in which it is mounted, each of said locking plates having a slot formed therein and opening through one edge thereof, a set screw mounted in each side of the casing and extending through said slots whereby the locking plate may be secured in any adjusted position with relation to the guide rails, and a reel fixed on said shaft.

972,239. COATING APPARATUS. HARRY J. POTTER, Watertown, Mass. Filed Aug. 20, 1909. Serial No. 513,830.



1. A coating apparatus comprising a rotatable container for the coating substance provided with an opening in its wall, absorbent material secured to the container over the opening, and stationary heating means about which the container rotates.

2. In a coating apparatus, a rotatable container provided with a reduced applying portion, a bearing member for the container extending therethrough and into the applying portion, and heating means carried by the bearing member within the applying portion.

3. In a coating apparatus, a rotatable container provided with a reduced applying portion, a bearing member for the container extending therethrough and into the applying portion to a less distance than its outer extremity, and a spacing member situated between the bearing member and the applying portion.

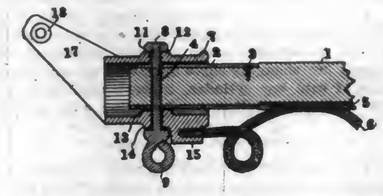
4. A coating apparatus comprising a tubular container provided in its wall with series of openings, a retaining member carried by the wall of the container extending along each series of openings, and a strip of absorbent material separately covering each series of openings and being secured to the corresponding retaining member.

5. A coating apparatus comprising a tubular container provided in its wall with a series of openings, a retaining member carried by the wall of the container adjacent to the openings, absorbent material secured to the member and covering the openings, and a plurality of guide members mounted upon the wall of the container at opposite sides of the absorbent material.

[Claims 6 to 13 not printed in the Gazette.]

972,240. TROLLEY. HOWARD B. POTTS, Jackson township, Guernsey county, Ohio. Filed Jan. 10, 1910. Serial No. 537,299.

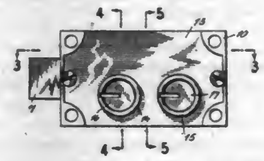
1. In a trolley, the combination with a wheel-bearing-harp provided with a tubular lower end having extending therethrough a cylindrical opening, said tubular lower end provided with a laterally-projecting lug having a recess to receive the end of a current-conducting wire, of a trolley-pole one end of which is arranged to be inserted in said cylindrical opening, the diameter of the end of said pole being less than the internal diameter of said opening to permit movement of one of said elements with respect to the other and a pivoting bolt extending through the tubular portion of said harp and the end of said pole for loosely connecting said elements together, substantially as described.



2. In a trolley, the combination with a wheel-bearing-harp provided with a tubular lower end having a cylindrical opening therein and further provided with oppositely-disposed apertures, a trolley-pole of less diameter than the diameter of said opening inserted therein and provided with a transverse opening positioned in alinement with said apertures, a bolt constituting a pivot for loosely uniting said harp and pole together mounted in said apertures and extending through the opening in said pole, one end of said bolt formed to constitute means for connection with a rope for manually manipulating said trolley-pole, substantially as described.

3. In a trolley, the combination with a wheel-bearing-harp provided with a tubular lower end having a cylindrical opening therein and further provided with oppositely-disposed apertures, a trolley-pole provided with a ferrule at one end thereof of less diameter than the diameter of said opening inserted therein and provided with a transverse opening positioned in alinement with said apertures, a bolt constituting a pivot for loosely uniting said harp and pole together mounted in said apertures and extending through the opening in said pole, one end of said bolt formed to constitute means for connection with a rope for manually manipulating said trolley-pole, substantially as described.

972,241. INTERCHANGEABLE-KEY LOCK. EDWIN J. PRINDLE, New York, N. Y., assignor to Herring-Hall-Marvin Safe Company, Hamilton, Ohio. Filed Jan. 25, 1908. Serial No 412,647.



1. In an interchangeable key lock, the combination of a series of stumps, means for yielding holding said stumps from movement when the lock is locked, means for resetting said stumps while the lock is locked, and a corresponding series of tumblers.

2. In an interchangeable key lock, the combination of a casing, a bolt, a series of stumps slidably mounted upon said bolt, means for yieldingly preventing movement of said stumps while the lock is locked, a key-cylinder key engaging surfaces on said stumps to operate said stumps while the lock is locked, and a corresponding series of tumblers.

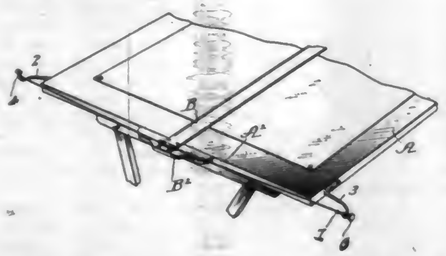
3. In an interchangeable key lock, the combination of a casing, a bolt, a series of stumps slidably mounted upon said bolt, means for yieldingly opposing the movement of said stumps, and a key cylinder, said stumps having substantially parallel edges adapted to be engaged, the one edge by a resetting key and the other edge by a lock operating key, and a corresponding series of tumblers.

4. In an interchangeable key lock, the combination of a casing, a bolt, a series of stumps slidably mounted upon said bolt, means for yieldingly opposing the sliding of said

stumps when the lock is locked, a corresponding series of tumblers, and means whereby both said stumps and said tumblers may be each directly engaged and operated by a key.

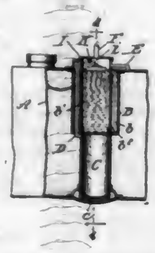
5. In an interchangeable key lock, the combination of a casing, a bolt, a series of stumps slidably mounted upon said bolt, springs bearing against said stumps to yieldingly oppose their movement, a key cylinder coöperating with said stumps, key engaging edges upon said stumps on opposite sides of said key cylinder, a corresponding series of tumblers, and a key cylinder coöperating with said tumblers.

972,242. DRAFTING APPLIANCE. FREDERICK M. PRINTZ and ANTON FROST, Chicago, Ill. Filed Feb. 15, 1909. Serial No. 477,873.



The combination with a drawing board and a T-square, of a pair of brackets having their bases secured to opposite edges of said board adjacent one end thereof, said brackets being bent outwardly from said bases to bring the outer ends of the brackets a sufficient distance from the board to provide a space for the head of said T-square when the latter lies near the edge of the board; a grooved button on the upper side of said T-square head; a non-extensible flexible member secured directly to said brackets and strained directly between them along said end of the board, said member engaging said button and being bowed outwardly thereby to frictionally hold the head of the T-square against the edge of the drawing board, the pressure of said member acting also to hold the blade of the T-square into contact with the upper surface of the board; and means carried by one of said brackets for adjusting the tension of said member.

972,243. APPARATUS FOR MIXING AND CONTAINING LIQUIDS. FREDERICK PURDY, Kenosha, Wis., assignor to Thomas B. Jeffery, Kenosha, Wis.; Kate E. Jeffery, Charles T. Jeffery, and Harold W. Jeffery executors of said Thomas B. Jeffery, deceased. Filed Nov. 22, 1909. Serial No. 529,260.



1. In an apparatus of the character described, a main reservoir, an auxiliary reservoir, said main reservoir having an inlet port, a device controlling said port, means associated with said reservoir for causing liquid in the auxiliary reservoir to be transferred automatically and progressively into the main reservoir when liquid is poured into the main reservoir, and means governed by the level of the liquid in the auxiliary reservoir for controlling said device.

2. In an apparatus of the character described, a main reservoir, an auxiliary reservoir, means associated with said reservoirs for automatically and progressively transferring liquid from the auxiliary reservoir to the main reservoir as liquid is poured into the main reservoir and means associated with said auxiliary reservoir for indicating the condition of the liquid in the auxiliary reservoir.

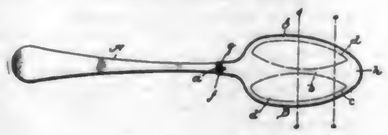
3. In an apparatus of the character described, a main reservoir, an auxiliary reservoir, there being an inlet port in the main reservoir and a discharge outlet from the auxiliary reservoir to the main reservoir, a device for closing said port, and means governed by the liquid level in the auxiliary reservoir for controlling said device.

4. In an apparatus of the character described, a main reservoir, an auxiliary reservoir, there being an inlet port in the main reservoir, means associated with said reservoirs for causing liquid to be transferred automatically and progressively from the auxiliary reservoir to the main reservoir during the filling of the main reservoir, said means being so proportioned and arranged that the transfer of liquid will take place only when the volume of the liquid in the auxiliary reservoir bears a predetermined relation to the empty space in the main reservoir, and means associated with the auxiliary reservoir for indicating whether or not said predetermined relation exists.

5. In an apparatus of the character described, a main reservoir, an auxiliary reservoir, there being an inlet port in the main reservoir, means associated with said reservoirs for causing liquid to be transferred automatically and progressively from the auxiliary reservoir to the main reservoir during the filling of the main reservoir, said means being so proportioned and arranged that the transfer of liquid will take place only when the volume of the liquid in the auxiliary reservoir bears a predetermined relation to the empty space in the main reservoir, and means associated with said auxiliary reservoir for maintaining said port closed at times when said predetermined relation does not exist between the volume of the liquid in the auxiliary reservoir and the empty space in the main reservoir.

[Claim 6 not printed in the Gazette.]

972,244. SPOON. MARY V. PUTNAM, New Orleans, La. Filed June 16, 1910. Serial No. 567,252.

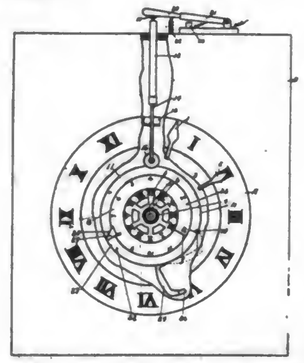


1. As a new article of manufacture, a spoon bowl comprising a skeleton reinforcement of comparatively rigid material, having a longitudinal-central portion and side portions and also having openings between the longitudinal-central portion and the side portions, and a covering of material that is soft, resilient and non-absorbent, on said reinforcement.

2. As a new article of manufacture, a spoon having a bowl that comprises a skeleton reinforcement of comparatively rigid material which includes an outer portion and an inner portion between which and the outer portion openings are afforded, and a covering of soft rubber on said reinforcement.

3. As a new article of manufacture, a spoon having a bowl that comprises a skeleton reinforcement of comparatively rigid material which includes an outer portion and an inner portion between which and the outer portion openings are afforded, and a covering of material that is soft, resilient and non-absorbent, on said reinforcement.

972,245. SIGNAL-ACTUATING MEANS. ALFRED T. RACKSTRAW, Bay City, Mich. Filed Oct. 18, 1909. Serial No. 523,263.



1. The combination with a movable member, of a plurality of concentric disks of different diameters, means for rotating the disks, the movable member adapted to engage the peripheries of the disks, and means for transferring and re-transferring that end of the movable member which engages the disks, from one disk to the other.

2. The combination with a movable member, of rotatable, concentric, clock-actuated disks of different diameters, one end of the movable member adapted to engage the respective disks successively, means for transferring and retransferring that end of the movable member which engages the disks, from one disk to the other, both disks being adapted to be adjusted simultaneously to vary the time of transfer.

3. The combination with a movable member, of a clock, a rotatable spiral, the convolution at one end of which is reduced in diameter, the member adapted to engage the spiral, means for transferring the point of engagement of the member from that portion of the spiral having the larger diameter onto the reduced convolution, and adjustable means for returning the point of engagement of the movable member to the unreduced portion of the spiral.

4. The combination with a movable member, of a plurality of concentric disks, clock-controlled means for rotating the disks, one of the disks being of greater diameter than the other, one end of the movable member adapted to engage the disks, means for transferring the end of the movable member from the larger disk to the smaller disk, and adjustable means for transferring the end of such member onto the larger disk.

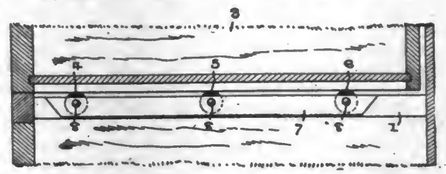
5. The combination with a movable member, of a plurality of concentric disks, clock-controlled means for rotating the disks, one of the disks being of greater diameter than the other, one end of the movable member adapted to engage the disks, means for transferring the end of the movable member from the larger disk to the smaller disk, adjustable means for transferring the end of such member onto the larger disk, and means for releasably retaining the re-transferring means in adjusted position.

[Claims 6 to 21 not printed in the Gazette.]

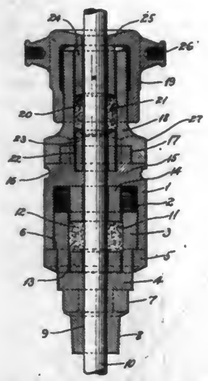
972,246. DRAWER-GUIDE. SAMUEL L. REDWINE, Toledo, Ohio. Filed Nov. 9, 1909. Serial No. 526,978.

1. A device of the character described, comprising a frame, a drawer adapted to slide in said frame, said frame having a bed plate, a beading extending the length of said bed plate as a guide for said drawer, a housing carried by said bed plate adjacent said beading and a plurality of rollers mounted in said housing for effecting the easy movement of said drawer substantially as described.

2. In an article of furniture provided with a drawer, a bed plate, a beading extending longitudinally along the upper face of said bed plate and adapted to act as a guiding means for said drawer, a housing extending parallel with and adjacent to said beading, a plurality of pins extending transversely through said housing and into said bed plate and a corresponding number of rollers carried by said pins and adapted to rotate thereon, substantially as described.

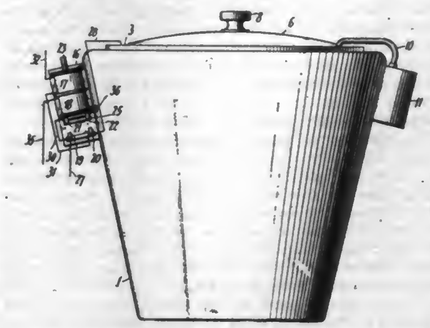


972,247. STUFFING-BOX. JOHN H. REESE and THERON F. DUNLAVY, Colegrove, Cal., assignors of one-third to George G. Hunt, Colegrove, Cal. Filed Feb. 23, 1910. Serial No. 545,315.



A stuffing box having a main socket opening downwardly, a plug screwing into said socket and forming a pocket adapted to receive packing, a tubular neck screwing on the upper end of said socket and forming a pocket adapted to receive packing, and a cap nut screwing on said neck and adapted to compress the packing in said last named pocket.

972,248. ELECTRIC HEATING-RECEPTACLE. WALTER RICHMOND, Memphis, Tenn. Filed Feb. 13, 1909. Serial No. 477,549.

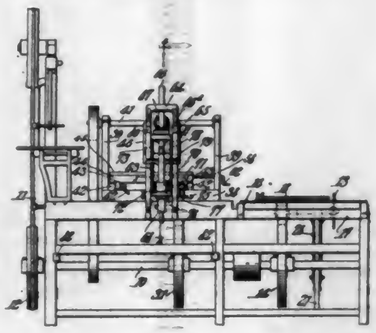


1. In an apparatus of the class described, an outer receptacle comprising spaced side and bottom walls and a

connecting edge wall, said receptacle having heat insulating material packed in the space between the walls, an inner receptacle of heat conducting material provided with a flanged edge adapted to rest on the edge of the outer receptacle, said inner receptacle being spaced from the sides and bottom of the outer receptacle, an electric circuit including series connected heating coils arranged longitudinally of the space between the sides of said receptacles and transversely across the space between the bottoms thereof, and thermostatic means to open and close said circuit, including an expansion chamber covering the bottom of the inner receptacle, a pipe leading therefrom, and a pressure actuated switch connected to the pipe.

2. In an apparatus of the class described, an outer receptacle comprising spaced side and bottom walls and a connecting edge wall, said receptacle having heat insulating material packed in the space between the walls, an inner receptacle of heat conducting material provided with a flanged edge adapted to rest on the edge of the outer receptacle, said inner receptacle being spaced from the sides and bottom of the outer receptacle, an electric circuit including series connected heating coils arranged longitudinally of the space between the sides of said receptacles and transversely across the space between the bottoms thereof, and thermostatic means to open and close said circuit; said outer and inner receptacles being of inverted frusto-conical form, and the longitudinal coils having their axes in planes radial to the axes of the cones whereby the lower portion of the inner receptacle receives the major portion of the heat.

972,249. WOODWORKING-MACHINE. HERMAN RIECK, Greenwood township, Vernon county, Wis. Filed June 24, 1909. Serial No. 504,120.

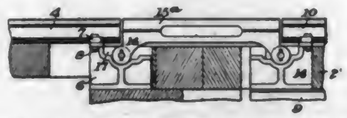


1. In a boring machine, a supporting frame, spaced plates thereon, said plates having alined slots, a cross-head slidable between the plates, a boring spindle carried by the cross-head, a cross-bar adjustably mounted in the slots in the path of the cross-head, for limiting the movement thereof in one direction, said cross-bar projecting at its ends from the slots, and being reduced and screw threaded, nuts screwed on said threaded ends for holding the cross bar at adjustment, means for operating the cross-head, and driving means for the spindle.

2. In a boring machine, a supporting frame, a carriage mounted for travel thereon transversely and longitudinally, a boring spindle on the carriage, a longitudinal shaft mounted on the supporting frame, a sectional shaft on the carriage geared to the spindle and to the drive shaft, and extending transversely of the latter shaft, one of the shaft sections being tubular and receiving the other section, and a bearing for the tubular shaft section in sliding engagement with the carriage to permit the transverse travel thereof, said bearing being loosely supported at one end on the drive shaft to travel with the carriage on its longitudinal movement.

3. In a boring machine, a supporting frame, a carriage mounted for travel thereon transversely and longitudinally, said carriage having spaced frame members provided with guide grooves, a bit spindle on the carriage, a longitudinal drive shaft mounted on the supporting frame, a sectional shaft on the carriage geared to the spindle and the drive shaft, and extending transversely of the latter shaft, one of the shaft sections being tubular and receiving the other section, and a bearing for the tubular shaft section in sliding engagement with the carriage to permit the transverse travel of the latter, said bearing being loosely supported at one end on the drive shaft to travel with the carriage on its longitudinal movement, and said bearing having tongues at its longitudinal edges which enter the guide grooves of the aforesaid frame members.

972,250. APPROACH-RAIL FOR TRACK-SCALES. JOHN A. RISHEL, Munhall, Pa., assignor of one-half to Jesse R. Oakley, Munhall, Pa. Filed Mar. 27, 1909. Serial No. 486,256.



1. A track scale comprising track, scale and approach rails, chairs forming supports for the ends of the track and scale rails, the ends of said approach rails having a hinged connection with the chairs; substantially as described.

2. A track scale comprising track, scale and approach rails, chairs forming rigid supports for the ends of the track and scale rails, the adjoining ends of said track rails and scale rails being connected by the approach rails, the ends of the approach rails being pivotally mounted on the chairs; substantially as described.

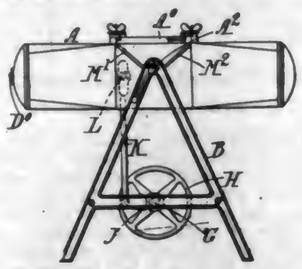
3. A track scale having a track, scale and connecting approach rails, chairs forming supports for the ends of said rails, the ends of the approach rail being pivotally mounted on the chairs; substantially as described.

4. A track scale having track and scale rails and an approach rail connecting the adjoining ends of the track rails and scale rails, chairs forming supports for the ends of the track and scale rails, the ends of said approach rails being pivotally supported on the chairs; substantially as described.

5. A track scale comprising track and scale rails and connecting approach rails, chairs forming supports for the ends of said track and scale rails, the ends of the approach rails being pivotally supported on said chairs, and means for holding the approach rails in position on the chairs; substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

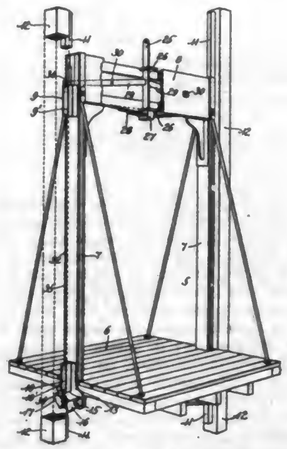
972,251. MACHINE FOR WASHING PLATES OR OTHER TABLEWARE. HORACE WYNDHAM RODDA, South Kensington, London, England. Filed Feb. 7, 1908. Serial No. 414,829.



1. A washing machine of the character described, comprising an oscillating box or container for the articles to be washed, fitted with a watertight lid, and means for holding the articles to be washed within the central portion of the container and spaced away from the ends thereof.

2. A washing machine of the character described comprising in combination an oscillatable box or container for the articles to be washed, trunnions thereon, one of which trunnions is hollow, a support for said trunnions, a pipe for supplying water into the hollow trunnion, branch pipes leading from said hollow trunnions and having extensions within the box, the said extensions being arranged within the uppermost part of the central portion of the box for the purpose set forth, and a holder removably arranged within the central portion of the box.

972,252. SAFETY-GRIP FOR ELEVATORS. COLUMBUS K. ROGERS, Salem, Mass. Filed Mar. 3, 1910. Serial No. 546,989.



1. An elevator safety device having, in combination, an elevator car, guide strips therefor, guides fast to said elevator car adapted to engage said guide strips, a pair of grip dogs pivotally mounted on one of said guides upon opposite sides of one of said guide strips, gears integral with said grip dogs meshing into each other, means movable on said elevator car, whereby said elevator car may be hoisted, and mechanism connecting said movable means to one of said grips, whereby when said means is moved relatively to said elevator car said grips are brought into engagement with one of said guide grips.

2. An elevator safety device having, in combination, an elevator car, guide strips therefor, guides fast to said elevator car adapted to engage said guide strips, a pair of grip dogs pivotally mounted upon one of said guides upon opposite sides of one of said guide strips, gears integral with said grip dogs meshing into each other, a slide movable vertically on said elevator car, a stop therefor, said slide adapted to be connected to a hoisting cable, whereby said elevator car may be hoisted, a spring adapted to move said slide downwardly, a lever connected to said slide, and a rod connecting said lever to one of said grips, whereby when said slide is moved relatively to said elevator car said grips are brought into engagement with one of said guide strips.

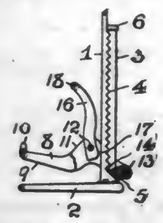
3. An elevator safety device having, in combination, an elevator car, guide strips therefor, guides fast to said elevator car adapted to engage said guide strips, a pair of grip dogs pivotally mounted upon one of said guides upon opposite sides of one of said guide strips, gears on said grip dogs meshing into each other, a slide movable vertically on said elevator car, a stop therefor, said slide adapted to be connected to a hoisting cable, whereby said elevator car may be hoisted, a spring adapted to move said slide downwardly, a lever connected to said slide, and a rod connecting said lever to one of said grips, said rod formed in two parts, the upper part flatted at its upper end, said flatted end projecting through a slot provided in said lever, the lower end of said upper part having screw-thread engagement with said lower part, and said lower part pivotally connected at the lower end thereof to one of said grips, whereby, when said slide is moved relatively to said elevator car, said grips are brought into engagement with one of said guide strips.

4. An elevator safety device having, in combination, an elevator car, a guide strip therefor, a guide fast to the lower end of said elevator car and consisting of a plate with a vertical guideway formed therein adapted to receive one of said strips, two bearing studs extending laterally of said plate from the outer face thereof upon opposite sides of said guide strip, a pair of grip dogs pivotally mounted upon said bearing studs, gears on said grip dogs meshing into each other, and stop screws in said grip dogs, the inner ends of which project into annular grooves provided in said bearing studs.

5. An elevator safety device having, in combination, an elevator car, a guide strip therefor, a guide fast to the lower end of said elevator car and consisting of a plate with a vertical guideway formed therein adapted to receive one of said strips, two bearing studs extending laterally of said plate from the outer face thereof upon opposite sides of said guide strip, a pair of grip dogs pivotally mounted upon said bearing studs, gears on said grip dogs meshing into each other, stop screws in said grip dogs the inner ends of which project into annular grooves provided in said bearing studs, and stop pins in said grooves against which the inner ends of said stop screws are adapted to abut, whereby the downward movement of said grip dogs relatively to each other is limited.

[Claims 6 and 7 not printed in the Gazette.]

972,253. ADJUSTABLE AND QUICK-ACTING CLAMP. ISAAC A. ROMMER, Newark, N. J. Filed May 19, 1910. Serial No. 562,327.



1. An adjustable quick-acting clamp comprising a self-supporting standard, said standard being formed with a rib so as to provide a standard which is T-shaped in cross-section, a multiplicity of teeth extending from said standard upon the opposite sides of said rib, a lower clamping jaw integral with said standard, a sliding bracket, said bracket being formed with an open portion, and a cam-lever pivotally mounted in the open portion of said bracket for forcibly depressing the free end of said sliding bracket in the manner described and for the purposes set forth.

2. An adjustable quick-acting clamp comprising a self-supporting standard, said standard being formed with a rib so as to provide a standard which is T-shaped in cross-section, a multiplicity of teeth extending from said standard upon the opposite sides of said rib, a lower clamping jaw integral with said standard, said jaw forming a base, a sliding jaw-like bracket provided with arms arranged to embrace said standard, the ends of said arms being connected by a bridge formed with inwardly disposed knife-edges, and a cam-lever pivotally mounted between said arms, substantially as and for the purposes set forth.

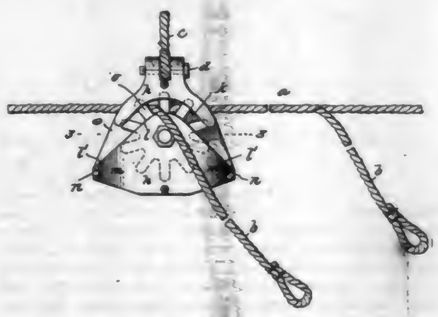
3. A device of the character described comprising a self supporting upright standard, said standard being formed with a rib so as to provide a standard which is T-shaped

in cross-section, a base extending from said standard and forming an integral part thereof, said base forming a lower clamping jaw, a multiplicity of teeth extending from said standard on opposite sides of said rib, a sliding bracket, means at both ends of the rib of said standard for limiting the travel of said sliding bracket, said bracket having a flat clamping portion, a tooth-like projection upon the end of said flat clamping portion, and said bracket being formed with two arms arranged to embrace said upright standard, a bridge connecting the said arms, said bridge having inwardly disposed knife-edges, a cam-lever pivotally mounted between said arms, said cam-lever having a cam-shaped portion disposed toward the upright standard and arranged to operate against the flat surface of said standard, and the said cam-lever having a downwardly curved portion adapted to be brought into engagement with the tooth-like projection of said flat clamping portion, substantially as and for the purposes set forth.

4. An adjustable quick-acting clamp comprising a self-supporting standard, said standard being formed with a rib so as to provide a standard which is T-shaped in cross-section, a multiplicity of teeth extending from said standard upon the opposite sides of said rib, a lower clamping jaw integral with said standard, a sliding bracket, said bracket being formed with an open portion, and a cam-lever pivotally mounted in the open portion of said bracket for forcibly depressing the free end of said sliding bracket in the manner described, and means at both ends of the rib of said standard for limiting the travel of said sliding bracket.

5. An adjustable quick-acting clamp comprising a self-supporting standard, said standard being formed with a rib so as to provide a standard which is T-shaped in cross-section, a multiplicity of teeth extending from said standard upon the opposite sides of said rib, a lower clamping jaw integral with said standard, said jaw forming a base, a sliding jaw-like bracket provided with arms arranged to embrace said standard, the ends of said arms being connected by a bridge formed with inwardly disposed knife-edges, a cam-lever pivotally mounted between said arms, and means at both ends of the rib of said standard for limiting the travel of said sliding bracket.

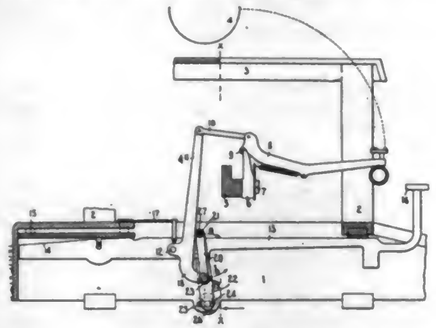
972,254. PULLEY-BLOCK. HARRY ROTHA, Waynesville, N. C. Filed Oct. 18, 1909. Serial No. 523,352.



1. A pulley block for the purpose described, consisting of front and back walls, a pulley journaled therebetween, the front wall extending beyond the pulley at each side and having a slot extending entirely across it, said slot curving up over the axis of the pulley, and thus forming a cam edge at each entrance to the slot, means being provided on the pulley to prevent the main cable being drawn out through the slot while the secondary cables are passing through the slot.

2. A pulley block for the purpose described, consisting of a back wall and means for suspending the block, a front wall having a slot entering at each side and extending up over the axis of the pulley to form a cam edge at each entrance to the slot, the opposite ends of the lower or cam edge of this slot at points beyond the pulley at each side extending downwardly and backwardly to the back plate, a pulley journaled between the front and back walls, and means for preventing the main cable being pulled out through the slot by the secondary cables.

972,255. TYPE-WRITING MACHINE. JOHN T. SCHAAFF, Washington, D. C., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Apr. 16, 1909. Serial No. 490,221.



1. In a typewriting machine, the combination of a type bar, a key lever, a sub-lever pivoted intermediate its ends to said key lever and having an angular off-set at the lower end thereof, a fulcrum link pivoted at one end to the angular off-set end of the sub-lever and swinging at its other end on a fulcrum situated above the pivotal connection between the sub-lever and link, the said link being substantially parallel with the upper arm of said sub-lever when the parts are in normal position.

2. In a typewriting machine, the combination of a type bar, a key lever, a sub-lever pivoted intermediate its ends to said key lever, and a fulcrum link pivoted at one end to the lower end of the sub-lever and anchored at its other end and directing the lower end of the sub-lever upwardly during the key depression.

3. In a typewriting machine, the combination of a type bar, a key lever, a sub-lever carried by and pivoted intermediate its ends to said key lever, said sub-lever having an arm at the lower end thereof that extends longitudinally of the key lever, and a fulcrum link pivoted to said arm and which extends upwardly from said arm and has an anchored pivot at its upper end and directs the ends of the arm to which the link is connected upward on the depression of a key.

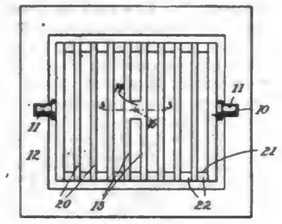
4. In a typewriting machine, the combination of a type bar, a key actuated lever therefor, a fulcrum link for said lever, said link being anchored at its upper end, and means for adjusting the upper anchored end of said link about the other end as a center.

5. In a typewriting machine, the combination of a type bar, a key actuated floating lever for actuating said type bar, a fulcrum link for the floating lever, one end of said fulcrum link being anchored and the other end being pivotally connected with the lever, and means for adjusting the anchored end of the fulcrum link around the pivotal connection between said link and lever.

[Claims 6 to 10 not printed in the Gazette.]

972,256. DUMPING-GRATE. FREDERICK W. SCHNAUTZ, New York, N. Y. Filed Nov. 17, 1909. Serial No. 528,476.

1. A dumping grate embodying a frame, gudgeons, spaced grate bars, and a centrally disposed bridge connecting the two innermost grate bars, a pin secured to the lower side of said bridge and projecting below the grate, an arm having a cup-shaped upper end adapted to embrace said projecting pin, and means for removably securing the arm and pin together, the arm having a perforation at its lower end.

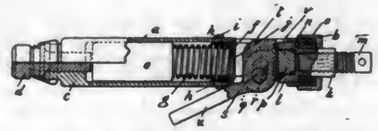


2. A dumping grate embodying a frame, gudgeons, spaced grate bars, a bridge connecting the two innermost grate bars, a downwardly extending pin projecting from the lower side of said bridge, a relatively wide flat arm having a socket formed intermediate its side edges to provide a cup adapted to embrace said pin, the pin and said cup having perforations for alinement, and a dowel pin that engages the perforations of the pin and cup to removably connect the arm to the grate.

3. A dumping grate embodying a frame, gudgeons, spaced grate bars, a bridge connecting the two innermost bars, a pin projecting from said bridge, a wide flat arm having a socket formed intermediate its side edges to form a cup adapted to embrace said projecting pin, and means for removably securing said arm and pin together.

4. A dumping grate having gudgeons, a pin permanently fixed to the grate and projecting therefrom, a relatively wide flat arm enlarged transversely at its inner end intermediate the edges of the arm and socketed to provide a cup adapted to receive said pin, and means for connecting the arm and pin together.

972,257. HOLDER-ON. CHARLES SCHOFIELD, Newcastle-upon-Tyne, England. Filed Jan. 21, 1910. Serial No. 539,239.



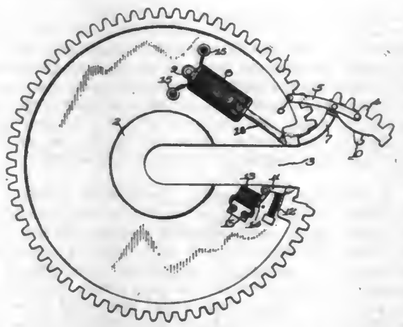
In a holder-on for use with a pneumatic riveter, the combination of a slotted outer casing; a snap at one end of the casing; a piston within the casing; a spiral spring behind the said piston; a slidable cap to receive one end of the spiral spring; means for limiting the movement of the said slidable cap; a cam lever having a pin outstanding on each side; a fork, cam-slotted to receive the ends of the said pin, and having a stem at one end; a spring controlled socket adapted at one end to receive the said stem and at the other end having a shank provided with an adjustable screw, and a cap at this end of the casing through which cap the said shank passes and against which acts one end of the spring controlling the socket, substantially as hereinbefore described.

972,258. MOVING ADVERTISING DEVICE. SAMUEL J. SCOTT, Columbus, Ohio, assignor of one-third to James O. Sloan and one-third to Isaac N. Gatrell, Columbus, Ohio. Filed Sept. 20, 1909. Serial No. 520,241.

In a sign displaying mechanism, the combination with a casing having a display opening therein, of a vertical shaft journaled in said casing at each end thereof, means for imparting rotation to one of said shafts, a longitudinally yieldable mounting for the other of said shafts, a sprocket wheel centrally mounted upon each of said shafts, a chain belt passing over said sprocket wheels, a pair of vertical rollers mounted upon each of said shafts, one of said rollers being located upon each side of the corresponding sprocket wheel, a ball race containing plate carried by the outer end of each of said rollers, a belt pulley mounted upon the upper and lower end of each of the shafts, vertical roller bearings between said belt pulleys and the shafts, ball race containing plates carried by the inner side of said belt pulleys, balls disposed in said ball races, belts passing around said belt pulleys, and display card supporting members connecting said belts and attached to said chain belt.



972,259. GAPPED GEAR. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Aug. 22, 1910. Serial No. 578,260.

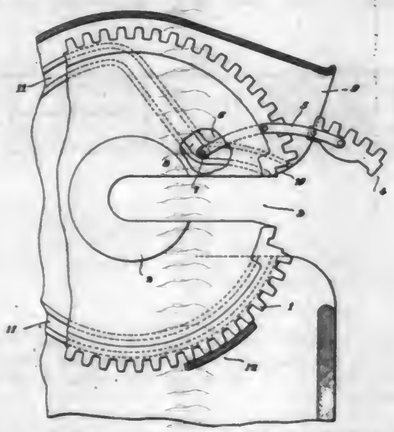


1. A gapped gear comprising, a gear-body having a radial gap extending through its rim, a patch to bridge the gap in the rim, a hinge uniting the patch to the gear at one side of the gap, a solenoid carried by the gear, a core for the solenoid, a connection between the core and the patch to cause the endwise movement of the core to move the patch, a spring-latch carried by the gear at the side of the gap opposite the hinge side thereof and adapted to coöperate with the patch when the patch is in closed position, and an electro-magnet carried by the gear and arranged to release the latch, combined substantially as set forth.

2. A gapped gear comprising, a gear-body having a radial gap extending through its rim, a patch to bridge the gap in the rim, a hinge uniting the patch to the gear at that side of the gap which is uppermost when the gap is to be opened, a solenoid carried by the gear, a core for the solenoid, a connection between the core and the patch to cause the endwise movement of the core to move the patch, a spring-latch carried by the gear at the side of the gap opposite the hinge side thereof and adapted to coöperate with the patch when the patch is in closed position, and an electro-magnet carried by the gear and arranged to release the latch, combined substantially as set forth.

3. A gapped gear comprising, a gapped gear-body having a radial gap extending through its rim, a patch to bridge the gap in the rim, a hinge uniting the patch to the gear at one side of the gap, a solenoid carried by the gear, a core for the solenoid, connections between the core and the patch to cause the endwise movement of the core to move the patch, and means for holding the patch normally in closed position, combined substantially as set forth.

972,260. GAPPED GEAR. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Aug. 22, 1910. Serial No. 578,261.



1. A gapped gear comprising, a gear-body having a gap extending from its center outwardly to and through its rim, a displaceable patch adapted to bridge the gap in the rim, a hinge uniting the patch to the gear, means for normally retaining the patch in the gap of the rim, a cam fixedly supported at one side of the gear, and connections between the patch and the cam whereby the cam forces the patch to open position when the gap in the gear is in proper angular position, combined substantially as set forth.

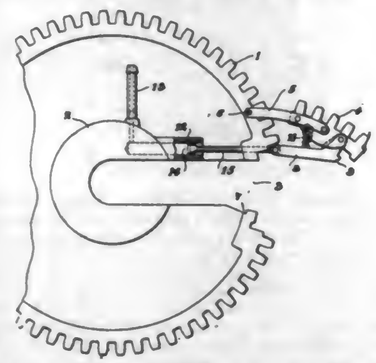
2. A gapped gear comprising, a gear-body having a gap extending from its center outwardly to and through its rim, a displaceable patch adapted to bridge the gap in the rim, a hinge uniting the patch to the gear, a cam fixedly supported at one side of the gear, connections between the patch and the cam whereby the cam forces the patch to open position when the gap in the gear is in proper angular position, and a concentric prolongation of the cam to serve in holding the patch to closed position, combined substantially as set forth.

3. A gapped gear comprising, a gear-body having a gap extending from its center outwardly to and through its rim, a displaceable patch adapted to bridge the gap in the rim, a hinge uniting the patch to the gear, means for normally retaining the patch in the gap of the rim, a cam fixedly supported at one side of the gear, and a lever projecting inwardly from the patch and having a projection to engage the cam so that the cam will force the patch to open position when the gap in the gear is in proper angular position, combined substantially as set forth.

4. A gapped gear comprising, a gear-body having a gap extending from its center outwardly to and through its rim, a displaceable patch adapted to bridge the gap in the rim, a hinge uniting the patch to the gear, a fixed gapped cam surrounding the axis of the gear and having a concentric portion and a deflected portion, a lever projecting from the patch and engaging the cam in such manner that the deflected portion of the cam will force the patch to open position when the gap in the gear is in proper angular position and close and retain the patch in closed position at other times, and a fixed shoe to be engaged by the patch while the cam-engaging portion of the lever is crossing the gap in the cam, combined substantially as set forth.

972,261. GAPPED GEAR. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Aug. 22, 1910. Serial No. 578,262.

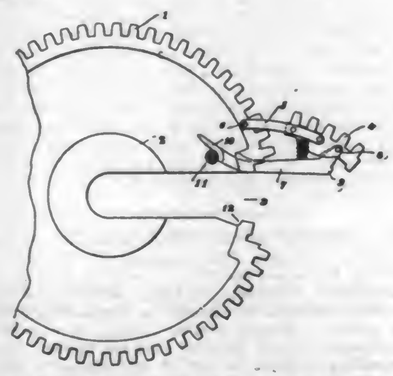
1. A gapped gear comprising, a gear provided with a gap extending through its rim and inwardly, a patch hinged to the gear at one side of the gap and adapted to bridge the gap in the rim, a cylinder carried by the gear and adapted to be supplied with fluid under pressure, a piston in the cylinder, and a connection from the piston to the patch, combined substantially as set forth.



2. A gapped gear comprising, a gear provided with a gap extending through its rim and inwardly, a patch hinged to the gear at one side of the gap and adapted to bridge the gap in the rim, a cylinder carried by the gear and adapted to be supplied with fluid under pressure, a piston in the cylinder, a connection from the piston to the patch, and a latch controlled by the piston and adapted to lock the patch in closed position, combined substantially as set forth.

3. A gapped gear comprising, a gear provided with a gap extending through its rim and inwardly, a patch hinged to the gear at one side of the gap and adapted to bridge the gap in the rim, a cylinder carried by the gear and adapted to be supplied with fluid under pressure, a piston in the cylinder, a lever pivoted to the patch and extending toward the cylinder, a connection between the piston and the lever, a latch-hook carried by the lever and adapted to coöperate with the latch-shoulder carried by the gear at the side of the gap opposite to that at which the patch is hinged, and a spring to urge the latch to latching position when the patch is in closed position, combined substantially as set forth.

972,262. GAPPED GEAR. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Aug. 22, 1910. Serial No. 578,263.

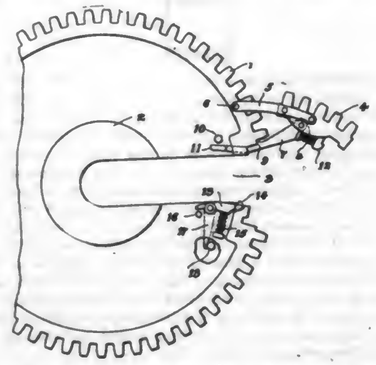


1. A gapped gear comprising, a gear having a gap extending through its rim and inwardly, a patch hinged to the gear at one side of the gap and adapted to bridge the gap of the rim, a lever projecting inwardly from the patch,

a cam-pad on the inner end of the lever, and a fixed part adapted to be engaged by the cam-pad and force the patch to open position, combined substantially as set forth.

2. A gapped gear comprising, a gear having a gap extending through its rim and inwardly, a patch hinged to the gear at one side of the gap and adapted to bridge the gap of the rim, a lever pivoted to the patch and extending inwardly, a latch-hook formed on the lever and adapted to engage a latch-shoulder on the gear when the patch is in closed position, a cam-pad carried by the inner end of the lever, and a fixed pin adapted to be engaged by the cam-pad and flex the lever to unlatching position and then push the patch to open position, combined substantially as set forth.

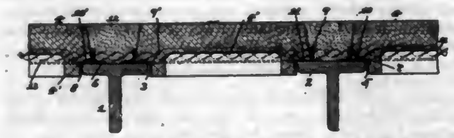
972,263. GAPPED GEAR. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Aug. 22, 1910. Serial No. 578,264.



1. A gapped gear comprising, a gear having a gap extending through its rim and inwardly, a patch hinged to the gear and adapted to bridge the gap in the rim, a releasing lever carried by the patch, a latch carried by the releasing lever and adapted to sustain the patch in open position, and a fixed part adapted to be engaged by the releasing lever while the gear is turning and to release the latch thereof to permit the patch to go to closed position, combined substantially as set forth.

2. A gapped gear comprising, a gear having a gap extending through its rim and inwardly, a patch hinged to the gear and adapted to bridge the gap in the rim, a releasing lever carried by the patch, a latch carried by the releasing lever and adapted to sustain the patch in open position, a fixed part adapted to be engaged by the releasing lever while the gear is turning and to release the latch thereof to permit the patch to go to closed position, a latch carried by the gear at the side of the gap opposite that at which the patch is hinged, a latch-hook carried by the patch and adapted to coöperate with the last-mentioned latch when the patch is in closed position, and a fixed part adapted to release the last-mentioned latch while the gear is turning and to permit the patch to be moved to open position, combined substantially as set forth.

972,264. PAVEMENT AND OTHER LIGHT. HENRY C. SEIPP, Coraopolis, Pa. Filed Dec. 2, 1908. Serial No. 465,655.



1. In a centering device for prisms or lights in sidewalk constructions, the combination of supporting means, and centering means having means projecting from one side of the same adapted for engagement with said supporting means and from the other side for supporting the prisms or lights.

2. In a centering device for prisms or lights in sidewalk constructions, the combination of supporting means, and centering means having flanges projecting from one side of the same adapted for engagement with said supporting means and from the other side for supporting the prisms or lights.

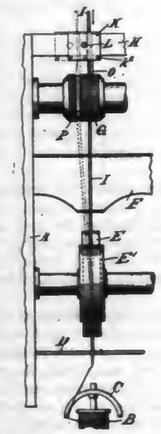
3. In a centering device for prisms or lights in sidewalk constructions, the combination of supporting means, and centering means having integral means projecting from one side of the same adapted for engagement with said supporting means and from the other side for supporting the prisms or lights.

4. In a centering device for prisms or lights in sidewalk constructions, the combinstion of supporting means, and centering means having inner flanges projecting from one side of the same adapted for engagement with said supporting means and outer flanges projecting from the other side for supporting the prisms or lights.

5. As a new article of manufacture, a centering means for vault light constructions formed from a piece of sheet metal having an aperture and provided with means extending out from one side thereof for supporting the same and from the other side for supporting the light.

[Claims 6 and 7 not printed in the Gazette.]

972,265. STOP-MOTION FOR TEXTILE MACHINERY. PETER SHARP, New York, N. Y., assignor to Automatic Rove-Stop Company, a Corporation of New York. Filed Nov. 23, 1908. Serial No. 464,167.



1. In a machine of the class described, rove feeding mechanism, rove-drawing mechanism operating to draw out or lengthen a rove, and laterally-movable means coöperating with said feeding and drawing mechanisms for moving the rove transversely to its feed and for positively locking the rove and preventing its feeding.

2. In a machine of the class described, rove feeding mechanism, rove-drawing mechanism operating to draw out or lengthen a rove, and unitary means for removing the rove from the rove feeding mechanism and for positively locking the rove against the action of said drawing mechanism.

3. In a machine of the class described, rove feeding mechanism, rove drawing mechanism, and laterally-movable means operating to shift the rove out of the field of action of said rove feeding mechanism, and, also, to positively lock said rove in its shifted position against the action of said rove drawing mechanism.

4. In a machine of the class described, coöperating rove-feeding rolls provided with means for precluding the rove

from being acted upon by said rolls, drawing mechanism, and unitary means for moving the rove transversely to its feed and for positively locking the rove against the feeding and drawing actions of the rove-feeding rolls and the drawing mechanism.

5. In a machine of the class described, coöperating rove-feeding rolls provided with complementary grooves for precluding the rolls from feeding the rove, rove drawing mechanism, and means acting substantially simultaneously to shift the rove into the grooves of the feed rolls and to positively lock said rove against the action of the drawing mechanism.

[Claims 6 to 18 not printed in the Gazette.]

972,266. AUTOMATIC ROVE-STOP. PETER SHARP, New York, N. Y., assignor to Automatic Rove Stop Co., New York, N. Y., a Corporation of New York. Filed July 10, 1909. Serial No. 506,930.



1. In a rove stop, means for feeding a rove, means for drawing said rove, mechanism operable to move the rove out of said rove feed mechanism and, also, to grip the rove and preclude the drawing mechanism from acting thereon, and means operated upon the breakage of a thread for automatically actuating said mechanism which moves and grips the rove.

2. In a rove stop, rove-feeding mechanism, rove drawing mechanism, a rove locking and shifting member operable to move the rove out of said feeding mechanism and to grip the rove against movement to preclude the drawing mechanism from acting thereon, and automatic means operated by the breakage of a thread for imparting movement to said rove locking and shifting member.

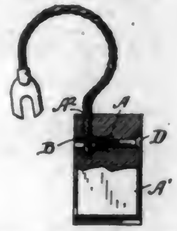
3. In a rove stop, mechanism for feeding a rove, a member operating to lock a rove against the feeding action of said mechanism and, also, to shift the rove out of coöperative relation to said feeding mechanism, and means operated by a breakage of the thread for automatically moving said member.

4. In a rove stop, feed rolls, drawing rolls, a rove locking and shifting member adapted to grip a rove against the action of the drawing rolls and to remove the rove from the feed rolls, and means operated upon the breakage of a thread for operating the rove locking and shifting member.

5. In a rove stop, feed rolls, drawing rolls, a member operating to grip a rove and preclude the drawing rolls from acting thereon, a rove guide carried by said member and extending into proximity to the feed rolls, and thread engaging means acting on the member to retain it free from gripping engagement with the rove, thereby permitting the rove to run freely through said rove guide, said thread-engaging means being operated when a thread breaks to move the member into gripping engagement with the rove and permit the rove guide to shift the rove out of the feed rolls.

[Claims 6 to 28 not printed in the Gazette.]

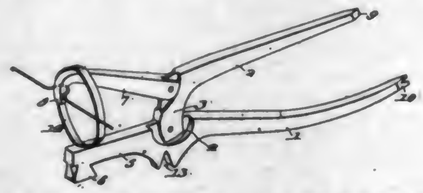
972,267. PIGTAIL CONNECTION FOR CARBON BRUSHES. WILLIAM SHAW, Lakewood, Ohio, assignor to National Carbon Company, Cleveland, Ohio, a Corporation of New Jersey. Filed June 5, 1909. Serial No. 500,435.



1. An attachment for pigtail cables to brushes for electrical apparatus, comprising a transversely perforated member inserted in a socket in the body of the brush and having some longitudinal play therein, said member being threaded near one end, a hole in the body of the brush transverse to the axis of the member, the transverse perforation of the member being in alinement with this last named hole for the purpose of receiving a cable end, and a cap screw inserted into the body of the brush and engaging the threads on the end of the perforated member.

2. In combination, a brush for electrical apparatus having a hole therein in which is inserted a member having a transverse perforation therethrough, a second opening in the body of the brush with which the transverse perforation in the member is alined, and means for moving the said member along its axis.

972,268. WIRE-STRETCHER. WILLIAM F. SHIPMAN, Denver, Colo. Filed Apr. 8, 1909. Serial No. 488,693.



A structure of the character described comprising handles one of which is provided on one side with an enlarged curved recess, said handle having a flat upper surface, the other handle having at its terminal a downwardly extended bifurcated portion pivoted to the wall of the recess, said downwardly extended portion being of a size smaller than said recess so as to permit of the bifurcated portion of the handle having a rocking motion therein, said downwardly extended portion also having a forwardly projecting portion provided with curved shoulders on opposite sides thereof, a jaw having a curved bifurcated end pivoted to said projection and having movement thereon, so as to permit the ends of the bifurcation to contact with the curved shoulders to form a stop when said jaw is thrown upward, the forward end of the jaw having a hook terminal, and a wire stretching means mounted on said flat surface of the first mentioned handle and over the hook end of the jaw.

972,269. DETACHABLE SANITARY COVERING FOR TOILET-SEATS. MAX R. SLOUGH, Covina, Cal. Filed June 12, 1909. Serial No. 501,862.

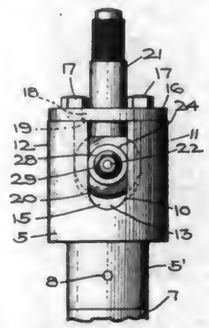
1. A supplementary seat for toilet-seats, comprising in combination a toilet-seat provided with attaching means, a base member provided with a plurality of covers formed from a sanitary material adhesively secured thereto along their edges, and a plurality of button-holed tabs secured to said base member and adapted to engage the attaching means secured to the toilet-seat.



2. A supplementary seat for toilet seats, comprising in combination a toilet seat provided with a plurality of attaching pins secured to the under face thereof, a base member formed of a fibrous material and provided with a plurality of sanitary covers secured to the upper face of the base member and adhesively secured at a plurality of points along their edges, and a plurality of button-holed tabs secured to said base member, said tabs adapted to engage the pins secured to the under face of the toilet-seat.

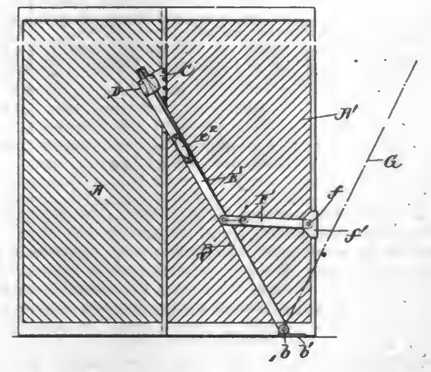
3. A supplementary seat for toilet seats, comprising in combination a main toilet seat provided with a plurality of attaching means, a supplementary seat comprising a base member formed of a fibrous material and provided with a plurality of covers formed from a sanitary material, said covers adhesively secured to the base member at a plurality of points along their edges, and means secured to the base member and adapted to engage the attaching means secured to the toilet seat, whereby the base member is held in detachable relation to the seat.

972,270. UNIVERSAL JOINT. CLAUDE A. SMITH, Detroit, Mich. Filed Feb. 17, 1909. Serial No. 478,430.



In a universal joint, the combination with a member having a cylindrical socket therein provided with a rounded inner end, said member also having a pair of longitudinal oppositely disposed parallel slots therein communicating with the socket, said slots extending inwardly beyond the inner rounded end of the socket, of a stem having a spherical head snugly fitted within the socket, said head having a curvature corresponding to that of the rounded inner end of the socket and being arranged for engagement against the inner portions of the socket above the terminal ends of the slots, the rounded terminal end of the socket being arranged above said terminal end of the slots and out of contact with the spherical head of the stem, and rollers revolubly mounted upon the opposite sides of the head and lying one in each of the slots, said slots and rollers being of less width than the socket.

972,271. CONTROLLING DEVICE FOR SLIDING DOORS. ELMER F. SMITH, Marion, Mass. Filed May 21, 1910. Serial No. 562,646.



1. A plurality of door sections mounted to slide, and a controller for said door sections comprising a lever journaled on a pivot fixed with relation to said door sections, a swiveled guide pivoted to the faster moving door section, in which guide said lever is adapted to slide, connection between said lever and the other door section or sections to operate the latter, a catch secured to one of said door sections, and a latch pivoted to said lever and adapted to engage said catch when said door sections are in closed position.

2. A plurality of door sections mounted to slide, and a controller for said door sections comprising a lever journaled on a pivot fixed with relation to said door sections, a swiveled guide pivoted to the faster moving door section, in which guide said lever is adapted to slide, connection between said lever and the other door section or sections to operate the latter, a catch secured to one of said door sections, and a latch bar pivoted to said lever and adapted to engage said catch when said door sections are in closed position, said latch bar adapted during the first part of its movement to disengage from said catch, and during the rest of its movement to carry said lever and door sections toward open position.

3. A plurality of door sections mounted to slide, and a controller for said door sections comprising a lever journaled on a pivot fixed with relation to said door sections, a swiveled guide block pivoted to the faster moving door section through which block said lever passes and in which it is adapted to slide, said guide block provided with a catch, connection between said lever and the other door section or sections to operate the latter, and a latch bar pivoted to said lever, sliding with relation to said block and adapted to engage said catch when said door sections are in closed position.

4. A pair of door sections mounted to slide, and a controller for said door sections comprising a lever journaled on a pivot fixed with relation to said door sections, a swiveled guide block pivoted to the faster moving door section, through which said lever passes and in which it is adapted to slide, a link pivotally connected with said lever and with the slower moving door section, and a latch bar pivoted to said lever passing through and sliding in said guide block, adapted to engage said block to lock the door sections in closed position.

5. A pair of door sections mounted to slide, and a controller for said door sections comprising a lever journaled on a pivot fixed with relation to said door sections, a swiveled guide block pivoted to the faster moving door section, through which said lever passes and in which it is adapted to slide, a link pivotally connected with said lever and with the slower moving door section, and a latch bar pivoted to said lever on the same pivotal axis with said link, passing through and sliding in said guide block, and

provided with a shoulder adapted to engage said block to lock the door sections in closed position.

[Claim 6 not printed in the Gazette.]

972,272. FOLDING-MACHINE. GEORGE W. SMITH, Cohoes, N. Y., assignor, by mesne assignments, to The Beattie Manufacturing Company of Cohoes. Filed Feb. 14, 1908. Serial No. 415,819.



1. In a folding machine, a rigid frame, a bed plate movable within the frame, means within the bed plate for heating the same, a die plate adapted to coöperate with the bed plate for clamping between them a blank to be folded, slidable infolders for folding the edges of a blank over the die plate each infolder being provided with means for the insertion of heating means, means for simultaneously operating the infolders, and means for pressing the bed plate and die plate into coöperative relation, turning the edges of the blank over said die and forcing said bed and die against the infolders to press the turned edges of the blank.

2. In a folding machine, a rigid frame, a bed plate movable within said frame, means for operating the bed plate, means within the bed plate for heating the same, a die plate adapted to coöperate with the bed plate for holding a blank on the bed plate, infolders for turning the edges of the blank over the die plate each infolder being provided with means for the insertion of heating means independent of the bed plate heating means.

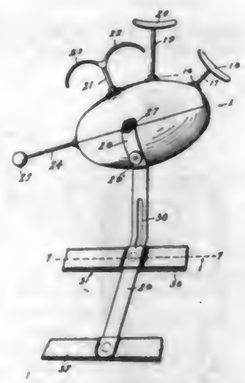
3. A machine for folding collar and cuff blanks, consisting of a frame; a vertically movable bed plate mounted thereon; infolders adapted to fold the edges of collar and cuff blanks resting on said bed plate over the edges of the die pressing upon said blanks; means for heating said bed plate and infolders; a head piece hinged upon said frame; a die attached to said head piece adapted to press the blank upon said bed plate; a foot lever pivoted to said frame; a rod connecting said head piece to said foot lever, whereby the pressing down of said foot lever by the operator will press said die down upon the bed plate; means for operating said infolders by said foot lever and means for pressing upward said heated bed plate by said foot lever, whereby the single movement by the foot downward upon the end of said foot lever will press the die upon the goods on the bed plate, move the infolders inwardly folding the edges of the goods over the edges of the die and press the bed plate upward, thereby pressing the fold of the goods between the bed plate and the infolders over the edges of the die, substantially as described.

4. A machine for folding collar and cuff blanks; consisting of a frame; a bed plate mounted thereon; a die adapted to press upon the blank lying upon the bed plate; infolders adapted to fold the edges of the blank over the die resting thereon; a movable head piece carrying said die; a foot lever pivoted to said frame; means for operating said head piece by said lever; a rod attached to said lever; a wedge shaped cam mounted upon said rod; horizontally movable arms mounted upon said frame, one on each side of said wedge shaped cam and in contact therewith and adapted to be moved horizontally by said cam as it descends between them; crank shafts adapted to operate the infolders means for operating the crank shafts by said horizontally movable arms, whereby the downward movement of said foot lever will press the said die upon the blank on the bed plate and move the infolders inwardly over the die, substantially as described.

5. A machine for folding collar and cuff blanks consisting of a frame; a vertically movable bed plate mounted thereon; a head piece pivoted to said frame at the rear thereof; a thin flexible metallic die attached to said head piece, one end of said die being hinged to the body thereof and adapted to be swung downward, a flexible spring attached to said hinged end and adapted to return it to a horizontal position, a foot lever pivoted to said frame; a foot pedal on the front end of said foot lever; a rod attached to said foot lever in the rear of the fulcrum thereof; said rod attached to said head piece and adapted to operate the same, whereby the downward movement of said pedal will press said die upon the bed plate; infolders adapted to fold the edges of the blanks upon the bed plate over the edges of the die pressing thereon; cranks adapted to operate said infolders; a vertical rod attached to the front portion of said foot lever; a wedge shaped cam mounted upon said rod; horizontally movable arms mounted upon said frame one on either side of said cam and in contact therewith; said arms being jointedly connected to said cranks, whereby the said cam descending between said arms is adapted to move each arm outwardly thereby turning said cranks and operating said infolders; a lever pivoted to said frame under said bed plate; the short end thereof adapted to operate against the bottom of said bed plate; a rod connecting the long end of said lever with said foot lever in front of the fulcrum, whereby the downward movement of the said pedal is adapted to press said bed plate upwardly; braces attached to said frame above and in contact with said infolders when they are contracted inwardly over the bed plate; said rods being so arranged and adjusted that the downward movement of said pedal will first press the die upon the blank upon the bed plate and the continued downward movement of said pedal will secondly contract the infolders, folding the edges of the blank over the die and the continued downward movement of the pedal will then press the bed plate upward against the infolders, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

972,273. DEVICE FOR TEACHING PENMANSHIP. SIDNEY R. SMITH, Gainesville, Tex. Filed Jan. 7, 1910. Serial No. 536,785.



1. A device of the character described, comprising a body adapted to be held in the hand, and angularly adjustable means carried by said body for maintaining the fingers in proper position for writing.

2. A device of the character described, comprising a body adapted to be held in the hand, and longitudinally and angularly adjustable means carried by said body for maintaining the fingers in proper position for writing.

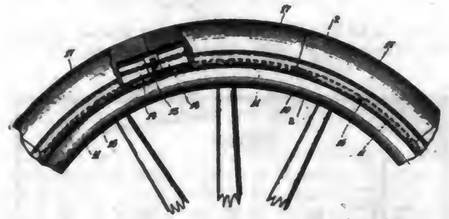
3. A device of the character described, comprising a body adapted to be held in the hand, longitudinally and angularly adjustable means carried by said body for maintaining the fingers in proper position for writing, and means carried by said body for maintaining the hand in proper position for writing.

4. A device of the character described, comprising a body, pins mounted upon said body and provided with means for maintaining the fingers in proper position for writing, each of said pins being longitudinally adjustably mounted within a sleeve, and said sleeve being movably mounted upon said body.

5. A device of the character described, comprising a body, adapted to be held in the hand, pins mounted upon said body and provided with means for maintaining the fingers in proper position for writing, each of said pins being longitudinally adjustably mounted within a sleeve, said sleeve being movably mounted within a slot formed upon said body, and means for clamping said sleeve in a desired position upon said body.

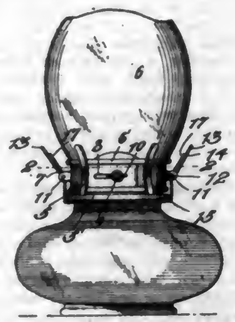
[Claims 6 to 10 not printed in the Gazette.]

972,274. EMERGENCY-TIRE. WINFIELD S. SMITH, Ossining, N. Y. Filed Mar. 3, 1909. Serial No. 481,001.



The combination with a vehicle wheel, of a temporary solid tire comprising: a series of flat sections each provided with a transverse depression, said sections being hingedly connected; sections of solid, rubber tire carried thereby; and means to draw said series of sections together to tighten the same over the rim of the said vehicle wheel, whereby the adjacent sections of rubber close to form a substantially solid tread.

972,275. CHIMNEY-HOLDER. LITCH SPARKS, Blue Ridge, Tex. Filed Mar. 23, 1910. Serial No. 551,053.



1. A device of the character described comprising an annular metallic band adapted to be secured upon the neck of a lamp chimney, and pivotally mounted yieldingly held locking levers carried by said band for independent movement adapted for engagement with the burner of the lamp to hold the chimney thereon.

2. A device of the character described comprising an annular resilient band, means for adjustably connecting the ends of said band and adapted to clamp the same upon the neck of a lamp chimney and a plurality of locking levers pivotally mounted upon the band and yieldingly held against lateral and transverse movement said levers being movable independently of the band and adapted for engagement with the burner of the lamp to hold the chimney thereon.

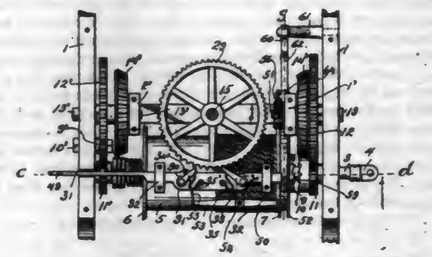
3. A device of the character described comprising a resilient sheet metal band adapted for clamping engagement upon the neck of a lamp chimney, locking levers pivotally mounted upon the band normally engaging with the burner of the lamp to hold the chimney thereon, and springs yieldingly holding said levers against lateral or transverse movement to engage the same with the burner.

4. A device of the character described comprising a metallic band adapted to be engaged upon the neck of a lamp chimney, means adjustably securing the ends of said band together, spaced ears formed on said band, a locking lever pivotally mounted between said ears and extending above and below the same, and a spring element engaging with said lever to normally hold the lower end thereof in locking engagement with the burner.

5. A device of the character described comprising a resilient metallic band adapted to be secured upon the neck of a lamp chimney, means for adjustably connecting the ends of said band, spaced ears formed upon said band at diametrically opposite points, a locking lever pivotally mounted between each pair of ears and extending above the same to form a finger engaging portion, and a spring element engaging with said portion and normally holding the lower end of said lever in locking engagement with the lamp burner.

[Claims 6 and 7 not printed in the Gazette.]

972,276. POWER APPARATUS. JOHN F. SPERRY, Kaw, Okla. Filed Jan. 11, 1909. Serial No. 471,766.



1. In power apparatus, the combination with a rotary driving shaft, of a drum rotative thereby, and adapted to support a load, releasable means for locking the drum to the shaft, a revoluble power member, means by which, when said member is revolved, said shaft will be rotated, controlling means connecting the locking means and said member for actuating said locking means to lock the drum when said member is revolved in one direction, said controlling means having means controlled by the load for actuating the locking means to release the drum when said member is revolved in the opposite direction and means controlled by the load for rendering the controlling means inoperative to release the load.

2. In power apparatus, the combination with a rotary driving shaft, of a drum rotative thereby and adapted to support a load, releasable means for locking the drum to the shaft, a revoluble power member, means by which, when said member is revolved, the shaft will be rotated, controlling means connecting the locking means and said member for actuating said locking means to lock the drum when said member is revolved in one direction, said controlling means having means for actuating the locking means to release the drum when said member is revolved in the opposite direction and the drum does not support the load, and means by which said controlling means is rendered inoperative by said revoluble member to release the drum when the load is supported thereby.

3. In power apparatus, the combination with a rotary driving shaft, of a drum rotative thereby and adapted to support a load, releasable means for locking the drum to the shaft, a revoluble power member, means for rotating the shaft when said member is revolved, controlling means connecting the locking means and said member for actuating said locking means to lock the drum to the shaft when said revoluble member is revolved in one direction, said controlling means actuating the locking means to release the drum when said revoluble member is revolved in the

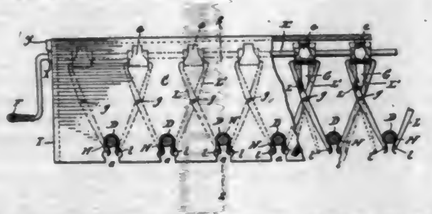
opposite direction and the load is not supported by the drum, and means by which said controlling means is rendered inoperative by said revoluble member for releasing the drum when the load is unsupported thereby, said controlling means being operative independently of the revoluble member for actuating the locking means to lock the drum to or release it from said shaft.

4. In power apparatus, the combination with a rotary driving shaft, of a drum rotative thereby and adapted to support a load, releasable means for locking the drum to the shaft, a revoluble power lever, a rotary member having means for engaging said lever which permits oscillation between pre-determined limits of the lever relative to said rotary member, means for retracting said power lever, means connecting the locking means and said member by which, when the lever is revolved in one direction against said retracting means, the drum will be locked to the shaft, and when the lever is revolved in the opposite direction and does not support the load, the drum will be released from locked engagement with said shaft, means by which the lever is rendered inoperative to release the drum when the load is supported thereby, and means for rotating said shaft when said member is rotated.

5. In power apparatus, the combination with a rotary driving shaft, of a drum rotative thereby and adapted to support a load, releasable means for locking the drum to the shaft, a revoluble power lever, a rotary member having means for engaging said lever which permits oscillation between pre-determined limits of the lever relative to said rotary member, means for rotating said shaft when said member is rotated, controlling means connecting the locking means and said member by which, when the lever is revolved in one direction, the drum will be locked to the shaft, and when revolved in the opposite direction, and the drum does not support the load, the drum will be released from locked engagement with the shaft, and means by which the controlling means is rendered inoperative to release the drum by means of said lever when the load is supported by the drum.

[Claims 6 to 18 not printed in the Gazette.]

972,277. BILLIARD-CUE RACK. RICHARD B. SPIKES, Albuquerque, N. Mex., assignor of one-half to Theron O. Mason, Albuquerque, N. Mex. Filed July 11, 1910. Serial No. 571,367.



1. A cue rack comprising a holding frame having seats for the cues, locking devices for locking the cues in their seats and a single operating device for simultaneously adjusting all the locking devices, consisting of a rotary adjustable shaft having connections for each locking device and a lock for said shaft.

2. A cue rack comprising a holding frame having a base with sockets for the butts of the cues and an overhanging member with slots to receive the cue body, a horizontal shaft, and means connected to the shaft and operated thereby for locking or unlocking the cues in said slots.

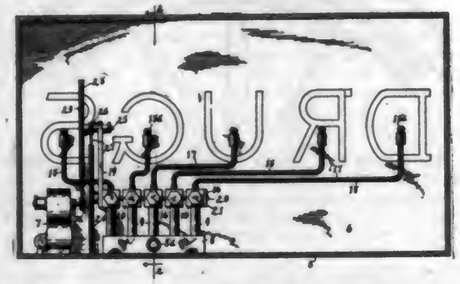
3. A cue rack comprising a holding frame, having a base with sockets for the butts of the cues and an overhanging member with slots to receive the cue body, a horizontal shaft, and means connected to the shaft and operated thereby for locking or unlocking the cues in said slots, consisting of an adjustable locking abutment operated by the shaft and expansible spring clasps embracing the cues and locked by said abutment.

4. A cue rack comprising a holding frame, having a base with sockets for the butts of the cues and an overhanging member with slots to receive the cue body, a horizontal shaft, and means connected to the shaft and operated thereby for locking or unlocking the cues in said slots, consisting of an adjustable locking abutment operated by the shaft and expansible spring clasps embracing the cues and locked by said abutment, and a cue having a conical collar where encircled by the spring clasp.

5. A cue rack comprising a base with cue sockets, a back and an overhanging member with slots containing expansible spring clasps for the cues, a series of pairs of crossed horizontal levers with ends adapted to abut against and lock the ends of the spring clasps, a horizontal shaft with a cam flange arranged between the rear ends of each pair of levers and a lock for said shaft.

[Claims 6 to 8 not printed in the Gazette.]

972,278. GAS FLASH-LIGHT. JOSEPH SPRING, Chicago, Ill. Filed Apr. 13, 1907. Serial No. 367,963.



1. In a gas flash light apparatus, the combination of a gas receiving chamber, a plurality of boxes communicating with said chamber, each of said boxes having gas conduits therein and supplied with a valve controlling said conduits in combination with adjustable devices for operating said valves, means for driving said devices and burner tubes communicating with said conduits.

2. In a gas flash light apparatus, the combination of a gas receiving chamber, a plurality of boxes having separate communications with said chamber, independent spring-held valves mounted in said boxes, adjustable means for operating said valves, burner tubes communicating with said boxes and adapted to be shut off therefrom by said valves, and pilot tubes constantly communicating with said boxes.

3. In a gas flash light apparatus, the combination of a chambered base, a plurality of boxes, pipes connecting said boxes with the chamber in said base, a pilot tube conduit and a burner tube conduit in each of said boxes, adjustable means for controlling the pilot tube conduit, a valve for controlling the burner tube conduit, means for operating said valve and pilot tubes and burner tubes connected respectively with said pilot and burner conduits.

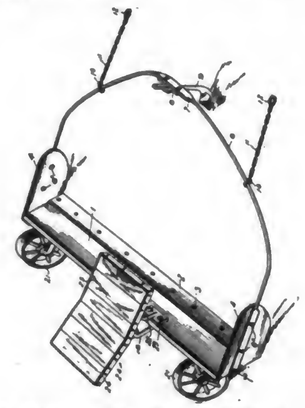
4. In a gas flash light, a gas receiving chamber, a valve-chamber communicating with said receiving chamber, a spring-held valve slidably mounted in said valve chamber, a burner tube communicating with said valve chamber, and adjustable means for operating said valve.

5. In a gas flash light, a valve chamber, a spring-held reciprocating valve arranged in said chamber, means for supplying gas for said chamber, adjustable means for reciprocating said valve, and a burner tube communicating with said chamber.

[Claims 6 to 8 not printed in the Gazette.]

972,279. LAND-LEVELER. HORACE MAYNARD SPROUL, North Yakima, Wash. Filed Mar. 18, 1910. Serial No. 550,205.

1. In a device of the character described, a leveling blade, wheels pivotally connected to the same, a supporting platform pivotally connected to said leveling blade, and connecting means between said supporting platform and said wheels.



2. In a device of the character described, a leveling blade, a shaft provided with a crank portion pivotally connected to said leveling blade, wheels carried by said shaft, and a supporting platform connected to said crank portion.

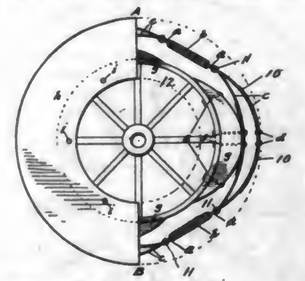
3. In a device of the character described, a leveling blade, a shaft provided with a crank portion and angular ends pivotally connected to said blade, wheels carried by said angular ends, and a supporting platform connected to said crank portion for oscillating the same.

4. In a device of the character described, a leveling blade, a shaft provided with a crank portion and angular ends pivotally connected to said leveling blade, a supporting platform pivotally connected to said leveling blade and disposed to engage said crank portion, and wheels carried by said angular ends.

5. In a device of the character described, a leveling blade, a shaft provided with a crank portion and angular ends pivotally connected to said leveling blade, wheels carried by said angular ends, a supporting platform pivotally connected to said leveling blade, said supporting platform being disposed to engage said crank portion, and a bracket carried by said supporting platform within which said crank portion operates.

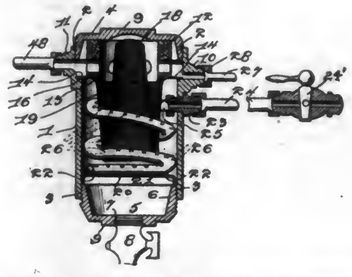
[Claims 6 to 8 not printed in the Gazette.]

972,280. SPRING-WHEEL. JAMES STALLINGS, Fairmount, Ill. Filed July 20, 1910. Serial No. 572,933.



As an improvement in automobile and other vehicle wheels, the combination of a circular series of crescent shaped and coil springs in alternate arrangement, connections between the springs formed of engaging eyes and clevises, crescent shaped blocks at the concave side of the crescent shaped springs, said blocks having means for attachment to a wheel rim or tire, a tire forming shell or casing having side members, one of which has a circumferential rim or flange, and means connecting said rim or flange to said crescent shaped spring.

972,281. FILTERING APPARATUS FOR PURIFYING GASOLENE AND OTHER LIQUID FUELS. ZEANITH H. STAMETS, Auburn, Ind. Filed June 10, 1909. Serial No. 501,396.



1. A device of the character described, comprising a cylinder having an outlet port for the discharge of purified liquid fuel at one side of the upper end of the cylinder, an inlet port for the supply of liquid fuel at the upper end of the cylinder at the opposite side from the outlet port; means for causing a whirling downward circulation of said liquid fuel in passing through the casing, and separating the foreign particles from the liquid fuel and depositing them in a sediment chamber and causing the purified liquid fuel to pass centrally downward through the filter, and means for regulating the flow of liquid fuel through the filter and out of the same.

2. In an apparatus of the character described, a filter consisting of a cylinder having a sediment chamber in its lower end, a screen extending over the top of said sediment chamber, an inlet supply port, a coil located in said cylinder and having apertures in its upper inner side, one end of said coil being connected with said inlet port and the other end communicating with the sediment chamber, and an outlet port in the side of said cylinder.

3. In an apparatus of the character described, a filter comprising a casing having inlet and outlet ports opposite each other at the upper end of the cylinder, and a perforated coil located in said cylinder and connected with the inlet port, and having perforations located in the upper sides of its coils for creating a whirling and circulating downward movement of the liquid and separating the lighter particles therefrom, and causing the foreign matter in the liquid to be deposited in the bottom of the cylinder.

4. In an apparatus of the character described, a filter comprising a cylinder having inlet and outlet ports, a depending screen in said cylinder, a coil having perforations located in its upper inner side, one end of said coil being connected with the inlet port and the other end being located adjacent to the bottom of the cylinder, a sediment chamber located beneath the lower end of said coil, and a screen extending over the top of said sediment chamber.

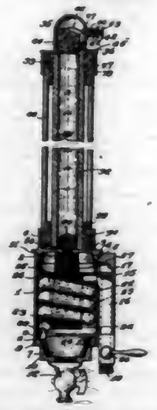
5. In an apparatus of the character described, a cylinder provided with inlet and outlet ports, a sediment chamber in its lower end, a perforated diaphragm extending over the top of said chamber, a screen composed of two oppositely-inverted tapering cone-shaped parts, one located within the other, one of said screens having a flange at its upper end and secured to the sides of the cylinder, and the other screen projecting from the bottom of said screen to the top of the main cylinder, a perforated coil connected with the inlet port and extending over the screen, a sight gage and a tubular connection between said sight gage and the upper end of the cylinder above the lower screen.

[Claim 6 not printed in the Gazette.]

972,282. LIQUID-FUEL PURIFIER AND GAGED GOVERNOR. ZEANITH H. STAMETS, Auburn, Ind. Filed Mar. 25, 1910. Serial No. 551,501.

1. In a device of the character described, a casing provided with a sediment chamber in its lower end and an

apertured diaphragm covering said sediment chamber, a supporting base mounted on the side of said casing and having an inlet fuel supply passageway and means for connecting it with a main supply tank, an outlet passageway and means for connecting it with a carbureter or other point to be supplied, a coil located in said casing and having its upper end connected with one end of said inlet passageway and its lower end projecting into said sediment chamber, said coil having perforations on the upper side of its inner convolutions, a screen separating the lower portion of said casing from the upper portion, the inner portion of the outlet passageway communicating with the upper portion of the casing above said screen, a gage cylinder forming an auxiliary reservoir mounted on the top of said casing, and means for controlling the passage of liquid from said casing to said auxiliary reservoir.



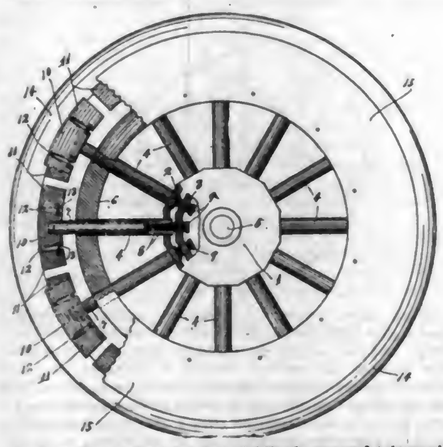
2. In a device of the character described, a casing provided with a sediment chamber at its lower end, a perforated diaphragm covering the top of said sediment chamber, a securing base mounted on one side of said casing and having inlet and outlet liquid circulating passageways, means adapted to connect one of said passageways with a main supply tank and the other with a carbureter, a coil mounted in said casing and having its upper end connected with the inlet liquid supply passageway and its lower end projecting into the sediment chamber, said coil having perforations in the upper side of its inner convolutions, a double screen projecting through said coil and having an annular reticulated flange separating the upper portion of said casing from the lower portion, a glass cylindrical gage forming an auxiliary reservoir mounted on the top of said casing and communicating therewith, a float located in said gage, a hinged float and valve located in the upper end of said glass gage, and means for controlling the passage of air to said gage.

3. In a device of the character described, a casing provided with movable caps at its end, one of said caps being formed with a sediment chamber having a perforated diaphragm at its top, and the other cap having a central opening formed with a valve seat, a coil in said casing having apertures in the upper inner sides of its convolutions, the upper inlet end of said coil being located adjacent to the upper end of said casing and the lower end of the coil projecting into the sediment chamber, a screen in said casing having a reticulated diaphragm separating the upper portion of the casing from the lower portion, an attached base portion mounted on the side of said casing, and having an inlet and an outlet passageway, the inlet passageway communicating with the upper end of the coil below the reticulated diaphragm and the outlet passageway communicating with the upper portion of the casing above said diaphragm, and a gage cylinder forming an auxiliary liquid supply chamber mounted on the top of said casing and provided with a float valve adapted to close said opening in the top of the casing.

4. In a device of the character described, a casing provided with a base portion mounted on one side of said casing and having vertical inlet and outlet liquid passageways, means for adjustably securing said base portion to a vehicle or other object, a coil located in said casing having its upper end communicating with the inlet passageway and its lower end projecting into a sediment chamber in said casing, a reticulated diaphragm separating the upper portion of the casing from said coil, said upper portion communicating with said outlet passageway, a gage cylinder forming an auxiliary liquid supply chamber mounted on the top of said casing and communicating therewith and having a float valve therein adapted to close said casing, a hollow cap mounted on the upper end of said gage cylinder, a hinged cork valve mounted in said cap and provided with an arm and valve, an air outlet passageway in said cap controlled by said valve, and means for regulating the admission of air through said passageway to the cap.

5. In a device of the character described, a casing having inwardly screw threaded ends, a flanged threaded cap forming a sediment chamber having an apertured diaphragm on its top, said cap being secured to the end of said casing, a flanged cap screwed to the other end of said casing and having a vertical annular threaded flange, and a central opening with a valve seat, a glass gage forming an auxiliary liquid supply reservoir having its lower end mounted on said cap, a gasket surrounding said end of the gage cylinder, an annular threaded ring engaging said cap and pressing said gasket against the cylinder, a flanged threaded hollow cap mounted on the upper end of said gage cylinder and held thereon by means of a cork gasket, and an annular threaded ring engaged with said cap, said cap having an air inlet passageway, means for automatically closing said air inlet, means for regulating the admission of air through the same, a coil mounted in said casing and having apertures in the upper inner side of its convolutions, the lower end of said coil projecting into the sediment chamber and the upper end being located at a point adjacent to the upper portion of the casing, a reticulated diaphragm separating the upper portion of said casing from the lower portion and located above said coil, a securing base portion mounted on the side of said casing and having vertical inlet and outlet passageways, the inlet passageway communicating with the upper end of said coil and the outlet passageway communicating with the upper end of said casing above said reticulated diaphragm.

972,283. RESILIENT WHEEL. JOHN J. STONE and JOHN A. SIMPSON, Beresford, S. D. Filed Mar. 19, 1910. Serial No. 550,307.



1. A resilient wheel having yieldingly pressed telescopically extensible spokes provided at their outer ends with tread blocks, having hinged supplemental sections secured to their outer edges, and springs interposed between said tread blocks and said supplemental sections, and a flexible tire surrounding and engaging said tread blocks.

2. A resilient wheel having yieldingly pressed telescopically extensible spokes provided at their outer ends with tread blocks, said tread blocks having hinged supplemental sections which are yieldingly pressed laterally with respect thereto and the supplemental sections of adjacent tread blocks being disconnected and normally separated, substantially as described.

3. A resilient wheel comprising a hub member, and an inner wheel rim, tubular spokes rigidly connecting said rim and hub, supplemental spokes working telescopically in said tubular spokes, and spring pressed outward, tread blocks secured to the outer ends of said supplemental spokes and provided with hinged supplemental sections which are yieldingly pressed laterally with respect thereto and the supplemental sections of adjacent tread blocks being disconnected and normally separated, a flexible tire engaging and surrounding said tread blocks, and a pair of annular retaining plates secured to said inner wheel rim and embracing said tread blocks and a portion of said tire, substantially as described.

972,284. EXERCISING APPARATUS. JOHN P. STOREY, New York, N. Y. Filed Oct. 2, 1909. Serial No. 520,748.



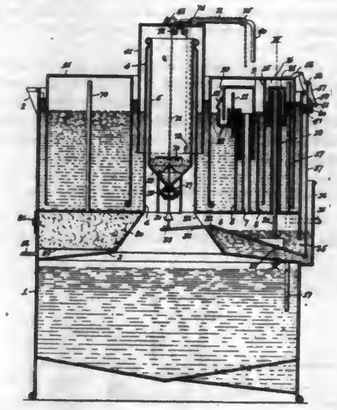
An exercising apparatus of the class described, comprising two contractible coiled wire springs, each having a terminal in each end comprising a cylindrical body portion with a spiral groove therein to receive a spring wire, and each also having a perforated lug at each end, a connecting device for the springs formed of a single piece of wire having a loop at its central portion and hooks at its ends designed to enter the perforations in the lugs of two of said terminals, each spring also having a limiting device comprising a piece of coiled spring wire contained within the main spring and fixed to the perforated lugs at the inner ends of said terminal, each spring being also provided with a handle device comprising a main handle, a handle frame formed of a single piece of wire with its ends inserted in the end of the main handle and its sides arranged parallel with each other at right-angles to the handle and its central portion formed into a loop, which loop is extended through the perforated lug on the adjacent terminal, an auxiliary handle on said parallel sides of the handle frame, and extensible coil springs on said parallel sides to engage the auxiliary handle and normally hold it away from the main handle.

972,285. ACETYLENE-GENERATOR. FRANK E. STOVER, Luray, Va. Filed Sept. 3, 1909. Serial No. 515,992.

1. In an acetylene generator, a casing, a carbid feed valve, a vent pipe, and a common operating rod for operating said valve and for opening communication between said vent pipe and the generating chamber.

2. In an acetylene generator, a casing, a carbid feed valve, a vent pipe, an operating rod, and means whereby the movement of said rod in one direction operates said valve, and its movement in the opposite direction opens communication between said vent pipe and the generating chamber.

3. In an acetylene generator, a casing, a carbid feed valve, a pivoted lever in the generating chamber adapted to move into and out of contact with said valve, and means for operating said lever to move it into and out of contact with said valve.

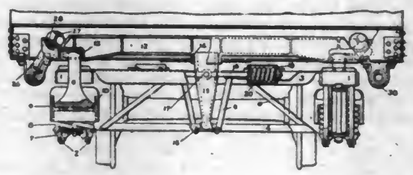


4. In an acetylene generator, a casing, a carbid feed valve, a water sealed chamber in the generating chamber, a lever pivoted in said water-sealed chamber and adapted to move into and out of contact with the carbid feed valve, a rod connected with said lever and operated by the gas bell, and means for operating said rod to move said lever out of contact with the carbid feed valve.

5. In an acetylene generator, a casing, a carbid feed valve, a water sealed chamber in the generating chamber, a lever pivoted in said water-sealed chamber and adapted in its movement to contact with and operate said valve, a vertically movable vent pipe normally water sealed at its lower end in said water sealed chamber, and a rod connected to said lever for operating the latter in one direction to operate the carbid feed valve and in the other direction to lift said vent pipe out of its water seal.

[Claim 6 not printed in the Gazette.]

972,286. RAILWAY CAR AND TRUCK. EDGAR W. SUMMERS, Pittsburg, Pa. Filed Nov. 13, 1909. Serial No. 527,811.



1. In a railway car the combination of a truck, a bolster pivotally supported on said truck, a car body, and connections between said bolster and car body arranged on the tipping of the truck to shift the car body laterally with reference to the truck and tending to equalize the load on the two sides of the truck.

2. In a railway car the combination of a truck, a bolster pivotally supported on said truck, a car body, and connections between the car body and said bolster, said connections including oppositely inclined members arranged on the tipping of the truck to shift the car body laterally and tending to equalize the load on the two sides of the truck.

3. In a railway car the combination of a truck frame, a car body bolster supported on said truck frame, and equalizers between the car body and said bolster including oppositely inclined members arranged when the truck tips

to shift the car body laterally and lower one side thereof while lifting the opposite side.

4. In a railway car the combination of a truck frame, a floating body bolster supported on the truck frame, and equalizing mechanism supporting the car body from said floating bolster and comprising oppositely inclined members.

5. In a railway car the combination of a truck frame, a floating body bolster supported by the truck frame and having a pivotal or swivel connection therewith, and equalizing mechanism supporting the car body from said floating bolster and including oppositely inclined members.

[Claims 6 to 30 not printed in the Gazette.]

972,287. TABLE-LEVELER. JAMES F. SWIFT, Muskogee, Okla. Filed Mar. 22, 1909. Serial No. 485,029.



1. A table leveler comprising a leg member, a securing rod which extends transversely through the leg member and having projecting downwardly turned ends which extend laterally in opposite directions and are adapted to be driven into and engage a table leg, the leg having in its lower end a recess into which the leg member is fitted and a floor member which supports the leg member and upon which the leg member is vertically adjustable.

2. A table leveler comprising a tubular internally screw threaded leg member, a securing rod which extends transversely through the leg member and having projecting downwardly turned ends which extend laterally in opposite directions and are adapted to be driven into and engage a table leg, the leg having in its lower end a recess into which the leg member is fitted and a rotary floor member which supports the leg member and upon which the leg member is vertically adjustable.

3. A table leveler comprising a leg member adapted to be fitted in a recess provided in a table leg, a securing rod which extends transversely through the leg member and having projecting downwardly turned ends which extend laterally in opposite directions, and a floor member supporting and having screw threaded engagement with the leg member.

4. A table leveler comprising a tubular internally screw threaded leg member, a securing rod which extends transversely through the leg member and having projecting downwardly turned ends which extend laterally in opposite directions and are adapted to engage a table leg, the leg having in its lower end a recess into which the leg member is fitted and a rotary floor member supporting the leg member and having a screw threaded portion fitted in the threaded portion of the leg member.

5. A table leveler comprising a tubular internally screw threaded leg member, a securing rod extending transversely through the leg member and having projecting downwardly turned ends which extend laterally in opposite directions and are adapted to engage a table leg, the leg having in its lower end a recess into which the leg member is fitted and a rotary floor member having a convex lower end and provided with a screw threaded shank fitted in the threaded portion of the leg member.

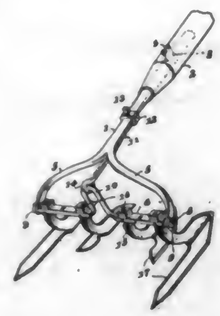
972,288. CATAMENIAL GARMENT. SALLIE M. TAYLOR, St. Louis, Mo. Filed Mar. 4, 1910. Serial No. 547,356.

A catamenial garment comprising a back section composed of two layers of fabric, a front catamenial waterproof section secured between the front edges of the layers of the back section, a waist-band carried by the free end of the back section and provided with a central tongue, a tongue terminating the free end of the catamenial section, a series of elastic strips fastened at one end along the juncture between the sections, a protecting cushioning strip secured over the elastic strips, an elastic



strip at the free end of the catamenial section, and means carried by the elastic strips for securing a towel in position over the catamenial section, substantially as set forth.

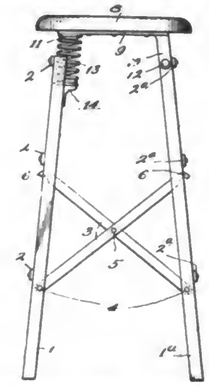
972,289. HAND-CULTIVATOR. ROBERT I. TRETER, Ellis, Minn. Filed May 9, 1910. Serial No. 560,236.



In a device of the character described, the combination of a flat-faced shank having diverging arms provided in their spaced ends with alined apertures, a tool carrying beam bent at its center to form a crank loop and having flattened end portions provided with openings, the extremities of said flattened end portions being reduced to provide cylindrical screw threaded pivots, the latter being arranged in the apertures in the arms of the shank, nuts arranged on the projecting threaded extremities of the beam, a tool having securing studs arranged in the openings in the flat-faced portions of the beam, nuts on said securing studs to retain the tool in position, a collar arranged on the flat-faced portion of the shank and having a projecting rod terminating in an eye engaged with the crank loop of the beam and a set screw arranged in said collar to engage said shank and retain the beam in adjusted angular position.

972,290. FOLDING STOOL. WILLIAM J. THEFELD, Kansas City, Kans. Filed Nov. 29, 1909. Serial No. 530,370.

A stool comprising, in combination, a plurality of legs, means for permitting said legs to be folded together, a seat pivotally secured to the legs formed in one side of the stool, and adapted to lie against the inner sides of the legs forming the other side of the stool when the latter is folded, spring members supported by the legs forming the opposite side of the stool, brackets located below the tops of the legs forming the opposite side of the stool and carrying said springs, and bosses secured to



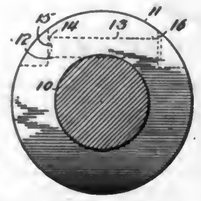
said seat in position to engage the free ends of said spring members when the legs are in unfolded position.

972,291. SPOUT-HANGER. FRANK W. THOMAS, Williamsport, Pa. Filed Sept. 14, 1909. Serial No. 517,715.



An eavestrough hanger comprising a roof engaging member provided with an annular head, said head being provided with a pivot opening, a guide slot, and radiating grooves, a body having a pivot hook for engagement with said pivot opening and a lip for engagement with said slot, whereby said body may be adjusted angularly of said roof-engaging member, a pin for said lip adapted to be selectively seated in any of said grooves to lock the body in an adjusted position, and a trough support adjustably connected with said body.

972,292. SHAFT-COUPLING. MILLWARD T. THOMAS, Warren, Pa. Filed Feb. 1, 1910. Serial No. 541,390.



1. In a shaft coupling, a casing having a lateral pin seat disposed tangentially to the inner face of the casing, and a drive pin within said seat and provided with a cutting edge at one end.

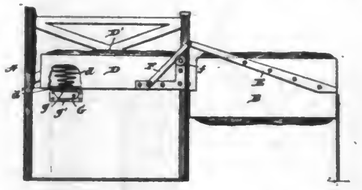
2. In a shaft coupling, a casing having a lateral pin seat disposed tangentially to the inner face of the casing, and a drive pin within said seat and provided with a curved cutting edge at one end.

3. In a shaft coupling, a casing having a lateral pin seat disposed tangentially to the inner face of the casing, and a drive pin within said seat and provided with a depression at one end surrounded by an annular cutting edge.

4. In a shaft coupling, a casing having a lateral pin seat disposed tangentially to the inner face of the casing, and a drive pin within said seat provided with a head at one end and a cutting edge at its opposite end.

5. In a shaft coupling, a casing having a series of lateral pin seats disposed tangentially to the inner face of said casing and at an angle to each other, and a series of drive pins within said seats and each provided with a cutting edge at one end.

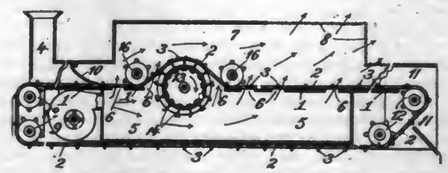
972,293. SOFA-BEDSTEAD. MAITLAND THOMSON, New York, N. Y. Filed Dec. 23, 1909. Serial No. 534,650.



1. In a sofa bedstead, a sofa frame, a combined seat and bed frame pivotally supported upon said sofa frame so as to swing to an inverted position without the sofa frame, a supplemental bed frame positioned below the combined seat and bed frame, a pair of links pivotally connecting the forward end of the combined seat and bed frame to the supplemental bed frame adjacent the forward end thereof, stops on the supplemental bed frame serving to limit the forward movement of said links on their pivots and supporting means acting to automatically engage the rear end of the supplemental bed frame when the same is elevated.

2. In a sofa bedstead, a box-like sofa frame, a seat frame supported upon said box-like frame and pivotally connected to the forward edge thereof, a depending bed frame carried by said seat frame and normally lying within the box-like sofa frame, a supplemental bed frame positioned below said first mentioned bed frame in said box-like sofa frame, both of said bed frames being of substantially the same area as the sofa frame, a pair of arms secured to the ends of the bed frame carried by the seat frame and projecting beyond the front and below the bottom thereof, a pair of links having their upper ends pivotally connected to the projecting ends of said arms and their lower ends pivotally connected to the lower portion of the supplemental seat frame adjacent the front thereof, means for limiting the forward movement of said links on their pivots, and means for supporting the rear end of the supplemental bed frame when the same is elevated.

972,294. PROCESS OF CLEANING OLD PAPER-STOCK. JOHN D. TOMPKINS, Valatie, N. Y. Filed Feb. 3, 1908. Serial No. 414,095.



1. The process of cleaning old paper stock which comprises conveying the stock forwardly over one or more

large openings and then freely fluttering the stock above said openings while supported by means of an air blast, to remove heavy foreign materials by allowing the latter to pass through said openings.

2. The process of cleaning old paper stock which comprises conveying the stock forwardly over one or more large openings and simultaneously removing the strings and then freely fluttering the stock above said openings by means of an air blast, to remove heavy foreign materials by allowing the latter to pass through said openings.

972,295. SANITARY DAIRY-PAIL. ULYSSES A. TOWNS, Harrison county, Mo. Filed Dec. 31, 1909. Serial No. 535,898.



1. A strainer including a funnel-shaped body insertible into the neck of a pail, a filtering cloth extending across the lower end of and around the body, said cloth constituting means for frictionally engaging the neck of a pail to hold the strainer in said neck, and a ring surrounding the body portion and binding said fabric thereon, said ring constituting means for engaging the neck of a pail to support the body portion within the neck.

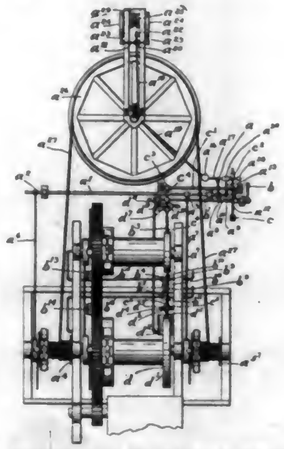
2. A strainer including a funnel-shaped body insertible into the neck of a pail, a fabric partition fixedly secured within the body above the bottom thereof, a filtering cloth extending across the bottom of the body and around said body, said cloth constituting means for frictionally engaging the neck of a pail to hold the body against displacement, a fibrous filtering material supported by said cloth and below the partition, and a ring for binding the fabric upon the body and supporting said body within the neck of a pail.

972,296. CONTROLLING MECHANISM. GEORGE E. TURNER, Bellefontaine, Ohio. Filed Aug. 13, 1908. Serial No. 448,444.

1. In a mechanism of the character described, operating devices, a controlling lever therefor, a power operated brake for said operating devices, said controlling lever being adapted to release said power brake when in one position of its movement, and a second lever for releasing said power brake in the other position of said controlling lever, and for applying a manually operated brake to said operating devices, substantially as specified.

2. In a mechanism of the character described, operating devices, a controlling lever therefor, a brake for said operating devices, the movement of said controlling lever in one direction being adapted to release said power brake and the movement of said lever in opposite direction being adapted to set said power brake, and a second lever for controlling said power brake when set by said controlling lever, said second lever being also adapted to set in operation, a manually operated brake for said operating device, substantially as specified.

3. In a mechanism of the character described, operating devices, a controlling lever for said operating devices, a normally set power brake, means connected with said controlling lever for releasing said power brake in one position of said controlling lever, a second lever and means connected with said second lever for releasing said power brake in the other position of said controlling lever and for applying a manually operated brake, controlled by said second lever, to said operating device, substantially as specified.

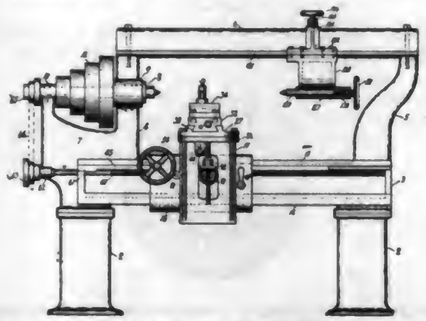


4. In a mechanism of the character described, hoisting devices, a power brake therefor, a controlling lever for said hoisting device adapted to release said power brake when thrown to hoisting position, and a second lever for releasing said power brake and applying a manually operated brake to said hoisting device when said controlling lever is thrown to backing position, substantially as specified.

5. In a mechanism of the character described, a hoisting device, a normally set power brake therefor, a controlling lever for said hoisting device adapted to release said power brake when thrown to hoisting position, and a second lever for releasing said power brake and applying a manually operated brake to said hoisting device in the backing position of said controlling lever, substantially as specified.

[Claims 6 to 16 not printed in the Gazette.]

972,297. UNIVERSAL LATHE. OLUF TYBERG, Point Loma, Cal. Filed Nov. 20, 1905, Serial No. 288,101. Renewed Mar. 12, 1910. Serial No. 549,008.

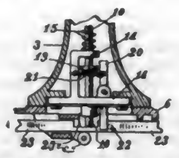


1. In an engine lathe the combination of an upright open frame formed by two horizontal beams connected at each end by upright connecting beams; of parallel ways on said horizontal beams, on which the carriage and tail stock are respectively mounted; and of a head stock spindle mounted to said frame in such a manner that its axis projects out in front of and extends across the opening of said frame.

2. In an engine lathe, the combination of an upright open frame having upper and lower ways, with a head stock spindle mounted on said frame, the axis of which projects out in front of, and extends across the opening of, said frame; a tail stock mounted on the upper ways above said spindle, and a carriage on the lower ways; a vertically adjustable cross-slide mounted on the carriage, capable of traveling across said opening, and to feed into said opening.

3. In an engine lathe, the combination of an upright open frame having lower and upper ways on which the carriage and tail stock are respectively mounted, a head stock spindle mounted in said frame, the axis of which extends across the opening of said frame, and a vertically adjustable cross slide mounted on said carriage and supported in vertical ways which are situated directly beneath the axis of said spindle.

972,298. MOVABLE GARMENT-SUPPORT. ANTHONY VANDERVELD, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Dec. 18, 1909. Serial No. 533,859.



1. A movable garment support comprising a carriage, a rotary garment support on the carriage, a longitudinal movable rod, separate locking means for the carriage and for the rotary support alternately engaged and disengaged by movement of the rod, and means for automatically operating the rod by movement of the carriage and rotary support.

2. A movable garment support comprising a carriage, a rotary garment support mounted on the carriage, a fixed member below the carriage, said support and member each provided with a locking recess, a longitudinally movable rod carrying a locking member at one end to engage the recess in the rotary support and engaging the recess of the fixed member at the other end, and means for automatically moving the rod by movement of the carriage and support.

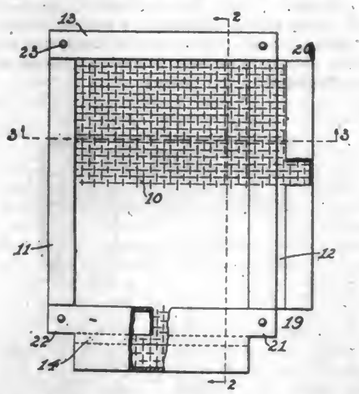
3. A movable garment support comprising a carriage, a rotary garment support mounted on the carriage and provided with a recess, a vertically disposed and longitudinally movable rod, a locking member yieldably engaging the said recess, and carried on the rod, a spring yieldingly supporting the rod, a latch detachably supporting the rod, a fixed member beneath the carriage and having a recess to receive the lower end of the rod, means for releasing the latch, and means for depressing the rod by rotation of the garment support.

4. A movable garment support, comprising a carriage, a hollow column on the carriage, a rotary garment support on the column, a vertically movable rod in the column, means for locking the garment support carried by the rod, a spring yieldingly supporting the rod, and a bar beneath the carriage and having a recess to receive the lower end of the rod when the same is depressed.

5. A movable garment support, comprising a carriage, a hollow column on the carriage, a rotary garment support on the column, a depending flange on the garment support and having a recess in its under side, a locking member vertically movable in the column and yieldably engaging the recess, a rod carrying the locking member and vertically movable in the column, and a bar beneath the carriage having a recess to receive the rod, when the rod is depressed.

[Claims 6 and 7 not printed in the Gazette.]

972,299. SCREEN. HEAMON L. VAN VALKENBURG, Philadelphia, Pa. Filed Apr. 15, 1909. Serial No. 490,061.



1. In a screen, a netting and a frame having sides and ends formed from metal strips, each strip having a portion which is secured at its ends to adjacent strips and a portion which is twice folded inwardly over the netting.

2. A screen consisting of a wire netting and a metal frame having side and end rails secured together at their ends, each rail being formed from a strip of metal having its outer side portion folded or doubled inwardly upon the corresponding edge of the netting, and the doubled portion together with the portion of the netting received therein being folded inwardly.

3. A screen consisting of a netting and a metal frame formed of side and end rails secured together at their ends, each rail being formed from a metal strip having side portions doubled or folded over toward each other, the outer doubled portion receiving the corresponding edge of the netting and together with the portion of the netting which is received therein being folded inward upon the inner folded portion of the strip.

4. A screen consisting of a netting and a metal frame formed from metal strips, each strip having at its ends portions which overlap the portions of the adjacent strips and are secured thereto, and having an outer side portion which is doubled or folded inwardly and receives the corresponding edge of the netting, and said doubled portion together with the portion of the netting received therein being folded inwardly between the ends of the adjacent side rails.

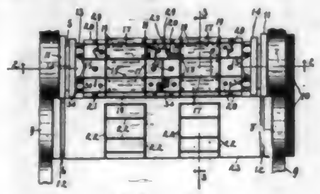
5. In a screen, a wire netting and a metal frame having side and end rails, formed from metal strips, the adjacent rails having at their ends overlapping portions which are secured together, the strips forming the side rails having the outer portions folded inwardly upon one face of the netting between the ends of the strips forming the end rails and the latter strips having their outer portions folded inwardly upon the other face of the netting and between the strips forming the side rails.

[Claims 6 to 9 not printed in the Gazette.]

972,300. MACHINE FOR MAKING PAPER-BOX BLANKS. FRANK P. VAVRA, Chicago, Ill. Filed Feb. 24, 1908, Serial No. 417,398. Renewed Aug. 12, 1910. Serial No. 576,910.

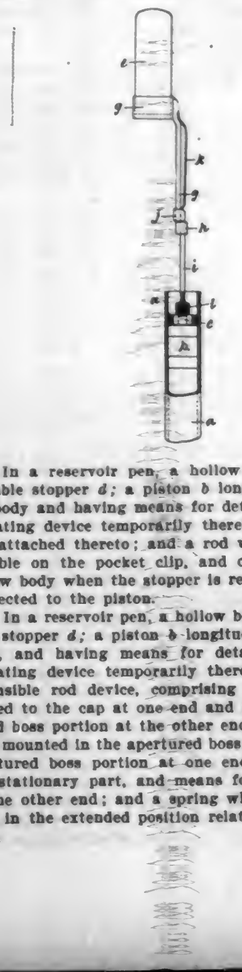
1. In a machine for making paper-box blanks, two cooperating rollers and means for driving same, a sectional shell attached to one of said rollers, a plurality of printing plates spaced apart and removably attached to said shell, scoring knives and cutting knives arranged adjacent to said plates, means for removably holding said knives in operative position on said shell, means for clamping said sectional shell on said roller and a sectional shell removably attached to the other roller and having grooves to receive the edges of said knives.

2. In a machine for making paper boxes, the combination with a pair of coöperating rollers, end flanges on one of the rollers, and means for operating the rollers, of a semi-cylindrical flanged shell applied to the face of the flanged roller, devices consisting of scoring blades, knives and printing plates mounted on said shell, and means for attaching said devices, said means comprising clamping bolts engaging the shell flanges.



3. In a machine for the purpose stated, the combination with a pair of coöperating rollers, and gearing connecting the rollers, of a shell engaging the face of one of said rollers, and provided with a raised margin, and a curved plate engaging the other roller, and a radial flange projecting from said plate and engaging a longitudinal groove in the roller face.

972,301. RESERVOIR-PEN. ERNEST MACAULEY WADE, Liverpool, England. Filed Apr. 15, 1909. Serial No. 490,198.

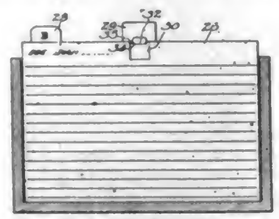


1. In a reservoir pen, a hollow body *a*, having a removable stopper *d*; a piston *b* longitudinally movable in the body and having means for detachably connecting an actuating device temporarily thereto; a cap *e*; a pocket clip attached thereto; and a rod which is longitudinally slidable on the pocket clip, and can be inserted in the hollow body when the stopper is removed, and detachably connected to the piston.

2. In a reservoir pen, a hollow body *a*, having a removable stopper *d*; a piston *b* longitudinally movable in the body, and having means for detachably connecting an actuating device temporarily thereto; a cap *e*; and an extensible rod device, comprising a stationary part attached to the cap at one end and provided with an apertured boss portion at the other end; a movable part slidably mounted in the apertured boss portion, and having an apertured boss portion at one end slidably mounted on the stationary part, and means for engaging the piston at the other end; and a spring which holds the movable part in the extended position relatively to the stationary part.

3. A combined pocket clip and piston actuating device for a self-filling reservoir pen, comprising the combination of a rod having a longitudinally extending spring, and provided at one end with an attachment ring device, and at the other end with an apertured boss; and a second rod mounted in the apertured boss and slidable longitudinally on the rod fitted with the spring, and having a slidable boss at one end engaging with the spring fitted rod and with which the spring engages when the rods are in the extended position, and having at the other end a pen piston engaging device.

972,302. SYSTEM OF FILES. TAIGO WALLER, Highland Park, Ill. Filed Nov. 24, 1908. Serial No. 464,305.



1. In a system of interlocking files, a file made of paper, and a separately formed tongue for said file adapted to interlock with another file and provided with a hinge-forming portion of tougher material than paper, whereby it may be movably secured to said first mentioned file.

2. In a system of interlocking files, a file made of paper, and a separately formed interlocking device for said file adapted to interlock with another file and provided with a hinge-forming portion of tougher material than paper, whereby it may be movably secured to said first mentioned file.

3. In a system of interlocking files, a paper file, a metal tongue movably secured to the file and adapted to removably interlock with another file.

4. In a system of interlocking files, a file, a separate tongue for the same, and attaching means made of cloth for attaching the tongue to the file said tongue being adapted to removably interlock with another file.

5. In a system of interlocking files, a file of paper, a tongue for the same of metal, and a cloth device for hinging the tongue to the file said tongue being adapted to removably interlock with another file.

[Claims 6 to 23 not printed in the Gazette.]

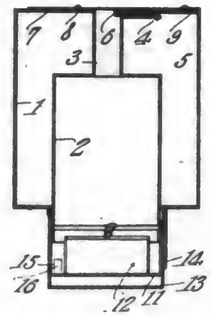
972,303. RAILWAY-TIE. HEYE J. WESSELS, German Valley, Ill. Filed Mar. 31, 1910. Serial No. 552,617.



1. A railway tie comprising two separate cement sleepers, and a tubular tie member connecting same and having its terminals respectively embedded therein, said tie member being provided with apertures adapted to receive the rail securing spikes and a spike securing filling disposed within said member.

2. A railway tie comprising two separate cement sleepers, a metallic rim disposed around each sleeper and a tubular tie member connecting the same and projecting through the sleepers at its respective terminals, the said tie member having its projecting ends slit longitudinally to form tongues adapted to be bent outwardly and secured against the inner face of the metallic rim disposed around the sleeper.

972,304. COMBINED CAN AND COOKER. FRANKLIN P. WHITE, Shallotte, N. C. Filed Oct. 11, 1909. Serial No. 522,041.



1. A combined storage and heating receptacle including a body having a compartment therein, a heater, means for directing products of combustion from the bottom to the top of said body, a vent extending from the compartment and opening into said means, and a sealing medium within the vent.

2. A combined storage and heating receptacle including a body having a compartment therein, a heating flue extending through the body, a heater within the flue, a vent extending from the compartment and opening into the flue, and sealing means for the vent.

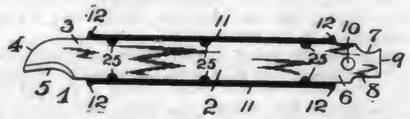
3. A combined storage and heating receptacle including a body, a heating flue extending therethrough, a heater removably mounted in one end of the flue, a vent tube opening into the flue from the interior of the body, a sealing material within the tube and disposed to be softened and released by the heat generated within the flue.

4. A combined heating and storage receptacle including a body having an outlet, a heating flue extending through the body, a sealing strip attached to the body and normally closing the outlet, a vent tube extending into the flue from the interior of the body, and sealing means within the tube, said means being disposed to be softened and the strip loosened by the heat generated within the flue.

5. A combined storage and heating receptacle including a body, a heating flue extending therethrough, there being an outlet opening within the body, a sealing strip, and means for holding said strip in position on the receptacle to close the opening, said means being designed to be softened to release the strip when heated.

[Claims 6 to 9 not printed in the Gazette.]

972,305. LINEMAN'S TOOL. WILLIAM H. WHITTEMORE, East Orange, N. J., assignor to Strieby & Foote Company, a Corporation of New Jersey. Filed Apr. 29, 1908. Serial No. 429,040.



1. A lineman's cutting tool comprising a flat metal body, said body being provided at one end with a short portion formed with a convex scraping edge and a concave cutting edge, and said body being provided at its other end with a short portion formed with a multiplicity of scraping edges, and a handle-portion surrounding the entire flat metal body except the short end-portions thereof, the said handle-portion being made from a non-metallic material which is a non-conductor of electricity, the said handle-portion being provided at its end with marginal flanges which form safety-guards, and the said combined scraping and cutting edge-portion extending only a short distance beyond the end of the handle-portion so as to provide rigidity of said scraping and cutting edge-portion.

2. As a new article of manufacture, a lineman's tool comprising a metallic tool-member, provided at one end with a cutting-member, and provided at the opposite end with a scraping-member, and a handle-member made of material which is a non-conductor of electricity secured upon said metallic tool-member between the said cutting-member and the scraping member thereof, substantially as and for the purposes set forth.

3. As a new article of manufacture, a lineman's tool comprising a metallic tool-member, provided at one end with a cutting-member, and provided at the opposite end with a scraping-member, and a handle-member made of material which is a non-conductor of electricity secured upon said metallic tool-member between the said cutting-member and the scraping member thereof, said handle-member being provided at each end with slightly flanged portions, substantially as and for the purposes set forth.

4. As a new article of manufacture, a lineman's tool comprising a metallic tool-member provided at one end with a cutting-member, having a rounded end and a concave cutting-edge, and provided at the opposite end with a scraping-member having a concave scraping-edge upon one side, a straight scraping-edge upon the other side and a straight scraping edge upon its end, a handle-member made of material which is a non-conductor of electricity secured upon said metallic tool-member between the said cutting-member and the said scraping-member thereof, so as to insulate the hand of the user of the tool from electrical contact with the metallic tool-member when in use, substantially as and for the purposes set forth.

5. As a new article of manufacture, a lineman's tool comprising a metallic tool-member provided at one end with a cutting-member, having a rounded end and a concave cutting-edge, and provided at the opposite end with a scraping-member having a concave scraping-edge upon one side, a straight scraping-edge upon the other side and a straight scraping edge upon its end, and a handle-member made of material which is a non-conductor of electricity secured upon said metallic tool-member between the said cutting-member and the said scraping-member thereof, so as to insulate the hand of the user of the tool from electrical contact with the metallic tool-member when in use, said handle-member being provided at each end with slightly flanged portions, substantially as and for the purposes set forth.

[Claims 6 to 9 not printed in the Gazette.]

972,306. GROUND-ANCHOR. JACOB WILCOX, Washington township, Franklin county, Ohio. Filed June 2, 1910. Serial No. 564,649.



1. An anchor of the kind described consisting of a blade each end of which is formed as a single spear point, each end being symmetrical in form with and of substantially the same area in plan view as that of the other, and the lower or penetrating end being substantially straight

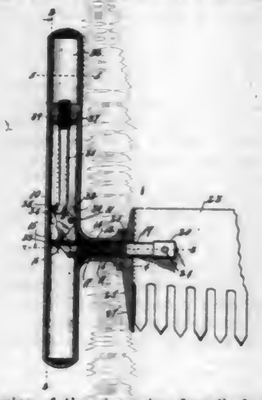
and the upper end being curved, said blade being provided at the side from which said upper end curves with a projecting lug constructed to receive a bifurcate driving tool, said lug having a wire-receiving hole offset from the side of the blade and equally distant from the extremities of the blade.

2. An anchor of the kind described consisting of a blade having at one side a wire receiving lug and a tapered extension below said lug provided with laterally extending shoulders, said lug adapted to receive a driving tool and said shoulders adapted to confront the end of said driving tool, substantially as described.

3. An anchor of the kind described consisting of a blade having at one side a wire receiving lug, a tapered extension below said lug provided with laterally extending shoulders and an upwardly extending portion above said lug offset from the blade, said lug adapted to receive a bifurcate driving tool straddling said lug, substantially as described.

4. An anchor of the kind described consisting of a blade having at one side a wire receiving lug provided with an upwardly extending portion above said lug offset from the blade, said lug adapted to receive a bifurcate driving tool straddling said lug between the blade and the said offset upward extension of the lug, substantially as described.

972,307. SAW-HANDLE. HARVEY S. WILLETT, Kenny, Cal. Filed Feb. 16, 1910. Serial No. 544,226.



1. In a device of the character described, the combination with a saw blade, of a handle, a movable member carried by said handle, connections between the movable member and the saw blade whereby the movement of said member will shift said saw blade toward and away from the handle in a direction transverse of the latter, and rotatable means for moving said member, said means constituting a portion of the handle and having its axis of rotation co-incident with the vertical axis of the handle.

2. In a device of the character described, the combination with a saw blade, of a handle, a movable member carried by said handle, connections between the movable member and the saw blade whereby the movement of said member will shift said saw blade toward and away from the handle in a direction transverse of the latter, and rotatable means for moving said member, said means constituting one end of the handle and having its axis of rotation co-incident with the vertical axis of the handle.

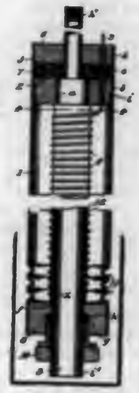
3. In a device of the character described, the combination with a saw blade, of a handle, a movable member carried by said handle, connections between the member and the saw blade whereby the movements of said member will shift the saw blade toward and away from the handle, and a rotatable member disposed at one end of said handle and having its axis of rotation co-incident with the vertical axis of the handle, connections between the rotatable member and movable member for effecting the movement of the latter by the rotation of the former.

4. In a device of the character described, the combination with a saw blade, of a hollow handle provided with a lateral extension having a central bore communicating with the interior of the handle, a pivoted member mounted in the handle, connections between the saw blade and the pivoted member, a rotatable member disposed at one end of said handle, connections between the rotatable member and the pivoted member for effecting the movement of the latter by the rotation of the former, whereby the saw blade may be shifted toward and away from the handle.

5. In a device of the character described, the combination with a saw blade, of a hollow handle provided with a lateral extension having a central bore communicating with the interior of the handle, a bell-crank mounted in said handle, connections between one arm of the bell-crank and the saw blade disposed in the bore of said extension, a draw-bar having its lower end connected with the other arm of said bell-crank and its upper end threaded, and a cap disposed at one end of the handle and having a threaded engagement with the upper end of said draw-bar, whereby the rotation of said cap will lower and raise said draw-bar to effect a movement of the bell crank, whereby the saw blade may be shifted toward and away from the handle.

[Claims 6 and 7 not printed in the Gazette]

972,308. ELECTRIC HEATER FOR OIL-WELLS. JAMES E. WILLIAMSON, Pittsburg, Pa. Filed Oct. 26, 1908. Serial No. 459,455.



1. In an electric heater for oil wells, the combination with the pumping tube, of a heater comprising an outer and an inner shell, and an electric resistance arranged upon the exterior of the inner shell, the said shell constituting the return conductor of said resistance, the said resistance being located in a water sealed chamber between said shells, the inner shell being adapted to be connected to said pumping tube, and the outer shell having a series of corrugations in the wall thereof.

2. In an electric heater for oil wells, the combination with the pumping tube of a heater comprising an outer and an inner shell, the outer shell having a series of corrugations in the wall thereof, the inner shell having an extension at one end adapted to be connected to the pumping tube and a resistance wound around the exterior of said inner shell, the said shell constituting the return conductor of said resistance.

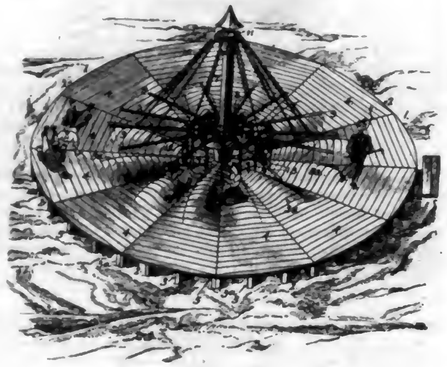
3. An electric heater for oil wells comprising an outer and an inner shell, the inner shell being open at both ends and adapted to be connected to the pump tubing, the ends of the outer shell being water sealed around said inner shell, and expansion joints for taking up the expansion and contraction within said heater, and an electric resistance wound around said inner shell, the said shell constituting the return conductor of said resistance.

972,309. BACHELOR-BUTTON. EDGAR VASSER WINSTON, Camden, Ark. Filed Oct. 16, 1909. Serial No. 522,937.



A separable button, consisting of a head, having formed therewith and extending from its center and inner face an internally threaded neck, and from the inner end and periphery of said neck, an inner disk, provided with flanges, and a similar outer disk having extending from its center and inner face a pointed threaded pin, adapted to be screwed into said threaded neck, said disk provided with flanges leaving recesses between said flanges, said disk adapted to be locked by the flanges, said disks adapted to be locked by the flanges of one dropping into the recesses of the other.

972,310. AMUSEMENT APPARATUS. PETER WINTERMUTE, Portland, Oreg. Filed Aug. 6, 1909. Serial No. 511,582.



1. In an amusement apparatus, a floor having an undulated surface, a series of arms rotatably supported over said floor, and means causing said arms to follow the undulations of said floor.

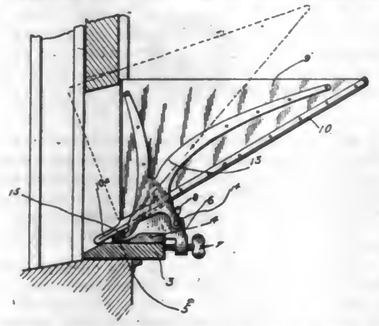
2. In an amusement apparatus, a floor having an undulated surface, a series of arms rotatably supported over said floor, means causing said arms to follow the undulations of said floor, said means comprising an undulated track on which said arms rest.

3. In an amusement aparatus, a floor having a partly undulated surface and a partly smooth surface, a series of arms rotatably supported over said undulated portion of said floor to be grasped by a skater, and means for causing said arms to follow the undulated portions of said floor.

4. In an amusement apparatus, a floor having an undulated surface, a series of arms rotatably supported over said undulated surface to be grasped by a skater, and means for causing said arms to follow the undulations of said floor surface.

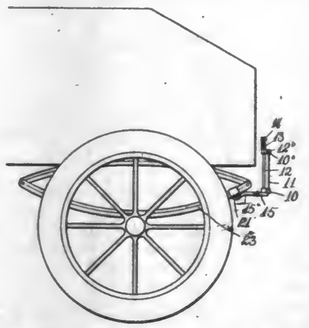
972,311. WINDOW-VENTILATING DEVICE. WILLIAM H. WITMER, Philadelphia, Pa. Filed Aug. 28, 1909. Serial No. 515,071.

In combination, a base adapted to be positioned on a frame, and frames having projections, bearing members having hooks engaged by projections positioned on the base, racks secured to the base, pins on the end members engaging the racks, means for securing the racks on



the base, a textile section secured to the end frames, and boards secured to the end frames.

972,312. SIGN-HOLDER. CHARLES A. WOODRUFF and GEORGE E. MCELROY, Newark, N. J. Filed Jan. 18, 1910. Serial No. 538,760.



1. In a sign holder the combination of a clamp having overlapping flanges and having an extension, a shank pivotally connected to the extension, a post supported by the shank, a lower jaw loosely mounted on the post, means for holding the lower jaw against rotation, an upper jaw loosely mounted on the post, said jaws being provided with transverse grooves to receive the sign, and means for adjustably holding the upper jaw in engagement with the sign.

2. In a sign holder the combination of a clamp having overlapping flanges and having an extension, a shank adjustably connected to the extension and carrying a post adapted to hold the sign in a vertical position, a lower jaw supported by the post, an upper jaw slidably mounted on the post, said jaws being provided with transverse grooves to receive the sign, the posts terminating with an abutment, and a coil spring interposed between the abutment and the upper jaw whereby the sign is held firmly by said jaws.

3. In a sign holder, the combination of an adjustable clamp having an extension, a shank vertically adjustably connected to the extension, the shank being provided with a groove in its upper side, a post supported by the shank at right angles thereto, a lower jaw loosely mounted on the post and having a tongue adapted to register with the groove in the shank, an upper jaw loosely mounted on the post, said jaws being provided with transversely extending grooves to receive the sign, a nut secured on the end of the post, and a spring encircling the post interposed between the nut and the upper jaw whereby the upper and lower edges of the sign are held firmly by said jaws.

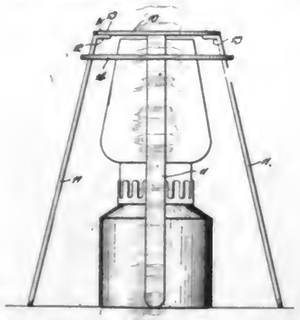
972,313. GOLF-BALL. GEORGE C. WORTHINGTON, Elyria, Ohio. Filed Feb. 25, 1907. Serial No. 359,097.



1. A golf ball comprising a soft and yielding center, a spherical layer thereon made of rubber thread wound under tension, a layer of weighted unvulcanized rubber embracing said threaded layer, and another layer external to the weighted layer and made up of rubber thread wound under tension, and a shell or cover secured upon the core so formed.

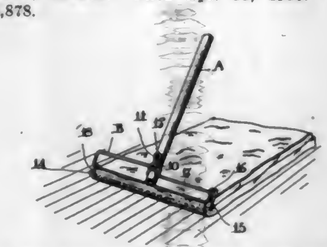
2. A golf ball comprising a soft and yielding center, a spherical layer thereon made up of rubber thread wound under no very great tension, a layer of weighted unvulcanized rubber embracing the threaded layer referred to, another layer, external to the weighted rubber layer, and made up of rubber thread wound under greater tension than the other thread layer, and a shell or cover secured upon the core so formed.

972,314. HEATER. KATE OBTT, Sanborn, N. Y. Filed May 24, 1910. Serial No. 563,147.



In a heater, a supporting element, resilient pendent legs attached thereto, and a slide ring mounted for longitudinal movement on the legs and operating to draw together and space apart said legs whereby to move said supporting element vertically.

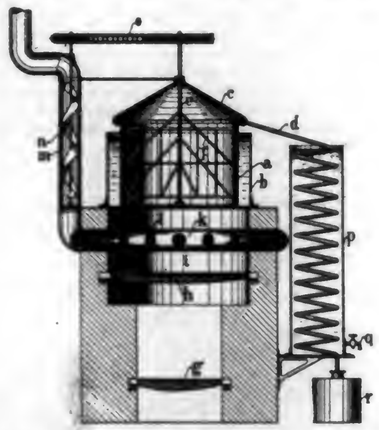
972,315. MOP-HEAD. JOHN NORMAN YOUNG, Brockville, Ontario, Canada. Filed Apr. 11, 1910. Serial No. 554,878.



1. A mop head comprising a supporting member in the form of an oblong wire frame having a plurality of spiral turns adapted to encircle the mop handle, one end of the wire extending to form a retaining member adapted to hold the mop cloth against the front side of the supporting member, and means for holding the retaining member in closed position.

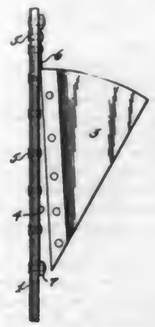
2. A mop head comprising a supporting member formed of a substantially rectangular frame of wire having parallel front and upper sides which are adapted to extend at substantially right angles to the mop handle, the end of the front side being turned upwardly and formed with a loop encircling the upper side, a retaining member formed by an extension of the wire forming the supporting member and extending substantially parallel with the front side of the supporting member, and a link mounted on the supporting member adapted to engage the end of the retaining member to hold it in closed position.

972,316. PROCESS OF PREPARING A TOOTH-HEALING PREPARATION. JOSEF ZEHETNER, Vienna, Austria-Hungary. Filed Mar. 8, 1909. Serial No. 482,186.



The process of preparing a tooth healing preparation which consists in successively adding to an alcoholic solution of formic acid, carbolic acid, benzoic acid, peppermint oil, wintergreen oil, thyme oil, cajeput oil, eucalyptus oil, and eugenol substantially as described, and finally distilling the resultant mixture with constant stirring.

972,317. BUCKET ATTACHMENT FOR CONVEYERS. FRANK B. BALL, Passaic, N. J., assignor to Manhattan Rubber Manufacturing Company, Passaic, N. J., a Corporation of New Jersey. Filed Mar. 4, 1910. Serial No. 547,870.



1. In a conveyer, the combination of a belt, a bucket attached thereto at its upper end only, and a flexible shield secured to said belt between said bucket and said belt.

2. In a conveyer, the combination of a belt, a bucket attached thereto at its upper end only, and a flexible shield secured at its edges to said belt and located under said bucket.

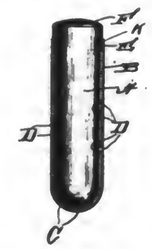
3. In a conveyer, the combination of a belt, a bucket attached thereto at its upper end only, and a flexible shield secured to said belt between said bucket and said belt, and being of a greater area than that of the back of said bucket.

4. In a conveyer, the combination of a belt, a bucket secured at one end thereto, and a raised strike-member secured to said belt under the other end of said bucket.

5. In a conveyer, the combination of a belt, a bucket secured at one end thereto, and a shield secured to said belt under said bucket and provided with a raised strike-member for said bucket.

[Claims 6 and 7 not printed in the Gazette.]

972,318. INHALER. EDWARD S. BALTHROP, Jackson, Tenn. Filed Apr. 27, 1910. Serial No. 558,005.



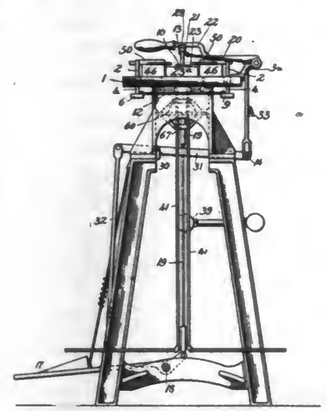
An inhaler comprising an inner and an outer tube, circumferentially apertured, one telescoping within the other, the inner tube having circumferential threads adjacent to its open end, threads upon the inner surface of the outer tube, a lug projecting from the outer surface of the inner tube and engaging the threads on the inner circumference of the outer tube, a cap fitted about the outer end of the inner tube and bearing against the end of the outer tube.

972,319. CABLE-CONTROLLER FOR ELECTRICAL APPARATUS. RENÉ JOSEPH FRANÇOIS SAMUEL BARON, Paris, France. Filed Jan. 23, 1906. Serial No. 297,507.



In a winding up device for an electric cable, the combination of a casing, a hollow vertical spindle within said casing, a winding-up drum for the cable arranged in the casing and loosely mounted about said hollow spindle, a spiral spring arranged in the central chamber of the drum, one of the ends of said spring being secured to the drum and the other to said hollow spindle, two concentric metallic circles secured outwardly in the upper cheek of the insulating material of the drum, means for connecting said circles respectively to the wires composing the cable, two metallic friction devices terminating respectively on each of the concentric circles and being adapted to distribute the current of the electric circuit to the wires of the cable, and a curved counter-bent guide secured to the inner wall of the casing, said guide being traversed by the cable and serving to guide it from the horizontal position which it occupied on the drum, to the vertical position in prolongation of the hollow spindle, and also acting as a brake upon the cable.

972,320. FOLDING-MACHINE. WALTER JOHN BEATTIE, Cohoes, N. Y., assignor, by mesne assignments, to The Beattie Manufacturing Company of Cohoes. Filed May 21, 1908. Serial No. 434,132.



1. In a machine for folding collar and cuff blanks, a heated bed plate, a heater on each side of said bed plate, independent means for heating said bed plate and each heater, slidable folder plates supported directly on said heaters to be heated thereby, a movable die adapted to cooperate with the bed plate for holding the blanks thereon while being folded and pressed, means for operating the folder plates to fold the blanks over the die edges, and means for pressing the folds of the blank between the bed plate and the folder plates and over the edges of the die.

2. In a machine for folding collar and cuff blanks, a vertically movable bed plate, a fixed heater on each side of said bed plate, separate means for heating said bed plate and each heater, slidable folder plates supported directly on said heaters to be heated thereby, a movable die adapted to coöperate with the bed plate for holding the blanks thereon while being folded and pressed, means for operating the folder plates to fold the blanks over the die edges, and means for pressing the heated bed plate with the folded blank thereon against the heated folder plates.

3. In a machine for folding collar and cuff blanks, a fixed table, a bed plate vertically movable therethrough, a heated box fixed to said table on each side of said bed plate, separate means for heating said bed plate and each heating box, slidable folder plates supported directly on said boxes to be heated thereby, a die for holding blanks on said bed plate while the edges of said blanks are folded over the edges of said die by the folder plates, means for operating said folder plates, and means for causing the heated bed plate to press the edges of the blanks folded over the die against the heated folder plates.

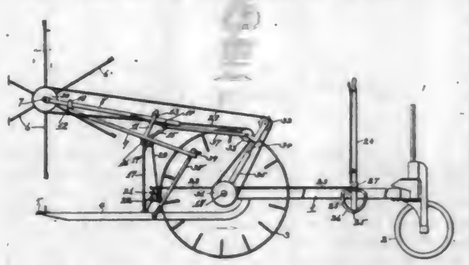
4. In a machine for folding collar and cuff blanks, a vertically movable bed plate, a fixed heater on each side of said bed plate, separate means for heating said bed plate and each heater, slidable folder plates supported directly on said heaters to be heated thereby, a movable die arranged to coöperate with the bed plate for holding blanks thereon while being folded and pressed, means for operating the

folder plates to fold the blanks over the die edges, means for moving said heated bed plate vertically to press the blank folded about said die-edges against the heated folder plates, and connections between the die and the heated bed plate adapted to lift said bed plate into contact with said folder plates when the die is raised.

5. In a machine for folding collar and cuff blanks, a vertically movable bed plate, a fixed heater on each side of said bed plate, separate means for heating said bed plate and each heater, slidable folder plates supported directly on said heaters to be heated thereby, a vertically movable die arranged to coöperate with the bed plate for holding blanks thereon while being folded and pressed, means for operating the folder plates to fold the blanks over the edges of the die, means for raising the bed plate into contact with the folder plates for pressing the blanks, connections between the die-head and the bed plate for lifting said bed plate into contact with said folder plates at the time when the die is raised to permit removal of the finished blanks from said die, and means operated by the movement of the die-head for varying the length of the die.

[Claims 6 to 8 not printed in the Gazette.]

972,321. REEL-ADJUSTING MECHANISM FOR MOWING-MACHINES. JAMES A. BECKETT and GEORGE WALTER WILLIS, Hoosick Falls, N. Y.; said Beckett assignor to Walter A. Wood Mowing and Reaping Machine Co., Hoosick Falls, N. Y., a Corporation of New York. Filed May 13, 1909. Serial No. 495,604.



1. In a machine of the class described, and in combination, a truck having a tongue and draft-wheels; a harvester-frame mounted upon said truck; a reel-frame mounted upon said harvester-frame; a forward set of rollers mounted on the reel-frame; a rear set of rollers mounted on the reel-frame; a pair of side bars resting near their forward ends upon said forward rollers, respectively, and having rear portions underlying said rear rollers, respectively; a reel rotatively mounted upon the forward ends of said side bars; a hand-lever mounted upon said tongue; means for locking the hand-lever in selected positions of adjustment; and connections between said hand-lever and said side bars.

2. In a machine of the class described, and in combination, a truck; a harvester-frame mounted upon said truck; uprights erected from said harvester-frame; a rock shaft rotatably mounted in said uprights a reel-frame looscly mounted upon said rock-shaft and provided with bearing-rollers; a pair of side bars adapted to reciprocate longitudinally in the bearing rollers on said reel-frame; a reel mounted upon the forward ends of said side bars; a plurality of rocker-arms fixed upon said rock-shaft two of which are connected with said side bars, respectively; an angle-lever mounted upon said harvester-frame; a link-connection between said angle-lever and a third rocker-arm on said rock-shaft; a hand-lever mounted upon said truck; a link-connection between said hand-lever and said angle-lever; means for locking said hand-lever in selected positions of adjustment; and means for supporting the reel-frame in different positions of rotative adjustment on said rock-shaft.

3. In a machine of the class described, and in combination, a truck having a draft wheel; a harvester frame mounted upon said truck; uprights erected from said harvester frame; a rock-shaft rotatably mounted in said uprights; a reel-frame mounted on said rock-shaft; a reel, reel-supporting mechanism movable longitudinally of the reel-frame; a sprocket wheel fixed to said reel, a sprocket wheel fixed to said draft wheel, a telescoping spring-extending post mounted to rock on the draft-wheel shaft; guide wheels on the spring operated member of said post, and a sprocket-chain connecting said sprocket wheels together, the stretches of said chain passing over the respective guide wheels to keep the chain under tension at all times.

4. In a machine of the class described, and in combination, a truck having a draft-wheel; a harvester-frame mounted upon said truck; uprights erected from said harvester-frame; a rock-shaft rotatably mounted in said uprights; a reel-frame mounted on said rock-shaft; a reel; reel-supporting mechanism movable longitudinally of the machine; a sprocket-wheel fixed to said reel; a sprocket-wheel fixed to said draft-wheel; a telescoping spring-post pivotally mounted concentrically with said draft-wheel; a pair of guide-wheels on the outer member of said post; a sprocket-chain connecting together said sprocket-wheels with its stretches passing over the respective guide-wheels; and a connection between said spring-post and said reel-supporting mechanism whereby movements longitudinally of the machine are imparted to said spring-post corresponding with the movements of the reel-supporting mechanism.

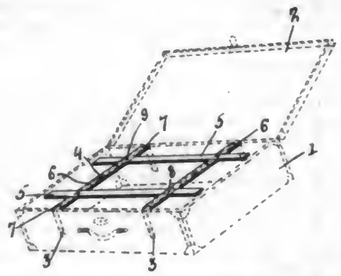
5. In a machine of the class described, and in combination, a truck having a tongue, a main shaft and draft-wheels; a harvester-frame; a rock shaft supported on the harvester-frame a reel-frame mounted upon said rock-shaft and provided with bearing rollers a pair of side bars reciprocatory longitudinally of the machine in the bearing rollers on said reel-frame; a reel mounted upon said side bars; rocker-arms on said shaft two of said arms being connected with said side bars, respectively; an angle-lever mounted on said harvester-frame; a connection between said angle-lever and a third rocker-arm on said rock-shaft; a lever mounted on said tongue in connection with said angle-lever; means for locking the lever on said tongue in selected positions of adjustment; a sprocket-wheel on said reel; a sprocket-wheel fixed to one of said draft-wheels; a telescoping spring-post pivotally mounted on the main shaft; a pair of guide-wheels mounted on the outer member of said spring-post; a link connection between said spring-post and a rocker-arm on said rock-shaft: and a sprocket-chain connecting together said sprocket-wheels with its stretches passing over the respective guide-wheels.

972,322. ARMOR FOR AUTOMOBILE-WHEELS. VENDEL LÁSZLLO BÉKEFI, Cleveland, Ohio. Filed Feb. 19, 1910. Serial No. 544,909.



An armor for pneumatic wheel tires consisting of a multiplicity of members operatively overlapping at their ends and each member constructed of inner and outer parts separably united, both said parts segmentally shaped in cross section and each part projecting at one end beyond the end of the other part corresponding therewith, said inner member provided with projections at its sides having holes through which fastening means for holding said parts on a wheel are adapted to be connected.

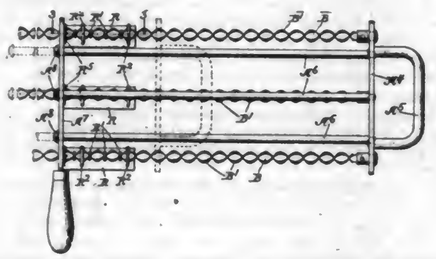
972,323. FOLLOWER FOR TRAVELING-CASES. ANDREW N. BOGEN, Denver, Colo. Filed Apr. 11, 1910. Serial No. 554,706.



1. A device of the character described comprising a pair of parallel, longitudinal strips, a pair of transverse strips intersecting the longitudinal ones at points distant from their extremities and the extremities of the longitudinal strips, the extremities of the transverse strips being notched and both the longitudinal and transverse strips being mortised at their points of intersection whereby both pairs of strips will be disposed in the same plane, and fastenings uniting the intersecting strips at their points of intersection.

2. The herein described traveling case, comprising in combination with its rectangular body and its contents retaining straps, the latter being fixed at one end and having their free ends adjustably connected by buckles, of a rectangular follower frame consisting of a pair of parallel longitudinal strips, and a pair of parallel transverse strips, the longitudinal and transverse strips intersecting each other at right angles adjacent their ends, and being mortised together at their points of intersection, whereby both pairs of strips will be disposed in the same plane, the extremities of the transverse strips being formed with notches to receive said strips, and transverse fastenings passed through the trips at their points of intersection.

972,324. MANUALLY-OPERATED COTTON-PICKER. NATHANIEL BOWDITCH, Aurora, Ill. Filed Dec. 29, 1905. Serial No. 293,737.



1. A manually operated cotton picker comprising an end-piece provided with a handle, a series of spiral cotton pickers passing through said end-piece said end-piece being provided with guides for the pickers which cause them to be rotated when reciprocated, a handle connected with said cotton pickers arranged so that they can be moved to and from the end-piece.

2. A manually operated cotton picker comprising an end-piece provided with a handle, a series of spiral cotton pickers passing through said end-piece said end-piece being provided with guides for the pickers which cause them to be rotated when reciprocated, a handle connected with said cotton pickers arranged so that they can be moved to and from the end-piece, and a series of rods adapted to prevent displacement thereof.

3. A manually operated cotton picker comprising an end-piece provided with a handle, a series of spiral cotton pickers passing through said end-piece said end-piece being provided with guides for the pickers which cause them to be rotated when reciprocated, a handle connected with said cotton pickers arranged so that they can be moved to and from the end-piece, and a series of rods connected with said cotton pickers and passing through openings in said end-piece so as to move with the pickers.

4. A manually operated cotton picker comprising two handles, a series of spiral cotton pickers connected with one handle, a series of guides therefor connected with the other handle, said handles adapted to be moved relatively so as to project the spiral pickers into and withdraw them from the cotton plants.

5. A manually operated cotton picker comprising two handles, a series of spiral cotton pickers connected with one handle, a series of guides therefor connected with the other handle, a series of rods substantially parallel with said cotton pickers and adapted to form a movable connection between the two handles.

[Claims 6 to 15 not printed in the Gazette.]

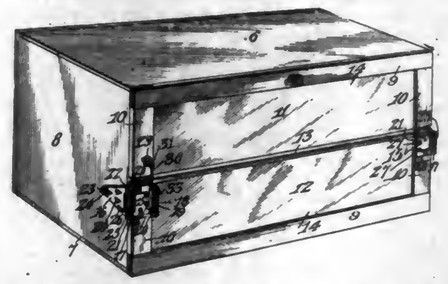
972,325. PROCESS OF COATING OR FACING MOLDS. GEORGE HALE BRABROOK, Taunton, Mass. Filed Nov. 9, 1904. Serial No. 232,059.

1. The process of facing molds which consists in applying intermediate the mold and the pattern a layer composed of facing material mixed with a volatile liquid and while the facing material is still permeated by the volatile liquid applying pressure to force the facing layer into intimate contact with the pattern.

2. The process of facing sand molds which consists in applying thereto a mixture of facing material and a volatile liquid under pressure then spraying the facing with oil and then drying the mold.

3. The herein described process of forming molds consisting of forming the body of the mold out of moist molding sand upon a pattern, then withdrawing the pattern and applying intermediate the pattern and the mold a layer of facing material mixed with a volatile liquid, then replacing the pattern and applying pressure to force the facing layer into intimate contact with the mold while the facing material is still permeated with the volatile liquid.

972,326. HINGE FOR DISPLAY-BOXES. JOHN F. BRENT, Marseilles, Ill. Filed Dec. 23, 1909. Serial No. 534,659.



1. In combination with a detachable display front for boxes, a spring hinge composed of two sections, one of which is rigidly mounted on the outside of the display front and the other is provided with inwardly projecting teeth to engage the exterior wall of the box, said hinge being mounted in place so as to bring the hinge pintle in a vertical plane at the outer edge of the display front, and the spring of the said hinge operating to force inwardly the toothed leaf of the hinge toward the box.

2. In combination with a detachable display front for boxes, comprising upper and lower hinged sections, of a spring hinge including two leaves, one of the leaves being positively secured to the lower section of the front, and

the other leaf having means for detachably engaging one end of the box for detachably securing the lower section of the front to the box, and means carried by the upper section and coöperating with the first-mentioned means for holding the upper section of the front in an open position.

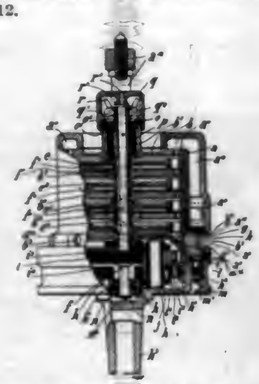
3. In combination with a detachable display front for boxes, comprising upper and lower hinged sections, of a spring hinge including two leaves, one of the leaves being positively secured to the lower section of the front, and the other leaf having a plurality of inwardly extending teeth stamped therefrom for detachably engaging one end of the box for detachably securing the lower section of the front to the box, and means carried by the upper section and coöperating with the first-mentioned means for holding the upper section of the front in an open position.

4. In combination with a detachable display front for boxes, comprising upper and lower hinged sections, of a means for detachably securing the lower section of the front to the box, said means including an outstanding flange having an L-shaped slot formed therein, and means carried by the upper section and having a portion thereof slidably mounted within the slot of the flange and adapted in one position to engage the foot of the said slot and thereby hold the upper section of the front in an open position.

5. In combination with a detachable display front for boxes comprising upper and lower hinged sections, of a spring hinge including two leaves, one of the leaves being positively secured to the lower section of the front and provided at its end opposite the hinge with an outwardly extending flange, the said flange having an L-shaped slot formed therein, and the other leaf having a plurality of inwardly extending teeth stamped therefrom for detachably engaging one end of the box, and a hook secured to the upper section of the front by a screw-eye directly above the said flange, the hook having its free end bent at right-angles and arranged within the L-shaped slot, the said end in one position being adapted to engage the foot of the said slot and thereby hold the upper section of the front in an open position.

[Claims 6 and 7 not printed in the Gazette.]

972,327. MOTOR-DRIVEN TOOL-CARRIER. AUGUSTE BAIEN, Dijon, France. Filed Sept. 13, 1909. Serial No. 517,412.



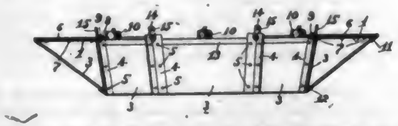
1. A tool of the class described, comprising a cylindrical casing, a series of distributers superimposed, the lower one having an annular rim having radial ports, blade wheels arranged between said distributers, a shaft, and a differential gear in said casing, said blade wheels being splined to said shaft.

2. A tool of the class described, comprising a cylindrical casing, a series of distributers superimposed, the lower one having an annular rim having radial ports, blade wheels arranged between said distributers, a shaft, a differential gear in said casing, said blade wheels being splined to said shaft, and a winged lubricator carried by said shaft.

3. A tool of the class described, comprising a cylindrical casing, a series of distributers superimposed, the lower one having an annular rim having radial ports, blade wheels arranged between said distributers, a shaft, a differential gear in said casing, said blade wheels being splined to said shaft, a winged lubricator carried by said shaft, and a cap forming a chamber within which said lubricator is disposed.

4. A tool of the class described, comprising a cylindrical casing having upward extensions at one end and an annular rim at the other, a shaft extending through said casing, distributers superimposed and blade wheels alternated with said distributers, a disk having a downwardly prolonged cylindrical portion having threaded engagement with a fixed part and provided with a boss through which said shaft passes and constructed to press upon the upper distributer to hold the parts in position, and a differential gear, one member of which is mounted on said shaft.

972,328. LIGHTING APPARATUS. WILLIAM H. BROWNE, Brooklyn, N. Y. Filed Aug. 28, 1909. Serial No. 515,005.



1. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs oppose one another, incandescent lamps located outside of the polygon and in front of each of its sides, and a reflecting surface located above said lamps, said last named reflecting surface having holes for the passage of said lamps, and bases located above said holes.

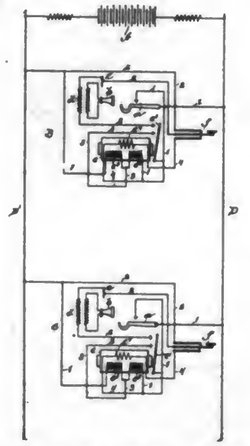
2. In a lighting device, the combination of a polygonal structure having substantially vertical reflecting surfaces whose backs oppose one another and which are detachably connected together at the angles of the polygon and substantially horizontal reflecting surfaces corresponding in number to the sides of the polygon, said horizontal reflecting surfaces being detachably connected together at the angles of the polygon, and lighting units located in front of each of the sides of said polygon.

3. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs oppose one another, lighting units located outside the polygon and in front of each of said reflecting surfaces so that the direct rays between two lighting units are intercepted by reflecting surfaces, and a substantially horizontal reflecting surface above said units, and screens extending from the lower edges of the vertical sections to the outer edges of the horizontal surfaces.

4. In a lighting apparatus, the combination of a polygonal device having substantially vertical reflecting surfaces whose backs are opposed to one another so as to form a polygon and which are detachably connected together at angles of the polygon, lighting units located outside the polygon and in front of each of said reflecting surfaces so that the direct rays between any two adjacent lighting units are intercepted by said reflecting surfaces, and a substantially horizontal reflecting surface above and adjacent to said lighting units.

972,329. LOCK-OUT DEVICE FOR PARTY-LINE TELEPHONES. WILLIAM M. BRUCE, Jr., Springfield, Ohio, assignor, by mesne assignments, to The American Automatic Telephone Company, Rochester, N. Y., a Corporation of New York. Filed July 9, 1906. Serial No. 325,210.

1. In a party line telephone system, a series of subscribers' stations each having a normally inoperative talking outfit, and a relay to bring said talking outfit into circuit, the relay at each subscriber's station having an inductive circuit including talking instruments independent of the line circuits, and means for disconnecting said talking circuit from the line with the relay in circuit with said line, substantially as specified.



2. The combination at a subscriber's station of a disconnected talking outfit, a relay to establish a circuit through said talking outfit, an inductive circuit through the relay and said talking outfit independent of the line circuit, means for breaking the line circuit through said talking outfit and at the same time establishing the inductive circuit through said talking outfit independent of the line circuit.

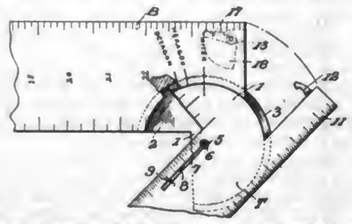
3. In a party line telephone lockout system, a relay coil, resistance in series with said relay coil, an inductive coil in proximity to said relay coil, means for cutting out said resistance, and means for establishing a local circuit through the inductive coil for the subscriber's talking outfit, substantially as and for the purpose specified.

4. In a lockout for party line telephone system, a main switch, a relay adapted to be bridged across the line by the operation of said switch, a talking outfit adapted to be brought into circuit by the operation of the relay, a circuit breaker to disconnect said talking outfit independent of said relay, and a local inductive circuit through said relay and talking outfit, and means for establishing said inductive circuit when the talking circuit is broken by said circuit breaker, as specified.

5. In a lockout device, a relay, a normally open talking circuit adapted to be closed by said relay, and a local inductive circuit through the talking instruments adapted to receive inductive currents from the coil of said relay, and means for opening and closing said inductive circuit, for the purpose specified.

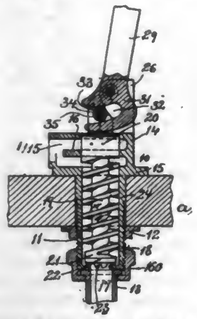
[Claim 6 not printed in the Gazette.]

972,330. SQUARE. CHARLES H. CALDWELL, Portland, Oreg. Filed Mar. 15, 1910. Serial No. 549,549.



A square, comprising a blade and a tongue pivotally connected together, one of the parts being formed with a rearwardly extending arm, a keeper connected to said arm, the other part being formed in its edge adjoining the arm with a recess, a latch mounted in said recess, a spindle to which the latch is connected, and a handle connected to one end of the spindle, the latch being designed to engage the keeper whereby to hold the parts locked in right angular relation to each other, one of the parts being formed in one face with a recess in which the handle is countersunk.

972,331. BALL-COCK. ALEXANDER A. CARSON, Braintree, Mass. Filed May 28, 1908. Serial No. 435,511.



1. In a ballcock for low down tanks, a casing adapted to be inserted through and secured to the wall of a tank, and having a tubular body portion with a seat at its end, and a head with a lateral outlet, a valve removable axially from the tubular portion through an aperture in the said head of said casing, a float lever having means for engagement with said valve, and a pin for detachably pivoting said lever to said casing.

2. In a ballcock for low down tanks, a casing adapted to be inserted through and secured to the bottom wall of the tank, said casing having a projecting downwardly tubular portion formed with a seat at its lower end, and a head with a lateral outlet and an aperture alined with the bore of the tubular portion, and a float-controlled valve, comprising a stem having at its lower end a valve disk for engagement with said seat, at its upper end a head to fit said aperture and means between said head and disk for guiding said valve.

3. In a ballcock, a casing having a cylindrical bore with an inlet at its end encircled by a seat, a valve comprising a stem, a disk at its end to engage the seat and close said inlet and a helical flange on said stem fitting the bore of the casing, said flange forming a helical passageway for the water less in cross-sectional area than the said inlet, and means to slide said valve toward and from the seat without rotating it.

4. In a ball cock, a valve casing having a cylindrical bore, an inlet and an outlet, and a plunger valve having a water passageway for conducting water from the said inlet to the said outlet, said passageway being longer than a straight line connecting said inlet and said outlet.

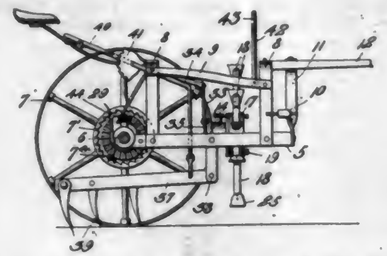
5. In a ball cock, a valve casing having a cylindrical bore, an inlet and an outlet, and a plunger valve having a passageway for conducting the water from the inlet to the outlet, said passageway being less in cross sectional area than the inlet and being greater in length than the distance between the inlet and the outlet.

[Claims 6 to 10 not printed in the Gazette.]

972,332. COMBINED COTTON CHOPPER AND CULTIVATOR. CHESTER CLARK CARTER, Wawaka, Tex. Filed Dec. 27, 1909. Serial No. 534,914.

1. In a machine of the character described, the combination with a wheeled frame, of a rotatable cutter head carried by said frame, operating connections between said head and the wheel shaft for rotating the head, a plurality of arms radially extending from said head, each of said

arms being formed in two sections pivotally connected, one of said sections extending into the head, a set screw threaded through the head and adapted to have binding engagement upon the arm section to rigidly secure the same therein, a cutting blade secured on the outer end of the other of the arm sections, and a spring carried by said last named section and bearing upon the other section beyond the pivot, said spring being adapted to yieldingly hold said sections normally in alinement, substantially as and for the purpose set forth.



2. In a machine of the character described, the combination with a wheeled frame, of a rotatable cutter head carried by said frame, operating connections between said head and the wheel shaft for rotating the head, a plurality of arms radially extending from said head, each of said arms being formed in two sections relatively movable, one of said sections being rigidly secured in the cutter head, a cutter blade secured to the extremity of the outer section, and a U shaped spring member having its extremities secured to the outer arm section and its intermediate portion engaged upon the rigidly held arm section whereby said sections are yieldingly held normally in alinement.

3. In a machine of the character described, the combination with a wheeled frame, of a rotatable cutter head carried by said frame, operating connections between said cutter head and the wheel shaft for rotating the head, a plurality of arms radially extending from said head, each of said arms being formed in two sections, one of the sections being disposed in a socket in the head, a set screw rigidly securing said section therein, the outer end of said head being formed with a tongue, the other of said sections having its inner end slotted to receive said tongue, a pivot pin extending transversely through said tongue and securing said arm sections together for relative movement, the ends of said pin being headed, and a U shaped spring member having its ends secured to the ends of said pivot pin and its bight portion engaged with the inner rigidly held arm section whereby said sections are yieldingly held in alinement.

972,333. SMOKELESS BRIQUET AND PROCESS OF MAKING THE SAME. ROBERT A. CARTER, Jr., New York, N. Y. Filed Mar. 30, 1910. Serial No. 552,371.

1. A smokeless briquet formed of finely divided carbonaceous material and with a binder made from the residue of oil in the destructive distillation of oil in the manufacture of water gas, the volatile matter of the binder being driven off.

2. A comparatively dense and smokeless briquet formed of finely divided carbonaceous material and with the minimum amount of binder made from the residue of oil in the destructive distillation of oil in the manufacture of water gas, the volatile matter of the binder being driven off.

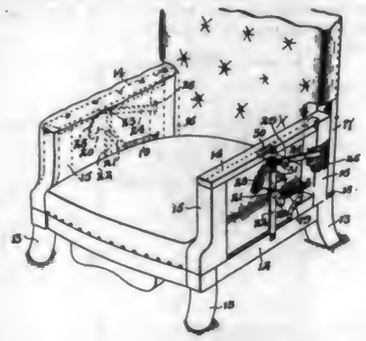
3. A smokeless briquet formed of finely divided carbonaceous material with a binder of oil tar, the volatile matter of the binder being driven off.

4. A smokeless briquet formed of finely divided carbonaceous material with a binder of about 7%–10% of oil tar, the volatile matter of the binder being driven off.

5. A smokeless briquet formed of finely divided coke or breeze with a binder of oil tar, the volatile matter of the binder being driven off.

[Claims 6 to 14 not printed in the Gazette.]

972,334. RECLINING-CHAIR. JOSEPH CASASSA, Malden, Mass. Filed Apr. 15, 1910. Serial No. 555,591.



A chair comprising a base frame, arm supports, arms supported thereon, a back pivoted to said frame, lever supports extending from said arms to said base frame and bracing the former, levers pivoted to said supports, rods passing through the rear arm supports and connecting the upper ends of said levers with said back, springs secured at the lower ends of said levers to retain said back in raised position, spring detents secured to the under sides of each of said arms and each having an extension passed through one of said lever supports and adapted to engage the upper end of the adjacent lever to lock the same in different positions, whereby said back is retained at different angles.

972,335. EDUCATIONAL GAME DEVICE. MAY E. CHURCH, Boston, Mass. Filed Apr. 4, 1908. Serial No. 425,153.



1. An educational game device comprising a pack of playing cards comprising duplicate sets of cards each card having represented thereon a series of music symbols aggregating a measure in time value, and having thereon also a note of the next succeeding measure, and also a meter mark.

2. An educational game device comprising a pack of playing cards comprising duplicate sets of cards each card having represented thereon a plurality of music symbols indicating rhythm and having also a meter mark to indicate the basic unit of pulse length.

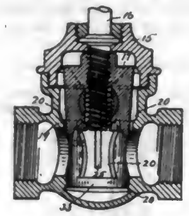
3. An educational game device comprising a plurality of playing units adapted to be paired off one with another in the use of the game device, each card having indicated thereon music symbols indicating a unit of pulse length and rhythm referable thereto.

4. A game device comprising a plurality of playing units adapted to be separately played in desired sequence, each unit having thereon an indication representing a complete feature of a musical composition.

5. An educational game device comprising a plurality of playing units adapted to be paired off one with another in the use of the game device, each card having indicated thereon music symbols comprising a perfect musical measure.

[Claim 6 not printed in the Gazette.]

972,336. VALVE. CHARLES A. CLAFLIN, Medford, Mass. Filed Aug. 5, 1909. Serial No. 511,423.



1. In a valve of the class described, a casing having a valve chamber, and inlet and outlet ports, portions of the inner surface of the chamber being offset inwardly and forming skeleton valve seats surrounding said ports and formed to fit a frusto-conical valve plug, the sides of the casing being provided with recesses between said seats, valve guiding members located in said recesses and adapted to engage guiding members on the valve, and segmental strengthening ribs formed as extensions of the skeleton seats, and adapted to guide a reamer.

2. In a valve of the class described, a frusto-conical valve plug which is truncated at opposite sides of its periphery to subdivide the latter into two segmental port-closing portions presenting limited areas from which metal is removed by the operation of grinding, the said plug being provided with guide members which project from its truncated portions, and are removable to permit the grinding of the said segmental portions.

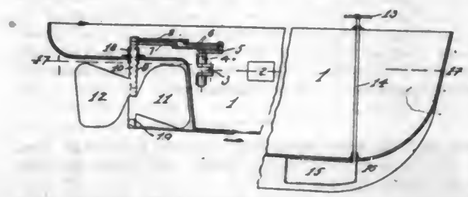
3. In a valve of the class described, a frusto-conical valve plug which is truncated at opposite sides of its periphery to subdivide the latter into two segmental port-closing portions, the plug being provided with a transverse orifice terminating at said truncated portions, and with a guide member movable lengthwise in said orifice, and projecting at its ends from the truncated portions for engagement with complemental guide members on the valve casing.

4. In a valve of the class described, a frusto-conical valve plug which is truncated at opposite sides of its periphery to subdivide the latter into two segmental port-closing portions presenting limited areas from which metal is removed by the operation of grinding, the said plug being provided with lips forming the inner ends of the segmental portions, and adapted to be reduced to permit endwise adjustment of the plug and compensate for wear caused by grinding.

5. A valve of the class described, comprising a casing having a valve chamber, inlet and outlet ports, skeleton valve seats surrounding said ports and formed to fit a frusto-conical valve plug, side recesses between said valve seats, and valve guiding members in said recesses, and a valve plug formed as a cone frustum truncated at opposite sides of its periphery and provided with complemental guide members projecting from its truncated portions.

[Claims 6 and 7 not printed in the Gazette.]

972,337. VIBRATING PROPELLER. BARTON H. COFFEY, Boston, Mass. Filed Oct. 5, 1908, Serial No. 456,321. Renewed Feb. 9, 1910. Serial No. 542,941.



1. A vibrating propeller consisting of mutually reacting motor-planes, each plane provided with means to oscillate it upon an axis and to hold it substantially motionless at the termination of each oscillation; the several means being so organized that there shall substantially always be planes in motion and planes at rest, for the purposes set forth.

2. A vibrating propeller consisting of mutually reacting motor-planes, each plane provided with means to oscillate it upon an axis and to hold it substantially motionless at the termination of each oscillation, the several means being so organized that there shall substantially always be planes in motion and planes at rest; in combination with a balancing-plane and a rigid connecting body; for the purposes set forth.

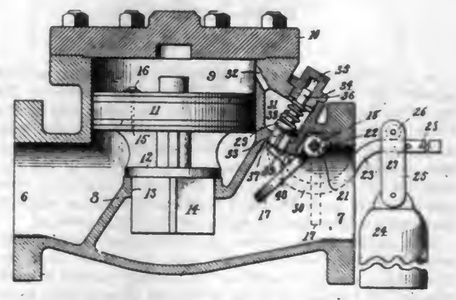
3. In a vibrating propeller, two mutually reacting motor-planes adapted to oscillate upon an axis, and means to alternately hold first one and then the other plane substantially at rest and simultaneously to oscillate the companion plane, for the purposes set forth.

4. In a vibrating propeller, two mutually reacting motor-planes adapted to oscillate upon an axis, means to alternately hold first one and then the other plane substantially at rest and simultaneously to oscillate the companion plane; in combination with a balancing-plane and a rigid connecting body for the purposes set forth.

5. A vibrating propeller, consisting of mutually reacting motor-planes, each plane provided with means to oscillate it upon an axis, and to hold it substantially motionless at the termination of each oscillation, the several means being so organized that there shall substantially always be planes in motion and planes at rest; in combination with means to reverse the sequence in which the planes are oscillated and held substantially at rest, in order to reverse the direction of thrust; for the purposes set forth.

[Claim 6 not printed in the Gazette.]

972,338. AUTOMATIC STEAM-CUT-OFF VALVE. GEORGE W. COLLIN, Bridgeport, Conn. Filed Jan. 15, 1909. Serial No. 472,447.



1. In a valve of the class described, the combination of a body having an inlet and an outlet with a ported division wall therebetween, a valve operatively mounted within the body to open and close the port, a swinging disk mounted within the passage through the valve and adapted to be operated by an excess flow of steam therethrough, and means intermediate the disk and valve for operating the latter by the former.

2. In a valve of the class described, the combination of a body having an inlet and an outlet with a ported division wall therebetween, a main valve operatively mounted to open and close the port, a swinging disk mounted within the passage through the valve and adapted to be operated by an excess flow of steam therethrough, an auxiliary valve intermediate of the outlet and main valve chambers and adapted to be operated by the said disk for the purpose of opening and closing the main valve.

3. In a valve of the class described, the combination of a body having an inlet and an outlet with a ported division wall therebetween, a valve operatively mounted within the body to open and close the port, a swinging disk mounted within the outlet passage from the valve body, a chamber

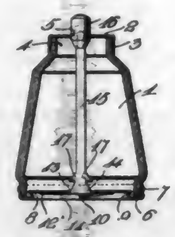
intermediate the outlet and inlet side of the valve, an auxiliary valve mounted within the chamber adapted to be operated by the disk for the purpose of opening and closing the passage to and from the intermediate chamber and whereby the main valve is operated.

4. In a valve of the class described, the combination of a body having an inlet and an outlet with a ported division wall therebetween, a piston valve operatively mounted within the upper portion of the body to open and close the port, a chamber intermediate of the piston chamber and outlet having ports connecting the two, an auxiliary valve operatively mounted within said intermediate chamber adapted to open and close one of the said ports, a swinging disk mounted within the outlet adapted to engage the auxiliary valve to open and close the same and whereby the main valve is operated.

5. In a valve of the class described, the combination of a body having an inlet and outlet with a ported division wall therebetween, a piston valve operatively mounted within the body to open and close the port, an auxiliary valve adapted to open and close a by-pass from the piston chamber to the outlet, a disk within the steam outlet to be effected thereby and operate the said auxiliary valve by an excess flow of steam through the valve.

[Claims 6 to 10 not printed in the Gazette.]

972,339. SALT AND PEPPER HOLDER. HENRY W. COMSTOCK, Chicago, Ill. Filed Feb. 17, 1910. Serial No. 544,427.



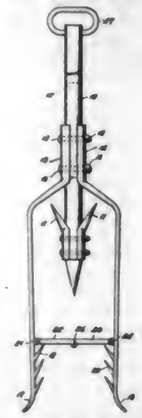
1. A holder of the class described, comprising a body member open at its upper and lower ends, a closure for the upper end thereof, a closure for the lower end of the holder having a centrally depressed portion provided with a discharge passage, a valve to open and close said passage, a spring secured in the recessed portion of the closure for the lower end of said body and adapted to close and hold said valve in closed position, and means whereby said valve is depressed to open the discharge passage.

2. A holder of the class described, comprising a body member having closures for its upper and lower ends, the closure for the upper end having formed therein a guide passage, said closure for the lower end of said body member having a central depression therein provided with a discharge passage, said depression having inclined edges adapted to form an annular groove, a spring arranged in said depression and having its opposite ends engaged with said groove whereby the spring is held in position, a valve adapted to open and close the discharge passage in said depression, an operating stem connected with said valve and projecting upwardly through the holder, and an operating knob on the upper end of said stem, said knob projecting through the guide passage in the closure on the upper end of the holder.

3. A holder of the class described having a centrally depressed portion in the bottom thereof, provided with a discharge passage, a valve to open and close said passage, a spring mounted in the recessed portion of said bottom and operable to close and hold said valve in closed position, and means for operating said valve to open the discharge passage.

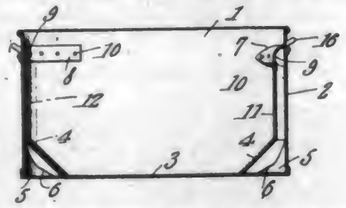
4. A holder of the class described, having a centrally depressed portion in the bottom thereof provided with a discharge passage, said depressed portion having inclined edges to form an annular groove, a spring arranged in said depressed portion and having its opposite ends engaged with said groove whereby said spring is held in operative position, a valve to open and close said passage, said valve being closed and held in closed position by said spring, and means for operating said valve to open the discharge passage.

972,340. GRAPPLE. EDWARD D. COOGAN, Ratcliff, Ark. Filed Mar. 28, 1910. Serial No. 551,965.



In a grapple the combination with a pole, of oppositely disposed spring arms connected at one end to the pole and extending below the lower end of the same and having their free ends inclined outwardly and away from each other, said arms having inwardly directed spurs, two bars hingedly united at their outer ends respectively to said spring arms and hingedly united at their inner ends, the joint which unites the free ends of the bars being arranged to lock the same when the bars are in longitudinally alined position.

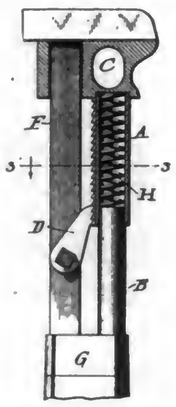
972,341. WASHBOILER. JAMES O. COOPER, Canadian, Tex. Filed Dec. 22, 1909. Serial No. 534,453.



The combination with a wash boiler, of upright pipes located upon the end walls thereof; transverse, perforated, boiler supported tubes with which the upper ends of the pipes communicate; and enlarged compartments at the lower ends of the pipes, having communication at their lower ends only, with the boiler; the pipe and the tube at one end of the boiler being arcuate in transverse outline, and the pipe and the tube at the other end of the boiler being rectangular in transverse outline and of less cross sectional area than the first named pipe and tube, thereby to equalize the outflow from the tubes, under different pressures in the compartments.

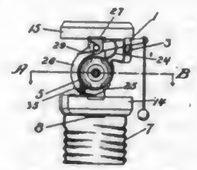
972,342. MONKEY-WRENCH. FANNIE B. CUTLER, Ronald township, Ionia county, Mich. Filed Mar. 10, 1909. Serial No. 482,633.

1. As an improvement in wrenches, the combination of a fixed head a handle and parallel bars connecting the same, a toothed dog catch pivoted between the bars, a sliding jaw on said bars provided with an aperture, a strong spiral spring between the handle and movable jaw, normally forcing the latter toward the fixed jaw, two hollow cylinders incasing the spring, the smaller attached to the handle and the larger to the movable jaw, the larger cylinder having teeth on the side toward the bars, to be engaged by the teeth on the dog catch, as set forth.



2. As an improvement in wrenches, the combination of a fixed head a handle and parallel bars connecting the same, a dog provided with teeth on the free end pivoted between the bars, the dog being rotatable to engage and disengage its teeth, with teeth on a cylinder carried by a sliding jaw on said bars, said sliding jaw provided with an aperture, a strong spiral spring between the handle and the movable jaw, normally forcing the latter toward the fixed jaw, two hollow cylinders incasing the spring, the smaller attached to the handle and the larger to the movable jaw, the larger cylinder having teeth on the side toward the bars, to be engaged by the teeth on the catch, as set forth.

972,343. LAMP-SOCKET. JOHN DARBY, Summit, N. J. Filed Feb. 3, 1909. Serial No. 475,898.



1. In a circuit controller, a controlling member having a plurality of separable parts of insulating material arranged to swing about a center, each of said parts carrying a conducting piece, one of said parts fitting into the other whereby they rotate together, and devices for controlling the movement of said controlling member located between said parts

2. In a circuit controller, a controlling member having a plurality of separable parts of insulating material arranged to swing about a center, each of said parts carrying a conducting piece, one of said parts fitting into the other whereby they rotate together, and devices for controlling the movement of said controlling member mounted upon said connections

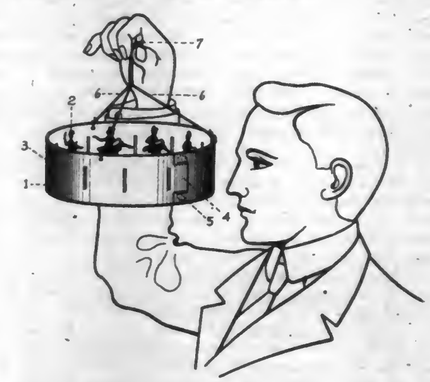
3. In a circuit controller, a shaft, a cylindrical controlling member of insulating material and consisting of two parts mounted upon said shaft, each carrying a conducting piece, and one of said parts having a concentric portion engaging the other of said parts, actuating means connected to said concentric portion and extensions therefrom to the outside of the socket shell, and a plurality of contacts coöperating with said conducting pieces.

4. A cylindrical lamp socket including in combination, two opposed heads, a line contact and a load contact in each branch of the circuit, a rotatable controller arranged in said socket between said heads, said controller including two cylindrical parts of insulating material, a conducting piece carried by each part for opening and closing the gap between each line contact and its load contact, a ratchet located between said cylindrical parts and adjacent thereto and rotating the same, and a lever having means for operating said ratchet mounted upon the socket structure eccentrically to said controller.

5. A lamp socket including in combination two opposed heads of insulating material, supports arranged between and connected to each of said heads, a cylindrical controller of insulating material arranged transversely of the socket, a plurality of conducting pieces symmetrically arranged upon said controller and separated from each other, a line contact supported by one of said opposed heads and a load contact supported by the other of said heads, said line and load contacts being in the same branch of the circuit and coöperating with one of said conducting strips, another line contact supported by one of said heads, another load contact supported by the other of said heads, said last mentioned line contact being in another branch of the circuit and both coöperating.

[Claims 6 to 8 not printed in the Gazette.]

972,344. MOVING-PICTURE TOY. ERNEST W. DAVIS, Chicago, Ill., assignor to Egbert R. Dull, Chicago, Ill. Filed Oct. 4, 1909. Serial No. 520,784.



1. In a moving picture toy, the combination of a slitted band having a series of pictures thereon; means for detachably securing together the ends of said band to form a cylinder; and means for supporting and rotating said cylinder.

2. In a moving picture toy the combination of a slitted, pictured band; means for attaching together the ends of said band to form a cylinder; means for supporting said cylinder from above its center of gravity; and means for rotating said cylinder.

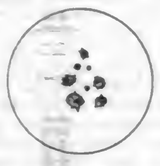
3. In a moving picture toy, the combination of a rotatable slitted cylinder having a series of pictures on its inner surface; and two or more threads, or cords attached to said cylinder in such manner as to cause rotation of said cylinder when said cords are twisted about each other and when said cylinder is supported by said twisted cords.

4. In a moving picture toy, the combination of a slitted band having a series of pictures thereon; means for securing together the ends of said band to form a cylinder; and two or more threads, or cords attached to said band in such manner as to cause rotation of said band when

said band is formed into a cylinder and when said cords are twisted about each other and when said cylindrical band is supported by said twisted cords.

5. In a moving picture toy, the combination of a slitted band having a series of pictures thereon, said band being provided with a tongue at one end and one or more slots in the other end, said slots to receive said tongue and thereby form said band into a cylinder; and means for supporting and rotating said cylindrical band.

972,345. PREPARATION OF A FAT-LIKE SUBSTANCE FROM THE BODIES OF BACTERIA. GEORG DEYCKE, Constantinople, Turkey, assignor to The Firm of Kalle and Company Aktiengesellschaft, Biebrich, Germany. Filed Oct. 3, 1906. Serial No. 337,255. (Specimen.)



1. The herein described process of producing from acid resisting bacteria a fat-like substance having the properties described, consisting in washing the bacteria with water, grinding them in ammonia liquor, treating with Adams solution, again washing the solids, drying them in vacuum, subjecting the dried bacilli to the action of a fat solvent, filtering the extract, distilling the extracting medium, and crystallizing the residue from alcohol.

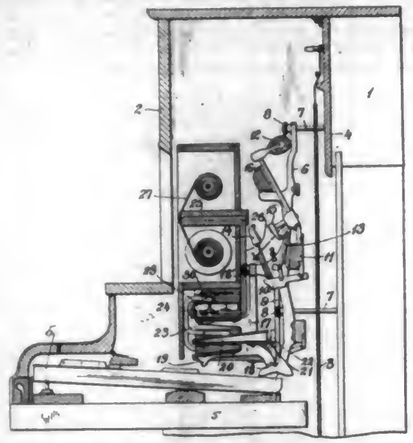
2. The herein described process of producing from *Streptothrix leproides* a fat-like substance having the properties described, consisting in washing the bacteria with water, grinding them in ammonia liquor, treating with Adams solution, again washing the solids, drying them in vacuum, subjecting the dried bacilli to the action of a fat solvent, filtering the extract, distilling the extracting medium, and crystallizing the residue from alcohol.

3. The herein described fat-like substance obtained as described and being a solvent for virulent lepra and tuberculosis bacteria, said substance crystallizing out of olive oil in the form of white flat needles, having its melting point at 48° to 52° C., being easily soluble in ether and chloroform, almost insoluble in cold alcohol, soluble to a high degree in boiling alcohol, contains about 92% of fatty acids insoluble in water, the saponification numeral of which lies at 210, takes up 14–20 g. iodin per 100 g. fat, contains no volatile fatty acids and requires, to absorb the free fatty acids, from zero to a maximum of 1.7 mgr. per 1 g. KOH for each grain of fat, and not easily affected by exposure to atmospheric air.

972,346. PLAYER-PIANO. SAMUEL L. DICKINSON, New York, N. Y. Filed Feb. 27, 1909. Serial No. 480,330.

1. In a piano, a framework, wires mounted thereon, a keybed, a keyboard, a piano-action including hammers for striking the wires, automatic mechanism for actuating the hammers including pneumatics and valve-mechanisms for controling the same, and brackets supported upon said keybed and said framework at intervals along the length of the piano-action, said brackets extending upwardly from the keybed and supporting both the piano-action and the automatic mechanism above said keyboard, substantially as set forth.

2. In a piano, a framework, wires mounted thereon, a keyboard, a piano-action including hammers for striking the wires, automatic mechanism for actuating the hammers including pneumatics and valve-mechanisms for controlling the same, brackets secured to said frame work at intervals along the length of the piano-action and supporting the piano-action above the keyboard, and auxiliary brackets each secured to one of said brackets and having said automatic mechanism mounted thereon above the keyboard, substantially as set forth.



3. In a piano, a framework, a plate secured thereto, wires mounted on said plate, a keybed, a keyboard mounted thereon, a piano-action including hammers actuated by the keys to strike the wires, automatic mechanism for actuating the hammers including pneumatics and valve-mechanisms for controlling the same, a plurality of brackets each secured to said keybed and to said plate, said brackets extending upwardly from the keybed and having said piano-action mounted thereon above the keyboard and a plurality of auxiliary brackets each secured to one of said brackets above the keyboard and having said automatic mechanism mounted thereon, substantially as set forth.

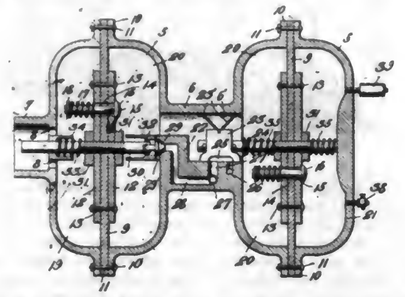
4. An operating mechanism for operating a piano both manually and automatically formed in a single structure and adapted to be mounted in a piano above the keyboard thereof, the same comprising a piano-action including hammers adapted to be individually operated, automatic mechanism including pneumatics and valves therefor, a plurality of brackets on which the piano-action is mounted, said brackets being spaced apart along the length of the piano-action with certain of the brackets intermediate the ends of the piano-action, and a plurality of auxiliary brackets each secured to one of said brackets, said auxiliary brackets having said automatic mechanism secured thereto, substantially as set forth.

5. In a piano, a framework and casing, a plate secured to the framework, wires mounted on said plate and extending vertically, a keybed, a keyboard mounted thereon, and a manual piano-action and an automatic playing mechanism, the latter including pneumatics and valves therefor, combined in a single structure and mounted within the casing of the piano above the keybed, the means for mounting said atructure consisting of a plurality of brackets upon which the piano-action is secured, means for securing the brackets upon said plate and said keyboard, said brackets being spaced apart at intervals along the length of the piano-action with certain of the brackets intermediate the ends thereof, and auxiliary brackets one secured to each of said brackets and upon which said automatic mechanism is mounted, substantially as set forth

[Claims 6 to 8 not printed in the Gazette.]

972,347. PRESSURE-REGULATOR FOR AIR-BRAKES. DAVID H. DOWNEY, Basalt, Colo. Filed Nov. 30, 1909. Serial No. 530,637.

1. A device of the character described comprising two casings, each formed in two sections, a valve casing integrally formed with the opposed sections of said first named casings, diaphragms secured between the sections of said casings to provide end chambers, said valve casing forming a communicating passage between the opposed casing sections and providing a central chamber, an air port opening into one of said chambers and communicating with the brake cylinder, an outlet port, connections between one of said casing sections and an air supply pipe, a reciprocatory valve normally closing said air port, a slide valve arranged in said valve casing and means for admitting air to each of said chambers whereby the pressure in said chambers may be so regulated as to cause the closing of said exhaust port and the opening of the air port to supply air to the brake cylinder.



2. A device of the character described comprising a casing having a plurality of air chambers therein, a valve seat formed in one of said chambers, a slide valve positioned thereon, an air port extending through the chamber wall and communicating with said chamber adapted to conduct air to the brake cylinder, an exhaust port opened and closed by said slide valve, a valve member closing the air port, a reciprocating valve stem connected to said member, one of said chambers being connected to a supply pipe adapted to charge the chambers with compressed air, means disposed between the chambers automatically operated by the variation of air pressure to operate said valve, and spring controlled valves in said operating means adapted to open communication between the chambers at certain times.

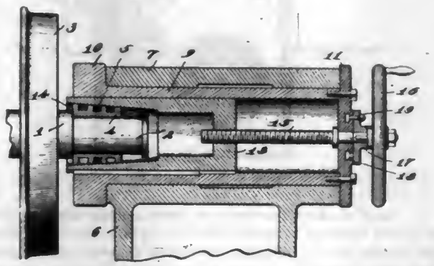
3. A device of the character described comprising a casing having a central chamber and end chambers, the central chamber being of greater area and formed with a contracted central portion and having an air port communicating with the air brake cylinder, a slide valve disposed upon a valve seat formed in the central portion of said casing and adapted to open and close an exhaust port, a valve member seated in the outer end of said air port, a valve stem pivotally connected to said member, a flexible diaphragm secured between said chambers adapted to automatically operate said valves to open and close communication between the central chamber and the brake cylinder, a supply pipe connected to one end of the casing adapted to charge the chambers with compressed air, and pressure valves in said diaphragms adapted to be opened when the air pressure in the chambers has arrived at a predetermined point, the equalization of air pressure in the chambers being adapted to close the inlet port and open the exhaust.

4. A device of the character described comprising end casings, said casings being connected by a valve casing, a slide valve in said valve casing, the wall of said casing having an air port extending therethrough communicating with the brake cylinder, an exhaust port in said wall adapted to be opened and closed by said sliding valve, a reciprocating valve adapted to close the inlet port, a flexible diaphragm secured in the end casings, metallic plates disposed upon the opposite faces of said diaphragm and secured thereto, the stem of said sliding valve and of the reciprocating valve being rigidly disposed through said plates and diaphragms, said diaphragms providing end chambers and an intermediate chamber, a pressure valve disposed through each of said diaphragms, a supply pipe having communication with one of said casings adapted to charge the chambers with compressed air, the pressure of the air in the first of said chambers being adapted to open the pressure valve and maintain the same in open position until each of the chambers has received a charge of equal pressure, the reduction of the air pressure in the supply pipe being adapted to reduce the pressure in one of the chambers to open the inlet port and admit the air to the brake cylinder, the pressure in the other of the end chambers being adapted to operate the sliding valve to close the exhaust port.

5. A device of the character described comprising end casings, a valve casing integrally formed with said end casings, said valve casing having an air passage extending therethrough and opening into one of the end casings, said port having the brake cylinder communicating therewith, a reciprocating valve normally closing the inner end of the air port, an exhaust port in said valve casing, a sliding valve adapted to open and close said exhaust port, flexible diaphragms secured between the casing sections, an auxiliary reservoir connected to the central valve casing, said sliding valve and reciprocating valve being rigidly connected to and movable with the diaphragms, a supply pipe connection on one of the end casings, a pressure valve in each of said diaphragms adapted to open under air pressure to admit compressed air to the other chambers and the intermediate chamber and to the auxiliary reservoir, the equalization of the pressure in said chambers being adapted to close communication between the inlet port and the central chamber, and to open the exhaust port, the reduction of pressure in the train pipe causing the air pressure in the central chamber to open communication through the inlet port to the brake cylinder, the increased pressure in the end chamber provided thereby moving the diaphragm to operate the slide valve and close the exhaust port, the pressure in said chamber being stationary whereby the brakes will be held applied until the air supply is increased to overcome the decreased pressures in said latter chambers.

[Claim 6 not printed in the Gazette.]

972,348. CAR-WHEEL LATHE. CHARLES G. DRAESEKE, Dundas, Ontario, Canada, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed May 9, 1910. Serial No. 560,140.



1. A car wheel lathe of the class referred to comprising, a tailstock bearing having a gap through the inner end of one of its walls, a hollow spindle journaled therein and having a gap through the inner end of its wall, a chuck-plunger fitted to slide axially within the spindle and having at its forward end a flaring bore, a segmental bushing fitting said bore and adapted to engage an axle-journal, and means for adjusting said chuck-plunger endwise in the spindle, combined substantially as set forth.

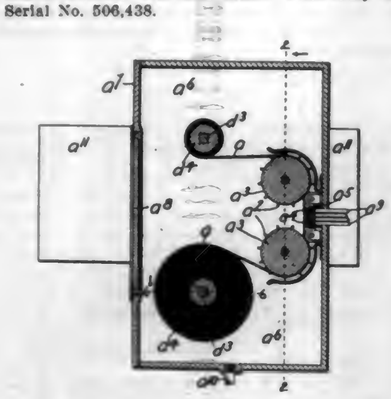
2. A car wheel lathe of the class referred to comprising, a tailstock bearing having a gap through the inner end of one of its walls, a hollow spindle journaled therein and having a gap through the inner end of its wall, a chuck-plunger fitted to slide axially within the spindle and having at its forward end a flaring bore, a segmental bushing fitting said bore and adapted to engage an axle-journal, a screw axially journaled in the outer end of the spindle and adapted to turn with the spindle and to be turned inde-

pendently thereof and threaded into the chuck-plunger, and means for turning said screw, combined substantially as set forth.

3. A car wheel lathe of the class referred to comprising, a tailstock bearing having a gap through the inner end of one of its walls, a hollow spindle journaled therein and having a gap through the inner end of its wall, a chuck-plunger fitted to slide axially within the spindle and having at its forward end a flaring bore, a segmental bushing fitting said bore and adapted to engage an axle-journal, a screw axially journaled in the outer end of the spindle and adapted to turn with the spindle and to be turned independently thereof and threaded into the chuck-plunger, means for turning said screw, and a locking device to lock said screw in adjusted position relative to the spindle, combined substantially as set forth.

4. A car wheel lathe of the class referred to comprising, a tailstock bearing having a gap through the inner end of one of its walls, a hollow spindle journaled therein and having a gap through the inner end of its wall, a chuck-plunger fitted to slide axially within the spindle and having at its forward end a flaring bore, a segmental bushing fitting said bore and adapted to engage an axle-journal, a screw axially journaled in the outer end of the spindle and adapted to turn with the spindle and to be turned independently thereof and threaded into the chuck-plunger, a hand-wheel on the outer end of the screw, and a bolt engaging the inner hub of the hand-wheel and a concentric tee-slot in the outer end of the spindle and serving to lock the screw in adjusted position, combined substantially as set forth.

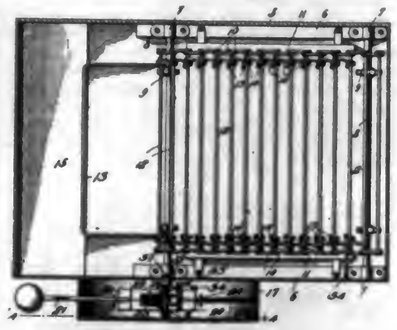
972,349. MECHANISM FOR WEAVING. WILLIAM HENRY DAUBY, Waltham, Mass. Filed July 6, 1909. Serial No. 506,438.



1. In apparatus for weaving, the combination with heddles and harness to hold the warp threads of the fabric to be woven, and a plurality of hoists to work the harness and make the selected shed formation of the warp threads, and means to operate the hoists, of a perforated design sheet representing the design of the fabric, a valve seat across whose surface said sheet may slide and orifices in said seat, means to sustain said parts, means to slide said sheet across said surface so as to bring perforations in desired successive portions of said sheet into alinement with corresponding orifices at desired intervals, tubes to make connection between said orifices and the means to operate said hoists, and means to exert pneumatic pressure through the perforations and corresponding orifices and tubes, all coöperating to select and make the shed formation, substantially as set forth.

2. In apparatus for weaving, the combination of heddles and harness to hold the warp threads of the fabric to be woven, a plurality of air hoists to work the harness and make the selected shed formation of the warp threads, and means to operate the air hoists, including means to select the shed formation, substantially as set forth.

972,350. VENDING-MACHINE. LOUIS H. DUPONT, Nashville, Tenn. Filed Dec. 7, 1909. Serial No. 531,868.



1. In a delivering mechanism for vending machines, parallel shafts, endless carrier chains traversing said shafts, a plurality of parallel rods connecting said chains, an article receiving member loosely mounted upon each of said rods, each of said members having engagement with the next adjacent rod whereby said members are supported vertically above the carrier chains, said rods being adapted to support the members at an angle to the forward end of the carrier chains to receive or discharge an article to be vended, and means for moving said carrier.

2. In a delivering mechanism for vending machines, parallel shafts, endless carrier chains traversing said shafts, a plurality of parallel rods connecting said chains, an article receiving member loosely mounted upon each of the rods, each of said members having engagement with the next adjacent rod upon each side of the rod upon which said member is mounted, said engaging portions being adapted to support the members between the carrier chains and to hold the same at an angle to said chains to deliver or receive an article to be vended, and means for moving the carrier.

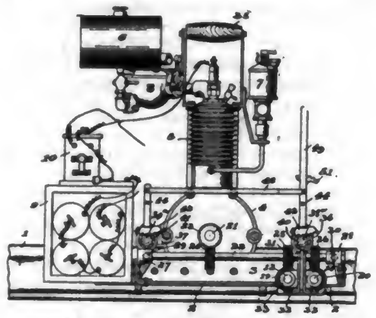
3. In a delivering mechanism for vending machines, parallel shafts, endless carrier chains traversing said shafts, parallel rods connecting the chains, an article receiving member loosely mounted upon each of said rods, means engaging with each of the rods adjacent to that on which the members are mounted to support said members above the carrier chains and to successively hold said members at an inclination to the forward end of the carrier to receive or deliver an article to be vended, and means for moving said carrier.

4. In a delivering mechanism for vending machines, parallel shafts, intermittently movable carrier chains traversing said shafts, a plurality of spaced rods connecting said chains, a U shaped article receiving member having its extremities loosely coiled on said rods, said members being normally disposed above the upper stretch of the carrier chains in vertical parallel relation, the extremities of said members being laterally extended and engaged upon the next adjacent rod whereby said members will be successively disposed at an inclination to the forward end of the carrier chains to deliver the article carried thereby, and means for moving said carrier.

5. In a delivering mechanism for vending machines, parallel shafts, endless carrier chains traversing said shafts, spaced rods connecting said chains, wire U shaped article receiving members having their extremities coiled about said rods, and extended laterally in opposite directions for engagement with the adjacent connecting rods whereby said members are supported above the chains in vertical parallel relation, and means mounted upon one of the carrier shafts for intermittently moving said chains to successively dispose the article receiving members at an inclination to the forward end thereof to deliver the article carried thereby.

[Claim 6 not printed in the Gazette.]

972,351. PORTABLE POWER-OPERATED DRILL. ALBERT S. EDLER, Chicago, Ill. Filed Jan. 3, 1910. Serial No. 536,204.



1. In a portable rail-drill of the character described, the combination with a frame, of means for detachably mounting and supporting the same in working position wholly on a rail to be drilled, a self-contained motor mounted on said frame, a drill-spindle mounted in said frame parallel with the driving-shaft of said motor, a horizontal transmission-shaft having anti-friction end-thrust bearings journaled at its ends on said frame between and at right angles to the driving-shaft of said motor and said drill-spindle, intermeshing spiral gears on said motor-shaft and transmission-shaft and on the latter and said drill-spindle, respectively, and means for forcing said drill-spindle toward the rail, substantially as described.

2. In a portable rail-drill of the character described, the combination with a frame comprising a horizontal base-plate and parallel upright frame-plates thereon, of a vertical gas-engine having its crank chamber rigidly secured to and between said upright frame-plates and its shaft disposed transversely of the latter, a drill-spindle journaled in and transversely of one end of said frame, an intermediate horizontal transmission-shaft geared to the shaft of said engine and to said drill-spindle, means for moving said drill-spindle lengthwise toward and from the rail, and means for detachably mounting the said frame in working position on and to one side of the rail, substantially as described.

3. In a portable rail-drill of the character described, the combination with a frame, of a vertical gas-engine having its crank-chamber mounted on and rigidly secured to said frame, a drill-spindle journaled in and transversely of one end of said frame, an intermediate horizontal transmission-shaft geared to the shaft of said engine and said drill-spindle, means for forcing said drill-spindle toward and from the rail, rail-gripping devices brought into action by the weight of the drill for detachably securing the latter in working position on and to one side of the rail, and a lifting-handle attached to the upper end of the engine cylinder, substantially as described.

4. In a portable rail-drill of the character described, the combination with a frame, of a drill-spindle journaled therein, a motor mounted on said frame and geared to said drill-spindle, means for moving said drill-spindle lengthwise toward and from the rail, and means for detachably mounting and supporting said frame on and to one side of the rail, comprising tension-links rotatably mounted in said frame and having hook-shaped ends adapted to engage the head of the rail and struts projecting from said frame and adapted to abut at their free ends against the rail below the head thereof, substantially as described.

5. In a portable rail-drill of the character described, the combination with a frame, of a drill-spindle journaled therein, a motor mounted on said frame and geared to said drill-spindle, means for moving said drill-spindle lengthwise toward and from the rail, and means for detachably mounting and supporting said frame on and to one side of the rail, comprising a pair of tension-links journaled transversely of said frame and formed with hook-shaped ends adapted to engage the head of the rail, means for simultaneously rotating said tension-links and struts rigid with and projecting laterally from said frame and adapted to abut at their free end against the rail below the head thereof, substantially as described.

[Claim 6 not printed in the Gazette.]

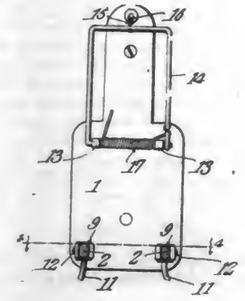
972,352. TREATMENT OF COKE. BENJAMIN ELY and ARTHUR ROLLASON, Pye Bridge, England. Filed Oct. 22, 1909. Serial No. 524,044.

1. The method of forming a fuel from coke which consists in withdrawing the coke from the retort while in a heated state, covering the same with a layer of suitable comminuted material of sufficient thickness to exclude air from the coke, and permitting the coke to cool while covered with said layer.

2. The method of forming a fuel from coke which consists in withdrawing the coke from the retort while in a heated state, covering the same with a layer of suitable comminuted material of sufficient thickness to exclude air and moisture, and permitting the coke to cool while covered with the said layer.

3. The method of forming a fuel from coke which consists in withdrawing the coke from the retort while in an incandescent state, covering the same with a layer of coke dust of a sufficient thickness to exclude air and moisture, and permitting the coke to cool while covered with the said layer.

972,353. FIRE-ALARM SWITCH. POE W. ESKRIDGE, Rutherfordton, N. C. Filed June 9, 1909. Serial No. 501,080.

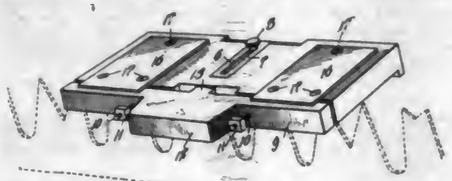


The combination of a pair of contact members forming part of a fire alarm telegraph, a circuit closing member consisting of a wire bent to form an integral open continuous frame having one side suitably journaled at a point distant from the contact members, a spring coiled around the said journaled side and attached to one of the meeting sides of the said frame whereby to cause the free side of said frame to engage and bridge the contact members, and a fusible retaining device carried by the free side of said frame and holding the frame normally out of engagement with the contact members.

972,354. SAW SET AND JOINTER. JOHN W. FORREST, Blytheville, Ark. Filed Feb. 17, 1909. Serial No. 478,364.

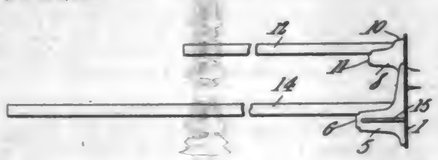
A device of the class described, comprising a body having spaced faces disposed in a common plane and an intermediate face arranged at an inclination to the plane of the first mentioned faces, a swage bar extending along one edge of the body and having spaced faces disposed in a common plane and opposite to and parallel with the first mentioned faces of the body and bar to receive saw teeth between the same and bar, a lug projecting from the inner face of the bar and inclined par-

allel to the said intermediate face of the body for setting teeth of the saw, members projecting laterally from the body across the saw receiving space between the latter and bar and extending through the bar, and adjustable



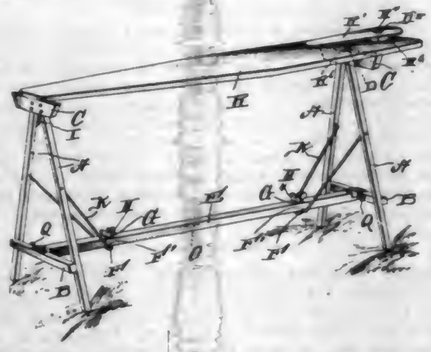
stops on the outer ends of the members for limiting the outward movement of the bar, said members forming sole supporting means for the bar and forming guides on which the bar moves back and forth in the swaging operation.

972,355. BRACKET FOR IRONING-BOARDS. JOHN H. FREDERICK, Tiffin, Ohio. Filed July 19, 1910. Serial No. 572,785.



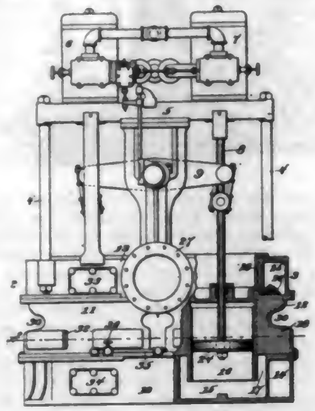
A one-piece bracket consisting of a flat back adapted to be secured to a fixed support and provided with spaced, outstanding flanges, there being a cross piece connecting the flanges and spaced from the back, the flanges being connected above the cross piece, by a ledge united with the back, there being upright arms connected with the back and located between the flanges, the arms being terminally connected with the ledge to serve as braces therefor, the upper ends of the arms being connected by an outstanding strip united with the back, there being a bar spaced from the back and uniting the arms, the bar being disposed above the cross piece and between the cross piece and the back.

972,356. IRONING-BOARD. HENRY W. FUNK, Hagerstown, Md. Filed Feb. 17, 1910. Serial No. 544,425.



A folding ironing table having legs, each made up of two bars in inclined relation to each other and spaced apart, cross-pieces connecting the bars of the legs, a strip with a recess and pivotally connected to said cross-pieces, cross-pieces fastened to the ends of the legs and adapted to limit the swinging movements of the legs when folded, a table top supported by said legs, a pin projecting from one of said last mentioned cross-pieces, the other cross-piece at the end of a leg being recessed to receive said pin, and a button upon one of said legs and adapted to engage the recess in the strip connecting said legs.

972,357. PUMPING-ENGINE. BURT O. GAGE, Warren, Mass., assignor to Warren Steam Pump Company, a Corporation of Massachusetts. Filed Dec. 16, 1908. Serial No. 467,883.



1. A pumping engine comprising, in combination with an actuating cylinder and piston, a pump cylinder and piston; and a base for said pump cylinder, having a suction chamber surrounding the lower end of said cylinder, and forming therewith a recess surrounded by and normally cut off from said suction chamber and communicating with the lower end of said cylinder; and separate intermediate chambers one communicating with the lower end only, and the other with the upper end only of said pump cylinder; and a discharge chamber above said intermediate chambers; and valves controlling communication between the suction chamber and intermediate chambers, and located substantially at the junction of said chambers and said recess, and valves controlling communication between the intermediate chambers and discharge chamber, substantially as described.

2. A pumping engine comprising, in combination with an actuating cylinder and piston, a pump cylinder and piston; and a base for said pump cylinder, having a suction chamber surrounding the lower end of said cylinder, and forming therewith a recess surrounded by and normally cut off from said suction chamber and communicating with the lower end of said cylinder; and separate intermediate chambers one communicating with the lower end only, and the other with the upper end only of said pump cylinder; and a discharge chamber above said intermediate chambers; and valves controlling communication between the suction chamber and intermediate chambers, and located substantially at the junction of said chambers and said recess, and valves controlling communication between the intermediate chambers and discharge chamber, said pump cylinder having its lower end open in said recess of the base below the level of the top of the suction chamber, substantially as described.

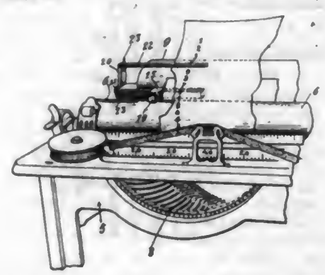
3. A pumping engine comprising, in combination with an actuating cylinder and piston, a pump cylinder and piston; and a base for said pump cylinder, having a suction chamber surrounding the lower end of said cylinder, and forming therewith a recess surrounded by and normally cut off from said suction chamber and communicating with the lower end of said cylinder; and separate intermediate chambers one communicating with the lower end only, and the other with the upper end only of said pump cylinder; and a discharge chamber above said intermediate chambers, and valves controlling communication between the suction chamber and intermediate chambers, and located substantially at the junction of said chambers and said recess, and valves controlling communication between the intermediate chambers and discharge chamber, substantially as and for the purpose described.

4. A pumping engine comprising, in combination with an actuating cylinder and piston, a pump cylinder and piston; and a base for said pump cylinder, having a suction chamber surrounding the lower end of said cylinder, and forming therewith a recess surrounded by and normally cut off from said suction chamber and communicating with the lower end of said cylinder; and separate intermediate chambers one communicating with the lower end only, and the other with the upper end only of said pump cylinder; and a discharge chamber above said intermediate chambers; valves controlling communication between the suction chamber and intermediate chambers, and located substantially at the junction of said chambers and said recess, and valves controlling communication between the intermediate chambers and discharge chamber; and a cup-like cylinder head, closing the upper end of the cylinder and surrounded by the discharge chamber, substantially as described.

5. A pumping engine comprising, in combination with an actuating cylinder and piston, a pump cylinder and piston; and a base for said pump cylinder, having a suction chamber surrounding the lower end of said cylinder, and forming therewith a recess surrounded by and normally cut off from said suction chamber and cummunicating with the lower end of said cylinder; and separate intermediate chambers one communicating with the lower end only, and the other with the upper end only of said pump cylinder; and a discharge chamber above said intermediate chambers; valves controlling communication between the suction chamber and intermediate chambers, and located substantially at the junction of said chambers and said recess, and valves controlling communication between the intermediate chambers and discharge chamber; and an equalizing duct affording communication between said intermediate chambers, substantially as and for the purpose described.

[Claims 6 to 12 not printed in the Gazette.]

972,358. TYPE-WRITER ATTACHMENT. BRYCE P. GIBBS, Los Angeles, Cal. Filed Aug. 24, 1909. Serial No. 514,356.



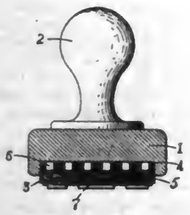
1. A device of the class described adapted to be attached to a typewriter and consisting of a clamping member having means for securing the same to a part of the typewriter, and having an arm adapted to extend longitudinally of the typewriter platen, said arm having a guide groove therein extending from the end face thereof longitudinally along said arm, a guide block engaging said groove, and having means for locking the same thereto, said block being adapted to slip upon said arm from the end thereof, means for locking said block to said arm, a post attached near one end of said clamping member and extending upwardly, a guide bar pivotally attached to said post so as to rotate on a horizontal axis transverse to said arm, means for supporting said guide bar in an operative position in which it projects over said clamping member, and means for supporting said bar in a folded position on the outer side of said post and projecting away from said clamping member.

2. A typewriter having a platen and a table directly behind the platen adapted to support the free portions of a sheet of paper disposed around said platen, a member attached to said typewriter and having an overhanging arm supported only at one end, extending longitudinally of said platen and between said platen and said table, and a gage block adapted to slip onto said arm from the end thereof, and adapted to guide the edge of said sheet of paper.

3. A typewriter having a platen, a table disposed adjacent to said platen adapted to support the free edges of a sheet of paper passed around said platen, a clamp adapted to be attached to said table and having an extension projecting longitudinally of said platen and between said platen and said table, said extension being adapted to support the free portion of said sheet which projects from the under side of said platen, a gage block adapted to slide onto said extension from the end, and a member supported by said clamp projecting longitudinally of said platen and extending in front of the free portion of said sheet which extends forwardly from the upper and forward side of said platen.

4. A typewriter having a platen, a fixed member having an extension projecting substantially parallel with said platen and adapted to support the free edges of a sheet of paper passed around said platen, an adjusting gage block mounted on said extension, and a rod pivotally supported on a horizontal axis at one end by said member adapted to be swung out of the way and normally projecting in a substantially horizontal position longitudinally of said platen and adapted to extend across the forward side of the upward free edge of said sheet of paper.

972,359. RUBBER STAMP. CALDER C. GIBSON, Buffalo, N. Y. Filed Dec. 30, 1909. Serial No. 535,643.

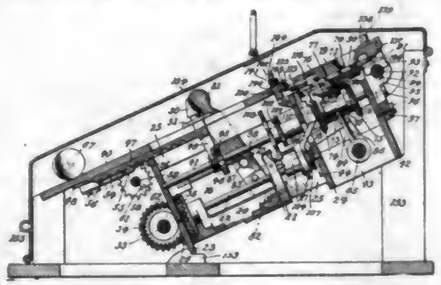


1. In a device of the class described, a cushion composed of superimposed sheets of sponge rubber and ordinary rubber vulcanized together to form an integral structure; one of said sheets being formed with grooves which completely sever the sheets into separate sections and the other of said sheets being formed with recesses which extend beyond the bottom of the groove and into the sections of the first mentioned sheet.

2. In a device of the class described, a support, a cushion secured to said support and having an outer portion of soft porous rubber known as sponge rubber; said outer portion being divided by longitudinal and transverse grooves into blocks, and an inner portion of ordinary rubber provided with recesses forming air pockets; each of said recesses extending into one of the blocks of the outer portion, and a type plate secured to the outer surface of the outer plate.

3. In a device of the class described, a cushion composed of vulcanized together sheets of sponge rubber and non-porous rubber; one of said sheets being provided with dividing indentations which extend to the surface of the other sheet and the other of said sheets being provided with pockets which extend into the first mentioned sheet between the indentations thereof.

972,360. CALCULATING-MACHINE. JULIUS GRABER, New York, N. Y., assignor to The Graber Calculating Machine Company, New York, N. Y., a Corporation. Filed June 30, 1910. Serial No. 569,652.



1. In a calculating machine, a slotted setting plate, a numbered slide engaging the same, a countersunk rack formed in the slide, a pinion engaging the rack, and means for detaining the slide.

2. In a calculating machine, a slotted setting plate having downwardly extending integral rails, numbered slides reciprocally mounted between said rails, countersunk racks formed in the slides, pinions engaging the racks, and means for detaining the slides.

3. In a calculating machine, a slotted setting plate, a plurality of numbered slides engaging the same and having countersunk racks, a shaft extending across all of said slides, pinions on said shaft that engage the racks, means for operating the shaft, and means for detaining the slides.

4. In a calculating machine, a slotted setting plate, a plurality of notched slides engaging the same and having countersunk racks, a shaft extending across all of said slides, pinions on said shaft that engage the racks, means for operating the shaft, and detents engaging the slide-notches.

5. In a calculating machine, a slotted setting plate, a plurality of notched slides engaging the same and having countersunk racks, a shaft extending across all of said slides, pinions on said shaft that engage the racks, a beveled gear wheel at one end of the shaft, a spring-influenced toothed sector engaging said gear wheel, a crank for operating the toothed sector, and detents engaging the slide-notches.

[Claims 6 to 13 not printed in the Gazette.]

972,361. POST-CARD. TILGHMAN GRAHAM, Fort Worth, Tex. Filed Aug. 21, 1909. Serial No. 513,955.

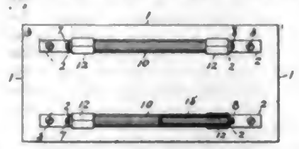


1. A post card having a body portion provided with a face for the address, marginal strips attached to the outer edges of the body portion, folding flaps hinged at the inner edges of the said marginal strips, elastic straps for automatically opening said flaps attached to the free edges of said flaps and to the outer edges of said body portion, and means for fastening the free edges of said flaps in line with each other at their meeting edges.

2. A post card having a body portion, flaps attached thereto and hinged thereto and foldable thereon, elastic cords attached to the free edges of said flaps and to the outer edges of said body portion for automatically opening said flaps, and a disk attached to one of said flaps and having ears adapted to engage said straps and hold said flaps closed.

3. A post card having a body portion and margins thereon, flaps hinged to said body portion at the inner edges of said margins and foldable on said body portion, elastic straps attached to the outer edges of said body portion to the free edges of said flaps, and foldable sheets attached to the inner faces of said flaps and a holding member carried by one of said flaps and engaging the cord of the other flap.

972,362. FUSE-SUPPORTING CONNECTION. EDWIN L. GRAUEL, Troy, N. Y., assignor to Troy Telephone Specialty Company, Troy, N. Y., a Corporation of New York. Filed Feb. 8, 1910. Serial No. 542,733.

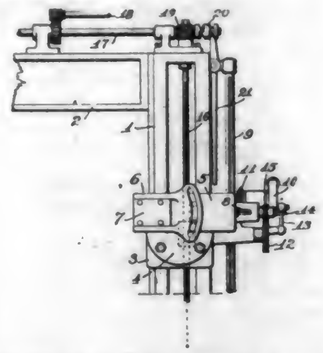


1. The combination with a pair of electric-fuse terminals consisting of metallic lugs, screw-threaded, one to the right and the other to the left; of a pair of yieldingly supported conductors apertured to receive and coact with the threaded lugs, respectively, and form stable contacts.

2. The combination with a pair of electric-fuse terminals consisting of metallic lugs, screw-threaded, one to the right and the other to the left; of a pair of yielding plate-like conductors, a portion of each conductor being thinner than the space between the screw-threads on the lugs, such thin portions being apertured, and the aperture-walls threaded to receive and fit the threaded lugs.

3. The combination with a fuse having oppositely screw-threaded terminals; of a pair of convergently arranged yielding resilient conductor-plates apertured to receive and coact with said terminals, respectively, and supported with their apertured portions normally separated by a space less than the length of said fuse.

972,363. METAL-PLANER. GEORGE EDWARD GREENLEAF, Plainfield, N. J., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Apr. 28, 1910. Serial No. 558,206.



1. Side-head mechanism comprising, a sidehead mounted to slide vertically on a housing of the machine, a vertical screw mounted in the planer housing and having threaded connection with the sidehead, a power-shaft journaled at the top of the housing, means for turning said power-shaft, gearing and a clutch connecting said power-shaft and screw, a lever for operating said clutch extending downwardly alongside the housing, means carried by the sidehead for operating the threaded connection between the screw and the sidehead for raising and lowering the sidehead by hand, power-feed mechanism for feeding the sidehead intermittently by power, and detachable gearing carried by the sidehead and connecting said power-feed mechanism and screw, combined substantially as set forth.

2. Sidehead mechanism comprising, a sidehead mounted to slide vertically on a housing of the machine, a splined screw journaled in the housing to the rear of the sidehead, a nut carried by the sidehead and engaging said splined screw, a power-shaft journaled at the top of the housing, means for turning said power-shaft, gearing and a clutch connecting said power-shaft and splined screw, a hand-shaft journaled in the side-head and projecting outwardly therefrom sidewise of the housing, gearing connecting said hand-shaft and splined screw, power-feed mechanism for turning said hand-shaft intermittently by power, and detachable gearing connecting said power-feed mechanism and said hand-shaft, combined substantially as set forth.

3. Side-head mechanism comprising, a sidehead mounted to slide vertically on a housing of the machine, a splined screw journaled in the housing to the rear of the sidehead, a nut carried by the sidehead and engaging said splined screw, a power-shaft journaled at the top of the planer, means for turning said power-shaft, gearing and a clutch connecting said power-shaft and splined screw, a hand-shaft journaled in the sidehead and projecting outwardly therefrom sidewise of the housing, gearing connecting said hand-shaft and splined screw, an oscillatory splined power feed-shaft supported by the housing, a crank journaled in the sidehead, gearing connecting said splined shaft and crank, a toothed sector pivoted on the sidehead, a link connecting said sector and crank, and a removable click-pinion on said hand-shaft and engaging said sector, combined substantially as set forth.

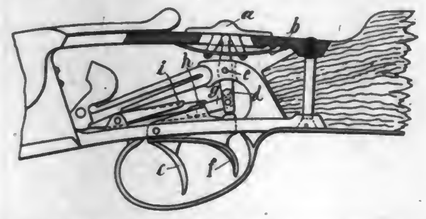
4. Sidehead mechanism comprising, a sidehead mounted to slide vertically on a housing of the machine, a screw journaled vertically in the housing and connected with the sidehead for raising and lowering the sidehead, a horizontal hand-shaft journaled in the sidehead and so connected with the screw mechanism as to bring about the raising and lowering of the sidehead by the turning of the hand-shaft, an adjustable-stroke crank carried by the sidehead and rising and falling with it, mechanism connecting the pin of the crank with the hand-shaft to cause the oscillation of the crank to turn the hand-shaft, an oscillatory feed-shaft disposed vertically alongside the housing and arranged to be traversed by the sidehead, and gearing connecting the oscillatory shaft with said crank, combined substantially as set forth.

5. Sidehead mechanism comprising, a sidehead mounted to slide vertically on a housing of the machine, a screw journaled vertically in the housing and connected with the sidehead for raising and lowering the sidehead, a horizontal hand-shaft journaled in the sidehead and so connected with the screw mechanism as to bring about the raising and lowering of the sidehead by the turning of the hand-shaft, a crank carried by the sidehead and rising and falling with it and radially slotted across its axis, a crank-pin sliding in the slot of the crank, a screw mounted in the crank and serving to adjust the crank-pin to various distances either side of the axis of the crank, a removable click-pinion on the hand-shaft, an oscillating sector mounted on the sidehead and engaging the click-pinion, a link connecting the crank-pin and sector, a vertical power-driven feed-part supported by the housing and extending throughout the patch of vertical movement of the sidehead on the housing, and gearing connecting said power-driven feed-part with said crank, combined substantially as set forth.

[Claim 6 not printed in the Gazette.]

972,364. FIREARM. CARL GUSTAF OSCAR GREVILLIUS, Stockholm, Sweden. Filed Mar. 28, 1910. Serial No. 551,993.

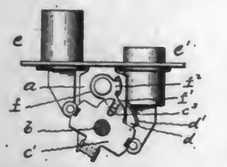
1. In a fire-arm, the combination of a safety-slide adapted to take up a middle position in which the arm is made safe and two unlocking positions, and a lug projecting above the surface of tang and extending along the said slide, at one side thereof, and forming together with the upper surface of the slide a continuous surface when the slide is in its middle position.



2. In a multi-barreled fire-arm, the combination of firing mechanisms for the various barrels, triggers for operating the said firing mechanisms, a combined safety and reversing device comprising a slide adapted to take up a middle position in which the arm is made safe and two unlocking positions, and means operated by the said slide for operatively connecting one trigger with one or the other firing mechanism according as the slide takes up one or the other unlocking position.

3. In a multi-barreled fire-arm, the combination of firing mechanisms for the different barrels, triggers for operating the said firing mechanisms, a safety-slide adapted to take up a middle position in which the arm is made safe, an elevated surface forming a continuous extension of the said slide in the said middle position thereof, and means operated by the said slide for operatively connecting one trigger with one or the other firing mechanism according as the slide takes up one or the other unlocking position.

972,365. ELECTRIC SWITCH. MONROE GUETT, Hartford, Conn., assignor to The Hart & Hegeman Manufacturing Company, Hartford, Conn., a Corporation of Connecticut. Filed Apr. 25, 1908. Serial No. 429,191.



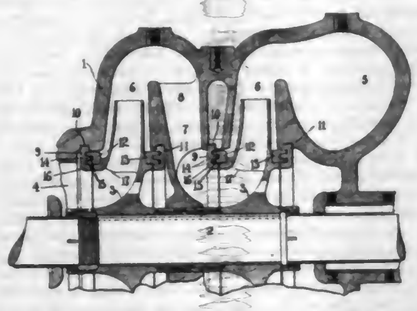
1. In an electric switch, a frame, a spindle, a pole-plate, poles secured thereto, an escape-plate, push-buttons connected with the escape-plate, a locking-flange on said escape-plate, a hub, radial arms extending therefrom, a pin on one arm in engagement with said pole-plate, a lug on the other arm coöperating with said flange on said escape-plate, and a spring connecting said escape-plate with said pole plate.

2. In an electric switch, a frame, a spindle mounted therein, a pole-plate mounted on the spindle, poles secured to the pole-plate, an escape-plate mounted to oscillate on the spindle, push-buttons connected therewith, a hub pivotally mounted on the frame movable independently of said escape plate, interengaging parts on said hub and said pole-plate, interlocking parts on said hub and said escape-plate, the point of engagement of the former being inside of the point of enegagement of the latter, and a spring connecting the escape-plate with the pole-plate, substantially as described.

3. In an electric switch, a frame, oppositely disposed stopping shoulders thereon, a spindle mounted in the frame, a pole-plate having a cross-bar coöperating with said stopping shoulders, poles secured to said pole-plate, an escape plate mounted to oscillate on the spindle, push-buttons connected therewith, a lug on said escape-plate underlying the cross-bar on said pole-plate, a spring wound about the spindle with its ends located on opposite sides of said projection and cross-bar and connecting said escape-

plate with said pole-plate, said pole-plate having a slot in one edge thereof, a hub pivotally mounted on the frame, radial arms extending from said hub, a pin on one of said arms riding in the slot in said pole-plate, a locking-flange on the escape-plate, a lug on the other arm co-operating with said locking-flange, the path of movement of said pin crossing the median line connecting said spindle and hub, the path of movement of said lug being wholly to one side thereof, substantially as described and for the purposes set forth.

972,366. CENTRIFUGAL PUMP. ALBERT E. GUY, Trenton, N. J., assignor to De Laval Steam Turbine Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 10, 1909. Serial No. 489,187.



1. A centrifugal pump comprising in combination a casing, a rotary impeller therein having an inlet portion extending axially from the main portion of the impeller, a removable and renewable labyrinthine wearing ring mounted upon the external wall of the said inlet portion of the impeller, and another removable and renewable labyrinthine wearing ring carried by the casing and located in proximity to the end of the said inlet portion of the impeller and in proximity to the side of the wearing ring carried on said inlet portion.

2. A centrifugal pump comprising in combination a casing, a rotary impeller therein having an inlet portion extending axially from the main portion of the impeller, a removable and renewable labyrinthine wearing ring mounted upon the external wall of the said inlet portion of the impeller, and another removable and renewable labyrinthine wearing ring carried by the casing and located in proximity to the end of the said inlet portion of the impeller and in proximity to the side of the wearing ring carried on said inlet portion, said wearing rings provided with intermeshing flanges forming a tortuous passage between the rings to reduce leakage.

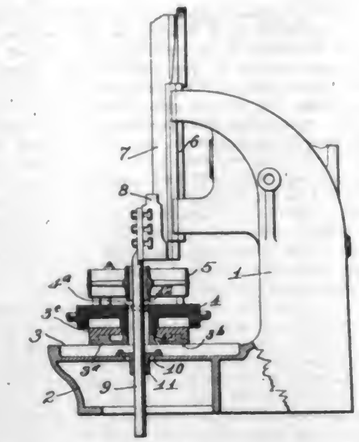
3. A centrifugal pump comprising in combination a casing, a rotary impeller therein, having an inlet portion extending axially from the main portion of the impeller, a wearing ring mounted upon the external wall of said inlet portion of the impeller, and another wearing ring carried by the casing and located in proximity to the end of said extended inlet portion of the impeller, and in proximity to the side of the wearing ring on such extended inlet portion, said casing comprising, in advance of the wearing ring, an admission space, the bore of said wearing ring of the casing of less diameter than said admission space and forming substantially a continuation of the entrance of the impeller, said wearing ring therefore serving as a nozzle to lead liquid to the impeller.

4. A centrifugal pump comprising in combination a casing, a rotary impeller therein, and an anti-leakage ring carried by the casing and located in proximity to the inlet portion of the impeller, said casing comprising an admission space in advance of said ring, the bore of said ring of less diameter than said admission space and forming substantially a continuation of the entrance of the impeller, and serving as a nozzle to direct liquid therein.

5. A centrifugal pump comprising in combination a casing, a rotary impeller therein, having an inlet portion extending axially from the main portion of the impeller, and an anti-leakage ring carried by the casing and located in proximity to the end of said inlet portion of the impeller, said casing comprising an admission space in advance of said ring, the bore of said ring of less diameter than said admission space and forming substantially a continuation of the entrance of the impeller, and serving as a nozzle to direct liquid therein, said bore being of tapering form to lead the liquid gradually to the impeller.

[Claim 6 not printed in the Gazette.]

972,367. SLOTTING-MACHINE. WILLIAM JOSEPH HAGMAN, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Mar. 1, 1909. Serial No. 480,641.

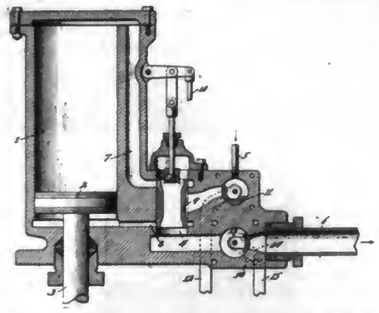


In a slotting machine the combination of a frame having a base provided with guides and a horizontal web between the guides, said web being provided with an aperture, a bushing secured to the web in said aperture, a longitudinally movable carriage mounted on said guides, a slide on the carriage engaging guides thereon arranged transversely to the guides first mentioned, a work holding table rotatably mounted on said slide and a vertical tool bar passing through said bushing, the carriage slide and table being centrally apertured to accommodate the tool bar and capable of adjustment by means of the said guides to locate said aperture in relation to said bushing.

972,368. STEAM-HAMMER. WILLIAM J. HAGMAN, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Philadelphia, Pa. Filed Apr. 6, 1910. Serial No. 553,762.

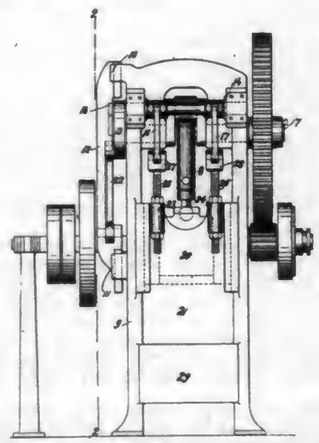
1. A steam hammer comprising, a steam cylinder provided with passages leading to its opposite ends, a steam-chest connecting with said passages and provided with a steam-inlet and provided with a single exhaust outlet to coöperate with both said passages, a main valve disposed in the steam chest and adapted to place either one of the cylinder passages in communication with the steam inlet while the other one of the cylinder passages is placed in communication with the exhaust outlet, a throttle-valve in the steam inlet, a throttle-valve disposed in the passage between the steam-chest and the exhaust outlet, and independent means for controlling said throttle valves, whereby while the hammer is idle steam may be freely admitted to both ends of the cylinder without escaping from the exhaust outlet, combined substantially as set forth.

2. A steam hammer comprising, a steam cylinder, a steam-chest provided with a steam inlet and an exhaust outlet and with passages leading to the opposite ends of the cylinder, a main valve disposed in the steam chest and adapted to place either one of the cylinder passages in communication with the steam inlet while the other one of the cylinder passages is placed in communication with the exhaust outlet, a throttle-valve in the steam inlet, a throttle-valve disposed in the passage between the steam-



chest and the exhaust outlet, independent means for controlling said throttle valves, and means for automatically closing the exhaust throttle-valve, whereby while the hammer is idle steam may be freely admitted to both ends of the cylinder without escaping from the exhaust outlet, combined substantially as set forth.

972,369. POWER-PRESS. PAUL R. HAHNEMANN, Mount Vernon, N. Y., assignor to Max Ams Machine Co., Mount Vernon, N. Y., a Corporation of New York. Filed Jan. 5, 1910. Serial No. 536,507.



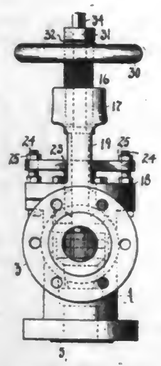
1. In a draw press, the combination with the framework of the main crank shaft carrying a pitman and punch, and a rocker shaft carrying connecting links and a blank holder, a slide member provided with curved slots, cranks upon said rocker shaft engaging said slots and other cranks thereupon being adapted to operate said blank holder, and means in combination therewith whereby said blank holder binds the blank in advance of operation upon said blank by said punch.

2. In a draw press, the combination with the framework of the main crank shaft carrying a pitman and punch, and rocker shafts carrying respectively connecting links, cross heads and a blank holder, a slide member provided with guide ways, means in combination with said rocker shafts for engaging said guide ways and other means in combination therewith for operating said blank holder, and means for binding the blank by said blank holder in advance of operating upon said blank by said punch.

3. In a draw press, the combination with the framework of the main crank shaft carrying a pitman and punch, and rocker shafts carrying respectively connecting links, cross heads and a blank holder, a slide member provided with curved slots, cranks upon said rocker shafts engaging said slots, other cranks thereupon for operating the blank holder, means in combination with said main crank shaft for reciprocating said slide member, and means for securing said blank by said blank holder before said punch operates upon the same

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972,370. BLOW-OFF VALVE. FRANK P. HAMILTON, Cleveland, Ohio. Filed Dec. 12, 1905. Serial No. 291,433.



The main body and the valve adapted to be seated therein having a cylindrical stem of different diameters and collars seated upon the smaller portion of said stem and an operating sleeve for said stem between said collars, in combination with a packing head having a stuffing box for said stem projecting into said body, and a threaded standard for said sleeve integral with but apart from said head upon its outside, a cross head having a follower for said stuffing box and bolts to secure said packing head to the body and nuts to adjustably secure said cross heads upon said bolts.

972,371. PLAYING-CARDS. WALTER A. HAMMETT, Corsicana, Tex. Filed Aug. 30, 1909. Serial No. 515,279.

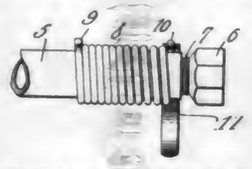


1. A pack of game-cards composed of forty-eight cards representing successive months for a period of four years, squeezers consisting of abbreviations of the month and year, certain of the cards having adjacent their squeezers large numerals designating the order in the year of the general holiday occurring in that month, the numbered cards each having allegorical pictures typical of its holiday, and the unnumbered cards having historical extracts.

2. A pack of game-cards representing successive months for a period of years ending with a leap-year, squeesers consisting of abbreviations of the month and year, certain of the cards having adjacent their squeesers large numerals designating the order in the year of the general holiday occurring in that month.

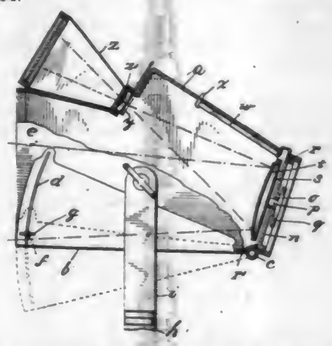
3. A pack of game-cards composed of forty-eight cards representing successive months for a period of four years ending with a leap-year, squeezers consisting of abbreviations of the months and year, certain of the cards having adjacent their squeezers large numerals designating the order in the year of the general holiday occurring in that month and the February card of leap-year having "29" at this point, the numbered cards each having an allegorical picture typical of its holiday, the unnumbered cards having historical extracts, and the leap-year card having an allegorical picture typical of a woman proposing to a man.

972,372. HOSE-CLAMP. THOMAS HARDING, San Jose, Cal. Filed Nov. 12, 1909. Serial No. 527,667.



The combination with a hose, and a metallic coupling part having a tubular, exteriorly-threaded shank larger than the normal size of the bore of the hose and adapted to be inserted into its end: of a spiral sprug longer than said shank and of smaller internal circumference before it is expanded than the normal external circumference of the hose, whereby the rear end of the spring clamps the hose while the shank is screwed into the end of the hose and expands the front end of the spring.

972,373. PHOTOGRAPHIC APPARATUS. HARRY C. HEBIG, New York, N. Y., assignor to James Hamilton, East Orange, N. J. Filed Feb. 13, 1909. Serial No. 477,794.



1. In an apparatus of the character described, the combination with a suitable casing and a camera mounted therein; of means for reflecting a distorted image into said camera; said means being rotatable to vary said distorted image.

2. In an apparatus of the character described, the combination with a casing and a camera mounted therein; of means for reflecting a distorted image into said camera; and a fanciful design placed over said means.

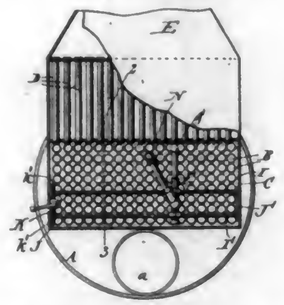
3. In an apparatus of the character described, the combination with a camera; of a plane mirror adapted to reflect normal images into said camera; and a curved mirror separate from said plane mirror and adapted to reflect distorted images into said camera.

4. A photographic apparatus consisting of a casing provided with a top and a bottom which are relatively movable; a camera carried by said casing; and a rotary curved mirror carried by said casing and adapted to reflect into said camera.

5. A photographic apparatus consisting of a casing provided with a camera; and a rotary curved mirror adapted to reflect distorted images into said camera and carried by said casing.

[Claim 6 not printed in the Gazette.]

972,374. BOILER-FLUE CLEANER. ROBERT O. HODGE, Buffalo, N. Y. Filed Feb. 26, 1909. Serial No. 480,231.



1. A boiler tube cleaner comprising a manifold having a plurality of outlets, and means for moving said manifold horizontally rectilineally past the ends of the boiler tubes.

2. A boiler tube cleaner comprising a manifold having a vertical portion provided with outlets adapted to be arranged opposite the ends of horizontal boiler tubes and a horizontal portion provided with outlets adapted to be arranged opposite the ends of vertical tubes, and means for moving said manifold transversely rectilineally relatively to said tubes.

3. A boiler tube cleaner comprising a manifold having a vertical portion provided with outlets adapted to be arranged opposite the ends of horizontal boiler tubes and a horizontal portion provided with outlets adapted to be arranged opposite the ends of vertical tubes, means for moving said manifold transversely rectilineally relatively to said tubes, and means for supplying steam to said manifold.

4. A boiler tube cleaner comprising a manifold having a vertical portion provided with outlets adapted to be arranged opposite the ends of horizontal boiler tubes and a horizontal portion provided with outlets adapted to be arranged opposite the ends of vertical tubes, means for moving said manifold transversely rectilineally relatively to said tubes, a stationary steam supply pipe, and an articulated conduit connecting said supply pipe and manifold.

5. A boiler tube cleaner having a steam delivery device adapted to move past the ends of the boiler tubes and provided with a screw nut, and a screw for shifting said delivery device engaging with said nut.

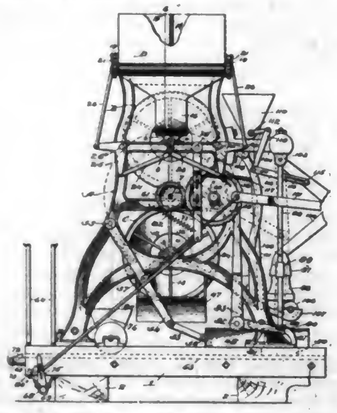
[Claims 6 to 16 not printed in the Gazette.]

972,375. PRESS FOR MAKING BRICK, TILE, AND BUILDING-BLOCKS. GUSTAV HOFFMAN, St. Paul, Minn. Filed Dec. 19, 1908. Serial No. 468,407.

1. In a machine of the class described, the combination of a mold, a pressing element coöperating therewith, means for feeding pallets to the mold successively, a continuously rotating device for actuating the pressing element to compress the material in the mold, means for positively raising the mold to a given point and allowing it to lower by gravity, and means operated periodically by the said device for actuating the pallet feeding means.

2. In a machine of the class described, the combination

of a plurality of upright angle irons spaced apart to engage the corners of a number of pallets arranged in a pile, and means for periodically removing the lowermost pallet from the pile, said means consisting of spaced slide bars, a rock shaft extending transversely to and disposed under the bars, and arms on the shaft adjustably connected with the bars, yielding dogs carried by the bars for engaging the lowermost pallet, a crank and pitman connection for rocking the shaft, a lever connected with the pitman, and a device arranged to periodically engage the lever at a point between its fulcrum and its connection with the pitman for oscillating the lever.



3. In a machine of the class described, the combination of a holder for a pile of pallets, a reciprocatory device disposed under the pile for removing the lowermost pallet therefrom, a rock shaft operatively connected with the said device, a crank on the rock shaft, a pitman connected with the crank, a swinging arm or lever having its free end connected with the pitman, a spring connected with the arm for moving the same in one direction, an abutment adjustable longitudinally on the arm, and a revolving device for periodically engaging the abutment and to move the arm in position to the spring and arranged to slide off the abutment to permit the spring to come into play.

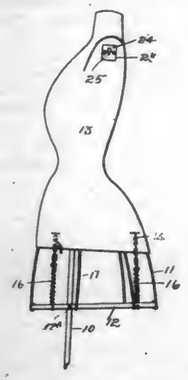
4. In a machine of the class described, the combination of a holder for a pile of pallets, a reciprocatory element disposed under the pile, a spring-pressed dog on the element adapted to engage the lowermost pallet of the pile for removing the pallet laterally, a gear wheel, a pin projecting from the wheel, a swinging member extending across the wheel and arranged to swing on an axis parallel to the plane of rotation of the latter, an abutment adjustable longitudinally on the member to be engaged by the said pin and automatically released from the latter after the pin moves the member to a predetermined point, and operating connecting means between the said member and element.

5. In a machine of the class described, the combination of a device for holding a pile of pallets, a guideway, and means for feeding the pallets step by step from the pile and through the guideway, said means comprising a rock shaft, reciprocatory elements, arms on the rock shaft, means on the elements with which the arms can be connected at different points for varying the range of movement of the elements, means for supporting the elements under the pile of pallets, and dogs on the elements arranged to engage the lowermost pallet to move the latter into the guideway as the elements are actuated in one direction.

[Claims 6 to 11 not printed in the Gazette.]

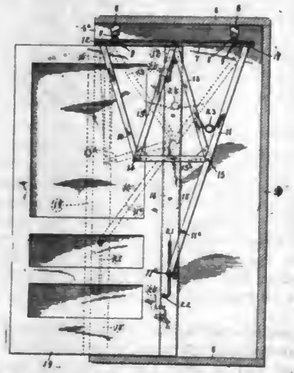
972,376. DRESS-FORM. CATHRINE L. HORTON, Des Moines, Iowa. Filed Mar. 29, 1909. Serial No. 486,364.

1. A device of the class described, comprising a skirt form shaped to receive and support a skirt, a waist form having its lower end shaped to receive the upper end of the skirt form, said parts being so arranged that the waist form may be tilted to various angles relative to the skirt form, and a series of adjustable, yielding, fastening devices each comprising a hook attached to the waist form, a chain adjustably connected to said hook, and a spring attached to the chain and having means at its lower end to engage the skirt form, said parts being so arranged that the springs will yieldingly hold the waist form downwardly over the skirt form so that the waist form may be tilted to any desired angle relative to the skirt form and will be there held by the adjustable, yielding, fastening devices, for the purposes stated.



2. In a device of the class described, the combination of a waist form, a plate connected therewith, and provided with a rounded opening, and a slot at the bottom thereof, an arm form having a fabric or cloth cover, a plate inserted in the upper end of the arm form and having a row of perforations therein, a second plate having a row of perforations therein, placed adjacent to the first plate with the edges of the fabric or cloth arranged between said plates, a row of stitches extended through both plates and through the fabric or cloth, and a head fixed to the second plate and provided with a narrow shank, said head being designed for insertion in the opening in the plate on the waist form, and said narrow shank being designed to enter said slot for the purposes stated.

972,377. SWINGING-DOOR HANGER. PAUL M. HOTCHKIN and ARTHUR J. MORGAN, Chicago, Ill., assignors to Curtis-Leger Fixture Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 20, 1909. Serial No. 513,768. Renewed Aug. 24, 1910. Serial No. 578,682.



1. In a device of the character specified, the combination of a suitable support, a hanger-frame pivotally con-

nected at points in horizontal alinement on said support, a hinge member pivotally connected with said frame at a point in horizontal alinement with the pivotal connections of the hanger-frame to said support, and a slidable connection between said member and said frame.

2. In a device of the character specified, the combination of a horizontal supporting means, a hanger-frame pivotally suspended from said means, a hinge member arranged perpendicularly to said supporting means and pivotally supported on said hanger frame at a point in horizontal alinement with the pivotal connections of the hanger-frame with its supporting means, and a slidable connection between said hinge member and said frame.

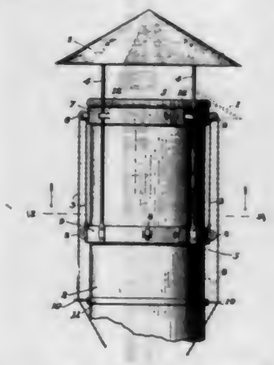
3. In a device of the character specified, the combination of a suitable support, a hanger-frame pivotally suspended from said support, a hinge-strip pivotally connected to said frame at a point in horizontal alinement with the pivotal points of the hanger frame, and a slidable connection between said hinge-strip and said frame.

4. In a device of the character specified, the combination of a supporting bar, levers pivoted to said bar, a rigid frame pivotally connecting said levers, a hinge-strip pivoted to said frame, and a sliding connection between said strip and one of said levers.

5. In a cabinet, the combination of a pair of coöperating levers pivotally connected to said cabinet, a rigid triangular frame pivotally connecting said levers, a hinge-strip pivoted to the upper end of said frame, and a sliding connection between said strip and one of said levers.

[Claims 6 to 12 not printed in the Gazette.]

972,378. STACK-PIPE PROTECTOR. THADEUS E. HUFFMAN and ISAAC E. HAMMETT, Hamlin, Tex. Filed Apr. 6, 1910. Serial No. 553,840.

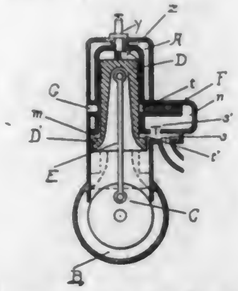


1. The combination with a stack pipe, of a protecting cap arranged above the same, rods secured to said cap, guide lugs on the stack for said rods, an annular band movable upon the stack pipe, the lower ends of said rods being secured to said band, and operating means connected to said band to move the same to adjust the protecting cap.

2. The combination with a stack pipe, of a protecting cap adjustably arranged above the same, a plurality of rods secured to said cap and extending upon the sides of the stack pipe, guide lugs arranged on the pipe, said rods being movably disposed through the lugs, an adjustable band movable upon the stack pipe, anti-friction rollers carried by the band engaged with the periphery of the pipe, pulleys arranged on the upper end of the pipe at diametrically opposite points, and operating chains extending over said pulleys and connected to said movable band to adjust the protecting cap.

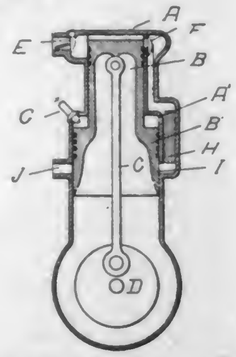
3. The combination with a stack pipe, of a protecting cap adjustable above the same, a plurality of supporting rods for said cap, a band rigidly secured upon the pipe at its upper end, a plurality of guide lugs formed on the band, said supporting rods being movable through the lugs, pulleys mounted on said band at diametrically opposite points, an adjustable band movable upon the stack pipe, the lower ends of said rods being secured to said band, a plurality of anti-friction rollers carried by said band engaged with the stack pipe, guide eyes arranged upon the pipe at diametrically opposite points below the movable band, and operating chains extending through said guide eyes and over said pulleys on the first named band, the ends of said chains being secured to the movable band to move the same and adjust the protecting cap.

972,379. EXPLOSION-MOTOR. CHARLES FRANCIS JENKINS, Washington, D. C. Filed Nov. 24, 1909. Serial No. 529,736.



The combination with an engine cylinder having its lower portion of greater diameter than its upper portion, of a piston correspondingly offset to fit both portions and provided at its upper end with a peripherally open recess, a valved conduit leading to the annular chamber in the lower portion, a second chamber outside the cylinder, a valved conduit leading from the first chamber to the second, an inlet passage leading from the second chamber into the explosion chamber near its lower end, a screen, in the last named passage, consisting of an elongated box open at each end and filled with longitudinally corrugated plates alternating with plane plates, and a sparking device in position to lie within the walls of said recess at the moment of ignition, the inlet screened passage opening being in position to aline with the open peripheral side of said recess when the piston descends.

972,380. EXPLOSION-ENGINE. CHARLES FRANCIS JENKINS, Washington, D. C. Filed Dec. 4, 1909. Serial No. 531,362.

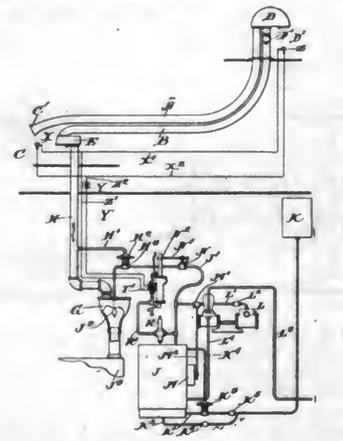


1. In a gas engine, the combination with a power cylinder having a smaller axial extension forming a compression chamber and a transfer passage leading from the end portion of the compression chamber to the opposite end of the working chamber and adapted to contain a working charge, of a power piston working in the power cylinder, provided with an axial extension working in the compression chamber and itself arranged to uncover the transfer passage in nearing the limit of its working stroke, and a check valve preventing the return of the compressed charge from said passage into said compression chamber.

2. In a gas engine, the combination with a power cylinder having an axial extension of less diameter forming a compression chamber, of a power piston fitting the power cylinder and having an axial extension fitting the compression chamber, said power cylinder being provided with valveless inlet and exhaust ports near the outer limit of the power piston's path and said extension, with valved induction and eduction ports near the opposite end of the compression chamber, and with a passage leading from said eduction port to the inlet port, substantially as set forth.

3. In a gas engine, the combination with a power cylinder and an alining compression chamber of less diameter forming an extension of the same, of a piston working in said cylinder and provided with an extension projecting centrally from its working face and working in the compression chamber, said cylinder having near the outer limit of the path of said face inlet and exhaust ports and said chamber having near the inner limit of the path of the piston's extension a valved induction port and a valved eduction port communicating with a conduit leading to said inlet port, and means for preventing flame from passing through said conduit; whereby the return stroke of the piston compresses a charge in the power cylinder and also a future charge in the compression chamber, forcing the latter past the eduction valve into said conduit, and on its power stroke uncovers both inlet and exhaust ports and sucks a charge into the compression chamber.

972,381. PNEUMATIC-DESPATCH-TUBE APPARATUS. CHESTER S. JENNINGS, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed Apr. 1, 1907. Serial No. 365,627.

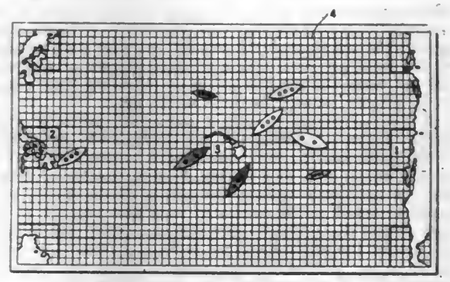


1. The combination with a pneumatic despatch tube system, of an inspirator adapted to create a flow of air through said system, a source of fluid pressure for operating said inspirator, means for throwing into operation said inspirator whereby a carrier may be transmitted through said system, and mechanism adapted to be operated by said source of fluid pressure for automatically timing the operation of said inspirator for the proper transmission and delivery of said carrier.

2. In a pneumatic despatch tube system, a fluid pressure-actuated inspirator adapted to create a flow of air through the system, a source of fluid pressure for operating said inspirator, an electric circuit for throwing into operation said inspirator whereby a carrier may be transmitted through the system, means independent of said circuit for throwing out of operation said inspirator, mechanism for timing the operation of said independent means, and means for automatically controlling the actuating fluid for creating a flow of air in proportion to the load on the system.

3. In a pneumatic despatch tube system, a fluid pressure-actuated inspirator adapted to create a flow of air through the system, a source of fluid pressure for operating said inspirator, an electric circuit for throwing into operation said inspirator whereby a carrier may be transmitted through the system, means independent of said circuit for throwing out of operation said inspirator, mechanism for timing the operation of said independent means, and a regulator for automatically controlling the actuating fluid for creating a flow of air in proportion to the load on the system.

972,382. GAME APPARATUS. GEORGE JOHNSON-JERVIS, New York, N. Y. Filed Jan. 3, 1910. Serial No. 536,061.



1. A game apparatus comprising a chart having an operating surface consisting of a water area divided into spaces and having ports for the opposing fleets, a plurality of pieces for each player representing vessels of different radii of action and different gun range and means for determining the hits.

2. A game apparatus comprising a chart having a playing surface and fleets for the opposing players each consisting of a plurality of vessels having different gun ranges and different resistance to hits, means for determining hits and devices for attaching to the vessels for indicating hits.

3. A game apparatus comprising a chart constituting a playing surface, a fleet of vessels for each of the opposing players, each fleet having vessels of different radii of action, different gun range and different resistance to hits and means for determining hits.

4. A game apparatus comprising a chart constituting a playing surface, a fleet of vessels for each of the opposing players, each fleet having vessels of different radii of action, different gun range and different resistance to hits and means for determining hits and means for indicating hits upon the vessels.

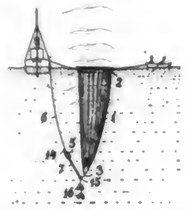
5. A game apparatus comprising a chart having its principal area divided into squares extending in transverse and longitudinal directions, a fleet of vessels for each of the opposing players each fleet consisting of a plurality of vessels of different sizes for moving on the chart and means for determining hits.

[Claims 6 to 9 not printed in the Gazette.]

972,383. FISHING-NET. CHRISTEN HEIBERG KAHRS, Christiania, Norway. Filed Sept. 15, 1909. Serial No. 517,872.

1. A fishing-net provided with floats along its upper edge, weights to draw the net downward, means to re-

lease said weights from the net, and means connected with the net to automatically spread the net by the rising of the latter in the water.



2. A purse-shaped fishing-net having floats along its upper edge, weights to draw the net downward, means to release said weights from the net, and a conical flange attached near the opening of the net to spread the net as it rises.

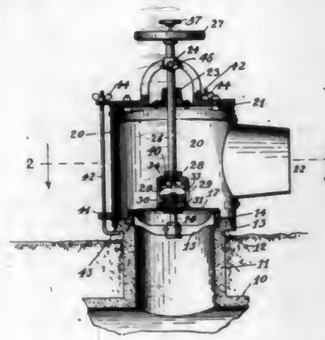
3. A purse-net having floats along its upper edge, floats between the edge and the bottom, and a conical flange of sail-cloth or similar material near the edge for the purpose specified.

4. The combination with a purse net provided with floats thereon capable of raising the net through the water, of means connected with the net to automatically spread the opening of the net by the rising of the net in the water, a rope having weights capable of drawing the net down against the action of the floats, and means to detachably connect the rope to the net.

5. The combination with a purse net provided with floats capable of raising the net through the water and with means whereby it is spread open through the action of the water, of a rope having weights capable of drawing the net down against the action of the floats, two ropes attached to the weighted rope and adapted to be tied around the net, two other ropes attached respectively to each of the aforesaid ropes, a ring in each end of the latter ropes, a ring of larger diameter secured to the weighted rope, a block on the latter above the ring, a catch and a release mechanism in the block, said catch adapted to serve as a hanger for the two rings, which are threaded through the ring on the weighted rope in order that the ropes carrying the rings shall be contracted around the net.

[Claim 6 not printed in the Gazette.]

972,384. HYDRANT. GEORGE E. KELLAR and ELMER O. THOMASON, Covina, Cal., assignors to Kellar-Thomason Manufacturing Company, Covina, Cal., a Corporation of California. Filed Oct. 5, 1908. Serial No. 456,116.



1. A stand pipe having a flange with a substantially conical seat on the upper side thereof, a cylindrical casing of pliable sheet metal open at its lower end having a plain untapered lower edge resting upon said conical seat, a disk normally closing said stand pipe, a rotatable shaft mounted in said casing and means for connecting said shaft with said disk to raise said disk to permit a flow through said stand pipe, said casing having a discharge outlet therefrom.

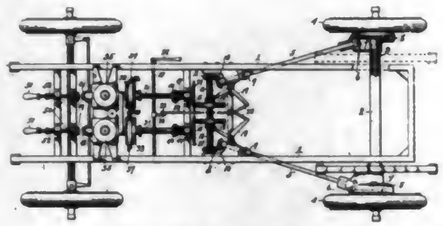
2. A stand pipe having a casing seat formed thereupon, a disk, a threaded pin, a spanner nut mounted on said pin and adapted to move said disk when rotated, a casing adapted to rest on the seat formed on said stand pipe, a shaft rotatably mounted in said casing, a clutch carried by the lower end of said shaft, and means for actuating said clutch to engage said spanner nut.

3. A stand pipe, a disk normally closing the end of said stand pipe, said stand pipe having a flange forming a casing seat, a cylindrical casing open at its lower end and adapted to have its lower edge rest on said seat, draw rods rotatably mounted at the sides of said casing and having laterally disposed extensions adapted to project under said flange, wing nuts having threaded engagement with said draw rods and adapted to force said casing downwardly to secure the same on said stand pipe, a shaft mounted in said casing, a clutch mounted on said shaft and adapted to connect detachably with said disk to raise the same, and means for operating said clutch from the exterior of said casing.

4. A stand pipe having a valve seat, a disk normally resting on said seat to close off the flow through said stand pipe, a threaded pin, a nut mounted on said threaded pin and adapted to advance or withdraw said disk, said nut having openings in the face thereof, a shaft extending through said casing, a clutch carried on said shaft and having movable dogs adapted to engage in said openings to connect said shaft with said nut, and means for operating said dogs from the exterior of said casing.

5. A disk valve having a normally exposed rotatable member of substantially circular form having recesses in the face thereof, a portable valve casing adapted to seat over said valve, a rotatable shaft passing through the wall of said casing and adapted to be rotated from the exterior, a clutch carried by said shaft and having members adapted to engage in said recesses to move said rotatable member, and means for actuating said clutch from the exterior of said casing.

972,385. POWER-TRANSMISSION MECHANISM. KARL A. KENDRICK, Detroit, Mich., assignor of one-half to Harrison Geer, Detroit, Mich. Filed Nov. 4, 1909. Serial No. 526,164.



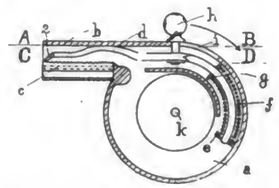
1. Power transmitting mechanism for motor vehicles comprising two independent motors, two traction wheels, means for transmitting the power from each of said motors independently to one of said wheels, a single lever connected to and controlling both of said power transmitting devices of said motors, and means for disconnecting said transmitting devices from their motors, respectively.

2. Power transmitting mechanism comprising two independent motors, two independent transmitting devices connected to said motors, means for disconnecting said transmitting devices from said motors respectively, two traction wheels, means independently connecting each of said transmitting devices with one of said traction wheels, and a single lever connected with said transmitting devices.

3. Power transmitting mechanism comprising two independent motors, two transmitting devices operatively connected to said motors, two traction wheels, means connecting said transmitting devices to said traction wheels independently, means for actuating said transmitting devices in unison to cause them to drive their respective traction wheels at the same rate of speed, and means for disconnecting either of said transmitting devices from its driving motor.

4. Power transmitting mechanism comprising two independent motors, two transmitting devices operatively connected to said motors, two traction wheels, means connecting said transmitting devices to said traction wheels independently, means for actuating said transmitting devices in unison to cause them to drive their respective traction wheels at the same rate of speed, means for disconnecting either of said transmitting devices from its driving motor, and means for connecting said motors to cause them to turn in unison.

972,386. IGNITER. ERNEST FELIX KOEHLER, London, England. Filed Oct. 18, 1909. Serial No. 523,368.



1. An igniter comprising a casing adapted to contain a coiled match strip and having an outlet adapted to guide the outer end of said strip, and a reciprocating member within said outlet having a resilient outer portion in sliding contact with said outlet, and a plurality of prongs pressed thereby against the outer side of the strip, said prongs being arranged to ignite the strip when the member is retracted, and to project the strip a predetermined distance when the member is projected, the said outlet having means bearing on the under side of the strip and coöperating with the strip-projecting prongs in preventing the retraction of the strip.

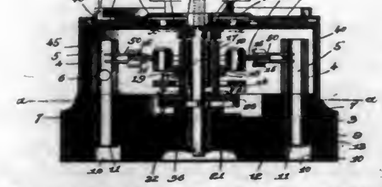
2. An igniter comprising a casing adapted to contain a coiled match strip and having an outlet adapted to guide the outer end of said strip, said outlet being provided with parallel longitudinally extending roughened portions engaging the edge portions of the under side of the strip, and a strip-igniting and feeding member adapted to be reciprocated in said outlet, and having a resilient outer portion in sliding contact with the outlet, and carrying a central prong engaging the outer side of the strip midway between its edges, and side prongs engaging the edge portions of the outer side of the strip which are supported by said roughened portions, said prongs being operated by the retraction of the member to ignite the strip, and by the projection of the member to project the ignited portion of the strip from the outlet, the said central and side prongs being pressed simultaneously against the strip by the resilience of the outer portion of said member, and by the contact of the same with the outlet, and the side prongs coöperating with the said roughened portions in preventing the retraction of the strip.

3. An igniter comprising a casing adapted to contain a coiled match strip and having an elongated outlet, one side of which contains a longitudinal slot, a U-shaped strip inserted in said slot and having roughened edges located within the outlet and constituting strip guides arranged to bear on opposite edge portions of the under side of the strip, and a strip-igniting and feeding member adapted to be reciprocated in said outlet and having an igniting prong arranged to bear on the central portion of the outer side of the strip, and operated by the retraction of the member to ignite the strip, and feeding prongs arranged to bear on opposite edge portions of the outer side of the strip and operated by the projection of the member to project the ignited portion of the strip from the outlet, the said feeding prongs coöperating with the roughened guides in preventing the retraction of the strip during the igniting movement of the member.

4. An igniter comprising a casing adapted to contain a coiled match strip and having an outlet adapted to guide the advancing end portion of the strip, an internal guide in its body portion, and a slot in its periphery, a strip-igniting and feeding member having a resilient outer portion located in the outlet and carrying strip-igniting and strip-feeding devices, and a curved inner portion located in the body of the casing, and provided with a handle projecting through said slot, and a spring surrounding said inner portion and bearing on said guide.

5. An igniter comprising in combination, a casing provided with an outlet having a slot in its base, said casing being also provided with a slot commencing at the joint of said outlet and extending somewhat along the circumference of said casing, racks composed of two prongs which are provided with teeth at their top edges, and inserted into the slot of said outlet, an advancing member consisting of a plurality of spring-like prongs, and a solid portion, said spring-like prongs being in contact with the teeth of the racks, a spiral spring surrounding the solid portion of said advancing member and adapted to hold the advancing member in a determined position, a handle fastened to the said advancing member and projecting through the said slot, extending along the circumference of the casing, and a coiled ignition strip located and suitably fastened within the said casing, the foremost end of said ignition strip being led between the racks and the prongs of said advancing member.

972,387. SNAP-SWITCH. STANISLAW A. KOLTONSKI, Boston, Mass. Filed Oct. 26, 1906. Serial No. 340,646.



1. In a switch, a base provided with an aperture formed with an annular shoulder, a binding post having a shank extending through said aperture and provided with an enlarged end formed by expanding the shank, and a strain-receiving annular member of non-yielding material surrounding the shank and situated between said enlarged end and the shoulder.

2. In a switch, a base having an aperture and a binding post provided with a shank extending through said aperture, said shank having an integral portion thereof expanded to form a flange extending at right angles to the shank, and a strain-receiving washer of non-yielding material surrounding the shank and situated between the flange and the base and having sufficient strength to take the lateral strain resulting from expanding the end of the shank.

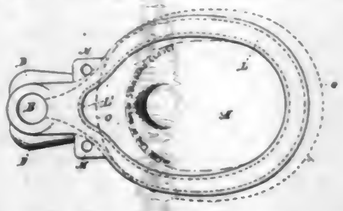
3. In a switch, a base having an aperture, a tubular binding post having a shank extending through said aperture, the end of the shank being expanded to form a flange at right angles to the shank which overlies a portion of the base and means to relieve the base from lateral pressure due to expanding the end of the shank.

4. In a switch, a base, a binding post thereon having two separated contact members and a rotary member carrying a connector bar to enter between said contact members, each contact member being divided transversely to the direction of movement of the connector bar to form a plurality of sections which are situated to be engaged successively by the connector bar as it rotates.

5. In a switch, a base, a binding post thereon having two separated contact members, and a rotary member carrying a connector bar to enter between said contact members, each contact member being divided transversely to the direction of movement of the connector bar to form a plurality of independently-yieldable sections arranged to be successively engaged by the connector bar as it rotates.

[Claims 6 to 16 not printed in the Gazette.]

972,388. WATER-CLOSET. SAMUEL W. LEWIS, New York, N. Y., assignor to Thomas Maddock's Sons Company, Trenton, N. J., a Corporation of New Jersey. Filed Mar. 15, 1909. Serial No. 483,424.



1. A water closet bowl provided with a continuous flushing rim all portions of which lie in the same plane, said rim being of substantially elliptical shape, with its greatest width at a point well forward of the hinge line of the seat, the rear portion of said rim being formed with a narrow rearward extension to about the line of said hinge.

2. The combination with a water closet bowl, of a hinged seat which in its lowered position has its rear edge forward of the rearmost point of the bowl rim's inner edge.

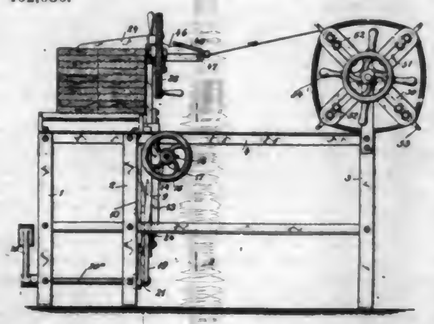
3. The combination with a water closet bowl, of a hinged seat which in its lowered position has its rear edge forward of the rearmost point of the bowl rim's inner edge, an opening being left between the rear edge of the seat and the inner edge of the rim, at the rear of the bowl.

4. The combination, with a water closet bowl, of a seat the rear edge of which is forward of the rearmost point of the bowl rim's inner edge.

5. The combination, with a water closet bowl, of a seat the rear edge of which is forward of the rearmost point of the bowl rim's inner edge, an opening being left between the rear edge of the seat and the inner edge of the rim, at the rear of the bowl.

[Claims 6 and 7 not printed in the Gazette.]

972,389. BUNDLING-MACHINE. ROBERT C. LOWRY and LOUIS F. WINTER, New York, N. Y.; said Winter assignor to said Lowry. Filed Nov. 13, 1907. Serial No. 402,050.



1. In a bundling machine, a table for supporting the bundle, a sliding head-plate in proximity to the table, presser arms carried by the head-plate and extending over the table for compressing the bundle on the table when the head-plate is depressed, a rotatable wire-twister carried by the head-plate and positioned therein to come into close proximity with the bundle when the head-plate is depressed to compress the bundle, said twister being adapted to retain both ends of a wire loop, a narrow guide-slot in the table in line with the twister, and mechanism for rotating the twister, whereby a loop may be formed and held at right angles to the face of the head-plate and may be tightly bound about a bundle compressed between the presser-arms and the table and against the head-plate.

2. In a bundling machine, a table for supporting the bundle, a wire twister adapted to be brought into proximity to a bundle on the table, a guide slot in the table for the binding wire, and means for closing and opening the outer end of said slot.

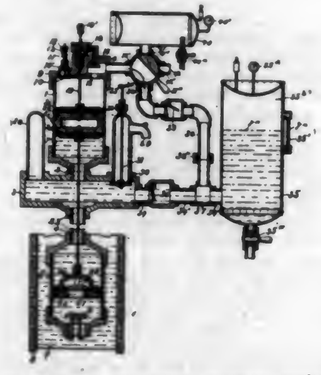
3. In a bundling machine, a table for supporting the bundle, provided with a series of rollers, a sliding head-plate in proximity to the table, presser arms carried by the head-plate and extending over the table for compressing the bundle on the table when the head-plate is depressed, a rotatable wire twister carried by the head-plate and positioned therein to come into close proximity with the bundle when the head-plate is depressed to compress the bundle, said twister being adapted to retain both ends of a wire loop, the rollers on the table being so arranged that two of them are in close proximity directly beneath the wire twister thereby forming a narrow guide-slot for the binding wire, and mechanism for rotating the twister, whereby a loop may be formed and held at right-angles to the face of the head-plate and may be tightly bound about a bundle compressed between the presser-arms and the table and against the head-plate.

4. In a bundling machine, a table for supporting the bundle, a wire twister adapted to be brought into proximity to a bundle on the table and a wire clamp adapted to clamp the wire close to the bundle during the twisting operation.

5. In a bundling machine, a table for supporting the bundle, a twister, an adjustable support for said twister, whereby it may be brought into proximity to a bundle on the table, a grooved guide roller on said support arranged substantially on the axis of the twister, a second guide roller below the first roller, a guide slot for the binding wire in the table, and a wire clamp on the said support adapted to clamp the wire against the grooved roller during the twisting operation.

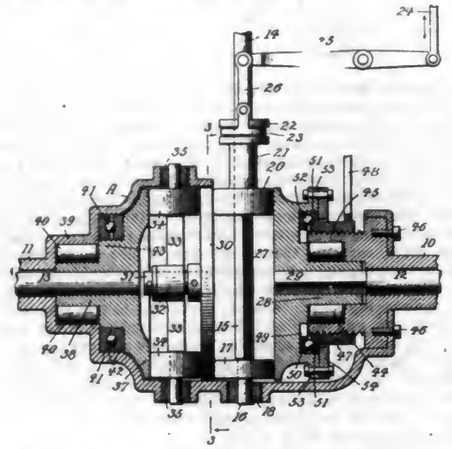
[Claims 6 to 14 not printed in the Gazette.]

972,390. AIR-PUMPING ATTACHMENT FOR WATER-PUMPS. CALVIN H. MERRILL, Shenandoah, Iowa. Filed Nov. 1, 1909. Serial No. 525,804.



In an air pumping attachment for water pumps, in combination; a pressure tank, adapted to store air and water, under pressure; a pump head, having water conducting means, communicatively connecting said pump head with said pressure tank, said water conducting means being provided with a check valve therein, opening toward said pressure tank, and with a T connection, between said pressure tank and said check valve; an air cylinder, having a piston therein, provided with driving means, for reciprocatively driving said piston, said air cylinder having the lower end thereof communicatively connected with the upper side of said pump head, the upper end of said air cylinder being provided with an air inlet valve and an air outlet port, said outlet port having an outlet check valve therefor; single acting water pumping means, communicatively connected with the lower side of said pump head and in alinement with said air cylinder; a plunger for said water pumping means, and driving means connecting said plunger and said piston, whereby said plunger is reciprocatively driven; air conducting means, adapted to conduct air from said air outlet port into said T connection; a check valve in said air conducting means, opening toward said T connection; a four way cock in said air conducting means, said four way cock having an inlet cock port, a pressure tank port, an exhaust port and a storage tank port, formed therein; a rotatable cock gate in said cock, adapted to open and close said ports, as specified, and a cock handle, whereby said cock gate is rotated.

972,391. SPEED VARYING AND REVERSING MECHANISM. FREDERICK MESINGER, New York, N. Y. Filed July 22, 1910. Serial No. 573,182.



1. In a speed varying and reversing mechanism, a power shaft, a friction wheel slidably mounted thereon, a first friction disk engaged by said wheel, a second friction disk, means for transmitting motion from the friction wheel to the second friction disk, means for varying the distance between the friction disks, and driving axles carrying said disks.

2. In a speed varying and reversing mechanism, a pair of driving shafts, friction disks carried thereby, a power-driven axially displaceable friction wheel engaging one of said disks, means for transmitting motion from the wheel to the other disk, and means for varying the friction between said wheel and disks.

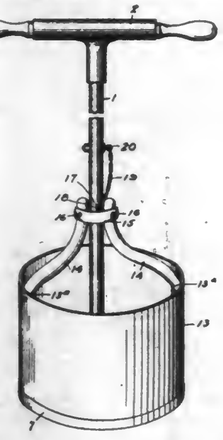
3. In a speed varying and reversing mechanism, a pair of driving shafts, friction disks carried thereby, a power-driven friction wheel engaging one of the disks, means for axially displacing said wheel, means for transmitting motion from the wheel to the other disk, and means for varying the friction between said wheel and disks.

4. In a speed varying and reversing mechanism, a pair of driving shafts, friction disks carried thereby, a power-driven axially displaceable friction wheel engaging one of said disks, a transmission disk engaging said wheel, friction wheels intermediate the transmission disk and the other friction disk, and means for varying the distance between the friction disks.

5. In a speed varying and reversing mechanism, a casing, a threaded cup secured thereto, a pair of opposed friction disks inclosed within the casing, driving axles carrying the disks, a power shaft, a friction wheel slidable thereon and engaging one of the disks, means for transmitting motion from said wheel to the other disk, and a nut engaging the cup and adapted to control the distance between the disks.

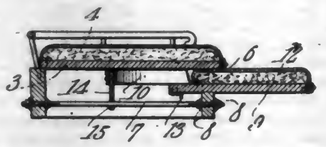
[Claims 6 to 9 not printed in the Gazette.]

972,392. AUGER APPARATUS. MARSHALL E. MILLER, Walker, Mo. Filed Jan. 3, 1910. Serial No. 536,221.



The combination with a stem, of strips arranged at approximately right angles to each other and rigidly secured to said stem, said strips having their ends bent upwardly, a plate provided with a circumferential flange rigidly mounted upon said strips, said flange being suitably spaced from said upturned ends of the strips, portions of said plate being stamped to form cutters, the circumferential flange serving to suitably stiffen said plate and prevent the distortion of said cutters, and a removable cylinder mounted upon said plate and having one end disposed between said flange and upturned ends to form a snug union.

972,393. VEHICLE-SEAT. CHARLES B. MOORE, Rochester, Ind. Filed Mar. 2, 1910. Serial No. 546,843.



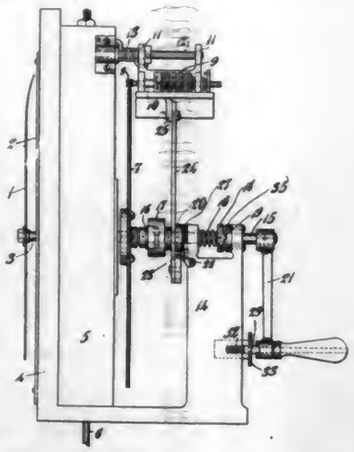
1. The combination with a main seat structure including a frame and a top thereon, said frame having an opening in one wall, of a slide mounted within said opening, an extension upon the slide and normally bearing upwardly against the top of the main seat structure, a guide, and means upon the extension for slidably engaging the guide.

2. The combination with a main seat structure including a frame having an opening in one wall thereof, and a top upon the frame, of a slide movably mounted within the opening, a cushion on the slide and movable therewith into the opening, a tie device connecting opposed portions of the frame to hold them against relative displacement,

said device constituting a guide, an extension upon the slide and normally bearing upward against the top of the structure, and means upon said extension for slidably engaging the guide.

3. The combination with a main seat structure including a frame and a top fixedly connected to the frame, said frame having an opening in one wall, of a slide mounted within said opening, a cushion carried thereby, an extension upon the slide and preferably housed within the main seat structure, said extension normally bearing upwardly against the top of said structure to hold the slide against sagging when extended through the opening, a tie rod connecting opposite walls of the frame, and means upon the extension for slidably engaging the rod, said rod constituting a guide.

972,394. TOTAL-ADDING WEIGHING-SCALE. WILLIAM B. MOON, Dayton, Ohio. Filed Oct. 21, 1909. Serial No. 523,927.



1. In a device of the character specified, the combination with the weight indicating mechanism, of a supplemental resetting mechanism normally inactive, means for coupling the supplemental re-setting mechanism to the weight indicating mechanism when desired, a counting device and mechanism for actuating same, and means for connecting the counter actuating means with the weight indicating mechanism for indicating the amounts weighed when using the supplemental resetting mechanism.

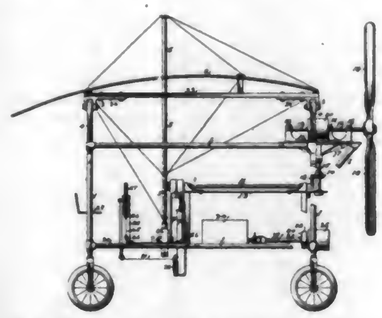
2. In a device of the character specified, the combination with the pointer actuating mechanism, of a supplemental shaft normally inactive, means for coupling said shaft to the pointer actuating mechanism to reset the pointer to zero, when desired, a counting device with mechanism for actuating same, means for connecting the counter actuating mechanism with the pointer actuating means, for indicating the return movement of the pointer.

3. In a device of the character specified, the combination with a shaft carrying a pointer, of a supplemental shaft normally inactive, with means for coupling the two shafts to reset the pointer shaft to zero, a counting device with mechanism for actuating same, and means for connecting the counter actuating means with the pointer shaft, to indicate the movement thereof.

4. In a device of the character specified, the combination with a shaft carrying a pointer, of a supplemental shaft normally inactive, with means for coupling the two shafts to reset the pointer to zero when desired, a counting device with a pinion for actuating same, and a gear secured on the pointer shaft normally out of engagement with the counter pinion, and means for bringing said gear and pinion into engagement with the coupling together of the pointer and supplemental shaft.

5. In a device of the character specified, the combination with a shaft carrying a pointer, of a supplemental shaft normally inactive, with means for coupling the two shafts to reset the pointer to zero when desired, a counting device with a pinion for actuating same, and a gear secured on the pointer shaft normally out of engagement with the counter pinion, a pitman intermediate the counting mechanism and the supplemental shaft, with a cam to engage the pitman and to force the counter pinion into engagement with the gear.

972,395. AUTOMATIC BALANCING MECHANISM IN FLYING-MACHINES. SYLVANUS S. MORRISON, Newport, Ky., assignor of nine-twentieths to Walter L. Buckman, Covington, Ky. Filed Apr. 6, 1910. Serial No. 553,839.



1. In a flying machine, an automatic balancing mechanism, the combination of a rocking supporting surface or plane; a suspended car or frame journally connected to said rocking supporting surface, whereby the rocking supporting surface is agitated by the wind, while the suspended car or frame always hangs in a vertical position; an operating mast carried by the rocking supporting surface, said operating mast having at its lower end a slotted fork, adapted to receive an anti-friction roller; an actuating lever, carrying the anti-friction roller; an oscillating arm, carrying the said actuating lever fast and loose upon a sleeve projecting from the hub of the oscillating arm; a disengaging clutch, slidably connected to the said oscillating arm, and adapted to engage slots on the under sides of the hubs of the actuating lever and oscillating arm; with means to withdraw said clutch from said slots, whereby the rocking supporting surface is disengaged from the automatic balancing mechanism, allowing a sharp and quick turn to the right or left with perfect safety, substantially as set forth.

2. In a flying machine, an automatic balancing mechanism, the combination of a rocking supporting surface or plane, a suspended car or frame, journally connected to said rocking supporting surface; an operating mast carried by the said rocking supporting surface; a slotted fork carried by the said operating mast; an actuating lever carried fast and loose, and a disengaging clutch carried slidably, by an oscillating arm; an anti-friction roller carried by the said actuating lever; an oscillating arm carried by a rocking shaft; said rocking shaft, is ball bearingly mounted upon a longitudinal bearing bar; said rocking shaft carries at its opposite end a bevel gear, partially cut away so that it will not come in contact with the said longitudinal bearing bar, when the said bevel gear is swung by the said rocking shaft; a bevel gear adapted to mesh with the bevel gear connected to the said rocking shaft, is carried by a vertical shaft, the upper end of said vertical shaft is secured to a propeller turn-table, the lower end of the vertical shaft is secured to the forward end of the said longitudinal bearing bar by a plain ball bearing; a propeller turn-table ball bearingly mounted upon a stationary supporting ring, said ring is substantially braced to the frame of the suspended car; said propeller turn-table carries a propeller, a propeller shaft, and a propeller shaft driving pulley, mounted upon three (3) journal bearings upon the upper surface of the said propeller turn-table, substantially as set forth.

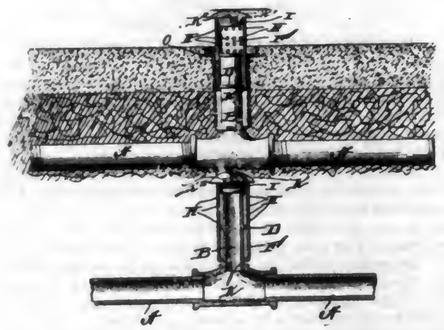
3. In a flying machine, an automatic balancing mechanism, the combination of a propeller, a propeller turn-table, a stationary supporting ring for the same; an oscillating arm carrying a disengaging clutch, and an actuating lever; said disengaging clutch having at its lower end an eyelet, adapted to receive a releasing cord; said releasing cord is carried downwardly to a tension pulley adapted to take up and give out the slack of the releasing cord; said slack is provided to accommodate the rocking movement of the said disengaging clutch, caused by the oscillating arm being reciprocated by the rocking shaft herein referred to, substantially as set forth.

4. In a flying machine, an automatic balancing mechanism, the combination of a horizontal shifting propeller; a propeller turn-table, and a supporting ring for the same; an oscillating arm, the lower end of said oscillating arm, is adapted to receive the two (2) ends of a steering cable; a suspended car carrying the said steering cable rearwardly to a steering wheel adapted to receive the same; a means to disengage the rocking supporting surface or plane from the automatic balancing mechanism, whereby the said propeller turn-table and shifting propeller is shifted to the right or left, independently of the rocking supporting surface or plane; the rocking supporting surface being set free from the automatic balancing mechanism, is raised on the right side by the current of air from the propeller, when the propeller is shifted to the left, and the rocking supporting surface is raised on the left side when the propeller is shifted to the right, this allows the flying machine to be banked against the outer circle of the turning point without using a vertical rudder, or apparatus, other than described.

5. In a flying machine, an automatic balancing mechanism, the combination of one (1) or more operating masts extending downwardly through the center of one (1) or more rocking supporting surfaces connected to a suspended car or frame, said rocking supporting surfaces being superposed, or otherwise; a propeller mounted on a swinging shaft, with means whereby the propeller is shifted to the right or left automatically, when the rocking supporting surfaces are depressed downwardly on the right or left side by the wind agitating the said rocking supporting surfaces, substantially as set forth.

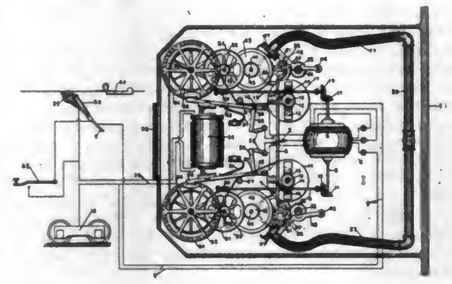
[Claim 6 not printed in the Gazette.]

972,396. SPRINKLING APPARATUS. GABRIEL WILSON MCCOOLE, Little Rock, Ark. Filed July 12, 1909. Serial No. 507,206.



In combination with a vertically disposed open ended pipe having its upper end outwardly flaring and provided with a circumferential beading, a perforated tubular shell telescoping over said pipe and having its lower end inwardly turned to coöperate with said beading to limit the upward throw of the shell, a threaded plug fitted in the upper end of the shell and having its lower end beveled and adapted to contact with the flaring end of said pipe to limit the downward movement of the shell and to close the exit end of the pipe.

972,397. AUTOMATIC STREET-CALLING DEVICE. RICHMOND M. MCGEE, Dallas, Tex. Filed May 18, 1909. Serial No. 496,816.



1. In a phonographic street annunciator for an electric car, the combination with a casing and a motor inclosed therein, of contact devices fixed at intervals upon the trolley wire, a contact maker attached to the trolley-pole, and insulated therfrom, adapted to contact with said fixed devices upon the trolley and thereby close the motor circuit, a phonographic record of the names of the cross streets upon the car-line rotated by the motor, a phonographic reproducer acting upon said record, tubing conducting the sound vibrations from said reproducer to an outlet at each seat of the car, a feed screw actuating said reproducer upon the record, a web carrying the names of the cross-streets upon the car-line, drums upon which the web is wound, rotated by the motor, pulleys upon which the web turns, a window to the casing through which a street name may be read upon the web, and means whereby the rotation of the motor each time its circuit is closed is limited to the number of revolutions necessary to bring a new name upon the web before the window, and to cause the reproducer needle to traverse the same name upon the record.

2. In a phonographic annunciator for electric cars, the combination with a reversible electric motor, of contact devices fixed at intervals upon the trolley-wire, a contact maker attached to the trolley-pole and insulated therefrom, and adapted to close the circuit of said motor, two phonographic records of the cross streets upon the car-line, rotated by said motor, the successive order of streets upon one record being the reverse of that upon the other, phonographic reproducers acting upon said records, feed screws propelling the reproducers across the records, and a reversing lever adapted to reverse the direction of rotation of the motor and at the same time throw one of the reproducers clear of its record and bring the other into contact with its record.

3. In a street annunciator for an electric car, the combination with a casing and a reversible electric motor therewithin, of contact devices fixed at intervals upon the trolley wire, a contact maker attached to the trolley-pole, and insulated therefrom, adapted to contact with said fixed devices upon the trolley, a belt or web carrying the names of the cross streets upon the car-line, in their successive order, drums loose upon their shafts, upon which the extremities of the web wind, rotated by said motor, friction clutches, fast upon the drum shafts adapted to impart rotation to said drums, mechanism whereby the drum from which the web is winding off is made inoperative from the motor, when the rotation of the latter is reversed, a window to the annunciator casing, and means whereby the operation of the motor, each time its circuit is closed is limited to the revolution necessary to bring a new name upon the web before the window.

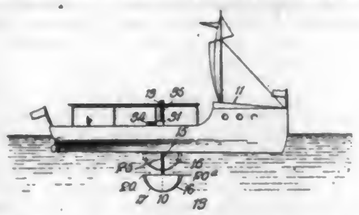
4. In a phonographic street annunciator for electric cars, the combination with a casing, and an electric motor therewithin, of contact devices fixed at intervals upon the trolley wire, a contact maker attached to the trolley-pole, and insulated therefrom, adapted to contact with said fixed devices, and thereby close the circuit of said motor, two phonographic records of the cross streets upon the car-line, rotated by said motor, the successive order of streets upon one record being the reverse of that upon the other, phonographic reproducers acting upon said records, feed screws rotated by the motor, feeding said reproducers upon their records, a belt or web carrying the names of the cross streets in their successive order, drums loose upon their shafts, upon which the extremities of the web are wound, rotated by said motor, friction clutches fast upon the drum shafts adapted to impart rotation to said drums, pulleys about which the web turns, means whereby the travel of the web each time the motor is set into operation is limited to the distance between any two names thereupon, a window in the casing through which a street name may be read upon the web, and means whereby the motor may be reversed, the drum upon which the web is unwinding be made inoperative from the motor, one reproducer lifted from its record and the other lowered, simultaneously.

5. In an automatic, phonographic street annunciator for an electric car, the combination with contacts fixed at intervals upon the trolley-wire, and a contact device attached to the upper extremity of the trolley-pole and insulated therefrom, adapted to make electrical connection with said contact devices in passing there-beneath, of an inclosed casing, a reversible electric motor therewithin, two phonographic records of the names of cross-streets upon the car-line, in their successive order, the succession upon one being the reverse of that on the other, and rotation being imparted to both from said motor, a phonographic reproducer adapted to act upon each of said records, a rod upon which each of said reproducers is slidably and pivotally mounted, feed screws propelling said reproducers across their records, operated by the motor, tubing conducting the air vibrations originating in said reproducers, a web carrying the names of the cross-streets upon the car-line in their successive order, drums loose on their spindles, upon which wind the extremities of said web, bow springs turning with the drum spindles and frictionally engaging the drums, communicating rotation thereto, mechanism actuating the drum spindles from the motor spindle, means whereby the drum from which the web is being unwound is made inoperative from the motor shaft, a window to said casing, pulleys whereby the web is conducted before said window, wheels fast upon the pulley shafts, provided each with a pocket, pivotally mounted, spring pressed dogs adapted to catch in said pockets, and adapted when withdrawn therefrom to close the motor circuit, a solenoid adapted to be electrified by the contact of said contact maker upon the trolley and said contact device upon the trolley-wire, and adapted by its magnetism to withdraw said dogs from the ratchet slot, a lever whereby the motor is reversed and operation of the records reversed, and an auxiliary switch adapted to manually close the solenoid and motor circuits.

[Claims 6 and 7 not printed in the Gazette.]

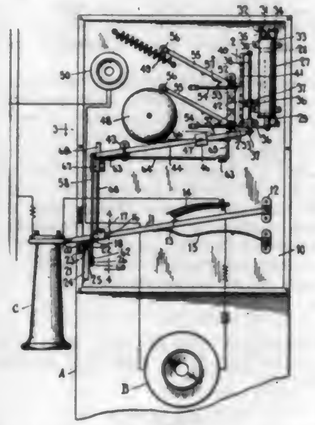
972,398. DEVICE FOR BALANCING BOATS. FRANCOIS NEILSON, New York, N. Y. Filed June 4, 1910. Serial No. 564,990.

In a device for balancing boats, the combination of a vertical casing arranged within the hull of a boat, and having an interior channel communicating with the passage through a tube extending through the body of the boat, a scale provided upon one surface of the wall of the vertical casing, a vertical slot also formed in the same wall of said vertical casing, a casing adapted to be loaded with the required weight to balance the boat, said casing having flattened sides and V-shaped ends, a lift-bar having teeth upon one of the vertical edges thereof and movably held within the vertical casing and said tube, a pointer held in the upper end of the lift-bar and disposed through the slot of the vertical casing and across said scale, a gear meshing with the teeth of said lift-bar, a larger gear meshing with the teeth of the first gear, a bracket held to the deck of the boat, a shaft pivoting the first gear to the bracket, a longer shaft pivoting the second gear to said bracket, a casing inclosing said gears



and the bracket, a ratchet held upon the longer shaft, a pawl held to the casing inclosing the gears and adapted to engage the teeth of the ratchet, and a hand-wheel held upon the longer shaft and adapted to rotate the larger gear for rotating the first gear by which the lift-bar and said casing may be raised or lowered to the required depth in the water.

972,399. ATTACHMENT FOR TELEPHONES. JOHN W. NILSSON, Balfour, N. D. Filed Nov. 16, 1909. Serial No. 528,314.



1. In a device of the kind described, a signaling mechanism, a receiver fork, means operatively connecting said mechanism and fork to set said mechanism for operation, said means operating to set said mechanism upon the depression of the fork, and elements arranged to prevent a second depression of the fork until the signaling mechanism has completed its operation.

2. In a device of the kind described, a signaling mechanism, a receiver fork, means operatively connecting said mechanism and fork to set said mechanism for operation, said means operating to set said mechanism upon the depression of the fork, elements arranged to prevent a second depression of the fork until the signaling mechanism has completed its operation, and other elements arranged to hold the signaling mechanism from operation until the receiver fork completes its upward movement.

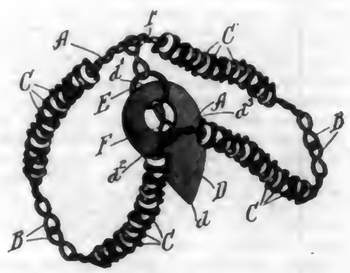
3. In a device of the kind described, a signaling mechanism, a receiver fork, an operating lever for said signaling mechanism, a clip on said receiver fork having an opening therethrough, a rod connected to said lever and slidable through the opening in the clip, a nut on said rod below the opening in the clip, said lever, clip and rod forming means to set the signaling mechanism upon the depression of the fork, and elements arranged to prevent a second depression of the fork until the signaling mechanism has completed its operation.

4. In a device of the kind described, a signaling mechanism, a receiver fork, an operating lever for said signaling mechanism, a clip on said receiver fork having an opening therethrough, a rod connected to said lever and slidable through the opening in the clip, a nut on said rod below the opening in the clip, said lever, clip and rod forming means to set the signaling mechanism upon the depression of the fork, elements arranged to prevent a second depression of the fork until the signaling mechanism has completed its operation, and other elements arranged to hold the signaling mechanism from operation until the receiver fork completes its upward movement.

5. In a device of the kind described, a signaling mechanism, a receiver fork, an operating lever for said signaling mechanism, a clip on said receiver fork having an opening therethrough, a rod connected to said lever and slidable through the opening in the clip, a nut on said rod below the opening in the clip, said lever, clip and rod forming means to set the signaling mechanism upon the depression of the fork, a ratchet carried by said clip, a pawl mounted adjacent the ratchet and engageable therewith, a swinging arm pivoted adjacent the pawl and provided with an opening through which said rod passes, said arm being arranged to engage beneath the pawl and raise the same as the arm is raised and to free said pawl as the arm is depressed, spaced stops on said rod on opposite sides of the opening through the arm, the upper of said stops being arranged to depress the arm as the fork reaches the lower end of its movement, and the lower of said stops being arranged to raise the arm as the lever reaches the completion of its signaling movement.

[Claims 6 to 8 not printed in the Gazette.]

972,400. DISH-CLEANER. ALWYN H. PARTRIDGE, Denver, Colo. Filed Dec. 9, 1907. Serial No. 405,718.



1. A dish cleaner comprising a flexible holder and a plurality of transversely bent scrubbing disks strung thereon.

2. A dish cleaner comprising a flexible holder and a plurality of transversely bent scrubbing disks strung thereon with their concave sides adjacent and their convex sides adjacent.

3. A dish cleaner comprising an endless flexible holder formed of a plurality of chain sections, a group of thin metal disks strung on each section, and links connecting said sections and spacing apart said groups of disks.

4. A dish cleaner comprising a flexible holder formed of a plurality of chain sections, a group of transversely bent thin metal disks strung on each section with their concave sides adjacent and their convex sides adjacent, and links connecting said sections and spacing apart said groups of disks.

5. In a dish cleaner of the character specified, the combination with an endless flexible holder and a plurality of scrubbing disks strung thereon, of a scraper blade attached to and between opposite sides of said endless holder.

972,401. CRUDE-OIL BURNER. WILLIAM D. PATTON, Dallas, Tex. Filed Nov. 11, 1909. Serial No. 527,360.

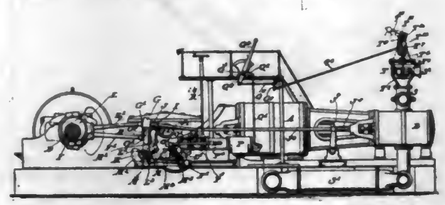


1. A crude oil burner consisting of an outer funnel shaped vessel, an inner funnel shaped vessel centrally supported within the first named vessel, an air space being provided between the two, a drip plate having an inverted dish shape centrally supported within the inner vessel at some distance from the walls thereof, an oil feed pipe adapted to discharge centrally upon said drip plate, and a pan positioned in the base of the burner.

2. A crude oil burner, consisting of a funnel shaped vessel having draft inlets in its base, a second funnel shaped vessel centrally supported within the upper portion of the first named vessel, a drip plate having an inverted dish shape centrally positioned in the upper portion of the inner vessel at a distance from its walls, an oil feed pipe adapted to discharge centrally upon the drip plate, a drip pan positioned in the base of the burner, and a pivoted lid adapted to cover the top of the inner funnel shaped vessel.

3. A crude oil burner consisting of a funnel shaped vessel having draft apertures in its base, a second funnel shaped vessel centrally supported within said vessel, vanes projecting rigidly from the walls of the inner vessel and resting upon the walls of the outer vessel, a drip pan positioned in the base of the burner, means by which the oil may be distributed evenly upon the walls of the inner vessel, and an oil feed pipe communicating with the last named means.

972,402. REVERSING MECHANISM FOR STEAM-ENGINES. GUSTAV BERNHARD PETSCHE, Philadelphia, Pa., assignor to The Southwark Foundry & Machine Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Oct. 20, 1905. Serial No. 283,580.



1. In a reversing engine, a lever connected to shift the valve actuating mechanism and reverse the engine, in combination with a throttle valve for regulating the admission of steam to the engine, means connecting the reversing lever aforesaid with said throttle valve whereby said valve is closed in the intermediate position of the lever and gradually opened as the lever moves in either direction from said intermediate position, and an automatic detent acting to engage the valve actuating connection and hold the valve in closed position.

2. In a reversing engine, a throttle valve in combination with a toggle joint mechanism for opening and closing said valve, said mechanism being arranged to close the valve when its jointed links are in alinement and to open it when the said jointed links are moved out of alinement in either direction, means for shifting the en-

gine valves to reverse the motion of the engine, a reversing lever for actuating said means, and connections from said lever to the toggle joint actuating device of the throttle valve whereby its jointed links are moved to parallel position and the valve closed when the lever is in intermediate position and whereby the shifting of the lever in either direction acts to move the jointed links from said parallel position and open the valve.

3. In a reversing engine, a throttle valve in combination with a toggle joint mechanism for opening and closing said valve, said mechanism being arranged to close the valve when its jointed links are in alinement and to open it when the said jointed links are moved out of alinement in either direction, a notched segment moving with one of the jointed links, a detent supported on said segment and arranged to engage the notch therein when the valve is closed, means for shifting the engine valves to reverse the motion of the engine, a reversing lever for actuating said means, and connections from said lever to the toggle joint actuating device of the throttle valve whereby its jointed links are moved to parallel position and the valve closed when the lever is in intermediate position and whereby the shifting of the lever in either direction acts to move the jointed links from said parallel position and open the valve.

972,403. PROCESS FOR OBTAINING TEXTILE FIBERS. JOSEF EDUARD FRIEL, Vienna, Austria-Hungary. Filed Jan. 11, 1909. Serial No. 471,791.

1. A method of obtaining textile fibers from vegetable material, consisting in first boiling the material with alkalies, then separating the bast from the woody parts, then heating the bast under pressure with alkalies then washing with water, and then treating the product with bisulfites.

2. A method of obtaining textile fibers from vegetable material, consisting in first boiling the material with alkalies, then separating the bast from the woody parts, then heating the bast under pressure with alkalies repeatedly with alternate washing with water and then treating the product with bisulfites.

972,404. WEEDER. LINNAEUS C. POND, Los Angeles, Cal. Filed May 17, 1909. Serial No. 496,646.



1. A weeder comprising a handle member, weed pulling prongs at one end of the handle member having rounded inner faces and forked end portions, the prongs being bowed apart back of their forked portions.

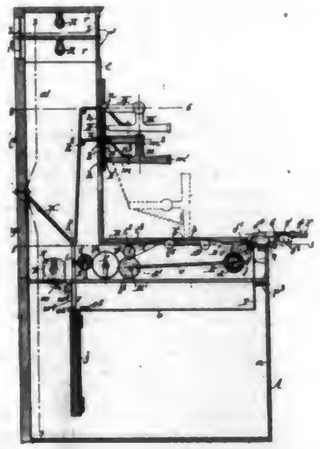
2. A weeder comprising a handle, a pair of weed pulling prongs at the forward end of said handle, and a member secured to the handle at each end of the handle and having a rounded portion at the end nearest the prongs to serve as a fulcrum, said member also serving as a guard for the handle.

3. A weeder comprising a handle, a pair of prongs extending from one end of the handle, and a member extending laterally from said end of the handle and bent to form a fulcrum and extending rearwardly beyond the handle to form a cutting blade.

4. A weeder comprising a handle, a pair of prongs extending from one end of the handle, and a member extending laterally from said end of the handle and bent to form a fulcrum and extending rearwardly beyond the handle to form a cutting blade, the cutting blade portion being concaved toward the handle.

5. A weeder comprising a handle, a pair of prongs extending from one end thereof, said prongs having their ends beveled on the inner side forming flat faces converging upwardly and being bowed apart between said beveled portions and the handle, and fulcrum means for said handle.

972,405. RECORDING-MACHINE. EVA M. RAUHENSTEIN, Buffalo, N. Y. Filed Jan. 26, 1910. Serial No. 540,240.



1. A recording machine comprising a stamp movable into an operative and an inoperative position, means for supporting said stamp in its inoperative position, and means for yieldingly holding the stamp in its inoperative position comprising a cord connected at one end with said stamp and at its other end with a stationary part, and a weight suspended from said cord between the ends thereof.

2. A recording machine comprising a stamp movable into an operative and an inoperative position, means for supporting said stamp in its inoperative position, and means for yieldingly holding the stamp in its inoperative position comprising a cord connected at one end with said stamp and at its other end with a stationary part, a weight suspended from said cord between the ends thereof and an upright guide for said weight.

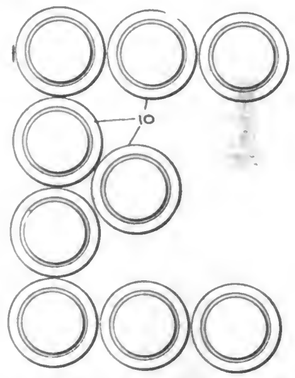
3. A recording machine comprising a support having an opening, a weighted cord passing through said opening, a guide member through which said cord passes and which is adapted to engage with said support adjacent to said opening, a lever pivoted on said guide member and connected with said cord, and a stamp arranged on said lever.

4. A recording machine comprising a support having an opening, a weighted cord passing through said opening, a guide member through which said cord passes and which is adapted to engage with said support adjacent to said opening, a lever pivoted on said guide member and connected with said cord, a stamp arranged on said lever, and an ink pad which is arranged on said support and which is adapted to be engaged by said stamp in the retracted position of the same.

5. A recording machine comprising a support having a cord opening and inclined guide surfaces adjacent to said opening, a weighted cord arranged in said opening, a guide member adapted to engage at its front end with said guide surfaces and adapted to receive said cord, a hand lever pivoted on said guide member and connected with said cord, a stamp arranged on said lever, and an ink pad arranged on said support adjacent to said cord opening and adapted to be engaged by said stamp.

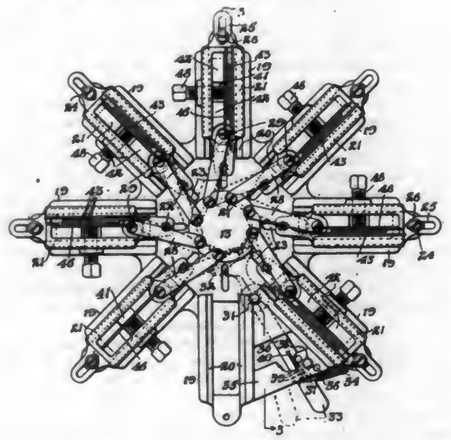
[Claims 6 to 14 not printed in the Gazette.]

972,406. SECTIONAL LETTER AND DESIGN. JOHN P. REILY and JOHN B. NOYES, St. Louis, Mo. Filed Mar. 10, 1908. Serial No. 420,172.



The herein described device comprising a solid glass plate, a series of retainers secured to and projecting from one side of the plate, retaining circumscribing flanges forming a part of said retainers, outwardly extending annular flanges also forming a part of each of said retainers for securing the latter to the glass plate, and transparent sections located within the retainers so secured, whereby the design so constructed is legible and attractive on either side of the plate, said retainers, together with the transparent sections located therein, being properly arranged in respect to one another to form a suitable letter or other character without obstructing the light through the plate to which they are secured.

972,407. MACHINE FOR MAKING HAT-FRAMES. HARRY SILBERT and SIDNEY WACHTEL, Boston, Mass. Filed Apr. 14, 1910. Serial No. 555,478.



1. A machine for making hat frames, comprising an adjustable form for the wires of the frame, said form consisting of a circular series of groups of independently adjustable wire supporting-arms, and means for moving said groups horizontally toward and from the center of the series, said means including a lever extending beyond the circle presented by said series of groups of arms.

2. A machine for making hat frames, comprising an adjustable form for the wires of the frame, said form consisting of a circular series of clamps, wire supporting-arms adapted to be adjustably secured in said clamps, means for horizontally moving the clamps to collapse the series, and means for automatically returning the clamps to normal position.

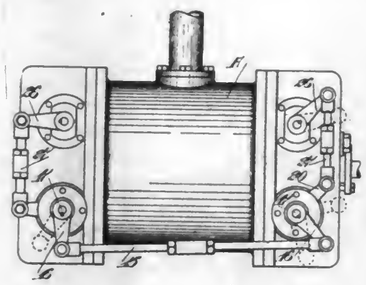
3. A machine for making hat frames, comprising an adjustable form for the wires of the frame, said form consisting of a circular series of clamps, wire supporting-arms adapted to be adjustably secured in said clamps, and means for horizontally moving the clamps to collapse the series, means being provided for adjustably limiting the outer positions of the clamps to either one of a plurality of locations for changing the size of the hat frame to be made.

4. A machine for making hat frames, comprising a table having a series of radially mounted clamp boxes, a crank-disk, links connecting said disk with the boxes, wire supporting-arms adjustably secured in said clamp boxes, and means for varying the relative rotative positions of the table and crank disk, said means including a lever extending between the arms of two of said boxes.

5. A machine for making hat frames, comprising a table having a series of radially mounted clamp boxes, a crank-disk, links connecting said disk with the boxes, wire supporting-arms adjustably secured in said clamp boxes, and means for varying the relative rotative positions of the table and crank disk, said means comprising a lever pivotally connected to the table and having teeth at its inner end, and a toothed rack connected to move with said disk.

[Claims 6 to 12 not printed in the Gazette.]

972,408. VALVE MECHANISM FOR AIR-COMPRESSORS. THEODORE H. SMITH, San Francisco, Cal. Filed Jan. 12, 1910. Serial No. 537,604.



1. In an air-compressor, the combination of a compressor cylinder, an inlet valve and a discharge valve, a discharge pipe connected with said discharge valve, mechanism operable by the differential pressures in the discharge pipe and cylinder for operating the discharge valve, and a clutch mechanism engageable and disengageable with the stem of the inlet valve and operably connected with the discharge valve for operating the inlet valve in one direction.

2. In an air-compressor, the combination of a compressor cylinder, a piston therein, an inlet valve and a discharge valve in each end of the cylinder, a discharge pipe connected with both discharge valves, connections between the inlet valves for opening and closing them in unison, friction clutch connections between each discharge valve and its inlet valve whereby one discharge valve may open one inlet valve and close the other inlet valve independently of the other discharge valve, and means by which the discharge valves are operated independently through the differential pressures in the cylinder and discharge pipe.

3. In an air-compressor, the combination of a compressor cylinder, a piston therein, an inlet valve and a discharge valve in each end of the cylinder, a discharge pipe connected with both discharge valves, connections between the inlet valves for opening and closing them in unison, connections between each discharge valve and its

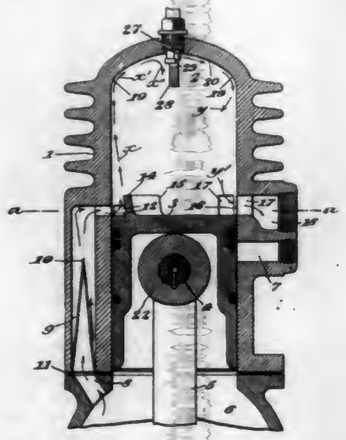
inlet valve whereby one discharge valve may open one inlet valve and close the other inlet valve independently of the other discharge valve, and means by which the discharge valves are operated independently through the differential pressures in the cylinder and discharge pipe, said connections between a discharge valve and its inlet valve including a clutch mechanism engageable and disengageable with the stem of the inlet valve.

4. In an air-compressor, the combination of a compressor cylinder, an inlet valve, a discharge valve, a discharge pipe connected with the discharge valve, means for operating the discharge valve through the difference in pressures in the discharge pipe and cylinder, an intermittently acting clutch connection between the two valves for operating the inlet valve in one direction by the discharge valve, and independent means for operating the inlet valve in the opposite direction.

5. In an air-compressor, the combination of an inlet valve and a discharge valve, said valves having stems, an arm rigid on one of the stems and a clutch-lever fulcrumed on the other stem, clutch mechanism coöperating with said lever to cause the two valves to turn in unison when the discharge valve moves in one direction, and independent means for operating the inlet valve in the opposite direction.

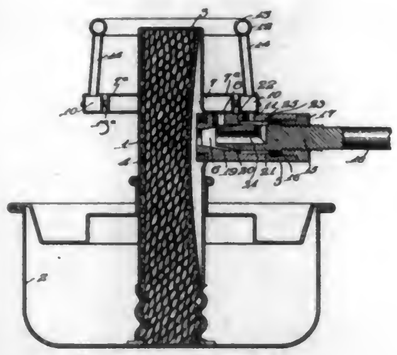
[Claims 6 to 9 not printed in the Gazette.]

972,409. INTERNAL-COMBUSTION ENGINE. GEORGE F SWAIN, Chicago, Ill. Filed Nov. 28, 1905. Serial No. 289,396.



An internal combustion engine comprising a cylinder having a head provided with a concave inner surface, said cylinder having an admission and an exhaust port at diametrically opposite points and at a distance from the cylinder head, a piston movable in the cylinder and controlling said admission and exhaust ports, and a deflector extending across the face of the piston opposite said admission port, the base of said deflector being set in from the periphery of the piston at the portions opposite said port, said deflector being curved along its length concentric with the cylinder wall and having its ends curved backward to the circumferential edge of the piston in a direction opposite to the curvature of its middle portion and said deflector being inclined toward the wall above said admission port in such manner that the edge of a vertical section of said deflector adjacent said admission port constitutes a straight line which if extended would intersect the cylinder wall at approximately the junction of the concave surface of said cylinder head with the side wall of the cylinder.

972,410. BURNER FOR ALCOHOL-LAMPS. ALFRED H. S. SWAN, Rochester, N. Y., assignor to Rochester Stamping Company, Rochester, N. Y., a Corporation of New York. Filed Apr. 26, 1910. Serial No. 557,632.



1. In a vapor lamp, the combination with a generating chamber, a supplemental burner having flame orifices in proximity to said chamber, and a main burner, of a valve casing having passages affording communication between the generating chamber and said burners and a valve head adjustable therein to vary the inlet of gas in the passage leading to the supplemental burner and having a channel therein leading to the passage of the main burner.

2. In a vapor lamp, the combination with a generating chamber, a main burner and a supplemental burner adapted to heat said chamber, of a valve casing having a central perforation communicating with the chamber and separate passages leading from said perforation to each burner, and a valve head having a channel forming a continuously open communication between the chamber and main burner passage, said head adjustably coöperating with the supplemental burner passage to vary the volume of gas passing therethrough.

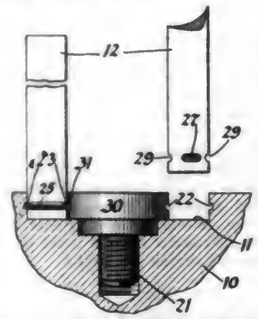
3. In a vapor lamp, the combination with a wick tube, a chamber surrounding the latter having orifices arranged in proximity to said tube, a second chamber surrounding the first chamber, a main burner and feed tubes leading from said second chamber to said burner, of a valve casing connected to the tube having an aperture communicating with the interior of said tube and provided with passages connecting the aperture with each chamber, and an adjustable valve head in the casing provided with a channel, said head adjustably controlling the inlet of gas to the first chamber and maintaining in its different positions of adjustment a free exit for gas from the wick tube to the second chamber.

4. A valve for vapor burners comprising a hollow casing having a valve seat at its inner end and provided with two outlet passages one located in the seat and the other in rear of said seat, a valve head adjustable longitudinally in the casing and coöperating with the seat to close one of the passages, said head being provided with a longitudinal perforation opening into the casing at its forward end within the seat and at its rear end communicating with the other passage.

5. A valve for vapor burners comprising a hollow casing having two passages leading outwardly from its interior and an adjustable valve head in the casing cooperating with one passage to open and close it, said head being provided with an aperture coöperating with the other passage to provide a free exit from the casing therethrough in all positions of adjustment of said head.

[Claim 6 not printed in the Gazette.]

972,411. BLADE-HOLDING MEANS. CHARLES E. SWEET, Wilkinsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Apr. 24, 1908. Serial No. 429,077.



1. In combination in a turbine, a blade-holding element provided with a blade-mounting slot, blades mounted in said slot, spacing pieces located in the slot between the blades and transversely extending means independent of the blades and spacing pieces for locking each of said blades to an adjacent spacing piece.

2. In combination in a turbine, a blade-holding element provided with a blade-mounting slot, blades mounted in said slot, spacing pieces located within said slot between the ends of adjacent blades, and transversely extending means independent of the blades and spacing pieces for securing said pieces into said slots and said blades to said pieces.

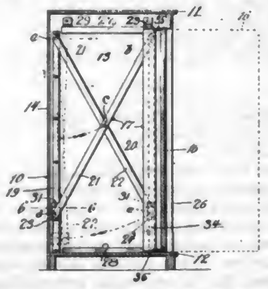
3. In combination in a turbine, a blade-holding element provided with a blade-mounting slot, a plurality of blades, the base portions of which project into said slot, spacing pieces located in said slot between said blades and means, comprising a slot formed on each of said blades, and a pin mounted on each of said pieces for positively locking each of said blades to an adjacent piece.

4. In combination in a turbine, a blade-holding element, a slot provided in said element, blades, the bases of which are located in said slot, spacing pieces located in said slot between adjacent blades, and transversely extending means independent of the blades and spacing pieces, carried by said spacing pieces, for locking adjacent blades and spacing pieces togther.

5. In combination in a turbine, a blade-holding element provided with an undercut blade-mounting slot, a plurality of radially-extending blades, the bases of which are mounted in said slot, substantially dovetailed spacing pieces secured in said slot between the bases of adjacent blades, and transversely extending means for locking each of said blades to one of the adjacent spacing pieces.

[Claim 6 not printed in the Gazette.]

972,412. DISAPPEARING DOOR. MAURICE TAUSSIG, Chicago, Ill. Filed Aug. 4, 1909. Serial No. 511,110.



1. In disappearing doors of the class described, the combination with a support, of a laterally collapsible door carrying frame having an upright door carrying bar of substantially the same height as the door to be carried thereby and a door hinged to said door carrying bar on broadly spaced hinges.

2. In disappearing doors of the class described, the combination with a support, of an upright door carrying bar of substantially the same height as the door to be carried thereby, a guide therefor, two bars crossing each other and pivotally connected together at the crossing point, one end of the bars being pivotally connected to the door carrying bar and support, respectively, and the other ends of the bars being slidably connected to the support and door carrying bar, respectively, and a door hinged on the door carrying bar on broadly spaced hinges.

3. In disappearing doors of the class described, the combination with a support, of an upright door carrying bar of substantially the same height as the door to be carried thereby, a guide therefor, two bars pivotally connected with each midway between their ends, pivotal connections between the ends of the bars and the support and door carrying bar, respectively, the lower pivot connections being slidable upon the support and door carrying bar, respectively, and an upright swinging door hinged to the door carrying bar on broadly spaced hinges.

4. In a disappearing door of the class described, the combination with a stationary vertical guide bar, of a collapsible frame secured thereto and comprising a door carrying bar of substantially the same height as the door carried thereby arranged parallel with the guide bar, and guided in its movement to and from the guide bar, a pair of bars which are pivotally connected together midway between their ends, pivotal connections between the ends of said pair of bars and the guide bar and door carrying bar, respectively, the lower pivots having sliding connections with the guide bar and door carrying bar respectively, and an upright swinging door hinged to said door carrying bar on broadly spaced hinges.

5. In a disappearing door of the class described, the combination with a support, of a vertical guide bar secured thereto, a collapsible frame carried by the support and guide bar, and comprising a vertical door carrying bar of substantially the same height as the door carried thereby, a pair of bars pivoted to each other midway between their ends, a pivotal connection between one of said bars and the support, a pivotal connection between the other bar and the door carrying bar, arranged in horizontal alinement with the first named pivot, pivots upon the other ends of the bars slidably connected with the guide bar and door carrying bar respectively, a guide in which said collapsible frame slides, and an upright swinging door hinged to the door carrying bar on broadly spaced hinges.

[Claims 6 and 7 not printed in the Gazette.]

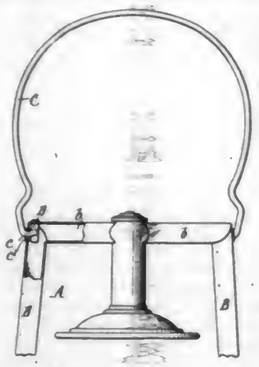
972,413. LANTERN. FRANK N. THIEL, Syracuse, N. Y., assignor to R. E. Dietz Company, New York, N. Y Filed Apr. 18, 1910. Serial No. 556,144.

1. The combination with a lantern frame and a bail pivoted thereto, of a bail holder which is rigidly secured to said frame and which comprises flexible arms which straddle a portion of the bail extending beyond the pivot thereof and operating to deflect one of said arms upon moving the bail out of its position of rest, such deflected arm yielding to the movement of the bail from one position of rest to another upon applying sufficient force, substantially as set forth.

2. The combination with a lantern frame and a bail pivoted thereto and provided with a portion offset from the pivot thereof, of a bail holder which is rigidly secured to said frame and which comprises flexible members between which said offset portion engages, whereby said bail is yieldingly held in its raised position but permitted to be turned out of such position, by which movement one of said members is deflected or strained, substantially as set forth.

3. The combination with a lantern tube and a bail, of a bail holder which is secured to the tube and yieldingly

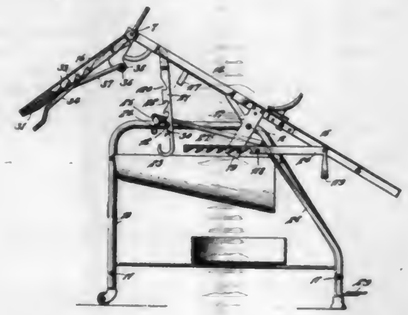
engages a part on the ball within the tube for holding the ball in its upright position, substantially as set forth.



4. The combination with a lantern tube and a ball having an end which projects into the tube, of a ball holder which is secured to said tube and yieldingly engages the projecting end of said ball within said tube for holding the ball in its upright position, substantially as set forth.

5. The combination with a lantern tube and a ball having an end which projects into the tube, of a ball holder which is secured to said tube and has spaced arms which extend within said tube and yieldingly engage the opposite sides of the projecting end of the ball for holding the ball in both its upright and lowered positions, substantially as set forth.

972,414. OPERATING-TABLE FOR THE USE OF PHYSICIANS AND SURGEONS. BERNARD D. THORNER, New York, N. Y., assignor to The Hospital Supply Company, New York, N. Y., a Firm. Filed Nov. 8, 1909. Serial No. 526,726.

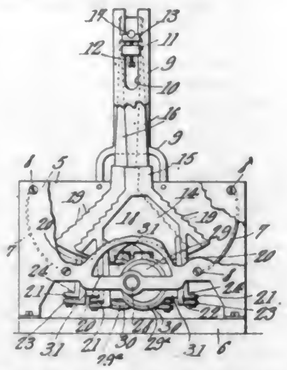


1. An operating table comprising supporting frames, a sectional hinged table to be inclined as occasion may require, a rack-bar (21) pivoted to the main table-section and a rod (12) to be engaged by said rack-bar for supporting the table in its inclined position, combined with a hinged guard to be turned against said rack-bar for holding the same free of said rod during the lowering of the table, and a foot-treadle and means connecting the same with said guard for operating the latter from said treadle; substantially as set forth.

2. An operating table comprising supporting frames, a sectional hinged table to be inclined as occasion may require, a rack-bar (21) pivoted to the main table-section and a rod (12) to be engaged by said rack-bar for supporting the table in its inclined position, the recesses in said rack-bar being deep to encompass the upper side of said rod and resist any lateral pressure against the bar tending to displace the same from said rod, combined with a curved guard hinged on said rod to be turned upwardly against the teeth of said rack-bar after the release of the latter from said rod for holding the bar free of said rod during the lowering of the table, and a foot-treadle and means connecting the same with said guard for operating the latter from said treadle, said guard having a weighted free end to turn it from said bar when pressure on the treadle is released; substantially as set forth.

3. An operating table comprising supporting frames, a sectional hinged table, a rack-bar 21 pivoted to the main table-section and a rod 12 to be engaged by said rack-bar for supporting the table in its inclined position, combined with a hinged guard to be turned against said rack-bar for holding the same free of said rod during the lowering of said table, and means for manually moving said guard against said bar, said guard having a weighted free end to turn it from said bar when said guard is released by the operator; substantially as set forth.

972,415. HIDE-TREATING MACHINE. SCOTT TORRENS, Gloversville, N. Y., assignor to Alburtus Travis and Marion Oczko, Johnstown, N. Y. Filed Oct. 23, 1909. Serial No. 524,275.



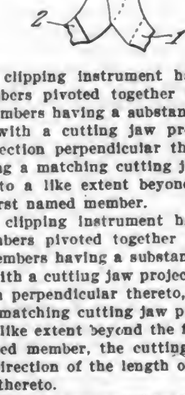
1. In a device of the class described, a container having an open bottom, a shaft supported for vertical adjustment above the container, beaters suspended from the shaft for oscillatory movement and having their bodies working within the container, each of said beaters embodying spaced legs, a shaft journaled in the container, and eccentrics carried by the shaft and working between the legs of the beaters.

2. In a device of the class described, a container having an open bottom, a shaft mounted to rock above the container, beaters suspended from the shaft for oscillatory movement and having their bodies working in the container, each of said beaters embodying spaced legs having oppositely inclined faces, a shaft mounted in the container, eccentrics carried by the shaft, eccentric straps upon the eccentric and provided with shoes, and gibs adjustably disposed against the opposed faces of the legs of the beaters upon which the shoes of the eccentric straps travel.

972,416. CASING AND TUBING HOOK. PATRICK J. TOWNSELL, Parkersburg, W. Va. Filed Apr. 30, 1910. Serial No. 558,714.

1. In combination with a hoisting hook having a stem formed with a socket, a locking member removably mounted on the stem and adapted to close the hook, and means mounted on said locking member and engaging the socket aforesaid to hold the member in a locked position.

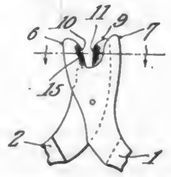
2. In combination with a hoisting hook having a stem, a peripheral shoulder on said stem and having a socket therein, a locking member engaging said shoulder and revolubly mounted on said stem, and means mounted on said locking member and engaging the socket aforesaid to hold the member in a locked position.



3. In combination with a hoisting hook having a stem, a peripheral shoulder on said stem and having a socket therein, a locking member engaging said shoulder and revolubly mounted on the stem, and a spring actuated locking bolt mounted in said member and engaging the socket in the shoulder to hold the member from revolution.

4. In combination with a double-billed hoisting hook having a stem, a peripheral shoulder on said stem and having a socket therein, a locking member mounted on said stem and consisting of two mating pieces having semi-circular offsets in their middles with mating grooves to engage the shoulder on the stem, one arm of the locking member formed with a longitudinal bore and a slot communicating with said bore, a spring actuated locking bolt mounted in said bore and adapted to engage the socket in the shoulder to hold the locking member in a locking position, and a stem projecting from said bolt and extending through the slot in the locking member.

972,417. FRUIT AND FLOWER CLIPPER. JONATHAN B. TUTTLE, Claremont, Cal. Filed Sept. 27, 1909. Serial No. 519,823.



1. A fruit clipping instrument having two relatively movable members pivoted together in coactive relation, one of the members having a substantially plane fruit engaging face with a cutting jaw projecting beyond said face in a direction perpendicular thereto, and the other member having a matching cutting jaw projecting in like manner and to a like extent beyond the fruit engaging face of the first named member.

2. A fruit clipping instrument having two relatively movable members pivoted together in coactive relation, one of the members having a substantially plane fruit engaging face with a cutting jaw projecting beyond said face in a direction perpendicular thereto, and the other member having a matching cutting jaw projecting in like manner and to a like extent beyond the fruit engaging face of the first named member, the cutting jaws being rounded in both the direction of the length of the instrument and transversely thereto.

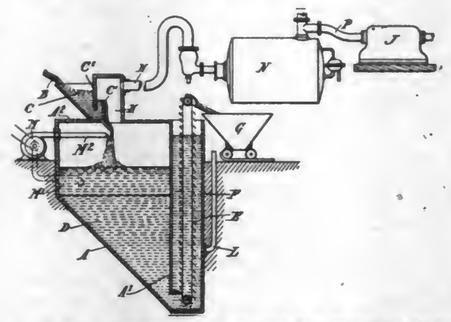
3. A fruit clipping instrument having relatively movable members pivoted together in coactive relation, one of the members having separated terminal portions and a substantially plane fruit engaging face and one of said portions having formed thereon at the edge toward the other portion a cutting jaw projecting beyond the fruit engaging face and perpendicular thereto, and the other member having a matching cutting jaw projecting in like manner and to a like extent beyond the fruit engaging face of the first named member through the space between the two portions thereof.

4. A fruit clipper provided with a substantially plane fruit-engaging face and having relatively movable coacting cutting members projecting beyond the fruit-engaging face of the clipper at a point intermediate of the width and length thereof and in a direction substantially perpendicular to said face.

5. A fruit clipper provided with a substantially plane fruit-engaging face and having meeting cutters movable actively into abutting relation and projecting beyond the plane of the fruit-engaging face in a direction substantially perpendicular thereto, the cutters being together of less extent than the fruit-engaging face.

[Claims 6 to 9 not printed in the Gazette.]

972,418. UTILIZATION OF HEAT CONTAINED IN SLAGS. CLAUDE VAUTIN, London, England. Filed June 26, 1909. Serial No. 504,601.



1. In an apparatus for generating and supplying steam produced by the heat contained in slag, the combination of a substantially closed steam generator containing water, a trapped inlet for slag thereto, means for removing the slag continuously from the generator and a steam conduit leading from the generator.

2. In an apparatus for supplying to a low pressure turbine steam generated by the heat contained in slag, the combination of a substantially closed steam generator containing water, a trapped inlet for slag thereto, means for removing the slag continuously from the generator and a steam conduit leading from the generator.

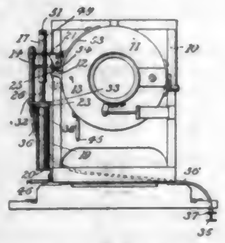
3. In an apparatus for generating and supplying steam produced by the heat contained in slag, the combination of a substantially closed steam generator containing water, an inlet having a liquid seal for admitting slag thereto, and means for continuously lifting and removing the slag from the generator.

4. In an apparatus for generating and supplying steam produced by the heat contained in slag, the combination of a substantially closed steam generator containing water, having a slag inlet comprising a reservoir with an inner wall over which the slag flows into the generator, and a partition under which the slag must pass so as to prevent the admission of air and to allow for any super-atmospheric pressure in the generator, and means for removing the slag continuously from the generator.

5. In an apparatus for generating and supplying steam produced by the heat contained in slag, the combination of a substantially closed steam generator containing water, a trapped inlet for slag thereto, a continuous slag elevator extending upward from the bottom of the generator, a casing inclosing the elevator and extending below the surface of the water.

[Claims 6 to 9 not printed in the Gazette.]

972,419. FLASH-LIGHT ATTACHMENT FOR PHOTOGRAPHIC CAMERAS. WILLIAM H. WALLACE, New York, N. Y., assignor to Multi Speed Shutter Company, New York, N. Y., a Corporation of New York. Filed Dec. 4, 1909. Serial No. 531,313.



1. A photographic camera provided with a manually operable spring-influenced slide, a latch carried thereby, a plunger adapted to be engaged by the latch, and means controlled by said plunger for successively closing a flash light igniting circuit and opening the shutter.

2. A photographic camera provided with a movable member, means controlled by said member for successively closing a flash light igniting circuit and opening the shutter, and means for adjusting the speed of said member.

3. A photographic camera provided with a spring-influenced plunger, a brake controlling the speed thereof, means for setting the brake, and means controlled by said plunger for successively closing a flash light igniting circuit and opening the shutter.

4. A photographic camera provided with a spring-influenced plunger having a head, a cylinder engaged by the head, a liquid charge within the cylinder, a regulable liquid duct connecting the cylinder-compartments at opposite sides of the head, and means controlled by the plunger for successively closing a flash light igniting circuit and opening the shutter.

5. A photographic camera provided with a movable member, a shutter releasing lever, means controlled by said member for successively closing a flash light igniting circuit and operating the lever, and means for controlling the play of said lever.

[Claim 6 not printed in the Gazette.]

972,420. PROTECTIVE STRIP FOR PIANO TUNING-PINS, STRINGS, &c. HENRY J. WEILER, Indianapolis, Ind. Filed Jan. 23, 1909. Serial No. 473,901.



1. A protective strip for tuning-pins and strings, of pianos, consisting of a strip of fluffy pliable material, said strip having a plurality of depressions arranged to register with said tuning-pins, the diameters of said depressions being less than the diameters of the tuning-pins, to permit said strip to snugly fit all of the exposed portions of the tuning-pins.

2. A protective strip for tuning-pins and strings, of pianos, consisting of a strip of fluffy pliable material, said strip having a plurality of depressions arranged to register with said tuning-pins, the diameters of said depressions being less than the diameters of the tuning-pins, to permit said strip to snugly fit all of the exposed portions of the tuning-pins, and a cover on the outside of said strip opposite that side of the strip containing the depressions.

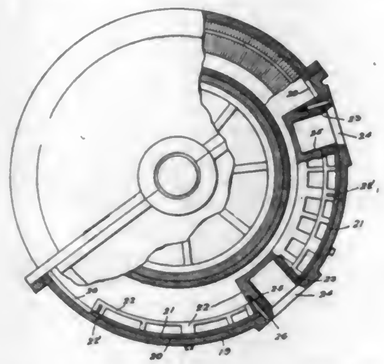
3. A protective strip for tuning-pins and strings, of pianos, consisting of a strip of fluffy pliable material, of different degrees of density in cross section, and provided with depressions on the side of less density adapted to receive the projecting ends of the tuning-pins.

4. A protective strip for tuning-pins and strings, of pianos, consisting of a strip of fluffy flexible material, of different degrees of density in cross section, and provided with depressions on the side of less density adapted to receive the projecting ends of the tuning-pins, and a cover on the outside of said strip opposite that side of the strip having the depressions.

5. A protective strip for tuning-pins and strings, of pianos, a plurality of layers of fluffy material of different degrees of density compressing said strip, said strip having depressions in its less dense surface to permit said strip to snugly engage the exposed surfaces of the tuning-pins.

[Claims 6 and 7 not printed in the Gazette.]

972,421. TURBINE. GEORGE WESTINGHOUSE, Pittsburg, Pa. Filed Apr. 18, 1910. Serial No. 556,151.



1. In a turbine, a nozzle block, a valve bushing, and a strip removably secured to the turbine and carrying the nozzle block and bushing.

2. In a turbine, a stator having a groove, a strip removably secured in said groove, and a nozzle block and valve bushing carried by said strip.

3. In a turbine, a stator having a guide, a strip in said guide, a valve bushing carried by said strip and in line with an inlet opening in the stator, and means for removably securing said strip in said guide.

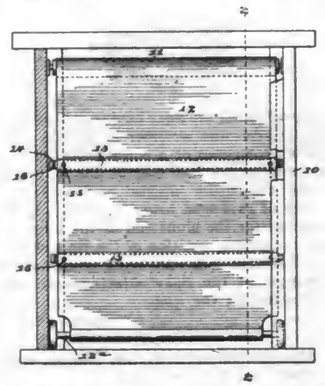
4. In a turbine, a strip removably secured to the turbine stator, and a valve bushing carried by said strip.

5. In a turbine, a stator having an inlet port, a strip slidably secured to said stator, and a valve bushing carried by said strip and adapted to aline with the inlet opening in the stator.

[Claim 6 not printed in the Gazette.]

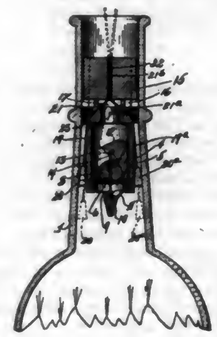
972,422. CURTAIN. EDWARD E. WHITMORE, Chicago, Ill., assignor to The Curtain Supply Company, Newark, N. J., a Corporation of New Jersey. Filed June 5, 1905. Serial No. 263,787.

The combination with a casing having guide grooves formed with parallel flat side walls, of a spring-actuated curtain the margins whereof enter said guide grooves, a batten strip carried by said curtain, said strip projecting on its ends into said guide grooves and having a substantially rectangular aperture in each end, and an anti-friction roller of greater diameter than the combined thick-



ness of the batten strip and the curtain but of less diameter than the width of said guide grooves mounted in each of said apertures and adapted to travel in said side grooves.

972,423. NON-REFILLABLE BOTTLE. JOHN WIBERG, New York, N. Y. Filed Feb. 26, 1910. Serial No. 546,129.



1. In a non-refillable bottle, the combination with a plug constructed with interfering pouring orifices, a plug-anchoring means adapted to coact with said plug and with the neck of the bottle, the same comprising a movable plug-engaging device, and means operable from the upper end of said plug to engage said device with the inner wall of said neck.

2. In a non-refillable bottle, the combination with a plug constructed with interfering pouring orifices, a frictional plug-anchoring means adapted to coact with said plug and with the neck of the bottle, the same comprising a movable plug-engaging device, and means operable from the upper end of said plug to engage said device with the inner wall of said neck.

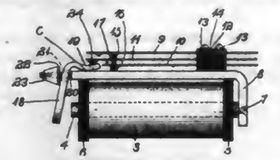
3. In a non-refillable bottle, the combination with a plug constructed with interfering pouring orifices, plug-anchoring wedges adapted to coact with said plug and with the neck of the bottle, the same comprising a movable plug-engaging device, and means operable from the upper end of said plug to engage said wedges with the inner wall of said neck.

4. In a non-refillable bottle, the combination with a plug constructed with interfering pouring orifices, a plug-anchoring means adapted to coact with said plug and with the neck of the bottle, the same comprising a movable plug-engaging device, and wires passing loosely up through said plug and adapted to be secured to secure said engaging device in engagement with the inner wall of said neck.

5. In a non-refillable bottle, the combination of a hollow interfering plug constructed with pouring orifices, a valve controlling the orificed lower end of said plug, a fixed support located in the hollow of said plug, and a universally tipping weight centrally supported in normal position of the bottle above said valve and adapted to engage said valve at various points around it to seat it.

[Claims 6 and 7 not printed in the Gazette.]

972,424. ELECTRICAL RELAY. LYNN A. WILLIAMS, Evanston, Ill. Filed July 16, 1909. Serial No. 507,908.



1. In a relay, in combination, an electro-magnet, a rigid armature lever therefor, a spring contact connected with and forming a load upon said armature, and means whereby the mechanical advantage of the armature is decreased as the armature is attracted.

2. In a relay, in combination, an electro-magnet, a rigid lever armature therefor, a spring contact connected with and forming a load upon said armature, and means whereby the mechanical advantage of the armature is decreased as the armature is attracted.

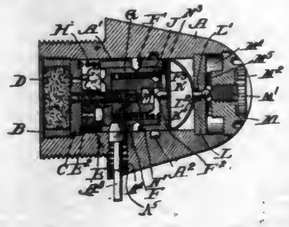
3. In a relay, in combination, an electro-magnet, a lever armature therefor, contact mechanism connected with said armature, and means whereby the fulcrum of said lever armature may be shifted to decrease the mechanical advantage as the armature is attracted.

4. In a relay, in combination, an electro-magnet, a rigid armature lever therefor, a spring contact mechanically connected with and forming a load upon said armature, said spring contact being operated by the movement of said armature, and means whereby the mechanical advantage of the armature is decreased as the armature is attracted.

5. In a relay, in combination, an electro-magnet, a rigid lever armature therefor, contact mechanism connected with said armature, and means whereby the load arm of said lever armature may be increased as the armature is attracted.

[Claims 6 to 13 not printed in the Gazette.]

972,425. FUSE FOR EXPLOSIVE PROJECTILES. HARRY WILSON and MICHAEL A. LYNCH, Washington, D. C., assignors to Bethlehem Steel Company, South Bethlehem, Pa., a Corporation of Pennsylvania. Filed Aug. 23, 1904. Serial No. 221,872.



1. In a fuse the combination of a fuse casing, a primer, a detonator adapted to be automatically moved in one direction upon discharge and means operating at a predetermined point in said movement to move the detonator in the opposite direction.

2. In a fuse the combination of a fuse casing, a primer, a detonator adapted to be automatically moved in one direction upon discharge, means for controlling the rapidity of said movement and means operating at a predetermined point in said movement of the detonator to move same in the opposite direction.

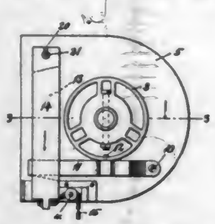
3. In a fuse the combination of a fuse casing, a detonator and a primer normally out of alinement and alined with each other during flight of the projectile and automatic means operating at a predetermined time to move said detonator into contact with the primer.

4. In a fuse the combination of a fuse casing, a primer, a detonator normally locked against movement toward the primer, means constantly tending to contact the detonator with the primer, means for automatically moving the detonator in one direction upon discharge and means operating at a predetermined point in said movement to release the detonator.

5. In a fuse the combination of a fuse casing, a detonator, a primer normally out of alinement with said detonator and alined therewith during flight of the projectile and automatic means operating at a predetermined time to move said detonator into contact with the primer.

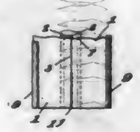
[Claims 6 to 16 not printed in the Gazette.]

972,426. FIRE-RESISTING SHUTTER. LESTER G. WILSON, Larchmont, N. Y., and FRANK MCMANUS, South Norfolk, Va.; said McManus assignor to said Wilson. Filed Nov. 30, 1908. Serial No. 465,094.



In combination with a fire resistant shutter comprising a flexible fire resistant material fastened to and adapted to be coiled upon bands elastically secured to a shaft; a pulley at the end of said shaft provided with spaced peripheral recesses, a lever pivoted to the shutter casing provided with a pin to engage said recesses, a weight provided with an elongated slot surrounding the end of said lever, said weight being adapted to be raised or to fall so as to engage the lever with the bottom of said slot when in its upper position and with the top of said slot when in its lower position, means to prevent said weight from slipping off said lever, and means attached to the bottom of said weight for raising it to its topmost position, said raising means being adapted to be held taut by fusible means, substantially as and for the purpose described.

972,427. TONGUE FOR LACED SHOES. LOUIS A. WIATHLIN, Madisonville, Ohio. Filed Feb. 13, 1905. Serial No. 245,502.



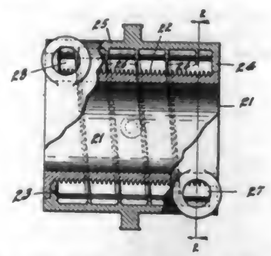
A shoe-tongue formed of strips each having an irregularly-curved edge portion, one end of which is notched or cut away and a seam extended lengthwise of the tongue and connecting said curved edge portions of the strips except at said notched portions, the said notched portions corresponding to produce an opening at the lower end of the tongue to gage the position of the tongue in attaching the same to a shoe.

972,428. SCREEN AND ABSORBER FOR CIGARS. FINLEY ACKER, Philadelphia, Pa. Filed Aug. 18, 1909. Serial No. 513,399.



The combination with a cigar having a filler with a blunt tip end, of a screen and absorber at the tip end thereof, the same being composed of a cup-shaped body having an imperforate wad at the base thereof and a thin side wall, said wad and wall being integral of absorbent material, the inner face of said wad being substantially flat, forming an abutment for the blunt end of the filler and adapted to retain the normal position of the tip end thereof, the tip ends of the cigar and wad being truncated and open, and the wrapper of the cigar covering said body to the truncated terminal of the wad.

972,429. CHILL. JAMES B. BAIRD, Canton, Ohio. Filed July 6, 1908. Serial No. 441,962.



1. A chill comprising an inner and outer wall having a chamber between them, the outer surface of the inner wall and the inner surface of the outer wall being each provided with flanges spaced apart from each other thus giving increased radiating surface, said chamber being provided with ingress and egress openings, whereby a current of air may be driven through said chamber between the walls and around said flanges and thus carry off the heat radiated from the outer surface of the inner wall.

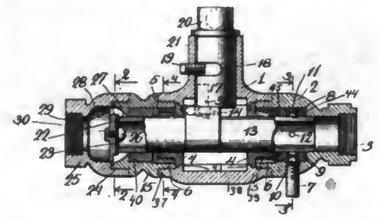
2. A chill comprising inner and outer walls having a chamber between them, the inner wall having an outwardly turned flange at one end and the outer wall having an inwardly turned flange at the other end, said flanges forming the ends of the chamber.

3. A chill comprising inner and outer walls having an annular chamber between them, an inlet at one end of said chamber, an outlet at the other end of said chamber, the outer surface of the inner wall being provided with flanges, and the outer wall being provided with a spiral flange extending through the said chamber intermediate the inlet and the outlet, whereby an air blast may be given a spiral direction as it passes through said chamber and the effectiveness thereof thus increased.

4. A chill comprising inner and outer walls having a chamber between them, with an inlet at one end of the chamber and an exit at the other, the peripheral surface of said chamber being provided with inwardly extending wings whereby an air current when driven through said chamber will be deflected toward the outer surface of the inner wall.

5. A chill comprising inner and outer walls having a chamber between them, with an inlet at one end of the chamber and an exit at the other, the outer wall having a spiral partition rib on its inner surface converting said chamber into a spiral passage, the peripheral surface of said chamber being provided with inwardly extending wings whereby an air current when driven through said chamber will be deflected toward the outer surface of the inner wall.

972,430. VALVE. THOMAS R. BEGGS, Englewood, N. J., assignor to The Thomas R. Beggs Faucet and Valve Company, Englewood, N. J., a Corporation of New Jersey. Filed Sept. 22, 1908. Serial No. 454,203.



1. In valves, a casing comprising a central casing section having threaded collars united by a plurality of separated bars, end casing sections having threaded portions engaging said threaded collars, a tubular valve movably mounted within said casing, each of said end sections being provided with a seat, packing supported in said seat in coöperation with said valve, an interiorly threaded bushing coacting with said packing and provided with alining means coöperating with a slot in said casing, and a sleeve having a threaded portion engaging the threads of said bushing and provided with a flange revolubly mounted in a recess formed in said casing, said sleeve having exposed rotating means to adjust said bushing from said central casing section, one of said end casing sections having a spider provided with peripheral passages and a shut-off washer mounted on said spider to coöperate with said tubular valve and one of said end casing sections having a waste ring coöperating with a waste pipe in said casing and with a waste aperture in said tubular valve when said valve is in closed position, an integral valve block having an operating slot on said tubular valve, a stem mounted in said central casing section and having a guide slot therein, a stop pin coöperating with said guide slot and limiting the movement of said stem, a handle on said stem, an eccentric operating pin on said stem and a slide in said operating slot coöperating with said pin to reciprocate said valve as said stem is rotated.

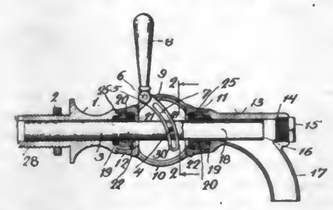
2. In valves, a casing comprising a central casing section having threaded collars united by a plurality of separated portions, end casing sections having threaded portions engaging said threaded collars, a tubular valve movably mounted within said casing, each of said end sections being provided with a seat, packings supported in said seat in coöperation with said valve, an interiorly threaded bushing coacting with said packing and provided with alining means coöperating with said casing and a sleeve having a threaded portion engaging the threads of said bushing and provided with a flange revolubly mounted in said casing, said sleeve having exposed rotating means to adjust said bushing from said central casing section, one of said end casing sections having a spider provided with peripheral passages and a shut-off washer mounted on said spider to coöperate with said tubular valve and one of said end casing sections having an apertured waste ring coöperating with a waste pipe in said casing and with a waste aperture in said tubular valve when said valve is in closed position and means to reciprocate said valve.

3. In valves, a casing comprising a central casing section having collars, end casing sections having portions fastened to said collars, a tubular valve movably mounted within said casing, each of said end sections being provided with a seat, packings supported in said seat in coöperation with said valve and an interiorly threaded bushing coacting with said packing and provided with alining means coöperating with said casing and a sleeve having a threaded portion engaging the threads of said bushing and provided with a flange revolubly mounted in said casing, means to rotate said sleeve and thereby adjust said bushing, means coöperating with the end of said tubular valve when in closed position, means to reciprocate said valve, said valve having a waste aperture and a waste passage formed in said casing and coöperating with said waste aperture when said valve is in closed position.

4. In valves, a sectional casing comprising a plurality of connected parts, a shut-off spider clamped in a recess between said parts, a tubular valve mounted to reciprocate in said casing and coöperate with said shut-off spider, an integral valve block on said valve provided with a diagonal operating slot, a stem mounted in said casing and having a guide slot therein, a stop coöperating with said guide slot and limiting the movement of said stem, a handle on said stem, an eccentric operating pin on said stem and a slide in said operating slot and coöperating with said pin to reciprocate said valve as said stem is rotated.

5. In valves, a sectional casing provided with packings and with shut-off means, a tubular valve provided with a waste aperture and mounted to move longitudinally in said casing to coöperate with said shut-off means and thereby close the open end of said tubular valve, a waste passage in said casing coöperating with said waste aperture when said valve is in closed position and operating means to move said valve.

972,431. VALVE OR FAUCET. THOMAS R. BEGGS, Englewood, N. J., assignor to The Thomas R. Beggs Faucet and Valve Company, Englewood, N. J., a Corporation of New Jersey. Filed May 6, 1908, Serial No. 431,094. Renewed Mar. 9, 1910. Serial No. 548,263.



1. In a faucet, a casing comprising a central section consisting of threaded collars united by a plurality of bars, end sections provided with threaded portions engaging the threaded collars, a tubular valve movably mounted within said casing, each of said end sections being provided with a seat, packing supported in said seats coacting with said valve, interiorly threaded bushings coacting with said packings and provided with lugs engaging slots in said casing, sleeves having threaded portions engaging the threads of the bushings and provided with flanges engaging in recesses formed in said casing, operating recesses formed in the exposed surface of said sleeves, a handle to operate said valve mounted upon said casing and provided with arms, having slots formed therein, lugs on said valve, rollers carried by said lugs and engaging said slots and a replaceable packing with which the outer end of said tubular valve engages when in its closed position.

2. In a faucet, a casing comprising a central section comprising connected threaded collars, end sections provided with threaded portions engaging the threaded collars, a tubular valve movably mounted within said casing, each of said end sections being provided with a seat, packing supported in said seats and coacting with said valve, interiorly threaded bushing co-acting with said packings and provided with lugs engaging slots in said casings, sleeves having threaded portions engaging the threads of the bushings and provided with flanges engaging in recesses formed in said casings, operating recesses formed in the exposed surface of said sleeves, a handle to operate said tubular valve and a replaceable packing with which the outer end of said tubular valve engages when in its closed position.

3. In valves, a casing comprising a central section having connected collars, end sections provided with portions connected to said collars, a tubular valve movably mounted within said casing, packing supported in each of said end

sections and co-acting with said valve, longitudinally movable bushings co-acting with said packings, rotary sleeves coöperating with said bushings to move the same, and provided with a normally exposed surface, means to move said tubular valve and a packing with which the outer end of said valve engages when in its closed position.

4. In valves, a casing, a tubular valve movably mounted within said casing, a plurality of packings supported within said casing and co-acting with said valve, longitudinally movable bushings co-acting with said packings, rotary sleeves held against substantial longitudinal movement, coöperating with said bushings to move the same, and provided with normally exposed, substantially radial, operating surfaces, means to move said tubular valve and means for closing the outer end of said valve when in its normal position.

5. In valves, a casing, a tubular valve movably mounted in said casing, a handle projecting from said casing to longitudinally operate said valve, a discharge spout formed on said casing, and a packing within said casing beyond the connecting portion of said discharge spout and against which the end of said valve engages when in closed position.

[Claims 6 to 8 not printed in the Gazette.]

972,432. STORE-SERVICE APPARATUS. LONZO B. BETHARDS, Chicago, Ill. Filed Sept. 20, 1909. Serial No. 518,651.



1. In a store service apparatus, the combination of a double wire-way, a car mounted thereon, a catch mechanism for normally locking the car at the station, a pivoted wire spreading bar, an independently pivoted hand lever having its forward end in operative proximity to said catch for releasing the same when moved from a normal position and means for causing an engagement between said hand lever and wire spreading bar after the release of said catch.

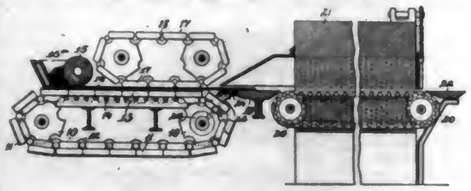
2. In a store service apparatus, the combination of a double wire-way, a car mounted thereon, a catch mechanism for normally locking the car at the station, a pivoted wire-spreading bar, an independently pivoted hand-lever, having its forward end in operative proximity to said catch for releasing the same when moved from a normal position, means for causing an engagement between said hand lever and wire spreading bar after the release of said catch, and means for detachably locking said lever and bar together during a backward movement of the two, to return the car by positive action to its normal position.

3. The combination with a double wire-way and car of the class described, of a pivoted wire-spreading bar, an independently pivoted lever for actuating said bar to spread the wires, means for returning said lever to a predetermined position when released from the hand of the operator, and means for abnormally locking said lever and bar together to return the former to its normal position.

4. The combination with a double wire-way and car of the class described, of a pivoted wire-spreading bar, an independently pivoted lever for actuating said bar to spread the wires, means for returning said lever to a predetermined position when released from the hand of the operator, and a normally disengaged catch mechanism for locking the lever to the bar to enable the latter to be positively reversed for returning the car in an emergency.

972,433. APPARATUS FOR MAKING GLASS TILING. LAWRENCE R. BLACKMORE, Arlington, N. J. Filed Oct. 17, 1907. Serial No. 397,793.

1. An improved apparatus for making glass tiling, comprising an endless table and a fixed roll, a hopper adjacent to the roll, and a series of dies to be brought in engagement with the sheet to cut it into tiling while it is on the moving table and in motion.



2. An improved apparatus for making glass tiling, consisting of an endless moving table, the moving table comprising links, a roll, a hopper adjacent to the roll, a set of dies to engage a glass sheet on the table, the juncture of the dies coming in register with the juncture of the links.

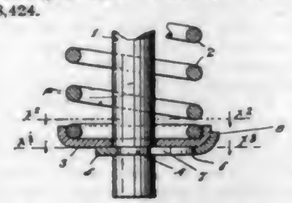
3. In an improved apparatus for making glass tiling, an endless table consisting of links having parallel ribs and recesses on their faces, a fixed roller, a hopper adjacent to the roller, and a transversely moving bar with projections to enter the spaces on a sheet of glass rolled on the plate, the transverse movements of the bar and its projections causing the ribs on the back of the sheet of glass to be bent out of the perpendicular.

4. In an improved apparatus for making glass tiles, an endless table consisting of links having projections on their faces, a roller and a hopper acting to roll a sheet of glass on the table, a series of dies to cut the sheet into tiling while it is in motion on the endless table, and a transverse movable bar having projections to enter the recesses on the back of the sheet of glass, and means for reciprocating the bar.

5. In an apparatus for manufacturing glass tiles, an endless table consisting of links having projections on their faces, a roll and a hopper to roll a sheet of glass on a moving table, a series of dies to engage the glass sheet, the dies having spaces between them for the reception of the excess material, and means for upsetting the ribs on the back of the tiles while they are in motion.

[Claims 6 to 11 not printed in the Gazette.]

972,434. VALVE-SPRING RETAINER. OSCAR BLOMBERG, Muskegon, Mich. Filed Apr. 29, 1910. Serial No. 558,424.



The combination with a rod having a lock notch, of a spring pressed cap having a perforation adapting it to be positioned on said rod adjacent to said notch, a cap retainer having an elongated slot with relatively wide and narrow extremities, the large extremity of said slot adapting said retainer to be positioned on said rod and the said narrow extremity adapting it for interlocking engagement with the notch of said rod, and a spring normally pressing said press cap against said retainer, and the said retainer and cap having normally engaging parts, which hold the said retainer interlocked to said rod, substantially as described.

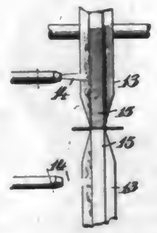
972,435. GAS AND AIR VALVE FOR OPEN-HEARTH FURNACES. JAMES L. BUTLER, Alliance, Ohio. Filed Nov. 17, 1908. Serial No. 463,115.

1. A base for reversing valves comprising a stationary member having ports, a circular race way surrounding the ports, and a circular channel surrounding the ports between the latter and the race-way, a rotatable plate mounted upon the stationary member and provided with ports to register with the ports of the stationary member, a race-way in the underside of the plate and corresponding with the race-way of the stationary member, a channel in the top of the plate surrounding the ports, and a depending annular flange dipping into the channel of the stationary member, there being an opening through the bottom of the channel communicating with the channel in the stationary member, anti-friction balls in the race-ways, and an overflow leading from the channel in the stationary member through the outer wall thereof and below the race-way, substantially as described.



2. A reversing valve comprising upper and lower relatively rotatable members having registrable ports, an annular anti-friction bearing between the members, an annular water seal between the members and located between the anti-friction bearing and the ports, and an overflow from the water seal extending through the lower valve member beneath the anti-friction bearing, substantially as described.

972,436. PROCESS OF MAKING BLADES WITH SOFT CENTERS. OSROE A. CLARK, Newark, N. J. Filed Aug. 6, 1910. Serial No. 575,946.



1. The improved method of making razor blades which consists in the provision of a strip of metal, perforating the metal between its edges, and annealing a portion of the strip, said annealed portion connecting the perforations of the strip.

2. The improved method of making razor blades which consists in the provision of a strip of metal, providing the strip of metal with a series of perforations between its side edges, then annealing the strip between its side edges and in line with the perforated portion whereby the annealed part of the strip connects the perforations, and then severing the strip into blades.

972,437. PNEUMATIC STACKER. GEORGE F. CONNER, Port Huron, Mich., assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed Oct. 8, 1909. Serial No. 521,646.



1. A pneumatic stacker chute, comprising an inner rigid section and a collapsible extensible section mounted at the outer end thereof, means for collapsing said extensible section to shorten said chute, and means for extending said section to lengthen said chute.

2. A pneumatic stacker chute comprising an elbow and a rigid chute section projecting therefrom, a collapsible extensible section mounted at the end of said rigid section, and means connected to said extensible section for extending and retracting the same to increase or decrease said chute in length.

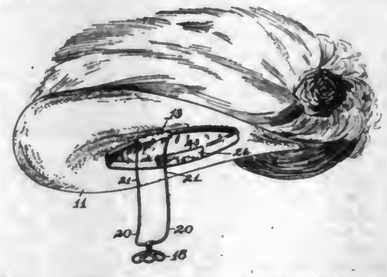
3. A pneumatic stacker chute, comprising a main section, a frame movably mounted on the discharge end thereof, a collapsible extensible chute section mounted on said frame, and means for longitudinally projecting and retracting said frame to extend or collapse said extensible section for increasing or decreasing said chute in length.

4. The combination, with a pneumatic stacker, of a frame at the outer end thereof comprising an inner and an outer band connected by bars, a flexible covering surrounding said frame, means for retracting said frame and collapsing said covering thereon to decrease the length of said chute, and means for outwardly projecting said frame and extending said covering to increase said chute in length whereby material may be discharged at varying distances from the separating machine to which said chute is attached.

5. A pneumatic stacker chute comprising a main section adapted to communicate with a grain separating machine, a collapsible extensible chute section connected to said main section, means connected to said extensible section for collapsing the same and decreasing the length of said chute, and means connected to said extensible section for extending the same to increase said chute as a whole in length.

[Claim 6 not printed in the Gazette.]

972,438. HAT-FASTENER. CHARLES ABRAM CONROE and RAY CONROE, Newark, N. J. Filed Mar. 19, 1910. Serial No. 550,412.



1. A hat fastener comprising a securing plate having a series of teeth with recesses between them on one edge, a pin having a bulged head that is elliptical in cross-section, a handle on the pin, and a retaining plate having an elliptical perforation therein, the head on the pin being adapted to engage both the teeth on the securing plate and the perforation in the retaining plate, the perforation in the retaining plate acting to limit the outward movement of the pin.

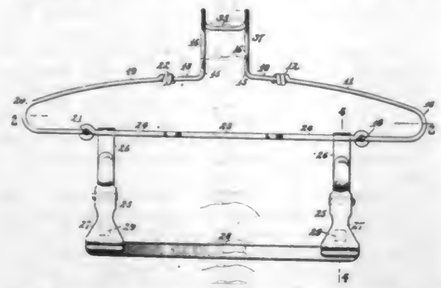
2. A hat fastener comprising a curved securing plate

having an inwardly inclined top edge provided with recesses, a pin having an enlarged head to fit in any of the recesses and to be held thereby, and means for guiding and limiting the outward movement of the pin.

3. A hat fastener comprising a retaining and guiding plate having a body portion curved to fit the inside of the band of a hat and having a lip to engage the outer edge of the band of a hat, the lip and the body portion having a series of elliptical perforations, a pin to enter each of the perforations and having an elliptical head on one end and a handle on the other end, and means for securing the pin by the heads on its ends when the pin is at its inward limit of movement.

4. A hat fastener comprising a retaining and guiding plate having a body portion curved to fit the inside of the band of a hat and having a lip to engage the outer edge of the band of a hat, the lip and the body portion having a series of elliptical perforations, a pin to enter each of the perforations and having an elliptical head on one end and a handle on the other end, a securing plate curved to fit the inside of the band of a hat having an inwardly inclined top edge, and teeth on the top edge of the securing plate forming V-shaped recesses between them, the V-shaped recesses being adapted to receive the heads of the pin.

972,439. GARMENT-HANGER. WILLIAM F. CUTLER, Suffern, N. Y. Filed June 20, 1910. Serial No. 567,819.



1. An article of the character described consisting of an upper frame adapted to support a coat or like garment thereon, and formed of a continuous piece of wire, and a lower supporting frame secured to said upper frame and provided with spring clips for engagement with the waist band of a pair of trousers, and with spring arms for engagement with the lower ends of said trousers, substantially as described.

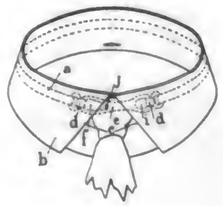
2. An article of the character described comprising an upper frame formed of a single continuous piece of wire bent to form separated supporting arms and a supporting hook, a bar or rod connecting the arms of said upper supporting frame and formed with spring arms for engagement with the lower ends of the trousers, and a lower supporting frame movably hung from said bar and provided with spring clips for engagement with the waist band of the trousers, substantially as described.

3. An article of the character described comprising an upper frame for supporting a coat or like garment, and formed from a single continuous piece of wire bent to form a hook, and arms extending outwardly therefrom, each of said arms being formed of two strands of wire diverging toward their outer ends, a bar formed of a single piece of wire and connecting said arms, the free ends of said bar being bent to form spring arms for engagement with the lower ends of the trousers, and a lower supporting frame swung on said rod and formed with spring-actuated clips connected at their lower ends by a plate, and which clips are adapted to engage and support the waist band of the trousers, said plate adapted to engage with said hook when the hanger is in its folded adjustment.

4. An article of the character described comprising an upper supporting frame formed of a single continuous piece of wire bent to form a retaining hook, and arms extending outwardly therefrom, each of the arms comprising two strands of wire diverging toward their outer ends, the free end of each strand being tightly secured to the other strand, a bar or rod connecting these arms, the free ends of said bar being bent inwardly toward each other to form spring arms, and spring clips movably suspended at their upper ends from said bar, the lower ends of said clips being connected by a plate, said plate adapted to engage with said hook on the upper supporting frame to retain the hanger in its folded adjustment.

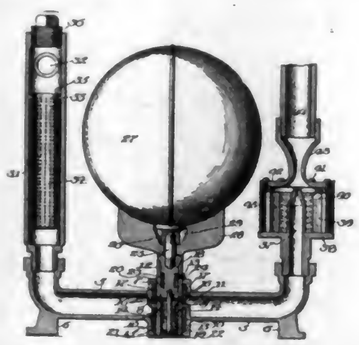
5. An article of the character described constructed with an upper frame for supporting a coat or like garment and provided with a hook, a bar connected with said upper frame and provided with spring fingers, a lower swinging frame suspended from said bar, and a flexible strap connected at its lower end with said hook, and provided at its upper end with a rigid hook, substantially as described.

972,440. NECKTIE-HOLDER. GEORGES DEMANDER, Paris, France. Filed Apr. 27, 1909. Serial No. 492,446.



A necktie holder comprising an oblong piece, *e*, provided at each end with a hole, *f*, *f*, for the reception of the ends of the neckband, and also provided with teeth, *j*, projecting into one of said holes; said teeth adapted to retain one end of the material of the tie knot, as set forth.

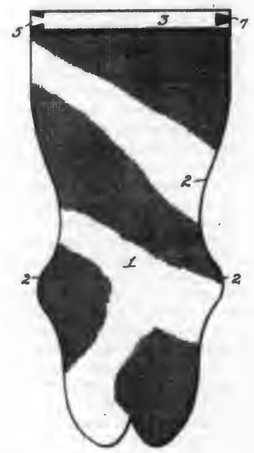
972,441. VALVE FOR CELLAR-DRAINERS. AUGUSTUS C. DUDIN, Jr., Chicago, Ill., assignor to Thomas & Smith, Chicago, Ill., a Corporation of Illinois. Filed Feb. 14, 1908. Serial No. 415,856.



1. The combination with a main or body-duct having between its ends an enlargement provided with a vertically disposed opening having each of its ends open, the said enlargement also having a downwardly and inwardly extended partition on one side and an upwardly and inwardly extended partition on the other side of said opening and provided with an annular chamber above and below said partitions, an open-ended tube located in said opening and having a group of openings above and another group of openings below the inward extensions of the partitions, the upper of said openings being larger than the lower ones, a vertically movable valve-stem located in said tube and having a pair of valves located thereon one above the other and provided with reduced portions above and between the valves, a projection extended through the upper portion of the tube into the upper reduced portion of the valve-stem to restrict the movement thereof, and a float centrally supported on the valve-stem and above the same.

2. The combination with a main or body-duct having between its ends an enlargement provided with a vertically disposed opening having each of its ends open, the said enlargement also having a downwardly and inwardly extended partition on one side and an upwardly and inwardly extended partition on the other side of said opening and provided with an annular chamber above and below said partitions communicating with the duct, a tube open at each of its ends located in said opening and having a group of openings above and another group of openings below the inward extensions of the partitions, a vertically movable valve-stem located in said tube and consisting of an upper and lower part, the lower part having a vertical opening, a bolt extended through said opening of the lower part of the valve-stem and engaging the upper part thereof, a pair of valves located on the valve-stem one above the other, and a float centrally supported on the upper portion of the valve-stem and above the same.

972,442. STOCKING-BLANK. WILLIAM H. ERMENTROUT and SOLOMON S. MILLER, Reading, Pa. Filed Mar. 26, 1910. Serial No. 551,663.

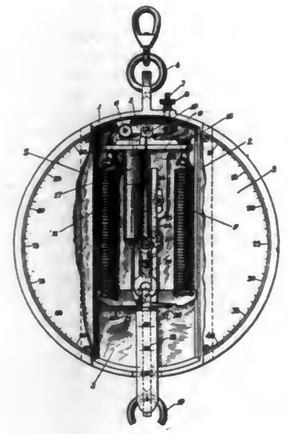


A stocking blank, an elastic band secured adjacent the upper edge thereof, the ends of the band being formed to interlock, one end of the band being adjacent one edge of the stocking blank, and the complement end of the band adjacent the complement edge of the stocking blank, whereby the ends of the band may be brought together and the edges of the stocking blank may be brought together to permit uniting.

972,443. SCALE. RICHARD H. FORSCHNER, New York, N. Y. Filed Jan. 19, 1910. Serial No. 538,832.

1. In a scale, the combination of a frame, a supporting arm pivoted thereto, a spring carrying bar pivoted to said arm, a load bar, springs connecting said bars, means for adjusting the supporting arm vertically, and means for holding the spring carrying bar at right angles to the line of draft.

2. In a scale, the combination of a frame, a supporting arm pivoted thereto, a spring carrying bar pivoted to said arm, a load bar, springs connecting said bars, means at the other end of said supporting arm engaging a part of the frame for adjusting said arm in a vertical plane, a projection from the frame a projection from the carrying arm extending between the springs and engaging the projection from the frame for guiding said bar and holding it parallel to the load bar at all positions of said supporting arm.



3. In a scale, the combination of a frame, means for suspending the same, a load supporting arm pivoted to the frame at one side of the line of suspension, a spring carrying bar pivoted to said arm substantially in the line of suspension, a pair of springs suspended from said bar one at each end, a load bar carried on the lower end of said springs, means projecting from the supporting arm and engaging a part of the frame for adjusting said arm, a projection from the bar provided with a slot extending down between the springs, and a stud from the frame engaging in said slot for guiding said carrying bar and holding it normal to the line of suspension for the adjusted positions of the supporting arm.

4. In a scale, the combination of a frame, having a vertical channel portion, means for suspending the frame, a load supporting arm pivoted to said frame at the top of the channel and to one side of the line of suspension, a spring carrying bar within the channel pivoted to said arm substantially in the line of suspension, a stud at each end of the bar having a screw threaded connection therewith, a pair of parallel springs, one being suspended from each stud, a load bar also within the channel and suspended at the lower end of said springs, a threaded rod pivoted to the supporting arm, a nut supported by the frame and engaging the threads of said rod for adjusting the arm vertically on its pivot, a projection from the carrying bar extending down between the springs and provided with a slot, a projection from the frame engaging in said slot to guide said bar and hold it normal to the line of suspension for all positions of said supporting arm.

5. In a scale, the combination of a frame, means for supporting the same, a supporting arm pivoted to the frame, a spring carrying bar pivoted to said arm substantially in the line of suspension, a spring secured at each end of said bar, a load bar carried at the lower end of said springs, a dash pot having two relatively movable members for dampening the movement of said load bar, one member being connected to said carrying bar intermediate the spring connections therewith, the other member being connected to the load bar, and means for holding the carrying bar normal to the line of suspension to prevent binding of the dash pot.

[Claims 6 to 8 not printed in the Gazette.]

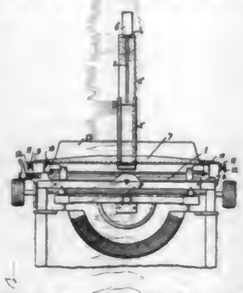
972,444. RAILWAY-TIE. WILLIAM W. GREEN, Niles, Mich. Filed May 3, 1909. Serial No. 493,510.



1. A railway tie, comprising, in combination, angle iron side plates, arranged with their horizontal flanges extending out from the body of the tie to form a widened base, wooden end blocks between said side plates which have downwardly and inwardly sloping inner ends and a composite body having ends corresponding with the inner ends of the end blocks and resting thereon.

2. A railway tie comprising, in combination, a pair of angle iron side plates arranged with their horizontal flanges to extend out from the bottom of the main body, a central composite body and wooden end blocks between said side plates, end plates secured to the side plates, individual tie plates arranged over the wooden end blocks and having down turned flanges embracing the vertical flanges of the side plates and bolts and nuts connecting said tie plates with the side plates.

972,445. PAPER-ADJUSTING DEVICE FOR WRITING-MACHINES. ÁKOS HALLÁSZ, Maros-Illye, Austria-Hungary. Filed Nov. 9, 1909. Serial No. 527,000.



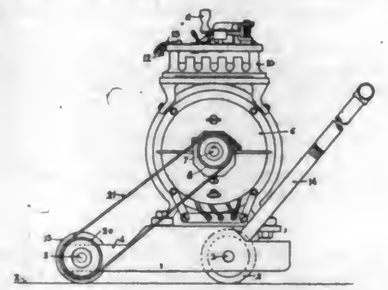
1. In a paper adjusting device for writing machines, the combination with a paper guiding bar arranged in an inclined position above the paper roller and provided with a scale, of a stop adjustable along said scale and connected with a plate having a length equal to the interval between the lower edge of the bar and the place where the type strikes the roller.

2. In a paper adjusting device for writing machines, the combination with a paper guiding bar arranged in an inclined position above the paper roller and made in several telescopic or collapsible parts, of a stop adjustable along said bar and connected with a plate having a length equal to the interval between the lower edge of the bar and the place where the type strikes the roller.

972,446. FLOOR-DRESSING MACHINE. GEORGE F. HALL, Providence, R. I. Filed Aug. 24, 1906. Serial No. 331,940.

1. In a floor-dressing machine, the combination of a frame, two supporting wheels on which said frame is mounted and which are in rolling contact with the floor surface, means for propelling said machine, a shaft mounted in said frame parallel to the axial line of said two supporting wheels, an abrading tool mounted on and revolving with said shaft and crossing the central longitudinal line of said machine, and two supporting wheels loosely mounted on said shaft and adapted to roll on the floor surface.

2. In a floor-dressing machine, the combination of a frame, two supporting wheels on which said frame is mounted and which are in rolling contact with the floor surface, means for propelling said machine, a shaft mounted in said frame parallel to the axial line of said two supporting wheels, an abrading roller mounted on said shaft and crossing the central longitudinal line of said machine, and a supporting wheel mounted on said shaft, said roller and the last named supporting wheel being in such relation that that longitudinal tangent line of said roller which is in contact with the floor surface and that longitudinal tangent line of said last named supporting wheel which is in contact with the floor surface are in that one vertical plane which is projected through and coextensive with the axial line of said shaft.



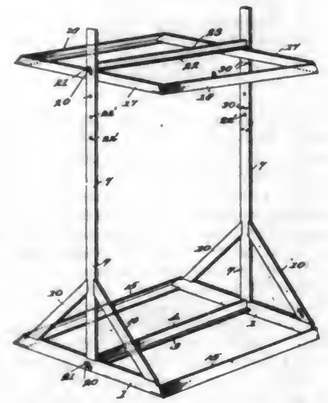
3. In a floor-dressing machine, the combination of a frame, two supporting wheels on which said frame is mounted and which are in rolling contact with the floor surface, means for propelling said machine, a shaft mounted in said frame parallel to the axial line of said two supporting wheels, an abrading roller mounted on said shaft and crossing the central longitudinal line of said machine, and a supporting wheel mounted on said shaft, said roller and the last named supporting wheel being in such relation that that longitudinal tangent line of said roller which is in contact with the floor surface and that longitudinal tangent line of the last named supporting wheel which is in contact with the floor surface are in the same vertical or approximately vertical plane.

4. In a floor-dressing machine, the combination of a frame, two rear wheels of equal diameter supporting the frame and mounted in one axial line and in rolling contact with the floor surface, means for propelling the machine over the floor surface, a revoluble shaft mounted in bearings at or near the forward end of the machine and parallel with the axis of said two wheels, an abrading roller mounted upon said shaft and extending across the central longitudinal line of the machine, a motor upon said frame having a shaft which is parallel to the first named shaft, means for energizing said motor, means for operatively connecting said motor shaft with said first named shaft, and two forward wheels mounted on the first named shaft in such manner and relation that a plane projected through and coextensive with the axial line of the first named shaft and also through that longitudinal tangent line of each of said forward wheels which is in contact with the floor surface will also pass through that longitudinal tangent line of the abrading roller which is in contact with the floor surface.

5. In a floor-dressing machine, the combination of a frame, two rear wheels of equal diameter supporting the frame and mounted in one axial line and in rolling contact with the floor surface, means for propelling the machine over the floor surface, a revoluble shaft mounted in bearings at or near the forward end of the machine and parallel with the axis of said two wheels, an abrading roller mounted upon said shaft and extending across the central longitudinal line of the machine, a motor upon said frame having a driving shaft which is parallel to the first named shaft, means for energizing said motor, means for operatively connecting said motor shaft with the first named shaft, two forward wheels mounted on the first named shaft in such manner and relation that a plane projected through and coextensive with the axial line of the first named shaft and also through that longitudinal tangent line of each of said forward wheels which is in contact with the floor surface will also pass through that longitudinal tangent line of the abrading roller which is in contact with the floor surface, and means of adjusting said forward wheels to bring and maintain said tangent lines thereof within said plane and adapted to regulate the depth of the cuts of said abrading roller.

[Claims 6 to 19 not printed in the Gazette.]

972,447. DISPLAY-RACK FOR CHAIRS. ROBERT E. HARPER, Nashville, Tenn. Filed Mar. 5, 1910. Serial No. 547,535.



1. In a display rack the combination of a vase provided with end portions; a T-shaped brace joining said end portions; and angular holding pieces 15 adapted to receive in the angles of said pieces the ends of the rockers of chairs to be displayed and said angular pieces extending parallel to said T-shaped brace joining the end portions of said base, substantially as described.

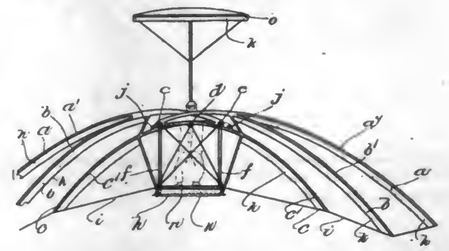
2. In a display rack the combination of a base comprising end pieces; a top frame provided with end pieces; uprights extending from said base to the end pieces of said top frame; angular pieces joining the end pieces of the top frame; T-shaped braces connecting said uprights; and means connecting the end pieces of said top frame to said braces; substantially as described.

3. In a display rack, for rocking chairs, the combination of a base comprising end pieces, an inverted T-shaped brace joining said end pieces adapted to receive the rear portions of the rockers of the chairs to be displayed; angular pieces 15 joining said end pieces adapted to receive the front portions of the rockers of said chairs; uprights secured to said end pieces; inclined braces 10 joining said uprights and end pieces; a top frame provided with a T-shaped brace and having angular pieces extending between its end pieces; and means for pivotally supporting said frame on said uprights, substantially as described.

4. In a display rack for rocking chairs, the combination of a base comprising end pieces; an inverted T-shaped brace joining said end pieces adapted to receive the rear portions of the rockers of the chairs to be displayed; angular pieces 15 joining said end pieces adapted to receive front portions of the rockers of said chairs; uprights secured to said end pieces; inclined braces 10, joining said uprights and end pieces; a top frame provided with a T-shaped brace and having angular pieces extending between its end pieces; means for pivotally supporting said frame on said uprights; and stops to limit the pivotal movement of said frame, substantially as described.

5. In a display rack, the combination of a pair of uprights, with a top frame comprising a T-shaped brace extending between said uprights; pivots passing through said uprights into said T-shaped brace; end pieces 17 below said T-shaped brace; means securing said end pieces and T-shaped brace together; and angular V-shaped pieces 18, connecting said end pieces, substantially as described.

972,448. FLYING-MACHINE. JOHN EMERY HARRIMAN, Jr., Brookline, Mass. Filed Feb. 8, 1904. Serial No. 192,484.



1. In a flying machine, a plurality of wings composed of superposed aeroplanes secured together at their inner and outer extremities, said wings being pivoted together and a support for an operator suspended therefrom, means adapted to be grasped by the operator to collapse said wings, steering apparatus, and operating connections between said collapsing means and said apparatus whereby the device may be simultaneously operated and steered by the operator.

2. In a flying machine, a plurality of wings composed of rigidly connected superposed aeroplanes, a support for an operator suspended from said wings, means whereby the weight of the operator may be shifted from the support to the wings and vice versa to collapse and distend the wings respectively, steering apparatus, and operating connections between said collapsing means and said apparatus whereby the device may be simultaneously operated and steered by the operator.

3. In a flying machine, a plurality of wings composed of rigidly connected superposed aeroplanes pivoted together adjacent to their inner extremities, a support or car for an operator suspended from the inner extremities of said wings, means adapted to be grasped by the operator to collapse said wings, steering apparatus, operating connections between said collapsing means and apparatus, and tension means extending from wing to wing tending normally to collapse the same.

4. In a flying machine a plurality of wings the frames of which cross each other near their inner extremities, means whereby the wings are pivoted at the point of crossing, a support for an operator suspended from the inner extremities of the wings, hand bars slidably secured to the wings and adapted to be grasped by the operator to operate the mechanism, and means also operated by said rods to control the direction of flight.

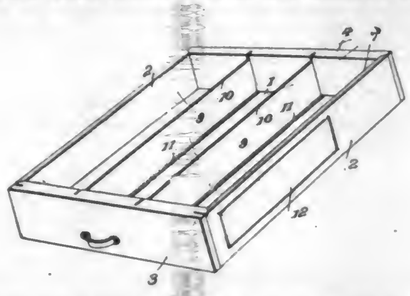
5. In a flying machine a plurality of wings, the frames of said wings crossing each other near their inner extremities and pivoted together, a support for an operator suspended from the inner extremities of the wings, hand bars slidably secured to the wings and adapted to be grasped by the operator to operate the wings, and a rudder connected with and adapted to be operated by said hand bars.

[Claims 6 to 9 not printed in the Gazette.]

972,449. BOX. WILLIAM C. HELLER, Montpelier, Ohio, assignor to The W. C. Heller & Co. Inc., Montpelier, Ohio, a Corporation of New Jersey. Filed June 22, 1910. Serial No. 568,375.

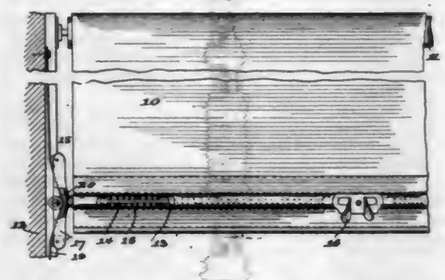
A box consisting of a sheet metal bottom and sides, a wooden front and back formed on their edges with kerfs, the sides and bottom being formed with inturned flanges

embedded in the kerfs, and the sides being further formed with top flanges returned inwardly upon themselves with



angular ends adapted to shear into the top surface of the wood of the front and back as the first named flanges are forced into the kerfs.

972,450. CURTAIN-HOLDING DEVICE. CHARLES L. HOPKINS, Chicago, Ill., assignor to The Curtain Supply Company, Newark, N. J., a Corporation of New Jersey. Filed Oct. 30, 1905. Serial No. 285,026.



1. In a curtain-holding device, the combination of a curtain stick, a head at the end of the stick, a band passing longitudinally through the head, said head having retaining means adapted to engage said band and means in the head adapted to normally engage the window frame and, when the curtain stick is raised, to clamp said band against the retaining means on said head.

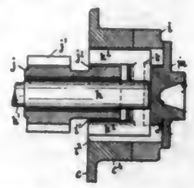
3. In a curtain-holding device, the combination of a curtain stick, a head at the end of the stick, a band passing longitudinally through the head, said head having retaining means adapted to engage said band and means in the head adapted to normally engage the window frame and, when the curtain stick is raised, to clamp said band against the retaining means on said head, and, when the curtain stick is lowered, to release its hold upon said band.

3. In a curtain-holding device, the combination of a stick, a head at the end of the stick, said head having retaining means thereon, a band, and rotary means in the head adapted to normally engage the window frame and to automatically clamp the band against said retaining means when the head is moved along the band in one direction, and adapted to automatically move out of holding engagement with the band when the head is moved along the band in the opposite direction.

4. In a curtain-holding device, the combination of a curtain stick, a head at the end of the stick, said head having retaining means thereon, a band passing longitudinally through the head, means in the head adapted to normally engage the window frame and, when the curtain stick is raised, to clamp said band against said retaining means by virtue of the rotary movement of the means engaging said window frame, and anti-friction rollers on the head above and below said frame engaging means.

5. In a curtain fixture, the combination of a stick, a head at the ends of the stick, a band passing through the head, the head being formed with an incline on its rear wall, and a rotary member adapted to move down relatively to the incline and to grip the band between itself and the incline on upward movement of the curtain.

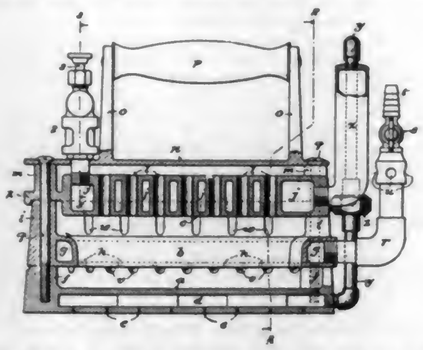
972,451. BACK-MOTION CLUTCH FOR HOISTS. HOMER W. ISRAEL, Waukesha, Wis., assignor to Modern Steel Structural Company, a Corporation of Wisconsin. Filed Aug. 4, 1908. Serial No. 446,989.



1. In a device of the class described, a fixed shaft, a sleeve mounted thereon and carrying ratchet-teeth, and a reciprocating pawl comprising a middle bar extending transversely across and beyond the end of the shaft and sleeve and two arms on the ends of said middle bar extending parallel to the axis of the shaft on opposite sides of said ratchet-teeth and in position to engage the same alternately, said pawl being reciprocated from side to side by said teeth as said sleeve rotates in one direction and being adapted to engage said teeth to prevent said sleeve from rotating in the other direction.

2. In a device of the class described, the combination of a fixed shaft, a fixed block supporting one end of said shaft, said shaft and block having each a diametral slot therein, a sleeve rotatably mounted on said shaft and carrying pinion-teeth and ratchet-teeth, said ratchet-teeth extending into a recess in said block, and a two-armed pawl whose middle bar extends through a slot in said shaft and whose end bars lie in the slot in said block and extend on opposite sides of said ratchet-teeth in a position to alternately engage the same, said pawl being reciprocated from side to side by the rotation of said sleeve in one direction, and engaging said teeth to prevent the rotation of said sleeve in the opposite direction.

972,452. FLAT-IRON. FRITZ JOHNSON, Racine, Wis. Filed May 27, 1910. Serial No. 563,707.



1. In a flat iron the combination of a chambered and perforated base, a steam generating chamber located above the chambered base and connected therewith by a steam conduit, and a burner interposed between said base and steam generating chamber and adapted to heat the same.

2. In a flat iron the combination of a base having a steam chamber and perforated bottom, a steam generating chamber located above the base and connected with the chamber therein by a steam conduit having an upturned bend extending above the steam generating chamber, and a burner interposed between the base and steam generating chamber and adapted to heat both.

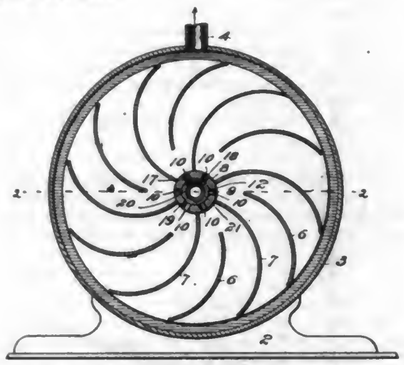
3. In a flat iron the combination of a base having a steam chamber and perforated bottom, a steam generating chamber located above and connected by a steam conduit with the chamber in the base and having a sight feed water supply connection provided with a regulating valve, and a burner interposed between the base and steam generating chamber and adapted to heat both.

4. In a flat iron the combination of a base having a steam chamber and perforations in the bottom communicating with said chamber, a chambered burner open in the center and having jet openings directed downwardly toward the base, and a steam generating chamber located above the burner and having a water supply connection and a steam connection with the chamber in the base.

5. In a flat iron the combination with a chambered base having perforations in the bottom, an open center gas burner having a fuel supply connection and jet openings directed downwardly toward the base, and a steam generating chamber located above said burner and having flue passages, a water supply connection and a steam connection with the chamber in the base.

[Claims 6 to 9 not printed in the Gazette.]

972,453. MOTOR-WHEEL. JAMES N. JOHNSON and JOHN H. JOHNSON, Fiomaton, Ala. Filed May 25, 1910. Serial No. 563,334.



1. In a motor wheel, a non-rotatable hollow shaft having radial openings, a wheel with blades revoluble on said shaft, the hub of said wheel having radial openings, and a throttle valve revolubly mounted within said shaft and having radial openings for coöperation with the openings of the said shaft and hub.

2. In a motor wheel, a non-rotatable hollow shaft, a wheel with blades revoluble on said shaft, and means for admitting a motive fluid at the axis of said wheel and delivering it upwardly only to relieve the weight of the wheel from its bearing.

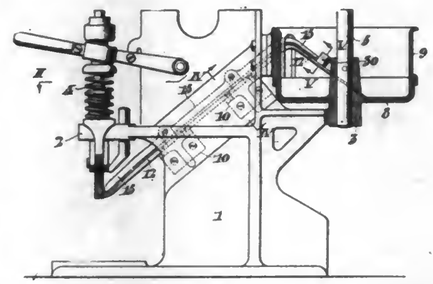
3. In a motor wheel, a hollow shaft, a wheel rotatable thereon, means for admitting motive fluid through said shaft to the interior of the wheel and delivering it in an upward direction only, and means within said shaft for controlling such fluid.

4. In a motor wheel, a non-rotatable hollow shaft, a wheel rotatable thereon, means for admitting motive fluid through said shaft and the hub of the wheel in an upward direction, and a revoluble throttle valve within said hollow shaft.

5. In a motor wheel, a non-rotatable hollow shaft, a wheel revoluble thereon, means for admitting a motive fluid to said shaft and through the hub of the wheel in an upward direction, and a throttle valve revoluble within said hollow shaft and having upwardly disposed ports.

[Claims 6 to 18 not printed in the Gazette.]

972,454. FEED-CHUTE. JOHN J. W. KENAN, Philadelphia, Pa., assignor to Thomas W. Jenkins, Philadelphia, Pa. Original application filed Apr. 9, 1908, Serial No. 425,978. Divided and this application filed Oct. 30, 1909. Serial No. 525,481.



1. A feed chute for headed objects formed by the combination of a pair of parallel strips bent in the form of an inverted V, with a rounded apex, and spaced to form a raceway; a rotating hopper within which descends one arm of the V; and a guard and guide strip parallel to the raceway, and passing over the rounded apex, and part way down into the hopper, whereby wrongly seated objects are rejected from the raceway before they reach the apex, and rightly seated objects prevented from leaving the raceway at the apex.

2. A feed chute for headed objects formed of three parallel strips, two of which are in the same lateral plane with an intervening slot to form a race-way, while the third, constituting a guard strip, is in a plane at right angles thereto, overhanging said slot; all three of said strips being bent in the form of an inverted V, with a rounded apex; all three of said strips being held in position by screws passing through slots in the strips, of which slots those in the race-way strips are at right angles to the race-way, while those in the guard strip are diagonally disposed to permit simultaneous and equal adjustment of both arms of the V shaped guard strip, whereby adjustment of all of said parts with reference to each other, may be effected to vary the size of the chute to the requirements of different sized objects.

3. In a feed chute for headed objects, the combination of three strips, two in the same plane with an intervening slot to form a raceway, and the other at right angles with its edge overhanging said slot; and supporting brackets for the chute with a bifurcated arm to which are attached the strips which form the raceway, and an overhanging arm to which the other strip is attached.

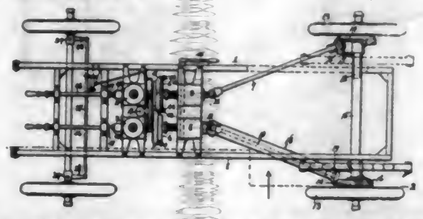
4. A feed chute for headed objects formed by the combination of a pair of parallel strips spaced to form a raceway; a rotating hopper within which descends one extremity of the raceway; a guard strip overhanging the raceway; and a spacing block, adjustably secured to the parallel strips, bridging the raceway near its end within the hopper.

972,455. DRIVING MECHANISM FOR MOTOR-VEHICLES. KARL A. KENDRICK, Detroit, Mich., assignor of one-half to Harrison Geer, Detroit, Mich. Filed Aug. 18, 1909. Serial No. 513,378.

1. Driving mechanism for motor vehicles, comprising a frame, traction wheels, two independent motors, driven shafts connecting the motors independently to the traction wheels, means for disconnecting said motors from said driven shafts, and means for connecting the motors directly together to cause them to turn in unison.

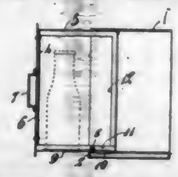
2. Driving mechanism for motor vehicles, comprising a frame, traction wheels, two independent motors, each motor connected directly to one of said wheels, means for disconnecting said connecting means, and means for connecting said motors to cause them to combine their power.

3. Driving mechanism for motor vehicles, comprising a frame, a transverse shaft, a traction wheel loosely mounted on each end of said shaft, two motors, two shafts extending from said motors to said traction wheels for driving said wheels independently, means for disconnecting the driven shafts from said motors, and means for connecting the motors to combine the power thereof on either of the driven shafts.



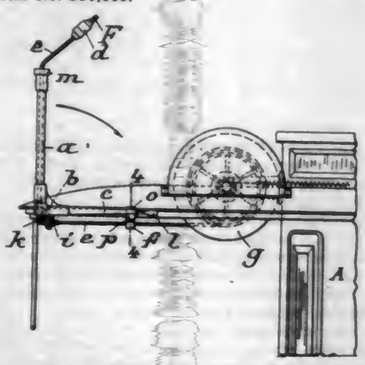
4. Driving mechanism for motor vehicles, comprising a frame, traction wheels, two independent explosive motors, driven shafts connecting the motors independently to the traction wheels, means for disconnecting said motors from said driven shafts, means for cranking each of the motors separately, and means for connecting the motors directly together to turn one from the other.

972,456. RECEPTACLE. MORGAN KERWICK, Cincinnati, Ohio. Filed Aug. 18, 1909. Serial No. 513,483.



A receptacle comprising an outer frame, open at one end, and having an upturned flange on the bottom of said outer frame at its open end, and an inner frame having a closed front and a bottom pivotally mounted near the rear of said inner frame, said inner frame being adapted to slide in and out of said outer frame, and said pivotally mounted bottom being adapted to depress when deposit is made in said receptacle and the front of said inner frame is contiguous to said outer frame to prevent the outward slide of said inner frame by the engagement of said bottom and said upturned flange.

972,457. ELECTRICALLY-PROPELLED VEHICLE. WILLY KÖHLER, Bremen, Germany. Filed Mar. 17, 1910. Serial No. 550,009.



1. In combination with a trackless vehicle electrically propelled from overhead wires a guide pipe pivoted on a fixed part of the vehicle and attached thereto a lever ending within reach of the driver's hand and adapted to swing said guide tube downward.

2. In combination with a trackless vehicle electrically propelled from overhead wires a guide pipe pivoted on a fixed part of the vehicle, and rigidly attached thereto a lever ending within reach of the driver's hand, means being provided for fixing said lever in such a position as to bring said guide pipe into its operative position.

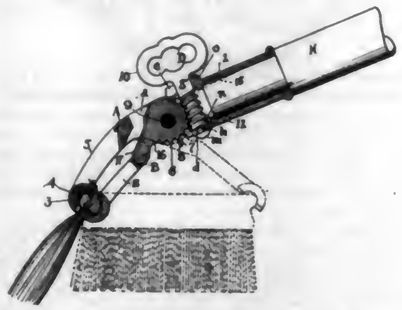
3. In combination with a trackless vehicle electrically propelled from overhead wires a guide pipe pivoted on a fixed part of the vehicle, and rigidly attached thereto a lever ending within reach of the driver's hand, a block provided on a fixed part of the vehicle and projecting into the path of said lever, said block having a notch adapted to receive said lever and an inclined surface leading up to said notch.

4. In combination with a trackless vehicle electrically propelled from overhead wires a guide pipe fitted with a ball bearing at its upper end, said guide pipe being pivoted to a fixed portion of the vehicle and being provided with a rigidly attached lever ending within reach of the operator's hand, a block attached to a fixed portion of the vehicle and projecting into the path of said lever, said block having a notch adapted to accommodate said lever when in operative position and an inclined surface leading up to said notch.

5. In combination with a trackless vehicle electrically propelled from overhead wires a guide pipe fitted with a ball bearing at its upper end, said guide pipe being pivoted to a fixed portion of the vehicle and being provided with a rigidly attached lever ending within reach of the operator's hand, a block attached to a fixed portion of the vehicle and projecting into the path of said lever, said block having a notch adapted to accommodate said lever when in operative position and an inclined surface leading up to said notch, the said lever having sufficient springiness to ride over said inclined surface.

[Claims 6 to 10 not printed in the Gazette.]

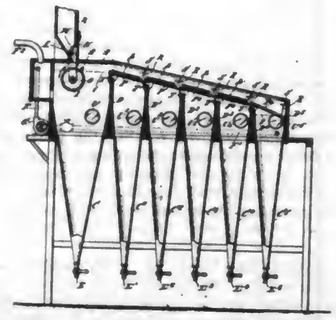
972,458. COMBINED MOP AND BRUSH HOLDER. EDGAR O. LOEBER, Cleveland, Ohio, assignor to The Handy Manufacturing Company, Cleveland, Ohio, a Corporation. Filed June 6, 1910. Serial No. 565,423.



1. A mop holder having a fixed upper member provided with a handle socket and a pivoted lower member and meeting jaws on said members, said fixed member having a vertical longitudinal slot with a rounded inner extremity, a controlling screw for the lower jaw operatively seated in said rounded extremity and said lower member having a head pivoted in said slot and provided with transverse teeth engaging said screw, said screw being locked against removal in the said rounded inner extremity of said slot.

2. A mop holder having a handle supported jaw member with a vertical slot lengthwise in its shank and the inner end of said slot rounded at *c* and *d* respectively top and bottom, a controlling screw resting against said rounded portions and engaging said lower portion *d* at top and bottom, thereby confining said screw against lengthwise movement and a lower jaw member pivoted in said slot and having a toothed head engaging said screw.

972,459. PROCESS FOR SEPARATION OF INGREDIENTS OF MIXED SOLID MATERIALS. FRANK SANDERSON MACGREGOR, Hyde Park, Mass., assignor to Huff Electrostatic Separator Company, Boston, Mass., a Corporation of Maine. Filed Feb. 27, 1909. Serial No. 480,400½.



1. The process of separating ingredients of comminuted solid material, which consists in depositing the material gently upon the surface of a body of liquid under conditions as to comminution of the material favorable to the flotation by surface tension of the particles constituting two or more ingredients, thereafter subjecting the material to chemical treatment while on the liquid, to alter the superficial condition of some one or more of said ingredients and thereby rendering the particles thereof abnormally susceptible to wetting by the said liquid, in contrast to the persistent condition of other ingredient particles, enguling said wetted ingredients in the liquid and separately collecting the immersed and floated ingredients.

2. The process of separating ingredients of comminuted solid material, which consists in depositing the material gently upon the surface of a liquid, under conditions, as to comminution of the material, favorable to the flotation by surface tension of the particles constituting two or more ingredients, thereafter subjecting the floated materials to chemical treatment while on the liquid, to alter the superficial condition of some one or more of said ingredients and render the particles thereof abnormally susceptible to wetting by the said liquid, in contrast to the persistent condition of other ingredient particles, subjecting the materials and the liquid to gentle agitation, accompanied by flow in one direction, enguling the wetted particles in the liquid, and separately collecting the immersed and floated ingredients.

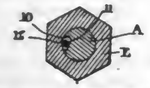
3. The process of separating ingredients of comminuted material containing metallic sulfid, which consists in depositing the materials gently upon the surface of a body of water, under conditions, as to comminution of the material, favorable to flotation by surface tension of the particles constituting two or more ingredients, subjecting the materials to contact with a halogen while on the water, to increase the superficial avidity for water of some one or more of said ingredients, in contrast to the persistent condition of other ingredient particles, wetting and enguling the particles affected as aforesaid by the halogen, and separately collecting the immersed and floated ingredients.

4. The process of separating ingredients of comminuted material containing metallic sulfid, which consists in depositing the materials gently upon the surface of a body of water, under conditions as to comminution of the material, favorable to flotation by surface tension of the particles constituting two or more ingredients, sujecting the materials to contact with a halogen while on the water, to increase the superficial avidity for water of some one or more of said ingredients, in contrast to the persistent condition of other ingredient particles, subjecting the materials and the liquid to gentle agitation accompanied by flow in one direction, enguling the wetted particles and separately collecting the immersed and floated ingredients.

5. The process of separating ingredients of comminuted solid material, which consists in depositing the material gently upon the surface of a liquid, under conditions as to comminution of the material favorable to the flotation by surface tension of the particles constituting the several ingredients, thereafter subjecting the floated materials to chemical treatment while on the liquid, to alter the superficial condition of one or more of the said ingredients and render the particles thereof abnormally susceptible to wetting by the said liquid, subjecting the liquid and the particles of solid material to a series of consecutive agitations, accompanied by flow in one direction, and successively wetting and enguling the particles affected, in the order of their susceptibility to the liquid, and separately collecting the ingredients thus separated.

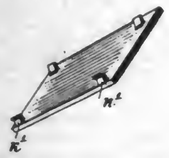
[Claims 6 to 8 not printed in the Gazette.]

972,460. NUT-LOCK. ATHOL BRANT MACKLIN, Ottawa, and HENRY JOHN WADDIE, Hamilton, Ontario, Canada. Filed May 7, 1909. Serial No. 494,705.



A nut lock of the character described, comprising a nut, a bolt formed with a threaded shank upon which said nut is screwed, said threaded shank having a recess adapted to receive a locking member, said recess being uniformly inclined longitudinally as well as transversely, the transverse inclination being such that in one position the locking member will be out of engagement with the threads on the nut and in another position will be engaged therewith and the longitudinal inclination such that as the nut is screwed on the bolt, the inner end of said locking member will be forced into engagement with the longitudinally inclined wall of said recess.

972,461. GLASS TILE. WILLIAM PASSMORE MEEKER, Maplewood, N. J. Filed June 3, 1908. Serial No. 436,370.



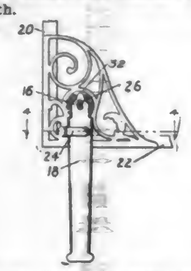
A glass facing tile provided upon its back with an integral lug having a base portion inclined to one side of a line perpendicular to the back of the tile, and a top portion disposed at an angle to said base portion and inclined to the opposite side of said perpendicular line.

972,462. LEG-MOUNTING FOR UPTILTING BEDS. NATHAN C. MERRILL, Chicago, Ill. Filed Oct. 28, 1909. Serial No. 525,184.

1. In combination, a panel swinging in a vertical plane, a bed hinged thereto, a leg pivoted at a fixed point to the bed near the foot thereof and a keeper on the frame at a substantial distance from the pivot of the leg adapted to engage the leg when the bed is lowered to brace the same against the strain caused by swinging movement of the panel.

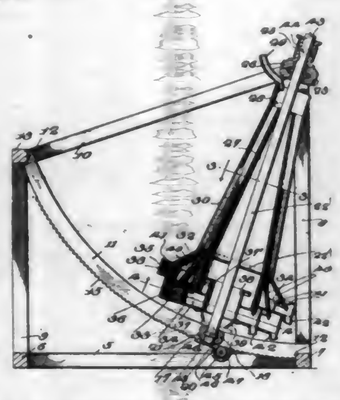
2. In combination with an uptilting bed, a leg pivoted near the foot thereof adapted to support the bed when in usable position, a clip or keeper attached to the frame of the bed adjacent to the position of the leg when the bed

is in usable position, at a distance from the pivot of the leg, adapted to have the leg pass between it and the frame of the bed and in substantial contact with both for the purposes set forth.



3. In combination, a swinging panel, a bed hinged thereto, a leg pivoted to the bed near the foot thereof, the pivot of said connection traveling in a slot in the adjacent member perpendicular to the bed, means in said pivot and slot connection adapted to automatically lock the bed and leg in contact with each other when the bed is in lowered position, and a keeper adapted to engage the leg when the bed is lowered to brace the same against the strain caused by swinging movement of the panel.

972,463. ORE-CONCENTRATOR. ELDOA H. MOE, Salt Lake City, Utah. Filed Nov. 26, 1909. Serial No. 529,984.



1. An ore concentrator including a supporting frame, a bracket pivotally mounted on the frame, spaced arcuate rack bars secured to the frame, a carriage slidably mounted between the rack bars, an operating shaft journaled in the bracket and carriage respectively, a drum mounted for rotation with the shaft and provided with a plurality of circumferential separating compartments, a series of receiving troughs, means for positively directing the different grades of material into their respective receiving troughs, and pinions carried by the carriage and adapted to engage the teeth on the racks for moving the drum to different positions of angular adjustment with respect to the supporting frame.

2. An ore concentrator including a supporting frame, a bracket pivotally mounted on the supporting frame, spaced arcuate rack bars secured to the frame, a carriage slidably mounted between the rack bars, an operating shaft journaled in the bracket and carriage respectively and having one end thereof projected longitudinally beyond the bracket and provided with a pulley, a drum mounted for rotation with the shaft, a plurality of open-ended separating tubes carried by the drum, a hopper communicating with the tubes at the upper ends thereof, a plurality of receiving troughs, means for positively directing the different grades of material into the adjacent troughs, pinions carried by the carriage and adapted to engage the teeth on the racks for adjusting the drum with respect to the frame, and a belt engaging the pulley and having its opposite legs disposed on opposite sides of the pivotal axis of the bracket.

3. An ore concentrator including a supporting frame, a bracket pivotally mounted on the frame and provided with a bearing, spaced arcuate rack bars secured to the frame and provided with laterally extending flanges, a carriage having a bearing and provided with overhanging flanges engaging the flanges on the rack bar, an operating shaft journaled in the bearings of the bracket and carriage respectively, a conical shaped drum carried by the shaft and provided with a plurality of spaced radiating separating compartments, a receptacle secured to the carriage partitions disposed within the receptacle and defining independent receiving troughs, means for positively directing the different grades of material from the separating tubes into the adjacent troughs, a stub shaft journaled on the carriage, pinions secured to the stub shaft and engaging the teeth on the racks for changing the angle or inclination of the drum, and clamping screws piercing the flanges of the carriage and engaging the flanges on the rack bars for securing the drum in adjusted position.

972,464. CELLULOSE ESTER AND PROCESS OF TREATING SAME. HARRY S. MORK, Boston, Mass., assignor to Chemical Products Company, Boston, Mass., a Corporation of Maine. Filed May 6, 1910. Serial No. 559,728.

1. The method herein described of changing the physical condition of cellulose esters of the fatty acids, as cellulose acetate, which consists in dissolving such esters in methyl formate, and then adding to the solution another solvent of the ester.

2. The method herein described of changing the physical condition of cellulose esters of the fatty acids, as cellulose acetate, which consists in dissolving such esters in methyl formate, and then adding to the solvent a liquid which is a non-solvent of the ester.

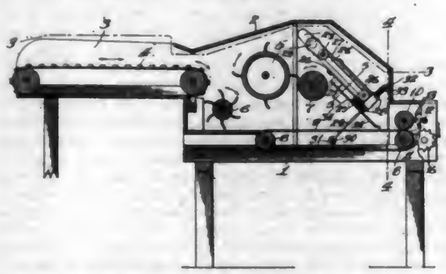
3. The method herein described of changing the physical condition of cellulose esters of the fatty acids, as cellulose acetate, which consists in dissolving such esters in methyl formate and another solvent, and then adding to the solution a liquid which is a non-solvent of the ester.

4. A composition of matter consisting of a cellulose ester of a fatty acid, as cellulose acetate, dissolved in methyl formate.

5. A composition of matter consisting of a cellulose ester of a fatty acid, as cellulose acetate, dissolved in methyl formate and another solvent.

[Claims 6 to 9 not printed in the Gazette.]

972,465. SELF-FEEDER FOR FEED-CUTTERS. HERMAN J. MUELLER, Sugar Loaf township, St. Clair county, Ill. Filed Mar. 30, 1910. Serial No. 552,377.

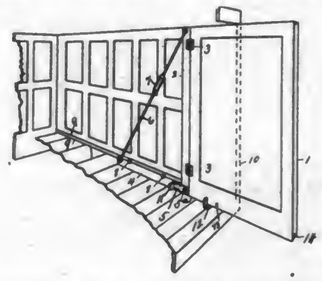


1. In a machine of the class described, a frame part of which is inclosed, an open-topped extension of the frame, a conveyer in said open-topped extension, cylinders arranged within the inclosed portion of the frame and rotatable at a speed greater than the travel of the conveyer, teeth carried by each cylinder, a frame pivoted within the inclosed portion of the machine, pressure blades carried by said pivoted frame, means for moving the blades lengthwise of the pivoted frame, a conveyer within the inclosed portion of the machine, rollers at the end of said conveyer and rotating cutting members adjacent said rollers.

2. In a machine of the class described, a frame comprising a closed portion and an open-topped portion, a conveyer within the open-topped portion, cylinders having teeth located in the inclosed portion of the frame and arranged to travel at a speed greater than the travel of said conveyer, means to prevent one of the cylinders from carrying matter upwardly within the inclosed portion of the machine, a conveyer within the inclosed portion of the machine, a pivoted frame above said last mentioned conveyer within the inclosed portion of the machine, pressure blades movable lengthwise of the pivoted frame, means for reciprocating said blades, means for limiting the movement of said pivoted frame, rollers at the end of the conveyer within the frame, and cutting members adjacent said rollers.

3. In a machine of the class described, a frame having an inclosed portion and an open-topped portion, a conveyer operating in the open-topped portion, toothed cylinders within the inclosed portion of the frame, means for rotating said cylinders at a speed greater than the travel of said conveyer, a roller adjacent one of the cylinders to prevent matter from being carried upwardly in the inclosed portion of the machine by said cylinder, a conveyer within the inclosed portion of the machine, rollers at the end of said conveyer, cutting members adjacent said rollers, a shaft having cranks extended through the inclosed portion of the machine, a frame pivotally carried by said shaft above said last mentioned conveyer, crossheads operating in said pivoted frame, pressure blades carried by said crossheads, links connecting the crossheads with said cranks and cushioning devices for limiting the movement of the pivoted frame.

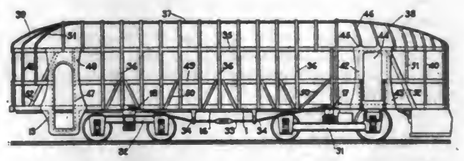
972,466. DISAPPEARING DOOR. HERBERT W. MCAFEE, Columbus, Ga. Filed Nov. 26, 1909. Serial No. 530,069.



The combination with a vertical supporting member, of a door carried thereby, a horizontally-disposed tube having a longitudinally-extending slot, a horizontally-disposed, reciprocating bar carrying rollers working in said slot, an adjustable bracing-member secured to said bar and said vertical supporting-member, a plate secured to said bar and having a lateral flange, said vertical supporting member being pivoted to said plate, and a stationary stop, against which said flange abuts to limit the outward travel of said reciprocating bar.

972,467. CAR-FRAME. WILLIAM R. MCKEEN, Jr., Omaha, Nebr., assignor, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr., a Corporation of New Jersey. Filed Sept. 11, 1905. Serial No. 277,912.

1. In a car frame, in combination, a sill, an upper side plate and an intermediate side plate extending about one end of the frame, a longitudinal rib secured to said sill at the front of said frame and extending upwardly adjacent said side plates and thence rearwardly, and a plurality of ribs connected with said sill and extending upwardly adjacent said side plates and secured to said first-mentioned rib.



2. In a car frame, in combination, a sill and an upper side plate extending about one end of the frame, a longitudinal rib secured to said sill at the front of said frame and extending upwardly adjacent said side plate and thence rearwardly, a plurality of ribs connected with said sill and extending upwardly adjacent said side plate and secured to said first-mentioned rib, and a brace secured to said sill and said side plate, said brace being inclined with respect to said sill.

3. In a car frame, in combination, a sill, an upper side plate and an intermediate side plate extending about the end of said frame, a cross member secured to said sill at two points and extending upwardly from one of said points thence across said frame and downwardly to the other of said points, a longitudinal rib attached to the front of said sill and extending upwardly adjacent said plates, and thence rearwardly to said cross member, and ribs secured to said side plates and to said sill and extending from said upper side plate to said longitudinal rib.

4. In a car frame, in combination, a sill extending about one end thereof, a pair of cross members stretched directly between opposite sides of said sill adjacent said end, and a longitudinal member connecting said cross members.

5. In a car frame, in combination, a continuous sill extending substantially to a point at the end of the frame, a cross member stretched directly between opposite sides of said sill adjacent said point, a second cross member at the rear of said first-mentioned cross member, a longitudinal member connecting said cross members, and a plate connecting the opposite sides of said sill adjacent said point and connected with said first-mentioned cross member.

[Claims 6 to 95 not printed in the Gazette.]

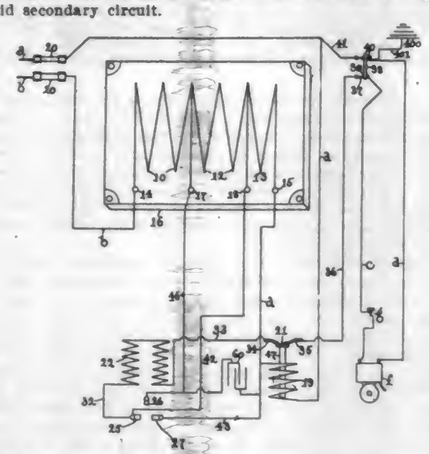
972,468. CLOSED SYSTEM OF ELECTRICAL DISTRIBUTION. RODERICK M. PALMER, Cambridge, Mass., assignor to George O. G. Coale, trustee, Cambridge, Mass. Filed Mar. 1, 1909. Serial No. 480,643.

1. In a system of electrical distribution, the combination of a primary closed high voltage circuit having a resistance therein, a secondary circuit connected with a portion of the resistance in said primary circuit where a current of low amperage will initially be supplied to said secondary circuit when closed, and means for automatically connecting said secondary circuit upon the closing thereof with another portion of said resistance to vary the amperage of current supplied to said secondary circuit.

2. In a system of electrical distribution, the combination of a primary closed high voltage circuit having a resistance therein, a secondary circuit connected with a portion of the resistance in the high voltage circuit for initially supplying to the secondary circuit a current of low amperage when said secondary circuit is closed, and means whereby a current having a higher amperage than that of the current initially supplied to said secondary circuit may automatically be supplied thereto from said primary circuit upon closing said secondary circuit.

3. In a system of electrical distribution the combination of a primary closed high voltage circuit having a resistance therein, a secondary circuit connected with a portion of the resistance in the high voltage circuit for

initially supplying to the secondary circuit a current of low amperage when said secondary circuit is closed, a normally open auxiliary circuit connecting with a portion of the resistance in said primary circuit where there will be supplied to said auxiliary circuit when closed a current of higher amperage than that initially supplied to said secondary circuit, and means whereby upon the closing of said secondary circuit said means may be actuated to close said auxiliary circuit and connect the same with said secondary circuit and a portion of the current passing over said auxiliary circuit be shunted off to pass through said secondary circuit.



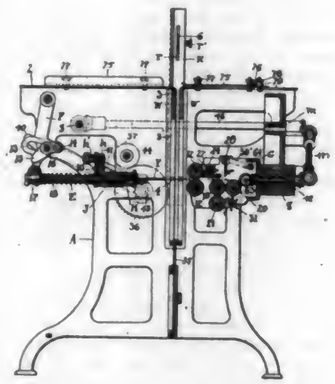
4. In a system of electrical distribution, the combination of a primary closed high voltage circuit having a resistance therein, a secondary circuit connecting with a portion of the resistance in said primary circuit where a current of low amperage will initially be supplied to said secondary circuit when closed, an electro-magnetic device in said secondary circuit energized by the current passing therethrough when said circuit is closed, a normally open auxiliary circuit connected with a portion of the resistance in said primary circuit where there will be supplied to said auxiliary circuit a current of higher amperage than initially supplied to said secondary circuit, and means actuated by said electro-magnetic device for closing said auxiliary circuit and for connecting the same with said secondary circuit whereby a portion of the current entering said auxiliary circuit may be shunted off to pass through said secondary circuit.

5. In a system of electrical distribution, a primary closed high voltage circuit having a resistance therein, a normally open secondary circuit bridging said primary circuit from a point of resistance therein from which a current of low amperage will pass through said secondary circuit when closed, means for closing said secondary circuit, a normally open auxiliary circuit bridging said primary circuit from a point of resistance therein from which a current of higher amperage will pass than the amperage of current normally supplied to said secondary circuit when closed, and means whereby said auxiliary circuit may automatically become closed and connected with said secondary circuit upon the closing of said secondary circuit and a portion of the current supplied to said auxiliary circuit be shunted off to pass through said secondary circuit.

[Claims 6 to 9 not printed in the Gazette.]

972,469. PAPER-FOLDING-MACHINE. ALBERT D. PEJAUD, Cleveland, Ohio, assignor, by direct and mesne assignments, to The American Folding Machine Company, Cleveland Ohio, a Corporation of Ohio. Filed May 17, 1909. Serial No. 496,585.

1. In paper folding machines, a set of blades adapted to fold the paper in succession, the first blade arranged vertically and the second blade having a central axis on which it is adapted to rotate to different-working angles, and means coöperating with said blade to fold the paper at different angles according to the adjustment of said blade.



2. In a paper folding machine, a folding blade having a stem by which it is rotarily and slidably mounted, a pivoted actuating arm engaging said stem and adapted to give a thrusting movement to said blade, and a spring adapted to restore the blade to initial position.

3. In a paper folding machine, a folding blade mounted edgewise in a head having a stem and a fixed portion of the machine frame in which said stem is slidably and rotatably mounted, to different folding positions, a pivoted arm loosely engaging the end of said stem, means to actuate said arm at regular intervals and impart a thrusting movement to said blade and a spring on said stem to retire the blade after a stroke has been made.

4. The combination of a folding blade having a supporting head and stem and a bearing in which said stem is slidably and rotatably mounted, means to fix the blade in any given working position engaging said stem and means to thrust the blade forward and to retire the same successively.

5. In a machine for folding paper, a folding blade adapted to be set at different angles and creasing rolls adapted to be set at the same angles as said blade and to receive the folded paper therefrom.

[Claims 6 to 55 not printed in the Gazette.]

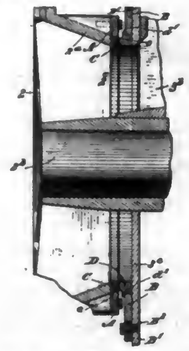
972,470. SEALING-RING FOR GRINDING-MILLS. CHARLES L. PETRIKIN and CHANDOS ROY DIMM, Muncy, Pa., assignors to Robinson Manufacturing Company, Muncy, Pa., a Corporation of Pennsylvania. Filed Mar. 25, 1910. Serial No. 551,602.

1. In a grinding mill, the combination of a runner-head and feed spout; with a pair of sealing rings interposed between and respectively connected with the runner-head and the feed spout, said rings having their meeting ends directly opposed and closely adjacent to prevent escape of stock between the rings when passing from the feed spout to the runner-head.

2. In a grinding mill, the combination of a runner-head and a feed spout; with a sectional sealing ring removably attached to the outer end of the runner-head and rotating therewith; and a second sectional sealing ring in substantially axial alinement with the first sealing ring, and means for removably securing the second ring around the opening in the feed spout with its inner end closely adjacent the outer end of the first ring.

3. In a grinding mill, the combination of a runner-head, an annular retainer secured to the outer end of the runner-head, and a sectional sealing ring secured within the said retainer; with a feed spout, an annular retainer secured around the end of such spout adjacent the runner-head, and a second sectional sealing ring fitted within the said annular retainer with its inner end directly opposed to the outer end of the first ring and closely adjacent thereto.

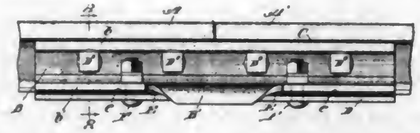
4. In a grinding mill, the combination of a runner-head, a retainer secured to the outer end of the runner-head and beveled on its inner periphery, and a sealing ring beveled on its outer periphery and secured within the said annulus; with a feed spout, and a second sealing ring secured around the discharge end of the spout; said sealing rings being adjusted so that their opposed ends are closely adjacent to prevent escape of stock passing from the spout to the runner-head.



5. In a grinding mill, the combination of a runner-head, an annulus secured to the outer end of the runner-head and beveled on its inner periphery, and a sealing ring secured within the said annulus; with a split retainer secured around the discharge end of the spout, means for clamping the split retainer, and a sealing ring fitted within the said split retainer and having its inner end closely adjacent the outer end of the first ring.

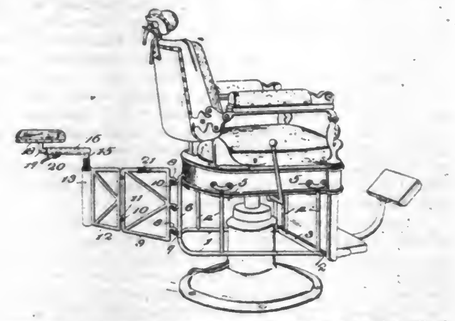
[Claims 6 and 7 not printed in the Gazette.]

972,471. INSULATED RAIL-JOINT. CHARLES F. QUINCY, Oconomowoc, Wis., assignor to Quincy, Manchester, Sargent Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 16, 1908. Serial No. 421,525.



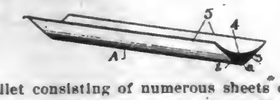
In an insulated rail joint, the combination of two adjacent rail ends, fish plates arranged between the heads and the bases of the rails and having laterally extending flanges projecting beyond the sides of the rail bases in a plane above the underside of the bases, each of said fish plates having a downwardly projecting chord at the center thereof, a layer of insulation between each fish plate and the rails, a flat base plate located beneath the bases of the rails and projecting laterally beneath the flanges on the fish plates, said base plate having portions removed from opposite sides thereof to receive the downwardly projecting chords on the fish plates, a slab of insulating material arranged between said base plate and the bases of the rails and conforming in shape to the shape of the base plate, said slab being thickened at each of its corners so as to fit snugly between the flanges of the fish plates and the base plate, bolts passing through the fish plates and the webs of the rails, and bolts for tying the flanges of the fish plates, the insulating slab and the base plate into one solid structure.

972,472. AUXILIARY SEAT FOR CHAIRS. GUSTAV W. RIEBE, Iron River, Wis. Filed Dec. 24, 1909. Serial No. 534,757.



The combination with a chair of the character described embodying a pedestal and a seat-base mounted thereon, of a framework including hanger-rods connected to and depending from the side edges of the seat-base, a base frame connected to the lower ends of said hanger-rods and extending partially around and spaced from the pedestal of the chair, said base frame including side members that are threaded at their extremities, a transversely extending base-bar apertured to be slipped over said threaded extremities and secured thereto, a standard embodied in said framework and connected at its lower end to the rear end of the base frame, the standard being connected at its upper end to the rear edge of the seat-base, a laterally swinging seat supporting frame pivotally connected to said standard, and an auxiliary seat carried by said frame.

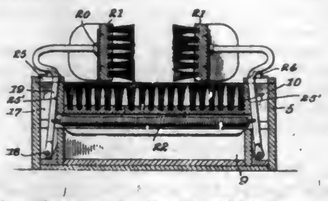
972,473. FILLET FOR PATTERNS. WILLIAM C. RISBRIDGER and MILTON W. RISBRIDGER, Cleveland, Ohio, assignors of one-third to B. F. Johnson, Cleveland, Ohio. Filed Apr. 8, 1909. Serial No. 488,688.



1. A fillet consisting of numerous sheets of fibrous material cemented together in block form and the edges of the fillet chamfered at an inclination the full depth of the fillet from its middle to its opposite edges.

2. A fillet consisting of numerous sheets of fibrous material cemented one upon the other to the desired thickness in block form, and the edges of said sheets chamfered off at an inclination to the plane of said sheets from the middle at one side to the edges of the other side and adapted to be bent from its middle to approximately crescent shape, whereby all the layers in the fillet are bent correspondingly and the integrity of the structure is maintained.

972,474. SHOE-CLEANING DEVICE. MORRIS B. SEAMAN and GEORGE COHEN, Meriden, Conn. Filed May 29, 1909. Serial No. 499,077.



1. A shoe cleaner comprising a casing, a tray slidably mounted in the casing and provided with a cleaning surface, and yieldable brush supporting arms adapted to engage said tray for retaining the same within the casing.

2. A shoe cleaner comprising a casing, a tray slidably mounted in the casing and provided with a brushing surface, yieldable brush-supporting arms pivotally mounted in the casing and adapted to normally and yieldably engage the tray for holding the latter within the casing and means for supporting the arms out of engagement with the tray thereby to permit the removal of the latter from the casing.

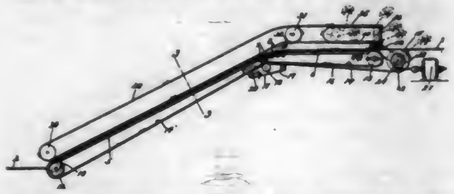
3. A shoe cleaner comprising a casing, a tray slidably mounted in the casing, and provided with a brushing surface and yieldable arms pivotally mounted on the casing and provided with terminal brushes disposed at an angle to each other and overhanging the brushing surface, said arms being supported in contact with the tray for retaining the latter within the casing.

4. A shoe cleaner comprising a casing having vertical recesses formed therein, a tray slidably mounted within the casing and provided with a brushing surface, overhanging brush supporting arms pivotally mounted in the recesses in the casing and normally bearing against the tray, a spring forming a yieldable connection between said arms and means for supporting the arms out of engagement with said tray, thereby to permit the removal of the latter.

5. A shoe cleaner comprising a casing, having overhanging plates and provided with vertically disposed recesses, there being slots formed in the plates and communicating with the recesses, a tray slidably mounted in the casing and provided with a brushing surface, yieldable brush supporting arms pivotally mounted in the recesses and having their upper ends extended through the slots in the plates, means for normally and yieldably maintaining the arms in position over the brushing surface, and fastening devices adapted to engage said arms when the arms are moved laterally in the slots.

[Claims 6 to 9 not printed in the Gazette.]

972,475. CONVEYER. CHARLES D. SEEBERGER, Yonkers, N. Y. Filed Jan. 4, 1905, Serial No. 239,592. Renewed Mar. 9, 1910. Serial No. 548,264.



1. In a conveyer, a support or base composed of angularly disposed platforms and an intermediate curved bridge, and a carrier traveling over the support and bridge.

2. In a conveyer, a support composed of an inclined platform, a horizontal platform, and intermediate rotary and stationary members, and a carrier moving over the support.

3. In a conveyer, a support or base composed of an inclined and a horizontal platform spaced apart and rollers bridging the space, and an endless carrying surface traveling over the support.

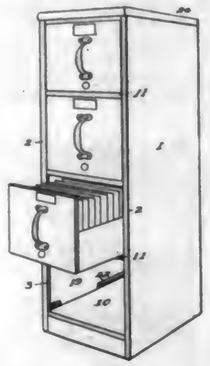
4. A conveyer consisting of an endless belt, and a support therefor comprising angularly disposed platforms and rollers bridging the angle and gradually deflecting the line of one platform into that of the other.

5. A conveyer consisting of an endless belt, and a support therefor comprising angularly disposed platforms, and rollers bridging the angle and gradually deflecting the belt from one platform to the other.

[Claims 6 to 37 not printed in the Gazette.]

972,476. METAL FILING CABINET. LIBORIUS SENGE, Crescent Springs, Ky., assignor to The Globe-Wernicke Company, Cincinnati, Ohio. Filed Jan. 8, 1910. Serial No. 537,026.

1. In a cabinet of the character described, the combination of side walls, a rear wall, an integral telescoping connection between the edges of said rear wall and the rear edges of said side walls, shelves maintained in place partly by the front edges of said side walls and partly by inner spacing walls, inner spacing walls maintained in place partly by said shelves and partly by the front edges of said side walls, and spacers inserted between the bottom shelf and the bottom of the side walls to raise said bottom shelf from the bottom edges of said side walls, substantially as described.



2. In a cabinet of the character described, the combination of side walls, a rear wall, an integral telescoping connection between the edges of said rear wall and the rear edges of said side walls, shelves maintained in place partly by the front edges of said side walls and partly by inner spacing walls, inner spacing walls maintained in place partly by said shelves and partly by the front edges of said side walls, and a top piece attached to the upper part of the cabinet to improve the appearance of the finished cabinet, substantially as described.

3. In a cabinet of the character described, the combination of side walls, a rear wall, an integral telescoping connection between the edges of said rear wall and the rear edges of said side walls, shelves maintained in place partly by the front edges of said side walls and partly by inner spacing walls, inner spacing walls maintained in place partly by said shelves and partly by the front edges of said side walls, and spacers inserted between the bottom shelf and the bottom of the side walls to raise said bottom shelf from the bottom edges of said side walls, substantially as described.

4. In a cabinet of the character described, the combination of side walls, a rear wall, an integral telescoping connection between the edges of said rear wall and the rear edges of said side walls, shelves maintained in place partly by the front edges of said side walls and partly by inner spacing walls, inner spacing walls maintained in place partly by said shelves and partly by the front edges of said side walls, spacers inserted between the bottom shelf and the bottom of the side walls to raise said bottom shelf from the bottom edge of said side walls, and a top piece attached to the upper part of the cabinet to improve the appearance of the finished cabinet, substantially as described.

972,477. CAR-SEAL. FRANK L. SHADLEY, Sterling, Nebr. Filed Dec. 27, 1909. Serial No. 535,064.

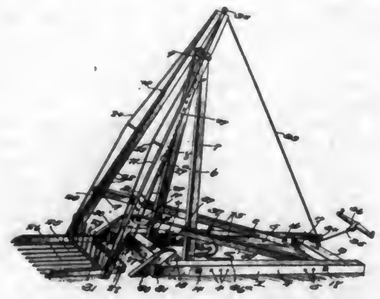


1. A seal comprising a casing or head and a sheet metal shackle, said shackle having bent back portion at one end, said bent back portion having an elongated slot therein, and a tongue projecting from the strap below said slot, the other end of the shackle having an opening near its free end and a rearwardly projecting spring tongue in the rear of said opening, the head or casing having a socket in its upper face to form a seat for the end of the last mentioned spring tongue and retain the shackle within the casing or head.

2. In a car seal the combination with a strap, a shackle having one end bent back and slotted longitudinally, a spring tongue projecting upwardly from said strap below the slot, the other end portion of the strap having an opening near its free end, a spring tongue projecting rearwardly from the strap adjacent to said opening, and adapted to project through the longitudinal slot in the bent over end of the strap, and a head or casing to receive the interlocked ends of the shackle, said casing having a socket in its upper wall to receive the end of the rearwardly projecting spring tongue, the rear edge of the upper wall of said casing bent downwardly and inwardly to form a seat for the end of the said turned back end, to prevent withdrawal of the interlocked ends of the shackle from the casing or head.

3. In a car seal, the combination with a casing or head comprising an open ended box, the upper wall of which is provided with a socket, and the rear end of said upper wall bent downwardly and inwardly to form a rest or socket, of a shackle or strap having two ends, one of which is bent back, said ends having oppositely projecting spring tongues and slots through which said tongues project, said ends adapted to be inserted in the aforesaid casing or head, the seat or socket in the upper wall of the casing adapted to prevent withdrawal of the interlocked ends of the shackle or strap.

972,478. HAY STACKER AND LOADER. LEROY R. SHAFTO, Elm Creek, Nebr. Filed Nov. 27, 1909. Serial No. 530,196.



1. In a hay stacker or loader, a base, having at one end forward pivoted beams, while at the other rearward pivoted beams, a fork-carrying frame pivoted to the ends of the forward and rearward beams, means whereby a pulling action may be exerted upon the fork-carrying frame in order to impart a variable movement to the fork, means arranged between the fork and the forward beam whereby the angle of the fork may be changed when being raised, means to prevent the rear portion of the fork from striking the base as it is raised, and means to limit the upwardly tilting action of the angularly arranged beams.

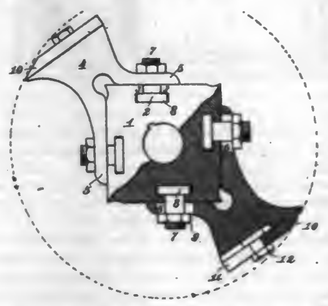
2. In a hay stacker, a base, beams pivoted to the rear end of the base, beams pivoted to the front end of the base, a fork carrying frame pivoted to the ends of the beams, the front beams being connected with the rear of the frame and the rear beams being connected with the front of the frame, a fork pivoted on the frame, a rod pivoted to the fork and the upper end of the front beams, and means for raising the fork with the frame.

3. In a hay stacker, a base, beams pivoted to the rear end of the base, beams pivoted to the front end of the base, a fork carrying frame pivoted at its rear to the upper ends of the second beams and at its forward end to the upper ends of the first beams, a fork pivoted on the front end of the frame, means for elevating the fork with the frame, and a spring connecting the base to the rearwardly pivoted beams.

4. In a hay stacker, a base, pivoted members on the forward end of the base, beams pivoted to the rear end of the base, beams pivoted to the forward end of the base, a fork carrying frame pivoted at its rear end to the upper ends of the forwardly pivoted beams and at its forward end to the upper ends of the rearwardly pivoted beams, a fork pivoted on the frame, an arm connected with the fork, a rod connecting the fork and the forwardly pivoted beams, and a rope connected to the fork carrying frame.

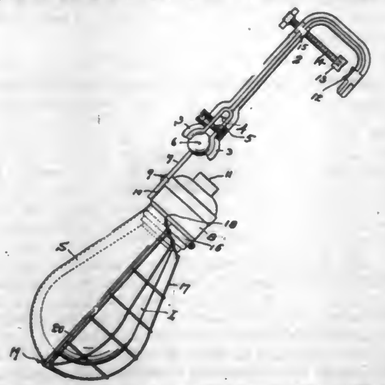
5. In a hay stacker, a base, a pair of beams pivoted to the rear end of the base, a pair of beams pivoted to the forward end of the base, means for adjusting the connection between the beams and the base, a fork carrying frame pivoted at its rear end to the upper ends of the forwardly pivoted beams and at its forward end to the rearwardly pivoted beams, means for adjusting the connection between the rearwardly pivoted beams and the frame, a fork pivoted on the frame, a rod connecting the fork with the forwardly pivoted beams, a spring connecting the rearwardly pivoted beams and the base, pivoted members on the forward end of the base, and a rope connected to the frame and the base.

972,479. CUTTER-HEAD. FREDERIK KRISTIAN SONDERGARD, Westholme, British Columbia, Canada. Filed Nov. 25, 1908. Serial No. 464,346.



In combination with a cutter head of polygonal form, a support projecting radially therefrom at a corner or angle between two contiguous longitudinal sides thereof, the said support having diverging feet at its inner end, the inner faces of which are flat and bear on and are secured to said contiguous sides of the cutter head, and a bit adjustably secured to the outer end of said support and spaced thereby from the cutter head.

972,480. LIGHT-HOLDER. EDWARD K. SOUTHWICK, Newark, N. J. Filed Feb. 24, 1910. Serial No. 545,746.

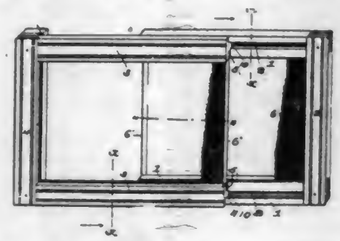


1. In a portable light-holder, the combination with a U-shaped hook having one leg of the U longer than the other

and the longer leg thereof being provided with one member of a ball-and-socket joint, of a light-reflector, a ball-and-socket joint-member coacting with the first-named joint-member to which said reflector is rigidly connected, and a clamp-screw passing through one leg and coacting with the other leg of said U-shaped hook.

2. In a portable light-holder, the combination with a U-shaped hook having one leg of the U longer than the other and the longer leg thereof being provided with one member of a ball-and-socket joint, of a lamp-socket, a light-reflector, a ball-and-socket joint-member coacting with the first-named joint-member to which said socket and said reflector are rigidly connected, and a clasp-screw passing through one leg and coacting with the other leg of said U-shaped hook.

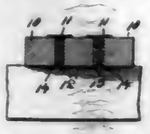
972,481. WINDOW-SCREEN. FRANK SPRAGUE, Hillsdale, Mich., assignor to The Hillsdale Screen Company, Hillsdale, Mich. Filed Apr. 29, 1909. Serial No. 492,808.



1. A window screen formed in a plurality of parts, one of said parts being formed with a dependent tongue having an overhanging flange extending at right angles thereto on one side, and a projection on the other side for defining, together with the remaining part of the frame, a screen receiving slot, and the other of said parts being formed with a groove for receiving the lower end of said tongue, a recess for receiving said overhanging flange, and a projecting flange for defining a screen receiving slot arranged in a parallel plane to the screen receiving slot of the first mentioned part.

2. A window screen formed of a pair of sliding frames, one of said frames being formed with a tongue projecting therefrom arranged with a bearing surface at the outer edge thereof, a flange extending at right angles to said tongue and medially of the side thereof, and a flange extending from said tongue opposite said first mentioned flange for defining, with the remaining part of the frame, a screen receiving slot, and a second frame formed with a groove for receiving the bearing surface of said tongue for guiding the tongue in its reciprocatory movement, a recess extending at right angles to said groove for accommodating said overhanging flange, and a slot arranged to be in a parallel plane to the plane of the slot of said first mentioned frame.

972,482. BRIDGE-FLOOR. THOMAS E. STOCKFORD, Williams, Cal. Filed Dec. 16, 1909. Serial No. 533,410.



1. The method of constructing a protected floor which comprises the laying of a floor of spaced boards and the provisions of a protecting bar of T-shaped cross-section and the application of such bar for insertion of its flange or rib downward between such spaced boards.

2. The combination with permanently secured spaced floor boards, of a protecting plate having a depending securing device shaped to be inserted downward between adjacent boards from their upper surface without altering the relative position of said boards and to engage a face thereof to retain said plate against vertical movement.

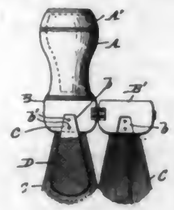
3. A wear plate for floors comprising a plate having a rib extended at an angle thereto and adapted for insertion between adjacent spaced boards of said flooring, and bendable securing fingers carried by said rib to engage the under faces of said floor boards.

4. A wear plate for floors comprising a plate having a rib extended at an angle thereto and adapted for insertion between adjacent spaced boards of said flooring, and bendable securing fingers carried upon each face of said rib and adapted to engage the under face of adjacent flooring boards.

5. A wear plate for floors comprising a tee-iron adapted to have one flange thereof inserted between spaced floor boards, and flexible means for securing said tee-iron in position.

[Claims 6 and 7 not printed in the Gazette.]

972,483. TOILET-BRUSH. GEORGE L. STREET, Jr., Richmond, Va. Filed Aug. 18, 1908. Serial No. 449,148.



1. A shaving brush embodying a brush-head, bristles permanently mounted in said head and forming a flexible tuft, and a thin pliant detergent wafer removably secured within the mass of bristles in position to be supported by and form a part of the tuft, and be flexed and bent with the bristles in the use of the brush.

2. A shaving brush embodying a brush-head, bristles permanently mounted in said head and forming a flexible tuft, a thin pliant detergent carrier forming a detergent wafer, and means for removably securing the end of the wafer in the brush-head at the base of the tuft with the body of said wafer projecting within the mass of bristles in position to be supported by said bristles, whereby the wafer is flexed with the bristles in the use of the brush and constitutes a part of the flexible tuft.

3. A shaving brush embodying a sectional head, tufts of bristles secured permanently in each section and so disposed as to form when the two sections are brought together a dense and substantially cylindrical brush tuft with the bristles uniformly disposed throughout, and means on the proximate faces of said sections for securing one end of a pliant detergent wafer whereby the body of the wafer may project among the bristles and form a part of the flexible tuft.

972,484. FOLDING BED, TABLE, AND SEAT. GEORGE A. SWANSON, Oakland, Cal. Filed Apr. 3, 1908. Serial No. 424,881.



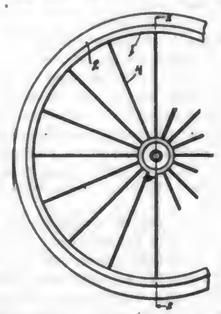
1. An improved folding bed and seat made in three sections and comprising a stationary box-like base, a seat portion and a portion constituting a back to the seat when

the parts are closed up for use, said seat portion being hinged at its front edge to the front upper edge of the base, and the back portion being hinged to the seat portion near the back edge of the latter when the parts are closed for use; rods hinged at one end to the seat portion and extending diagonally into the base portion when the parts are closed, a bar extending between and carried by said rods, a mattress having one end secured to the bar, said bar and rods forming a hinged adjustable horizontal frame for supporting one end of the mattress when the parts are unfolded for use as a bed, and a hinged frame pivoted at one end within the sides of the seat portion and connected to the mattress and adapted to hold the same under tension when the mattress is in use.

2. An improved folding bed and seat made in three sections and comprising a stationary box-like base, a seat portion and a portion constituting a back to the seat when the parts are closed up for use, said seat portion being hinged at its front edge to the front upper edge of the base, and the back portion being hinged to the seat portion near the back edge of the latter when the parts are closed for use; rods hinged at one end to the seat portion and extending diagonally into the base portion when the parts are closed, a bar extending between and carried by said rods, a mattress having one end secured to the bar, said bar and rods forming a hinged adjustable horizontal frame for supporting one end of the mattress when the parts are unfolded for use as a bed, a hinged frame pivoted at one end within the sides of the seat portion and connected to the mattress and adapted to hold the same under tension when the mattress is in use, and means for limiting the upward movement of the hinged frame, said means including a rod operating in a slot at each side of the seat frame, said seat frame having a hinged foot-board and arms rigidly connected at the angle to the foot-board and carrying said rod whereby the foot-board folds inwardly when the main parts of the device are folded for use as a seat.

3. An improved folding bed and seat made in three sections, and comprising a stationary box-like base, a seat portion and a portion constituting a back to the seat when the parts are closed up for use, the said seat portion being hinged at its front edge to the front upper edge of the base, and the back portion being hinged to the seat portion near the back edge of the latter when the parts are closed for use; rods hinged at one end to the seat portion and extending diagonally into the base portion when the parts are closed, a bar extending between and carried by said rods, telescoping rods hinged at their lower ends inside of the base and having their upper ends connected to the central portion of said rods, a mattress being secured at one end to said bar and having its other end secured to the upper portion of the seat portion when the parts are closed up for use, said rods forming a horizontal support for the head end of the mattress when the mattress is unfolded for use.

972,485. WHEEL. LOUIS K. THORSPECK, South Haven, Mich. Filed Sept. 2, 1909. Serial No. 515,801.



1. A wheel comprising a channel rim having spoke openings therethrough: spokes punched from flat metal having eyes at each end thereof arranged through said openings; a spoke securing rod arranged in the channel of said rim through the eyes in the outer ends of said spokes; a pair of hub flange rings, each ring being arranged through the eyes in the inner ends of alternate spokes; a hub barrel having flange-engaging lugs toward each end thereof; and hub flanges provided with inwardly-projecting sleeves, said flanges being beaded about said rings and slotted to receive said spokes, the inner ends of said flange sleeves being notched to receive said lugs on said barrel, one of the sleeves being provided with internal longitudinal grooves adapted to receive the said lugs on said barrel, the outer ends of said barrel being turned outwardly to engage and retain the said flanges thereon.

2. A wheel comprising spokes having eyes in their inner ends; a pair of hub flange rings, each ring being arranged through the eyes in the inner ends of alternate spokes; a hub barrel having flange-engaging lugs toward each end thereof; and hub flanges provided with inwardly-projecting sleeves, said flanges being beaded about said rings and slotted to receive said spokes, the inner ends of said flange sleeves being notched to receive said lugs on said barrel, one of the sleeves being provided with internal longitudinal grooves adapted to receive the said lugs on said barrel, the outer ends of said barrel being turned outwardly to engage and retain the said flanges thereon.

3. A wheel comprising spokes having eyes in their inner ends; a pair of hub flange rings, each ring being arranged through the eyes in the inner ends of alternate spokes; a hub barrel having flange-engaging lugs toward each end thereof; and hub flanges provided with inwardly-projecting sleeves, said flanges being beaded about said rings and slotted to receive said spokes, the inner ends of said flange sleeves being notched to receive said lugs on said barrel, one of the sleeves being provided with internal longitudinal grooves adapted to receive the said lugs on said barrel.

4. In a wheel, the combination of a rim of channel form containing perforations for the spokes; a rubber tire to fit the rim; a pair of flanges forming hub ends; rings retained on said flanges by suitable fingers folded around the same; spokes punched from metal having eyes at each end; wire fastening means arranged through the eyes in the outer ends of said spokes, where they are extended into the said channel, the rings on the said hub flanges being threaded through the inner ends of the spokes; a hub barrel inserted through said flanges with suitable engaging means for engaging the said hub flanges to hold the same separated and put stress on the said spokes.

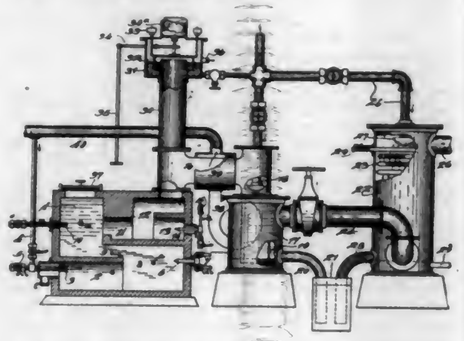
5. The combination in a wheel of a suitable rim perforated to receive spokes; a suitable hub structure with flanges toward each end; spokes punched from flat metal with eyes at each end; suitable retaining wires for insertion through the said eyes in the ends of said spokes, both at the hub and at the rim; means for putting stress on the said spokes by separating the said hub flanges; and means securing them in place, coacting for the purpose specified.

972,486. CONTINUOUS-MAKE GAS APPARATUS. ELMER E. WICKERSHAM, Watsonville, Cal. Filed Dec. 14, 1909. Serial No. 532,992.

1. The combination in a gas apparatus, of a mixing chamber, a combustion chamber below the mixing chamber having an arch separating it from said mixing chamber, a burner in the combustion chamber, a chamber in the rear of the combustion chamber and connecting with a space above said arch, the combustion and mixing chambers opening into the rear chamber, and an atomizer with an oil and air supply connection, said atomizer discharging in the rear chamber and approximately in line with the mixing chamber and above the combustion chamber burner.

2. The combination in a gas apparatus, of a mixing chamber, a combustion chamber below the mixing chamber and having an arch separating it therefrom, a burner in the combustion chamber, a chamber in the rear and into which the combustion and mixing chambers open, an atomizer with oil and air supply connections, said atomizer

discharging in the rear chamber and approximately in line with the mixing chamber and above the combustion chamber burner, and a cracking chamber located above the arch of the rear atomizer chamber.



3. The combination in a gas apparatus, of superposed combustion and mixing chambers, an atomizing chamber at the rear into which both said first named chambers open, combustion and cracking chambers superposed above the atomizing chamber, an arch through which connection is made between the mixing chamber and the cracking chamber, and an escape flue and draft-regulating means therefor.

4. The combination in a gas apparatus, of superposed combustion and mixing chambers, an atomizing chamber at the rear into which both said first named chambers open, combustion and cracking chambers superposed above the atomizing chamber, an arch through which connection is made between the mixing chamber and the cracking chamber, an escape flue and draft-regulating means therefor, said means including a chamber into which the separated ends of the escape flue open, and means to close the end of the lower member of said flue.

5. The combination in a gas apparatus, of superposed combustion and mixing chambers, an atomizing chamber at the rear into which both said first named chambers open, combustion and cracking chambers superposed above the atomizing chamber, an arch through which connection is made between the mixing chamber and the cracking chamber, a vertical two-part flue, the lower member of which connects with the cracking chamber, a closed water-seal surrounding said lower member, and means to open and close communication through said seal to the upper part of said flue.

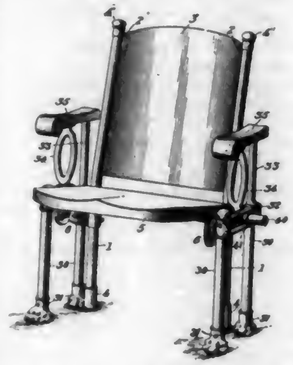
[Claims 6 to 10 not printed in the Gazette.]

972,487. CHAIR. JOHN ALLAN WILKINSON, New York, N. Y., assignor of three-fourths to John C. Pennie and one-fourth to Albert Wanner, Jr., and Edwin P. Wanner, New York, N. Y. Filed May 12, 1904, Serial No. 207,588. Renewed Feb. 20, 1909. Serial No. 479,274.

1. A chair having a back support and a side standard comprising a front leg and a side strut secured to said front leg and having pivotal adjustment in a horizontal plane on said back support, and means for securing said strut on said back support in its adjusted position, said back support having legs for securing it to the floor independently of the side standards.

2. A folding chair having a back support, a folding seat, a side standard comprising a front leg and a side strut connecting said leg with said support, and a bracket vertically adjustable on and secured solely to said back support for supporting said seat, said back support having legs for securing it independently upon the floor, independently of the side standards.

3. A folding chair having a back support having legs for securing it independently upon the floor, a folding seat, a side standard comprising a front leg and a side strut connecting said leg with said support, and a bracket secured solely to said back support for supporting said seat, said side strut and said bracket having independently adjustable connections with the legs of said back support.

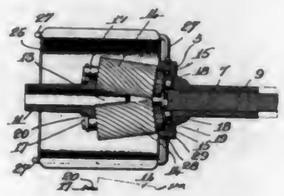


4. A chair comprising a back support having legs for securing it independently upon the floor, a seat carried by said back support, projections extending outwardly from the back-support legs, and side supports adjustably secured to said projections.

5. A chair, comprising a back support, a folding seat carried thereby, and side standards having pivotal connection with the back support, whereby said standards may be adjusted independently of the seat and back, said back support having legs for securing it to the floor independently of the side standards.

[Claims 6 to 31 not printed in the Gazette.]

972,488. PENCIL-POINTER. ROBERT A. WILSON and ALLEN P. WILSON, Watertown, Mass. Filed May 17, 1909. Serial No. 496,517.



1. In a pencil pointer, the combination with a one-piece stand having integral therewith a head provided with internal gear teeth and an elongated shaft bearing, of a cutter-carrier presenting at one end a shaft which is journaled in said bearing and by which the carrier is rotatably sustained, said carrier having on opposite sides two cutter-receiving recesses and at the other end a tubular portion constituting a pencil guide, which tubular portion terminates at its inner end in two opposed tapering faces against which the conical portion of the pencil rests, a bearing extending from the cutter-carrier at each end of each recess, the bearings at one end of the recesses being open, stationary shafts supported in said bearings, rotary cutters occupying the recesses and rotatably sustained by said shafts, and means to maintain the shafts in the open bearings.

2. In a pencil pointer, the combination with a stand having integral therewith an internal gear, of a one-piece rotary cutter carrier journaled in said stand and having pairs of bearings, one bearing of each pair being open, a shaft supported in each pair of bearings, a cutter rotatably mounted on each shaft, the ends of the shafts that are received in the open bearings extending beyond said bearings, and a resilient retainer sustained by the carrier and engaging the portions of the shafts that project beyond the open bearings thereby to retain said shafts in the bearings.

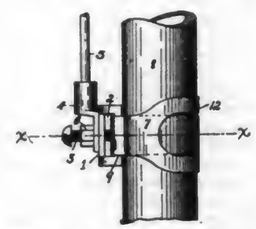
3. In a pencil pointer, the combination with a stand having an internal gear, of a cutter-carrier journaled therein and presenting at one end a tubular pencil guide, said cutter-carrier having pairs of bearings, one bearing of each pair being open, rotary cutters having journals mounted in said bearings, and a retaining spring encircling the tubular pencil guide and engaging the cutter journals to retain them in the open bearings.

4. In a pencil pointer, the combination with a stand having a head provided with an internal gear, of a cutter carrier shaped to present at one end a pencil guide, cutters journaled in the carrier and having gear teeth meshing with the internal gear, a removable chip receptacle, and means separate from said receptacle and movably carried by the stand for supporting the receptacle in different angular positions about the axis of the carrier.

5. In a pencil pointer, the combination with a stand having a head provided with an internal gear, of a cutter carrier shaped to present at one end a pencil guide, cutters journaled in the carrier and having gear teeth meshing with the internal gear, a holder movably carried by the head and adapted to be turned into different angular positions thereon, and a chip receptacle separate from the holder and detachably sustained thereby.

[Claim 6 not printed in the Gazette.]

972,489. GROUND-CLAMP. HARRY E. ADAMS, Toledo, Ohio, assignor to The Monroe Electrical Manufacturing Company, Monroe, Mich., a Corporation of Michigan. Filed June 28, 1909. Serial No. 504,768.



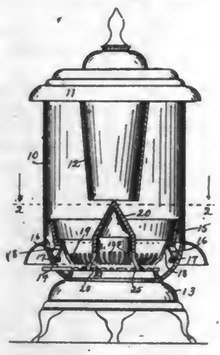
1. In a ground-clamp, the combination with an article to be clamped, of a saddle having openings in the legs thereof, a strap attached at one end to one leg of such saddle thence passing entirely around the article and having an opening through which the free end of the strap extends, thence passes partially around the article-embracing convolution of the strap and projects through the openings in said saddle, and a screw carried by the saddle with its end in contact with the portion of the strap disposed between said openings and operative to coöperate with the saddle and said article to effect a tightening of the strap around the article.

2. In a ground-clamp, the combination with the article to be clamped, of a saddle having bars at opposite sides thereof, one of such bars having a lug projecting therefrom, a strap coiled around the article and having one end wrapped around the bar provided with said lug and having an opening receiving said lug and its other end being extended across both of said bars, means acting on said strap and coöperating with the saddle and said article to effect the tightening of the strap around the article, and a wire attaching member secured to said saddle.

3. A ground clamp, comprising a saddle having an opening in each end portion thereof, a band attached at one end to one end of the saddle and having its other end projected through both end openings of the saddle, and a screw threaded through the saddle intermediate said openings and bearing at its inner end against the free end portion of the band, substantially as described.

4. A ground clamp, comprising a saddle having an opening in each end portion thereof, a band attached at one end to an end of the saddle, thence twice encircling an article to be clamped with its free end projected through both openings of the saddle, and a screw threaded through the saddle intermediate said openings with its inner end bearing against the free end portion of the band and holding it in contact with the other loop of the band, substantially as described.

972,490. STOVE. ELMER E. ANDERSON, Boswell, Ind. Filed Oct. 7, 1909. Serial No. 521,633.



A stove including a fire bowl with vertical slots in the lower part thereof, a shaker grate beneath the fire bowl, and a center piece located centrally within the fire bowl and with downwardly projecting legs secured to the grate with the lower portion vertically slotted and contracted and the upper portion closed and conical, substantially as set forth.

972,491. METHOD OF TREATING THE SURFACES OF MUDDY ROADS TO DRAIN AND DRY THE SAME. WILLIAM C. ANDERSON, San Jose, Cal. Filed Sept. 30, 1908. Serial No. 455,534.

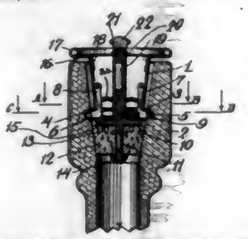


1. The method herein described of restoring the rut-worn and water-soaked surface of a road to a usable condition, which consists in dividing the entire surface to be treated into relatively narrow strips transversely, by forming shallow grooves at regular intervals apart and close one to another across the surface from one side over to the other, so as to intersect the ruts and holes, and carry the water collected therein to the sides of the road, substantially as described.

2. The method herein described of restoring the rut-worn and water-soaked surface of a road to usable condition, which consists in forming in said surface a succession of zig-zag water-carrying grooves from one side to the other, at short intervals apart and in parallel rows, substantially as described.

3. The method herein described of restoring a rut-worn and water-soaked road to a usable condition, which consists in forming in the surface of the road by pressure a succession of water-carrying grooves at intervals apart transversely of the surface, and with an inclination from the middle to the sides of the road, so as to intersect the water holding ruts and holes in the surface, and afterward reducing the ridges by rolling the surface, substantially as described.

972,492. BOTTLE-STOPPER. ALFORD C. APPLETON, Dayton, Ohio, assignor to The Hayner Distilling Company, a Corporation of Ohio. Filed Apr. 27, 1909. Serial No. 492,450.



1. In a combination-lock bottle-stopper, the combination of equidistant locking dogs adapted to coöperate with the bottle-mouth to lock the stopper therein, movable locking tumblers normally preventing disengagement of the dogs from the bottle-mouth except when the tumblers are in a single predetermined position relative to the respective dogs, a movable actuating tumbler for moving the other tumblers and normally preventing disengagement of the dogs from the bottle-mouth except when the actuating tumbler is in a predetermined position relative to the dogs, and combination mechanism for moving the actuating tumbler.

2. In a combination-lock bottle-stopper, the combination of equidistant locking dogs adapted to engage the bottle-mouth to hold the stopper therein, movable tumblers cooperating to lock the dogs in engagement with the bottle-mouth except when the tumblers are in a single predetermined position relative to the respective dogs, combination-lock mechanism for shifting one of the tumblers, and means carried by the last-mentioned tumbler for shifting the other.

3. In a combination-lock bottle-stopper, the combination of dogs adapted to engage the bottle-mouth to hold the stopper therein, one of said dogs being provided with a notch, a movable tumbler having recesses adapted to receive the dogs, a member carried by the said tumbler and covering one of the recesses therein in position to enter the notch on the notched dog when the tumbler is in unlocking position, an actuating tumbler having recesses to receive the dogs and provided with means adapted to engage said member to move the other tumbler, and means for moving the actuating tumbler.

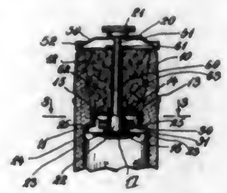
4. In a combination-lock bottle-stopper, the combination of locking dogs adapted to engage the bottle-mouth to hold the stopper therein, a rotatable tumbler having recesses to receive the dogs when the tumbler is in a single position, a rotatable actuating tumbler having recesses to receive the dogs when in register therewith, means for rotating the actuating tumbler, and means enabling the actuating tumbler to rotate the other.

5. In a combination-lock bottle-stopper, the combination of a rotary tumbler-disk having recesses in its periphery diametrically opposite each other, locking dogs adapted to engage the bottle-mouth to hold the stopper therein and capable of entering the recesses in the said tumbler when the latter is in unlocking position, one of said dogs being provided with a notch, a segmental tumbler fixed to the other over one of the recesses therein and arranged to enter the notch in the notched dog when the said tumblers are in unlocking position, a rotary actuating tumbler having recesses to receive the dogs when in unlocking position, a lug carried by the actuating tumbler and adapted to engage the segmental tumbler to rotate the same and the tumbler to which it is fixed, and means for rotating the actuating tumbler.

[Claims 6 to 11 not printed in the Gazette.]

972,493. BOTTLE-STOPPER. ALFORD C. APPLETON, Dayton, Ohio, assignor to The Hayner Distilling Company, a Corporation of Ohio. Filed Apr. 28, 1909. Serial No. 492,703.

1. In a bottle stopper of the kind described, the combination with a resilient cork, of a slotted casing attached at the lower end of said cork and adapted to contain locking mechanism; a locking dog projecting through the slot in said casing for engagement with a locking shoulder formed in said bottle below said cork; an operating shaft extending upward from the interior of said casing and through said cork to the exterior of the stopper; lock controlling means carried by the lower end of said shaft for controlling the position of said dog as to locking or unlocking adjustment; and packing material contained between said casing, said shaft and said cork for preventing leakage of the contained liquid through said lock casing and said cork.



2. In a bottle stopper of the kind described, the combination with a resilient cork, of a slotted casing attached at the lower end of said cork and adapted to contain locking mechanism; a locking dog projecting through the slot in said casing for engagement with a locking shoulder formed in said bottle below said cork; an operating shaft extending upward from the interior of said casing and through said cork to the exterior of the stopper; lock controlling means carried by the lower end of said shaft for controlling the position of said dog as to locking and unlocking adjustment; means for holding the said casing in engagement with the lower end of said cork; a sleeve surrounding said operating shaft between the same and the cork; and packing material located at the lower end of said sleeve between the cork, the sleeve, the shaft and the casing, for preventing leakage of the contained liquid through the lock casing and cork.

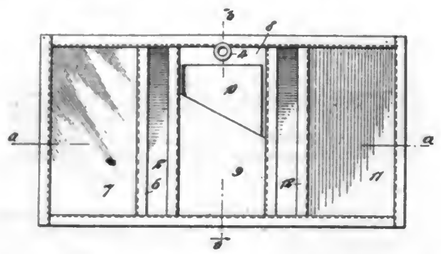
3. In a bottle stopper of the kind described, the combination with a resilient cork, of a slotted casing attached at the lower end of said cork, and adapted to contain locking mechanism; a locking dog projecting through the slot in said casing for engagement with a locking shoulder formed in said bottle below said cork, said dog traveling in a groove formed in the base of said casing; a central operating shaft extending upward from the interior of the said casing and through said cork to the exterior of the stopper; means attached to the outer end of said shaft for holding the shaft vertically in place; a tumbler disk attached to the lower end of said shaft and formed with a notch, said disk controlling the locking and unlocking positions of said dogs; and packing material contained between said casing, said shaft and said cork for preventing leakage.

4. In a bottle stopper of the kind described, the combination with a resilient cork, of a slotted casing attached at the lower end of said cork, and adapted to contain locking mechanism; a locking dog projecting through the slot in said casing for engagement with a locking shoulder formed in said bottle below said cork, said dog traveling in a groove formed in the base of said casing; a central operating shaft extending upward from the interior of the said casing and through said cork to the exterior of the stopper; means attached to the outer end of said shaft for holding the shaft vertically in place; indicating means connected and coöperating with the said shaft to indicate its position of rotation; projecting means on the lower end of said shaft within said casing to cause the shaft to hold the casing in contact with the stopper; a tumbler disk having provisions for coöperating with the locking dog to control the locking adjustment thereof upon the rotation of the said shaft; and packing material contained between said casing, said shaft, and said cork, for preventing leakage.

5. In a bottle stopper of the kind described, the combination with a resilient cork, of a slotted casing attached at the lower end of said cork, and adapted to contain locking mechanism; a locking dog projecting through the slot in said casing for engagement with a locking shoulder formed in said bottle below said cork, said dog traveling in a groove formed in the base of said casing; a central operating shaft extending upward from the interior of the said casing and through said cork to the exterior of the stopper; means attached to the outer end of said shaft for holding the shaft vertically in place; indicating means connected and coöperating with the said shaft to indicate its position of rotation; projecting means on the lower end of said shaft within said casing to cause the shaft to hold the casing in contact with the stopper; a tumbler disk formed with a recess coöperating with said locking dog, said disk being attached to the lower end of said shaft within said casing and operating to control the locking adjustment of said dog; a sleeve surrounding said shaft and between the same and the cork; and packing material contained between said casing, said sleeve, said shaft, and said cork, for preventing leakage.

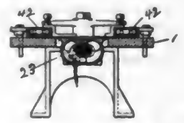
[Claims 6 and 7 not printed in the Gazette.]

972,494. BILL-FOLD. ISAAC BARNETT, New York, N. Y. Filed Dec. 18, 1909. Serial No. 533,970.



As an article of manufacture, a bill fold in which is comprised a body having a compartment extending the entire length thereof, a longitudinal division therein of less height than the side walls of the compartment, a catch located above said division and adapted to secure the side walls together, and a plurality of transverse compartments carried at one side of the longitudinal body of the bill fold, substantially as shown and described.

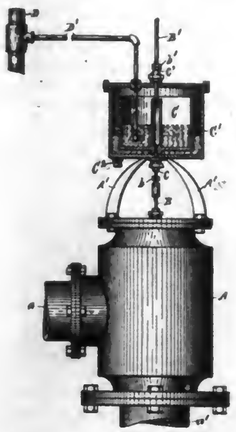
972,495. FOLDING-MACHINE. WALTER JOHN BEATTIE, Cohoes, N. Y., assignor, by mesne assignments, to The Beattie Manufacturing Company of Cohoes. Original application filed May 21, 1908, Serial No. 434,132. Divided and this application filed Aug. 15, 1908. Serial No. 448,664.



1. In a machine for folding collar and cuff blanks, a heated bed-plate, a die adapted to press blanks upon said bed-plate, infolders adapted to move inwardly and fold the edges of the blanks over said die, each of said infolders being chambered and formed in two parts separably connected together and an infolder plate attached to one of said parts, electric heating means within said chambers adapted to be supplied with current by electric wires from without, whereby the infolder plate of each infolder may be independently heated, means for moving said infolders to fold blanks over the die, and means for pressing the said blanks between the heated bed-plate and the folder-plates.

2. In a machine for folding collar and cuff blanks, a heated bed-plate, a die adapted to press blanks upon said bed-plate, slidable infolders adapted to move inwardly and fold the edges of the blanks over the edges of said die, each of said infolders comprising an infolder bar and an infolder plate, said infolder bar being hollow and formed in two sections, each section provided with a peripheral flange, and a partition for dividing the infolder bars into chambers when joined, said chambers adapted to contain means for heating the infolders, means for moving said infolders inwardly to fold blanks over the die, and means for pressing said blanks between the heated bed-plate and the infolder-plates.

972,496. REGULATOR. ALLISON B. BENJAMIN, Syracuse, N. Y. Filed Nov. 7, 1896. Serial No. 611,322.



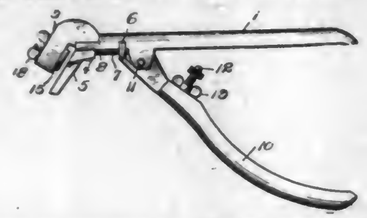
1. The combination of a liquid-containing shell, a receptacle movable in the liquid in said shell and adapted to contain a fluid, such as mercury, a conduit in which suction is created, said conduit communicating with the fluid-containing receptacle, and a regulator having its valve-piece or movable member provided with a rod or stem fixed to the movable receptacle, substantially as and for the purpose set forth.

2. The combination with a conduit in which suction is created; of a receptacle adapted to contain a fluid, such as mercury, communicating with the suction-conduit and movable in a substantially vertical plane, a regulator having its valve-piece or movable member provided with a rod or stem fixed to the movable receptacle, and stops or shoulders on the rod or stem for limiting the movement of said valve-piece or movable member, substantially as and for the purpose set forth.

3. The combination with a regulator, a liquid-containing shell, a fluid-containing receptacle movable in the liquid in said shell, a rod or stem movable through a wall of the shell and connected to the fluid-containing receptacle and to the valve-piece or movable member of the regulator, and a conduit communicating with the fluid-containing receptacle for withdrawing the liquid from the receptacle and discharging the same into said receptacle, substantially as and for the purpose described.

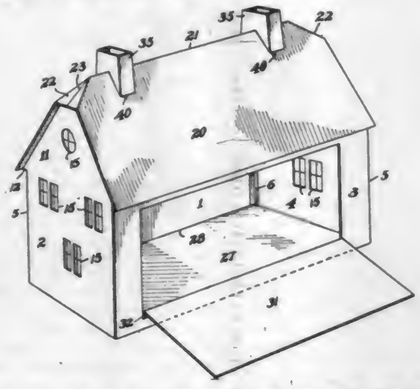
4. The combination of a regulator for controlling the passage of a motive fluid to a pumping device, a rod or stem provided on the valve-piece or movable member of the regulator, a liquid-containing shell, a receptacle movable in the liquid in said shell and connected to the rod or stem for actuating the valve-piece or movable member, a pipe or conduit communicating with the receptacle for varying the amount of material therein, a second pipe or conduit connected to the former pipe or conduit and adapted to be connected to the pumping device, and means for limiting the movement of the receptacle, substantially as and for the purpose specified.

972,497. SAW-SET. ROBERT D. BENJAMIN, Cumberland, Md. Filed Dec. 23, 1908. Serial No. 468,954.



A saw set comprising a body portion, said body at one end being reduced to form a stepped-seat or joint, an upper jaw detachably secured upon said stepped-seat, a lower jaw secured to the end of said body directly under said upper jaw, said lower jaw being formed with a wide body-portion and a narrow outstanding-portion in the center thereof, screws holding said lower jaw in place, and tooth-bending means coöperating with said jaws.

972,498. TOY HOUSE. LAWRENCE VISSCHER BOYD and FRANCIS W. KRAMER, Philadelphia, Pa. Filed Nov. 11, 1909. Serial No. 527,527.



1. A toy house comprising side and end walls, the said side walls having flanges at their upper edges, a roof for the said house, the lower edges of which when in position approximate the edges of the said flanges, a porch having hinged connection with one of the said walls, and a floor also having hinged connection with one of the said walls and being provided with means removed from said hinged connection for supporting it.

2. A toy house the walls of which consist of two integral members, each of the said members comprising a side and an end wall and each of the said members being scored on a line coincident with a corner of the said house, means for securing the said two members together at the other corners of the said house, a floor having hinged connection with one of the walls of the said house, the said floor being provided with a flange which is adapted to rest upon the support upon which the house rests whereby the said floor is partially self-supporting, and a porch having hinged connection with one of the said walls, which porch is adapted to occupy a lowered position and also a position coincident with the plane of the wall to which it is secured.

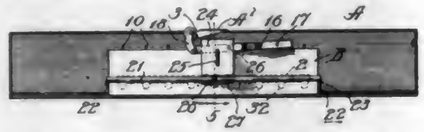
3. A collapsible toy house comprising side and end walls which are hingedly connected together, the said side walls having outwardly extending flanges at their upper edges, and a collapsible roof supported upon the said walls, the lower edges of which approximate the outer edges of the said flanges.

4. A collapsible toy house comprising side and end walls which are hingedly connected together, the said side walls having outwardly extending flanges at their upper edges, a collapsible roof supported upon the said walls, the lower edges of which approximate the outer edges of the said flanges, and a floor having hinged connection with one of the said walls, the said floor having a flange formed at one of its edges and being partially supported upon the wall to which it is secured and being also partially self-supporting.

5. A collapsible toy house comprising side and end walls which are hingedly connected together, the said side walls having outwardly extending flanges at their upper edges, a collapsible roof supported upon the said walls, the lower edges of which approximate the outer edges of the said flanges, a floor having hinged connection with one of the said walls, the said floor having a flange formed at one of its edges and being partially supported upon the wall to which it is secured and being also partially self-supporting, and a porch hingedly connected to one of the said walls, the said porch being adapted to be moved into a plane coincident with the plane of the wall to which it is secured.

[Claims 6 and 7 not printed in the Gazette.]

972,499. COMMODITY-CABINET. JAMES H. BOYE, Chicago, Ill., assignor to Boye Needle Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 16, 1909. Serial No. 478,264.



1. In a commodity-cabinet, the combination of a casing, a movable commodity-carrier therein, a closure connected with said casing, and a carrier-moving and closure-actuating device having an operating handle exterior to the casing.

2. In a commodity-cabinet, the combination of a casing, a movable commodity-carrier therein, a closure connected with said casing, a carrier-moving and closure-actuating device equipped with an externally located operating handle, and locking means carried by the casing, serving to prevent movement of the carrier when the closure is in the open position.

3. In a commodity-cabinet, the combination of a casing, a movable commodity-carrier therein, a closure connected with said casing, and a carrier-moving and closure-actuating device having an actuating handle adapted to move in one plane to move the carrier and in another plane to actuate said closure.

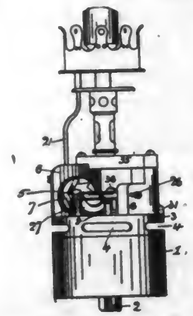
4. In a commodity-cabinet, the combination of a casing, a movable commodity-carrier therein, a closure connected with said casing, locking means carried by the casing, and a carrier-moving and closure-actuating member having a shank extending through the casing and coacting with said locking means.

5. In a commodity-cabinet, the combination of a casing, a movable commodity-carrier therein, a closure connected with the top of said casing, an actuating arm connected with said closure, and actuating means connected with said arm and having a shank extending through a side of the casing and equipped exterior to the casing with a handle.

[Claims 6 to 10 not printed in the Gazette.]

972,500. MEANS FOR LIGHTING AND EXTINGUISHING A SYSTEM OF GAS-LAMPS AT PREARRANGED TIMES FROM A GIVEN STATION. JOSEPH BRAZIER and HERBERT WATSON, Melbourne, Victoria, Australia, assignors of one-third to Rothwell Richard Grundy, Brunswick, Australia. Filed Dec. 28, 1909. Serial No. 535,333.

1. In an appliance of the kind indicated, a rotary valve consisting of in combination, a rotatable disk provided with a number of ratchet teeth and held between centers, a register plate under the disk covering chambers or recesses connected with the main gas supply, the lamp and its pilot light respectively, the register plate and disk having means for alternately conveying gas from the supply to the lamp and pilot light chambers as the disk is rotated by means attached to a flexible diaphragm susceptible to gas pressures.



2. The combination with a valve having its parts disposed to alternately convey the gas stream to a lamp and its pilot light, of a horizontal flexible diaphragm susceptible to varying pressures in a gas main, means for communicating the upward movements of the diaphragm to the valve, a curved washer above and an adjustable sectional weight within a dome shaped chamber the roof of which is in contact with and under the diaphragm and a curved plate supporting said weight all as and for the purposes set forth.

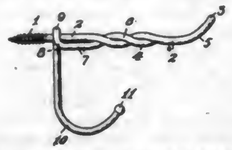
3. The combination in an appliance of the kind indicated, of means for retarding the upward movement of the diaphragm which consists of a counterweighted disk mounted between centers, a trip piece on the disk that is engaged by a finger upon the parts attached to the diaphragm until the gas pressure approaches toward its maximum, and means for canting over or adjusting the disk according to circumstances.

4. In an appliance of the kind indicated, in combination, a pawl that is mounted upon an arm, a U shaped lever supporting the arm and itself loosely attached to a vertical rod deriving its motion from a flexible diaphragm susceptible to gas pressures, said lever being so disposed in relation to a rotary valve that the path of the pawl will be toward and around the disk of the valve.

5. The combination in an appliance of the kind indicated of a disk having ratchet teeth on one side and two sets of recesses upon its other side, a set of chambers or recesses communicating with the gas supply, the lamp and its pilot light respectively and a register plate closing said chambers and which forms a seat for the disk, said plate having perforations which, with the recesses in the disk, permit of the gas supply chamber registering with the lamp supply or pilot light chambers respectively as the disk is rotated.

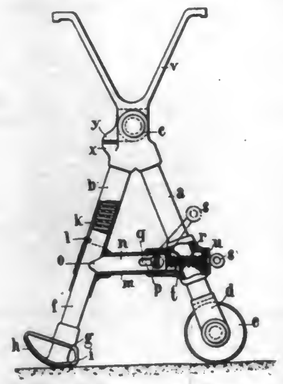
[Claims 6 to 10 not printed in the Gazette.]

972,501. WIRE COAT AND HAT HOOK. ALONZO G. BREWER, Worcester, Mass., assignor to The Wire Goods Company, Worcester, Mass., a Corporation of Massachusetts. Filed Feb. 23, 1909. Serial No. 470,393.



A coat and hat hook made from a single piece of wire, screw threaded at one end, doubled in the form of an elongated loop with both wires forming said loop in the same horizontal plane and twisted together near the middle of said loop to bring said wires into the same vertical plane thereby forming the upper or hat hook, the lower wire then bent upward approximately at right angles and looped around the upper wire forming approximately a complete circle embracing said upper wire, then bent downward approximately at right angles to said upper wire and bent forward to form the lower or coat hook.

972,502. APPARATUS FOR AUTOMATICALLY RAISING VEHICLES. FERNAND BRIAULT, Villemomble, France. Filed Apr. 23, 1910. Serial No. 557,219.



1. In a device of the character described, a trestle or support comprising a pair of converging legs rigidly secured together at one end, a roller journaled at the other end of one leg, a telescoping member carried by the other end of the other leg, and a shoe carried by said telescoping member.

2. In a device of the class described, a V-shaped trestle or support comprising a pair of tubular legs, a roller rigidly mounted at the end of one leg, a bar arranged to telescope within the other leg, and a shoe secured to the end of said bar.

3. In a device of the character described, the combination with a fixed part of a vehicle, of a bracket adapted to be secured thereto, a V-shaped trestle or support pivoted to said bracket at its apex, and a shoe and roller fixed to the other end of said support and adapted to engage the ground.

4. In a device of the character described, the combination with a vehicle, of a bracket adapted to be secured thereto, a V-shaped support or trestle pivoted at its apex to said bracket, and stop lugs carried by said bracket and support to limit the pivotal movement of the latter.

5. In a device of the character described, a vehicle support comprising a V-shaped trestle, adapted to be attached at its apex to a vehicle, one of the legs of said trestle being of fixed length, and the other of said legs being extensible and collapsible, a spring tending to move said last mentioned leg to extended position, and means for locking it in such position.

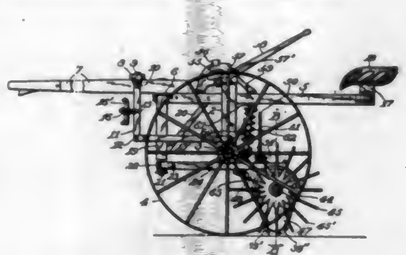
[Claims 6 to 9 not printed in the Gazette.]

972,503. ROTARY CULTIVATOR. ULYSSES S. BROWN, Logansport, Ind. Filed Jan. 10, 1910. Serial No. 537,275.

1. A cultivator including carrying wheels, a main frame mounted in the wheels, a cultivator frame connected at one end thereof to the main frame and comprising two legs, a shaft mounted rotatively in the two legs, cultivating devices mounted on the shaft between the two legs, a gear-wheel secured to the shaft adjacent to one of the two legs, a traction-wheel mounted rotatively on the said leg

with its axis above the shaft, and gearing adjacent to said leg connected with the traction-wheel and the gear-wheel.

2. A cultivator including carrying wheels, a main frame mounted in the wheels, a cultivator frame connected to the main frame and comprising two legs, one leg having an axle on one side thereof, each leg having a journal-box on the end thereof that has a recess therein, a shaft mounted in the journal-box and having collars thereon that extend into the recesses, the shaft extending through one of the journal-boxes and having a small sprocket-wheel thereon, cultivator-blades mounted on the shaft, a large sprocket-wheel rotative on the axle and having a hub thereon, arms on the hub, a sprocket-chain connected with the sprocket-wheels, a plate attached to the leg that has the axle thereon, and a box connected to the plate and therewith inclosing the sprocket-wheels and the sprocket-chain.



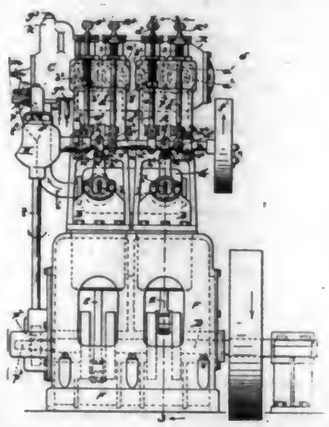
3. A cultivator including carrying wheels, a main frame mounted in the wheels, a cultivator-frame comprising a beam and two legs connected to the beam, the beam being connected loosely to the main frame, a shaft mounted rotatably in the legs and having a small sprocket-wheel secured thereto, a plurality of cultivating-blades carried by the shaft, an axle attached to one of the legs, a sprocket-wheel rotative on the axle and having a hub thereon, arms on the hub, and a sprocket-chain connected operatively with the two sprocket-wheels.

4. A cultivator including a pair of carrying wheels, a main frame mounted in the wheels, a pair of cultivator-frames connected to the main frame to move pivotally in vertical and horizontal directions and provided each with a pair of legs, one leg of each pair having an axle thereon, a pair of shafts each mounted rotatably in a pair of legs and having a pair of hubs and also a gear wheel secured thereto, the hubs having arms thereon, blades carried by the arms, two driving wheels each rotatable on one of the axles, and two gear wheels each connected to one of the driving-wheels to be driven thereby and operatively connected also with one of the gear-wheels of the shaft.

972,504. CONTINUOUS-COMBUSTION HEAT-ENGINE. WALTER F. BROWN, Worcester, Mass. Filed Mar. 23, 1908. Serial No. 422,630.

1. In a heat-engine of the continuous combustion type, having means for converting heat energy or products of combustion into mechanical energy, the combination therewith of means, including an air and water jacketed combustion chamber adapted to receive mingled fuel and air and generate or convert the same therein into said heat-energized medium, arranged whereby when in use air from the air-jacket and steam or vapor from the water-jacket surrounding the combustion-chamber mingle with the said products of combustion or working medium issuing from the chamber so as to reduce its temperature before it is converted into mechanical energy.

2. In a heat-engine of the continuous combustion type provided with a working cylinder in which heat energy is converted into mechanical energy, the combination of an air and water-jacketed combustion-chamber, means for supplying mingled fuel and air thereto to be converted into said heat energy or products of combustion without passing the same through a cooling medium, as water, means for reducing the temperature of the products of combustion by mingling the same with air and vapor from said jackets, and means for automatically controlling the volume of fuel and air supplied to the combustion-chamber corresponding with changes in the load upon the engine.



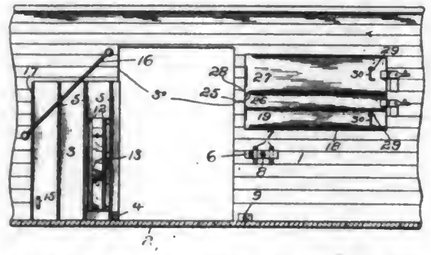
3. In a heat-engine of the continuous combustion type, having means for converting heat-energy or products of combustion into mechanical energy, the combination therewith of a combustion-chamber, means for supplying fuel and compressed air to the chamber to generate therein the products of combustion, a jacket surrounding the walls of the chamber communicating with the latter's outlet for the circulation of air so as to reduce the temperature of said walls, and an exterior jacket surrounding the air-jacket for the circulation of a medium, as water, having a capacity for latent heat, arranged whereby when in use steam or vapor therefrom and air from said air-jacket mingle with the products of combustion to materially reduce its temperature before it is converted into mechanical energy.

4. In a heat-engine of the continuous combustion type, having a working-cylinder and means for automatically controlling the admission of heat-energized gas or working medium under pressure into the cylinder and exhausting it therefrom, the combination therewith of a combustion-chamber communicating with the cylinder, means for supplying fuel and compressed air to the chamber to generate said gas, a jacket surrounding the walls of the chamber and communicating with the latter's outlet for the circulation of air so as to reduce the temperature of said walls and the products of combustion, and an exterior jacket surrounding said air-jacket for the circulation of a cooling medium, as water, having capacity for latent heat, arranged whereby steam or vapor therefrom mingles with the gas to reduce the latter's temperature before it passes to the working cylinder.

5. In a heat-engine of the continuous combustion type, a working-cylinder provided with valved inlet and exhaust-chambers, and a receiver protected against radiation open into said inlet-chamber, in combination with a combustion chamber connected to and adapted to discharge into said receiver provided with independent surrounding air and water-circulating jackets communicating with the discharge end of the center or combustion-chamber proper, means for supplying fuel and compressed air directly into the latter and mingling the same therein to produce a gaseous working medium whose temperature is reduced by mingling with air and vapor from said jackets before entering the receiver, and means actuated by the engine for automatically controlling the volume of said fuel and air supply to correspond with variations in the load upon the engine.

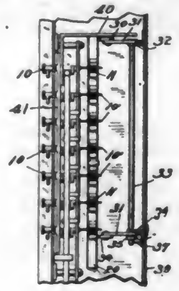
[Claims 6 to 34 not printed in the Gazette.]

972,505. GRAIN-DOOR. RADO B. CATTON and IRA C. CATTON, Brimfield, Ill. Filed Dec. 18, 1908. Serial No. 468,133.



In a door of the class described, the combination with a door opening, of a door for said opening including a sheet-metal leaf pivoted at one of its lower corners to swing in a vertical plane and provided on the edge coming uppermost when closed with a flange extending away from the door opening, and a second sheet-metal leaf pivoted at one edge to swing in a horizontal plane and provided with a grooved flange at its lower edge to engage over the flange of the first leaf when the door is closed, whereby a bearing is provided between the edges of said leaves and the first mentioned leaf locked from opening by the closing of the second leaf.

972,506. COUNTER-SUPPORT FOR VOTING-MACHINES. CHRIST CHRISTENSEN, Indianapolis, Ind., assignor, by mesne assignments, to Empire Voting Machine Company, Rochester, N. Y., a Corporation of New York. Filed Mar. 12, 1909. Serial No. 482,978.



1. In a voting machine, the combination, with a multiplicity of counters, and the means for operating the same, of a carrier for a limited number of said counters, said carrier comprising an inclosing structure adapted to engage the counter casings and prevent independent movement thereof, a movable member adapted to be thrown into and out of position obstructing withdrawal of the counters from the carrier.

2. In a voting machine, the combination, with a multiplicity of keys accessible to the voter, of a multiplicity of coöperating counters, a carrier adapted to engage a plurality of such counters, said counters being movable with the carrier relative to the keys without withdrawal therefrom, means for limiting the movement of said carrier to prevent withdrawal of the counters from the keys, and locking means for said limiting means.

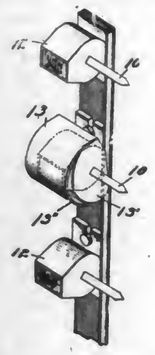
3. In a voting machine, the combination, with a multiplicity of keys accessible to the voter, of a multiplicity of coöperating inclosed counters, a carrier adapted to engage a plurality of such counters, said counters being movable with the carrier relative to the keys without withdrawal therefrom, means for limiting the movement of said carrier to prevent withdrawal of the counters from the keys, and locking means for said limiting means.

4. In a voting machine, the combination, with a multiplicity of completely rotatable keys accessible to the voter, of a multiplicity of coöperating counters, and each having an axially movable operative engagement with its key, of a plurality of carriers each associated with a series of keys and axially movable relative thereto and each embracing the plurality of counters associated with its series of keys, said carrier engaging the counters to permit actuation thereof by rotation of the key, a member adapted to normally prevent axial withdrawal of a counter from its key and the carrier.

5. In a voting machine, the combination, with a multiplicity of completely rotatable keys accessible to the voter, of a multiplicity of coöperating inclosed counters, and each having an axially movable operative engagement with its key, of a plurality of carriers each associated with a series of keys and axially movable relative thereto and each embracing the plurality of counters associated with its series of keys, said carrier engaging the counters to permit actuation thereof by rotation of the key, a member adapted to normally prevent axial withdrawal of a counter from its key and the carrier.

[Claims 6 and 7 not printed in the Gazette.]

972,507. ACTUATOR CUT-OFF FOR VOTING-MACHINES. CHRIST CHRISTENSEN, Indianapolis, Ind., assignor, by meane assignments, to Empire Voting Machine Company, Rochester, N. Y., a Corporation of New York. Filed Mar. 12, 1909. Serial No. 482,980.



1. In a voting machine, the combination, with a multiplicity of rotatable keys, of an obstructor adapted to be secured to any one of said keys, and provided with a portion adapted to engage a member of the machine to prevent actuation of that particular key and with means for covering the counter of said key.

2. The combination in a voting machine of a rotating key having a shank with flat surfaces, an obstructor capable of engaging with said flat surfaces to prevent the rotation of the key.

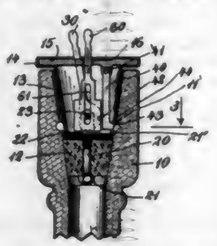
3. The combination in a voting machine of a rotating key having a square shank, detachable means capable of engaging with said square shank to prevent the rotation of the key.

4. An obstructor for a voting key having a hood therein, a plate covering one end of said hood and a square hole in said plate with which said obstructor can engage the voting key.

972,508. BOTTLE-STOPPER. EDMUND S. CHURCH, Dayton, Ohio, assignor to Hayner Distilling Company, a Corporation of Ohio. Filed Apr. 27, 1909. Serial No. 492,444.

1. In a bottle stopper of the kind described, the combination with a resilient cork, and an inclosed shell attached thereto and adapted to contain locking mechanism and having an opening therein; of a locking dog formed with a projection adapted to project through the opening in said shell and engage a locking recess in said bottle; a

series of manipulative setting elements projecting through the upper portion of said shell, the lower portions of said setting elements being formed with locking notches, and said setting elements being mounted within the shell to produce vertical reciprocations of said notches by the adjustments of said setting elements; and a projection carried by said locking dog and common to all of said setting elements, positioned to coöperate with said notches whereby to control the locking and unlocking of the stopper.



2. In a bottle stopper of the kind described, the combination with a resilient cork, and an inclosed shell attached thereto and adapted to contain locking mechanism and having an opening therein; of a locking dog formed with a projection adapted to project through the opening in said shell and engage a locking recess in said bottle; a standard within said shell; a series of setting levers having operating handles extending through the upper casing of said shell and pivoted upon said standard, the lower portions of said levers being provided with locking notches which are raised and lowered by the pivotal movements of said levers; and a bar carried by said locking dog and extending across the lower ends of said levers in position to coöperate with said notches.

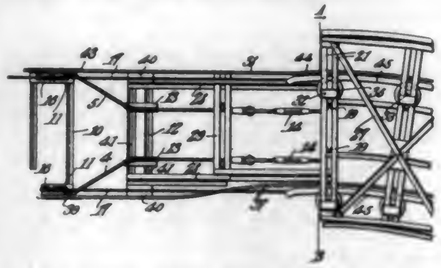
3. In a bottle stopper of the kind described, the combination with a resilient cork, and an inclosed shell attached thereto and adapted to contain locking mechanism and having an opening therein; of a locking dog formed with a projection adapted to project through the opening in said shell and engage a locking recess in said bottle; a standard within said shell; a series of setting levers having operating handles extending through the upper casing of said shell and pivoted upon said standard, the lower portions of said levers being provided with locking notches which are raised and lowered by the pivotal movements of said levers; a bar carried by said locking dog and extending across the lower ends of said levers in position to coöperate with said notches; and the notch of one of said setting levers being formed with inclined sides for operating upon the bar of said locking dog to cam the dog positively into locking position.

4. In a bottle stopper of the kind described, the combination with a resilient cork, and an inclosed shell seated thereon and adapted to contain locking mechanism and having a slot formed therein; of a dial plate closing the upper end of said shell and formed with slots therein; a bolt extending through said cork and formed with a head for clamping the shell to said cork; a standard also connected with said bolt and extending up into said shell; a series of setting levers pivoted on said standard and extending through the slots in said dial plate; a locking dog hanging pivotally from the underside of the said dial plate into the interior of said shell and formed with a foot projecting through said slot in said shell to engage a locking recess in the bottle; disks formed on the lower or pivotal ends of said levers and provided with notches in the periphery thereof; and a locking bar extending horizontally across the lower end of said locking dog and coöperating with the notches of all of said levers to control the locking position of said dog.

5. In a bottle stopper of the kind described, the combination with a resilient cork, and an inclosed shell seated thereon and adapted to contain locking mechanism and having a slot formed therein; of a dial plate closing the upper end of said shell and formed with slots therein; a bolt extending through said cork and formed with a head for clamping the shell to said cork; a standard also connected with said bolt and extending up into said shell; a series of setting levers pivoted on said standard and extending through the slots in said dial plate; a locking dog hanging pivotally from the underside of said dial plate into the interior of said shell and formed with a foot projecting through said slot in said shell to engage a locking recess in the bottle; disks formed on the lower or pivotal ends of said levers and provided with notches in the periphery thereof; a locking bar extending horizontally across the lower end of said locking dog and coöperating with the notches of all of said levers to control the locking position of said dog; a vertical slide also projecting through a slot in said dial plate and guided at its lower end upon said standard so as to permit vertical adjustment of said slide, with a notch formed in the lower end of said slide to coöperate with the aforesaid bar of the locking dog, and the notch of one of the setting levers also being formed with inclined sides for camming the said bar out of the notch and positively forcing the locking dog into locking position.

[Claim 6 not printed in the Gazette.]

972,509. CURVE FOR DOUBLE-ROPE TRAMWAYS. SEBERN A. COONEY, Trenton, N. J., assignor of one-half to John A. Roebling's Sons Co., Trenton, N. J. Filed Oct. 14, 1909. Serial No. 522,661.



1. In a tramway system, separated loading and unloading stations and separate outgoing and incoming tracks connecting the same, a power cable having a predetermined relation to the said tracks, buckets adapted to the tracks and provided with grips for connecting the buckets to the power cable, and a curve structure between the stations and interposed in the tracks, said curve structure being traversed by the tracks and by both the outgoing and return runs of the power cable and the latter changing its relation to the tracks on the inner bend of the curve, the grips being mounted on the buckets so as to conform to the changed relations of the track and power cable at the inner bend of the curve.

2. In a tramway system, separated loading and unloading stations, outgoing and incoming cable tracks for each station, a curve station, anchorages at said curve station for the ends of the cable tracks remote from the loading and unloading stations, tracks through the curve station connecting the respective cable tracks, a power cable extending from the loading station to the unloading station and back again and having both runs traversing the curve station in the same relation to the cable tracks but in reverse relation to one of the tracks in the curve station, and buckets each provided with a grip for connecting the buckets to the power cable, said grip being mounted on the bucket to conform to the changed relation of the power cable and track traversing the curve station.

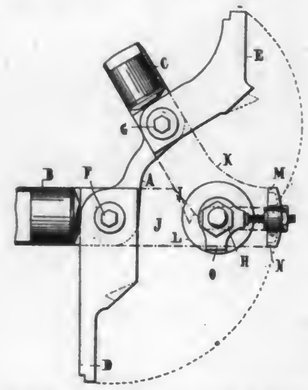
3. In a tramway system, a curve station having approaches, a curve connecting said approaches, tracks at the outer and inner bends of the curve, the inner track and each approach dipping and bending toward the center line of the approach, and a power cable having runs adjacent to each track, the vertical plane of said power cable intersecting and traversing the dipping portion of the inner track.

4. In a tramway system, a curve station having approaches, a curve connecting said approaches, tracks at the outer and inner bends of the curve, the inner track at each approach dipping and bending toward the center line of the approach, a power cable having runs adjacent to each track, the vertical plane of said power cable intersecting and traversing the bent dipping portion of the inner track, and buckets adapted to said tracks and provided with grips for coupling the buckets to the power cable, the said grips being pivotally mounted to turn on axes parallel with the line of travel of the buckets.

5. In a tramway system, a curve provided with an outer and an inner curved series of guide sheaves, curved tracks adjacent but toward the outer bend of the curve with relation to the respective series of sheaves, an approach track at each end of the curve connecting with the outer track, and another approach track at each end of the curve having a dip and a bend toward the center line of the curve structure and connected to the inner track.

[Claims 6 to 17 not printed in the Gazette.]

972,510. PIVOTED LUG FOR THE BACK FORKS OF BICYCLES. CONSTANT MARCEL COSSET, Paris, France. Filed Feb. 26, 1910. Serial No. 546,097.



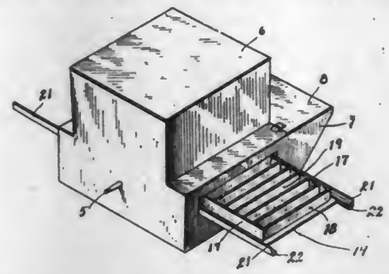
1. A pivoted lug for the back fork of bicycles to permit of removing the tire without disturbing the back wheel, comprising a bent brace on the tube of the fork, a pivoted lug on said brace, a tension device on the axle of the wheel having a cap with rectangular portion adapted to receive the free end of the lug, and means for tightening the device.

2. A pivoted lug for the back fork of bicycles to permit of removing the tire without disturbing the rear wheel, comprising a bent brace on the tube of the back fork, two lug parts pivoted to said brace adapted to be moved onto and away from the wheel tension devices, and means for tightening the two lug parts when in normal position.

3. A pivoted lug for the back fork of bicycles to permit of removing the tire without disturbing the rear wheel, comprising a bent brace on the tube of the back fork, two lug parts pivoted one each to one end of said brace, and a tension cap provided with rectangular portions at the end adapted to receive the free ends of the lug parts, and means for tightening the device.

972,511. APPARATUS FOR USE IN MAKING CANDY. ROY W. H. CRABB, Battle Creek, Mich. Filed Nov. 11, 1909. Serial No. 527,514.

1. The combination of an upper and lower ice chamber; a cooling chamber disposed between said ice chambers, the bottom of said upper ice chamber and the top of said lower ice chamber forming the top and bottom, respectively, of said cooling chamber, the top of said lower ice chamber having transverse raised ice compartments disposed centrally and at the front and rear thereof, said cooling chamber being extended beyond the front and rear of said upper ice chamber; a tray adapted to be passed through said cooling chamber, said tray comprising a bottom having transverse slot-like openings therein, a false bottom of paper arranged thereon to support the candy to be cooled over said openings in said bottom, said tray bottom resting on the said raised ice compartments of said cooling chamber bottom as the tray is passed through the cooling chamber, walls for said tray having a plurality of transverse partitions arranged between the openings of said bottom; and partitions depending from the top of said cooling chamber, said partitions being arranged transversely of said ways and being spaced to correspond with the partitions of said tray walls whereby a series of cooling compartments are provided as the tray is passed through said cooling chamber.



2. The combination of an upper and lower ice chamber; a cooling chamber disposed between said ice chambers, the bottom of said upper ice chamber and the top of said lower ice chamber forming the top and bottom, respectively, of said cooling chamber, the top of said lower ice chamber having transverse raised ice compartments disposed at the front and rear thereof, said cooling chamber being extended beyond the front and rear of said upper ice chamber; a tray adapted to be passed through said cooling chamber, said tray comprising a bottom having transverse slot-like openings therein, a false bottom of paper arranged thereon to support the candy to be cooled over said openings in said bottom, said tray bottom resting on the said raised ice compartments of said cooling chamber bottom as the tray is passed through the cooling chamber, walls for said tray having a plurality of transverse partitions arranged between the openings of said bottom; and partitions depending from the top of said cooling chamber, said partitions being arranged transversely of said ways and being spaced to correspond with the partitions of said tray walls whereby a series of cooling compartments are provided as the tray is passed through said cooling chamber.

3. The combination of an upper and a lower ice chamber; a cooling chamber disposed between said ice chambers, the bottom of said upper ice chamber and the top of said lower ice chamber forming the top and bottom, respectively, of said cooling chamber, the top of said lower ice chamber having transverse raised ice compartments disposed centrally and at the front and rear thereof; and a tray adapted to be passed through said cooling chamber, said tray comprising a bottom having transverse slot-like openings therein, a false bottom of paper arranged thereon to support the candy to be cooled over said openings in said bottom, said tray bottom resting on the said raised ice compartments of said lower ice chamber as the tray is passed through the cooling chamber.

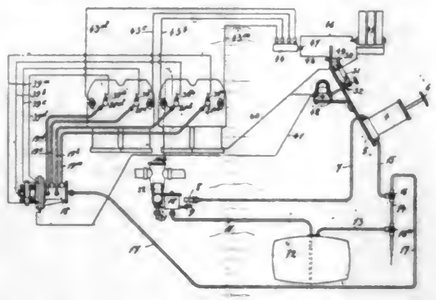
4. The combination of an upper and a lower ice chamber; a cooling chamber disposed between said ice chambers, the bottom of said upper ice chamber and the top of said lower ice chamber forming the top and bottom, respectively, of said cooling chamber, the top of said lower ice chamber having transverse raised ice compartments disposed at the front and rear thereof; and a tray adapted to be passed through said cooling chamber, said tray comprising a bottom having transverse slot-like openings

therein, a false bottom of paper arranged thereon to support the candy to be cooled over said openings in said bottom, said tray bottom resting on the said ice compartments of said lower ice chamber as the tray is passed through the cooling chamber.

5. The combination of an upper and a lower ice chamber; a cooling chamber disposed between said ice chambers, the bottom of said upper ice chamber and the top of said lower ice chamber forming the top and bottom, respectively, of said cooling chamber, the top of said lower ice chamber having transverse raised ice compartments disposed centrally and at the front and rear thereof; and a tray to be passed through said cooling chamber.

[Claims 6 to 17 not printed in the Gazette.]

972,512. STARTING-GEAR OF INTERNAL-COMBUSTION MOTORS. PAUL DAIMLER and ALFRED VISCHER, Untertürkheim-Stuttgart, Germany, assignors to Daimler Motorengesellschaft, Untertürkheim-Stuttgart, Germany. Filed Nov. 12, 1908. Serial No. 462,200.



1. In combination with the cylinders of a motor, a starting device comprising a carbureter, a starting pump, a fuel reservoir, a suction pipe leading from said carbureter to said pump, a pressure pipe leading from said pump, branch pipes from said pressure pipe leading one to the fuel reservoir and another to the motor cylinder, and a switch cock at the branching point between said pressure pipe and the branch pipes for the purpose of establishing communication as desired between the pump and the fuel reservoir or between the pump and the engine cylinders.

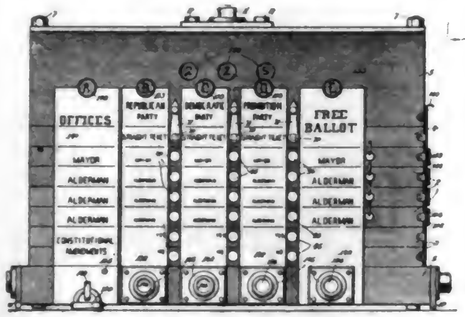
2. In combination with the cylinders of an internal combustion motor, a starting device comprising a carbureter, a starting pump, a fuel reservoir, a rotary distributer, a suction pipe leading from said carbureter to said pump, a pressure pipe leading from said pump, branch pipes from said pressure pipe to the fuel reservoir and distributer, a switch cock at the branching point of said pipes for establishing communication between the pump and the fuel reservoir or between the pump and the distributer as desired, and pipes leading from the distributer to the engine cylinders.

3. In combination, an internal combustion motor, a distributer for supplying mixture to a plurality of cylinders comprising a casing having ports therein in communication with the cylinders, a rotary valve controlling said ports and slidable from its seat, and a centrifugal governor associated with the driving gear of said valve and adapted to raise said valve from its seat when the engine is started, whereby said valve is rendered inactive.

4. In combination, an internal combustion motor, a distributer for supplying mixture to the various cylinders of the motor comprising a casing having a plurality of ports therein, in communication with various cylinders, a conical distributing valve rotatable in said casing and controlling said ports, an auxiliary slidable driving shaft for said conical distributing valve, a fixed driving sleeve splined to said driving shaft, and a centrifugal governor associated with said sleeve and adapted to act on said driving shaft.

5. In an internal combustion motor having a plurality of cylinders, the combination with the crank shaft, cylinders, a receptacle for combustible fuel, carbureter, inlet and exhaust valves to each of said cylinders, a sparking plug for each cylinder, a generator and a timer, of a second carbureter, a rotary distributing valve, ports in said valve adapted to afford communication with each of said cylinders in the desired order, a connection between each of said ports and the corresponding cylinder, gearing between said crank shaft and said distributing valve, means for providing said second carbureter with a supply of combustible fuel, a pump capable of operation by the driver for drawing a mixture of air and combustible through said second carbureter and discharging the mixture through said distributing valve into the cylinders, a second source of electric energy and means capable of operation by the driver for short circuiting said generator and utilizing said second source of electric energy for igniting the mixture passed into the cylinders through said distributing valve.

972,513. VOTING-MACHINE. JAMES H. DEAN, Chicago, Ill., assignor, by mesne assignments, to Empire Voting Machine Company, a Corporation of New York. Filed Oct. 30, 1905. Serial No. 285,045.



1. In voting machines, the combination with a series of counters, actuators therefor and actuator shifters, of a return-bar for said shifters, an operating bar for said actuators and motor means for said return and actuating bars, comprising a shaft rotatable in one direction only and means for rotating said shaft as the voter advances and retreats from the machine.

2. In voting machines, the combination with the counters, key-controlled actuating means and locking and restoring means for said counters, of a counter shaft for shifting said actuating means and said locking and restoring means, and means for compelling the rotation of said shaft in the same direction as the voter advances and retreats from the machine.

3. In voting machines, the combination with the counters, counter actuators and actuator shifters, of return-bars for said shifters, actuating bars for said actuators, a motor shaft for reciprocating said bars rotatable in one direction only and bar-operated means on said shaft arranged to shift said actuating-bar in advance of said return-bar.

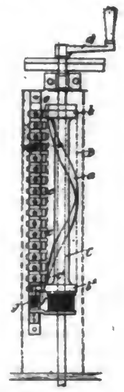
4. In voting machines, the combination with the counters, push keys and rotary actuators, of return-bars for said keys, actuating-bars for said actuators, a motor shaft for reciprocating said bars rotatable in one direction only and bar-operating tappets carried by said shaft, the actuating-bar tappet being arranged in advance of said return-bar tappet, whereby the actuating-bar is shifted first both when the voter advances and when he retreats from the machine.

5. In voting machines, the combination with the upright frame carrying the voting keys on its face, of a booth forming shield centrally journaled upon said frame and rotating in one direction only about said frame, a

shaft rotated by said shield, and a counter constantly interlocked with said shaft and operated thereby.

[Claims 6 to 47 not printed in the Gazette.]

972,514. DEVICE FOR BRAKING TRAM-CARS AND ELECTRIC-RAILWAY CARRIAGES. CHARLES DEGOUMOIS, Berne, Switzerland, assignor to Charles Degoumois, Berne, Switzerland, et Sté Seghers et Paradis, Paris, France. Filed June 20, 1908. Serial No. 439,641.



1. A braking device for electric cars acting through a short-circuiting of the motor or motors, and including in combination a shaft independent of that for starting the motor, a series of resistances in a short-circuit, a series of keys connected with said resistances, and a metal band carried by said shaft and arranged to withdraw the resistances progressively from the short-circuit as the shaft is turned.

2. A braking device for electric cars acting through a short-circuiting of the motor or motors, and including in combination a shaft independent of that for starting the motor, a series of resistances in a short-circuit, a series of keys connected with said resistances, an upper and a lower ring connected with said shaft, and a helical metal strip connecting said rings, the upper ring being constantly in contact with the first of said keys, and the helical strip being arranged to contact successively with the other keys as the shaft is turned and to thereby progressively withdraw the resistances from the short-circuit.

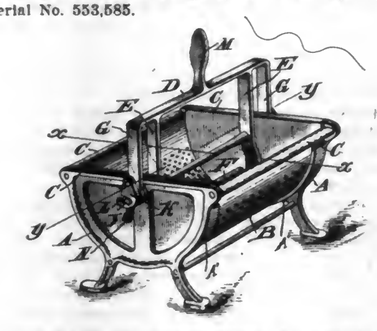
3. A braking device for electric cars acting through a short-circuiting of the motor or motors, and including in combination a shaft independent of that for starting the motor, a series of resistances in a short-circuit, and means for withdrawing said resistances progressively from the short-circuit as said shaft is turned, and means operated by the withdrawing of the last resistance of the series from the short-circuit for maintaining said resistances withdrawn during the continued movement of the shaft.

4. A braking device for electric cars acting through a short-circuiting of the motor or motors, and including in combination a shaft independent of that for starting the motor, a series of resistances in a short-circuit, a series of keys connected with said resistances, an upper and a lower ring connected with said shaft, and a helical metal strip connecting said rings, the upper ring being constantly in contact with the first of said keys, and the helical strip being arranged to contact successively with the other keys as the shaft is turned and to thereby progressively withdraw the resistances from the short-circuit, a supplemental key in position to engage the lower ring but normally yieldingly withheld therefrom, an electro-magnet for pressing said supplemental key against the lower ring and which is energized by the engagement of the last regular key of the series with the helical strip, said supplemental key being electrically connected with the last regular key of the series, whereby its contact with the lower ring insures the maintaining of all the resistances withdrawn during the continued rotation of the shaft.

5. A braking device for electric cars acting through a short-circuiting of the motor or motors, and including in combination a shaft independent of that for starting the motor, a series of resistances in a short-circuit, and means for withdrawing said resistances progressively from the short-circuit as said shaft is turned, and means operated by the withdrawing of the last resistance of the series from the short-circuit for maintaining said resistances withdrawn during the continued movement of the shaft, and a mechanical brake operated by the rotation of said shaft beyond the point at which all the resistances are withdrawn from the short-circuit.

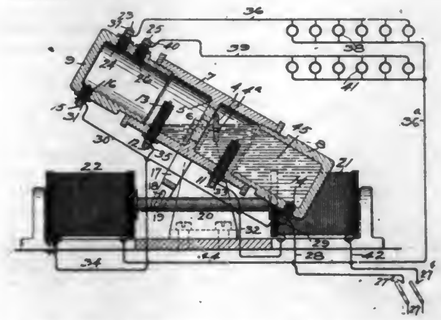
[Claim 6 not printed in the Gazette.]

972,515. SIFTER, STRAINER, AND MASHER. THOMAS FRANCIS DEVLIN, Philadelphia, Pa. Filed Apr. 5, 1910. Serial No. 553,585.



In a device of the character stated, a frame, a foraminous bed thereon, gudgeons on opposite ends of said stand, a handle bar, arms depending therefrom and disposed within said bed, a roller on the lower ends of said arms, supplemental arms depending from said bar on the exterior of said stand and having bifurcations thereon on their lower ends, said bifurcations being freely mounted on said gudgeons, and latches movably mounted on said supplemental arms and having slots adjacent to said bifurcations adapted to embrace freely said gudgeons as bearings, retain said supplemental arms on said gudgeons and hold said roller firmly on said bed.

972,516. ELECTRIC SIGN-FLASHER. ROGER D. DE WOLF, Pittsburg, Pa. Filed Nov. 30, 1906. Serial No. 345,822.



1. In electric sign flashing devices, the combination of a tilting casing, a fluid conductor therein, an electric circuit including suitable contacts in said casing adapted to be closed by said fluid conductor, an electro-magnet in said circuit provided with means for tilting said casing and

thereby progressively transferring said fluid from one end to the other thereof, a plurality of further contacts in said casing, and lamps in circuit with each of said contacts, the said contacts being arranged to progressively close and open the said circuits on the movement of the fluid conductor passing them.

2. In electric sign flashing devices the combination of a tilting casing, a fluid electric conductor in said casing, electric circuits including suitable contacts in said casing, and adapted to be closed by said fluid conductor, electromagnets in said circuits provided with means for tilting said casing and thereby progressively transferring said fluid from one end to the other thereof, a plurality of further contacts in said shell or casing, and lamps in direct circuit with each of said contacts, the said contacts being arranged to progressively close and open the said circuits on the movement of the fluid conductor passing them.

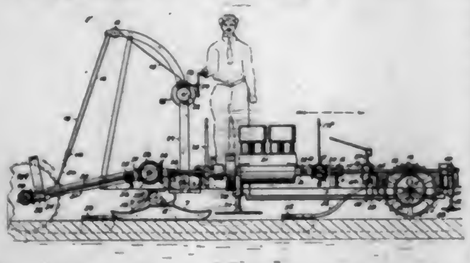
3. In electric sign flashing devices, the combination of a tilting cylindrical casing, a fluid electric conductor therein, a partition therein provided with an aperture dividing the said casing into two compartments, an electric circuit including suitable contacts in said casing adapted to be closed by said fluid conductor, an electromagnet in said circuit provided with means for tilting said casing and thereby transferring said fluid from one compartment to the other thereof, a plurality of further contacts in said casing and lamps in circuit with each of said contacts, the said contacts being arranged to progressively close and open the said circuits on the movement of the fluid conductor passing them.

4. In electric sign flashing devices, the combination of a tilting casing, a fluid electric conductor therein, a partition therein provided with an opening and means for retarding the flow of said conductor through said opening when passing in one direction, electric circuits including suitable contacts in said casing, electromagnets in said circuits provided with means for tilting said casing and thereby transferring said fluid from one end to the other thereof, further contacts in said casing, and lamps in circuit therewith, said contacts being arranged to be progressively closed and opened on the movement of the fluid conductor passing them.

5. In electric sign flashing devices, the combination of a tilting casing, a fluid electric conductor therein, a partition therein dividing said casing into two compartments and provided with an opening and means for retarding the flow of the conductor in one direction therethrough, an electric circuit including a contact adjacent to the outer ends of each of said compartments and a contact in each of said compartments adjacent to said partition, electromagnets in direct circuit with each of said last mentioned contacts, a further contact or contacts in one of said compartments, and lamps in circuit therewith.

[Claim 6 not printed in the Gazette.]

972,517. ICE-HARVESTER. THOMAS DIAMOND, Waukesha, Wis., and WILLIAM P. DIAMOND, Cleveland, Ohio. Filed Apr. 21, 1910. Serial No. 556,762.



1. An ice harvester comprising a truck, an axle mounted upon the forward end of the truck, spudded traction wheels secured to the axle, independent oscillatory runners mounted upon the rear end of the truck, an engine carried by the truck having its shaft extended longitudinally in either direction, an axially alined shaft extending forwardly from the engine shaft, a clutch mechanism for connecting said engine shaft and forward shaft, a speed reducing gear connection between the aforesaid forward shaft and truck axle, a transmission shaft axially alined with and extending back from the aforesaid engine shaft, a clutch mechanism for connecting the engine shaft and transmission shaft, transversely disposed bearings secured to the truck, a counter-shaft journaled in the bearings, a swinging saw-carriage mounted upon said bearings, a longitudinally disposed drive shaft carried by the saw-carriage, beveled driving gears connecting the transmission-shaft, counter-shaft and drive-shaft, a transversely disposed saw-arbor journaled in said saw-carriage, beveled gears connecting the saw-arbor and drive-shaft, one or more saws carried by the saw-arbor, a crane supported upon the truck, a windlass mounted upon the crane, a cable connecting the windlass and saw-carriage, a hand-controlled worm driving gear for the windlass, a jack mechanism for the truck, and oscillatory trailing guide shoes carried by the truck adapted to travel in the last saw-kerf, whereby the succeeding saw-kerf is gaged.

2. An ice harvester comprising a truck, an axle mounted upon the forward end of the truck, spudded traction wheels secured to the axle, independent oscillatory runners for supporting the rear end of the truck, an engine mounted upon the truck having its shaft extending longitudinally in either direction, a speed reducing gear connection between the forward shaft and truck-axle, a transmission shaft axially alined with and extending rearwardly of the aforesaid engine shaft, a clutch mechanism for connecting the engine shaft and transmission shaft, bearings carried by the truck, a counter-shaft journaled in the bearings, a swinging saw-carriage mounted upon the bearings, a transversely disposed sectional arbor mounted upon the swinging saw-carriage, a driving gear connection between the arbor, counter-shaft and transmission shaft, one or more saws carried by each section of the saw-arbor, a crane mounted upon the truck, a windlass carried by the crane, and a cable connection between the windlass and saw-carriage.

3. An ice harvester comprising a truck, an axle mounted upon the forward end of the truck, traction wheels secured to the axle, independent oscillatory runners for supporting the rear end of the truck, an engine carried by said truck having its shaft extending longitudinally in either direction, an axially alined shaft extending forwardly of the engine shaft, a hand-controlled reversing gear mechanism connecting the forward shaft and engine shaft, a worm-wheel secured to the axle, a worm carried by the forward shaft engageable with the worm-wheel, a transmission shaft axially alined with and extending rearwardly of the aforesaid engine shaft, a clutch mechanism connecting the engine shaft and transmission shaft, transversely disposed bearings carried by the truck frame, a counter-shaft journaled within the bearings, a swinging saw-carriage mounted upon the bearings, a longitudinally disposed drive shaft carried by the saw-carriage, beveled driving gears connecting the transmission shaft, counter-shaft and drive-shaft, a transversely disposed saw-arbor mounted upon said saw-carriage, gears connecting the saw-arbor and drive-shaft, one or more saws carried by the saw-arbor, a crane supported upon the truck, a windlass mounted upon the crane, a cable connecting the windlass and saw-carriage, a vertically disposed cylinder secured to the truck-frame, a piston mounted within the cylinder having a disk at its end adapted to engage the surface of the ice, and a hand-controlled fluid pump in pipe-connection with opposite ends of the cylinder.

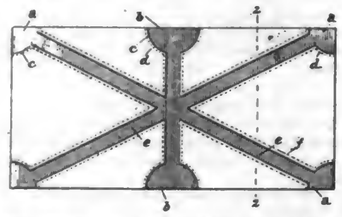
972,518. TANNING COMPOUND. JOHN M. DILL, Artesia, N. Mex. Filed May 7, 1910. Serial No. 559,866.

1. A tanning compound consisting of the following named ingredients: water, borax, garden sage, fluid extract of wild cherry bark, catechu and curcuma.

2. A tanning compound consisting of the following named ingredients: water, borax, garden sage, fluid extract of wild cherry bark, catechu, curcuma, and gasolene.

3. A tanning compound consisting of the following named ingredients in substantially the proportions specified: water, 15 gallons, borax 1 ounce, garden sage, 3 ounces, fluid extract of wild cherry bark 1½ ounces, catechu 1½ pounds, curcuma 1 ounce and gasolene 4 ounces.

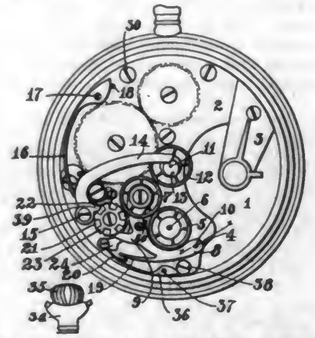
972,519. TILE. JOSEPH B. DUNN, Baltimore, Md. Filed Apr. 13, 1910. Serial No. 555,242.



1. A rectangular wall-tile provided on its back at each corner with a quarter-circular under-cut recess, and midway between the two ends of the tile and at each of two opposite edges provided with a half-circular undercut recess, whereby a number of such tiles may be set so that a half-circular recess of one tile may meet a quarter-circular recess of two other tiles and form a circular recess into which a single cement key may enter.

2. A rectangular wall tile provided on its back at each corner with a quarter-circular under-cut recess, and midway between the two ends of the tile and at each of two opposite edges provided with a half-circular undercut recess and straight grooves extending entirely across the tile and the two ends of each groove connecting with a different edge-recess.

972,520. STOP-WATCH. EUGENE AMI DUPUIS, New York, N. Y. Filed July 3, 1909. Serial No. 505,816.

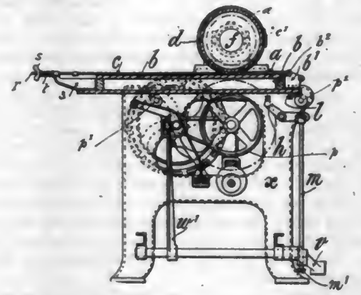


1. The combination with a watch movement, of a fractional seconds wheel, means for throwing the watch movement into and out of engagement with the wheel of the fractional seconds wheel and returning the parts to their initial positions, all mounted above the outer surface of the three quarter plate of the movement, a motion transmitting lever extending along the rim part of the movement and between the plates thereof from the winding arbor to the said mechanism for throwing the fractional seconds wheel into and out of engagement with the movement and a connecting member extending from said lever through the three quarter plate to the mechanism above the top of the three quarter plate, substantially as set forth.

2. The combination with a watch movement, of a fractional seconds wheel mounted above the outer face of the three quarter plate, a wheel driven from the fourth wheel of the watch movement and also mounted above the outer face of the three quarter plate, an idler wheel interposed between the wheel driven from the fourth wheel and the fractional seconds wheel and permanently engaged with the wheel driven from the fourth wheel, a lever pivoted on the outer face of the three quarter plate and carrying said idler wheel, a star wheel mounted on the outer face of the three quarter plate, and engaging the said lever, a ratchet wheel united with the star wheel, a lever pivoted between the plates of the movement and extending along the rim of the movement from the crown to said ratchet wheel, a hook pawl on the outer face of the three quarter plate, a pin extending from the said hook pawl through a slot in the three quarter plate to the end of the lever pivoted between the plates, a heart cam on the fractional seconds wheel, and a spring pressed lever for throwing said heart cam and engaging the star wheel, substantially as set forth.

3. In a stop watch, the combination with a watch movement, of a wheel driven from the fourth wheel of the movement and a fractional seconds wheel both of said wheels being mounted above the outer surface of the three quarter plate, an intermediate idler wheel permanently engaging the wheel driven from the fourth wheel of the movement and capable of engagement with the fractional seconds wheel a spring pressed lever pivoted by an eccentric pivot upon the outer surface of the three quarter plate at one end of said lever and carrying said idler wheel at the opposite end, and a star wheel for shifting said lever and engaging the lever, and means for operating the star wheel, substantially as set forth.

972,521. IRONING-MACHINE. THOMAS ALEXANDER ELPHICK, Castlenau, England. Filed Dec. 11, 1909. Serial No. 532,674.



1. In an ironing machine, the combination, with a revoluble ironing-roller and guides arranged at the ends thereof, of a slidable support, an ironing-pad connected at one end with the said support and arranged to be wound upon the ironing-roller, and flexible connections arranged to be wound upon the said guides, said connections being connected with the said support at one end and being attached at the other end to the side portions of the other end of the ironing-pad.

2. In an ironing machine, the combination, with a revoluble ironing-roller and guides arranged at the ends thereof, of a slidable support, an ironing-pad connected at one end with the said support and arranged to be wound upon the ironing-roller, flexible connections arranged to be wound upon the said guides, said connections being connected with the said support at one end and being attached at the other end to the side portions of the other end of the ironing-pad, and means for arresting the motion of the ironing-roller automatically when the ironing-pad has been wound upon it to a prearranged extent.

3. In an ironing machine, the combination with a revoluble ironing-roller and guides arranged at the ends thereof, of a slidable table, an ironing pad connected at one end with the said table, said pad being arranged to be wound upon the ironing-roller and to rest on the table when unwound, and flexible connections arranged to be wound upon the said guides, said connections being con-

nected with the said table at one end and being attached at the other end to the side portions of the other end of the ironing-pad.

972,522. NOZZLE-STOPPER FOR BOTTLES AND OTHER RECEPTACLES. THOMAS W. EVANS, Jersey City, N. J. Filed May 10, 1909. Serial No. 495,105.



1. A closure device for bottles or other vessels of the class described comprising a nut-shaped plug member provided on its bottom side with a tubular extension adapted to be screwed into the neck of the bottle or other vessel and on its upper side with a tubular extension which is threaded both externally and internally, said plug member being provided with a central bore or passage, a tubular plug screwed into the tubular extension on the upper side of the nut-shaped plug member, a cap screwed onto said tubular extension and inclosing said tubular plug, and a nozzle tube passed through said cap, through said tubular plug and through said nut-shaped plug member and provided at its lower end with a valve adapted to be seated on the lower end of the tubular extension at the bottom of said member, said nozzle tube being provided above said valve with a side port or passage, and the lower end portion of said nozzle tube being threaded and the threads on said nozzle tube and on the exterior of the tubular extension on the upper side of the nut-shaped plug member being opposite threads.

2. In a closure device for bottles and similar vessels, a stuffing box device adapted to be screwed into the neck of the bottle and provided with a cap which is screwed thereonto, and a nozzle tube which is passed through said cap and through said stuffing box construction and provided at its lower end with a valve and above said valve with a side port or passage, said cap and said tube being correspondingly threaded, and the threads in said cap and on said tube and the thread by which the cap is connected with the stuffing box construction being such that the rotation of said cap in one direction will open said valve and in the other direction will close said valve.

972,523. IRON-ALBUMIN-GLYCEROPHOSPHATE AND PROCESS OF MAKING SAME. ERNST FISCHER, Grunau, near Hanover, Germany. Filed Mar. 9, 1909. Serial No. 482,264. (Specimens.)

1. The process of producing iron-albumin-glycerophosphates from soluble alkali-albumin-glycerophosphate and an iron salt consisting in adding a neutralized solution of an iron salt to the solution of alkali-albumin-glycerophosphate in the presence of sodium acetate.

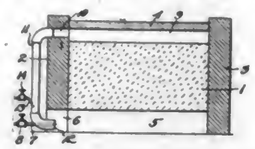
2. The process of producing iron-albumin-glycerophosphates from sodium-albumin-glycerophosphate and an iron salt consisting in adding a neutralized solution of ferric chlorid to the solution of alkali-albumin-glycerophosphate in the presence of sodium acetate until all the sodium has been replaced by iron, and separating the resulting precipitate from the solution.

3. The process of producing iron-albumin-glycerophosphates from sodium-albumin-glycerophosphate and an iron salt consisting in adding a neutralized solution of ferric chlorid to the solution of alkali-albumin-glycerophosphate in the presence of sodium acetate until all the sodium has been replaced by iron, separating the resulting precipitate from the solution, washing same with alcohol and ether, and drying it.

4. As a novel compound, an iron-albumin-glycerophosphate derived from soluble alkali-albumin-glycerophosphate and an iron salt in which all the alkali has been replaced by iron, existing in form of a brownish powder insoluble in water and organic solvents and soluble in diluted acids and alkalies.

5. As a novel compound, an iron-albumin-glycerophosphate derived from sodium-albumin-glycerophosphate and an iron salt in which all the sodium has been replaced by iron, existing in form of a brownish powder insoluble in water and organic solvents and soluble in diluted acids and alkalies.

972,524. BRICK-KILN AND PROCESS OF BURNING BRICKS. WILLIAM H. FRANCIS, Cherryvale, Kans. Filed June 14, 1910. Serial No. 566,723.



1. The method, consisting of providing, in connection with a fuel flame for burning bricks, a large circulation-volume of hot air at relatively high speed, and delivering the latter under continuous forward movement adjacent and in the direction of the fuel flame but separate from and wholly distinct from the source of flame.

2. The method, consisting of providing, in connection with a fuel flame for burning bricks, a separate large circulation-volume of hot air, delivering said hot air into the course of the flame to be thereby accelerated in speed, and thence propelling said large volume of hot air and flame under continuous, rapid movement to and through the bricks.

3. The method, consisting of providing, in connection with an already mixed fuel flame from an oil or gas burner for burning bricks, a separate, large circulation-volume of hot air, and delivering said hot air at substantially continuous speed into the path of the flame from said burner and subsequent to the ignition mixture.

4. The method, consisting of providing, in connection with a fuel flame from an oil or gas burner for burning bricks, a separate, large circulation-volume of hot air, and delivering said hot air at relatively high and continuous speed about the nozzle of said burner, whereby said speed is accelerated by the jet of flame from the burner.

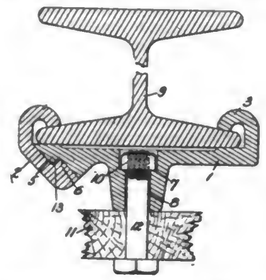
5. The method, consisting of providing, in connection with a fuel flame for burning bricks, a large circulation-volume of hot air at relatively high speed, and delivering the latter adjacent the fuel flame but separate from and wholly distinct from the source of flame, then passing the hot air and products of combustion through the bricks and returning the same as the supply of hot air for said circulation-volume.

[Claims 6 to 22 not printed in the Gazette.]

972,525. HANGER. FERRIS I. R. FRANCISCO, Jersey City, N. J. Filed Nov. 30, 1909. Serial No. 530,534.

1. In a hanger, the combination with a pair of jaws terminating in hooks adapted to engage the flange of an I-beam, of ribs integral with the jaws and spaced from the hooks said ribs being shaped to lock the jaws together, substantially as described.

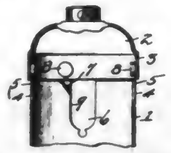
2. In a hanger, the combination with a pair of jaws terminating in hooks adapted to engage the flange of an I-beam, of transverse tapered ribs integral with the jaws and spaced from the hooks said ribs being shaped to slide by each other into locking position, substantially as described.



3. In a hanger, the combination with a pair of jaws terminating in hooks adapted to engage the flange of an I-beam, one of the jaws being provided with a nut seat and an aperture in the bottom of the seat, of ribs integral with the jaws and spaced from the hooks said ribs being shaped to lock the jaws together, substantially as described.

4. In a hanger, the combination with a pair of jaws terminating in hooks adapted to engage the flange of an I-beam, one of the jaws being provided with a nut seat and an aperture in the bottom of the seat, of transverse tapered ribs integral with the jaws and spaced from the hooks said ribs being shaped to slide by each other into locking position, substantially as described.

972,526. ADJUSTABLE CASING FOR LAMP-SOCKETS. EDGAR H. FREEMAN, Trenton, N. J. Filed July 28, 1910. Serial No. 574,381.

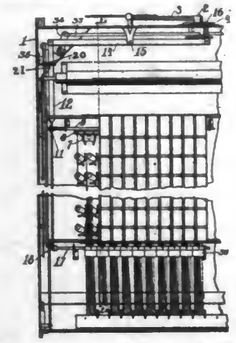


1. An adjustable lamp socket casing comprising a cap provided with a plurality of equidistant lugs having locking shoulders, and a shell provided with a plurality of positioning slots and a resilience slot opening through one end thereof, said shell presenting a locking abutment at one edge of the resilience slot and contiguous to the latter being provided with an inturned guiding lip engaged by one of said lugs as the other lugs enter the positioning slots.

2. An adjustable lamp socket casing comprising a cap provided with a plurality of equidistant lugs having locking shoulders, and a compressible shell provided with a plurality of bayonet positioning slots, and with a resilience slot opening through one end thereof, said shell presenting a locking abutment formed by an edge of the resilience slot and contiguous to the latter being provided with a guiding lip engaged by one of said lugs simultaneously with the entering of the other lugs into the positioning slot.

972,527. CONTROLLING MECHANISM FOR VOTING-MACHINES. ALFRED J. GILLESPIE, Atlantic, Iowa, and WILLIAM J. LAUSTERER, Jamestown, N. Y., assignors, by mesne assignments, to Empire Voting Machine Company, Rochester and Jamestown, N. Y., a Corporation of New York. Filed June 5, 1908. Serial No. 436,852.

1. In a voting machine, the combination of an operating lever capable of a forward and backward movement, a latch for locking said lever against backward movement, keys for voting on questions, means for moving said latch to release said lever for backward movement, said means operating to move said latch on the operation of any one of the keys for voting on questions.



2. In a voting machine, the combination of an operating lever capable of a forward and backward movement, a latch for locking said lever against backward movement, keys for voting on questions, means for moving said latch to release said lever for backward movement, said means operating to move said latch on the operation of any one of the keys for voting on questions, and means operable for permanently holding said latch in inoperative position.

3. The combination in a voting machine of a plurality of Yes and No keys movable to voted position, a bar normally resting on said keys and raised by the operation of any one of said keys, a rock shaft rotated by the movement of said bar, a lever for operating the machine, a latch normally locking said lever against movement, connections between the rock shaft and the latch whereby when any one of the keys is voted, the latch is withdrawn from its locking position.

4. In a voting machine, the combination of an operating lever capable of a forward and backward movement, a latch for locking said lever against backward movement, keys for voting on questions, means for moving said latch to release said curtain lever for backward movement, said means operating to move said latch on the operation of any one of the keys for voting on questions, a woman's lockout means for independently operating said latch through the operation of the woman's lockout.

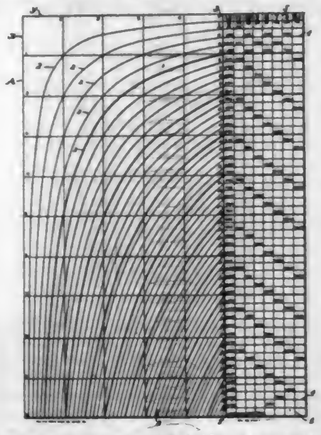
5. In a voting machine, the combination of an operating lever capable of a forward and backward movement, a latch for locking said lever against backward movement, keys for voting on questions, means for moving said latch to release said curtain lever for backward movement, said means operating to move said latch on the operation of any one of the keys for voting on questions, a woman's lockout means for independently operating said latch through the operation of the woman's lockout, said latch being restored to normal operation again when the woman's lockout is returned to normal position.

[Claim 6 not printed in the Gazette.]

972,528. TYPE-MEASURING DEVICE. ARTHUR H. HALLORAN, San Francisco, Cal. Filed Oct. 27, 1908. Serial No. 459,692.

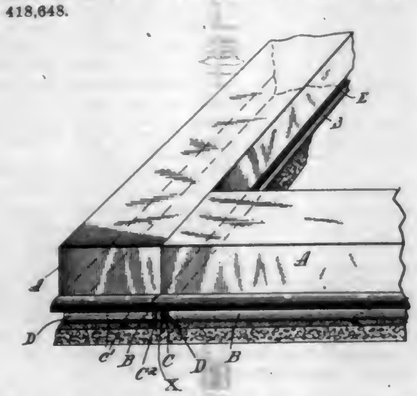
1. A device for the measurement of type and the like, comprising a sheet bearing a series of constant product curves, namely, hyperbolas, with rectangular asymptotes, the area of said sheet covered by said hyperbolas being essentially rectangular, and said sheet having another rectangular area along one side of the first-named rectangular area, said second rectangular area being divided vertically and transversely into columns and spaces, with each space corresponding to a particular hyperbolic curve, and each of said spaces showing the number of ems of a particular size of type represented in the areas corresponding to the respective curves.

2. A device for graphic measurement of small rectangular areas, comprising a transparent medium bearing a series of constant product curves, namely, hyperbolas, with rectangular asymptotes, said asymptotes being represented, respectively, by the top and left-hand edges of the sheet, a marginal line drawn at a predetermined distance from



the left-hand edge intersecting said curves, a series of columns on the sheet at the right of said marginal line, each column corresponding to a particular size of type, and there being represented in each column and opposite each of said curves the number of ems of that particular size of type in the areas corresponding to the respective curves.

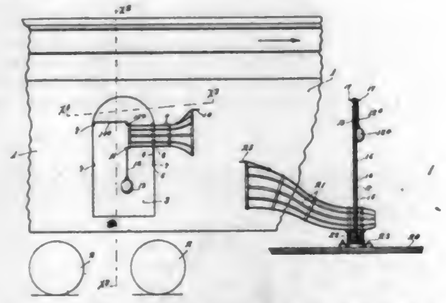
972,529. WOOD FLOORING. JOHN J. C. HASBROUCK, New York, N. Y. Filed Mar. 2, 1908. Serial No. 418,648.



1. In a wood block floor or the like the combination of blocks provided with plane upper surfaces and vertical upper portions on their sides adapted to be placed in contact, a horizontal tongue on the side of one of the blocks having a rounded upper surface and a straight under surface, a groove in the side of another block adapted to receive the tongue and support it by this straight under surface, and curved on approximately the same curve as the rounded upper surface of the tongue but varying therefrom so as to leave a slight space or crevice between the outer surface of the tongue and the surface of the groove extending downwardly from the upper vertical surfaces, a groove beneath the said tongue extending from the tongue to the bottom of the block and a projecting portion extending beyond the tongue-receiving groove between the said tongue-receiving groove and the bottom of its block but out of contact with the opposite side surface of the other block.

2. In a wood block floor or the like the combination of blocks provided with flat vertical side portions extending from the edge of one horizontal face toward the opposite side of the block and adapted to be placed in contact with each other, a portion of one of said blocks at the lower edge of said flat vertical side surface being undercut and provided with a horizontal ledge or step at the bottom of said undercut and another block provided with a rib or bead projecting from the lower edge of its flat vertical side surface in plane with the undercut portion of the other block and adapted to enter the same when the two said vertical surfaces are placed in contact, said bead having a horizontal undersurface adapted to lie on the said horizontal ledge and having its outer surface out of contact with the said undercut portion near the said ledge, a groove extending from the ledge to the other horizontal surface of the block and a groove extending from the horizontal under side of the bead to the bottom of the other block, each of the said blocks being provided with another side corresponding with the above described side of the other block.

972,530. RAILWAY MAIL DELIVERING AND RECEIVING APPARATUS. LARS K. HASSELL and CHRIST HANSON, Grand Forks, N. D. Filed Dec. 10, 1909. Serial No. 532,353.



1. The combination with a car and a station crane, which latter is adapted to hold a mail bag suspended, of a car crane pivotally mounted in the side door opening of said car, a tubular bag catcher pivotally supported by said car crane, and having at its receiving end a trip for releasing a mail bag suspended from said station crane and having at its delivery end means for holding a mail bag suspended, and a trip associated with said station crane for releasing a mail bag suspended from said tubular bag catcher, substantially as described.

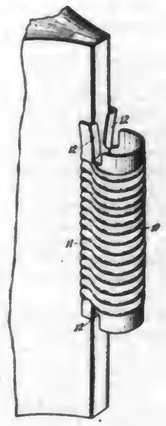
2. The combination with a car and a station crane, which latter is adapted to hold a mail bag suspended, of a car crane pivotally mounted in the side door opening of said car, a tubular bag catcher pivotally supported by said car crane and having at its receiving end a trip for releasing a mail bag suspended from said station crane and having at its delivery end means for holding a mail bag suspended, a trip associated with said station crane for releasing a mail bag suspended from said tubular bag catcher, and a truss rod applicable to said bag catcher and to said car body for holding said tubular bag catcher in an operative position, substantially as described.

3. The combination with a car and a station crane, which latter is adapted to hold a mail bag suspended, of a car crane pivotally mounted in the side door opening of said car, tubular bag catchers, one of which is pivotally supported by said car crane and having at its receiving end a trip for releasing a mail bag suspended from said station crane and having at its delivery end means for holding a mail bag suspended and the other of said tubular bag catchers being associated with said station crane, is pivotally movable so that it may be reversed and thereby adapted to receive a mail bag in either direction of travel

of a car and is provided at its receiving end with a trip for releasing a mail bag suspended from the said car bag catcher substantially as described.

4. The combination with a car and a station crane, which latter is adapted to hold a mail bag suspended, of a car crane pivotally mounted in the side door opening of said car, skeleton tubular bag catchers, one of which is pivotally supported by said car crane and having at its receiving end a trip for releasing a mail bag suspended from said station crane and having at its delivery end means for holding a mail bag suspended and the other of said tubular bag catchers being associated with said station crane, is pivotally movable so that it may be reversed and thereby adapted to receive a mail bag in either direction of travel of a car and is provided at its receiving end with a trip for releasing a mail bag suspended from the said car bag catcher, and a truss rod applicable to said bag catcher and to said car body for holding said tubular bag catcher in an operative position, substantially as described.

972,531. MAGAZINE-HOLDER. ROUSSEAU FORBY HAYNES, Lowell, Mass. Filed Feb. 16, 1910. Serial No. 544,202.



1. A magazine holder comprising a tubular hand-grip of spring material split along its length and provided with opposed longitudinal jaws at the edges, arranged to bind the magazine at opposite sides adjacent to the rear edge, and inwardly-extended lips at the inner edges of the jaws to limit the insertion of the magazine.

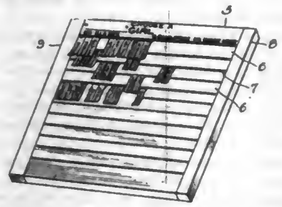
2. A magazine holder comprising a hand-grip having opposed spring clamping jaws adapted to bind a magazine at opposite sides adjacent to the rear edge, and stops arranged to prevent the application of the grip to the magazine to an extent to interfere with the opening of the magazine.

972,532. VENDING APPARATUS. ARTHUR HEATON, Whitehall, Ill. Filed Apr. 26, 1910. Serial No. 557,646.

1. In a vending device, a base having a series of slots, strips of material secured to the back of the base and having tabs extending through the slots of the base, the said tabs containing numbers on those portions within the slots.

2. In a vending device, a base having a series of slots, strips of material secured to the back of the base and having tabs extending through the slots of the base, the said tabs containing numbers on those portions within the slots, and a protecting sheet covering the strips on the back of the base.

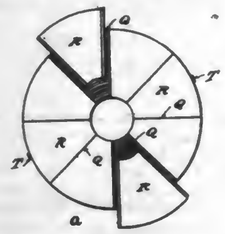
3. In a vending device, a base having a series of slots, strips of material secured to the back of the base and having tabs extending through the slots of the base, the said tabs containing numbers on those portions within the slots, a projecting sheet covering the strips on the back of the base, and a strip of material on the head adapted to conceal the grand prize number.



4. In a vending device, a base having a series of slots, strips of material secured to the back of the base and having tabs extending through the slots of the base, the said tabs containing numbers on those portions within the slots, the said strips having perforations at the junction of the strips and tabs.

5. In a vending apparatus, a base having slots, combined strips and tabs, the said strips being secured to the surface of the base and the tabs extending through the slots of the base, the junction of said strips and tabs being positioned at the rear edge of the section of the base whereby the tabs may be torn from the strip flush with the edge of the section of the base.

972,533. FLOOR-DRESSING MACHINE. HERMAN T. HEUSERMANN, Peoria, Ill. Filed June 21, 1909. Serial No. 503,315.



1. In a flooring dressing machine the combination of a wheeled platform including an upright frame, a vertically disposed shaft journaled on the latter, means to drive the shaft, a part-shaft carried by and slidable upon the said shaft and rotatable therewith, a dresser head carried by the part shaft to engage the floor, a member in engagement with and for yieldingly supporting the part shaft, a hand lever, a support to which it is pivoted, and a member interposed between the lever and the first said member.

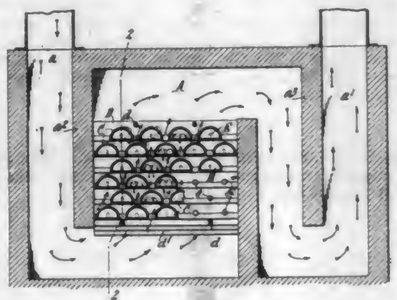
2. In a flooring dressing machine the combination of a wheeled platform including an upright frame, a vertically disposed shaft journaled on the latter, means to drive the shaft, a part shaft carried by and slidable relative to and rotated by said shaft, a dresser-head carried by the part-shaft, a member in engagement with the part-shaft, means to yieldingly support said member and the part-shaft therethrough, a lever, and a device interposed between the lever and the member and in engagement with each and adapted to depress the member and part-shaft by pressure on the said lever.

3. In a flooring dressing machine the combination of a wheeled platform including an upright frame, a vertically disposed shaft journaled on the latter, means to drive the shaft, a part-shaft carried by and slidable relative to and rotated by said shaft, a dresser-head carried by the part-shaft, a member in engagement with the part-

shaft, means to yieldingly support the member and the part-shaft therethrough, a lever, a device interposed between the lever and the member and adapted to depress the member and part-shaft by pressure on the said lever and a grasping member mounted on the frame above the lever to aid the hand and steady it when in the act of depressing the said lever.

4. In a floor dressing machine the combination of a wheeled platform including an upright frame, a vertically disposed shaft journaled on the frame, means to drive the shaft, a part-shaft carried by and slidable relative to and rotated by the shaft, a dresser-head carried at the lower end of the part-shaft, a member in engagement with and for supporting the said part-shaft, the latter being carried between the ends of the members, a spring at each end of the member to yieldingly support the member and the part-shaft, a lever, and a device interposed between the member and the lever adapted when pressure is applied to the latter to depress said member and the part-shaft.

972,534. DUST-ARRESTER. JOHN HICKEY, Buffalo, N. Y. Filed May 18, 1910. Serial No. 561,960.



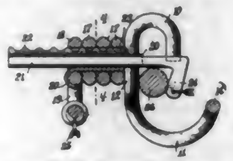
1. In a dust arrester, the combination with a chamber, of a group of spaced baffles arranged in rows in said chamber with the baffles in one row above the spaces between the baffles in the next lower row, said baffles having sloping upper surfaces which shed the dust and under surfaces which slope downwardly in opposite directions, whereby the under surfaces of the baffles in one row deflect the air or gas in opposite directions against the upper surfaces of the baffles in the next lower row, substantially as set forth.

2. In a dust arrester, the combination with a chamber, of a group of spaced baffles arranged in rows in said chamber with the baffles in one row above the spaces between the baffles in the next lower row, said baffles having convex upper surfaces which shed the dust and concave under surfaces which deflect the air or gas downwardly in opposite directions and being of greater width than the horizontal width of the spaces between the baffles, substantially as set forth.

3. In a dust arrester, the combination with a chamber through which the dust-laden air or gas moves upwardly, of a group of spaced hollow semi-cylindrical baffles arranged horizontally in staggered order across said chamber with their convex surfaces upward and with the concave under surface of one baffle over the space between adjacent lower baffles, substantially as set forth.

4. In a dust arrester, the combination with a chamber, of a group of spaced baffles arranged in rows in said chamber with the baffles in one row above the spaces between baffles in the next lower row, said baffles having sloping upper surfaces which shed the dust and under surfaces arranged so that the baffles in one row deflect the air or gas in opposite directions against the baffles in the row below, and means for rocking said baffles, substantially as set forth.

972,535. LOCK. JOHN BAXTER HOOVER, Elizabeth, N. J. Filed Feb. 5, 1910. Serial No. 542,175.



1. A lock having two members, each provided with a hook, said hooks adapted to coöperate to retain the lock in engagement with a stationary device, a plurality of rotatable rings carried by one of said members and adapted to engage with the other member to hold said members together, and a flexible member having its opposite ends connected to said first-mentioned members.

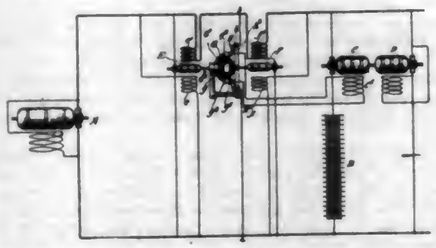
2. A lock having a member provided with an opening therethrough, a sleeve having a slot extending lengthwise thereof and in alinement with said opening, a plurality of rings mounted on said sleeve, each having a notch in its inner surface, a second member adapted to move longitudinally through said sleeve and having a notched flange extending through said slot and into the notches of said rings, each of said members having a hook thereon and said hooks adapted to coöperate to retain the lock in engagement with a stationary device and means for holding a garment or the like to said lock.

3. A lock having a member provided with an opening therethrough, a sleeve having a slot extending lengthwise thereof and in alinement with said opening, a plurality of rings mounted on said sleeve, each having a notch in its inner surface, a second member adapted to move longitudinally through said sleeve and having a notched flange extending through said slot and into the notches of said rings, each of said members having a hook thereon and said hooks adapted to coöperate to retain the lock in engagement with a stationary device, and a flexible member having its opposite ends connected to said first-mentioned members.

4. A lock having a member provided with an opening therethrough, a sleeve in alinement with said opening and having a plurality of tongues extending through said opening and retaining the sleeve in position, a plurality of rings rotatably mounted upon said sleeve, a member extending through said sleeve and adapted to be retained therein by said rings, and a flexible member connecting said members, independently of the sleeve and rings.

5. A lock having a hook member, a sleeve extending outwardly from the rear side thereof, a second hook member having a body portion adapted to extend through said sleeve, means encircling said sleeve for retaining said second-mentioned member therein, and a flexible member connecting said hook members.

972,536. ELECTRICAL SYSTEM OF DISTRIBUTION. ALBERT S. HUBBARD, Belleville, N. J., assignor to Gould Storage Battery Company, a Corporation of New York. Filed June 8, 1906. Serial No. 320,699.



1. In an electrical system of distribution, a main generator, a regulating battery in operative relation thereto,

regulating means for varying the current thereof, a movable member controlling said regulating means, a pair of constantly rotating motors one having two field windings acting cumulatively and the other having two field windings acting differentially, and mechanical connections between said motors and the movable arm, actuating the latter when the motors speeds differ.

2. In an electrical system of distribution, a main generator, a regulating battery in operative relation thereto, a booster in the battery circuit, a reversing rheostat in the field circuit of said booster, a differential gearing connected through its planetary member to the rheostat, two constantly rotating motors, each having two field windings which act cumulatively on one motor and differentially on the other, and a mechanical connection between each motor and one of the members of the gearing.

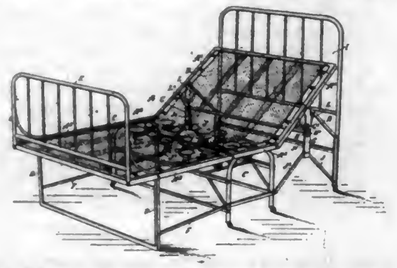
3. In an electrical system of distribution, a main generator, a regulating battery in operative relation thereto, a booster in the battery circuit, a reversing rheostat in the field circuit of said booster, a differential gearing connected through its planetary member to the rheostat, two constantly rotating motors, each having two field windings one having substantially constant strength and the other having a strength varying with the electrical condition of the system, said varying strengths oppositely affecting the respective motors, and a mechanical connection between each motor and one of the members of the gearing.

4. In an electrical system of distribution, a main generator, a regulating battery in operative relation thereto, regulating means for varying the current thereof, a movable member controlling said regulating means, a pair of constantly rotating motors, each having two field windings one of which is connected to receive fluctuations of current of the main generator, said fluctuations oppositely affecting the speed of the respective motors, and mechanical connections between the motors and said movable member, actuating the same whenever the motor speeds vary from that corresponding to a predetermined generator current and restoring said predetermined current.

5. In an electrical system of distribution, a main generator, a regulating battery in operative relation thereto, regulating means for varying the current thereof, a movable member controlling said regulating means, a pair of constantly rotating motors each having two field windings one only of which is connected to receive fluctuations of current of the main generator and thereby vary the speed of each motor, and means for causing variations of speed from those corresponding to the desired average current on the main generator to actuate said movable member.

[Claims 6 to 9 not printed in the Gazette.]

972,537. FOLDING BED. LEWIS B. JEFFCOTT, New York, N. Y. Filed Mar. 3, 1910. Serial No. 547,021.



1. A folding bed, comprising a head, a foot, a mattress frame having a head section, a middle section and a foot section, the sections being pivotally connected one with the other, a center support for the said middle section, and an adjustable folding connection between the said head, center support and head frame section.

2. A folding bed, comprising a head, a foot, a center support, a mattress frame formed of a head section, middle section and foot section, the middle section being fixed on the said center support and the head and foot sections being foldingly connected with the said head and foot, respectively.

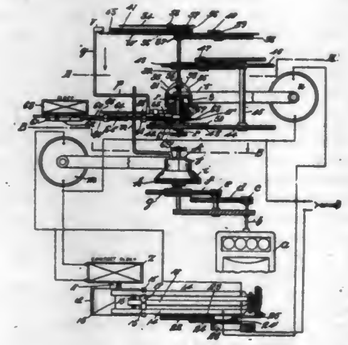
3. A folding bed, comprising a head, a foot, a center support, a mattress frame formed of a head section, a middle section and a foot section, the sections being pivotally connected with each other, the said middle section being a permanent part of the said center support and the said foot section having a permanent foot rail, an adjustable folding connection between the said head, head frame section and center support, and a folding connection between the said center support and the said foot frame section.

4. A folding bed, comprising a head, a foot, a center support, a mattress frame formed of a head section, middle section and foot section, the sections being pivotally connected with each other, the middle section being attached to the said center support, a link connecting the said foot with the said center support, an upright hung on the said head frame section, links pivotally connecting the lower end of the said upright with the said head and the said center support, and a link connecting the upper end of the said upright with the said head.

5. A folding bed, comprising a head, a foot, a center support, a mattress frame formed of a head section, middle section and foot section, the sections being pivotally connected with each other, the middle section being attached to the said center support, a link connecting the said foot section with the said center support, an upright hung on the said head frame section, links pivotally connecting the lower end of the said upright with the said head and the said center support, a link connecting the upper end of the said upright with the said head, a clamping bolt slidingly engaging the said upright, a pair of diverging links pivoted on the said clamping bolt and pivotally connected with the said head frame section and the said link connected with the upper end of the said upright.

[Claims 6 to 9 not printed in the Gazette.]

972,538. MAXIMUM-DEMAND METER. VLADIMIR KARAPETOFF, Ithaca, N. Y. Filed Nov. 9, 1907. Serial No. 401,474.



1. In a meter of the class described, the combination with a wattmeter and means for indicating the maximum power demand during a given interval of time, of a friction clutch which operatively connects said wattmeter and means; and an electromagnetic device for restoring said means to their initial position and simultaneously releasing said clutch, whereby counter-torque upon the wattmeter is avoided.

2. In a meter of the class described, the combination with a wattmeter and means for indicating the maximum power demand during a given interval of time, of a two-part clutch which operatively connects said wattmeter

and means; a cupped armature attached to one of the parts of said clutch; and electromagnetic devices for raising and turning said armature to release said clutch and restore said means to their initial position.

3. In a meter of the class described, the combination with a wattmeter and means for indicating the maximum power demand during a given interval of time, of a two-part clutch which operatively connects said wattmeter and means; an armature formed with ears and attached to one of the parts of said clutch; and electromagnetic devices for raising and turning said armature to release said clutch and restore said means to their initial position, said ears insuring that the final position of said means will be accurately at their zero.

4. In a meter of the class described, the combination with a suitable device bearing graduations, of a pointer movable relatively thereto; a device for actuating said pointer during a given interval of time; and electrically-controlled devices for restoring said device and pointer to their initial position.

5. In a meter of the class described, the combination with a suitable device bearing graduations, of a pointer movable relatively thereto; a device for actuating said pointer during a given interval of time; means for returning said pointer to its initial position from the position of its maximum displacement therefrom during a given period; and means for indicating the sum of such maximum displacements.

[Claims 6 to 20 not printed in the Gazette.]

972,539. DOUBLE RAKE. RICHARD M. KENNEY, Clinton, Okla. Filed Feb. 11, 1910. Serial No. 543,223.



1. A device of the character described, comprising a vehicle body, a turntable mounted thereupon, a rake head journaled upon said vehicle body, a shoe mounted upon said rake head and provided with a slot, a rod extending toward said shoe, a link mounted upon said rod and adapted to rock, means controllable at will from said turntable for rocking said link, and latches for holding said rake head in a predetermined position, said latches being so located as to be disengaged by movements of said link.

2. A device of the character described, comprising a vehicle body, a track mounted thereupon, a turntable movable relatively to said track, latches carried by said turntable and adapted to grip the same rigidly in relation to said track, a seat mounted upon said turntable, and mechanism controllable at will by an operator sitting upon said seat for actuating said latches in order to allow said turntable to rotate.

3. A device of the character described, comprising a vehicle body, a turntable mounted thereupon, a rake head journaled relatively to the turntable and adapted to rock, mechanism including a rod movable in the general longitudinal direction of its length for rocking said rake head, means mounted upon said turntable for supporting said rod, and mechanism controllable from said turntable for actuating said rod.

972,540. SAFETY BASE-BALL-SHOE PLATE. EDWARD KINZEL, Albany, N. Y. Filed Mar. 16, 1910. Serial No. 549,618.

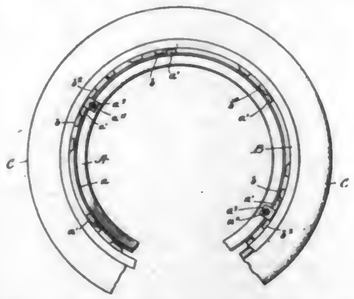
1. The combination with a plate, of an exteriorly-threaded lug on said plate, a threaded cap engaging said lug, an inwardly extending flange on said cap, and a spike having a flange therein interposed between said lug and said first-mentioned flange, whereby said spike is secured to said plate.

2. The combination with a plate, of an exteriorly-threaded lug on said plate, a threaded cap engaging said lug, an inwardly-extending flange on said cap, a spike having a flange therein interposed between said lug and said first-



mentioned flange, whereby said spike is secured to said plate, and a resilient cover for said spike.

972,541. DETACHABLE WHEEL-RIM. GEORGE E. KIPP, Niverville, N. Y. Filed Apr. 30, 1910. Serial No. 558,653.



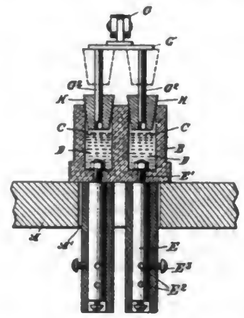
1. In a wheel having an inner rim, a detachable outer rim, wedge-blocks carried on the outer surface of said inner rim, and each having a V-shaped nose, complementary blocks carried by the inner surface of said outer rim, and each having, at one end, a V-shaped notch engageable by one of said V-shaped noses, and means for locking the detachable rim in place.

2. In a wheel having an inner rim, a detachable outer rim, wedge-blocks carried on the outer surface of said inner rim, and each having a V-shaped, beveled nose, complementary blocks carried by the inner surface of said outer rim, and each having, at one end, a V-shaped notch engageable by one of said V-shaped noses, the walls of each notch being beveled, and means for locking the detachable rim in place.

3. In a wheel, an inner rim, wedge-blocks carried on the outer surface thereof and each having a V-shaped nose, a detachable outer rim, complementary blocks carried by the inner surface thereof, and each having, at one end, a V-shaped notch engageable by one of said V-shaped noses, and means for locking said blocks in co-operative engagement, with the nose of each of said wedge-locks forced into the V-shaped notch of the corresponding notched block, said means comprising wedge-keys carried by the wheel, and means for locking the wedge-keys and, thus, the detachable rim against movement.

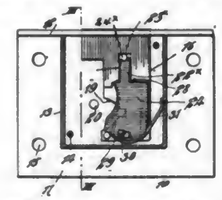
972,542. MERCURY-SWITCH. HENRY KOCH, Rahway, N. J., assignor to The Regina Company, Rahway, N. J., a Corporation of New Jersey. Filed Sept. 11, 1908. Serial No. 452,620.

A switch member provided with a chamber adapted to contain an electrical conducting liquid, a movable contact member arranged to extend into said chamber, and means positively engaging said contact member and movable thereon to a position to engage the walls of said chamber for temporarily sealing said chamber and also movable on said contact member to a position where said



means will not seal the said chamber as the contact member is operated.

972,543. LOCK. THOMAS M. KWASNIESKI, Stamford, Conn. Filed Mar. 15, 1910. Serial No. 549,786.



1. A lock comprising a casing, a bolt having a locking end provided with a recess and shoulders having notches on opposite sides of said recess, a pin and slot guiding means for the bolt, a pin carried by the bolt, a plurality of tumblers pivotally held to the casing over the bolt and each having a slot, a pin entering the slots and forming a pivot, a projection forming a part of each tumbler and adapted to enter the recess of the bolt when the latter is moved to an unlocked position and to engage the shoulders on opposite sides of the recess, and springs for the tumblers tending to force the same in one direction.

2. A lock comprising a bolt having a locking end provided with a recess and a shoulder having a notch on one side of said recess, a pin carried by the bolt, a plurality of pivotally held tumblers each having a slot, a pin entering the slots, a projection forming a part of each tumbler and adapted to enter the recess of the bolt when the latter is moved to an unlocked position and to engage the shoulder when the bolt is moved to a locked position, said tumblers each having a shoulder to engage the pin on the bolt and springs for the tumblers tending to force the same in one direction.

3. A lock comprising a bolt having a locking end provided with a recess and a shoulder on one side of said recess, a plurality of pivoted tumblers each having a slot, a pin passing through the slots, a projection forming a part of each tumbler and adapted to enter the recess of the bolt when the latter is moved to an unlocked position and to engage the shoulder on the side of the recess when the bolt is moved to a locked position, and means for moving the tumblers.

4. A lock comprising a bolt having a locking end provided with a recess, a pin carried by the bolt, a plurality of pivoted tumblers each having a slot and a shoulder to engage the pin of the bolt, a pin entering the slots and forming a pivot, a projection forming a part of each tumbler and adapted to enter the recess of the bolt when the latter is moved to an unlocked position and to engage a part of the bolt, and springs tending to force the tumblers in one direction.

5. A lock comprising a bolt having a locking end provided with a recess and shoulders having notches on opposite sides of said recess, a pin carried by the bolt, a plurality of pivoted tumblers a portion of each of which adapted to engage said pin, a projection forming a part of each tumbler and adapted to enter the recess of the bolt when the latter is moved to an unlocked position and to engage the shoulders on opposite sides of the recess, and springs for the tumblers tending to force the same in one direction.

972,544. CONNECTION FOR CURTAIN-RODS AND THE LIKE. FRANK LA OTIS LATHROP, Wallingford, Conn., assignor to H. L. Judd Company, Wallingford, Conn., a Corporation of New York. Filed June 24, 1910. Serial No. 568,628.

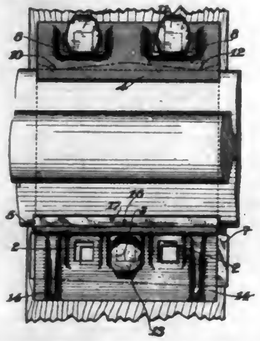


1. In a rod connection of the character described, two elements to be connected, comprising a pin-like element having a base arranged to be secured to a wall and a tubular rod-like element, one of said parts being slitted at one end, said parts being arranged to slide one within the other, a recess on one part arranged to receive a portion of the other part, a coupling sleeve mounted on the outer part and means to secure said sleeve to the base of said pin.

2. In a rod connection of the character described, two elements to be connected, comprising a pin-like element having a base arranged to be secured to a wall and a tubular rod-like element, one of said parts being slitted at one end, said parts being arranged to receive a portion of the other part, a coupling sleeve slidably mounted on the outer part and a screw-thread connection between said base and sleeve.

3. In a rod connection of the character described, two elements to be connected comprising a pin-like supporting element having a base arranged to be secured to a wall, a split tube forming a rod-like element, slidable upon the outside of the pin-like element, a coupling sleeve slidable and rotatable on the rod-like element, an internal thread on the coupling sleeve at its outer end, and co-acting external thread upon the base of the pin-like element, an inclined shoulder on the tube, a part of said coupling arranged to co-act with said inclined shoulder to frictionally clamp the split tube on the pin.

972,545. RAIL-HOLDING DEVICE. JAMES B. LATIMER and ARTHUR D. CLOUD, Chicago, Ill.; said Cloud assignor, by mesne assignments, to W. K. Kenly Company, a Corporation of Illinois. Filed Oct. 31, 1908. Serial No. 460,536.



1. In a device of the character described, in combination with a rail and a tie, a tie plate, means to anchor the

tie plate to the tie, said means being adapted to permit movement of said tie plate about one point on the tie as a center upon the creeping of the rail, and a locking member adapted to lock the tie plate to the rail flange, said tie plate and said locking member being each provided with an upright, rail-abutting shoulder, and said shoulders being arranged upon opposite sides of the rail.

2. In a device of the character described, in combination with a rail and a tie, a tie plate, means adapted to anchor the tie plate to the tie, arranged to permit movement of said tie plate about one point on the tie as a center upon the creeping of the rail, a locking member adapted to lock the tie plate to the rail flange, said tie plate and said locking member being each provided with an upright, rail-abutting shoulder, and said shoulders being arranged upon opposite sides of the rail in staggered relation with reference to each other.

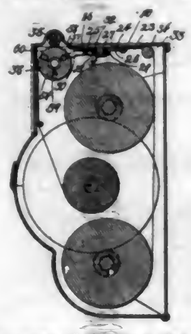
3. In a device of the character described, in combination with a rail and a tie, a tie plate, means adapted to anchor the tie plate to the tie arranged to permit movement of said tie plate about one point on the tie as a center upon the creeping of the rail, and a locking member adapted to lock the tie plate to the rail flange, said locking member being provided with an upright, rail-abutting shoulder, and said tie plate being provided opposite the locking member with a plurality of upright, rail-abutting shoulders.

4. In a device of the character described, in combination with a rail and a tie, a tie plate adapted to anchor the rail to the tie, said tie plate being movable about one point on the tie as a center, upon the creeping of the rail, and a locking member adapted to lock the tie plate to the rail flange, said locking member having one point of contact with the edge of one rail flange, and there being formed on the opposite side of the tie plate a flange having two points of contact with the edge of the other rail flange, said last two mentioned points of contact being arranged in advance of and behind respectively the point of contact of said locking member.

5. In a device of the character described, in combination with the tie and the rail, a tie plate adapted to anchor the rail to the tie, said tie plate having oppositely disposed flanges forming longitudinal grooves above the tie plate, one of said flanges engaging the top of one rail flange with the inner face of the groove formed by it having a plurality of points of contact with the rail flange edge, a wedge member located in the groove formed by the opposite tie plate flange, said wedge member having a flange adapted to engage the top of the rail flange, and having a point of contact with the rail flange edge, means for securing said wedge member to the tie plate, and said tie plate to the tie, the means of attaching the tie plate to the tie being adapted to permit the tie plate to move on the tie about a point in the wedge member as a center.

[Claims 6 to 11 not printed in the Gazette.]

972,546. CARRYING-REGISTER. SIMON C. LAUBER, Toledo, Ohio. Filed May 20, 1910. Serial No. 562,398.



1. In an apparatus of the class described, the combination with supporting means, of a set of feed rolls one of which has its periphery formed of a plurality of radially adjustable segments, means yieldingly acting on the segments to retain them in contracted state, and a pin threaded within the roll and having a conical portion cooperating with the inner sides of the segments to effect or permit outward or inward radial adjusting movements of the segments to expand or contract the roll.

2. In an apparatus of the class described, a set of tape feeding rolls, one of which rolls is provided with a plurality of peripheral radially adjustable segments, resilient members encircling such segments to normally influence an inward movement of the same, and a member having a conical part coöperating with such segments to effect or permit outward or inward radial adjustment of such segments to expand or contract the roll.

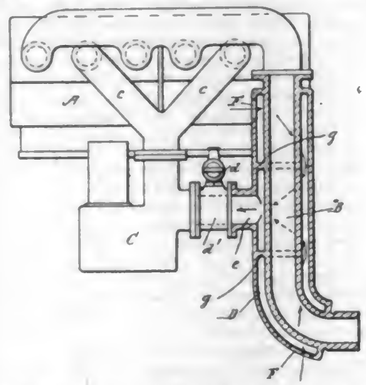
3. In an apparatus of the class described, the combination with a tape feeding roll, of means for locking such roll against rotation at a predetermined point in a revolution thereof, a movable platen part, and means connecting such platen part and locking means and operative by a movement of the platen part to effect a release of the locking means.

4. In an apparatus of the class described, the combination with a tape feeding roll of means for locking such roll at a predetermined point in a turning movement thereof, a yieldingly movable platen part, and means connecting said platen part and locking means and operative by a movement of such platen part to effect a release of said locking means.

5. In an apparatus of the class described, the combination with a tape feeding roll, of a stop movable with such roll, a dog operative to engage said stop at a predetermined point in the rotation of the roll, a yieldingly movable platen part, and means operated by a movement of said platen part to effect a release of said dog from engagement with the stop.

[Claims 6 to 15 not printed in the Gazette.]

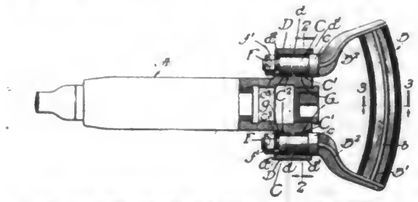
972,547. GAS-ENGINE. GEORGE P. LAW, Lansing, Mich. Filed Mar. 16, 1910. Serial No. 549,767.



1. The combination, with the exhaust-pipe and the carbureter of a gas engine; of an air-inlet pipe which encircles the said exhaust-pipe and which is provided at its middle part with a branch for connecting it to the carbureter, said air-inlet pipe having air-inlet holes in its end portions on the same side as the said branch and having also circumferentially arranged partitions extending partway around it between the said air-inlet holes and branch, air passages being formed between the said partitions and pipes on the opposite side of the air-inlet pipe from its air-holes and outlet branch, whereby the air is caused to flow longitudinally and spirally in contact with the exhaust pipe from each end of the air-inlet pipe.

2. The combination, with the exhaust-pipe and the carbureter of a gas engine; of an air-inlet pipe which encircles the said exhaust-pipe and which has its middle portion connected to the said carbureter, said air-inlet pipe having air-inlet holes at its end portions, and a valve for admitting cold air arranged at the junction of the air-inlet pipe with the carbureter.

972,548. HANDLE FOR PNEUMATIC DRILLS. AXEL LEVEDAHL, Aurora, Ill., assignor to Aurora Automatic Machinery Company, Aurora, Ill., a Corporation of Illinois. Filed Dec. 13, 1909. Serial No. 532,753.



1. In combination with a drill body, laterally extending ears formed at the rear end of said body, each of said ears being counterbored longitudinally from its opposite ends, an apertured ring formed rigidly with said ears, separating said counterbores, a handle for said drill body provided with longitudinally extending shanks with screw-threaded ends, one for each of said ears, each shank having a flange engaging within the counterbore at the rear end of said ear, and forward of said shoulder being adapted to fit within said apertured ring, a cushioning member located between said apertured ring and the flange on said shank, an apertured collar surrounding the forward end of said shank and fitting within the forward end of said ear, a cushioning member located between said apertured ring and said apertured collar, and a lock nut screwed upon the threaded end of said shank and engaging the lower face of said apertured collar.

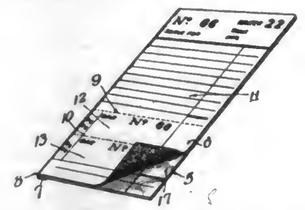
2. In a reciprocating drill, in combination with the barrel, laterally extending ears formed at the end of said barrel, each ear being provided with an opening therethrough, an internally extending shoulder within said ear, a handle provided with projecting shanks, each of said shanks engaging within one of said ears on the barrel, an annular shoulder formed on each shank above the said shoulder within said ear, a collar surrounding the shank below said shoulder within the ear, cushioning members bearing respectively between said shoulders and between one of said shoulders and said collar, and means for locking said parts in position.

3. In combination with a drill body, ears formed on said body, said ears being counterbored from their opposite ends, a shoulder separating said counterbores, a handle provided with projecting shanks, one for each of said ears, said shanks being provided with shoulders, and fitting within said ears, cushioning members surrounding said shanks and arranged one between the shoulder on the shank and the shoulder in the ear, and a second cushioning member arranged below the shoulder in the ear, a collar on the shank in engagement with said last named cushioning member, and means for locking the parts in position.

4. In combination with a drill body, ears formed on said body, said ears being counterbored from their opposite ends, shoulders separating said counterbores, a handle provided with projecting shanks, one shank engaging within each of said ears, fixed members located on said shanks above and below the shoulders in said ears, and cushioning members surrounding said shanks and engaging between said shoulders in the ears and said members fixed on said shanks.

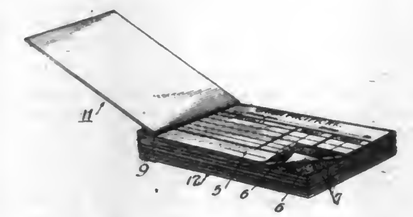
972,549. SALES-CHECK. EDWARD ZUVER LEWIS, Franklin, Pa., assignor to The General Manifold and Printing Company, Franklin, Pa., a Corporation of Pennsylvania. Filed Feb. 28, 1908. Serial No. 418,208.

A duplex sales check consisting of a customer's check-sheet of relatively stiff paper or cardboard, and a waiter's order-sheet of greater width than said customer's check, having one margin folded beneath and secured to the lower marginal surface of said customer's check, the waiter's or uppermost sheet being provided with transversely extending perforated lines forming a plurality of detachable order slips or coupons, and the customer's or



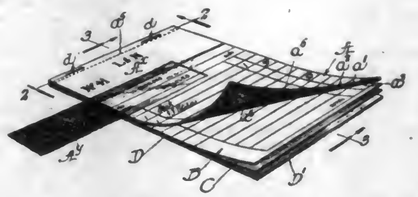
lowermost sheet and all of the waiter's order slips or coupons bearing a common identifying mark or number, combined with transfer-means applied to the rear face of said waiter's order sheet acting to produce on the customer's check sheet a copy of all items entered on said detachable order sheet and its slips or coupons.

972,550. MANIFOLDING RECORD-BOOK. EDWARD ZUVER LEWIS, Franklin, Pa., assignor to The General Manifold and Printing Company, Franklin, Pa., a Corporation of Pennsylvania. Filed Mar. 14, 1908. Serial No. 421,254.



A manifolding record book comprising a plurality of duplex leaves, each consisting of a folded sheet having transfer material on its inner face, and a plurality of single message sheets interposed between the folds of the duplex leaves and bound in the book with the same, said message sheets being provided at their margins with extensions or tabs separated from the main parts of the sheets by perforated lines, permitting detachment of the said message sheets from the book.

972,551. MANIFOLDING SALESMAN'S CHECK. EDWARD Z. LEWIS, Chicago, Ill., assignor to The General Manifold and Printing Company, Franklin, Pa., a Corporation of Pennsylvania. Filed Feb. 3, 1910. Serial No. 541,813.



1. A manifolding salesman's check comprising, in combination with a suitable backer and one or more detachable duplicate check forms, a composite check consisting

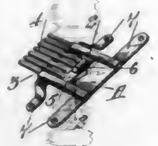
of a single piece of paper folded to form an outer original check section, and an inner record check section, said sheet being folded to entirely inclose said record check section and being stitched permanently along the top and bottom edges of the check with means located between said original check section and said record check section to produce a carbon copy on the latter, and means interposed between said composite check as a whole and said duplicate checks to produce carbon copies of said duplicate checks, together with means for securing all of the parts together.

2. A manifolding salesman's check comprising, in combination with a suitable backer and one or more detachable duplicate check forms, a composite check and means for securing the several checks to said backer, said composite check consisting of a sheet of paper folded in sections, one of said sections being an original check section on one side and having carbon reproducing material located on the other side, another check section being a record check section and having printed thereon on its reverse side and in reverse position a form corresponding with the form on the original and being adapted to be folded under said original, and an inclosing check section adapted to underlie said record check section, together with means for permanently securing said sections together along the top and bottom lines of the form, in combination with carbon means interposed between said composite check as a whole and said duplicate checks.

3. A composite record check comprising a sheet of paper folded in three sections, one of said sections having printed on one side an original form and having its opposite side provided with carbon material, a second section adapted to receive on its reverse side and in reverse position a duplicate record, said second section being folded under said original check section, and a third section folded under said second named section, all three sections being stitched together along the top and bottom edges of the form.

4. A composite record check comprising a sheet of paper folded in three sections, one of said sections comprising an outer, original check section, a second check section adapted to underlie said original check section and receive a duplicate record, means interposed between said original check section and said record check section to produce a carbon copy on said record check section, and a third section adapted to underlie said second named section, all three sections being stitched together along the top and bottom edges of the form.

972,552. HAT-FASTENER. WALTER S. LEWIS, San Francisco, Cal. Filed Dec. 27, 1909. Serial No. 535,177.



1. A hat securing device consisting of a plate having turned over side flanges, and an up-turned front flange provided with grooves or channels, said plate having means for securing it to a hat, and a series of parallel pins or teeth operating through said grooves or channels and adapted to be projected toward the center of the hat.

2. A hat securing device consisting of a pair of plates adapted to be fixed upon opposite sides of the hat, said plates each having turned over side flanges, and an up-turned notched front flange, a series of parallel teeth, a head by which said teeth are carried so as to be guided by the side flanges, and slidable through the notched front flange of each of the plates, said teeth being adapted to be projected toward each other and engage the hair of the wearer of the hat.

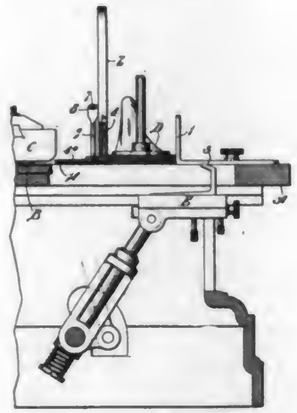
972,553. ENAMELED RUBBER CLOTH AND PROCESS FOR MAKING THE SAME. FREDERICK R. MADDOCK, Newark, N. J. Filed Dec. 31, 1909. Serial No. 535,811.



1. The process herein described, of making rubber cloth, which consists in preparing a mixture of linseed oil in its condition known as "sweetmeat," china clay, lamp black and naphtha or turpentine, applying this composition to one face only of a web of cloth, and applying a coating of rubber-like composition upon the first-mentioned coating of composition.

2. As an article of manufacture, the enamel cloth herein described and consisting of a fabric, a coating made of dried linseed oil in its form as sweetmeat, china clay, and lamp black, and a coating of rubber-like composition upon said first-mentioned coating.

972,554. CARD-PRINTING MACHINE. MILES H. MANN, Louisiana, Mo., assignor to Buffum Tool Company, Louisiana, Mo., a Corporation of Missouri. Filed Dec. 14, 1909. Serial No. 533,005.

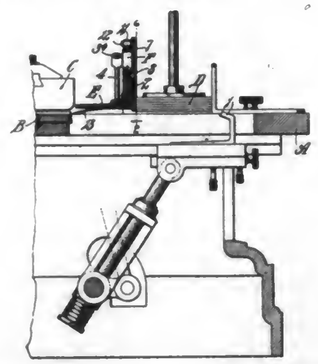


1. In a machine for printing cards and other articles, a bed plate, a stationary guide arranged above the bed plate, an adjustable member mounted in a groove in said guide and provided with a rearwardly projecting wing which is spaced away from the top face of said bed plate and under which the articles are fed, a shaft journaled in said stationary guide above said bed plate and extending to one side thereof, coöperating means on said shaft and on said adjustable member for causing said member to move vertically when said shaft is turned, and a clamping device arranged in said groove for locking said adjustable member.

2. In a machine of the character described, a bed plate, a stationary guide on said bed plate that forms a wall or abutment for one side of a pile of cards or similar articles, said guide being provided with a movable portion whose lower edge is spaced away from the bed plate a distance equal to the thickness of the cards in said pile, a horizontally arranged adjusting shaft journaled in said stationary guide and provided at its inner end with an eccentrically disposed pin, a device on the movable portion of said guide provided with an opening for receiving said pin, and independent means for clamping the movable portion of the guide against the stationary portion thereof so as to lock said movable portion in position.

3. In a machine for printing cards and other articles, a platen, a bed plate, a guide arranged above the bed plate and provided with a vertically adjustable portion whose lower edge is spaced away from the bed plate of the machine, a rigid wing on said vertically adjustable portion that projects toward the platen and which terminates a short distance from the edge of the platen, a yielding device on the under side of said wing, said wing being provided with a slot or recess up into which said yielding device can be forced, and means for feeding the bottom card of a pile under the wing on the adjustable portion of said guide and onto said platen.

972,555. GUIDE FOR PRINTING-MACHINES. MILES H. MANN, Louisiana, Mo., assignor to Buffum Tool Company, Louisiana, Mo., a Corporation of Missouri. Filed May 6, 1910. Serial No. 559,693.



1. A guide or gate for controlling the feed of the bottom article of a pile from the ones above it, comprising an approximately horizontally disposed portion provided on its under side with yielding fingers, and a yielding plate arranged at the front end of said guide and normally projecting below the lower edge of the guide.

2. A guide or gate for the purpose described comprising an approximately horizontally disposed portion provided on its under side with yielding fingers, means for raising and lowering said horizontally disposed portion, and a spring-actuated plate arranged at the front end of said guide and having its lower edge normally projecting below the horizontally disposed portion of the guide.

3. In a machine of the class described, a yoke that extends across the bed plate of the machine, a vertically adjustable guide carried by said yoke, a movable plate on said guide whose lower edge normally projects below the guide, and yielding means for resisting upward movement of said plate.

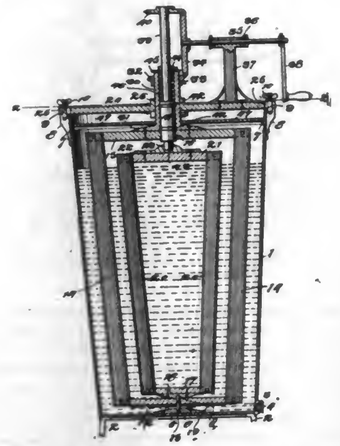
4. In a machine of the character described, a yoke or supporting member, a vertically adjustable guide on said yoke provided with an approximately horizontally disposed portion, and a rigid plate movably mounted on said guide and arranged at the front end of said horizontally disposed portion, said plate projecting below the lower edge of said horizontally disposed portion.

5. In a machine of the character described, a yoke or supporting member, a vertically adjustable guide on said yoke provided with an approximately horizontally disposed portion, a movable plate arranged at the front end of said horizontally disposed portion and projecting below the lower edge of same, yielding means for exerting downward pressure on said plate, and means for guiding said plate.

[Claims 6 to 8 not printed in the Gazette.]

972,556. CHURN. LESTER E. MARSH and LAWRENCE E. MARSH, Black Lick, Pa. Filed May 7, 1910. Serial No. 559,975.

1. A churn comprising a receptacle, inner and outer dashers rotatably mounted therein, a supporting bar carried by the upper end of said receptacle, a tubular shaft journaled in said bar and engaging the outer dashers, a second shaft extending through the tubular shaft, said second shaft engaging the inner dashers and provided with an enlarged portion, a plate carried by the tubular shaft, a spring on said second shaft and interposed between said plate and the enlarged portion of said shaft, and means for rotating said shafts in an opposite direction.



2. A churn comprising a receptacle, inner and outer dashers rotatably mounted therein, a supporting bar detachably fastened to the upper end of said receptacle, a tubular shaft rotatable in said bar and having one end connected to the outer dasher, a shaft extending through the tubular shaft and engaging the inner dasher, means for yieldably holding said shaft in engagement with said inner dasher, and means for rotating said shafts in an opposite direction.

3. A churn comprising a receptacle, inner and outer dashers rotatable therein, a tubular shaft connected to one of said dashers, a shaft extending through said tubular shaft and engaging the other dasher, a spring carried by the last-mentioned shaft for normally holding the same in engagement with its dasher, and means for rotating said shafts in an opposite direction.

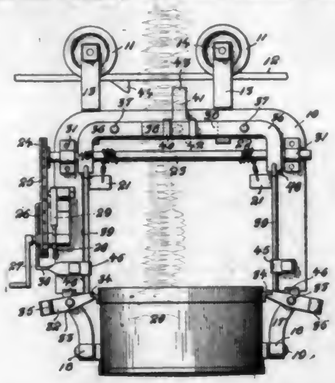
4. A churn comprising a receptacle, inner and outer dashers rotatably mounted therein, a support carried by said receptacle, a tubular shaft journaled therein and engaging the outer dashers, a second shaft extending through the tubular shaft and rotatable therein, said second shaft engaging the inner dashers, means exerting a pressure on the second shaft to retain the same in engagement with the inner dashers, and means for rotating said shafts in an opposite direction.

5. A churn comprising a receptacle, oppositely disposed screws pivotally connected to the upper end thereof, dashers for said receptacle, a supporting bar extending across the top of said receptacle and provided with slotted ends for the reception of said screws, dasher-operating mechanism carried by said bar, and clamping nuts carried by said screws for detachably fastening said bars to said receptacle.

972,557. ELEVATED CARRIER. LOUIS A. MARTIN, Stevens Point, Wis. Filed July 7, 1909. Serial No. 506,364.

1. In an elevated carrier, a supporting and carrying frame, a bucket pivoted upon a lifting frame slidingly mounted upon and guided by said supporting frame, a latch pivoted to the lifting frame beneath the top of the bucket and rising and falling therewith and having a tension device upon its outer end, a latch operating lever pivotally mounted upon said supporting frame, a push rod carried by said lever and guided by said carrying

frame to engage the inner end of said latch and disconnected therefrom, and a pivoted trip lever mounted upon the frame and engaging said latch operating lever.



2. In an elevated carrier, a supporting frame, slidingly mounted raising bars mounted thereon, a bucket pivoted upon said bars, latches pivoted upon said bars to engage said bucket at their inner ends, a tension device provided at the outer end of said latches, oppositely disposed angle levers pivotally mounted upon said frame, a push rod carried by the lower end of each of said levers to engage the inner end of said latch and disconnected therefrom, and a pivoted trip lever mounted upon the frame and having a lateral extension beneath its pivot to engage the opposite arms of said lever.

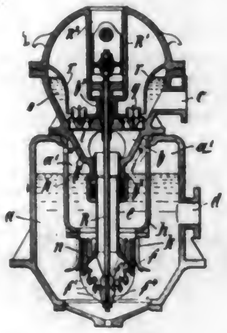
3. In an elevated carrier, a supporting frame, slide bars mounted thereon, a receptacle pivoted upon said bars, a latch pivoted upon said bars to engage said receptacle at its inner end, a tension device provided at the outer end of said latch, an angle lever pivotally mounted upon said frame, a push rod carried by the lower end of said lever to engage the inner end of said latch and disconnected therefrom, and a pivoted trip lever mounted upon the frame and having a lateral extension beneath its pivot extended below and embracing one arm of said angle lever.

4. In an elevated carrier, a U-shaped frame provided with carrier wheels at its upper portion, guides at the lower ends of said frame, a winding shaft carried by said frame, slide bars mounted in said guides and connected to said shaft, a receptacle pivoted at the lower ends of said bars, latches pivoted upon said bars beneath the top of said receptacle and provided with weighted outer ends to cause automatic engagement with said receptacle, angle levers pivoted at the upper portion of said frame and having overlapping upper ends and depending ends parallel to the sides thereof, depending push rods carried by the lower ends of said levers and disconnected from said latches, and a trip device mounted upon said frame to engage and simultaneously operate said overlapping ends.

5. In an elevated carrier, a frame, a trip lever pivotally mounted thereon and provided with laterally extending keepers at opposite sides of the pivot thereof, rock levers pivoted upon said frame and having parallel overlapping free ends embraced by said keepers, depending rods pivotally connected to said rock levers, a receptacle pivotally supported by slide bars mounted on said frame and provided with latch plates at opposite ends, and pivoted latches disposed upon said slide bars and arranged to engage said plates and to be actuated by said rods.

972,558. PUMP FOR COMPARATIVELY INCOMPRESSIBLE LIQUIDS. HANS MILNER, Budapest, Austria-Hungary. Filed Jan. 10, 1901. Serial No. 42,802.

1. In a pump the combination of a suction chamber adapted to be only partially filled with the liquid raised by suction, a lifting chamber adjacent to but unconnected with said suction-chamber and a valved reciprocating pumping element therein having its valved end working freely below the level of the liquid to be pumped so as to take out liquid without exerting any sucking action thereon.



2. In a pump the combination of a suction chamber, adapted to be only partially filled with the liquids raised by suction; a lifting-chamber adjacent to, but unconnected with said suction chamber; discharge valves on the discharge of this lifting-chamber, a reciprocating pumping element, operating between and within said chambers; a pyramidical or basket-like valve-carrier or support, attached directly to, and reciprocating with said pumping element, the travel of said valve-carrier taking place below the surface of the liquid contents of the afore-mentioned suction chamber; and valves inside said valve-carrier or support to admit fluid into the interior of the plunger, substantially as and for the purpose set forth.

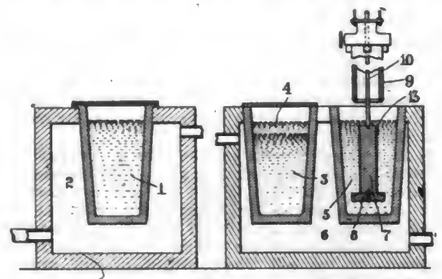
3. In a pump the combination of a suction-chamber, adapted to be only partially filled with the liquids raised by suction; a lifting-chamber, adjacent to, but unconnected with said suction chamber; discharge-valves on the discharge of this lifting-chamber; a reciprocating pumping plunger operating between, and within said chambers; valves, attached to and reciprocating with said pumping plunger, the travel of which takes place below the surface of the liquid contents of the aforementioned suction chamber, a "filling out" plunger of a diameter different from that of the pumping plunger and working in said suction chamber and attached directly to, and reciprocating with said pumping plunger, substantially as and for the purpose set forth.

4. In a pump the combination of a suction chamber, adapted to be only partially filled with the liquid raised by suction; a lifting-chamber, adjacent to, but unconnected with said suction-chamber; a reciprocating pumping element working between, and within said chambers; valves attached to, and reciprocating with said pumping element; discharge-valves on the discharge of this lifting-chamber, an air-chamber, above said valves, and a diving bell for air or gas of suitable form and dimensions suspended in said air-chamber, substantially as and for the purpose described.

5. In a pump the combination of a suction-chamber adapted to be only partially filled with the liquids raised by suction, a lifting-chamber adjacent to but unconnected with said suction-chamber, discharge valves on the discharge end of the lifting-chamber, a reciprocating pumping element operating between, and within said chambers, a valve carrying head of conical shape rigidly connected to and reciprocating with said pumping element, and a displacer-piston projecting outward and working in said suction-chamber and attached directly to and reciprocating with said pumping element, substantially as and for the purpose set forth.

[Claims 6 and 7 not printed in the Gazette.]

972,559. ART OF HOT-WORKING METALS. JOHN FERREOL MONNOT, New York, N. Y., assignor to Duplex Metals Company, New York, N. Y., a Corporation of New York. Filed Mar. 2, 1906. Serial No. 303,917.



1. The process of hot-working sensitive metals susceptible to oxidation or other contamination or deterioration at high temperatures which consists in enveloping substantially the entire exposed lateral surface of a body of such a sensitive metal with a hermetically sealing, cast-on coating of a less sensitive metal, before such surface has been exposed materially to the action of a hot contaminating gas, and then heating the coated object and working the base and coating jointly while hot.

2. The process of hot-working metals susceptible to oxidation or other contamination or deterioration at high temperatures, which consists in enveloping bodies of such metals with a hermetically sealing cast-on coating of a less sensitive metal, and then heating the coated object and working both base and coating jointly while hot, and finally removing the coating.

3. The process of hot-working sensitive ferrous metals susceptible to oxidation or other contamination or deterioration at high temperatures which consists in producing a clean metallic surface on a body of such a sensitive metal, enveloping substantially the entire exposed lateral surface of such body after such a metallic surface has been produced with a hermetically sealing, cast-on coating of an unlike and less sensitive metal before such surface has been exposed materially to the action of a hot contaminating gas, and then heating the coated body and working both base and coating jointly while hot.

4. The process of hot-working sensitive ferrous metals susceptible to oxidation or other contamination or deterioration at high temperatures, which consists in enveloping substantially the entire exposed lateral surface of a body of such sensitive metal with a hermetically sealing, cast-on coating of copper before such surface has been exposed materially to the action of a hot contaminating gas, and then heating the coated object and working both base and coating jointly while hot.

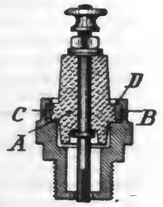
5. The process of hot-working sensitive ferrous metals susceptible to oxidation or other contamination or deterioration at high temperatures, which consists in enveloping bodies of such sensitive metals with a hermetically sealing cast-on coating of copper and then heating the coated object and working both base and coating jointly while hot, and finally removing the coating with a solvent.

[Claims 6 to 11 not printed in the Gazette.]

972,560. SPARKING PLUG. GOTTLOB HONOLD. Stuttgart, Germany. Filed Nov. 5, 1907. Serial No. 400,830.

1. In a sparking plug, the combination of a housing having a cylindrical interior, an insulating body loosely fitting therein and having an outwardly tapering conical portion, a ring having an outer diameter corresponding to the inner diameter of the housing and downwardly converging inner and outer faces, fitting snugly in the wedge shaped annular space about the insulating body, and means to wedge the ring tightly into the said space.

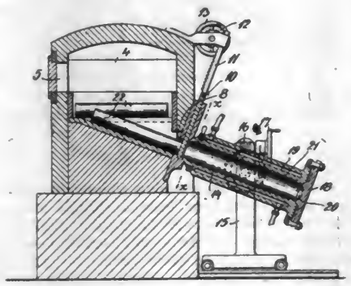
2. In a sparking plug, the combination of a housing having a cylindrical interior, an insulating body loosely fitting therein and having an outwardly tapering conical portion, a ring having an outer diameter corresponding to the inner diameter of the housing and downwardly converging inner and outer faces, fitting snugly in the wedge shaped annular space about the insulating body, and means to permanently wedge the ring tightly into the said space.



3. In a sparking plug, the combination of a housing having a cylindrical interior, an insulating body loosely fitting therein and having an outwardly tapering conical portion, a ring having downwardly converging inner and outer faces, fitting snugly in the wedge shaped annular space about the insulating body, and terminating short of the bottom of the same to leave a free space therein, and means to wedge the ring tightly into contact with the outer face of the insulating body and the inner face of the housing.

4. In a sparking plug, the combination of a housing having a cylindrical recess formed therein, an insulating body loosely fitting therein and having an outwardly tapering conical flange above the bottom of the recess, a heat-resisting gasket between the flange and the bottom of the recess, a deformable metallic ring having downwardly converging inner and outer faces fitting as a wedge snugly in the wedge shaped recess about the flange and outside the periphery of the gasket and terminating short of the bottom of the recess, and nonremovable means to force the ring downwardly into intimate contact with the outer face of the insulating body and the inner face of the housing to center the former and to effect a gas tight packing around the same.

972,561. METHOD OF AND APPARATUS FOR PRODUCING COATED METAL OBJECTS. JOHN F. MONNOT, New York, N. Y., assignor to Duplex Metals Company, New York, N. Y., a Corporation of New York. Filed July 2, 1909. Serial No. 505,698.



1. A method of producing coated metal objects, which comprises heating a metal article to be coated on the hearth of a furnace and under cover of a bath of fused protective material, connecting to such furnace a mold and allowing same to fill with such protective material, and then passing said object into said mold and displacing a portion of the protective material in the mold back into said furnace, disconnecting the mold from the furnace and casting molten metal into the mold and into contact with the surface of said object, and permitting such molten metal to solidify against such surface.

2. Apparatus for forming coated metal objects comprising a furnace having a hearth adapted to contain objects to be coated and containing a pool of fused protective material enveloping said objects, said furnace having a port opening into its hearth space and adapted for registry of a mold therewith, and means for closing said port.

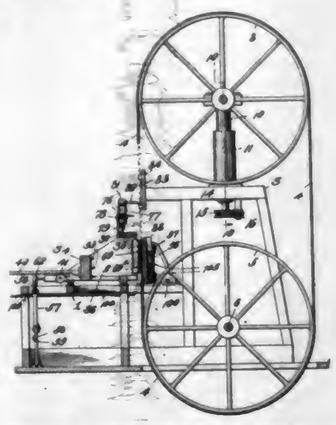
3. Apparatus for forming coated metal objects comprising a furnace having a hearth adapted to contain objects to be coated and containing a pool of fused protective material enveloping said objects, said furnace having a port opening into its hearth space and adapted for registry of a mold therewith, means for closing said port and molding apparatus comprising a mold adapted for registry with said port and supporting means for the mold adapted to tilt the same to an inclined position for registry with said furnace port and to tilt same to an upright position for receiving molten metal.

4. Apparatus for forming coated metal objects comprising a furnace having a hearth adapted to contain objects to be coated and to contain a pool of fused protective material to envelop such objects, said furnace having a depression in one portion of its hearth adapted to receive one of such objects and having a port registering with such depression.

5. Apparatus for forming coated metal objects comprising a furnace having a hearth adapted to contain an object to be coated, and to contain a pool of fused protective material enveloping such objects, said hearth having two adjacent depressions, one deeper than the other and separated from that other by a slight rise, and a port communicating with such deeper depression.

[Claims 6 to 10 not printed in the Gazette.]

972,562. UPRIGHT BAND-SAW SHINGLE-MACHINE. WILLIAM MOORE, Marinette, Wis. Filed Feb. 11, 1910. Serial No. 543,407.



1. In a shingle sawing machine, the combination with a saw, of a reciprocatory carriage, a shingle bolt gripping means on the carriage, means for automatically releasing said gripping means, a slidable bolt feeding head upon the carriage, and a spring actuated device for automatically moving said head when the gripping means releases the bolt.

2. In a shingle sawing machine, the combination with a saw, of a reciprocatory carriage, a shingle bolt gripping means on the carriage, means for automatically releasing said gripping means, a slidable bolt feeding head upon the carriage, means for advancing said head when the gripping means releases the bolt, and means for reversing the bolt when released by said gripping means.

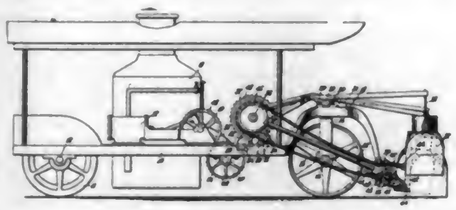
3. In a shingle sawing machine, the combination with a saw, of a reciprocatory carriage, a shingle bolt gripping means on the carriage, means for automatically releasing said gripping means, a slidable bolt feeding head upon the carriage, a spring device for advancing the head when the gripping means releases the bolt, and means actuated by the reciprocatory movement of the carriage for controlling said spring device.

4. In a shingle sawing machine, the combination with a saw, of a reciprocatory carriage, a shingle bolt gripping means on the carriage, means for automatically releasing said gripping means, a slidable bolt feeding head upon the carriage, a spring device for advancing said head when the bolt is released by the gripping means, means actuated by the reciprocatory movement of the carriage for intermittently operating said spring device, and means for retracting said feeding head.

5. In a shingle sawing machine, the combination with a double edge saw and operating means for the same, of a reciprocatory carriage, a shingle bolt gripping means on said carriage, means for automatically releasing said gripping means from engagement with the bolt, an intermittently actuated bolt feeding means, and stops for engagement by the bolt when released by said gripping means whereby the bolt will be automatically reversed.

[Claims 6 to 14 not printed in the Gazette.]

972,563. TAMPING-MACHINE. HARRY D. MORGAN and HOWARD SCHOBY, Plain City, Ohio. Filed Oct. 21, 1909. Serial No. 523,795.



1. In a machine of the class described, a frame adapted to be propelled upon the ground, a movable tamper carried thereby, means for raising and lowering said tamper from and to the ground, and means for advancing said tamper in the direction of the movement of said frame.

2. In a machine of the class described, a frame adapted to be propelled upon the ground, a movable tamper, means for raising said tamper and for releasing the same to permit its gravitational return to the ground, and means for moving said tamper in the direction of travel of said frame, said last-mentioned means permitting said tamper to rest upon the ground while said frame travels a predetermined distance.

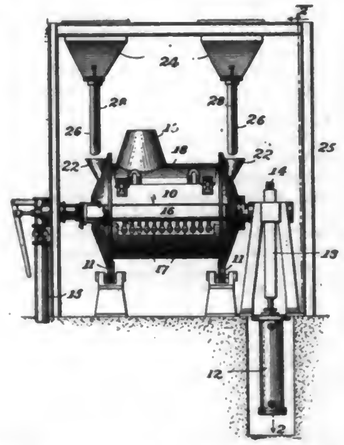
3. In a machine of the class described, a frame adapted to be propelled upon the ground, a movable tamper, means for raising said tamper and for releasing the same, whereby said tamper returns to the ground gravitationally, and means operable simultaneously with said first means, for advancing said tamper in the direction of travel of said frame while said tamper is being raised, said last-mentioned means having a movement in a direction counter the direction of travel of said frame while said tamper is resting upon the ground.

4. In a machine of the class described, a frame, a prime mover thereon, a lever, a tamper associated with said lever, mechanism operable by said prime mover for raising said lever, and for releasing the same to permit said tamper to fall to the ground, a crank controlling said tamper, to move the same in a horizontal direction, and means connecting said crank and said lever-operating mechanism.

5. In a machine of the class described, a frame adapted to be propelled upon the ground, a prime mover for actuating same frame, a pivoted lever, a tamper associated with said lever, a shaft having a crank disk, said disk controlling said lever to raise the same and to release it, a crank for moving said tamper horizontally, and means operatively connecting said crank and said shaft.

[Claims 6 to 9 not printed in the Gazette.]

972,564. CONVERTER. WILLIAM J. MURPHY and ALBERT E. CULLEY, Butte, Mont. Filed Apr. 23, 1910. Serial No. 557,250.



1. The combination in a converter having walls, of flux conduits extending into said converter, and constructed to introduce a fluxing material into the converter and to deliver the same against said walls to form a protective lining therefor.

2. The combination in a converter having walls, of means for introducing a fluxing material into the converter and for delivering the same against said walls to form a protective lining therefor, and means for directing the charge against the fluxing material so introduced.

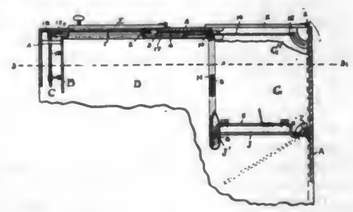
3. The combination in a converter having walls, of means whereby a fluxing material may be introduced into the converter and against said walls, and means for directing the charge against that portion of the wall which is covered by the fluxing material.

4. The combination in a converter having walls, and twyers for introducing a blast to agitate the charge, of means whereby a fluxing material may be introduced into the converter and deposited against some of said walls, and a deflecting rib on one of said walls constructed to direct the agitated charge against the fluxing material.

5. The combination in a converter having twyers and walls shaped to provide a forwardly projecting portion opposite said twyers, the portion on each side of the rib curving rearwardly toward the ends.

[Claims 6 to 12 not printed in the Gazette.]

972,565. VOTING-MACHINE. JACOB H. MYERS, Rochester, N. Y., assignor, by mesne assignments, to Empire Voting Machine Company, Rochester, N. Y., a Corporation of New York. Filed Nov. 4, 1895. Serial No. 567,965.



1. In a voting machine, the combination with a series of separately and manually operated straight ticket ballot indicators, one for all the candidates of a party, and interlocking devices between the individual indicators of the series, a series of separately and manually operated indicators, one for each individual candidate, interlocking devices between the indicators devoted to candidates for the same office for preventing the operation of more than a predetermined number, all of the indicators being accessible to the voter, a plurality of counters, one for each ballot indicator, and counter actuators normally out of operative connection and arranged to be connected by the operation of the indicator, of means for positively and simultaneously operating all the counters whose indicators have been operated by the voter, and a locking-out mechanism arranged between the straight ticket indicators and the individual candidate indicators, whereby the operation of one in either series will lock all those in the other.

2. In a voting machine, the combination with a series of separately and manually operated straight ticket ballot indicators, one for all the candidates of a party, and interlocking devices between the individual indicators of the series for preventing the operation of more than one, a series of separately and manually operated ballot indicators, one for each individual candidate, and interlocking devices between the indicators devoted to candidates for the same office for preventing the operation of more than a predetermined number, all of said indicators being directly accessible to the voter, a plurality of counters, one for each ballot indicator, and counter actuators normally out of operative connection, and arranged to be connected by the operation of the indicator, of means for positively and simultaneously operating all of the counters whose indicators have been actuated by the voter, and a locking-out mechanism controlled by the interlocking devices between the straight ticket indicators and also by the interlocking devices between the individual candidate indicators, whereby the operation of a straight ticket ballot indicator will lock all the individual candidate indicators, and vice versa.

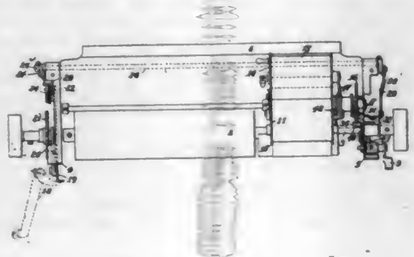
3. In a voting machine, the combination with a series of straight ticket ballot indicators, one for all the candidates of a party, interlocking devices between the indicators for preventing the operation of more than one, an irregular ballot indicator, a series of individual candidate ballot indicators, and interlocking devices between them for preventing the operation of more than a predetermined number, a plurality of counters, one for each straight ticket and individual candidate indicator, counter actuators normally out of operative connection and arranged to be connected by the operation of the indicators, of a locking-out mechanism controlling the operation of the straight ticket indicators, the irregular indicator, and the individual candidate indicators, whereby upon the operation of either the straight ticket, irregular, or any of the individual indicators, the other two will be locked from operation, and means for simultaneously and positively operating all of the counters, whose indicators have been operated.

4. In a voting machine, the combination with a series of straight ticket ballot indicators, one for all of the candidates of a party, and interlocking devices between the indicators of the series for preventing the operation of more than one, an irregular ballot indicator, and a lid or cover controlled thereby, a series of ballot indicators, one for each individual candidate, and interlocking devices between the indicators devoted to candidates for the same office for preventing the operation of more than a predetermined number, a plurality of counters, one for each straight ticket and individual candidate indicator, counter actuators normally out of operative connection and arranged to be connected by the operation of the indicators, of a locking out mechanism controlled by the interlocking devices between the straight ticket indicators, the irregular ballot indicator, and the interlocking devices between the individual candidate indicators, whereby upon the operation of any of the straight ticket indicators, the irregular indicator, or any of the individual candidate indicators, the other two will be locked from operation, and means for positively and simultaneously actuating all of the counters, whose indicators have been operated.

5. In a voting machine, the combination with a series of straight ticket ballot indicators, one for all the candidates of each party, interlocking devices between them, and retainers for the indicators, of a series of ballot indicators, one for each candidate, retainers for the indicators, interlocking devices between the indicators for candidates for the same office, counters for the indicators in both the straight ticket and individual candidate series, counter actuators normally out of operative connection but arranged to be connected by the operation of the indicators, means for positively and simultaneously operating all of the counters whose indicators have been operated, a movable member actuated by the interlocking devices of the straight ticket indicators and controlling and controlled by the interlocking devices of the individual candidate indicators.

[Claims 6 to 68 not printed in the Gazette.]

972,566. TYPE-WRITING MACHINE. HARRY S. MCCORMACK, New Rochelle, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed June 4, 1908. Serial No. 436,541.



1. In a typewriting machine, the combination with a platen, of a line-spacing mechanism therefor, a tally-strip spool having a ratchet wheel, a pawl to operate said ratchet wheel, said pawl connected to said line-spacing mechanism, and a key operating a separate pawl to turn said ratchet wheel independently of the line-spacing mechanism.

2. In a typewriting machine, the combination with a platen, of a line-spacing mechanism therefor, a tally-strip spool having a ratchet wheel, a pawl to operate said ratchet wheel, said pawl connected to said line-spacing mechanism, and a key operating a separate pawl to turn said ratchet wheel independently of the line-spacing mechanism; both pawls normally out of engagement with the ratchet wheel.

3. In a typewriting machine, the combination with a platen, a line-spacing mechanism therefor, and pressure rolls to run on the platen, of a tally-strip spool having a ratchet wheel, a pawl connected to said line-spacing mechanism to operate said ratchet wheel, a key to release the pressure rolls, and means to enable said key to turn the ratchet wheel to advance the tally strip.

4. In a typewriting machine, the combination with a platen, a line-spacing mechanism therefor, and pressure rolls to run on the platen, of a tally-strip spool having a ratchet wheel, a pawl connected to said line-spacing mechanism to operate said ratchet wheel, and a key to release the pressure rolls; said key having a separate pawl to engage and turn the ratchet wheel.

5. In a typewriting machine, the combination with a revoluble platen, a pressure roll to run thereon, and a platen frame, of a line-spacing mechanism for the platen, a rock-shaft extending along the platen frame and connected to the line-spacing mechanism to be operated thereby, means connected to said rock-shaft to operate a pawl, a ratchet wheel turned by said pawl and connected to a tally strip spool, and a pressure-roll release-key having a separate pawl to turn said ratchet wheel.

[Claims 6 to 21 not printed in the Gazette.]

972,567. FERTILIZER AND PROCESS OF MAKING THE SAME. SPENCER B. NEWBERRY, Baybridge, Ohio, assignor of one-half to George R. Fishburne, Charleston, S. C. Filed Mar. 3, 1909. Serial No. 481,203.

1. The process of conversion of insoluble phosphate of lime into citrate soluble form by calcination with alkaline phosphate, substantially as described.

2. The process of making fertilizer, which consists in calcining natural phosphates with alkaline phosphate, substantially as described.

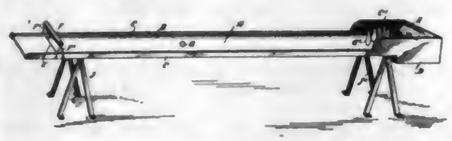
3. The herein described process of making citrate soluble phosphate which consists in calcining an insoluble phosphate of lime with a water soluble phosphate.

4. The herein described process of making citrate soluble phosphate which consists in calcining natural phosphate with a water soluble phosphate.

5. The herein described process of making citrate soluble phosphate which consists in calcining an insoluble phosphate with a water-soluble salt of phosphoric acid.

[Claims 6 to 9 not printed in the Gazette.]

972,568. PORTABLE BOWLING-ALLEY. JOHN EDWARD NOONAN, New York, N. Y. Filed July 9, 1909. Serial No. 506,659.



1. A portable bowling alley, provided with an alley, and a transverse barrier located a short distance from the front end of the alley and extending above the same for the passage of the balls between the face of the alley and the said barrier.

2. A portable bowling alley, provided with an alley, and a cushioned roller extending across the alley above the foul line of the alley.

3. A portable bowling alley, comprising an alley, supporting legs for the said alley having cross bars extending under the alley, transverse and longitudinal levels held on the said alley, and adjusting means on each of the cross bars of the legs for engagement with the said alley to adjust the same lengthwise and transversely until a level position of the alley is indicated by the said spirit levels.

4. A portable bowling alley, comprising an alley, supporting legs for the said alley having cross bars extending under the alley, transverse and longitudinal spirit levels held on the said alley, adjusting means on each of the cross bars of the legs for engagement with the said alley to adjust the same lengthwise and transversely until a level position of the alley is indicated by the said spirit levels, and locking means carried by the said cross bars for locking the alley in the adjusted level position on the said legs.

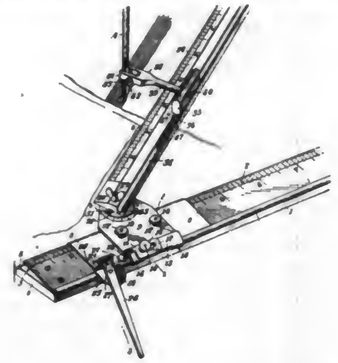
5. A portable alley, comprising an alley, supporting legs having cross bars extending under the said alley, sets of sockets in the under side of the said alley, one set at each cross bar, and adjusting screws on each of the said cross bars engaging corresponding sockets to permit of leveling the alley.

[Claim 6 not printed in the Gazette.]

972,569. DRAFTING AND ENGRAVING MACHINE. HENRY S. NUNAMAKER, Cleveland, Ohio. Filed Apr. 14, 1910. Serial No. 555,439.

1. In a drafting and engraving machine, a ruler provided with a longitudinal U-shaped groove in its upper face, an instrument guide provided with a reduced portion adapted to slide within said groove, and a pen yoke adjustably secured to said instrument guide, said pen yoke being provided with a bifurcated portion adapted to receive a pen or other instrument.

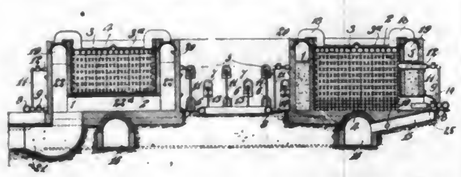
2. In a drafting and engraving machine a guide plate provided with a guide flange, a sliding plate mounted upon said guide plate and having a flange projecting beneath said guide plate, a ruler support adjustably secured to said sliding plate and having curved flanges adapted to engage the rear side of the guide flange upon said guide plate, a spacing block mounted upon said guide plate and provided with lugs, a spacing lever carried by said spacing block and adapted to bring said lugs into frictional contact with said guide flange, a slotted lug upon said sliding plate adapted to be engaged by said spacing lever, a pin carried by said spacing block, a spacing gage adapted to contact with said pin and limit the movement of said sliding plate and a ruler carried by said ruler support.



3. In a drafting and engraving machine, a ruler provided with a longitudinal U-shaped groove in its upper face, an instrument guide provided with a reduced portion adapted to slide within said groove and a pen yoke secured to said instrument guide at right angles to said reduced portion, said pen yoke adapted to be rotated with reference to said instrument guide but normally frictionally held against rotation, said pen yoke provided with a pen-attaching portion.

4. In a drafting and engraving machine, a guide plate provided with a guide flange along one of its longitudinal edges, a sliding plate arranged upon said guide plate and having a curved-under flange engaging the unflanged edge of the said guide plate, a ruler support provided with a curved flange adapted to engage the outside edge of the guide flange of said guide plate, said sliding plate and said ruler support being adapted for relative adjustment, means for holding said sliding plate and said support in fixed adjustment and a ruler connected to said ruler support.

972,570. BRICK-KILN. RAYMOND C. PENFIELD, New York, and FREDERICK S. NAUGLE, Warner, N. Y. Filed Apr. 23, 1909. Serial No. 491,700.



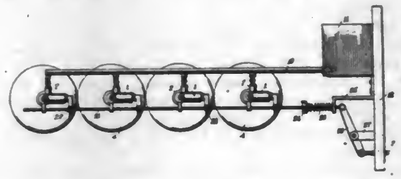
1. In a brick-kiln, the kiln chamber having vertical parallel walls, a plurality of rows of furnaces in said walls, burners in the said furnaces for burning liquid or gaseous fuel, supply pipes connected with said burners, hoods for covering the openings into the furnaces of the lower series, a longitudinal central subterranean duct beneath the kiln chamber for carrying off smoke and assisting in the draft, and branch ducts connecting the furnaces of the lower row with the said central duct, said ducts provided with dampers, substantially as described.

2. In a continuous brick-kiln, an elongated chamber having vertical parallel side walls, longitudinal ducts arranged in the upper part of said walls, vertical ducts connecting with the said longitudinal ducts and themselves connected with each other, a subterranean duct leading away from the kiln and receiving waste heat from the aforesaid ducts, elbows arranged in the upper part of the kiln for receiving waste heat from the kiln chamber and delivering it to the longitudinal ducts in the walls, plural series of fires or furnaces arranged in the vertical walls at points opposite to each other so that the result of the combustion may be to project flames toward each other and through arches built in the brick to be burned, and a system of ducts whereby the smoke is carried away and the draft in the various furnaces of the lower row is facilitated, substantially as described.

3. In a brick-kiln, a contiuous chamber having vertical parallel side walls, furnaces arranged in a plurality of rows in said walls, burners in the said furnaces for burning liquid or gaseous fuel, supply pipes for said burners, branch ducts outside the walls of the furnace and arranged to lie in close proximity to the furnaces, means consisting of hoods for temporarily connecting said ducts with the furnaces, a trunk passage common to all the branch ducts, and means for creating a draft through said trunk passage and the ducts, all substantially as described.

4. In a continuous brik-kiln, a chamber having vertical parallel side walls, longitudinal ducts arranged in the upper part of said walls, vertical ducts connecting with the said longitudinal ducts, a subterranean duct leading away from the kiln and receiving waste heat from the aforesaid ducts, furnaces in both walls arranged in parallel horizontal rows, those in one wall being opposite to those in the other, branch ducts outside the wall of the furnace and having their ends in close proximity to the outside ends of the furnaces of the lowermost row, means for connecting the ends of said ducts temporarily with the furnaces so that the smoke may pass from the furnaces into and through the ducts, and means for connecting the opposite ends of all of the said branch ducts together and with a stack or fan, all substantially as described.

972,571. SPRAYING DEVICE FOR INTERNAL-COMBUSTION ENGINES. HENRY WILSON POGUE, Decatur, Ill. Filed Mar. 15, 1910. Serial No. 549,398.

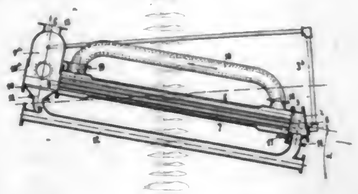


A spraying device for internal combustion engines, comprising a spring controlled operating shaft, a cylinder, a piston secured to the shaft and adapted to operate in the cylinder, a supply pipe extended from the cylinder, a spring actuated ball valve in the supply pipe, an outlet pipe extended from the cylinder, a gravity valve mounted in the outlet pipe, spraying means at one end of the outlet pipe, a bearing on the outlet pipe and constituting a guide for the operating shaft, and a plug removably engaging the outlet pipe and constituting a cover for a cleaning vent in the outlet pipe.

972,572. EVAPORATION-BOILER WITH INCLINED TUBES. CHARLES PRACHE, Paris, France, assignor to La Société d'Exploitation de Procédés Evaporatories, Système Prache et Bouillon, Paris, France. Filed May 13, 1909. Serial No. 495,719.

1. In an evaporator for concentrating liquids, the combination of a nest of heating tubes slightly inclined to the

horizontal, means for conducting steam to the exterior of the tubes to heat the same, reservoirs at the opposite ends of said nest of tubes and connecting with the tubes, a return tube passing below said nest of tubes and connecting said reservoirs, and means for maintaining the level of the liquid in the heating tubes approximately midway between the ends of the nests of tubes, the length of the heating tubes relative to their diameters being very long whereby a very large heating surface relative to the diameter of the tubes and to the difference in the levels of the ends thereof is provided.



2. In an evaporator for concentrating liquids, the combination of a nest of heating tubes slightly inclined to the horizontal, means for conducting steam to the exterior of the tubes to heat the same, reservoirs at the opposite ends of said nest of tubes and connecting with the tubes, a return tube passing below said nest of tubes and connecting said reservoirs, and means for maintaining the level of the liquid in the heating tubes approximately midway between the ends of the nests of tubes, the length of the tubes being substantially 75 times their diameter.

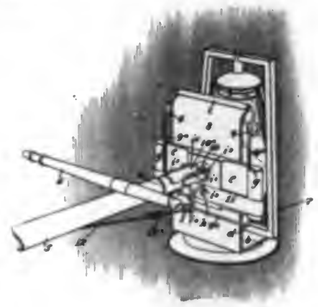
3. In an evaporator for concentrating liquids, the combination of a gang of nest heating tubes slightly inclined both longitudinally and transversely, inclined reservoirs at opposite ends of said gangs of tubes, partial partitions dividing the lower reservoir into communicating compartments, return tubes connecting the respective corresponding compartments of said reservoirs, and passing below said nests of tubes, means for introducing liquid at the upper end of the lower reservoir, means for extracting the liquid from the lower end of the lower reservoir, and means for maintaining the level of the liquid approximately midway between the ends of the nests of tubes.

4. In an evaporator for concentrating liquids, the combination of a gang of nests of tubes slightly inclined both laterally and horizontally, inclined reservoirs at opposite ends of said tubes, partial-partitions dividing said reservoirs into communicating compartments, return-tubes connecting the respective corresponding compartments of said reservoirs, and passing below said nests of tubes, means for introducing liquid into the upper end of the lower reservoir, means for extracting the liquid from the lower end of the same, means for heating the exterior of the tubes, and a separation box above the uppermost of said reservoirs.

5. In an evaporator for concentrating liquids, the combination of a gang of nests of tubes slightly inclined both laterally and horizontally, inclined reservoirs at opposite ends of said tubes, partial partitions dividing said reservoirs into communicating compartments, return-tubes connecting the respective corresponding compartments of said reservoirs, and passing below said nests of tubes, means for introducing liquid into the upper end of the lower reservoir, means for extracting the liquid from the lower end of the same, means for heating the exterior of the tubes, and a separation box above the uppermost of said reservoirs, each pipe being smaller than the preceding adjacent pipe.

972,573. LAMP ATTACHMENT FOR VEHICLES. THOMAS L. RINEY, Center, Mo., and JOHN A. RINEY, Wymore, Nebr. Filed May 15, 1909. Serial No. 496,132.

1. The combination with a vehicle pole, a lantern, and a reflector plate on said lantern, of vertical and parallel guide rods carried by the reflector plate, a yoke plate detachably secured to the end of the pole, and means for detachably securing the guide rods in engagement with the yoke plate.



2. The combination with a vehicle pole, a lighting device, and a reflector plate on said device, of two resilient guide rods disposed parallel with each other at the side edges of the reflector plate, a yoke plate on the pole, having recesses therein that receive the guide rods, and a plate spring on the yoke plate which engages with the guide rods when they are seated in the recesses.

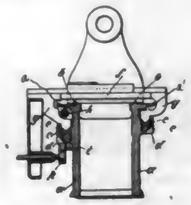
3. The combination with a vehicle pole, and a yoke plate having an arm that seats on the end portion of the pole, of means for clamping the arm on the pole, comprising a cradle bent from a wire rod and having a depending loop at one end, side members extended forward from the loop member, an arched tie band at the forward ends of the side members and seating on the arm, downwardly-extending arms on said forward ends of the side members, and a brace rod embodying a coiled spring and connecting the lower ends of depending arms with the lower side of the pole.

4. In a lamp attachment for vehicles, a plate having a concave member projecting from its rear face to fit upon a vehicle pole, means for detachably securing the said member to the pole, a lantern, a member carried by the lantern at the rear thereof and an interlocking connection between the said member and plate, whereby the lantern will be held on the front face of said plate.

5. In a lamp attachment for vehicles, a plate having oppositely disposed shoulders on one face, means whereby the plate may be secured to the end of a vehicle pole, and a lantern having spaced spring rods with which the shoulders of the said plate engage.

[Claim 6 not printed in the Gazette.]

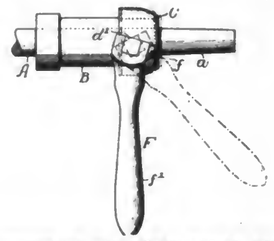
972,574. CARRIAGE-GUIDE FOR LATHES. OTTO SCHAEBER, Stuttgart, Germany. Filed Sept. 21, 1905. Serial No. 279,422.



1. In a lathe, the combination, with bed cheeks having laterally extending guard flanges, and provided with tracks at unequal heights beneath said flanges, of a carriage arranged to travel on the lathe bed, and provided with guide members extending around the flanges and into engagement with the tracks, and a carriage-propelling member mounted above the lower track and beneath the guard flange.

2. In a lathe, the combination, with bed cheeks having laterally extending guard flanges, and provided with tracks at unequal heights beneath said flanges, of a carriage arranged to travel on the lathe bed, provided with guide members extending around the flanges and into engagement with the tracks, and a carriage-propelling member mounted above the lower track and beneath the guard flange at a distance above the horizontal plane of the higher track substantially equal to the difference in elevation of the two tracks.

972,575. CHUCK-REMOVING DEVICE. ADOLPH W. SCHRAMM, Riverton, N. J. Filed July 10, 1909. Serial No. 506,905.



1. The combination of a shaft and an abutment fixed against longitudinal movement relatively thereto; a tool mounted on the shaft; a movable member placed to cooperate with the tool and with the abutment; means cooperatively arranged with said member for effecting a relatively rapid extension thereof between the tool and the abutment; and other means also coöperating with said member for subsequently effecting a relatively slower and more powerful adjustment between the same elements.

2. The combination of a shaft and an abutment fixed against longitudinal movement relatively thereto; a tool mounted on the shaft; a movale member placed to cooperate with the tool and with the abutment; means cooperatively arranged with said member for effecting a relatively rapid extension thereof between the tool and the abutment; and other means also coöperating with said member for subsequently effecting a relatively slower and more powerful adjustment between the same elements; the material of the movable member being disposed to automatically return the same to its normal position after it has been moved therefrom.

3. The combination of a shaft for the reception of a tool; an abutment fixed from movement longitudinally of said shaft; a member revoluble about the shaft between the abutment and the tool and formed to be capable of extension relatively to said abutment to engage it and the tool; with means for exerting on said member a force greater than that required for its extension, to move the tool on the shaft after it has engaged the same.

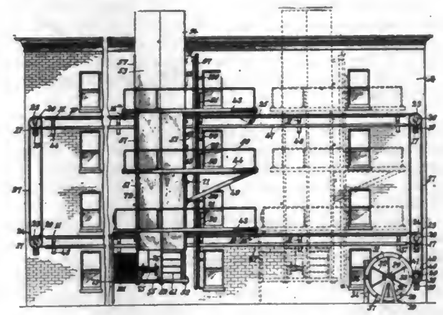
4. The combination of a shaft for the support of a tool; an abutment fixed from movement longitudinally of said shaft; a member mounted to be rotatable about the shaft between the tool and the abutment and also movable in a plane including said shaft; with means for causing such movements of the member to move the tool longitudinally of the shaft.

5. The combination of a shaft for the reception of a tool; an abutment fixed against longitudinal movement relatively to the shaft; a lever having trunnions provided with eccentric portions and operative on the abutment; with a member operatively connected to said lever and capable of being moved thereby into engagement with a tool on the shaft.

[Claims 6 to 10 not printed in the Gazette.]

972,576. FIRE-ESCAPE. JOHN SCULLY, Minneapolis, Minn. Filed Oct. 10, 1908. Serial No. 457,048.

1. A fire escape, having a plurality of movable platforms, means for moving said platforms from point to point, an escape shaft, and a ventilating shaft connecting said platforms, said shafts communicating interiorly.



2. A fire escape, having a plurality of platforms, an escape shaft connecting said platforms and having a door opening thereinto from each of said platforms, means for controlling all of said doors independently from a common point, an elevator in said shaft, means for moving said elevator longitudinally of said shaft, and a ladder in said escape shaft.

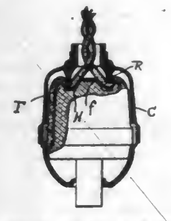
3. A fire escape, having a plurality of movable platforms, means for simultaneously moving said platforms, an escape shaft connecting said platforms, a ventilating shaft connecting said platforms and communicating interiorly with said escape shaft, said shafts at the sides adjacent to the building having heat insulating linings, an elevator in said escape shaft, means for moving said elevator longitudinally of said escape shaft, doors opening into said escape shaft from said platforms, means for controlling said doors from a common point, and speaking tubes connecting one of said platforms with the others of said platforms.

4. A fire escape having a plurality of platforms, an escape shaft connecting said platforms and having a door opening thereinto from each of said platforms, and means for controlling all of said doors independently from a common point.

5. A fire escape having a plurality of superposed platforms, an escape shaft connecting said platforms and having a door opening thereinto from each of said platforms, and lines, each controlling one of said doors and all terminating at a certain one of said platforms, whereby all of said doors can be controlled from a common point.

[Claims 6 to 16 not printed in the Gazette.]

972,577. ELECTRICAL FIXTURE. FRANK E. SEELEY, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed June 17, 1909. Serial No. 502,742.



1. An electric device having separable members, means for uniting the same, wire terminals on one member, one of said members being recessed and the other member being provided with a projection tending to enter said recess, said projection and recess being so located that a wire connected to one of said terminals is forced into a relatively sharp U-bend over said projection when said members are united.

2. An electric device having a body part provided with wire terminals and an incasing shell therefor, said body and shell having strain relief means for the wires leading to said wire terminals, comprising a projection on one part and a corresponding recess on the other part into which said projection tends to enter whereby a wire engaged between said strain relief members is forced into a relatively sharp U-bend over the projection, substantially as described.

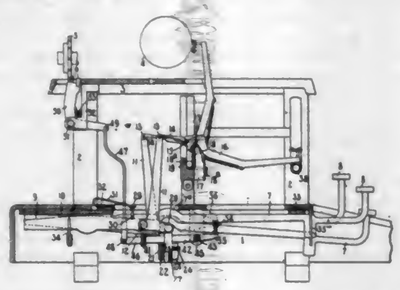
3. An electric device having a body part provided with terminals, a flange on said body part, in combination with a detachable shell incasing said body part and a projection thereon for pressing into the recess adjacent said flange on the body part a wire leading to a terminal on the latter.

4. An electric device having a body part with wire terminals and a detachable shell incasing the same, together with means on said shell and body part tending to interlock when the shell and body parts are united and thus form the wires leading to said terminals into a relatively sharp U-bend over said projection.

5. An electric device having a body part, with wire terminals, a continuous raised flange on one end of said body part, in combination with a shell incasing the latter and means in connection with said shell for forcing the wires leading to said terminals into a sharp U-bend over said flange.

[Claim 6 not printed in the Gazette.]

972,578. TYPE-WRITING MACHINE. GEORGE A. SEIB, Ilion, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 14, 1909. Serial No. 489,916.



1. In a typewriting machine, the combination of a key lever, an angular sub-lever pivoted intermediate its ends to said key lever, a type bar, connections between one end of said sub-lever and the type bar, a device pivoted at one end to the other end of said sub-lever and on which the sub-lever turns, and vertically adjustable means for adjustably connecting said device to a fixed portion of the machine.

2. In a typewriting machine, the combination of a series of key levers, a series of angular sub-levers each pivoted intermediate its ends to a key lever, a series of type bars, connections between one end of each sub-lever and a type bar, and a series of individually adjustable fulcrums coöperative with the other ends of said sub-levers, each of said fulcrums being adjustable substantially in the direction of motion of the key lever.

3. In a typewriting machine, the combination of a series of key levers, a series of angular sub-levers each pivoted intermediate its ends to a key lever, a series of type bars, connections between one end of each sub-lever and a type bar, a series of independent devices each pivoted to the other end of a sub-lever so as to constitute fulcrums therefor, and individual adjusting means for adjustably supporting said devices on a fixed portion of the machine, each of said fulcrums being adjustable substantially in the direction of motion of the key lever.

4. In a typewriting machine, the combination of a series of key levers, a fulcrum plate on which the key levers have a rolling contact, a series of sub-levers pivoted to said key levers, type bars operatively connected with said sub-levers, and a universal bar that extends beneath the key levers directly below the points where the sub-levers are pivoted thereto.

5. In a typewriting machine, the combination of a series of key levers, a fulcrum plate, a series of sub-levers pivoted intermediate their ends to said key levers and fulcrumed at one set of the ends thereof, type bars operatively connected with said sub-levers, and a universal bar that extends beneath the key levers directly below the points where the sub-levers are pivoted thereto.

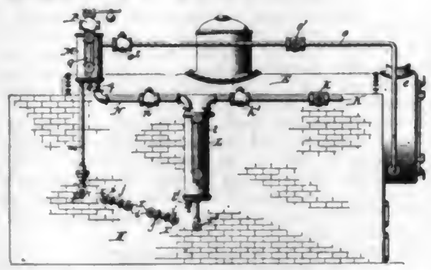
[Claims 6 to 24 not printed in the Gazette.]

972,579. FRAME-HANGER. HARRY H. SHEPARD and HARRY SHEPARD, New York, N. Y. Filed Nov. 10, 1908. Serial No. 461,953.



A frame hanger consisting of a plurality of rods removably secured to each other, one of said rods terminating in a curved off-set portion, another of said rods being provided with a projection adapted to engage the wall when the device is in position, said rod terminating in an L-shaped member, the inner surface of which is beveled, said L-shaped member being adapted to support a frame, a hook member adjustable upon the rod sections, said hook member consisting of an eye embracing said rod and a hook removably secured to said eye, said hook being adapted to engage an attaching device secured to said frame.

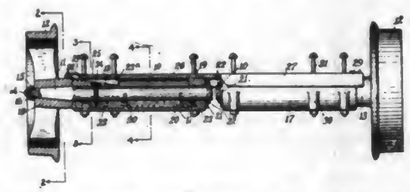
972,580. BOILER. ALBERT G. SHERMAN, Buffalo, N. Y. Filed Feb. 19, 1910. Serial No. 544,789.



1. A boiler comprising a furnace, a combustion chamber arranged in rear of the furnace, a shell arranged over the furnace and combustion chamber, a plurality of communicating heating tubes arranged in said combustion chamber, a lower tank connected at its lower end with the inlet of the heating tubes, a water supply pipe connected with the upper end of the lower tank, and an elevated tank connected at its lower end with the outlet of said heating tubes and with the upper end of said lower tank and also connected at its upper end with said shell.

2. A boiler comprising a furnace, a combustion chamber arranged in rear of the furnace, a shell arranged over the furnace and combustion chamber, a plurality of communicating heating tubes arranged in said combustion chamber, a lower tank connected at its lower end with the inlet of the heating tubes, a water supply pipe connected with the upper end of the lower tank, an elevated tank connected at its lower end with the outlet of said heating tubes and with the outlet of said heating tubes and with the upper end of said lower tank and also connected at its upper end with said shell and a check valve which is arranged in the connection between the upper and lower tanks and which opens toward the latter.

972,581. CAR-TRUCK. JOHN E. SIMPSON and WILLIAM D. PUCKETT, Portsmouth, Ohio, assignors to The Portsmouth Machine & Casting Company, Portsmouth, Ohio, a Corporation. Filed Apr. 2, 1910. Serial No. 552,944.



1. In combination, independent bearing casings, a spindle journaled in each of said casings, a wheel rigidly mounted upon each of said spindles, a single member recessed at the under side to receive both of said casings, and means for securing said casings and said member together and to a car.

2. In combination, a flanged member adapted to be secured to a car, casings associated therewith between the flanges thereof, separate, independently removable axle spindles journaled in said casings, and wheels mounted upon said spindles at the ends of said member.

3. In combination, a channel member, casings secured to said channel member, between the flanges thereof, said casings having bearings, independent axle spindles journaled in said bearings of said casings, and wheels rigid with said axle spindles.

4. In combination, a member recessed at the under side, and adapted to be secured to a car, casings having spaced bearings at the ends, axle spindles journaled in said bearings, wheels rigidly mounted upon said spindles, and bolts for securing said casings and said member together and to a car, said casings being open at the top, and being received in said recessed member.

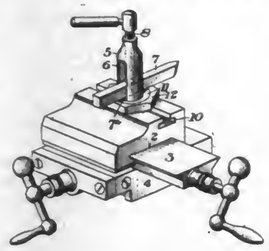
5. In combination, a channel member, casings mounted between the flanges thereof and having bearings, said casings constituting lubricant reservoirs, axle spindles journaled in said bearings and projecting at the outer ends of said casings, wheels rigidly mounted upon said projecting ends of said spindles, and bolts for securing said casings and said channel member together and to a car.

[Claims 6 to 9 not printed in the Gazette.]

972,582. TOOL-POST. WILLIAM D. SMITH, Denver, Colo. Filed July 16, 1908. Serial No. 443,917.

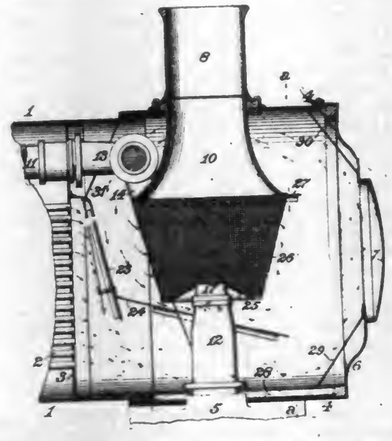
1. A lathe tool comprising a slide rest having a slot in its upper surface, a tool post having a head arranged to be seated in the slot in the slide rest, screw threads on the tool post, a nut engaging the screw threads and arranged to secure the tool post to the slide rest, a slot in the tool post arranged to receive a cutting tool extending transversely with relation to the tool post, and means in the end of the tool post to secure the tool in its adjusted position; substantially as described.

2. A lathe tool comprising a slide rest having a slot in the upper face thereof, a tool post having a headed lower end adapted to engage said slot, a vertical tool slot extending through the tool post, a rocker seated in the bottom of the tool slot, a set screw extending through the



end of the tool post and arranged to clamp the tool in the slot in the tool post, an enlarged screw threaded head on the tool post below the slot therein and above the upper surface of the slide rest, and a nut arranged to engage the screw threads to clamp the tool post in its position on the slide rest; substantially as described.

972,583. SPARK-ARRESTER. WILLIAM P. STEELE, Palisade, N. J. Filed Oct. 23, 1909. Serial No. 524,111.



1. The combination, with a locomotive smoke box, of an exhaust pipe, inclined deflecting plates extending from the rear of the smoke box to a plane forward of the exhaust pipe, a stack having an inward extension of "penetration", a spark separator interposed between the exhaust pipe and the stack extension, and alternately oppositely inclined baffle plates located, respectively, at the top and bottom of the smoke box front and the top of the smoke box at the rear thereof.

2. The combination, with a locomotive smoke box, of an exhaust pipe, inclined deflecting plates extending from the rear of the smoke box to a plane forward of the exhaust pipe, an annular exhaust pipe plate surrounding the exhaust pipe, a stack having an inward extension or "penetration", a spark separator extending from the exhaust pipe plate to the stack extension, and alternately oppositely inclined baffle plates located, respectively, at the top and bottom of the smoke box front and the top of the smoke box at the rear thereof.

3. The combination, with a locomotive smoke box, of an exhaust pipe, an inclined deflecting plate extending from the rear of the smoke box to a plane forward of the exhaust pipe, a stack having an inward extension or "pene-

tration", a spark separator interposed between the exhaust pipe and the stack extension, and an imperforate plate extending across the smoke box adjacent to the plane of the mouth of the stack extension.

972,584. METHOD OF SEPARATING METALS FROM WET-PROCESS LIQUORS. JOHN H. THWAITES and STEPHEN JAMIESON RALPH, Peterborough, England. Filed Feb. 14, 1910. Serial No. 543,653.

1. The method of separating copper from liquors obtained from any wet metallurgical process, which consists in treating the liquor with a sulfite of an alkaline earth metal, substantially as described.

2. The treatment of liquors obtained from any wet metallurgical process for the purpose of obtaining copper sulfate substantially free from iron, which consists in precipitating the copper by means of a sulfite of an alkaline earth metal and treating the precipitate with sulfuric acid and oxidizing with air, whereby copper compounds in the precipitate are converted into copper sulfate; substantially as described.

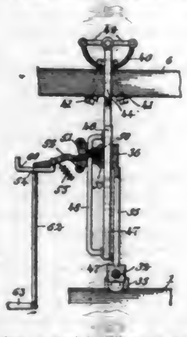
3. A treatment of liquors obtained from any wet metallurgical process for separating copper and other metals therefrom, consisting in first precipitating the greater part of the copper by means of a sulfite of an alkaline earth metal, then removing the precipitate, then treating the liquor with an agent which will precipitate copper but not iron or cobalt, then removing the precipitate, and finally treating the liquor with a substance capable of precipitating iron and cobalt together; substantially as described.

4. A treatment of liquors obtained from any wet metallurgical process for separating copper and other metals therefrom, consisting in first precipitating the greater part of the copper by means of a sulfite of an alkaline earth metal, then removing the precipitate, then treating the liquor with an agent which will precipitate copper but not iron or cobalt, then removing the precipitate, and finally treating the liquor with a sulfid to precipitate iron and cobalt together; substantially as described.

5. A treatment of liquors obtained from any wet metallurgical process for separating copper and other metals therefrom, consisting in first precipitating the greater part of the copper by means of a sulfite of an alkaline earth metal, then removing the precipitate, then treating the liquor with scrap iron to precipitate the remainder of the copper, then removing the precipitate and finally treating the liquor with a sulfid to precipitate iron and cobalt together; substantially as described.

[Claim 6 not printed in the Gazette.]

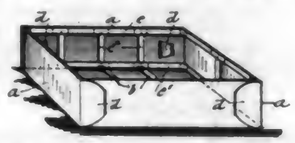
972,585. ADJUSTABLE PITMAN. CHRISTIAN VOGEL, Seward, Nebr. Filed Oct. 24, 1908. Serial No. 459,278.



1. In combination, a rod having at its upper end a rack and laterally extending wings, a yoke having an extension provided with rack teeth coöperating with the first named rack, a strap connected with the ends of the extension, a lever having a cam head pivoted between the wings, and between the strap and extension for forcing the teeth together, and having a handle extending beyond the strap.

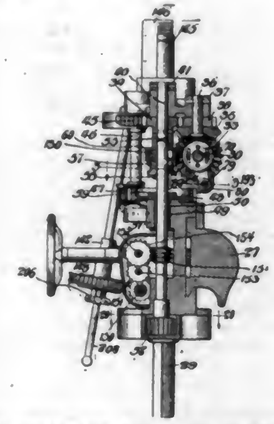
2. In combination, a rod having at its upper end a rack and laterally extending wings, a yoke having an extension provided with rack teeth coöperating with the first named teeth, a strap connected with the ends of the extension, and means between the wings and between the strap and the extension for clamping the teeth on each other.

972,586. PACKING-BOX. JOSEPH WAHL, New York, N. Y. Filed Dec. 10, 1909. Serial No. 532,309.



A packing-box the body of which is composed of a blank of pasteboard, forming the bottom, side and end-walls, locking devices for connecting the end-walls with the side-walls, reinforcing frames for the side- and end-walls, means for attaching said reinforcing frames to the side- and end-walls, and means for releasably locking together the adjacent ends of said frames.

972,587. DRIVING-GEAR MECHANISM. ALBERT W. WIGGLESWORTH, Chicago, Ill. Filed May 31, 1907. Serial No. 376,686.



1. The combination with a tool spindle and its drive shaft, of a driving gear mechanism between said shaft and spindle including a variable speed mechanism, and also a clutch device arranged to connect the drive shaft with said driving mechanism to drive the spindle forwardly and to reverse the same, of a hollow rock-shaft operatively connected with said clutch device to actuate the same, a reciprocable shaft within said hollow rock-shaft and operatively connected with the variable speed mechanism, and a lever pivoted to the lower end of the rock-shaft to rock the same and arranged to engage the reciprocable shaft to reciprocate the latter when said lever is swung on its pivot.

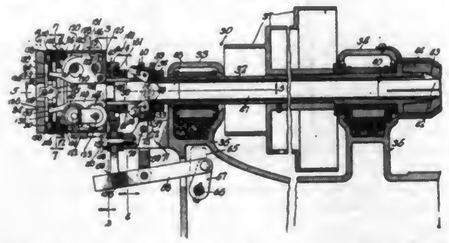
2. The combination with a tool spindle and its drive shaft, of a driving gear mechanism between said shaft and spindle including a variable speed mechanism, and also a clutch device arranged to release said drive shaft from the driving mechanism and to connect said drive shaft thereto to drive the tool spindle forwardly and to reverse the same, said variable speed mechanism embracing a second clutch device operating to drive the spindle at varying speeds, a rock-shaft connected with and operating one of said clutch devices, a reciprocable shaft connected with and operating the other clutch device, and a pivoted lever mounted on said rock-shaft to rock the same and acting upon the reciprocable shaft to give endwise movement to the latter, and arranged to actuate each clutch device independently of the other.

3. The combination with a tool spindle and its drive shaft, of driving gear mechanism between said shaft and spindle including a variable speed mechanism, and also a clutch device arranged to release said drive shaft from the driving mechanism and to connect said shaft thereto to drive the spindle forwardly and to reverse the same, said variable speed mechanism embracing a second clutch device operating to drive the spindle at varying speeds, a tubular rock-shaft connected with and operating one of said clutch devices, a reciprocable shaft within the tubular rock-shaft and connected with and operating the other clutch device, and a lever pivotally mounted on said rock-shaft and acting upon the reciprocable shaft to give endwise movement to the latter.

4. The combination with a tool spindle and its horizontal drive shaft, of driving mechanism between said shaft and spindle including a variable speed mechanism, and also a horizontally movable clutch device on the drive shaft arranged to release said drive shaft from the driving mechanism and to connect the said shaft thereto to drive the spindle forwardly and to reverse the same, said variable speed mechanism embracing a vertically movable clutch device operating to drive the spindle at varying speeds, a vertically arranged hollow rock-shaft connected at its upper end with said horizontally movable clutch device, a reciprocable shaft mounted within said hollow rock-shaft and connected at its upper end with said vertically movable clutch device, and a single operating lever for rocking and reciprocating said shafts, for the purpose set forth.

5. The combination with a horizontal drive shaft and a tool spindle, of two opposing beveled gear wheels loosely mounted on said drive shaft, a third beveled gear wheel meshing with said opposing beveled gear wheels, a clutch device adapted to connect either of said opposing beveled gear wheels to said drive shaft, a countershaft geared to and rotating said tool spindle, a pinion geared to said third beveled gear wheel and provided with a hub in which the upper end of the countershaft has bearing, a gear wheel loosely mounted on said countershaft below said pinion and geared to said pinion to constitute part of a variable speed mechanism, a second clutch device operating to separately connect said latter gear wheel and said pinion to the countershaft, and a single manually operable lever for operating both of said clutch devices.

972,588. WORK-FEEDING DEVICE FOR METAL-WORKING AND OTHER MACHINES. ALBERT W. WIGGLESWORTH, Wilmette, Ill. Filed May 19, 1909. Serial No. 496,956.



1. In a work feeding device, the combination with a hollow, rotative shaft through which the work is fed, and a work holding collet carried by the shaft, of work feeding mechanism located at the outer end of the shaft, embracing feeding rollers, operating gears for said rollers, a scroll gear surrounding and concentric with said shaft meshing with the feeding roller operating gears, a hand lever operatively connected to the collet for actuating the collet to lock it to the work, embracing a pivoted shipping lever and an endwise movable bar connecting the hand lever with the shipping lever, and a clutch device for locking said scroll gear from rotation, and said bar being provided with a wedge shaped portion arranged to actuate said clutch upon endwise movement of said bar.

2. In a work feeding device, the combination with a hollow, rotative shaft through which the work is fed, of a work centering mechanism at one end of the shaft embracing radially movable centering jaws, and a work feeding mechanism in advance of said centering mechanism comprising work feeding rollers, a system of compound levers carrying said rollers to move them toward and from the work, and operative connections between said centering jaws and said levers, said levers being proportioned to carry the rollers toward the work at the same speed at which the centering jaws move toward and from the work.

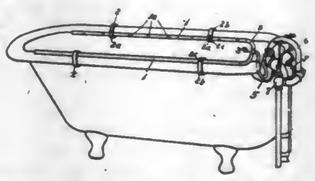
3. In a work feeding device, the combination with a hollow, rotative shaft, of a work centering mechanism at one end of said shaft and work feeding mechanism in advance of the work centering mechanism comprising two rollers movable toward and from the work, a system of levers for moving each roller toward and from the work, comprising a pivoted primary bell crank lever, one arm of which is connected with and actuated by the work centering mechanism, and a secondary bell crank lever one arm of which carries a feeding roller, and the other arm of which is pivoted to the second arm of the primary bell crank lever, said lever arms being proportioned to carry the rollers toward the work at the same speed at which the ends of the lever arms connected with the centering mechanism are moved toward each other.

4. In a work feeding device, the combination with a hollow, rotative shaft and a casing mounted on the end thereof provided with a work passage in alinement with the shaft, of centering mechanism mounted in the casing comprising a plurality of radially movable centering jaws, and work feeding mechanism in rear of said centering mechanism arranged in two sets, one at each side of the work passage of the casing, each comprising a lever pivoted at its rear end to the casing and connected at its other end with one of said jaws, a rock shaft mounted in the casing, a lever arm fixed at one end to said rear shaft, a rotative feeding roller carried by the other end of the rock shaft, and a second lever arm fixed to said rock shaft and pivotally connected with said first lever.

5. In a work feeding device, the combination with a hollow, rotative shaft and a casing carried by one end of the shaft and provided in alinement with the shaft with a work feeding passage, of a work centering mechanism embracing a plurality of radially movable jaws provided with screw-threads, a spirally screw-threaded ring rotatively mounted in the casing for moving the jaws inwardly and outwardly, and work feeding mechanism within the casing embracing rollers which are adapted to be pressed upon the work, and roller actuating levers pivoted in the casing and operatively connected with said radially movable centering jaws.

[Claims 6 to 8 not printed in the Gazette.]

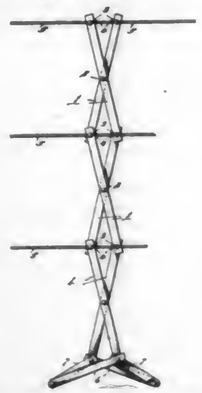
972,589. SHOWER-BATH APPARATUS. GEORGE WINTERS, Bay City, Mich., assignor of one-half to Pearl M. Haller, Bay City, Mich. Filed Oct. 25, 1909. Serial No. 524,431.



In a shower bath apparatus, the combination of a pair of spray tubes, each having at its front portion rearwardly

projecting perforations, at its middle portion transversely projecting perforations, and at its rear portion forwardly projecting perforations, a pair of hangers for each tube, each of said hangers adapted to engage the rim of the tub, and provided at its lower end with a hook to receive the tube, the hook of one of said hangers provided with a set screw; a tee, and flexible tubes connecting said tee with the spray tubes, and a flexible tube attached to the tee and adapted to be secured to the faucet of the tub.

972,590. CLOTHES-DRIER. THOMAS J. YATES and PETER R. PETERSON, Salt Lake City, Utah. Filed Aug. 18, 1909. Serial No. 513,529.



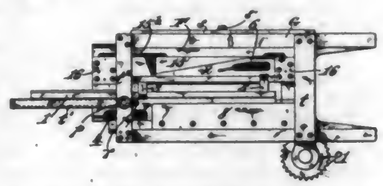
1. In a clothes drier of the lazy tongs type, the combination with the side rods intermediately pivotally secured in pairs, the ends of each pair being pivotally connected to the adjacent pair, there being a similar set on each side of the device, of connections between the members on opposite sides secured to the pivotal connections of the adjacent pairs of side members, said connections having openings formed therein, and clothes supporting means passed through said openings and alternately secured to and having sliding engagement with said connections.

2. The combination with a pair of rods pivotally secured together intermediate their length a similar pair of rods spaced from said first named pair, of means pivotally connected to the ends of the rods of one pair and to the ends of the rods of the other pair, and clothes supporting means secured to certain connecting means and loosely supported by the others.

3. In a device of the character described, the combination with the sides composed of spaced pairs of pivoted rods, a pair of links of unequal length pivotally secured to the lower end of each of the rods, the long link of each pair having its free end pivotally secured to the short link of the other pair on each side, and means connecting the rods of one pair with the rods of the other pair, said means being adapted to contact with a link of one pair on each side of the device whereby the downward collapse of the other pair of links on each side of the device is prevented and a firm but foldable base is formed for both sides of the device.

4. In a device of the character described, the combination of side members, each of said members being composed of a pair of intermediately pivoted bars, of plates connecting the corresponding ends of the bars of one side member with bars of the other side member, clothes supporting means secured to the top connecting plates said supports extending across the device when open, a pair of links of unequal length pivotally secured to the lower end of each of the bars, the free end of the longer link being secured to the free end of the shorter link carried by the other bar of the side member, and one of the longer links on each side being so disposed as to contact with one of the bottom plates to limit the movement of the links.

972,591. LINE-CASTING MACHINE. FRITZ C. LUCKE D'AIX, New York, N. Y. Filed May 13, 1908. Serial No. 432,605.



1. A linotype mold mounted to reciprocate bodily and comprising, in combination, a lower jaw, a rising and falling upper jaw, intermediate yielding members to close the ends of the mold space, a wedge for adjusting the upper jaw, and stops for automatically and positively moving the wedge in relation to the other parts as the mold moves to and fro.

2. A linotype mold mounted to reciprocate bodily and comprising in combination, a lower jaw, a rising and falling upper jaw, intermediate yielding members to close the ends of the mold space, a wedge for adjusting the upper jaw, stops 23, 23' for automatically and positively moving the wedge in relation to the other parts as the mold moves to and fro, and means for adjusting said stops.

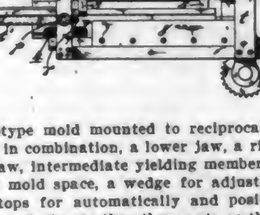
3. The reciprocating linotype mold including the wedge to vary the width of the mold space in combination with a front stop to move the wedge in a direction to permit the mold to open, a rear stop longitudinally adjustable to move the wedge in a direction and to an extent to close the mold to any predetermined width, and means for holding the rear stop rigidly in adjusted position.

4. A longitudinally reciprocating linotype mold having one member movable longitudinally in relation to the others for the purpose of changing the length of the mold space in combination with stops for automatically and positively opening and closing the mold to one length or another during its movement to and fro.

5. A longitudinally reciprocating linotype mold having one member movable longitudinally in relation to the others for the purpose of changing the length of the mold space, in combination with a fixed stop for automatically opening the mold to maximum length, and an adjustable stop for automatically closing the mold to one length or another as desired.

[Claim 6 not printed in the Gazette.]

972,592. EGG-TESTER. MARY ANDREWS, Stratton, Nebr. Filed Feb. 21, 1910. Serial No. 545,111.



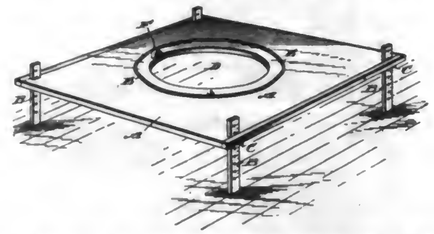
1. An egg-tester, comprising a top formed with egg-receiving holes and slots, and a slide adapted to work in conjunction with the top and also formed with corresponding egg-receiving holes and having guide-pins to operate in the slots of the top, so that the same may be adjusted to adapt it to different sized eggs.

2. An egg-tester, comprising a top formed with egg-receiving holes, a slide adapted to work in conjunction with the top and having holes registering with the holes in the top, means to guide and hold the slide and top in proper relation, and a mirror in the bottom of the tester.

3. An egg-tester, comprising a top formed with egg-receiving holes and a sight-opening, a slide adapted to work in conjunction with the top and having corresponding holes and a sight-opening of larger diameter than the top opening, and means for holding and permitting the slides to operate with relation to each other.

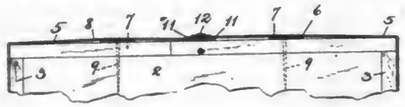
4. An egg-tester, comprising a top formed with egg-receiving holes and a sight-opening, a slide adapted to work in conjunction with the top and having openings corresponding to the top of the device, a mirror in the bottom of the tester, gutter-like strips to receive and hold the mirror, and a tray adapted to be received on top of the tester.

972,593. SKIRT-EVENER. MARY E. ARCHER-BURTON, Berlin, Md. Filed Sept. 28, 1909. Serial No. 519,957.



A skirt-evener consisting of a flat table having a large central opening and in its surface a circular groove which is concentric with said opening, and legs arranged in holes located adjacent to the edge of the table and provided with pins for supporting the table at different heights, as shown and described.

972,594. SEALING-STRAP FOR SHIPPING-PACKAGES. RAYMOND C. BATCHELOR, Baltimore, Md. Filed Sept. 9, 1909. Serial No. 516,952.



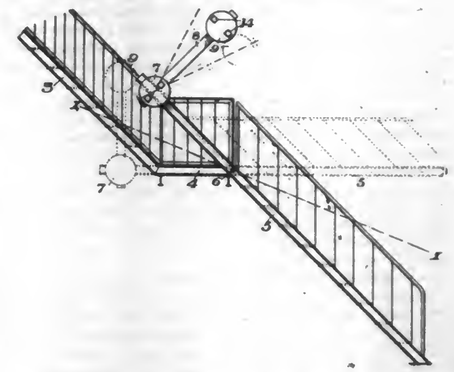
A shipping package comprising a receptacle in combination with a sealing strap encircling the receptacle and having a plurality of integral folded portions at intervals along its length which extend beneath the exposed surface of the said strap, and securing devices passing through said integral folded portions and entering the receptacle and the heads of said securing devices being covered by the outer exposed surface of the strap.

972,595. COUNTERBALANCED STAIRWAY OR LADDER. REUBEN O. BELLES, Pittsburg, Pa. Filed Apr. 13, 1910. Serial No. 555,267.

1. A pivoted ladder or stairway structure having a counterweighted-arm secured thereto above the pivoted axis of the structure and projecting forwardly at an oblique angle thereto, and a weight carried by said arm, said weight being substantially vertically over the pivotal axis of the structure when the latter is in its down position and shifted by the movement of the structure to a raised position to a position behind the pivotal axis, said weight and arm normally moving rigidly with the structure; substantially as described.

2. The combination with a pivoted ladder or stairway, of an upwardly and forwardly projecting counterweight arm secured to the ladder or stairway above its pivot, said arm and its counterweight normally moving rigidly with the ladder or stairway, substantially as described.

3. The combination with a pivoted ladder or stairway, of an upwardly and forwardly projecting counterweight arm secured to the ladder or stairway above its pivot, and a counterweight adjustably mounted on said arm, said arm and counterweight normally moving rigidly with the ladder or stairway, substantially as described.

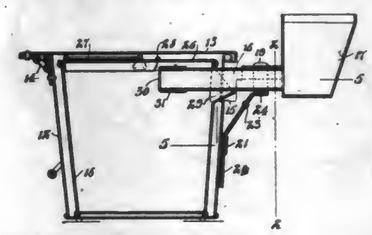


4. The combination with a pivotal stairway or ladder, of a counterweight secured to the stairway or ladder above its pivot, and a forwardly and outwardly extending counterweight arm also secured to the stairway or ladder above its pivot, said arm being normally rigid with respect to the stairway or ladder, substantially as described.

5. The combination with a pivoted stairway or ladder, of a forwardly and outwardly projecting counterweight arm secured to the ladder or stairway above its pivot, and means for securing an angular adjustment of the said arm to vary its counterweight action, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

972,596. MILKING APPLIANCE. ALEXANDER BRUCE, Waltham, Mass. Filed Feb. 8, 1910. Serial No. 542,719.



1. A milking appliance comprising a receptacle having a movable cover forming a seat, and an orifice below said cover, a clip movably mounted on the receptacle adjacent to the said orifice, and adapted to occupy different positions relatively to the receptacle, and a milk-receiving cup having a conducting tube longitudinally movable in the clip and extending through the orifice into the receptacle, said cup and tube being adjustable relatively to the receptacle by the longitudinal movability of the tube in the clip, and by the movability of the clip relatively to the receptacle.

2. A milking appliance comprising a receptacle having a movable cover forming a seat, an orifice below said cover, and a confining member below the orifice, a clip having a shank slidably and frictionally engaged with said confining member and receptacle whereby the clip is adjustably supported relatively to the receptacle, and a milk-receiving cup having a conducting tube longitudinally movable in the clip and extending through the orifice into the receptacle.

3. A milking appliance comprising a receptacle having

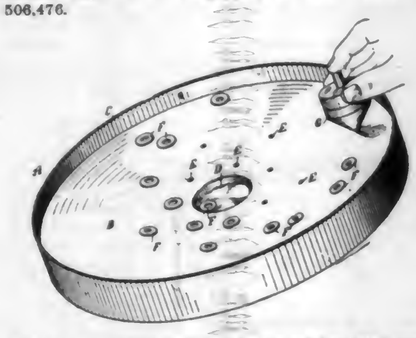
a movable cover forming a seat, an orifice below said cover, and a confining member below the orifice, a clip having a shank slidably and frictionally engaged with said confining member and receptacle whereby the clip is adjustably supported relatively to the receptacle, and a milk-receiving cup having a conducting tube longitudinally movable in the clip and extending through the orifice into the receptacle, the clip being pivoted to the shank and adapted to turn thereon to permit additional adjustments of the cup and tube.

4. A milking appliance comprising a receptacle having a movable cover forming a seat, an orifice below said cover, and a metal strip attached at its end portions to the receptacle below the orifice, the central portion of the strip being offset and constituting a confining member, a clip having a shank adapted to be inserted between the said offset portion and the receptacle, and frictionally supported thereby, and a milk-receiving cup having a conducting tube frictionally engaged by the clip and longitudinally movable therein.

5. A milking appliance comprising a receptacle having a movable cover forming a seat, an orifice below said cover, and a metal strip attached at its end portions to the receptacle below the orifice, the central portion of the strip being offset and constituting a confining member, a clip having a shank adapted to be inserted between the said offset portion and the receptacle, and frictionally supported thereby, and a milk-receiving cup having a conducting tube frictionally engaged by the clip and longitudinally movable therein, a portion of the tube being provided with flat faces bearing on the sides of the clip.

[Claim 6 not printed in the Gazette.]

972,597. GAME APPARATUS. GEORGE N. BYL, Jersey City, N. J., assignor of one-third to Frank B. Dilts, Jersey City, N. J., and one-third to Henry I. Dilts, Long Island City, N. Y. Filed July 8, 1909. Serial No. 506,476.

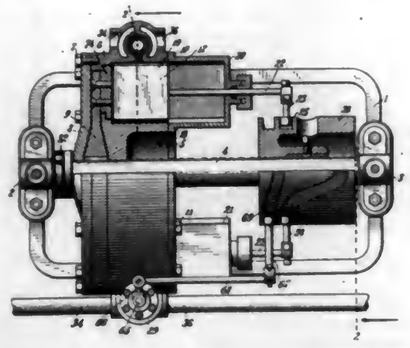


A game apparatus comprising a board having a central depression, and a conical surface encircling the depression and inclining toward the depression, and a wall encircling the conical surface, a plurality of ring shaped counters on the conical surface, and a rotatable object for the purpose specified, said depression having a dished bottom and inclined side wall.

972,598. ROTARY ENGINE. VERNON L. CAPWELL, Dorranceton, Pa., assignor to The Rotary Engine and Valve Developing Company, Dorranceton, Pa. Filed Nov. 15, 1909. Serial No. 528,211.

1. In a direct acting engine, the combination with a plurality of concentric cylinders, of a piston adapted to rotate between said cylinders, a plurality of abutment valves adapted to reciprocate between said cylinders, means for controlling the supply of an operating fluid to either side of said abutment valves, comprising a steam chest casing, a valve casing having port openings therein, and a plurality of concentric cylindrical valves having port openings therein adapted to connect said openings in said casing with the interior of one of said cylinders.

2. In a direct acting engine, the combination with a shaft, of a pair of cylinders concentrically arranged in spaced relation and having bearings for said shaft, a piston adapted to rotate between said cylinders and secured to said shaft, a plurality of reciprocating abutment valves adapted to slide between said cylinders and adapted to be guided by said cylinders, a cam on said shaft having a guide groove therein adapted to alternately reciprocate said valves, a valve for controlling the flow of fluid to and from the passages between said cylinders, a reversing valve, an automatic control for said controlling valve, and a manual control for said reversing valve.



3. In a direct acting engine, the combination with a plurality of concentrically arranged spaced cylinders of a shaft journaled in said cylinder, a piston secured to said shaft and adapted to rotate between said cylinders, a plurality of abutment valves guided by said cylinders and adapted to reciprocate between said cylinders, means for controlling the flow of fluid to the passageway formed between said cylinders, said means comprising a steam chest casing divided into an exhaust chamber and a pressure chamber, a valve casing having openings communicating with said chambers, a controlling valve in said valve casing, having two compartments therein, a reversing valve in said valve casing, having openings therein adapted to connect either of said compartments in said controlling valve with either said pressure chamber or said exhaust chamber, one of said cylinders having openings therein whereby both of said compartments are adapted to be connected to the interior of said last mentioned cylinder, a manual control for said reversing valve, an automatic control for said controlling valve, and an automatic control for said abutment valves, said automatic controls being operated by a cam on said shaft.

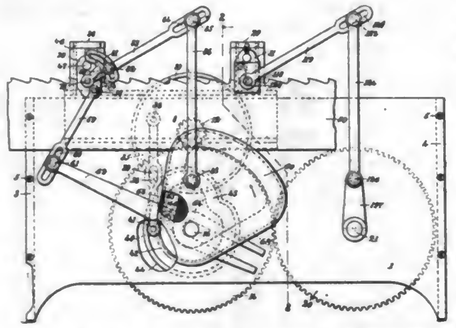
4. In a direct acting engine, the combination with a shaft, of a crank connected to said shaft, a pair of cylinders arranged in spaced relation, a following ring secured to said crank and adapted to rotate between said cylinders, said following ring having annular recesses therein which are adapted to engage corresponding flanges in said cylinders, and a piston secured to said crank.

972,599. AUTOMATIC SWAGING AND SIZING MACHINE. ALBERT D. CAVERNO, Windsor Locks, Conn. Filed Jan. 6, 1909. Serial No. 470,953.

1. In a swaging and sizing machine, the combination of a swage-head, a sizer-head, a carriage upon which the said heads are mounted a distance apart, saw clamping means carried by one of the said heads, and means for automatically moving the carriage and operating the clamping means and the swage and sizer heads.

2. In a swaging and sizing machine, the combination of a swage-head, a sizer-head, means for clamping a saw, and automatic means arranged to operate said swage and sizer-heads to swage and size the teeth of a saw and then release said clamping means and move said heads into position to act upon other teeth of the saw.

3. In a swaging and sizing machine, the combination of a carriage, a swage-head and a sizer-head mounted on said carriage, means carried by one of the heads for clamping a saw, means for operating said swage-head, means for operating said sizer-head, means for moving said carriage, and a power shaft from which the said heads and carriage are operated.

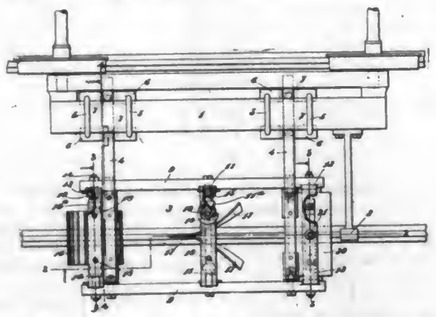


4. In a swaging and sizing machine, the combination of a carriage, a clamp carried by the carriage for holding a saw, means for automatically tightening and loosening the clamp, a sizer-head carried by the carriage and comprising a stationary and a movable die, means for automatically moving the carriage to bring the sizer-head into position to act upon the tooth of the saw adjacent to the one previously acted upon, and means for automatically operating the movable die.

5. In a swaging and sizing machine, the combination of a frame provided with ways on its side, a carriage mounted to slide in the said ways and provided with an upwardly projecting member, a swage head carried by and projecting laterally from said member, a swage mounted in the head, a clamp carried by the swage head for clamping a saw, and means for automatically operating the carriage, swage and clamp.

[Claims 6 to 14 not printed in the Gazette.]

972,600. CLEANER FOR THIRD RAILS. ANDREW JACKSON COCKERELL, Chillicothe, Ohio. Filed Dec. 8, 1909. Serial No. 532,110.



1. A cleaner for third rails comprising a frame formed of side bars and arched members connecting the side-bars and bolted thereto, supporting bars secured to the car and projecting laterally therefrom and secured to the frame, and rail-cleaning elements carried by the frame.

2. A cleaner for third rails comprising a frame, rail-cleaning elements mounted therein, and supporting bars for the frame, said bars being secured to the car so as to be adjustable laterally thereof and secured to the frame so as to have the latter adjustable vertically on said bars.

3. A cleaner for third rails comprising side-bars, arched members having legs and connecting the side bars, the latter being bolted to the legs of the arched members, secondary arched members mounted within the first mentioned arched members to be movable vertically therein, rail-cleaning elements carried by the secondary arched members, and means for securing the cleaner to a car to be in operative relation to the third-rail.

4. A cleaner for third rails comprising a frame, rail-cleaning elements mounted in the frame, supporting bars connected at their outer ends to the frame, a pair of U-shaped bolts straddling a beam of the car, plates connecting the corresponding legs of the bolts, said plates having sockets formed therein and said sockets receiving the inner end of a supporting bar, and set-screws tapped through the plates and bearing upon the supporting-bars and adapted to hold them in an adjusted position.

5. A cleaner for third rails comprising side-bars, arched members connecting the side-bars and bolted thereto, secondary arched members each yieldingly mounted in a main arched member, a plurality of said main arched members being provided with said secondary arched members, a rail-cleaning element mounted in each secondary arched member, a brush mounted in a main arched member not having a secondary member therein, a screw rod having a swivel connection with the brush and having screw-threaded engagement with the arch member in which it is mounted, and means for supporting the cleaner from a car.

[Claim 6 not printed in the Gazette.]

972,601. CIGAR. FRANK J. CUDA, New York, N. Y., assignor of one-half to Julius A. Zibell, Tappan, N. Y. Filed May 8, 1909. Serial No. 494,788.



1. A cigar, having a hole near the tip end at substantially right angles to the axis of the cigar and only partly penetrating the same, and a helical spring inserted in said hole.

2. A cigar, having an only partly penetrating hole near the tip end at substantially right angles to the axis of the cigar, a helical spring inserted in said hole, and a cover closing the opening of said hole.

3. A cigar, having an only partly penetrating transversal hole near the tip end thereof, a helical spring inserted in said hole, and a cover closing said hole, said cover being so secured to the cigar, as to leave an air space between itself and the body of the cigar.

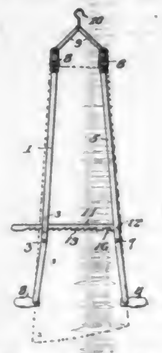
972,602. TROUSERS HANGER AND STRETCHER. RICHARD DAVIES, San Francisco, Cal. Filed July 15, 1909. Serial No. 507,841.

1. A garment stretcher comprising similar side members, each of the side members consisting of bars pivotally connected at their inner ends, attaching means at the outer ends of the bars for securing the same to the garment to be stretched, and means spreading the bars whereby the outer ends of the side members are moved apart both longitudinally and transversely so as to stretch the garment in two directions.

2. A garment stretcher comprising similar side members, each of the side members consisting of two bars pivotally connected at their inner ends, attaching means pivotally connected to the outer ends of the bars for securing the same to the garment to be stretched, and means for spreading the side members whereby their outer ends are moved apart both longitudinally and transversely.

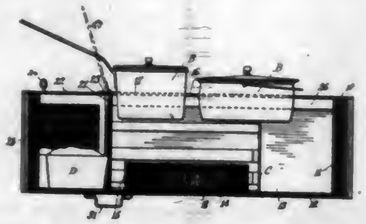
3. A garment stretcher comprising similar side members, each of the side members consisting of bars pivotally connected at their inner ends, clips pivotally connected to the outer ends of the bars, a toothed bar pivotally con-

nected at one end to one of the side members near the joint between the bars thereof, said toothed bar having a notch near its pivoted end, and a stop provided upon



the other side member near the joint between the bars thereof to engage either the teeth or the notch of the toothed bar.

972,603. COOKING APPARATUS. LESTER ROGERS DAVIS, Riverside, Cal. Filed Dec. 8, 1909. Serial No. 532,029.



1. Apparatus of the class described, comprising a casing having an opening adapted to receive a burner when the casing is mounted upon a stove, said casing being provided with a top having a hinged section, and a reticulate partition dividing the casing and extending from one wall thereof to an adjacent wall, said opening having an inwardly projecting guard rim.

2. Apparatus of the class described, comprising a casing having an opening adapted to be located above a burner when the casing is mounted upon a stove, said casing being provided with a top having hinged sections, and a reticulate partition within said casing dividing the same into compartments, each having above it one of said sections, said top being provided with a plurality of openings adapted to receive cooking utensils, said first-mentioned opening having an inwardly projecting annular guard rim, the walls of said casing being double and having therebetween a layer of insulating material.

3. Apparatus of the class described, comprising a casing having an opening adapted to receive a burner when the casing is mounted upon a stove, said casing being provided with a top having a hinged section, and a reticulate partition dividing the casing from wall to wall thereof, said opening having an inwardly projecting guard rim, said guard rim comprising a frame, and a reticulate wall carried thereby, said top having a plurality of openings therein adapted to receive cooking utensils, said casing having grips wherewith it can be manipulated.

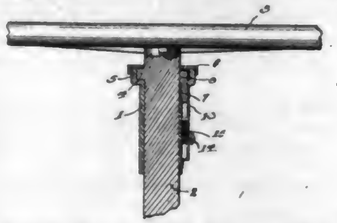
4. Apparatus of the class described, comprising a casing having an opening adapted to be located above a burner when the casing is mounted upon a stove, said casing being provided with a top having sections hinged thereto along lines at angles with each other, a reticulate partition within said casing and arranged to correspond with the inner outline of one of said sections, said partition including a frame having a bracing member under said top, a further bracing member under said top and extending along the hinge line of said other section of said top, said top having openings adapted to receive utensils, said casing having around said first-mentioned opening an inwardly disposed guard rim.

972,604. WRENCH. CHESTER A. DE VAUL, Laings, Ohio. Filed Sept. 21, 1909. Serial No. 518,751.



A wrench comprising a shank, a fixed jaw, a sliding jaw provided with a longitudinal transverse slot opening through both sides and the rear end of said jaw, and a laterally swinging adjusting lever movable to a position parallel with the shank and having a cam head pivoted in said slot, said cam head consisting of a disk having a central transverse cavity and ribs at opposite sides thereof, said ribs forming cam faces to bind against the shank.

972,605. LOCKING DEVICE FOR AUTOMOBILE STEERING-WHEELS. DAVID J. ELLIOTT and WILLIAM W. REILLY, Monte Vista, Colo. Filed June 28, 1910. Serial No. 569,348.



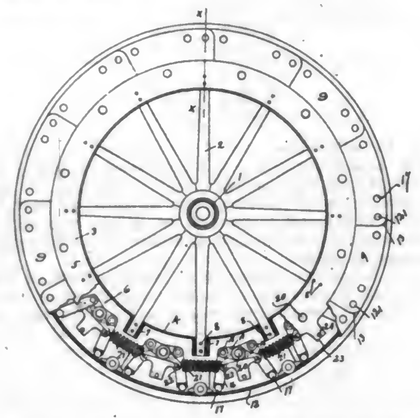
1. A steering device for vehicles comprising relatively-rotatable elements, one of the elements having spaced recesses, a bolt mounted to move longitudinally of the other element and to enter either of the said recesses, a spring for holding the bolt released, means for moving the bolt to locking position, an automatic device for holding the bolt in locked position, and a key for releasing the said device from the bolt.

2. The combination of a steering column, a rotatable shaft mounted therein, means for turning the shaft, a flange arranged on the shaft and set into the column, said flange having recesses, a bolt mounted on the column and arranged to enter the said recesses, and a key-released leaf spring in the column disposed alongside of the bolt to form locking means for the latter.

3. The combination of a steering column having an enlarged upper end, a shaft provided with an annular flange housed in the upper end of the column, a dust ring fastened to the shaft and covering the upper end of the column, a locking bolt mounted on the column and arranged to engage the said flange to prevent turning of the shaft, means for normally holding the bolt in unlocked position, and a key-released catch adapted to set automatically when the bolt is moved to locking position.

4. The combination of a steering column, a shaft mounted therein, a locking bolt mounted on one of the said parts, means on the other part with which the bolt engages, a casing in which the bolt is housed, a knob connected with the bolt and extending out of the casing, means for normally holding the bolt in unlocked position, and means for automatically engaging the bolt when moved to locked position for holding the same, said casing having an opening for receiving a key to release the last-mentioned means.

972,606. VEHICLE-WHEEL. AXEL E. ELLIS, Boston, Mass., assignor to Steel Cushion Tire Company, Boston, Mass., a Corporation of Arizona. Filed Oct. 5, 1908. Serial No. 456,157.



1. A wheel comprising a rim portion and a tire portion, the tire portion comprising a plurality of segmental sections jointed to each other and radially movable with relation to the rim portion, and a compression resistance mechanism interposed between the rim and tire portions, comprising levers pivoted to the rim portion each having one end operatively connected to one of the segmental sections, and springs interposed between and connected at their opposite ends to the levers of adjacent segmental sections, substantially as described.

2. A wheel comprising a rim portion and a tire portion, the tire portion comprising a plurality of segmental sections hinged together at their meeting ends, pairs of crossed levers pivoted to the rim portion, thrust links pivotally connected to one end of each of the crossed levers and having a rocking engagement with the segmental sections, each pair of levers being independently connected by means of their thrust links to a segmental section of the tire portion, and springs interposed between adjacent pairs of crossed levers and connected at either end to the free end of one of the adjacent pairs of levers, substantially as described.

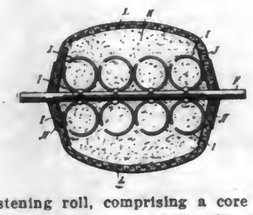
3. A wheel comprising a rim portion and a tire portion, the tire portion comprising a plurality of segmental sections hinged together at their meeting ends and radially movable with relation to the rim portion, a plurality of pairs of crossed levers pivotally mounted upon the rim portion and one end of each lever being operatively connected to one of the segmental sections of the rim portion, and springs connected at either end to the opposite end of one of the levers of adjacent pairs of levers, substantially as described.

4. A wheel comprising a rim portion having continuous circular side flanges and a base plate, the whole united to form a substantially trough shaped rim, a tire portion comprising a plurality of segmental sections having side flanges and tread plates, the side flanges of the segmental sections having a sliding engagement with the side flanges of the rim portion, pairs of levers pivotally mounted in the rim portion, thrust links pivotally connected to the levers and having a rocking engagement with the segmental tire sections and springs connecting the ends of adjacent levers, substantially as described.

5. A wheel comprising a rim portion and a tire portion, the tire portion comprising a plurality of segmental sections having overlapping side flanges pivoted together to form a continuous articulated tire portion, sleeves mounted upon the pivots of the segmental sections, wings on the sleeves adapted to engage the inner faces of the tread plates of the segmental sections, and a yielding compression resistance mechanism interposed between the rim and tire portions, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

972,607. MOISTENING-ROLL. ALBERT FACHS, New York, N. Y. Filed Jan. 19, 1910. Serial No. 538,903.



1. A moistening roll, comprising a core having wings and end flanges forming compartments, sponges placed in the said compartments, and a covering for inclosing the sponges.

2. A moistening roll core, comprising a shaft, wings on the said shaft, end flanges on the shaft and forming with the said wings compartments, and absorbing material in each of the said compartments.

3. A moistening roll core, comprising a shaft, wings extending radially on the said shaft and formed of split rings, one alongside the other, end flanges on the said shaft to form with the said wings compartments, and an absorbing material in each of the said compartments.

4. A moistening roll core, provided with a shaft, wings on the said shaft and yielding in a vertical direction relative to the said shaft, and absorbing material between the said wings.

5. A moistening roll, comprising a shaft, wings extending radially on the said shaft and formed of split rings arranged one alongside the other, conical end flanges at the ends of the ssid wings, an absorbing material filling the spaces between the end flanges and wings, the absorbing material extending beyond the outer edges of the wings, and a covering inclosing the said absorbing material.

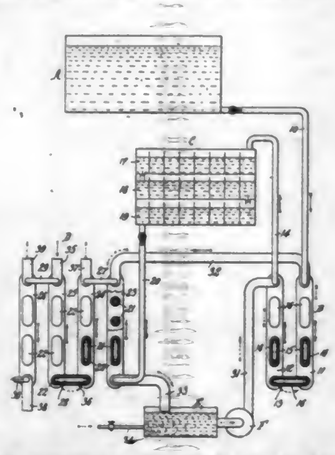
972,608. APPARATUS FOR PASTEURIZING MILK. HARVEY FELDMEIER, Little Falls, N. Y., assignor to D. H. Burrell & Company, Little Falls, N. Y. Filed Jan. 28, 1910. Serial No. 540,677.

1. A pasteurizing apparatus comprising an endless regenerative system in which a temperature-changing fluid acts upon the liquid to be pasteurized alternately as a heating and a cooling medium, said fluid being hotter than the incoming cold liquid and serving to heat the same and becoming cooled thereby, and said cooled fluid being then cooler than the outgoing hot liquid and serving to cool the same and becoming heated thereby, and said system being provided with means for supplying additional heat to the temperature-changing fluid before the latter acts upon the liquid to be heated, substantially as set forth.

2. The combination of a heater for the liquid to be pasteurized, a cooler for the heated liquid, an endless regenerative circulating passage for a temperature-changing fluid, which passage includes said heater and said cooler

and in which said fluid circulates, and means for supplying additional heat to said fluid after leaving said cooler and before entering said heater, substantially as set forth.

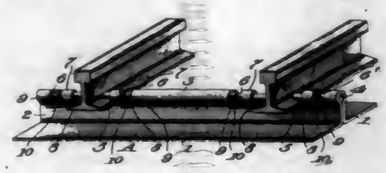
3. The combination of a heater for the liquid to be pasteurized, a cooler for the heated liquid, a holder for the heated liquid interposed between the heater and cooler, an endless regenerative circulating passage for a temperature-changing fluid, which passage includes said heater and cooler, and means for supplying additional heat to said fluid before entering said heater, substantially as set forth.



4. The combination of a heater for the liquid to be pasteurized, a cooler for the heated liquid, a holder for the heated liquid interposed between the heater and the cooler, an endless regenerative circulating passage for a temperature-changing fluid, which passage includes said heater and said cooler in which said fluid circulates, and means for supplying additional heat to said fluid before entering said heater, substantially as set forth.

5. An apparatus for pasteurizing a liquid comprising a regenerative system in which a temperature-changing fluid which is colder than the hot liquid acts upon the outgoing hot liquid to cool the same and becomes heated thereby and in which the fluid thus heated serves to heat the incoming cold liquid, and means for increasing the temperature of the fluid thus partially heated to a temperature higher than that of the hot liquid, substantially as set forth.

972,609. RAILWAY-TIE. LOUIS S. FLATAU, St. Louis, Mo., assignor to Rabok Manufacturing Co., St. Louis, Mo. Filed Sept. 12, 1908. Serial No. 452,702.

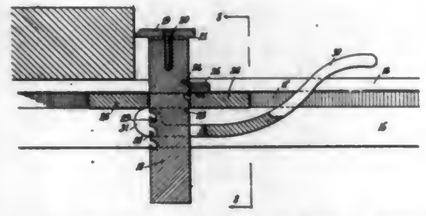


1. A railway tie comprising a body having a channel therein, seats on the body for the rails, threaded bolts in the channel adapted to engage the flanges of the rails, and nuts engaging the threads of the bolts for moving the bolts into and out of engagement with the flanges of the rails.

2. A railway tie made from a single piece of material folded to form a web and flanges, the web of the rail having a channel formed at the crown of the web, the crown of the web being bent outwardly on each side thereof forming a recess and seats for the rails, bolts in the channel for holding the rails in place, and means for locking the bolts.

3. A railway tie made from a single piece of material folded to form a web and flanges, the web of the rail having a channel formed at the crown of the web, the crown of the web being bent outwardly on each side thereof forming a recess and seats for the rails, bolts in the channel for holding the rails in place, nuts on the bolts for operating the same in their locked and unlocked positions, and means for locking the nuts against movement.

972,610. ADJUSTABLE BENCH-DOG. JOSEPH FLETCHER, Brick School, N. C. Filed Dec. 31, 1909. Serial No. 535,752.



1. An adjustable bench dog comprising a clamping-block, a post having a bit, a pivot-block carried by the clamping-block and having a pivot supporting the post adjacent to one edge thereof, and an operating lever fulcrumed on the post adjacent to the opposite edge thereof and having a cam arranged to engage the under side of the clamping-block.

2. A bench dog comprising a clamping-block, a post supported on the clamping-block and extending therethrough and having a bit secured to its upper end, and an operating-lever fulcrumed on the post and having a cam bearing on the under side of the clamping-block.

3. A bench dog comprising a clamping-block, a post arranged at approximately right-angles to the clamping block and having a bit secured to its upper end, a pivot for the post adjacent to one edge thereof, supported on and above the clamping-block, an operating lever having a pivot arranged below the clamping-block and carried by the post adjacent to its opposite edge, and a cam in connection with the operating lever, arranged to bear on the under side of the clamping-block.

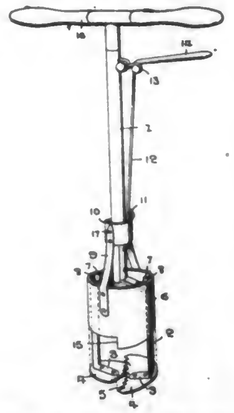
4. A bench dog comprising a clamping-block, a post extending through the clamping-block, having a bit secured to the upper portion thereof and provided with pivot notches in its opposite edges, a support carried by the clamping-block, having a pivot arranged thereabove adapted to engage in any one of the notches at one edge of the post, a clamping lever having a fork to receive the post, cams carried by the fork, and a pivot-pin extending between the cams and adapted to be engaged in any one of the notches at the opposite edge of the post and bring the cams to bear against the under side of the clamping-block.

5. The combination of a work bench having a slot extending therethrough, a clamping-block slidably supported in the slot, a post in connection with the clamping-block and extending through the slot, having a bit at the upper end thereof, and an operating lever fulcrumed to the post and having a cam arranged to engage the under side of the clamping-block, with the handle of the lever extending through the slot above the top of the bench.

[Claims 6 to 9 not printed in the Gazette.]

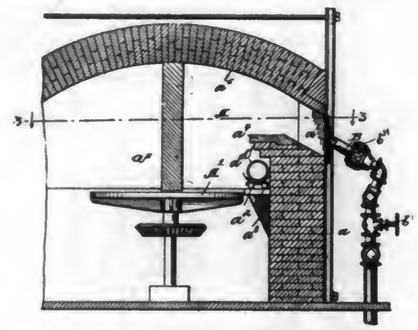
972,611. AUGER. JOHN FRAHLICH, Arlington, Ky. Filed July 20, 1909. Serial No. 508,575.

1. In a digger, the combination with a handle, depending shanks on said handle and oppositely inclined cutting blades carried by said shanks; of a shield surrounding said shanks and adapted to rest on said blades when in its lowered position, said shield having offsets for the reception of said blades, a collar surrounding said handle, arms connecting said collar and shield, a lever pivoted to said handle and a rod connecting said lever and collar whereby when the lever is raised and lowered, the shield will be correspondingly raised and lowered.



2. In a digger of the class described, the combination with a handle having depending shanks thereon and segmental cutting blades carried by the lower portions of said shanks, said blades being oppositely inclined and provided with teeth on the cutting edges thereof; of a tubular shield surrounding and slidably mounted on said shanks, said shield being provided with offsets on the lower portion thereof for the reception of said cutting blades, and means to raise and lower said shield when desired.

972,612. FLATTENING-OVEN. ROBERT L. FRINK, Cleveland, and WILLIAM R. CAMPBELL, Lancaster, Ohio. Filed Sept. 17, 1908. Serial No. 453,411.



1. In a furnace of the character described, the combination of a furnace chamber, a plurality of fuel supply devices discharging directly into said chamber, a shade adjacent and below the line of fuel discharge and a support for the articles to be heated, the said support being so located with relation to the shade that the article thereon will be protected by said shade from contact with the entering flame or fuel.

2. In a furnace of the character described, the combination of a furnace chamber, a series of burners ranged horizontally along one wall of said chamber and discharging into the upper portion of the same, and means located adjacent to and parallel with the wall having the burner openings therein, and below the plane of the fuel discharge for supporting the article to be heated.

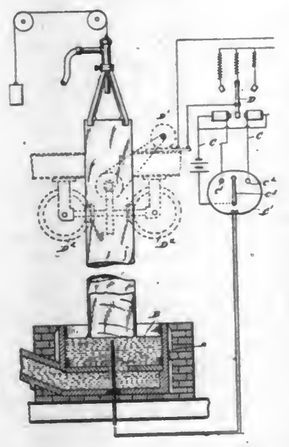
3. In a furnace of the character described, the combination of a furnace chamber, a series of burners ranged horizontally along one wall of said chamber and discharging into the upper portion of the same each burner having independent means for controlling combustion and means located adjacent to and parallel with the wall having the burner openings thereon, and below the plane of the fuel discharge for supporting the article to be heated.

4. In a furnace the combination of a furnace chamber, a series of burners ranged horizontally along one wall of said chamber and discharging into the latter, each burner being adjustable about a horizontal axis parallel with such wall, and each also having independent means for controlling combustion, and means located adjacent to and parallel with the wall having the burner openings therein, and below the plane of the fuel discharge, for supporting the article to be heated.

5. In a glass flattening furnace, the combination with a furnace chamber having a wall provided with a shade stone, and with cylinder supporting means below and in the vertical plane of said stone, such wall being further provided with openings located in a plane above the shade stone, of a series of burners disposed in conjunction with said openings and adapted to discharge heating blasts through the same.

[Claims 6 to 9 not printed in the Gazette.]

972,613. METHOD OF AND APPARATUS FOR DRAWING GLASS. ROBERT L. FRINK, Cleveland, Ohio. Filed Nov. 9, 1908. Serial No. 461,838.



1. The method of drawing glass articles from a bath of molten glass, which consists in regulating the speed of drawing to correspond with changes in the temperature of such bath, substantially as described.

2. The method of drawing glass, which consists in automatically regulating the speed of drawing to correspond with changes in temperature of such bath, substantially as described.

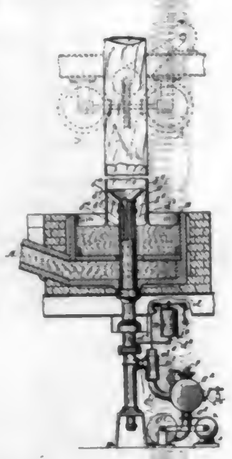
3. The method of drawing glass articles from a bath of molten glass, which consists in raising the bait, and automatically regulating the speed at which said bait is raised to correspond with changes in temperature of such bath, substantially as described.

4. In apparatus for drawing glass, a drawing pot or receptacle, mechanism coöperative with said receptacle to draw an article from a bath of molten glass therein, and means for regulating the rate of operation of said mechanism, said means including a thermo-sensitive device located in said receptacle, whereby such rate of operation is correlated with the temperature of such bath.

5. In apparatus for drawing glass, a drawing pot or receptacle, mechanism coöperative with said receptacle to draw an article from a bath of molten glass therein, and means for regulating the rate of operation of said mechanism, said means including an expansive fluid thermometer located in said receptacle, whereby such rate of operation is varied to correspond with variations in the temperature of such bath.

[Claims 6 to 9 not printed in the Gazette.]

972,614. REGULATION OF AIR-SUPPLY IN DRAWING GLASS CYLINDERS. ROBERT L. FRINK, Cleveland, Ohio. Filed Nov. 27, 1908. Serial No. 464,654.



1. The method of producing hollow glass articles, which consists in drawing a cylinder from a bath of molten glass, causing a flow of pressure fluid to said cylinder and utilizing pressure within the cylinder independently of the pressure supply to the cylinder for regulating said pressure supply.

2. In apparatus for drawing glass a receptacle for the molten glass, mechanism for drawing the cylinder, means for effecting a flow of pressure fluid to the interior of the cylinder, and means having independent communication with the interior of said cylinder and actuated by variations in pressure therein for controlling the air supply.

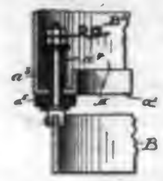
3. In apparatus for drawing glass, a receptacle for the molten glass, mechanism for drawing the cylinder, means for supplying fluid pressure to the interior of such cylinder, and manometric means having independent communication with the interior of the cylinder whereby it will be operated by changes of pressure within the cylinder for controlling the fluid pressure supply.

4. In apparatus for drawing glass, a drawing pot or receptacle mechanism coöperative with said receptacle to draw a cylinder from molten glass therein, means for supplying fluid pressure to the interior of such cylinder, a valve controlling such supply and a manometer adapted to operate said valve, said manometer having independent pipe connection with the interior of said cylinder so as to be operated by changes of pressures within the latter.

5. In apparatus for drawing glass, a drawing pot or receptacle, mechanism coöperative with said receptacle to draw a cylinder from molten glass therein, a head around which such cylinder is drawn, an air supply pipe in connection with said head opening into the portion of said cylinder between said head and the bath, a manometer and a second pipe opening into such cylinder portion and connected with said manometer.

[Claims 6 to 11 not printed in the Gazette.]

972,615. BAIT FOR DRAWING GLASS. ROBERT L. FRINK, Lancaster, Ohio. Filed May 20, 1909. Serial No. 497,274.



1. A bait for drawing glass comprising a suitable support, a bait member flexibly borne by said support, said member being adapted to come in direct contact with the glass, and connections for passing a heating electric current through said member.

2. A bait for drawing glass comprising a suitable support, a metallic member flexibly borne by said support, said member being electrically insulated from said support, and a connection for passing a heating electric current through the bait member.

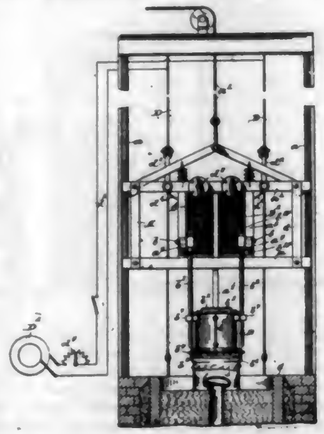
3. A bait for drawing glass, comprising a suitable support, a metallic band secured at separated points along one edge to said support, and connections for passing a heating electric current through said band.

4. A bait for drawing glass, comprising a suitable support, an attenuated metallic band secured at separated points along one edge to said support, whereby the intermediate portions of said band are left free to move relatively to each other and to said support, and connections for passing a heating electric current through said band.

5. A bait for drawing glass cylinders, comprising a suitable support, a discontinuous metallic band of general circular form secured at separated points along one edge to said support, and connections for passing a heating electric current through said band.

[Claims 6 to 29 not printed in the Gazette.]

972,616. METHOD OF DRAWING GLASS. ROBERT L. FRINK and FRED J. FRINK, Lancaster, Ohio. Filed Mar. 18, 1910. Serial No. 550,133.



1. The herein described method of drawing glass consisting in lowering a bait member into and raising it from a bath of molten glass, and maintaining the glass in immediate contact with said bait member, as the latter is raised, by passing a heating electrical current therethrough.

2. The method of drawing glass, which consists in lowering into and raising from a bath of molten glass a bait member having a co-efficient of expansion different from that of glass, and artificially maintaining the temperature of said member within the glass at a point such that the glass in contact therewith is kept from setting and thus enabled to accommodate itself without rupture to any relative displacement of said member incident to a change in their temperature, substantially as described.

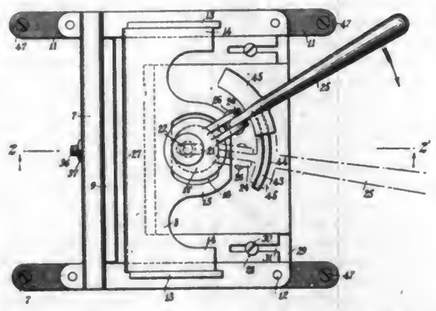
3. The method of making glass cylinders, which consists in lowering into and raising from a bath of molten glass a circular metallic bait member having a co-efficient of expansion different from that of glass, and passing a heating electric current through said member, said current being regulated to maintain the temperature of said member at such a point that the glass in contact therewith is kept from setting and thus enabled to accommodate itself without rupture to any relative displacement of said member incident to a change in their temperature, and then interrupting such current whereby such rupture is permitted and the glass cylinder thus severed from the bait, substantially as described.

4. The method of making glass cylinders, which consists in lowering into a bath of molten glass a bait member having a co-efficient of expansion different from that of glass; raising said bait member from such bath with the novel clinging thereto and proceeding with the draw; and artificially heating said member during all of such draw save the initial stage of forming of the novel, substantially as described.

5. The method of making glass cylinders, which consists in lowering into a bath of molten glass a bait member having a co-efficient of expansion different from that of glass; raising said bait member from such bath with the novel clinging thereto and proceeding with the draw; and passing a heating electric current through said member when the glass in such novel has cooled to approximately the second point of tension, said current being regulated to maintain the temperature of said member at a point such that said novel is kept from setting and thus enabled to accommodate itself without rupture to any relative displacement of said member incident to a change in the latter's temperature and that of such novel, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

972,617. BOOKBINDER'S GLUING-PRESS. JULIUS GIESECKE, BEN F. NEBERGALL and GEORGE F. OHEIM, New Braunfels, Tex. Filed Apr. 30, 1910. Serial No. 558,645.



1. A bookbinder's gluing press, comprising a bed-plate having a transverse slot formed therein; a stationary jaw formed on said bed plate beside said slot, said jaw extending above the upper surface of said bed-plate; a movable jaw plate mounted on said bed plate in guided relation therewith and arranged to move toward and away from said stationary jaw; a vertically reciprocating vise disposed below said slot; a removable presser bar held between the jaws of said vise; means for reciprocating said movable jaw plate; and means for reciprocating said vise.

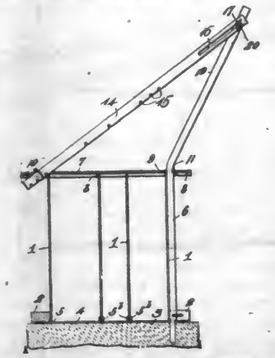
2. A bookbinder's gluing press, comprising a bed plate having a transverse slot formed therein; a stationary jaw formed on said bed plate beside said slot, said jaw extending above the upper surface of said bed plate; a movable jaw plate mounted on said bed plate in guided relation therewith and arranged to move toward and away from said stationary jaw; a presser bar disposed below said slot; means for reciprocating said movable jaw plate; and means for reciprocating said presser bar.

3. A bookbinder's gluing press, comprising a bed plate having a transverse slot; a stationary jaw formed thereon and extended above the surface of said bed plate; a movable jaw plate mounted on said bed plate in guided relation therewith; a reciprocating vise disposed in line with and below said transverse slot; a removable presser bar resting between the jaws of said vise; means for clamping said jaws upon said presser bar; a lever to lift said vise pivotally mounted in the supporting frame of said bed plate; a spring to raise the long end of said lever to depress said vise; and a reciprocating mechanism for said movable jaw plate.

4. A bookbinder's gluing press, comprising a bed plate having formed therein a transverse slot; a stationary jaw formed on said bed plate in juxtaposed relation to said slot; a movable jaw plate slidably mounted on said bed plate, said jaw plate having formed therein an elongated slot; a horizontal lever pivotally mounted on said bed plate and extended through said elongated slot, said lever having a cam formed thereon and disposed in said elongated slot to reciprocate the said movable jaw plate when and as the said lever is horizontally rotated; a vertically reciprocating vise disposed below said slot; a removable presser bar held between the jaws of said vise; and means for reciprocating said vise.

5. A bookbinder's gluing press, comprising a bed plate having a transverse slot formed therein; a stationary jaw formed on said bed plate beside said slot, said jaw extending above the upper surface of said bed plate; a movable jaw plate slidably mounted on said bed plate, said jaw plate having formed therein an elongated slot; a horizontal lever pivotally mounted on said bed plate and extended through said elongated slot, said lever having a cam formed thereon and disposed in said elongated slot to reciprocate the said movable jaw plate when and as the said lever is horizontally rotated; a vertically reciprocating vise disposed below said slot; a removable presser-bar held between the jaws of said vise; a vertically reciprocating lever for raising and lowering the said vise; a supporting plate slidably mounted on said bed plate to extend across the said transverse slot to form a stationary rest and guide for the cover of the book to be glued; and means for holding the said plate in fixed adjusted position.

972,618. PLUMBING APPARATUS FOR CONCRETE-WALL MOLDS. ANTHONY HAAG, New York, N. Y. Filed Dec. 6, 1909. Serial No. 531,620.



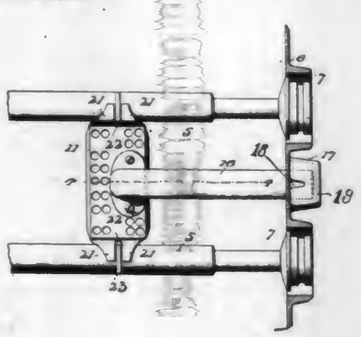
1. In an apparatus of the character described, a plurality of mold plates or forms, a spacing bar, said bar having formed therein a series of vertical and horizontal

disposed notches, said vertical notches being adapted to be engaged with the upper edges of the plates or forms, a plumbing standard adapted to be engaged with the horizontal notches in said bar, and having a diagonal offset end, a notched spacing and plumbing bar adapted to be engaged with the upper edges of the upper tiers of plates or forms, and means whereby one end of said bar is adjustably secured to the offset end of said plumbing standard, whereby the upper tiers of plates are held in perpendicular position or at any desired angle.

2. In an apparatus of the character described, a plurality of mold plates or forms, footing strips adapted to be engaged by the lower edges of said plates, spacing bars adapted to hold said plates in proper position, a series of tie bars having apertured outer ends and adapted to be engaged with the upper edges of one tier of mold plates, means on said bars to hold the lower edges of the next adjacent tier of mold plates, a series of plumbing standards having vertical lower portions and obliquely disposed upper portions, said vertical portions being engaged and held in position by the apertured portions of one end of said tie bars, spacing and plumbing bars having formed therein a series of notches to engage and hold the upper edges of the upper series of mold plates in position, a slotted extension formed on one end of said spacing and plumbing bar, a clamping nut arranged in the obliquely disposed upper end of said plumbing standard and engaged with the notch in the extension of said plumbing bar, and a thumb screw on said bolt to hold said plumbing bar in its adjusted position to support the upper series of mold plates in a perpendicular position or at any desired angle.

3. In an apparatus of the character described, a plurality of mold plates or forms, a series of spacing bars, said bars being T-shaped in cross-section and having formed in their side edges a series of horizontal notches, a cross bar or head arranged on one end of said spacing bars, whereby when the vertical notched portion of the bars is engaged with the upper edges in said mold plates, said cross-head will engage the upper edge of the outer plates of one side of the mold, and thereby hold said plates against bulging while the forms are being filled with concrete, plumbing standards each having a diagonal offset end and adapted to be engaged with the horizontally notched portions of the opposite ends of said bars, and a series of notched plumbing and spacing bars adapted to coact with the offset end of said plumbing standards to hold the upper edges of the upper series of plates or forms in perpendicular position or at any desired angle.

972,619. LIGHTER FOR BURNERS OF GAS-STOVE OVENS. JOHN GRIFFITH HARVEY, Chicago, Ill., assignor to American Stove Company, St. Louis, Mo., a Corporation of New Jersey. Filed Feb. 2, 1909. Serial No. 475,682.



1. The combination with a gas stove of an inclosed burner, a lighter having a passage-way with one end in communication with and adapted to receive gas from some of the burner openings, the opposite end of the passage-way extending to and having a communication with the outside of the stove, the end of the passage-way adjacent the burner having its wall separated from the adjacent burner openings to permit the proper combustion of the gas escaping from said adjacent openings.

2. The combination in a gas stove of two separate and independent burners inclosed therein, a casing extending from one burner to the other, the casing having a passage-way with open ends adapted to receive gas from some of the openings of either or both burners, a tube having its inner end in communication with the said passage-way and its outer end extending to and having communication with the outside of the stove, the casing passage-way having a vertical partition or deflector located at a point intermediate the walls of the inner end of the said tube, whereby gas entering the passage-way from either burner is deflected upward to the said tube.

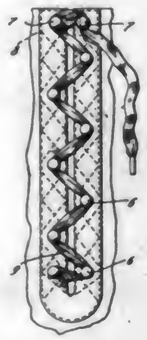
3. In a gas stove the combination of two inclosed separate and independent burners, a lighter comprising a casing extending from one burner to the other, the said casing having separate passage-ways, the ends of the passage-ways adapted to receive gas from some of the burner openings of either or both burners, a tube having its inner end in communication with one of the casing passage-ways and its opposite end extending to and having communication with the outside of the stove for the purpose described.

4. The combination in a gas stove of an inclosed burner, the wall of the stove having a chamber, the wall of the chamber having an outside opening, and a lighter having a passage-way the inner end of which is adapted to receive gas from some of the burner openings, the opposite end of the passage-way extending to and in communication with the said chamber.

5. The combination in a gas stove of an inclosed burner, the outer wall of the stove having a chamber projecting outwardly, the wall of the chamber having an outside opening, a lighter having a passage-way with its inner end adapted to receive gas from some of the openings of the burner and its outer end projecting into the said chamber to a point beyond the said chamber opening for the purpose described.

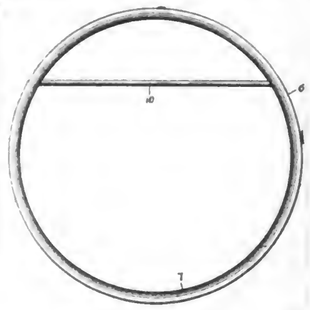
[Claim 6 not printed in the Gazette.]

972,620. FASTENING MEANS FOR LACES. JAMES HENNESSEY, Marion, Ind. Filed Dec. 13, 1909. Serial No. 532,887.



The combination with a flap of a lip coöperating therewith, a plurality of fastening means for laces, each fastening means comprising a diamond formed base plate having an upwardly extending shank formed on said base plate, a head formed on said shank and a circular lug located adjacent to said base plate, said base plate adjapted to be engaged between the flap and the lip, said lip being retained by said lug, and the lip being cross stitched to the flap between each fastening means.

972,621. ICE-CREAM CUTTER. WILLIAM A. HUTCHISON, Buchanan, Mich. Filed Jan. 24, 1910. Serial No. 539,830.



A device of the character described comprising a one-piece thin metallic band formed to fit within the upper edge of a can entirely therearound, and having a projecting rim at its upper edge and an internal rib below said rim resulting in an outer recess, and provided with opposite openings through said rib alined across the same at one side of its point of greatest diameter, and a cross wire extending through said openings and having bent outer ends lying within said recess toward the point of greatest diameter of said can.

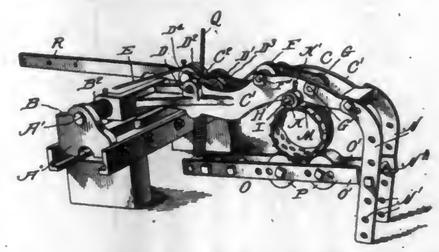
972,622. STEREOTELESCOPE. HEINRICH JACOB, Friedenau, near Berlin, Germany, assignor to The Firm of Optische Anstalt C. P. Goerz Aktiengesellschaft, Friedenau, near Berlin, Germany. Filed July 24, 1906. Serial No. 327,573.



1. A stereo-telescope comprising two telescope-members which are adapted to be folded together, each of which includes an objective system and an ocular system out of alinement with one another, and is provided with a system of reversing prisms, one element of which is formed by a right-angled triangular prism, each system having two surfaces forming a di-hedron, forming a reflecting surface before the ocular, the edge of which is intersected by the ocular axis and two further reflecting surfaces one of which is formed by the hypotenuse surface of said right-angled triangular prism which is that surface first met by the rays entering the instrument and so arranged that the rays are reflected by same in a direction perpendicular to the joint and ocular axis, whereas the second surface which reflects the rays meeting it to said di-hedron forming surfaces is inclined to the direction of vision and positioned in close proximity to the dihedral surfaces.

2. A stereo-telescope comprising two telescope-members which are adapted to be folded together, each of which includes an objective system and an ocular system not in alinement with one another, and is provided with a system of reversing prisms, each system comprising a right-angled triangular prism and a rectangular penta-hedral prism, the prisms arranged in such a manner that the hypotenuse surface of the triangular prism receives the rays on entering the instrument and reflects same in a direction perpendicular to the joint and ocular axis to the penta-hedral prism, the latter being so positioned and constructed that one of the surfaces including the right angle is directed toward the triangular prism and the other toward the ocular, whereas the silver-coated reflecting surface of the prism is arranged opposite the first named surface with such inclination with relation to same and to the edge of the dihedral surfaces that the angle between the incident and the reflected ray made by the axial ray where it impinges on the silver-coated surface of the penta-hedral prism is larger than the angle between incident and reflected ray made by said ray where it impinges on the ocular axis intersecting edge of the di-hedron.

972,623. WIRE-WINDING MACHINE. JOHN N. JOHNSON, Houston, Tex., assignor to Mahon E. Layne, Houston, Tex. Filed Feb. 18, 1908. Serial No. 416,603.



1. In a wire winding machine, a carriage and a frame mounted upon the carriage, said frame being provided with means for guiding the wire to a body, and with a cutter for grooving the body in advance of the winding of the wire.

2. In a wire winding machine, a carriage, a frame carried by the carriage for supporting a body, and means for guiding the wire to the body, together with a cutter for grooving the article in advance of the winding of the wire.

3. In a wire winding machine, a carriage provided with a support for a body, and means for guiding the wire to the body, together with means for cutting a groove in the body simultaneously with the winding of the wire.

4. In a wire winding machine, a carriage, a frame carried by the carriage for supporting a body, means for adjusting the tension of said supporting frame, together with means for guiding the wire to the body.

5. In a wire winding machine, a carriage, and a frame pivotally mounted upon the carriage and provided with means for guiding a wire to the body, means for supporting the body, together with a cutter for grooving the body in advance of the winding of the wire.

[Claims 6 to 19 not printed in the Gazette.]

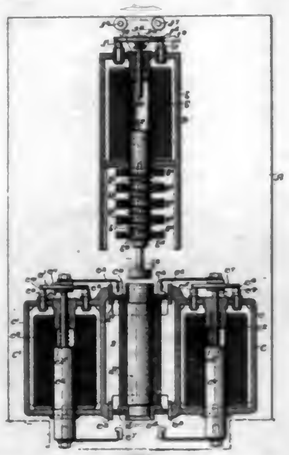
972,624. LEAD-PENCIL. CHARLES KAISER, Brooklyn, N. Y., assignor to Eagle Pencil Company, New York, N. Y. Filed July 5, 1910. Serial No. 570,347.



1. A lead pencil the wooden sheath of which consists of two sections each composed of a continuous outer backing and a veneer facing glued to, and having a longitudinal substantially central tongue and groove connection with, the outer backing, the veneer faces of the two sections being glued together and having formed in them the groove which receives and holds the lead.

2. A lead pencil the wooden sheath of which consists of two sections each composed of a continuous outer backing, and a veneer facing composed of a plurality of comparatively narrow cross strips, placed together edge to edge, glued to, and having a longitudinal substantially central tongue and groove connection with, the outer backing, the thus-formed veneer faces of the two sections being glued together and having formed in them the groove which receives and holds the lead.

972,625. MOTOR-CONTROLLING APPARATUS. SAMUEL H. KEEFER, Plainfield, N. J. Filed July 23, 1909. Serial No. 509,223.



1. A motor controlling apparatus consisting of a solenoid having a core, a series of contacts carried by said core and normally out of engagement with each other while capable of engaging when the solenoid is energized, a body of resistance, and means for connecting said contacts to different points of said resistance.

2. A motor controlling apparatus consisting of a movable core, electro-magnetic means for actuating said core, a series of contacts carried by the core and capable of being successively brought into engagement with each other when the core is moved, a body of resistance, and means for connecting various points of said resistance to said contacts.

3. A motor controlling device consisting of a core, a number of pairs of contacts carried by said core and normally out of engagement with each other, electro-magnetic means for actuating the core to successively bring the contacts of each pair into engagement with each other, a body of resistance, and means for connecting said contacts thereto.

4. The combination of a core, a series of rings thereon, springs yieldingly separating said rings, a body of resistance, flexible conductors connecting said rings with said resistance, and electro-magnetic means for moving the core to cause certain of said rings to successively engage each other.

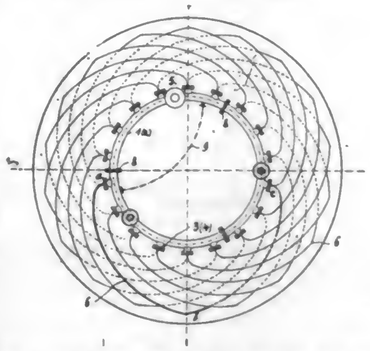
5. A motor controlling device consisting of a supporting structure, a plurality of contacts mounted thereon, a body of resistance, conductors connecting said resistance to said contacts, springs interposed between successive contacts, and means for moving the contacts to cause certain of them to successively engage each other.

[Claims 6 to 21 not printed in the Gazette.]

972,626. HEAT-EXCHANGING DEVICE. MICHAEL KAUPOVESS, St. Petersburg, Russia. Filed July 30, 1909. Serial No. 510,473.

1. In a heat exchanging device, a pair of superposed annular chambers, in combination with a series of thin-walled, outwardly bent tubes connected with their ends to the outer walls of said annular chambers, communicating with said chambers and extending outwardly at their intermediate portions, means for feeding fluid to the one annular chamber, and means for discharging the same from the other annular chamber.

2. In a heat-exchanging device, a pair of superposed annular chambers, in combination with a series of thin walled tubes, each connected at its ends to the two outer walls of the annular chambers, communicating with said chambers and extending outwardly therefrom at their intermediate portions, and a second series of thin-walled tubes each connected at its ends to the inner walls of the annular chambers, communicating with said chambers and extending inwardly therefrom, means for feeding fluid to one annular chamber, and means for discharging the same from the other chamber.



3. In a heat-exchanging device, a pair of superposed annular bodies composed of sections separated by transverse partitions, in combination with a series of thin-walled tubes connecting said annular bodies and communicating therewith, means for separately feeding fluid to each section of one body, and means for discharging the same from the corresponding sections of the other body.

4. In a heat-exchanging device, an annular body composed of curved sections flanged at their ends, the flanges of adjoining sections being connected, in combination with partitions interposed between the adjoining flanges.

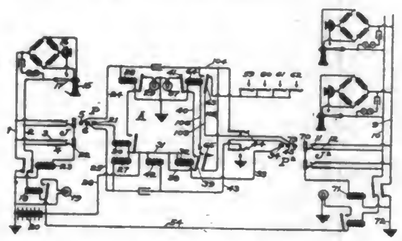
972,627. RATCHET-WRENCH. HARRY C. LAWSON, McGregor, Tex. Filed July 12, 1909. Serial No. 507,061.



In a ratchet wrench the combination with the shank thereof, of four plates attached to the shank extremity forming by their juncture a circular recess, a ratchet rotatably mounted in the circular recess and having tongue and groove connection between its sides and the adjacent plates, said ratchet being provided with a transverse slot extending centrally thereinto, having undercut grooves in its sides, a ratchet segment provided with tongues at each extremity adapting it to enter the slot of said ratchet to complete the circle thereof, means for securing said segment in a position such that its teeth are flush with the ratchet teeth, spring pawls secured to opposite plates forming the ratchet inclosure, and engaging the ratchet teeth, a spring pressed dog pivotally mounted in the shank extremity and engaging the ratchet teeth, and a pin slidably mounted in the shank extremity, adapted to enter a cavity in the ratchet face to lock the same against rotation.

972,628. CENTRAL TELEPHONE SYSTEM. ALBION D. T. LIBBY, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Filed May 28, 1909. Serial No. 498,912.

1. In a telephone system, the combination with telephone lines of a cord circuit for connecting two of said lines together, said cord circuit including a tip and a sleeve strand, a third conductor in said cord independent of the talking strands, a source of current, two supervisory relays in the answering end of said cord circuit, one of said relays connected through the tip side of the line and the second through said third conductor.



2. In a telephone system, the combination of a plurality of telephone lines extending from substations to a central office, circuit connections for connecting any two of said lines together for conversation, said circuit connections consisting of a tip and a sleeve conductor constituting the talking connections and a third conductor independent of the talking conductors, a supervisory signal in each end of said connections, circuits therefor, a relay in each end of said connections connected to the third conductor adapted to close the circuit of its supervisory signal when the circuit connections are connected to a telephone line, and other relays, one in each end of the circuit connections connected to the tip side thereof controlling the supervisory signals.

3. In a telephone system, the combination of a plurality of telephone lines extending from substations to an exchange, circuit connections for connecting said lines together for purposes of conversation, a conductor in said circuit connections independent of said conversation circuit, a signal in said circuit connections, a relay controlling the circuit thereof, a second relay located in said independent conductor controlling the circuit of said first named relay.

4. In a telephone system, a telephone line, a three-conductor cord circuit, one of the conductors being isolated from the other two, means normally detachably connecting said telephone lines and said third conductor, a supervisory signal, a supervisory relay, a second supervisory relay located in said third conductor and controlling said signal and said first named supervisory relay.

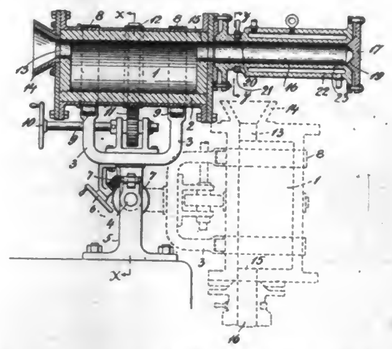
5. In a telephone system, the combination of a plurality of telephone lines, circuit connections for connecting said lines together for purposes of signaling and conversation, a source of signaling current in said circuit connections for signaling a called subscriber, means for connecting said source to a called line and a pair of supervisory relays in the circuit connections controlling said signal source connecting means, one of said relays connected in said circuit connections independently of said conversation circuit.

[Claims 6 to 8 not printed in the Gazette.]

972,629. METHOD OF AND APPARATUS FOR PRODUCING COATED METAL OBJECTS. JOHN F. MONNOT, New York, N. Y., assignor to Duplex Metals Company, New York, N. Y., a Corporation of New York. Filed July 2, 1909. Serial No. 505,699.

1. A method of producing coated metal objects, which comprises heating a metal article to be coated while it is submerged in a bath of fused protective material, transferring such heated object without exposure of it above the surface of such protective material, into a suitable mold, and casting molten metal into such mold and into contact with the surface of the said object, and permitting such molten metal to solidify against such surface.

2. A method of producing coated metal objects, which comprises heating a metal article to be coated while it is submerged in a bath of fused protective material, transferring such heated object without exposure of it above the surface of such protective material, into a suitable mold, and permitting fused protective material to surround such object in said mold, and casting molten metal into the mold through such fused protective material and causing the molten metal to displace such protective material from contact with the surface of said object, and permitting the molten metal to solidify against such surface.



3. A method of producing coated metal objects, which comprises heating a metal article to be coated while it is submerged in a bath of fused protective material, transferring such heated object without exposure of it above the surface of such protective material, into a suitable mold, and casting molten metal into such mold and into contact with the surface of the said object and quickly cooling the molten metal upon contact with said object, and permitting such molten metal to solidify against the surface of said object.

4. A method of producing coated metal objects, which comprises heating a metal article to be coated while it is submerged in a bath of fused protective material, transferring such heated object without exposure of it above the surface of such protective material, into a suitable mold, and permitting fused protective material to surround such object in said mold, and casting molten metal into the mold through such fused protective material and causing the molten metal to displace such protective material from contact with the surface of said object, and quickly cooling the molten metal upon contact with said object, and permitting the molten metal to solidify against the surface of said object.

5. A method of producing coated metal objects, which comprises heating an object to be coated within a furnace containing a pool of fused protective material in which pool such object is submerged, connecting to such furnace a mold and passing the object so heated, together with a portion of the fused protective material, into such mold, without materially exposing said object above the surface of the protective material, and then casting molten coating metal into the mold and causing it to displace molten protective material therein, and permitting the molten metal to solidify against the surface of said object.

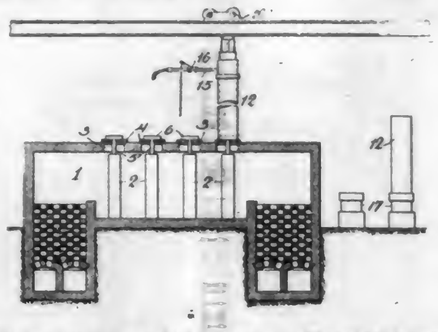
[Claims 6 to 20 not printed in the Gazette.]

972,630. PROCESS OF MAKING COMPOUND METAL BODIES. JOHN F. MONNOT, New York, N. Y., assignor to Duplex Metals Company, New York, N. Y., a Corporation of New York. Filed Feb. 18, 1907, Serial No. 358,007. Renewed May 5, 1910. Serial No. 559,483.

1. The herein described process of weld-uniting unlike metals, which comprises heating a body of one such metal to a high white heat far above the melting temperature of the other metal under circumstances giving a clean metallic surface to said body, immersing said body so heated in a molten mass of the other such metal and causing such molten mass to solidify thereon.

2. The herein described process of weld-uniting unlike

metals, which comprises heating a body of one such metal to a temperature above the supermolten temperature of the other metal under circumstances giving a clean metallic surface to said body, immersing said body so heated in a molten mass of the other such metal and causing such molten mass to solidify thereon.



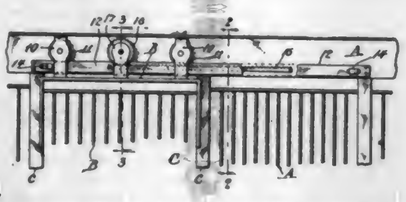
3. The herein described process of weld-uniting ferrous metals and non-ferrous metals having melting temperatures above 900 F., which comprises heating a body of ferrous metal to a high white heat far above the melting temperature of such non-ferrous metal under circumstances giving a clean metallic surface to said body, immersing said body so heated in a molten mass of such non-ferrous metal and causing such molten mass to solidify thereon.

4. The herein described process of weld-uniting ferrous metals and non-ferrous metals having melting temperatures above 900 F., which comprises heating a body of ferrous metal to a temperature above the supermolten temperature of such non-ferrous metal under circumstances giving a clean metallic surface to said body, immersing said body so heated in a molten mass of such non-ferrous metal and causing such molten mass to solidify thereon.

5. The herein described process of weld-uniting ferrous metals and cupriferous metals having melting temperatures above 900 F., which comprises heating a body of ferrous metal to a temperature above the supermolten temperature of such cupriferous metal under circumstances giving a clean metallic surface to said body, immersing said body so heated in a molten mass of such cupriferous metal and causing such molten mass to solidify thereon.

[Claims 6 to 9 not printed in the Gazette.]

972,631. AUTOMATIC DOOR-CLOSING DEVICE. EDWARD MCCLURE, Chicago, Ill., assignor of one-half to Franklin P. Smith, Chicago, Ill. Filed Mar. 29, 1909. Serial No. 486,343.



1. The combination with an inclosure having a doorway therein, a track carried by the inclosure, a door and door hangers secured to said door and having wheels traveling on the track and arranged to carry said door directly thereunder, of an independent, rotary toothed wheel which is bodily movable with the door, a stationarily supported rack bar meshing with said toothed wheel and operating to rotate the same whenever the door is moved toward its open position and a suitably supported coiled spring adapted to be wound up by the toothed wheel whenever the door is moved toward its open position, and operating to turn said toothed wheel back when the door is released.

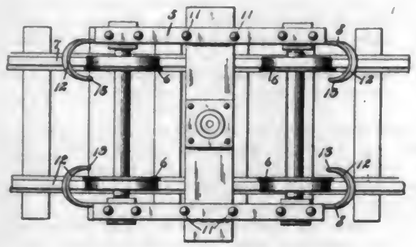
2. The combination with an inclosure having a doorway therein, a track carried by said inclosure, a door and door hangers including flanged wheels carrying said door and running upon said track, of an independent, stationary rack bar, a standard secured to the door, a toothed wheel rotatably mounted thereon and meshing with said rack bar and a coiled spring, the ends of which are connected to the standard and toothed wheel respectively and adapted to be wound up whenever the door is moved in one direction.

3. The combination of a suitably supported track, a door, hangers secured to the door, wheels journaled in said hangers to run upon said track whereby the door is adapted to travel directly thereunder, a stationary rack bar secured to the side of the track below the thread thereof, a standard independent of the door hanger and secured to the door, a coiled spring one end of which is connected with the standard, a toothed wheel meshing with the rack bar and journaled upon the standard, and a connection between the other end of the coiled spring and the toothed wheel.

4. The combination with a suitably supported track, of a door, door hangers including flanged wheels running on the track to carry the door directly thereunder, a stationary rack bar secured to the side of the track, an independent standard carried by the door, a housing on said standard, a coiled spring within said housing and having one end secured thereto, and a toothed wheel meshing with the rack bar and journaled upon the standard and connected with the other end of the coiled spring.

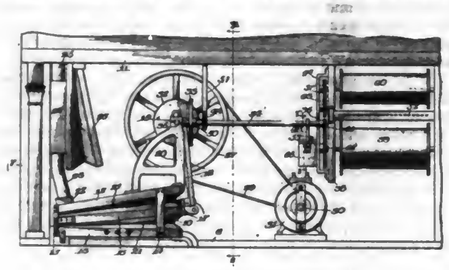
5. The combination with an inclosure having a doorway therein and a track supported by said inclosure, of a door movably mounted thereon to travel directly thereunder, a rack bar secured to the side of the track, an independent standard secured to the door, a housing thereon, a pivot pin projecting beyond the housing, a toothed wheel journaled upon said pin and meshing with the rack bar, and a coiled spring within said housing, the ends of which are respectively connected to the toothed wheel and housing and adapted to be wound up whenever the door is drawn toward its open position.

972,632. SAFETY-GUARD FOR RAILWAY-CARS. JOHN NELSON, JOHN B. NELSON, and GARDNER C. HANKS, New Orleans, La. Filed Nov. 19, 1908, Serial No. 463,466. Renewed Mar. 18, 1910. Serial No. 550,301.



The combination with a wheeled truck, of guards disposed at opposite sides of the truck, each guard comprising a strip of flat metal having a right angular extension at its upper edge secured to the truck, the opposite ends of the strip of metal being bent inwardly and rearwardly a slight distance beyond the wheel of the truck to form curved terminals disposed transversely of the treads of the wheel.

972,633. REWINDING AND SPEED-REGULATING MECHANISM FOR PNEUMATIC ACTIONS FOR PIANOS, &c. OSCAR NELSON, Chicago, Ill., assignor to J. P. Seeburg Piano Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 25, 1909. Serial No. 524,516.



1. In a mechanism of the class described, the combination with the power pneumatics, of a crank shaft journaled near the same, connections uniting the pneumatics and crank shaft, a pulley mounted on the crank shaft and having a disk at its central portion, music-sheet rollers journaled near each other, a gear on each of the shafts of said rollers, a pinion journaled near one of said gears, a winding shaft movably mounted at its end adjacent to the rollers and suitably supported at its other end near the crank shaft, a pinion on the winding shaft to engage one of the gears of one of the rollers and the first mentioned pinion, a friction disk mounted on the winding shaft in contact with the disk of the pulley, and means to rotate the pulley.

2. In a mechanism of the class described, the combination with the power pneumatics, a crank shaft journaled near the same, connections uniting the pneumatics and crank shaft, a wheel mounted on the crank shaft, music-sheet rollers journaled near each other, a gear on each of the shafts of said rollers, a pinion journaled near one of said gears, a winding shaft movably mounted at its end adjacent to the rollers and pivotally supported at its other end near the crank shaft, a pinion on the winding shaft adapted to engage one of the gears of one of the rollers and the first mentioned pinion, a friction disk adjustably mounted on the winding shaft in contact with the said wheel, and means to rotate the crank shaft.

3. In a mechanism of the class described, the combination with the power pneumatics, a crank shaft journaled near the same, connections uniting the pneumatics and crank shaft, a wheel mounted on the crank shaft, music-sheet rollers journaled near each other, a gear on each of the shafts of said rollers, a winding shaft movably mounted at its end adjacent to the rollers and pivotally supported at its other end near the crank shaft, a pinion on the winding shaft adapted to alternately engage gearing on the shafts of the rollers, a pneumatic mounted near the winding shaft, an arm pivotally secured at one of its ends to said pneumatic and engaging at its other end the winding shaft, a friction disk adjustably mounted on the winding shaft in contact with the said wheel, and means to rotate the crank shaft.

972,634. ELECTRICAL RELAY. CHARLES H. NORTH, Cleveland, Ohio, assignor to The North Electric Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 13, 1908. Serial No. 462,427.

1. A relay comprising an electromagnet, contact springs mounted upon the magnet structure, an armature lever pivotally supported at a point adjacent the mounting of the springs, an operative connection between the free end of the lever and the springs, and an armature connected to the lever and extending across an exposed pole of the electromagnet adjacent the pivotal support, whereby a small air gap and multiplied motion of the free end of the lever are secured.

2. In a relay, a magnetic core carrying a winding, a magnetic return bar extending parallel to the core, contact springs secured upon the return bar and extending along the same parallel with the magnet core, an armature lever pivotally mounted upon the return bar at a point adjacent to the spring mounting, and extending along the bar to a point adjacent the ends of the springs, and an operative connection between the lever and the springs.



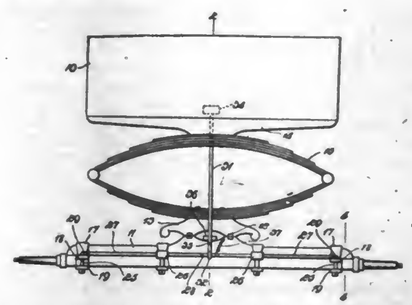
3. In a relay, an electromagnet, a return bar therefor, contact springs thereon, an armature lever of approximately the same length as the springs, mounted on the bar so as to extend in the same direction as the springs, and an operative connection between the ends of the bar and the springs.

4. In a relay, an electromagnet, a relatively short armature adjacent an exposed pole of the magnet, contact springs, and an extended armature lever for operating the same, said springs and lever having adjacent points of support and parallel motion in operation.

5. A relay comprising an iron return bar, a magnet core mounted upon the front end of the bar and extending rearwardly parallel to the same, contact springs and an armature lever mounted upon the rear end of the return bar and extending forwardly, a winding upon the core, and an operative connection between the forward ends of the lever and springs.

[Claims 6 to 12 not printed in the Gazette.]

972,635. HORSE-RELEASER. AMBROSE F. ODIEN and CHARLES DAYFIELD, Turner, Mich. Filed Jan. 12, 1910. Serial No. 537,662.

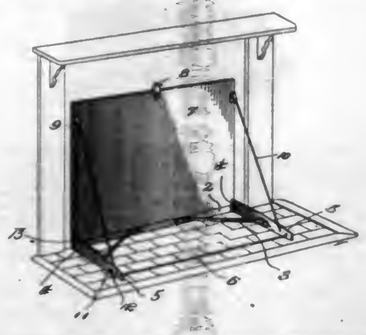


1. The combination with a vehicle including the body and the forward axle, of thill coupling devices connected to said axle, a rod mounted for oscillation upon said axle and provided with an offset, coupling means between said rod and said thill coupling devices, another rod swinging at one end to said offset and extending into the vehicle body, said rod having a lateral bend intermediate the ends thereof, and a stop carried by the axle and engaging said lateral bend.

2. The combination with a vehicle, of a pair of thill couplings each including a thill retaining member movable into and out of active position, mechanism connected with each thill retaining member for moving the latter into and out of active position, a spring connected with said mechanism and disposed to hold the latter with the thill retaining members normally and yieldably in inactive positions, a foot-operated bar connected with said mechanism for moving and holding the latter with the thill retaining members in active positions, said bar extending into the body of the vehicle and provided with an angular

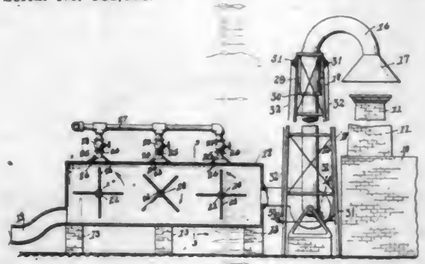
bend forming a catch member, and a keeper disposed to cooperate with the catch member to hold the bar with the thill retaining members in active positions and into and out of engagement with which keeper the catch member of the bar is movable.

972,636. FIRE-SCREEN. JAMES B. PAFFORD, Wray, Ga. Filed Oct. 23, 1909. Serial No. 524,202.



In a device for the purpose intended, a substantially U-shaped guard member, angular brace members connecting the arms and the body of the guard member, a longitudinally extending rod connecting the extremities of the arms, and a screen member, said screen member comprising a substantially rectangular plate provided with a handle and having its lower portion slit vertically and adapted to be inserted over the arms of the guard member, loosely connected rods upon the screen member adapted to be secured to the arms of the guard member, the guard member having its body portion provided with an eye, and the screen member having a hook adapted to engage the eye.

972,637. FUME-ARRESTER AND SMOKE-PURIFIER. WILLIAM F. PARSONS, Irvine, Ky. Filed May 18, 1910. Serial No. 562,086.



1. In an apparatus of the class described, an inclosed chamber having a plurality of apertures provided with foraminous closures, an agitator mounted for rotation in said chamber beneath each of said apertures in position to engage liquid flowing therethrough, means for causing induced air currents to pass into said chamber and against said agitators and means for causing said agitators to be rotated in opposite directions and against liquid flowing through said apertures.

2. In an apparatus of the class described, an inclosed chamber having a plurality of apertures spaced apart and provided with foraminous closures through which liquid is caused to flow, an agitator mounted for rotation in said chamber beneath each of said openings in position to engage with the liquid flowing therethrough, means for causing induced air currents to pass into said chamber and against said agitators, and means for rotating said agitators in opposite directions and against the liquid flowing from said apertures.

3. In an apparatus of the class described, a closed chamber having an air intake at one end and a water discharge at the opposite end, a plurality of spray devices in the upper side of said casing and discharging liquid downwardly therein, an agitator mounted for rotation within the chamber and beneath each of said spray devices, means for inducing air currents through said chamber, and means for rotating said agitators in opposite directions and against the liquid falling through the spray devices.

4. In an apparatus of the class described, the combination with a stack, of a closed chamber, a conductor leading at one end into said chamber, a hood located above said stack and having a downwardly directed tubular discharge telescopically engaging said conductor, means for adjusting said hood discharge upon said conductor, means for inducing air currents through said conductor and hood, a plurality of agitators mounted for rotation in said chamber, and means for spraying water in said chamber and against said agitators.

972,638. METAL-POLISH. FREDERICK N. PEASE and MILTON E. MCDONNELL, Altoona, Pa. Filed Dec. 3, 1909. Serial No. 531,267.



1. A metal polish comprising carnauba wax; stearic acid and an abrading material, substantially as described.

2. A metal polish comprising carnauba wax; stearic acid to which has been added ammonia, and an abrading material, substantially as described.

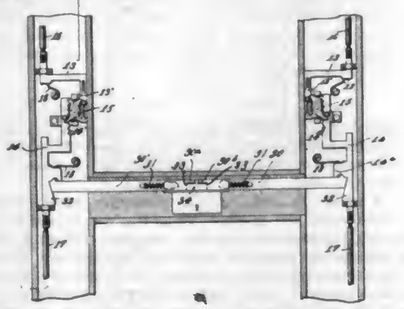
3. A metal polish comprising carnauba wax; stearic acid to which has been added ammonia; a mineral oil; and an abrading material, substantially as described.

4. A metal polish comprising carnauba wax; stearic acid to which has been added ammonia; a mineral oil; paraffin oil; and an abrading material, substantially as described.

5. A metal polish comprising carnauba wax one pound; stearic acid one pound; ammonia three fluid ounces; a mineral oil nine pints; paraffin oil nine pints; and twenty-nine pounds of an abrading material, substantially as described.

[Claim 6 not printed in the Gazette.]

972,639. AUTOMATIC DOOR. PIETRO S. PIANS, New Rochelle, N. Y. Filed Feb. 23, 1910. Serial No. 545,349.



1. In a door locking means, the combination with a door and its frame, of corresponding latch mechanisms at opposite edges of the door, means for independent operation of said latch mechanisms, a pair of plungers movable at right angles with respect to the latch mechanisms and operable thereby, and means movable between adjacent ends of said plungers to lock the latch mechanisms in a predetermined position.

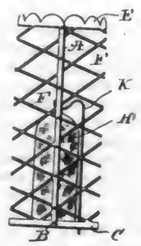
2. In door locking means, the combination with a door and its frame, of corresponding latch mechanisms at opposite edges of the door, means for independent operation of said latch mechanisms, a pair of plungers movable at right angles with respect to the latch mechanisms and operable thereby, and locking mechanisms including a bolt mounted adjacent to the adjacent ends of the plungers, said plungers having notches in said ends to receive the bolt to thereby prevent operation of the latch mechanisms.

3. In combination with a door and its frame, latch mechanisms mounted upon opposite edge portions of the door and including locking bolts arranged to be projected into engagement with the frame, means for actuating the latch mechanisms independently, a pair of sliding plungers disposed between the latch mechanisms, said latch mechanisms having cams arranged to engage the outer ends of said plungers to force the same together, and locking means for preventing movement of said plungers toward one another to thereby lock the latch mechanisms from operation.

4. In combination with a door and its frame, latch mechanisms mounted upon opposite edge portions of the door and including locking bolts arranged to be projected into engagement with the frame, means for actuating the latch mechanisms independently, a pair of sliding plungers disposed between the latch mechanisms, said latch mechanisms having cams arranged to engage the outer ends of said plungers to force the same together, the sliding plungers having their adjacent ends so spaced as to abut with one another and prevent the means for independent operation of the latch mechanisms from simultaneously operating said latch mechanisms to their full extent.

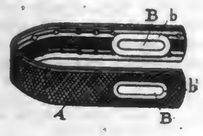
5. In combination with a door and its frame, separate latch mechanisms mounted at opposite portions of the door, a pair of sliding plungers between the latch mechanisms, each latch mechanism including a bracket having a cam movable therewith and engaging the adjacent plunger to force the latter toward the other plunger when said latch mechanism is operated, the plungers being so spaced at their adjacent ends that they will abut and prevent simultaneous disengagement of the bolts of the latch mechanisms, should the latter be simultaneously operated.

972,640. NON-BREAKABLE RETICULATED CHIMNEY. WALTER P. PINEL, Quincy, Mass. Filed July 3, 1909. Serial No. 505,847.



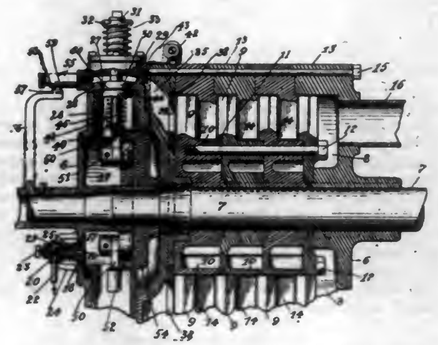
A chimney for incandescent frangible gas mantles of substantially cylindrical shape and formed of thin metal having large reticulations throughout its surface whereby air is freely admitted to all portions of the mantle insuring perfect combustion and whereby the light from the mantle is freely emitted, the said reticulations being separated from each other by narrow portions of the metal sufficient to maintain the shape of the chimney but insufficient to materially obstruct the emission of light, and the said chimney extending to or above the full height of the mantle and open at both ends thus protecting the mantle and allowing free passage of air therethrough.

972,641. LOOM-STRAP. EDWARD POOLE, Kersley, England. Filed Sept. 17, 1908. Serial No. 453,465.



A loom strap made of textile material thickened in its longitudinal center and reinforced by leather strips on each side of its thickened portion, said strap having a slot at each end passing through its thickened portion and an armor surrounding said slots.

972,642. GAS-TURBINE ENGINE. WILLIAM A. REED, Hollywood, Cal. Filed July 21, 1909. Serial No. 508,737.



1. In a gas turbine, a plurality of radially arranged compression chambers and explosion chambers, said compression chambers having communication with said explosion chambers; valves in the communications between said chambers; pistons in said compression chambers having valves in their outer ends; a mixing chamber common to all of said compression chambers; a vane chamber having an exhaust port; direction changing chambers in communication with said explosion chambers, said direction changing chambers having ports opening into the vane chamber; vanes in said vane chambers; and means to operate the pistons.

2. In a gas turbine a plurality of radially arranged compression chambers, each chamber having a piston therein; a driving shaft; means secured to said shaft to operate said piston; valves in the ends of said pistons; a feeding chamber in communication with said compression chambers; radially arranged explosion chambers in communication with the outer ends of said compression chambers; valves in said last communication; a vane chamber having an exhaust port; direction changing chambers having ports opening into the vane chamber; means to control said last mentioned ports; rotary vanes within the vane chamber secured to and projecting radially from the driving shaft, and radially arranged deflecting vanes secured to the vane chamber casing, and projecting toward the shaft, said deflecting vanes alternating with the rotating vanes.

3. In a gas turbine a plurality of compression chambers, each chamber having a piston therein; a driving shaft; means secured to said shaft to operate said piston; valves in the ends of said pistons; a feeding chamber in communication with said compression chambers; a vane chamber having an exhaust port; explosion chambers in communication at one end with the compression chambers, and at the other end with the vane chamber; rotary vanes within the vane chamber secured to the driving shaft.

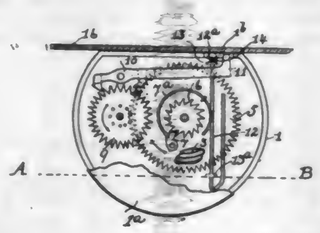
4. In a gas turbine a plurality of compression chambers pistons in said compression chambers; a driving shaft; means secured to said shaft to operate said pistons; valves in the outer ends of said pistons; a feeding chamber in communication with said compression chambers; a vane chamber having an exhaust port; explosion chambers in communication with the compression chambers and with the vane chambers; means to control the admission of exploded gases from the explosion chamber into the vane chamber; and rotary vanes within the vane chamber secured to the driving shaft.

972,643. PADLOCK AND STAPLE OR HASP THEREFOR. ROBERT BRAL REEVES, Whitstable, England. Filed Sept. 17, 1909. Serial No. 518,216.



In a padlock construction, the combination of a case having its top formed with a longitudinal slot opening through the front and back thereof; a sliding shackle formed with a longitudinal slot alining with the first-named slot, the corresponding side walls of said slots lying flush with each other; and a hasp arranged for insertion through said slots when the shackle is projected, said hasp having head and base portions provided at their ends with wings adapted to extend across and fit flush against the front and rear faces of said case and shackle when the latter is closed.

972,644. TICK-TACK TOY. EDWARD C. REOLI, Duluth, Minn. Filed July 23, 1908. Serial No. 444,922.



1. A power driven tapping device comprising a casing having an opening in one of its walls, a spring driven train of gears mounted in said casing, a tapper head actuated thereby and normally lying entirely within the casing but adapted to strike through the opening, and a detent for said tapper with resilient means normally forcing it against the tapper with its extremity protruding through the opening in proximity to the tapper head whereby the application of the casing to an object will force in the detent, release the tapper and cause the latter to strike the object in close proximity to the point of contact of the detent, substantially as described.

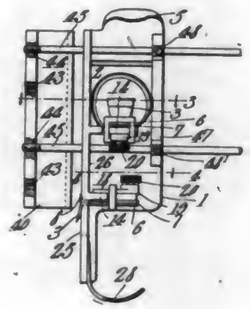
2. A power driven tapping device comprising a casing having one plane face containing an opening but otherwise entirely closed; a spring motor secured within the casing, with external means for winding the same; a weighted tapper head actuated by said motor and normally lying entirely within the casing but having its path of travel extending through said opening and substantially perpendicular to said plane face of the casing; and a detent normally pressed out through the opening and having a member within the casing adapted to then restrain the movement of the tapper head, but when forced in to disengage the same, whereby pressure on the plane surface of the casing against an object external thereto will free the tapper head and cause it to strike repeated blows through the opening against said object, substantially as described.

3. A power driven tapping device comprising a casing having an opening in one wall thereof, but otherwise closed, a spring motor in said casing, a tapper head actuated by said motor, and a spring pressed detent for the tapper head, said detent and tapper head both operating through the single opening in the casing, substantially as described.

4. A power driven tapping device comprising a motor, a tapper head driven by the motor, and a controlling device for the tapper head, together with a casing inclosing said parts and provided with a gaging face adapted to limit the travel and determine the plane of impact of the detent and the tapper head, respectively, substantially as described.

5. A power driven tapping device comprising a spring motor, a weighted tapper head driven thereby, and a controlling device for the tapper head, together with a gage device bearing a fixed relation to the motor and the other parts, and in operation adapted to maintain a fixed and rigid relation between the tapper, the controlling device, and the surface to be operated upon, substantially as described.

972,645. PLANE. CHARLES B. RICE, Washington, D. C. Filed Apr. 28, 1910. Serial No. 558,164.



1. A plane having a plurality of bearing surfaces one having a handle at one end and the other having a handle at the other end, said handles being angularly disposed with relation to each other, and a bit on each of said bearing surfaces having its cutting edge projected in the direction of the handle of said bearing surface.

2. A plane having a pair of bearing surfaces one of said surfaces being wider at one end than the other and having a handle at the wide end thereof and the other of said surfaces having a handle at the opposite end.

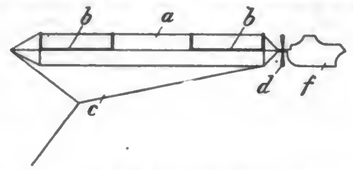
3. A plane having a bearing surface formed with an opening, a post adjacent said opening, shoulders adjacent the lower end of said post, a loop member surrounding said post and resting against said shoulders, a bit having a shank arranged between said posts and said loop on one side, and an adjustable member arranged between the other side of said post and said loop member for tightening the same on said bit.

4. A plane having a bit provided on the rear face thereof with an adjustable gage.

5. A plane having a bit provided with a cutting edge projecting in one direction, and a gage plate connected with said bit and having a gage tongue projecting in the opposite direction from the cutting edge of the bit.

[Claim 6 not printed in the Gazette.]

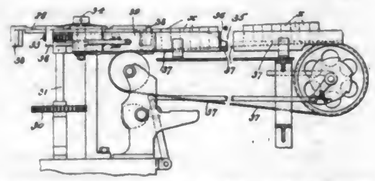
972,646. KITE. WILHELM RODE, Steglitz, Germany, assignor to Dr. Boes & Co., Gross Lichterfelde, near Berlin, Germany. Filed June 7, 1909. Serial No. 500,705.



1. A kite comprising a centrally disposed elongated hollow inclosed body tapered at its ends, a plurality of horizontal planes mounted upon the sides of said body, a projection at the rear end of the same, a vertical rudder plane mounted upon the free end of said projection, a propeller rotatably mounted on said projection between the ends thereof, a cord of greater length than said body secured at its ends to opposite ends of the latter, and an anchor cord secured at one end to said first-named cord between the ends of the latter.

2. A kite comprising a centrally disposed elongated hollow inclosed body tapered at its ends, a pair of horizontal planes projecting from opposite sides of the forward end portion of said body, a pair of horizontal planes similarly projecting from opposite sides of the rear end portion of said body, an axial projection at the rear end of the latter, a vertical rudder plane mounted upon the free end thereof, a propeller rotatably mounted on said projection between the ends thereof, a cord of greater length than said body secured at its ends to opposite ends of the latter, and an anchor cord secured at one end to said first-named cord between the ends of the latter.

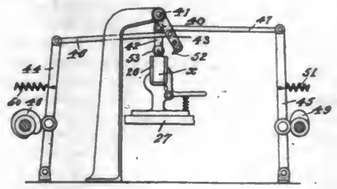
972,647. FEEDING MECHANISM FOR LABEL OR WRAPPING MACHINES. WILLIAM ROSE and HENRY ROSE, Gainsborough, England. Filed Sept. 9, 1910. Serial No. 581,140.



An apparatus of the character described having in combination a guide along which the boxes are fed, a trough horizontally disposed at the delivery end of the guide and arranged substantially in the horizontal plane of said guide, said trough being quadrantal in form having vertical concentrically spaced walls and a bottom, one of said walls leading to one of the walls of said guide and the other wall of the trough extending in front of the delivery end of the guide and having its end separated from the other wall of said guide, a horizontally rotatable feeder journaled in front of the feed guide having outwardly projecting arms adapted to be carried into the open end of the quadrantal trough and directly across the delivery end of the feed-guide in a plane at right angles to the normal feed of the boxes, each of said arms directly engaging an outermost box and delivering the same edgewise into the trough and through the same and delivering the box in a plane substantially parallel with the normal feed of the box.

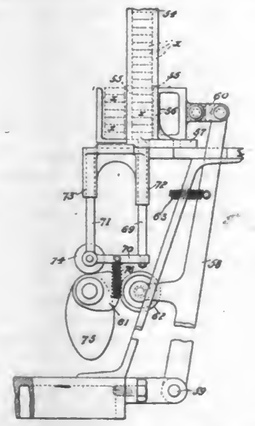
972,648. MECHANISM FOR APPLYING LABELS OR WRAPPERS. WILLIAM ROSE and HENRY ROSE, Gainsborough, England. Filed Sept. 9, 1910. Serial No. 581,141.

1. In apparatus of the character described, the combination with article supporting means, of a folding device consisting of two arms having their upper ends pivoted upon a common axis, one of said arms having a roller journaled in its free end, and the other arm having a projection extending substantially at right-angles to the length of said arm, and means connecting with the arms for moving them in reverse directions to cause a wrapper to be folded upon the article to be wrapped.



2. In apparatus of the character described, the combination with article supporting means, of a folding device consisting of two arms having their upper ends pivoted upon a common axis, one of said arms having a roller journaled in its free end, and the other arm having a projection extending substantially at right-angles to the length of said arm, and means connecting with the arms for moving them in reverse directions to cause a wrapper to be folded upon the article to be wrapped, said means including oppositely extending rods, levers connected to the rods, cams engaging intermediate portions of the levers for moving the levers in one direction, and springs connected to the levers for moving them in an opposite direction.

972,649. APPARATUS FOR FEEDING ARTICLES TO WRAPPING MECHANISMS. HENRY ROSE, Gainsborough, England. Filed Sept. 9, 1910. Serial No. 581,142.



1. In apparatus of the character described, the combination of an upright magazine containing a column of articles, said magazine having a side delivery opening in the lower portion, a reciprocating pusher operable through said opening to segregate a series of the articles from the column and deliver the same through said opening, and means engaging the lowermost article remaining in the column for supporting the column of articles against the action of gravity above those being expelled, said means including a member having a portion to enter the magazine, and a cam-actuated mechanism for operating said member.

2. In apparatus of the character described, the combination with an upright magazine containing a column of articles and having a side delivery opening, and a pusher operable therethrough to expel a series of articles, of a

support and means for operating the same in an upward direction while the pusher is expelling the articles, whereby the articles in the magazine above the pusher will be supported, said means allowing the support to be lowered to position another series of articles in the range of action of the pusher.

3. In apparatus of the character described, the combination with an upright magazine containing a column of articles, and having a side delivery opening, and a pusher operable therethrough to expel a series of articles, of means for supporting the column of articles while a series of said articles is being expelled, said means including a vertically-disposed reciprocating supporting member, and means engaging the same to cause it to ascend and support the column of articles while the pusher is expelling a series of the articles and to descend and lower the column of articles to bring a new series of articles into the range of action of the pusher.

972,650. READY-RECKONER. ABRAHAM-CHAIM SAMUEL-HIRSCH SCHABAD, Berlin, Germany. Filed Oct. 18, 1909. Serial No. 523,295.



1. In an instrument of the kind described an outer cylindrical casing having a plurality of openings therein, an inner casing rotatable within said outer casing and relatively slidable thereto, said inner casing being provided with rows of figures adapted to be brought in succession under the openings in said outer casing, and a spring fixed to said outer casing and engaging frictionally within said inner casing.

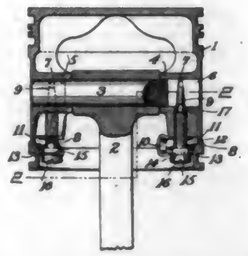
2. In an instrument of the kind described an outer cylindrical casing having a plurality of openings therein, an inner casing rotatable within said outer casing and relatively slidable thereto, said inner casing being provided with rows of figures adapted to be brought in succession under the openings in said outer casing, a flange on the end of said inner casing and projecting inwardly thereof, and a V-shaped spring fixed to said outer casing and frictionally engaging the walls of said inner casing, substantially as described.

3. In an instrument of the kind described an outer cylindrical casing having a plurality of openings therein, an inner casing rotatable within said outer casing and relatively slidable thereto, said inner casing being provided with rows of figures adapted to be brought in succession under the openings in said outer casing, a flange on the end of said inner casing and projecting inwardly thereof, a V-shaped spring fixed to said outer casing and frictionally engaging the walls of said inner casing, and means for compressing the V-shaped spring to effect the removal of the inner casing as desired, substantially as and for the purpose as described.

4. In an instrument of the kind described an outer cylindrical casing having a plurality of openings therein, an inner casing rotatable within said outer casing and relatively slidable thereto, a cylinder pushed over said inner casing and having rows of figures thereon on its outer surface, said figures being adapted to be brought in succession under the openings in said outer casing, means for preventing relative rotation of said inner casing and said cylinder carrying the figures, a flange on the end of said inner casing and projecting inwardly thereof, a V-shaped spring fixed to said outer casing and frictionally engaging the walls of said inner casing and means for compressing the V-shaped spring to effect the removal of the inner casing as desired.

5. In an instrument of the kind described an outer cylindrical casing having a plurality of openings therein, an inner casing rotatable within said outer casing and relatively slidable thereto, said inner casing being provided with rows of figures adapted to be brought in succession under the openings of said outer casing, a spring operated friction device carried by one of said casings and frictionally engaging the other and an outer tube over said outer casing, said outer tube being provided with suitable inscriptions opposite the openings in the outer casing and means for fixing said outer tube to prevent relative rotation between said outer tube and the outer casing.

972,651. PISTON-COUPLING. WILLIAM G. SCHAEFFER, Reading, Pa., assignor to Reading Standard Company, Reading, Pa., a Corporation of Pennsylvania. Filed Jan. 18, 1910. Serial No. 538,609.

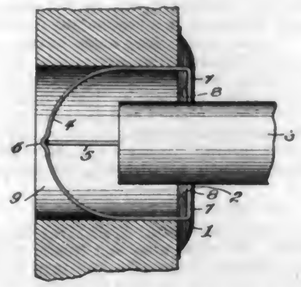


1. A wrist-pin connection comprising a wrist-pin having a longitudinal slot with an intermediate wedge-pin guide-way, a taper-pin in said way with a set-screw therefor having an angled head portion, and a U-shaped lock-spring, one member of which is strung upon the bolt and the other member of which closely engages the angled head portion thereof.

2. A wrist-pin connection comprising a wrist-pin having a longitudinal slot with an intermediate wedge-pin guide-way, a taper-pin in said way with a set-screw therefor having an angled head portion, and a U-shaped lock-spring, one member of which is strung upon the bolt and the other member of which is provided with an angled opening adapted to engage the angled head portion of the bolt in an adjusted position.

3. In a wrist-pin connection, a piston having a wrist-pin aperture with a set-screw opening thereto, a wrist-pin entered in said aperture and provided with a longitudinal slot having a wedge-pin guide-way intermediate the length thereof, a taper-pin in said way, a set-screw in said opening adapted to engage said taper-pin, said set-screw having an angled head portion, a U-shaped lock-spring, one member of which is strung upon said set-screw, the other member of which closely engages the angled head portion of said screw, and the U-shaped intermediate portion of which bears against the piston to prevent a reverse turning movement of the adjusted screw.

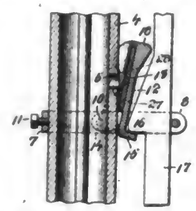
972,652. CLAMP FOR STOVEPIPES. ALBERT SCHANFLER, Greensburg, Ind., assignor of one-half to Edmund H. Mohr, Greensburg, Ind. Filed Mar. 12, 1909. Serial No. 482,968.



The combination with a flue collar, of a circular series of guides on the inner side of the collar and ranged around

the central opening thereof, and a plurality of wicket shaped spring clamps crossing each other at an angle and having inbent end portions fitted to slide in said guides, and so arranged that when the device is forced into the flue opening, the extremities of the inbent end portions are forced inwardly to engage the outer surface of the stove pipe and lock the same in position.

972,653. PUMP. HENRY E. SCHEUERMAN, Otis, Kans. Filed May 20, 1910. Serial No. 562,465.

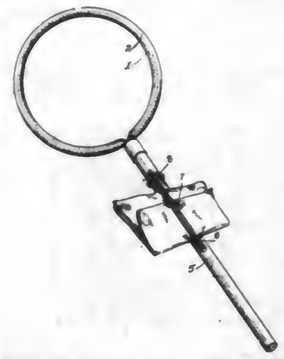


1. In a device of the character described, a pump barrel having a drain opening, clamps engaging the barrel and having laterally extending arms, a valve or closure pivotally supported by one of the clamps, an operating member slidably supported by the arms of the clamps and engaging the closure to move the latter to or from an obstructing position, and means for securing the operating member in adjusted position.

2. In a device of the character described, a pump barrel having a drain opening, a clamp engaging the barrel and having outwardly offset side portions, pivot pins extending through the latter in the direction of the pump barrel, a curved plate constituting a closure having ears pivotally engaging the pins, and an operating rod supported for vertical sliding movement and engaging the closure to move the latter to and from an obstructing position.

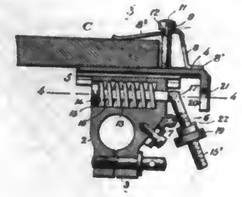
3. In a device of the character described, a pump barrel having a drain opening, a valve or closure pivotally supported adjacent to said opening, and a suitably supported vertically slidable operating rod having a beveled lug; said closure being provided at its lower end with a lip lying in the path of the said lug and adjacent to its upper end with a lug beveled to correspond with the beveled face of the lug upon the operating rod.

972,654. TRAIN-ORDER-DELIVERING DEVICE. WILLIAM T. SEE, Meadville, Pa. Filed Mar. 15, 1910. Serial No. 549,435.



A device of the class described comprising a handle, a padded member of ring form at one end of the handle, a wire jaw extending longitudinally of the handle, and a pivoted keeper operable to engage the said jaw to hold it closed against the handle.

972,655. BRUSH-HOLDER FOR ELECTRIC CONDUCTORS. FRANK L. SESSIONS, Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Mar. 8, 1902. Serial No. 97,256.



1. The combination with an electric collector and brush, of a movable holder for the brush, a support for said holder having a cylindrical chamber or socket with an aperture opening into the end thereof, a coiled spring in said socket, a stem engaging one end of the spring and extending through the said aperture, a threaded rod flexibly connected to the extending end of the stem, and a nut on the rod adapted to swing with the latter into and out of operative engagement with the brush holder.

2. The combination with an electric collector and brush, of a movable holder for the brush, a support for said holder having a cylindrical chamber or socket with an aperture opening into the end thereof, a headed stem disposed axially within the socket with one end extending through the aperture thereof, a coiled compression spring surrounding said stem between the head thereof and the end wall of the socket, and means for operatively connecting said stem to the brush holder.

3. The combination with an electric collector and brush, of a movable holder for the brush, a support for said holder having a cylindrical chamber or socket with an aperture opening into the end thereof, a headed stem disposer axially within the socket with one end extending through the aperture thereof, a coiled compression spring surrounding said stem between the head thereof and the end wall of the socket, and means flexibly connected to said stem and adapted to swing into and out of operative engagement with the brush holder.

4. The combination with an electric collector and brush, of a movable holder for the brush, a support for said holder having a cylindrical chamber or socket with an aperture opening into the end thereof, a headed stem disposed axially within the socket with one end extending through the aperture thereof, a coiled compression spring surrounding said stem between the head thereof and the end wall of the socket, a threaded rod flexibly connected to said stem, and a nut on said rod adapted to swing with said rod into and out of operative engagement with the brush holder.

5. The combination with an electric collector and brush, of a supporting piece 2, a slide for carrying the brush mounted thereon, a spring arranged within a recess in the supporting piece, the stem or rod connecting the spring with the slide and formed of two parts 15, 15', united by a pivot joint, the part 15' being movable into and out of engagement with the slide and an adjusting nut upon the part, 15', of the stem arranged to bear against the slide, substantially as set forth.

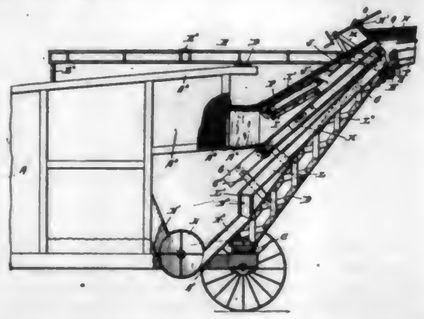
[Claims 6 to 15 not printed in the Gazette.]

972,656. STRAW-STACKER. ERNEST L. SHAFFER, Cedar Falls, Iowa. Filed Feb. 7, 1910. Serial No. 542,506.

1. In a straw stacker, the combination with a threshing machine, of a discharge spout adjustably mounted on said machine, a stacker spout communicating with said discharge spout, said stacker spout being carried by a truck mounted on a track.

2. In a straw stacker, the combination with a threshing machine, having rearwardly projecting top and bottom sills, of turn tables mounted upon said sills, a frame and

track carried by said turn tables, a discharge spout carried by said frame, a truck mounted on said track, and a stacker spout carried by said truck communicating with said discharge spout.



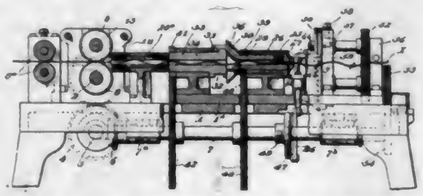
3. In a straw stacker, the combination with a threshing machine, of stacking mechanism pivotally mounted on said machine comprising an adjustably mounted discharge spout having an endless conveyer mounted therein, a slidably mounted stacker spout communicating with said discharge spout, and means for adjusting said spout vertically.

4. In a straw stacking mechanism, the combination with a threshing machine provided with turn tables in vertical alinement, of a track carried by the upper turn table and a frame carried by the lower turn table connected to said track, a discharge spout carried by said frame, means for adjusting said discharge spout, a truck mounted on said track, and a stacker spout pivotally mounted on said truck communicating with said discharge spout.

5. In a straw stacking mechanism, the combination with a threshing machine, of a frame and track pivotally mounted on said machine and adapted to turn together, a truck mounted on said track, a stacker spout pivotally mounted on said truck, means for adjusting said spout vertically, and a discharge spout adjustably mounted on said frame adapted to extend into said stacker spout.

[Claims 6 to 16 not printed in the Gazette.]

972,657. BARBED-WIRE MACHINE. DATUS C. SMITH, Jackson, Mich. Filed Feb. 12, 1908. Serial No. 415,588.



1. In a wire-working machine, a wire-flattening mechanism adapted for flattening or compressing a strand-wire at intervals and having means for forming protuberances on such flattened or compressed portions of the wire, for the purpose described.

2. In a wire-working machine, a wire-engaging mechanism having means for making slight protuberances in the form of dots on a strand-wire, for the purpose described.

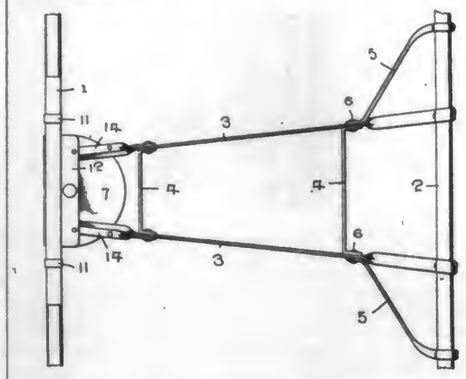
3. In a wire-working machine, coacting dies or molds for engaging and flattening a strand-wire, said dies or molds having recesses in their wire-engaging surfaces for forming protuberances on the wire.

4. A barb-wire machine having, in combination, a crimper and a barbing mechanism operating on alternate portions of a strand-wire, producing a barbed wire with crimps between its barbs.

5. A barb-wire machine having, in combination, a simultaneously-operating crimper and barbing mechanism, and means for feeding a strand to bring alternate portions thereof to the crimper and barbing mechanism.

[Claims 6 to 36 not printed in the Gazette.]

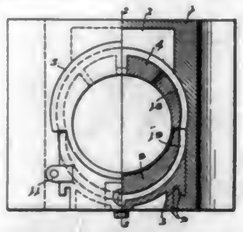
972,658. RUNNING-GEAR FOR VEHICLES. JAMES O. SMITH, Daleville, Miss., assignor of one-half to John L. Harbour, De Kalb, Miss. Filed Mar. 6, 1909. Serial No. 481,571.



1. In combination with a bolster of a vehicle and a steering axle; of plates projecting from the opposed faces of the bolster and axle, an L shaped plate secured to the inner face of the bolster and projecting therefrom adjacent the upper edge thereof, a bracket projecting from the under face of the axle, a king bolt passing through the plates and bracket and a bracing bracket secured to the plate of the bolster embracing the king bolt adjacent the bracket carried by the axle.

2. In a device of the character described, the combination with a front and a rear bolster and steering axle of a vehicle; of a pair of forwardly inclined strips connecting said bolsters, plates projecting from the opposed faces of said forward bolster and axle, and bracing means between said bolster plate and axle, an additional plate carried by said bolster, downwardly inclined braces connecting said additional plate with the forward portions of said strips, additional braces for said last referred to bracing members and a king bolt extending through the plates of said bolster and axle and also engaging the braces of the additional bolster plate and the bracing means between said bolster plate and axle, for the purpose described.

972,659. LUBRICATING DEVICE. LUTHER K. SMITH, Moberly, Mo. Filed Nov. 2, 1900. Serial No. 525,946.

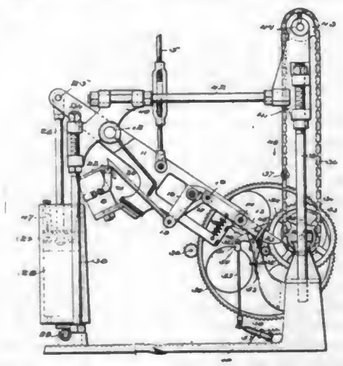


1. In a journal box, a body portion provided with an opening, a brass arranged within said opening, a cellar block arranged within said opening, said body portion being further provided with an oil chamber at the upper portion thereof, said cellar block being provided with a longitudinally arranged channel communicating with a curved channel, said brass being provided with a channel communicating with said oil chamber and registering with said curved channel and means for conducting the oil from said oil chamber to the journal.

2. In a journal box, the combination of a body member provided with a journal opening and with an internal chamber cored out in the upper portion thereof, a brass located in the upper portion of said body member, and a cellar block located in the lower portion of said body member, and provided with a horizontal channel extending inwardly from one face thereof, and with a communicating vertical channel extending from its base, said brass and said block having communicating channels leading from said first named channels to said chamber of said body member, and said brass being provided with longitudinal grooves upon its inner surface, and with openings therethrough communicating between said grooves and said chamber of said body member, substantially as described.

3. In a journal-box, a body portion provided with a central opening, a brass and cellar block disposed within said central opening, said body portion being provided with an internal oil chamber cored out of the upper portion of said body portion and communicating directly with said central opening, said brass extending within said oil chamber, said brass being provided with a plurality of radially disposed feed channels for supplying oil to an axle, said brass being provided with curved supply channels, said block being provided with curved supply channels registering with said first named supply channels, and a channel formed in the lower portion of said block and communicating with said last named supply channels, for supplying a lubricant to the oil chamber.

972,660. ELECTRICALLY-OPERATED BLOCK-SIGNAL MECHANISM. ROYAL A. STEETER, Marion, Iowa, assignor to Stotts Signal Company, Marion, Iowa, a Corporation of Arizona. Filed June 24, 1908. Serial No. 440,185.



1. In an apparatus of the class described, a semaphore adapted to be moved to danger by gravity, a longitudinally movable member for moving the semaphore to safety, an electrical circuit adapted to be short-circuited by a train passing over the track to which the apparatus is connected, means for moving said longitudinal member for moving the semaphore to safety when that portion of said circuit included within said apparatus is supplied with current, said means comprising a pivotally mounted arm, a pivotally mounted extension arranged on said arm, a link member pivotally connected with the inner end of said extension, a catch pivotally connected with the link member at the end opposite to that connected with said extension, a pivotally mounted guiding member pivotally mounted at one end on the same pivotal pin which connects said catch and said link, and pivotally mounted at the opposite end on said arm, and an armature for engaging and holding said catch, and a magnet mounted on said arm interposed in said circuit for holding said catch rigidly in position when that portion of said circuit supplied with current is included within said apparatus, and permitting a free movement of said catch when that portion of said circuit included within said apparatus is deprived of current, whereby said extension is held rigidly in position as long as that portion of said circuit included within said apparatus is supplied with current, means for moving said arm downward pivotally when that portion of said circuit included within said apparatus is supplied with current, and means for locking said arm in its lowered position.

2. In an apparatus of the class described, a semaphore adapted to move to danger by gravity, a longitudinally movable member for moving the semaphore to safety, an electrical circuit adapted to be short circuited by a train passing over the track to which the apparatus is connected, means for moving said longitudinally movable member when that portion of said circuit included within said apparatus is supplied with current, said means comprising a pivotally mounted arm, a pivotally mounted extension connected with said arm, a link connected with one end of said extension, a pivotally mounted guiding member connected at one end with said arm and at the other end with said link for causing the end pivotally connected therewith to move in the arc of a circle around the pivotal mounting of said guiding member, a catch pivotally mounted to said link at the end opposite to that connected with said extension, a pivotally mounted armature for engaging and holding said catch, and a magnet mounted on said arm interposed in that portion of said circuit included within said apparatus for holding said catch rigidly in position when that portion of said circuit included within said apparatus is supplied with current, whereby said extension is held rigidly in position as long as that portion of said circuit included within said apparatus is supplied with current, but permitted a free pivotal movement when said catch has been released by depriving that portion of said circuit included within said apparatus of current, means for moving said arm downward pivotally when that portion of said circuit included within said apparatus is supplied with current, and means for locking said arm in its lowered position.

972,661. STAMP-MOISTENER. JAMES G. SUMMERS, Charleston, W. Va. Filed July 5, 1910. Serial No. 570,279.



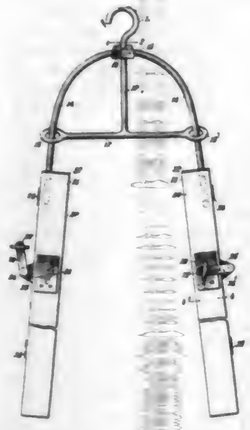
1. A stamp moistener, substantially as herein described, comprising a main casing having a cylindrical body open at the top, a cup holder having a body portion fitting in that of the main casing and spaced from the main casing, a foraminous diaphragm at the lower end of the body of the cup holder, a lateral flange at the upper end of the body of the cup holder and extending over and resting upon the upper end of the main casing and having a lip depending along the outer side of the main casing and a sponge cup fitting in the cup holder and open at its bottom and having a foraminous diaphragm at its upper end, all substantially as and for the purposes set forth.

2. A stamp moistener comprising a casing open at the top, a cup holder fitting therein and having its lower end spaced from the bottom of the casing and its upper end open and a sponge cup fitting in the open upper end of the cup holder and having its lower end open and pro-

vided at its upper end with a foraminous diaphragm, substantially as set forth.

3. A stamp moistener comprising a casing open at the top, a cup holder having a body portion communicating at its lower end with the casing and open at its upper end and provided at such end with a lateral flange resting upon the upper end of the casing, and a sponge cup in said holder, substantially as set forth.

972,662. TROUSERS-STRETCHER. YAICHIRO TAKANO, Atlantic City, N. J. Filed Sept. 30, 1909. Serial No. 520,328.



1. In a device of the class described, the combination with trousers-gripping means, of members connected to said gripping means and pivotally connected together, and a hanger adjustably connected to said members and adapted to spread said members apart when suspended.

2. In a device of the class described, the combination with a pair of gripping members, of a pair of suspending members pivotally connected together and connected to said gripping members, and a hanger slidingly connected to said suspending members and adapted to spread them apart.

3. In a device of the class described, the combination with a hanger, of a pair of suspending members adjustably connected with said hanger, and a creaser connected to each of said suspending members, said creasers each comprising a pair of gripping boards hinged together, a stationary clamping member secured to one of said boards, and a movable clamping member pivoted to said stationary clamping member so as to rotate in a plane parallel thereto.

4. In a device of the class described, the combination with a hanger, of a pair of suspending members adjustably connected to said hanger, and a creaser secured to each of said suspending members, said creasers each comprising a pair of gripping boards hinged together, a clamping member secured to one of said gripping boards, a clamping member pivotally secured to said first-mentioned clamping member so as to rotate in a plane parallel thereto, and a set screw adjustably connected to said second-mentioned clamping member.

5. In a device of the class described, the combination with a hanger provided with a hook at its upper end and a cross bar at its lower end, said cross bar having an eye at each end thereof, of a pair of suspending members pivotally connected together at their upper ends, and threaded through said eyes near their lower ends, and a creaser secured to each suspending member at its lower end, said creasers each comprising a pair of gripping boards hinged together, a stationary clamping member secured to one of said gripping boards, a movable clamping member pivotally secured to said stationary clamping member so as to rotate in a plane parallel thereto, a facing plate on the other of said gripping boards, and a set screw on said movable clamping member adapted to bear against said facing plate.

[Claim 6 not printed in the Gazette.]

972,663. WELL-BUCKET BAIL. FRANKLIN D. WALPOLE, McKenzie, Tenn. Filed Sept. 7, 1909. Serial No. 516,355.



1. A circumferentially grooved spool formed in one piece and having a longitudinal bore flattened in cross section, in combination, with a bail consisting of a strap passed through said bore and having its ends bent downwardly at the ends of the spool.

2. A bucket bail consisting of a flattened metal strap and a metal spool arranged on the intermediate portion of the bail with the ends of the bail bent downwardly from the ends of the spool, the spool being formed with a longitudinal bore in cross section conforming to the flattened formation of the bail.

3. A bucket bail irregular in cross section and having a rope-receiving stationary metal spool fixed thereon, said spool formed in one piece with a longitudinal bail receiving bore, said bore conforming to the cross sectional formation of the bail.

4. A well bucket provided with a bail at its lower ends fixed to the upper end of the bucket, and a deeply and exteriorly grooved bucket-sustaining-rope receiving metal spool, on the upper central portion of said bail, said spool formed in one piece with a longitudinal-bail receiving bore conforming to the cross sectional formation of the bail, said bail consisting of a metal strap, having an intermediate straight flattened portion extending through said bore and the opposite end portions extending down at the ends of said spool.

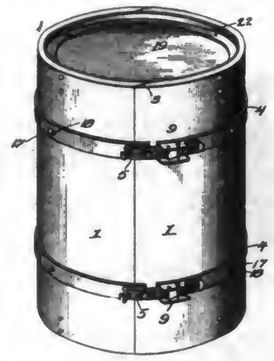
5. A bucket bail having a spool-receiving-portion irregular in cross section, in combination with a circumferentially grooved bucket-sustaining-rope receiving stationary spool having a longitudinal bail-receiving bore conforming to the cross sectional shape of said portion of the bail, said bail passed through said bore and bent down at the ends thereof forming stops preventing longitudinal movement of the spool on the bail.

[Claim 6 not printed in the Gazette.]

972,664. BARREL. WILLIAM L. WARD, Saguache, Colo. Filed Jan. 14, 1909. Serial No. 472,314.

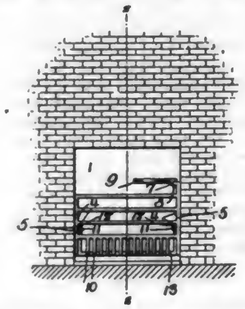
A vessel of the class described comprising a plurality of separable segmental sections, heads removably engaged with the said sections, hoops to extend around said sections when assembled, said hoops being open on one side and each provided at one end with a toothed tongue and

at the other end with a pivoted pawl to engage the teeth of the tongue, a frame for supporting the pawl, and a



removable pin engaged with the frame and engaged with the pawl to hold it against pivotal movement.

972,665. GRATE-BASKET. JOSEPH P. WATSON, Hazelhurst, Miss. Filed July 9, 1909. Serial No. 506,782.



In combination with an open fire place, of vertically disposed members upon the side walls of the fire place and adjacent the open mouth thereof, said members being provided with perforated projections, a fire basket, said fire basket comprising a front member and a grate member, said front member having upright side arms and a plurality of longitudinally spaced connecting bars which are arranged in the same plane with the side arms, the lower connecting bar being provided with a plurality of vertically extending rods, the side arms having their upper portions provided with offsets which are adapted to engage the projections upon the vertical members of the fire place, the front member having its side arms provided with inwardly projecting studs between the lower pair of connecting bars, said grate member comprising a horizontal structure having its forward end, adjacent to its sides, provided with integrally formed vertical extensions, and said extensions having their extremities provided with offset hooks adapted to engage the studs of the front member.

972,666. DRILL. JOHN R. WESTON, Dubuque, Iowa. Filed Sept. 7, 1909. Serial No. 516,543.

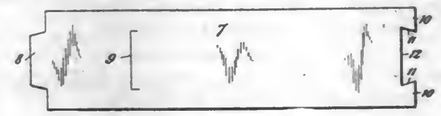
1. A drill comprising a drill-head having a corrugated circumferential edge, and an integral central hub provided with an aperture, a centrally-arranged drill having a shank extending upwardly through the drill-head and the aperture in the hub, means for securing the said drill in position, and a plurality of groups of drills or cutters arranged around the said central drill and carried by the drill-head, the drills of the innermost group being the longest and those of the other groups being successively shorter toward the circumferential edge of the drill-head.



2. A drill comprising a drill-head having a corrugated circumferential edge, and an integral central hub having an aperture, a centrally-arranged drill having a shank extending upwardly through the drill-head and the aperture in the hub, means securing the central drill in position, a plurality of groups of drills or cutters arranged around the central drill and carried by the drill-head, and each having a shank extending through the drill-head, a nut screwing upon each of the shanks and securing the drills in position, the drills of the innermost group being the longest and those of the other groups being successively shorter toward the circumferential edge of the drill-head.

3. A drill comprising a drill-head having an integral central hub provided with an aperture and a yoke integral with the hub, a centrally-arranged drill having a shank extending through the drill-head and the said aperture, means for securing said drill in position, a plurality of groups of drills or cutters arranged around the central drill and secured to the drill-head, the drills of the innermost group being the longest and those of the other groups being successively shorter toward the circumferential edge of the drill-head, a portion of the drills in the outermost groups having X-shaped cutting faces and another portion having T-shaped cutting faces, arranged to alternate as described; the drills having the T-shaped faces being arranged so that the said last mentioned faces will project slightly beyond the circumferential edge of the drill-head for the purpose set forth.

972,667. TUBULAR CORE. SETH WHEELER, Castleton, N. Y. Filed Apr. 15, 1909. Serial No. 490,009.



1. A tubular core composed of a strip of material wound in a series of convolutions upon itself, the said strip provided at its inner end with an opening therein and a tongue for coengagement therewith, whereby the portions constituting the opposite ends of the first convolution are interlocked.

2. A tubular core composed of a strip of material wound in a series of convolutions upon itself, the said strip provided at its inner end with an opening therein and a tongue for coengagement therewith, whereby the portions constituting the opposite ends of the first convolution are interlocked, the said strip being otherwise unsecured throughout the major portion thereof between the convolutions.

3. A tubular core composed of a strip of material wound in a series of convolutions upon itself, the said strip being provided at its inner end with a tongue, and having an opening in proximity to the inner end for receiving the said tongue whereby the said tongue is interlocked between the first and second convolutions.

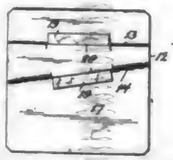
4. A tubular core composed of a strip of material wound

in a series of convolutions upon itself and provided at its inner end with self interlocking portions for retaining the first convolution, the said strip being provided at its outer end with two tongues near the outer edges thereof and which project beyond the portion between them, the said tongues or projections being secured to the portions of the strip beneath them by means of an adhesive material while the end portions of the strip between the said tongues or projections are unattached to the portion of the strip beneath the same.

5. A tubular core composed of a strip of material wound in a series of convolutions upon itself, the said strip being provided at its inner end with interlocked portions and secured together at its outer end only, by adhesive material.

[Claim 6 not printed in the Gazette.]

972,668. OVAL ROLL AND CORE THEREFOR. SETH WHEELER, Castleton, N. Y. Filed Mar. 4, 1910. Serial No. 547,203.



1. An oval roll comprising a substantially flat core having a longitudinal substantially flat opening therethrough disposed eccentrically width-wise thereof, the side edges of the opening being inclined the one toward the other, and a strip of paper, wound around the said core.

2. An oval roll comprising a substantially flat core having a longitudinal substantially flat opening therethrough disposed eccentrically width-wise of the core, portions of the side edges of the said opening being out of parallel, and a strip of paper, wound around the said core.

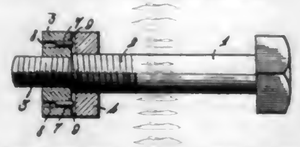
3. A core for oval rolls having a substantially flat longitudinal tapered opening therethrough, the axis of the taper being oblique to the axis of the core.

4. A core for oval rolls having a substantially flat longitudinal opening therethrough, one of the side edges of the opening being substantially parallel with the axis of the core and the other oblique with respect thereto.

5. A core for oval rolls having a substantially flat longitudinal tapered opening therethrough, the axis of the taper being oblique to the axis of the core, and the said opening being disposed eccentrically width-wise of the core.

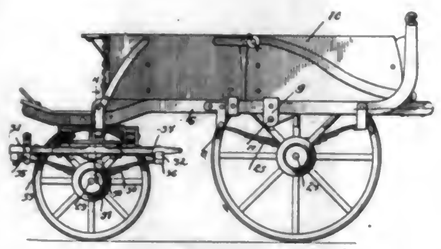
[Claims 6 to 9 not printed in the Gazette.]

972,669. NUT-LOCK. SAMUEL W. WILT, Fremont, Ohio. Filed Oct. 25, 1909. Serial No. 524,414.



The combination with a bolt provided with right and left hand threads, of a main nut adapted to engage the innermost of said threads and provided in its outer face with a plurality of radially disposed V-shaped locking grooves, a locking nut adapted to engage the outermost of said threads and provided with a plurality of transverse apertures arranged adjacent each corner of the nut, annular recesses in the inner face of the locking nut surrounding each of said apertures, a plurality of locking pins extending into said apertures and having their inner ends shaped to fit into the radial grooves of the main nut, the heads of said pins when in operative position, being adapted to lie wholly within the annular recesses in the locking nut.

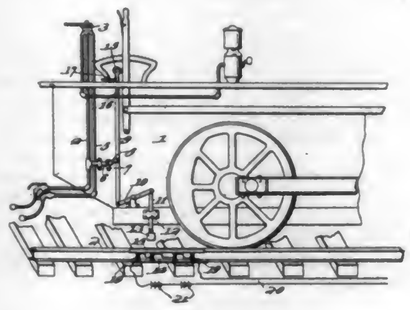
972,670. RUNNING-GEAR FOR DUMPING-WAGONS. LORENZO H. YOUNG, Hagerstown, Md., assignor of one-half to Volney P. Hill, Hagerstown, Md. Filed Oct. 12, 1909. Serial No. 522,228.



1. In a running gear for dumping wagons, a box carrying frame including a pair of side bars and a cross bar adjacent to the front ends of the side bars, a longitudinal bracket upon the underside of the cross bar, rollers supported for rotation upon longitudinal axes adjacent to the ends of the bracket, and a front gear including a bolster frame, a roller supporting fifth wheel upon said bolster frame, and a king bolt including a lower member secured in the bolster frame and an upper member hingedly connected with the lower member and having a bearing in the front cross bar of the box supporting frame.

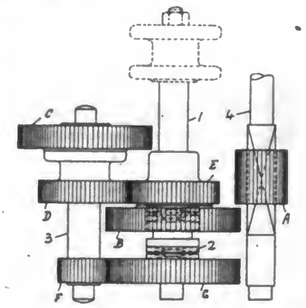
2. In a device of the character described, a front running gear including an axle, springs supported thereon, a bolster frame supported upon the springs and having keepers for slidable engagement with the rear ends of said springs, and a fifth wheel supported upon the bolster frame; in combination with a box supporting frame including a pair of side bars and a front cross bar, a longitudinal bracket secured upon the front cross bar and having fifth wheel engaging rollers, and a flexible king bolt mounted in the bolster frame and having a bearing in the front cross bar of the box supporting frame, the pivotal member of said king bolt being at right angles to the wheel carrying spindles of the axle.

972,671. AUTOMATIC BRAKE-APPLYING DEVICE FOR RAILWAY-TRAINS. HARRY P. ZACKEY, Martinsville, N. Y. Filed June 21, 1909. Serial No. 503,460.



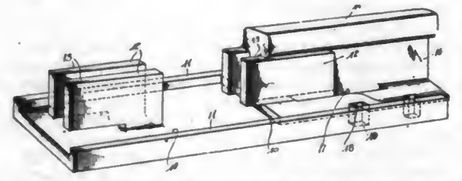
In combination with the train controlling device of a railway train, a vertically movable operating rod connected to said device, a lever fulcrumed intermediately of its ends and pivoted at one end to said operating rod, a vertically movable rod pivotally connected at its upper end to the other end of said lever, an armature carried by said last mentioned rod and an electro-magnet arranged adjacent the railway track to attract said armature.

972,672. CHANGE-SPEED AND REVERSING GEARING. JOHN DIXON ABBOTT, Eastbourne, England. Filed Mar. 15, 1910. Serial No. 549,502.



Change speed and reversing gearing for motor-trams, motor-cars and other purposes, comprising, in combination, a driven shaft, a counter-shaft, two first-speed wheels of equal diameter mounted on the driven-shaft, and on the counter-shaft respectively, two intermediary wheels of equal diameter in constant mesh mounted on said shafts respectively, two change speed wheels of unequal diameter in constant mesh mounted on said shafts respectively, clutch mechanism for connecting the wheels on the driven shaft to the latter, a driving shaft, and a slidable driving pinion mounted on the latter and adapted to mesh with either of said first-speed wheels, substantially as described.

972,673. TRACK-JOINT. HOUSTON R. ANDERSON, Chattanooga, Okla. Filed Feb. 21, 1910. Serial No. 545,117.

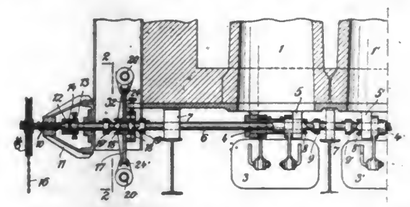


1. In a rail joint, the combination with a pair of abutting rail ends each having a pair of slots extending through its foot, said slots lying one on each side of and adjacent to the web of each rail end and terminating opposite each other, said rail ends each having spike notches at the edges; of a chair having a base portion provided with upstanding flanges to engage against the longitudinal edges of the rail feet, upstanding members formed on said base and extending through said notches, said members being arranged in pairs, ends formed on said members and all extending in the same direction, said ends being of such depth as to fill the spaces between the heads and feet of said rails, one pair of said ends overlapping one rail end and engaging the other, and said chair having spike openings in its base registering with said spike notches.

2. In a rail joint, the combination with a pair of abutting rail ends each having a slot on each side of its web; of a chair having a base portion provided with flanges extending along the sides to embrace the feet of said rail ends, upstanding members formed on said base and extending through said slots, ends formed on said members engaging between the heads and feet of the rails, and means to prevent longitudinal displacement of said chair on said rails.

3. A chair for rail joints comprising a base portion provided with upstanding flanges extending along the side edges, spaced pairs of upstanding members formed on said base, the members of each pair being spaced apart a sufficient distance to receive the web of a rail between their inner faces, extensions formed on said members and all extending in the same direction, said extensions being spaced from the base and parallel thereto, and said chair having spike openings through the base in immediate juxtaposition to the upstanding flanges.

972,674. APPARATUS FOR OPENING OR CLOSING THE DISCHARGE-OPENINGS OF VERTICAL RETORTS. CHRISTIAN BOLZ, Budapest, Austria-Hungary. Filed Sept. 27, 1909. Serial No. 519,845.



1. In an apparatus for opening or closing the valve of a retort, the combination with a longitudinally slidable rotary driving shaft adapted to be coupled to said valve and to close the same by its rotary movement, of an element for shifting said shaft.

2. In an apparatus for opening or closing the valve of a retort, the combination with a longitudinally slidable rotary driving shaft adapted to be coupled to said valve and to close the same by its rotary movement, of a screw spindle for shifting said shaft.

3. In an apparatus for opening or closing the valve of a retort, the combination with a rotary sleeve carrying said valve, and a rotary and longitudinally slidable shaft extending through said sleeve and adapted to be coupled to said sleeve and to close the valve by its rotary movement, of an element for shifting said shaft.

4. In an apparatus for opening or closing the valve of a retort, the combination with a longitudinally slidable rotary driving shaft adapted to be coupled to said valve and to close the same by its rotary movement, of a driving pulley loosely mounted on said shaft, and means to couple said driving pulley to said shaft upon shifting the latter.

5. In an apparatus for opening or closing the valve of a retort, the combination with a longitudinally slidable rotary driving shaft adapted to be coupled to said valve and to close the same by its rotary movement, of a driving pulley on said shaft, a reciprocatory element, and adjustable connecting means between said pulley and reciprocatory element.

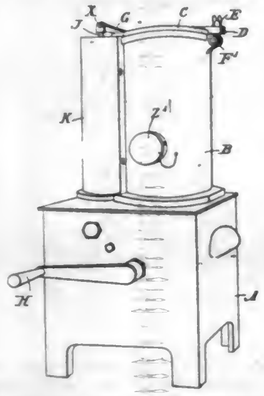
[Claim 6 not printed in the Gazette.]

972,675. APPARATUS FOR LIGHTING MINERS' SAFETY-LAMPS. JOHN CUNNINGHAM BOWIE, Cardiff, England, and JOHN HENRY PHELPS, Yokohama, Japan. Filed July 11, 1908. Serial No. 443,136.

1. In apparatus, for lighting miners' safety lamps by electricity, having a dynamo and a lamp-holding receptacle and a lid adapted to tightly close said receptacle; the combination of a lid locking arm separate from but adapted to hold the lid in a closed position on the lamp-inclosing receptacle, a connecting rod between said locking arm and the dynamo driving means, means for adjusting the length of said connecting rod, and means for locking or releasing the dynamo driving means said means comprising a pawl or lever adapted to engage with the dynamo driving means and a spring normally to maintain said locking parts in engagement, said pawl or lever being connected with the connecting rod and operated thereby, substantially as and for the purposes described.

2. In apparatus, for lighting miners' safety lamps by electricity, having a dynamo, and a lamp-holding receptacle and a lid adapted to tightly close said receptacle;

the combination of a lid locking arm separate from but adapted to hold the lid in a closed position on the lamp-inclosing receptacle, a connecting rod between said locking arm and the dynamo driving means, means carried in said connecting rod for adjusting the length thereof, and



means for locking or releasing the dynamo driving means said means comprising a pawl or lever adapted to engage with the dynamo driving means and a spring normally to maintain said locking parts in engagement, said pawl or lever being connected with the connecting rod and operated thereby, substantially as and for the purposes described.

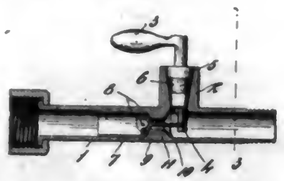
972,676. SINK-STRAINER. JAMES BROPSON, Cleveland, Ohio. Filed Feb. 23, 1909. Serial No. 479,588.



1. In combination with an enameled sink, an integral hood outlet opening communicating with the interior of the sink, having its lower edge on the level of the bottom, and having a reduced opening and a substantially vertical strainer plate having its upper and side edges sunk in the walls of the sink, a shoulder in its lower edge adapted to rest on the horizontal portion of the sink bottom and a depending edge for said strainer plate adapted to be inserted in said outlet opening exterior to the bottom of said sink, whereby said strainer plate is removed from abrasion.

2. The combination with an enameled sink having side and bottom walls, and a laterally extending opening in one of the said walls said opening having its lower edge on a level with the bottom, the upper and side edges of said opening being recessed, a vertical strainer plate in said opening the edges of said strainer plate adapted to rest in said recessed edges of said opening, an interlocking vertical portion at the lower edge of said strainer plate adapted to engage the inner side of the vertical portion of the lower edge of said opening, whereby the said strainer is wholly sunk within the vertical walls of said sink, and a hood extending downwardly and outwardly from said sink and provided with a reduced outlet opening, said hood adapted to communicate with the said opening in the wall of the sink, and of the full width of said strainer opening, the rear wall of said hood being vertical and the side walls of the strainer in shape corresponding to the opening.

972,677. VALVE. WILBUR B. BURKE, Cleveland, Ohio. Filed May 2, 1908, Serial No. 430,535. Renewed Jan. 10, 1910. Serial No. 537,349.



1. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat; and a tubular valve member reciprocably held in said casing and provided with a head adapted to contact with said seat, said valve being adapted to close with the flow of fluid, and such head having apertures in such alinement with said seat as to direct the fluid thereagainst when said valve member is open.

2. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat; a tubular valve member reciprocally held in said casing and provided with a head adapted to have substantially a line contact with the inner edge of said seat, said valve being adapted to close with the flow of fluid, and such head having apertures in such alinement with said seat as to direct the fluid thereagainst when said valve member is open; and an operating member adapted for opening said valve member.

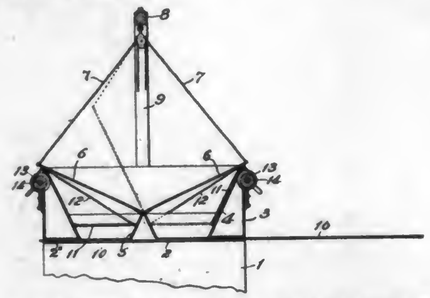
3. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat of conical form; a tubular valve member reciprocably held in said casing and provided with a conical head adapted to have substantially a line contact with the inner edge of said seat, said valve being adapted to close with the flow of fluid, and apertures being provided in the conical face of such head in such alinement with said seat as to direct the fluid thereagainst when said valve member is open; and an operating member for said valve member.

4. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat; a tubular valve member reciprocably held in said casing and provided with a head adapted to have substantially a line contact with the inner edge of said seat, said valve being adapted to close with the flow of fluid, and such head having apertures in such alinement with said seat as to direct the fluid thereagainst when said valve member is open; and an operating member adapted to engage said valve member to open the same, but not to close it.

5. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat of conical form; a tubular valve member reciprocably held in said casing and provided with a conical head adapted to have substantially a line contact with the inner edge of said seat, said valve being adapted to close with the flow of fluid, and apertures being provided in the conical face of such head in such alinement with said seat as to direct the fluid thereagainst when said valve member is open; a stem on said valve member extending forwardly through the opening in said valve seat; and an operating member adapted to engage said stem to move the same inwardly, but not forwardly.

972,678. HOPPER. TIMOTHY CARROLL, Anaheim, Cal. Filed May 1, 1906. Serial No. 314,683.

1. A hopper provided with a division wall and a plurality of feed openings on opposite sides of said wall, closures for each of said openings, a plurality of covers hinged to said wall and each adapted to rest upon the rim of the hopper and also adapted to fold upon the top of its companion cover.



2. In a hopper, the combination of a body portion provided with a division wall and formed with a plurality of feed-openings on each side of said wall, a closure for each of said openings and a plurality of covers hinged to said wall, each cover extending the full length of said wall and adapted to be swung to either side thereof, and means for holding said covers in any position to which they may be adjusted.

3. A hopper provided with a division wall and a feed-opening on each side of the division wall, two covers hinged to the division wall side by side and adapted to swing upwardly to form an extension of the division wall and adapted to close said openings respectively and so that both of said covers may swing over either opening to form a passage-way over that opening to the other opening.

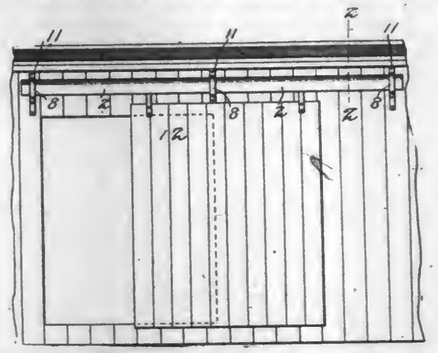
4. A hopper provided with a division wall and having a feed-opening on each side of the wall, supplemental covers hinged to the hopper at the outer sides of the openings and adapted to swing downwardly and close the openings; two division covers hinged to the division wall and adapted to swing outwardly over the supplemental covers and rest upon the outer upper edges of the hopper and adapted to swing upwardly to form an extension of the division wall and adapted to swing both over the same opening to form a passage-way over that opening to the other opening.

5. In a hopper, the combination of a body portion provided with a division wall and having a plurality of feed-openings on each side of said wall, two covers hinged to said division wall, each cover extending the full length of the wall and adapted to be swung to either side thereof, and supplemental covers hinged to the hopper at the opposite sides of the openings from the division wall and adapted to swing downwardly and close the openings, there being one supplemental cover for each opening.

[Claims 6 to 8 not printed in the Gazette.]

972,679. COMBINED DOOR HANGER AND TRACK. STEPHEN J. CLEVELAND, Mansfield, Pa. Filed Oct. 2, 1908. Serial No. 455,820.

In a support for the sliding doors of box cars, the combination with a car body having a door opening; of supporting brackets each including a bearing strip arranged above either side of the door opening and secured to the car body, said strips having on their outer faces and adjacent to their lower ends outwardly extending lips, and further provided adjacent to their upper ends with outwardly and downwardly extending limb portions terminating in inwardly extending lips, the last-named lips lying in a plane with and spaced from the first-named lips, an inverted U-shaped track arranged between the bearing strips and outwardly and downwardly extending limb portions, the opposite limbs of said track terminating in inwardly extending spaced treads bearing on said lips, oppositely positioned wheels arranged for travel on said treads, a single axle connecting said wheels and having its terminals bearing on the opposed inner faces of the side walls of said track, an oblong hanger having one end secured to the axle between the wheels and provided at its opposite end and on that face adjacent to the car body with a door receiving socket the long axis of which alines with the inner of said lips, that portion of the hanger extending between the lips and treads being considerably less in thickness than the space between the said lips and treads whereby a door supported by the hanger will incline outwardly sufficiently far to clear the bearing plates when moved and when closed may be moved bodily inward to bear on the opposed sides of the bearing strips.



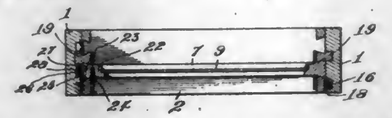
972,680. PACKING. ALBERT L. COLE, Auburndale, Mass., assignor to Frank C. Parmenter, Gloucester, Mass. Filed Aug. 3, 1909. Serial No. 511,031.



1. In a packing, the combination of a core or central body and an outer body composed of an inner layer of strands of asbestos and an outer layer of strands of asbestos enveloped in metal; both of said layers being wound transversely around said core.

2. In a packing, the combination of a core or central body made up of strands of asbestos and an outer body composed of an inner layer of asbestos and an outer layer of asbestos strands enveloped in metal; both of said layers being wound transversely around said core.

972,681. WINDOW. PATRICK D. CORRIGAN, Wellsville, N. Y. Filed Nov. 4, 1907. Serial No. 400,546.



1. A window frame having an upright groove in its side bar, and a parting bead consisting of a body member and a foot member hinged together, the rear portion of the bead filling said groove and its exposed portion being dovetailed so as to produce shoulders flush with the inner face of said side bar; combined with sashes whose side rails are shaped to fit against said exposed portions and shoulders, and removable stops.

2. A window frame having an upright groove in its side bar, and a parting bead comprising an upper section fixed in said groove and undercut at its lower end and a removable lower section beveled at its upper end and con-

sisting of a body member and a foot member hinged together, the rear portion of said bead filling said groove and its exposed portion being dovetailed so as to produce shoulders flush with the inner face of said side bar; combined with sashes whose side rails are shaped to fit against said exposed portions and shoulders, and removable stops.

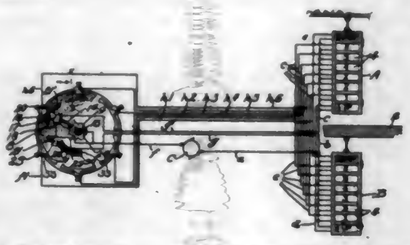
3. A window frame having an upright groove in its side bar, and a parting bead consisting of a body member and a foot member hinged together, the rear portion of the bead filling said groove and its exposed portion being dovetailed so as to produce shoulders flush with the inner face of said side bar; combined with stops spaced from both sides of the bead with those faces next the bead undercut, and sashes whose side bars are dovetailed to fit the bead and stops.

4. A window frame having an upright groove in its side bar, and a parting bead comprising an upper section fixed in said groove and undercut at its lower end, and a removable lower section beveled at its upper end and consisting of a body member and a foot member hinged together, the rear portion of the bead filling said groove and its exposed portion being dovetailed so as to produce shoulders flush with the inner face of said side bar; combined with stops spaced from both sides of the bead and also comprising fixed upper sections and removable lower sections with those faces next the bead undercut, and sashes whose side bars are dovetailed to fit between the bead and stops.

5. A window frame having an upright groove in its side bar, and a parting bead comprising an upper section fixed in said groove and a lower section in two members hinged together with the rear portion filling said groove and the exposed portion dovetailed so as to produce shoulders facing outward, and stops having their faces next said bead undercut and themselves comprising fixed upper sections and removable lower sections; combined with sashes each of which has one side bar formed in upright sections hinged together at the inner corner of the outer section and the latter dovetailed to fit between one stop and the bead and against said shoulder, and additional means for holding the sashes in the frame.

[Claims 6 to 8 not printed in the Gazette.]

972,682. ELECTRICAL INDICATOR. EDWARD E. CRAIG, Kansas City, Mo. Filed June 16, 1909. Serial No. 502,497.



1. In an electric selector switch for elevator indicators, a circular series of contact segments each having a rise on its end portion, and a rotary switch lever carrying a yieldably mounted roller adapted to engage said segments.

2. An electric direction-indicating switch for elevators, comprising a rotary arm, a pair of spaced contact pieces mounted on said arm, and a resilient contact member mounted on said arm and adapted to shift its position according to the direction of rotation and to contact with one or the other of said contact pieces.

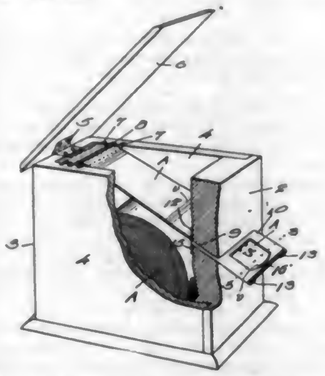
3. The combination of a switch-arm geared to a shaft of an elevator drive, a resilient contact finger carried by said arm, spaced contact points carried by said arm, and arranged to be contacted singly by said finger, means for automatically reversing said finger at either end of the elevator's normal travel, and means for maintaining the position of said finger at all other times.

4. The combination of a switch base, a switch arm geared to a shaft of an elevator drive, a resilient contact finger carried by said arm, opposed contact points carried by said arm, abutments mounted yieldably on said base in positions to reverse said finger at the ends of the normal travel of said arm, and means for thereafter maintaining said finger's position at all other times.

5. The combination of a switch base, a rotary switch-arm mounted on a shaft extending through the base, a non-rotating circular member concentric with said shaft, a resilient contact finger carried by said arm, its inner end frictionally engaging said circular member, and contact points carried by said arm in position to be engaged singly by the other end of said finger.

[Claims 6 and 7 not printed in the Gazette.]

972,683. LABEL AND TICKET CABINET. CHARLES W. DE LANEY, Hammond, Ind. Filed Sept. 15, 1909. Serial No. 517,830.

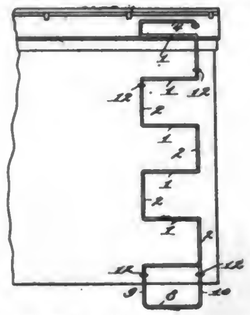


1. A label guide comprising a plate having its opposite longitudinal edges turned under adjacent the under face of the plate, forwardly extending tongues on said turned portions forming tension members, securing ears extending rearwardly from the plate and the tongues, the outer edge of the plate serving as a cutting edge, said plate being also provided with an access opening having a curved forward edge disposed adjacent said cutting edge and means for securing said guide through the medium of the ears, upon a suitable receptacle.

2. In a device of the character described, a label guide comprising a plate having its opposite longitudinal edges turned under adjacent the under face of the plate, integral tongues formed on said under turned portions and extending forwardly therefrom, the outer edge of the guide serving as a cutting edge, said plate being also provided with an opening located within the forward end of the guide proximal to said cutting edge, a slotted cabinet, said guide being disposed in said slot, means for securing the same in position, said tongues terminating at the sides of the opening, said cabinet being adapted to receive a dispensing roll therein which is disposed through the guide and a plurality of spaced pins positioned horizontally in said cabinet and between which the strip forming the roll passes.

3. In combination, a cabinet having an inclined slot through its forward end, a label guide projecting through said slot, said guide comprising a plate member having its longitudinal edges recurved, said recurved edges being provided with forwardly extended tongues integral therewith, downturned securing ears extending rearwardly from each of said tongues, said plate portion being disposed in opposite relation and secured to the inner wall of the cabinet, through the medium of apertures, said cabinet having a roll disposed therein, said roll passing through the guide, and a plurality of horizontally spaced pins carried by the cabinet adjacent its rear end and its upper face, said strip forming the roll passing alternately over and under said pins, whereby the said strip is shaped for ready passage through the guide.

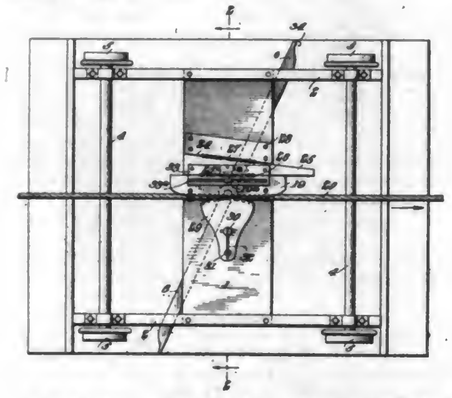
972,684. LADDER. ANDREW DEVAN, Sandpoint, Idaho, assignor of one-half to Thomas R. Lynch, Drummond, Mont. Filed Aug. 4, 1910. Serial No. 575,457.



1. A ladder of the type set forth comprising transverse rungs and connecting side bars formed integral from a bar of iron, the side bars being arranged in alternation at opposite sides of the ladder and being connected to the rungs adjacent thereto by offsets, whereby the rungs are disposed in a plane in advance of the plane of the side bars.

2. A ladder of the type set forth comprising transverse rungs and connecting side bars, the side bars being arranged in alternation at opposite sides of the ladder and being associated with the rungs in such manner that the latter are disposed in a plane in advance of the plane of the side bars.

972,685. AUTOMATIC CLUTCH AND RELEASING MECHANISM FOR CABLES. ADDIS J. DUNTON, Ketchikan, Alaska, assignor of one-half to Clemens J. Clemenson, Ketchikan, Alaska. Filed July 22, 1910. Serial No. 573,193.



1. In an automatic cable gripping and releasing device, a bed plate provided with parallel longitudinal slots, and a transverse slot, a slotted lever pivotally mounted on said bed plate, a spring having one end connected with said lever, and the other end with said pivot, a locking device carried by said lever and adapted to lock the same to said bed plate against the tension of said spring, means for retracting said locking device to free the lever, an abutment carried by said bed plate on the opposite side from said lever, a slidable gripping member, means guided in the parallel slots in said bed plate for securing said gripping member to said bed plate, a movable wedge disposed between said abutment member and said slidable gripping member, a pin carried by said wedge and extending through the slot in said lever, and through the slot in said bed plate, and a pivoted grip member arranged to coöperate with said slidable grip member, said pivoted grip member having a curved gripping surface eccentric of the pivot.

2. In an automatic cable gripping and releasing device, a slotted bed plate, a slotted lever pivotally mounted on said bed plate, a spring for maintaining the lever in a given position relative to said bed plate, means for locking said lever to said bed plate, an abutment carried by said bed plate on the opposite side of said lever, a slidable gripping member, means for guiding said gripping member, a movable wedge between said abutment member and said slidable gripping member, means connected with said lever for moving said wedge, and a pivoted gripping member arranged to coöperate with said slidable gripping member, said pivoted gripping member having a curved gripping surface eccentric of the pivot.

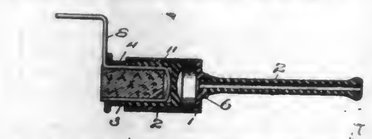
3. In an automatic cable gripping and releasing device, a bed plate, a slidable gripping member, and an abutment member carried by said bed plate, a movable wedge between said slidable gripping member and said abutment, means securing said gripping member to said wedge, a spring actuated pivoted lever on the opposite side of the bed plate, means connected with said lever for moving said wedge, and a pivoted eccentric gripping member arranged to coöperate with said slidable gripping member.

4. In an automatic cable gripping and releasing device, a bed plate, a spring-actuated lever pivoted on said bed plate, a slidable gripping member carried by said bed plate on the opposite side from said pivoted lever, an abutment member, a movable wedge arranged between said abutment member and said slidable gripping member, means connected with said lever for moving said wedge and an opposing gripping member for coöperating with said slidable gripping member.

5. In an automatic cable gripping and releasing device, a bed plate having an abutment member, a slidable gripping member, a wedge between said abutment member and said slidable gripping member, a spring-actuated lever for moving said wedge, means coöperating with said sliding gripping member for gripping a cable, a series of pins adapted to engage said lever for operating said wedge, and automatic means for locking said lever to said bed plate.

[Claim 6 not printed in the Gazette.]

972,686. APPLICATOR. ALBERT D. FOSTER, Chicago, Ill. Filed June 11, 1910. Serial No. 566,447.



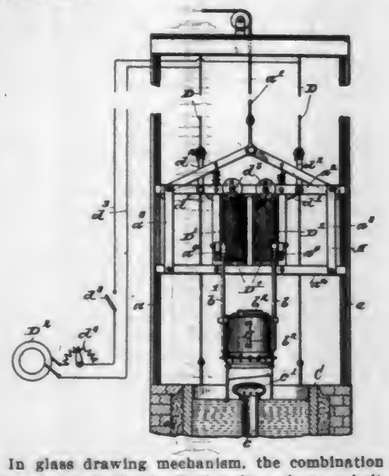
1. In a device of the character described, a housing, a discharge tube connected therewith, a plunger threaded into said housing formed with a hollowed out portion, a crank formed with a U-shaped portion fitting into said hollowed out portion, and a friction member fitting into said hollowed out portion and clamping said U-shaped portion of said crank to said plunger.

2. In a device of the character described, a housing, a discharge tube connected therewith, a plunger threaded into said housing formed with a hollowed-out portion, a crank formed with a bent portion fitting into said hollowed out portion, and a binding member for holding said bent portion in connection with said plunger for transmitting motion from said crank to said plunger, said binding member being formed with a pair of grooves for accommodating said bent portion of said crank.

972,687. BAIT FOR DRAWING GLASS. ROBERT L. FAINK and FRED J. FAINK, Lancaster, Ohio. Filed Mar. 10, 1910. Serial No. 548,490.

1. In glass drawing mechanism, the combination of a pot adapted to hold a bath of molten glass; a bait movable toward and from said pot; an electric generator; and connections, including a movable contact member, where-

by an electric current may be passed through said bait as it is thus moved.



2. In glass drawing mechanism, the combination of a pot adapted to hold a bath of molten glass; a bait movable toward and from said pot; transformer coils located on a drawing support and connected with the bait; an electric generator; and connections including a movable contact member, whereby an electric current may be passed through said transformer coils and bait as the latter is thus moved.

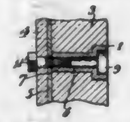
3. In glass drawing mechanism, the combination of a pot adapted to hold a bath of molten glass; a bait movable toward and from said pot; transformer coils located on the drawing support and connected with bait; an electric generator; connections, including a movable contact member whereby an electric current may be passed through said transformer coils and bait as the latter is thus moved; and means associated with said coils adapted to adjust the same to vary their transforming effect.

4. In glass drawing mechanism, the combination of a pot adapted to hold a bath of molten glass; a bait movable toward and from said pot; transformer coils located on the drawing support and connected with the bait; an electric generator; connections, including a movable contact member whereby an electric current may be passed through said transformer coils and bait as the latter is thus moved; and rheostat means, apart from said bait and transformer coils, for varying the current supplied to the latter.

5. In glass drawing mechanism, the combination of a pot adapted to hold a bath of molten glass; a bait movable toward and from said pot; transformer coils located on the drawing support and connected with the bait; an electric generator; connections, including a movable contact member whereby an electric current may be passed through said transformer coils and bait as the latter is thus moved; rheostat means, apart from said bait and transformer coils, for varying the current supplied to the latter; and means associated with said coils adapted to adjust the same to vary their transforming effect.

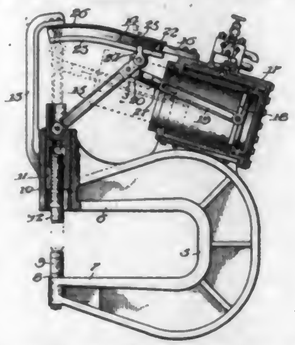
[Claims 6 to 34 not printed in the Gazette.]

972,688. DEVICE TO FASTEN GRAIN-DOORS IN FREIGHT-CARS. CHARLES R. FRYE, East St. Louis, Ill. Filed May 1, 1909. Serial No. 493,386.



In a grain door fastening device, a door post, a metal bushing extending through the post and provided at one end with a chambered enlargement which is seated in a correspondingly formed recess in the post and engaged therewith to limit the movement of the bushing in the insertion of the same in the post, and door fastening means operatively associated with the bushing and with the door to hold the latter in its closed position.

972,689. RIVETING-MACHINE. JAMES GILLESPIE, Chicago, Ill. Filed Oct. 23, 1909. Serial No. 524,130.

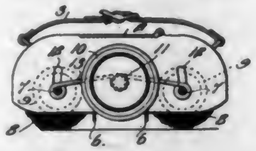


1. In a riveting machine, the combination with a main frame, of a plunger slidably mounted thereon, a cam-guide mounted above the plunger, a plunger operating bar pivotally connected at one of its ends to the plunger and in movable engagement at its other end with the cam surface of the cam-guide, and means connected to the operating bar for imparting movement thereto.

2. In a riveting machine, the combination with a main frame, of a plunger slidably mounted thereon, a cam-guide mounted near one end of the plunger, a plunger operating bar pivotally connected at one of its ends to the plunger, a roller journaled on the other end of said bar, means to hold the roller in contact with the cam-surface of the cam-guide, and means connected to the operating bar for imparting movement thereto.

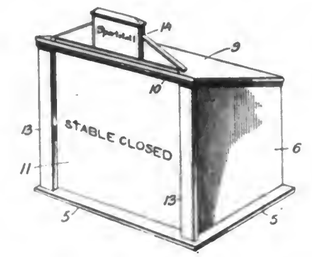
3. In a riveting machine, the combination with a main frame, of a plunger slidably mounted thereon, a cam-guide located near one of the ends of the plunger, a plunger operating bar connected at one of its ends to the plunger, a roller journaled on the other end of said bar, an upwardly extending arm secured to each side of the operating bar, a roller journaled on the upper portion of each of said arms and in engagement with the cam-guide.

972,690. CURRYCOMB. FRANK GOBLE, Fairpoint, Ohio. Filed June 30, 1909. Serial No. 505,272.



The herein described combined curry comb and brush comprising a casing having a centrally disposed door controlled opening in its top and having curved slots in its end walls, a centrally disposed receptacle having opposite side walls flared and toothed along their upper edges, toothed strips secured to the lower portion of the receptacle to stiffen and brace the same, rotary brush elements having the end portions of their shafts extending through the curved slots in the end walls of the casing, pulleys fast to the projecting ends of the shafts, other pulleys mounted upon the end walls of the casing and in frictional engagement with the pulleys fast to the ends of the rotary brush shafts, and springs normally exerting an outward pressure upon the rotary brush elements.

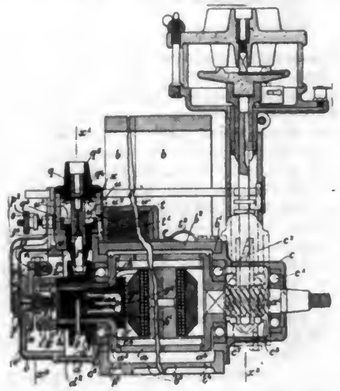
972,691. TOY. ABRAHAM T. GOLDFIELD, New York, N. Y. Filed Nov. 27, 1909. Serial No. 530,148.



1. In a toy, the combination with a box having an open front, of a roof hinged at its rear end to the back wall, and a front wall hinged to the lower side of the roof and adapted to be held up against same by the rear wall or to be swung forward to close the open front of the box.

2. In a toy, the combination with a box having side and rear walls and an open front, of a roof with a cornice and hinged to the rear wall, and a front wall hinged to the cornice and supported by the upper end of the rear wall when folded beneath the roof and adapted to be swung forward to close the open front of the box.

972,692. MAGNETO-MACHINE FOR USE IN CONNECTION WITH THE IGNITION SYSTEMS OF INTERNAL-COMBUSTION ENGINES. ROBERT FREDERICK HALL, Moseley, near Birmingham, England. Filed Aug. 24, 1908. Serial No. 450,077.



1. In a magneto machine in which the armature carries primary and secondary windings, the combination with a hollow armature spindle having end slots affording a bifurcation, of a non-conductive bushing having clearances to receive the bifurcated end of the spindle and having solid portions which pass through the slots and contact means associated with the bushing, and having electrical connections with the windings.

2. In a magneto machine, the combination with an armature casing of a chambered casting fitted to the end thereof and having an oil intercepting partition and a carrier for an armature bearing, a high tension slip ring disposed within the casting, a collector brush for engagement with the slip ring, a casing for the collector brush and fitted to the casting at one side thereof, a contact breaker, and a casing for the latter and fitted to the end of the casting.

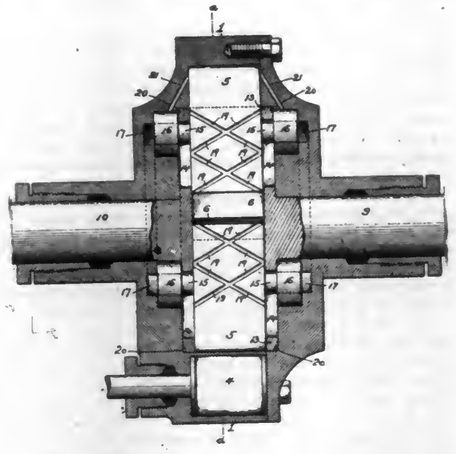
3. In a magneto machine, in which the armature carries primary and secondary windings, the combination with a contact breaker and its casing and a condenser, of a low tension collector brush having electrical connection with the contact breaker, an insulated metallic stud set into the casing and electrically connected to the brush and an exteriorly located spring bearing against the stud and electrically connected to the condenser.

4. In a magneto machine, the combination with the armature housing, of a contact breaker, a casing for the latter, the casing having an open portion providing for the adjustment and inspection of the contact breaker when in action and a rotatable cover provided on the casing and having an opening which may be alined with the opening in the latter.

5. In a magneto machine, a contact breaker, a casing therefor, an armature housing to which the casing is fitted, an external contact stud provided on the casing, a condenser arranged at one side of the armature housing and an exterior spring bearing against the stud to hold the casing in position and connected to the terminal of the condenser.

[Claims 6 to 10 not printed in the Gazette.]

972,693. CLUTCH MECHANISM. JOHN HARDING, Jr., Nashville, Tenn., assignor to John T. Landis, Nashville, Tenn. Filed Jan. 7, 1907. Serial No. 351,282.



1. The combination, in a clutch, of a casing having internal grooves in its opposite sides, a core mounted in said casing on an axis eccentric in respect to the axis of said grooves, opposite slotted end walls on said core, vanes guided in slots in the core and having connection with propelling members contained in the grooves of the casing, a liquid circuit intervening between the core and the casing, and means for regulating the flow of the liquid therethrough.

2. The combination, in a clutch, of a slotted core having sliding vanes therein, propelling members connected to said vanes, a casing having grooves eccentric in respect to the axis of the core for receiving said members, and sub-grooves for the flow of liquid past the latter.

3. The combination, in a clutch, of a casing, a core mounted therein so as to provide a liquid circuit between the two, means for regulating the flow of liquid therethrough, vanes mounted in said core and having liquid-conveying grooves in their front and rear faces, and means for advancing and retracting said vanes.

4. The combination, in the clutch, of a casing, a core mounted therein so as to form a liquid circuit between the two, means for regulating the flow of liquid therein, an end wall of the core in contact with the casing and having liquid-conveying grooves formed in it, sliding vanes in the core, and means for advancing and rectracting said vanes.

5. The combination, in a clutch, of a casing, a slotted core disposed therein so as to form a liquid circuit between the two, means for regulating the flow of liquid therein, an end wall detachably secured to the core, vanes slidably mounted in said core, and means for advancing and retracting said vanes.

[Claims 6 and 7 not printed in the Gazette.]

972,694. RAILWAY-TIE. ADELBERT HAWLEY, Elmira Heights, N. Y., assignor of one-fourth to L. Estelle Hawley, Bath, N. Y., and one-fourth to Henry Boulio, Potter Brook, Pa. Filed Oct. 4, 1909, Serial No. 520,796. Renewed Aug. 12, 1910. Serial No. 576,908.



1. A railway tie comprising a pair of side-plates having pairs of cross-plates fastened between them where the rails are to rest, said cross-plate pairs being carried above the side-plates, fastening devices inserted at each side of the rails between the projecting ends of the cross-plates, and means on said projecting ends for holding said devices in place.

2. A railway tie comprising a pair of side-plates having pairs of cross-plates fastened between them where the rails are to rest, said cross plate pairs having their members carried above the side-plates and set at an incline toward one another from the top downward, fillings of plastic material in the spaces between said cross-plate members, bearing blocks upon said fillings, and means engaging the cross-plate members for fastening the rails upon said blocks.

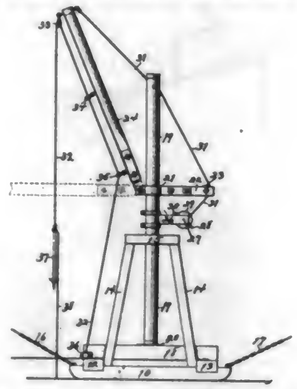
3. A railway tie comprising a pair of side-plates having pairs of cross-plates fastened between them where the rails are to rest, said cross-plate pairs having their members carried above the side-plates and bent over toward one another at their upper ends, said members being set at an incline toward one another from the top downward, fillings of plastic material in the spaces between said cross-plate members, bearing blocks resting upon said fillings, and fasteners inserted at each side of the rails between their webs and the projecting ends of the cross-plates, said fasteners being held upon the base of the rails by engagement with the bent-over ends of the cross-plates.

4. A railway tie comprising a pair of side-plates having pairs of cross-plates fastened between them where the rails are to rest, said cross-plate pairs being carried above the side-plates and bent over toward one another at their upper ends, and fasteners inserted at each side of the rail webs in engagement with the projecting ends of the cross-plates, said fasteners being adapted to be held upon the base of the rails by the bent-over ends of the cross-plates.

5. A railway tie comprising a pair of side-plates having pairs of cross-plates fastened bteween them where the rails are to rest, said cross-plate pairs being carried above the side-plates and bent over toward one another at their upper ends, and cup-shaped fasteners inserted at each side of the rail webs in engagement with the projecting ends of the cross-plates, said fasteners being so shaped as to engage the head, web, and base of the rails and the bent-over ends of the cross-plates.

972,695. PORTABLE ROTATABLE HAY-STACKER. GOTHARD HEIDWELL and WILLIAM F. MCNEW, Boone, Iowa. Filed Aug. 18, 1909. Serial No. 513,901.

A portable, adjustable hay stacker, comprising a base composed of runners, cross-bars connecting said runners, posts rising from said cross-bars, a plate on the upper ends of said posts, and draft connections at opposite ends of said runners, a post stepped for rotation in said base, a boom hinged to and arranged for adjustment vertically of said post, an arm fixed to and extending laterally from said post, sheaves in said arm and post, a drum mounted on the post, a cable fixed to the outer end of said boom, extending through said sheaves and adapted to be wound



on said drum, and a hoisting cable supported by the boom and extending through a foot block on the base.

972,696. BERRY-BOX. PETER HENRICH, Hoquiam, Wash. Filed Apr. 20, 1909. Serial No. 491,141.



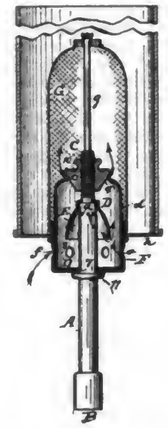
1. The combination with the wall-part of an octagonal box, of a bottom formed of a single piece which is scored along three transverse lines, the bottom being folded upon the two outer of said scores to provide two flaps which underlie the intermediate portion of the piece, the other of said scores being arranged for effecting a bend in said intermediate part to afford means to enter the corners of the bottom into slots provided in the wall-part.

2. A two-part berry box comprising a wall-part formed with overlying terminal flaps, a tongue projecting from the end of one of said flaps and adapted to extend through a slot provided in the other flap, and a bottom-part provided with two end flaps and folded to have the same underlie said intermediate portion and overlap each other, such folded bottom being of a length to fit within the box and have its corners project outwardly through slots provided in the wall-part.

3. A box of the class described, comprising the sides formed of a single piece and provided with a terminal tongue adapted to extend inwardly through a slot provided adjacent to the other end of the piece, and a bottom part formed of a single piece which is folded along two transverse lines to afford two flaps of unequal lengths whereof the longer one is caused to overlie and be supported by the shorter flap, said bottom part being sustained from its corners by the first named piece, the bottom coöperating with one of the box sides to secure said tongue in position to lock the ends of the first named piece in operative condition.

4. A fruit box comprised of an octagonal shaped wall having terminal flaps overlap each other, one of said flaps being provided with a longitudinally protruding tongue which is engaged in an aperture provided in the other of said flaps, and the box bottom which is folded to afford two flaps which underlie the intermediate portion of the bottom, said folded bottom having its corners extend through slots provided in said wall and the edges of the bottom fit against the longitudinal and transverse sides of the wall.

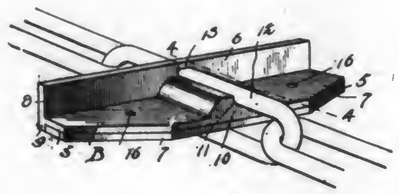
972,697. GAS-BURNER. CHARLES HOFF, Cincinnati, Ohio, assignor of one-half to Frederick Hofmann, Cincinnati, Ohio. Filed Apr. 9, 1910. Serial No. 554,432.



1. In a burner, the combination of a burner-stem provided with a mixing-chamber around it and with discharge orifices which communicate with the upper part of the chamber, which latter is also provided with a discharge outlet in its upper end and with air-inlet-openings in its lower part and a deflector whereby the gas which discharges from the orifices mentioned is directed within the mixing chamber to the air-inlet-openings therein.

2. In a burner, the combination of a burner-pipe having lateral gas-outlets, a screw-threaded stem whereby it is closed above these outlets, said stem projecting also above the upper end of the pipe, a mixing-chamber open at its upper end supported upon the burner-pipe and provided with air-inlets and a regulating nut mounted upon the stem mentioned and within the opening in the end of the mixing-chamber, the size of which opening it controls.

972,698. CONVEYER-CLEAT. WALTER JONES, White Castle, La. Filed Dec. 11, 1909. Serial No. 532,619.



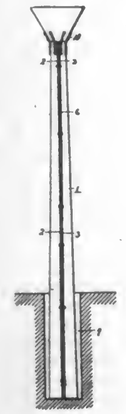
1. A conveyer cleat comprising a bottom member having an upstanding wall portion extending approximately one-half the length thereof, a top member having a mating upstanding wall portion extending approximately one-half the length thereof, said wall portions being notched at their meeting edges for the passage of the chain link therebetween, and means for connecting the top and bottom plates with the upstanding wall portions abutting endwise.

2. A conveyer cleat comprising a bottom member having an upstanding wall portion extending approximately one-half the length thereof, a top member having a grooved link engaging hump disposed midway between the ends thereof and an upstanding wall portion extending approximately one-half the length thereof, the wall portions of the top and bottom members being provided at their meeting edges with link engaging notches, and means for connecting the top and bottom plates.

3. A conveyer cleat comprising a top member having a downwardly extending ridge and an upwardly extending wall portion, said ridge and wall portion extending about one-half the length thereof, and a bottom member having a mating upstanding wall portion, said wall portions of the top and bottom members being provided with link engaging notches in their meeting edges, and means for connecting said top and bottom members together.

4. A conveyer cleat comprising a top member having a downwardly extending ridge and an upwardly extending wall portion, said ridge and wall portion extending approximately one-half the length thereof, said top member being also provided with a grooved link engaging hump midway between the ends thereof, a bottom member having a mating upstanding wall portion extending approximately one-half the length thereof, said wall portions being provided with link engaging notches in their meeting edges, and means for separately connecting the top and bottom members.

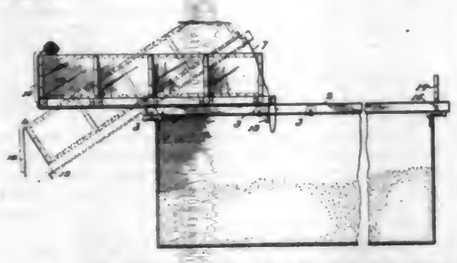
972,699. MOLD FOR FENCE-POSTS. JOHN LANE, Holly, Mich. Filed Jan. 22, 1910. Serial No. 539,449.



1. A mold for fence posts, having in combination a sheet metal form having one side vertically apertured throughout its length, reinforcing angle irons attached to each edge of said apertured portion, with a flange of each extending outwardly from the plane of the periphery of the sheet metal portion, a vertically extending clip provided with a plurality of rigid jaw portions located at intervals therealong, adapted to engage the outwardly flanged portions of said angle irons to hold them and thereby the adjacent edges of the sheet metal form in desired relation to one another, and a hollow handled tamping device adapted to engage within said form, substantially as described.

2. A mold for fence posts, having in combination a laterally apertured sheet metal form, the edge portions on each side of the aperture being outwardly flanged, reinforcing angle irons attached to each flanged edge portion, and a rigid clip member of substantially the same length as said apertured portion, said clip member being provided at intervals along its length with jaw portions adapted to engage firmly about the projecting edge and reinforcing parts of the mold and to hold the same against spreading under the pressure of a mass of contained material, and being adapted to be subsequently removed from its clamping position when the release of the sheet metal form from about the contained material is desired, substantially as described.

972,700. CAR-UNLOADER. THOMAS LIGHTBODY, Youngstown, Ohio. Filed Jan. 27, 1910. Serial No. 540,378.



1. In combination with a car having an open top body and a track extending transversely of and supported by the sides of such body, a box arranged at right angles to the car body and of less capacity than such car body for receiving portions of the contents thereof, said box being movable on said track and normally extending across the car body from side to side thereof, and capable of being moved longitudinally, transversely of the car body, to project beyond one of the sides thereof, and a stop for limiting the outward movement of the box.

2. In combination with a car having rails extended transversely thereof intermediate its ends, and rollers supported by said rails, a box of less capacity than the car for receiving portions of the contents thereof, said box being movably supported on said rollers, a stop carried by said box engaging said rollers to limit the travel of the box, and means for limiting the inclination of the box when projected beyond the side of the car.

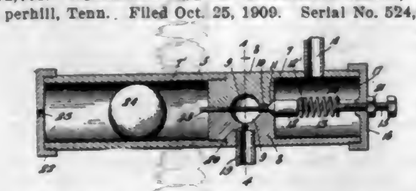
3. The combination with a car having rails extending transversely thereof, and rollers supported by said rails, of a box mounted on said rollers, a swinging gate at the outer end of said box, means at the inner end of said box for releasing said gate, and means for limiting the outward movement of the box transversely of the car.

4. The combination with a car having rails extending transversely thereof, and rollers supported by said rails, of a box movable on said rollers, stops carried by said box for limiting the outward and inward movements of the box, a gate at the outer end of said box, means at the inner end of the box for releasing said gate, and stop chains connecting the box to the rails.

5. The combination with a car, of rails extending across the top thereof intermediate its ends, means for regulating the inclination of such rails relatively to the car, a box of less capacity than the car for receiving portions of the contents thereof, said box being movable on said rails, and means for limiting the inclination of said box when tilted at the side of the car.

[Claim 6 not printed in the Gazette.]

972,701. LUBRICATOR. LEWIS JACKSON MALOY, Copperhill, Tenn. Filed Oct. 25, 1909. Serial No. 524,452.



1. In a device of the character described the combination with a cylindrical casing having a chamber in each end thereof and a central oil receiving chamber between said end chambers, of a spring controlled valve in one of said end chambers, said chamber being adapted to receive lubricating oil, said cylinder having a passage therein connecting the end oil chamber with the central chamber, said valve normally closing said passage, a ball freely movable in the other of the end chambers adapted to engage said valve and open the same to admit the oil to the central chamber, and a flexible conducting tube communicating with the last named chamber to convey the oil therefrom to the wheel flange.

2. In a device of the character described, the combination with a sectional cylinder, one of said sections having an oil chamber therein, of a spring controlled valve disposed in said chamber, a ball movably disposed in the other of the cylinder sections, a solid connecting portion between said sections, said portion having a collecting chamber formed centrally therein, said oil chamber and collecting chamber being connected by an oil passage, said valve having seated engagement in one end of said passage, a supply pipe communicating with said oil chamber, and an outlet pipe communicating with the collecting chamber and adapted to convey lubricating oil to a flanged wheel, said valve being automatically opened by the movement of said ball, substantially as and for the purpose set forth.

3. In a device of the character described, the combination of a sectional cylinder, one of said sections having a solid end provided with a reduced screw threaded portion adapted to be engaged in the interiorly threaded end of the other section of the cylinder, said first named section comprising two separable semi-cylindrical portions, the solid ends thereof each having a central concavity adapted to form a collecting chamber when the portions are united, with a closure cap threaded upon the outer end of said section to provide an oil chamber therein, a supply pipe communicating with said oil chamber, the solid portion of said section having a passage therein connecting the oil chamber with the collecting chamber, one end of said passage being enlarged to form a conical valve seat, a valve normally closing said passage, a spring in the oil chamber normally adapted to retain the valve in its seat, a valve stem integrally formed in the valve extending through the solid end portion of the cylinder section, a feed pipe communicating with the collecting chamber, and a ball movably disposed in the other section of said cylinder adapted to engage the end of the valve stem and unseat the valve, substantially as and for the purpose set forth.

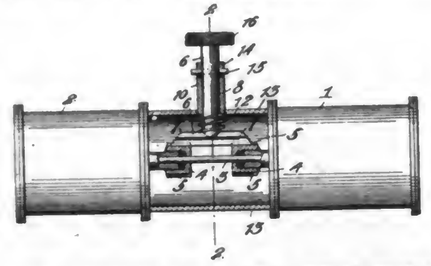
4. In a device of the character described, the combination of a cylinder having an oil chamber in one end thereof, said cylinder being formed with an intermediate solid portion, said solid portion being provided with a central spherical collecting chamber, and a communicating passage between the oil chamber and collecting chamber, one end of said passage being enlarged to provide a conical valve seat, with a valve member normally disposed in said seat, a spiral spring centrally arranged in the oil chamber acting to retain the valve in its normal position, an adjusting screw threaded through the end of said cylinder adapted to regulate the tension of said spring, a supply pipe communicating with the oil chamber, a feed pipe threaded into the solid portion of the cylinder and communicating with the collecting chamber, a valve stem integrally formed with said valve extending through the solid portion of the cylinder, and a ball movable upon the opposite side of the solid portion adapted to engage with the valve stem and open the valve, substantially as and for the purpose set forth.

5. In a device of the class described, the combination of a cylinder, closure caps threaded upon the opposite ends of said cylinder, said cylinder having an intermediate solid portion provided with a central collecting chamber, the interior of said cylinder upon one side of said solid portion forming an oil chamber, with a ball movable in the opposite tubular portion of the cylinder, said solid portion having a communicating passage between the oil chamber and the collecting chamber, one end of said passage being outwardly flared to form a conical valve seat, a cylindrical valve member having a conical end portion normally disposed in said seat, a valve stem integrally formed with said member extending through the solid portion of said cylinder, an adjusting screw extending into the oil chamber and having threaded engagement in

the closure cap, a spiral spring secured at one end to said screw and engaging said valve member to normally retain the same in engagement with its seat, a feed pipe threaded into the solid portion of said cylinder and connected to the collecting chamber by a communicating passage, said feed pipe comprising two sections connected by a flexible tube, and an oil conducting member threaded on the lower end of the feed pipe adapted to engage with the flange of a wheel to supply the lubricating oil thereto upon the movement of said ball into engagement with the valve stem, substantially as and for the purpose set forth.

[Claims 6 to 9 not printed in the Gazette.]

972,702. NUT-LOCK. LEWIS J. MALOY, Copperhill, Tenn. Filed Jan. 28, 1910. Serial No. 540,634.

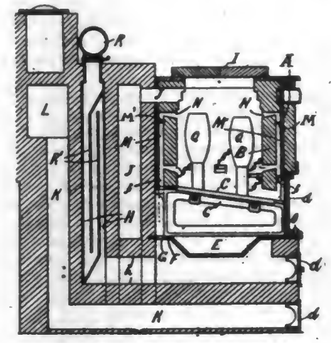


1. The combination of a support, a pair of oppositely disposed nuts, the latter having seats, a tubular guide provided on said support and provided in its outer end with a longitudinally extending notch, a T-shaped locking member having one branch slidably and rotatably mounted in said tubular guide, and its cross portion adapted to simultaneously engage the seats in said nuts, a spring for projecting the locking member into engagement with said nuts, and a radial pin carried by the locking member and movable into and out of said notch in the tubular guide, whereby said locking member may be held in retracted position when the pin is drawn out of said notch and turned to engage the outer extremity of the tubular guide.

2. The combination of opposing cylinders, a connecting casing, opposing packing nuts on the cylinders for the rod of the pistons of said cylinders, said nuts being provided with seats, a tubular guide supported in said casing and projecting radially with respect to the piston rod, the outer end of said tubular guide being notched, a T-shaped locking member having one branch slidably and rotatably arranged in said tubular guide and its cross portion adapted to simultaneously engage the seats in said nuts, a coil spring on the first mentioned branch of the locking member for actuating the latter inwardly, and a radial pin carried by the first mentioned branch of the locking member and movable into and out of the notch in said tubular guide, whereby when said member is retracted and the pin withdrawn from the notch and turned into engagement with the outer extremity of the tubular guide, said locking member will be maintained in retracted position.

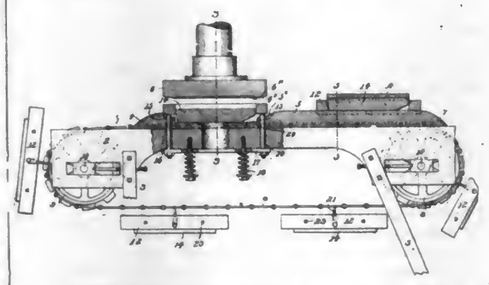
3. The combination of opposing cylinders, a connecting casing, opposing packing nuts on the cylinders for the rod of the pistons in said cylinders, said nuts being formed in their side faces with longitudinal grooves, a tubular guide supported in said casing and having its outer end formed at opposite points with longitudinal slots, a T-shaped locking member having one branch slidably and rotatably arranged in said tubular guide, and its cross portion adapted to engage the grooves in said nuts, a coil spring on the first mentioned branch of the locking member for actuating the latter inwardly, a handle on the projecting outer end of the first mentioned branch of the locking member, and a cross pin in the first mentioned branch of the locking member, said pin being movable into and out of the slots in the tubular guide, as and for the purpose set forth.

972,703. CRUCIBLE-FURNACE. WILLIAM MILLER, Wellington, England. Filed June 2, 1909. Serial No. 499,755.



A crucible furnace comprising a fire grate and crucibles supported thereon, the walls of said furnace being built to provide waste gas flues communicating with each other, one leading from the upper end of the furnace, and a regenerative flue disposed between said waste gas flues, said regenerative flue leading to the underside of the fire grate, and vertical passages in communication with the regenerative flue and provided with ports branching therefrom into the interior of the furnace at points adjacent the lower ends of the crucibles, and ports branching therefrom into the interior of the furnace at points adjacent the upper ends of the crucibles, substantially as described.

972,704. TILE-MOLDING APPARATUS. WILLIAM L. MOONEY, Weston, W. Va. Filed June 12, 1909. Serial No. 501,739.



1. In tile pressing apparatus, a mold consisting of a rim-like member and a bottom member movable vertically therein, a vertically movable rim-depressing plunger, depressible supporting means for the rim holding the latter normally raised beneath the plunger, and means backing up the mold bottom during the pressing operation.

2. In glass pressing apparatus, an open top mold consisting of a rim-like side member and a bottom member carried by and movable vertically therein, press mechanism, a depressible spring-raised support for the side member coincident with the press mechanism for holding said member raised with relation to the bottom member, and means for raising the mold bottom within the side member when the mold is out of pressing position.

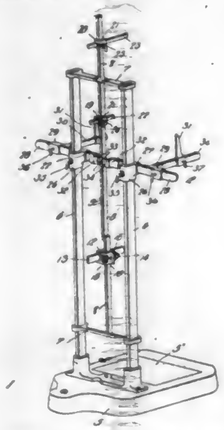
3. In glass pressing apparatus, an open top mold consisting of a rim-like side member and a vertically movable bottom member, a mold support on which the mold is movable, press mechanism, the support having a depression coincident with the press mechanism to permit the mold bottom to lower, and means on the support beyond the pressing position for raising the mold bottom.

4. In glass pressing apparatus, a mold consisting of a rim-like side member and a vertically movable bottom member, a support on which the mold is movable, press mechanism, normally raised depressible devices in the support and coincident with the press mechanism for sustaining the side member of the mold in elevated position with relation to the bottom member, and means on the support at one side of the press mechanism for raising the mold bottom.

5. In glass pressing apparatus, a horizontal table, a mold guide and support on the top of the table and formed with longitudinal shoulders at opposite sides thereof, said guide and support downwardly recessed to form a pressing position, a mold consisting of a rim-like side member and a vertically movable bottom member with means limiting such vertical movement, the mold side member being wider than said guide and support, carrier chains movable over the table and extending beneath said shoulders, means securing the mold side members to the carrier chains, the mold guide and support at each side of the pressing position depression operating to raise the mold bottom within the side member.

[Claim 6 not printed in the Gazette.]

972,705. TAILOR'S MEASURING APPARATUS. SAMUEL S. MORITZ, Dayton, Wash. Filed Aug. 16, 1909. Serial No. 512,978.



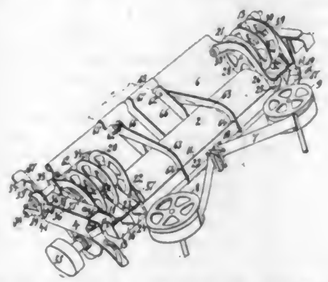
1. The combination of a standard consisting of a pair of posts, a tie-bar for connecting the lower ends of said posts together, a tie-bar secured to the posts at a point removed from their lower ends, a measuring bar formed of a plurality of sections, certain of said sections being secured together and further interposed between and secured to said tie-bars and the other of said sections being secured upon the upper of said tie-bars, an adjustable measuring device mounted upon one of the sections interposed between the tie-bars, an adjustable measuring device mounted upon another of the sections interposed between the tie-bars, an adjustable measuring device mounted upon that section carried by the upper tie-bar, an adjustable duplex measuring device carried by one of said posts and associating with said measuring bar, and an adjustable duplex measuring device carried by the other of said posts and associating with said measuring bar.

2. A tailor's measuring apparatus comprising a frame embodying a pair of posts, a tie-bar connected to said posts at a point removed from their lower ends, a tie-bar connecting the upper ends of said posts together, an offset measuring bar connected to said tie-bars, and projecting above the upper of said bars, measuring devices carried by the posts of said frame and associating with said measuring bar, a pair of measuring devices carried by the measuring bar and interposed between said tie-bars, and a measuring device carried by said measuring bar and arranged above the upper of said tie-bars.

3. A tailor's measuring apparatus comprising a frame embodying a pair of posts, a tie-bar connected to said posts at a point removed from the lower ends thereof, a tie-bar connecting the upper ends of said posts together, a measuring bar connected to and projecting above said tie-bars, that part of the measuring bar interposed between the tie-bars off-set at a point intermediate its ends, an adjustable sleeve carried by the lower part of the measuring bar, a block pivoted to said sleeve and carrying a short bar, means carried by the sleeve and engaging said block for maintaining said short bar at right angles with respect to the measuring bar, an adjustable measuring device carried by the upper portion of the measuring bar and below the upper tie-bar, an adjustable measuring device carried by the measuring bar and above the upper tie-bar, an adjustable measuring device carried by one of the posts of the frame and associating with the measuring bar, and an adjustable measuring device carried by the other post of the frame and associating with the measuring bar.

4. A tailor's measuring apparatus comprising a frame embodying a pair of posts, supporting means for said posts, a tie-bar connected to said posts in proximity to their lower ends, a tie-bar connecting the upper ends of said posts together, a measuring bar supported by the lower tie-bar and connected to and projecting above the upper tie-bar, that portion of the measuring bar between the tie-bars being off-set, an adjustable measuring device carried by the lower portion of the measuring bar, an adjustable measuring device carried by the upper portion of the measuring bar, and below the upper tie-bar, an adjustable measuring device carried by the measuring bar above the upper tie-bar, and an adjustable measuring device carried by each post of said frame and having an inwardly-extending element associating with said measuring bar.

972,706. TYPE-WRITING MACHINE. HARRY S. MCCORMACK, New Rochelle, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 5, 1908. Serial No. 456,123.



1. In a typewriting machine, the combination of a platen, a platen frame, an axle by means of which the platen is journaled in said platen frame, a pair of ribbon spools mounted at the ends of the platen with their axes extending longitudinally of the platen, diagonal guides at the ends of the platen, over which the ribbon folds to run in front of the platen in traveling from spool to spool, gears upon the platen axle, and pinions upon the spools; each pinion being movable independently of the other into and out of mesh with its associated gear.

2. In a typewriting machine, the combination of a platen, a platen frame, an axle by means of which the platen is journaled in said platen frame, a pair of ribbon spools mounted at the ends of the platen with their axes extending longitudinally of the platen, diagonal guides at the ends of the platen, over which the ribbon folds to run in front of the platen in traveling from spool to spool, gears upon the platen axle, pinions upon the spools; each pinion being movable independently of the other into and out of mesh with its associated gear, and means for detaining both pinions simultaneously out of mesh with their gears.

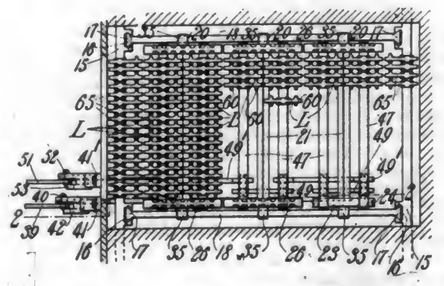
3. In a typewriting machine, the combination of a platen, a platen frame, an axle by means of which the platen is journaled in said platen frame, a pair of ribbon spools mounted at the ends of the platen with their axes extending longitudinally of the platen, diagonal guides at the ends of the platen, over which the ribbon folds to run in front of the platen in traveling from spool to spool, gears upon the platen axle, pinions upon the spools, and a finger-piece mounted upon the platen frame and connected to move the pinions alternately into and out of mesh with their gears.

4. In a typewriting machine, the combination of a platen, a platen frame, an axle by means of which the platen is journaled in said platen frame, a pair of ribbon spools mounted at the ends of the platen with their axes extending longitudinally of the platen, diagonal guides at the ends of the platen, over which the ribbon folds to run in front of the platen in traveling from spool to spool, gears upon the platen axle, pinions upon the spools, and a finger-piece mounted upon the platen frame and connected to move the pinions either simultaneously or alternately into and out of mesh with their gears.

5. In a typewriting machine, the combination of a platen, a platen frame, an axle by means of which the platen is journaled in said platen frame, a pair of ribbon spools mounted at the ends of the platen with their axes extending longitudinally of the platen, diagonal guides at the ends of the platen, over which the ribbon folds to run in front of the platen in traveling from spool to spool, gears upon the platen axle, pinions upon the spools, a finger-piece controlling a rock-shaft extending from end to end of the platen frame, frames upon which the spools are mounted at the ends of the platen frame, and means for enabling said rock-shaft to swing either frame down and the other up simultaneously.

[Claims 6 to 46 not printed in the Gazette.]

972,707. ROCKING-BAR FURNACE-GRATE. EDWARD T. MCHUGH, Holyoke, Mass. Filed May 21, 1909. Serial No. 497,541.

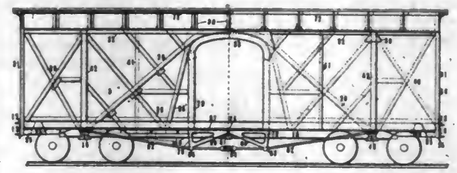


1. In a grate, the combination with the fire pot, a frame mounted therein, a series of cradles mounted in said frame and consisting each of a bar, a pair of heads formed one at each end of said bar, a depending arm formed on one of said heads, a lever connected with said depending arms for operating the cradles, leaves having means for locking them to the heads, leaves having curved upper faces mounted in said cradles and movable thereon, a pair of arms depending from the series of leaves, connections between said bars and a lever for operating said bars whereby the curved face bars and the leaves may be operated separately for the purpose of removing the ashes or for entirely dumping the grate as circumstances require.

2. In a grate, the combination with a supporting frame, of a cradle mounted for rocking movement in said frame, said cradle having a pair of heads at its ends, each head having a groove at one end thereof and an aperture in its other end, a leaf having near one end thereof a web adapted to enter said groove and having at its other end a projection coöperating with the other end of the cradle head, a lock bolt passing through said projection and entering said aperture, means carried by said bolt for retaining the same in locked position, leaves having curved faces and being movably mounted in said cradle, and means for rocking the cradle and curved face leaves independently.

3. A grate consisting of a supporting frame, a series of cradles mounted in said frame to have a rocking action therein, said cradles each consisting of a cross bar, a pair of heads formed on said cross bar, one of said heads having a depending arm, leaves having means for engaging and securing them to the heads of the cradle, each of said heads having a pair of transverse bearings, rock bars journaled in said bearings leaves mounted on said bars, arms depending from said bars and a lever connected with said arms and a lever connected with the depending arm on each of the heads whereby the cradles may be rocked to discharge or dump the grate, or the leaves in pairs may be rocked for discharging the ashes.

972,708. CAR STRUCTURE. WILLIAM R. MCKEEN, Jr., Omaha, Nebr., assignor to McKeen Motor Car Company, Omaha, Nebr., a Corporation of New Jersey. Filed Mar. 9, 1907. Serial No. 361,597.



1. In a car structure, side sills, a door-frame rigidly secured to a side sill and comprising an integral structure embodying an arched top and vertical side posts, and a truss-bar rigidly secured at its opposite ends to the sill and curved over and rigidly secured to the arched portion of the door-frame.

2. In a car structure, side sills, a door-frame secured to the sills and comprising vertical side posts and an integral upper curved portion, a plate secured at the upper portion of the door-frame, and a gusset rigidly connecting the door-frame and plate.

3. In a car structure, side sills, bolsters supporting said side sills, a door-frame disposed centrally between the bolsters and comprising side posts, and an integral arched top portion and braces extending from the bolsters and secured to the upper arched portion of the door-frame.

4. In a car structure, side sills, a draft-rigging disposed intermediate the sills and braces connecting the sills, and the draft-rigging intermediate its ends and forming an arch.

5. In a car structure, a single central supporting-beam, side sills spaced upon opposite sides of the central beam, means connecting the side sills and central beam rigidly together, and an arched door-frame rigidly secured centrally of the side sills.

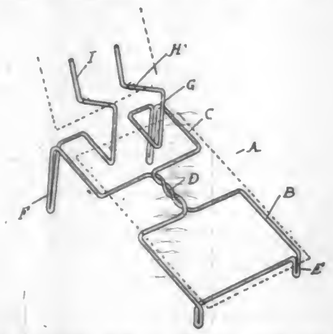
[Claims 6 to 31 not printed in the Gazette.]

972,709. PAD-HOLDER. EDWIN H. NELSON, Detroit, Mich. Filed Feb. 10, 1909. Serial No. 477,138.

1. A pad holder comprising a wire frame consisting of adjacent open center sections, with an intermediate double-strand twisted section, legs formed by depending loops at the corners of said open centered sections, and a prong formed by the end portion of the wire.

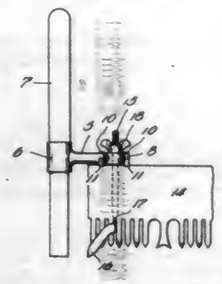
2. A pad holder comprising a wire frame formed from a single piece of wire bent to form open center sections

spaced apart and connected centrally of the adjacent sides, legs formed by depending loops at the corners of the sec-



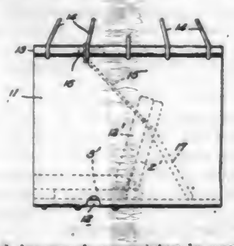
tions, the opposite ends of the wire being bent to form prongs.

972,710. SAW-HANDLE. OLOF OHLSON, Vancouver, Wash. Filed June 29, 1909, Serial No. 505,098. Renewed June 20, 1910. Serial No. 567,975.



A saw handle comprising a shank provided at one end with a sleeve and at its other end with an aperture, a handle bar connected to said sleeve, a securing member projecting through the aperture and provided at one end with a shoulder adapted to engage the wall of a saw gullet for coupling the end of a saw blade to the shank, said member further having a wing projecting beyond said shoulder and directed obliquely with respect to the axis of the said member and extending toward the said bar to protect an operator's hand, and means carried by the member and engaging the shank for maintaining said member in operative position.

972,711. ADJUSTABLE COUCH-HAMMOCK. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed Mar. 7, 1910. Serial No. 547,637.



1. A couch hammock comprising in combination a frame having transverse end portions and longitudinally extending connecting means, end suspension means extending transversely of said frame at its ends, a back rest angularly positionable with respect to said frame and also positionable flatwise with respect thereto, said back rest having supporting connections with transversely extending portions of said hammock, said supporting connections extending above the bottom of the frame, so that the space below the frame is substantially unobstructed, and hammock balancing provisions constituting means for preserving the lateral balance or equilibrium of the hammock both when the back rest is angularly positioned and when it is positioned flatwise of the frame.

2. A couch hammock comprising in combination a frame having transverse end members and longitudinally connecting means, end suspension means at the ends of said frame extending transversely thereof and of substantially the full width of said frame, a back rest member extending longitudinally of said frame, and supporting connections extending above the said frame and between the said end suspension means connecting the said back rest to transversely extending portions of the couch hammock.

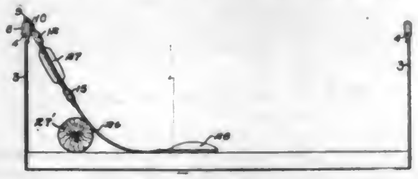
3. A couch hammock comprising in combination suspension ends having transverse spreaders at their lower edges or bottom, a frame having side and end members, a portion of the end members of said frame being supported flatwise upon said transverse spreaders, and a portion of said end members being angularly adjustable with respect to said end spreaders, and a seating applied to said frame.

4. A couch hammock comprising in combination suspension ends having transverse spreaders at the bottom thereof, a frame connected to and supported upon said spreaders transversely of said ends, said frame having a longitudinally extending portion angularly adjustable with respect to the remainder thereof, and supporting connections between said angularly adjustable portion and transverse portions of said suspension ends.

5. A couch hammock comprising in combination suspension ends having transverse spreaders at the bottom thereof, a frame connected to and supported upon said spreaders transversely of said ends, said frame having a longitudinally extending portion angularly adjustable with respect to the remainder thereof, and adjustable supporting connections between said angularly adjustable portion and said transverse spreaders.

[Claims 6 to 26 not printed in the Gazette.]

972,712. HEAD AND SHOULDER REST OR SUPPORT FOR COUCH AND OTHER HAMMOCKS. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed June 16, 1910. Serial No. 567,123.



1. A head and shoulder rest or support for an ordinary couch hammock or the like having an upright head end and a substantially flat body portion, said rest or support consisting of a cloth strip having means for suspending the same at the head suspension end of the hammock, said strip extending at a downward inclination beneath the head and shoulders of the occupant, and along the substantially flat body portion of the hammock and terminating between the hips and knees of the user, whereby said support may be held in place by the body of the user.

2. A head rest or support for a couch hammock having a substantially flat body portion and upright suspension ends, said rest or support being adapted to extend at a downward inclination beneath the head and shoulders of the user, said support having along its upper portion hooks flexibly connected thereto to engage said head suspension end.

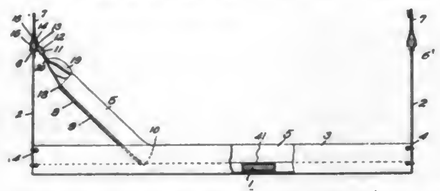
3. A head rest or support for a couch hammock having a substantially flat body portion and upright suspension ends, said rest or support being adapted to extend at a downward inclination beneath the head and shoulders of the user, said support having hooks pivoted along its upper portion transversely thereof, whereby it may be suspended along said head suspension end.

4. A head rest or support for a couch hammock having a substantially flat body portion and upright suspension ends, whereof the head suspension end has at its upper edge a transverse spreader, said rest or support being adapted to extend at a downward inclination beneath the head and shoulders of the user and inverted U-shaped hooks attached at transverse intervals along the upper portion of said rest or support and adapted to fit snugly over said spreader and brace the support in position.

5. A head rest or support for a couch hammock having a substantially flat body portion and upright suspension ends, said rest or support being adapted to extend at a downward inclination beneath the head and shoulders of the user, said support having along its upper portion suspension hooks and links connecting said hooks to said support.

[Claims 6 to 12 not printed in the Gazette.]

972,713. HEAD AND SHOULDER SUPPORT FOR COUCH-HAMMOCKS, &c. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed June 24, 1910. Serial No. 568,682.



1. A head and shoulder rest or support adapted for use with a couch hammock having a substantially flat body portion and upright suspension ends, said rest or support being flexible transversely and longitudinally of the hammock and positionable beneath the hammock mattress when the latter is inclined or flat, said rest or support having at its head end means for detachably suspending it at the head suspension end of the hammock whereby the strain of support is wholly transferred to the hammock head end suspension means, said rest or support at its lower end having a longitudinally sliding engagement with the flat portion of the hammock, whereby when the rest or support suspension means are detached from the hammock head suspension means, the rest or support may be slid toward the foot end of the hammock sufficiently to permit the flatwise positioning of said rest or support at the base of the head suspension end of the hammock, said rest or support having attached thereto along its upper end a pillow positionable upon the mattress when the latter is flat and at the head end thereof when the mattress is inclined.

2. A head and shoulder rest or support adapted for use with a couch hammock having a substantially flat body portion and upright suspension ends, said rest or support having a frame positionable at an incline beneath the head and shoulders of the user, and having at its head end suspension means, and a flexible connection between the latter and said head end of the frame and extending longitudinally of the frame, said suspension means being detachably engageable with the hammock head end suspension means, and said frame at its lower end having longitudinal play along the flat portion of the hammock.

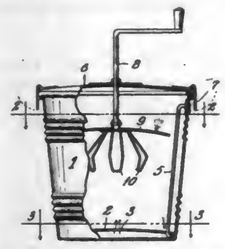
3. A head and shoulder rest or support adapted for use with a couch hammock, having a substantially flat body portion and upright suspension ends, said rest or support being positionable at an incline beneath the head and shoulders of the user, suspension means therefor, and a pillow attached along its own upper transverse edge only, to the head end of said rest or support, whereby when the rest or support is positioned flatwise of the hammock the pillow is adapted to be superposed upon the hammock mattress and when the rest or support is inclined, it is adapted to lie at the head end of the mattress when the latter is supported in inclined position by said frame.

4. A head and shoulder rest or support adapted for use with a couch hammock, having a substantially flat body portion and upright suspension ends, said rest or support having a thin frame readily flexible transversely of the hammock so as to present no substantial obstruction to the hammock's occupant when said frame is positioned flatwise thereon, said frame being positionable at an incline beneath the head and shoulders of the user, and having at its head end means for detachaly suspending it at the head suspension end of the hammock, said frame at its lower end having longitudinal play along the flat portion of the hammock.

5. A head and shoulder rest or support adapted for use with a couch hammock, having a substantially flat body portion and upright suspension ends, said rest or support having a wire frame flexible longitudinally and transversely of the hammock to present no substantial obstruction when flat, and positionable at an incline beneath the head and shoulders of the user and having at its head end means for detachably suspending it at the head suspension end of the hammock, said frame at its lower end having longitudinal play along the flat portion of the hammock.

[Claims 6 to 15 not printed in the Gazette.]

972,714. WASHING-MACHINE. FRANCIS PAUL, Jr., Montreal, Quebec, Canada, assignor to Pierre Beaudoin, Montreal, Canada. Filed Mar. 1, 1909. Serial No. 480,751.

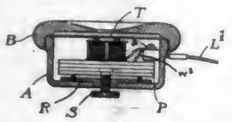


1. A machine of the character described comprising the combination with a receptacle adapted to be heated above a fire, of a curved plate mounted at the bottom of said receptacle in such a manner as to present between it and the bottom of the receptacle a shallow heating chamber, said plate being provided with a central opening flush with the surface of said plate to permit the circulation of hot water upwardly, and with peripheral openings adapted to admit water downwardly underneath said plate, vertical guide rods fixed to the receptacle and adapted to hold said plate in position and a disk suspended at the top of the receptacle having a series of apertures at the outer circumference thereof, substantially as described.

2. In a washing machine of the character described the combination with a receptacle adapted to be heated above a fire, of a curved plate mounted at the bottom of said receptacle in such a manner as to present between it and the bottom of the receptacle a shallow heating chamber of comparatively large area, said plate being provided with a central opening flush with the surface of the plate to permit the circulation of hot water upwardly, and with peripheral openings adapted to permit the cir-

culation of water downwardly underneath the plate, guide rods for holding said plate in position, a disk mounted at the top of the receptacle and provided with a plurality of peripheral perforations, and a series of depending prongs extending below said disk, substantially as described.

972,715. TELEPHONE RECEIVING APPARATUS. GREENLEAF WHITTIER PICKARD, Amesbury, Mass. Filed Mar. 16, 1910. Serial No. 549,688.



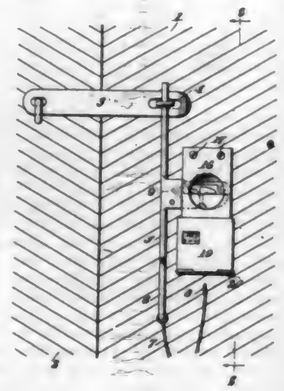
1. In a telephone receiver, the combination with a magnet, of a winding therefor, electrically separate therefrom in respect of ordinary telephone currents; and means for protecting the winding from discharges of excessive potential to the magnet, said means consisting of a spark-gap constituting a break-down path for such discharges between the magnet and an uninsulated part of the circuit of the winding.

2. In a telephone receiver, the combination with the winding, terminals, and magnet-and-pole-piece system, of a spark-terminal electrically connected to the magnet-and-pole-piece system and separated by spark-gaps from the respective winding-terminals.

3. In a telephone receiver, the combination with the magnet-and-pole-piece system, of line-terminals electrically connected with said system by way of spark-gaps.

4. In a telephone receiver, the combination with a magnet, of a winding therefor, electrically separate therefrom in respect of ordinary telephone currents; and means for protecting the winding from discharges of excessive potential to the magnet, said means consisting of spark-gap break-down paths for such discharges between the magnet and uninsulated parts of the circuit of the winding on the two respective sides of the winding itself.

972,716. CAR-SEALING DEVICE. EDWARD LINCOLN PITTS, Yuma, Ariz., assignor of one-third to Jacob E. Ludy and one-third to John M. Hess, Yuma, Ariz. Filed Jan. 18, 1910. Serial No. 538,595.



1. The combination with the staple and the hasp, of a rod for engaging the staple, said rod having a lateral projection provided with a vertical transverse opening and with a groove on its under face leading from the lower end of the opening to the end of the projection, said end being rounded at its lower corner, a casing having a lateral opening for receiving the projection, and a door in its front below the opening, a spring lock for the door, a lever pivoted in the casing above the opening, the free end of the lever extending toward the lateral opening, said lever having a hook at its free end extending downwardly and backwardly and having a cutting edge, and an inclined face for engagement by the projection to lift the said lever, and a seal of soft material comprising a head and a stem, the stem passing through the opening in the projection and being bent upwardly into the groove, the head resting on the upper face of the projection.

2. The combination with the hasp and the staple, of a rod passing through the staple for holding the hasp in place, said rod having a laterally extending lug, a casing having a lateral opening, a lever pivoted in the casing by one end above the opening and provided at its opposite end with a downwardly and backwardly extending hook having a beveled end for engagement by the lug to lift the hook, said hook having a cutting edge at its point, a spring normally pressing the lever downwardly, said lug having a vertical opening, a seal comprising a stem for extending through the opening of the lug, and a head resting on the upper face of the lug, and having a beveled upper edge for lifting the hook when the lug is entering the casing, said hook engaging behind the head when the lug is fully entered, a spring lock within the receptacle of the casing, a cover hinged to the casing for closing the receptacle, and having means for engagement by the lock to hold said cover closed, said cover having an opening over the key-hole of the lock, and a sheet of frangible material inserted in the receptacle and covering the opening in the cover.

3. The combination with the car, of a door securing means including a rod, said rod having a lateral lug provided with a vertical opening, a seal of soft material comprising a stem passing through the opening and a head resting on the lug, a casing on the car having a lateral opening for receiving the lug, a hook pivoted in the casing and engaging behind the head of the seal when the lug is fully entered, said hook having a cutting edge, a receptacle in the casing below the hook, a door for the receptacle, a spring lock in the casing for holding the door closed, said door having an opening to permit access to the lock, and a sheet of frangible material within the receptacle and covering the opening of the door.

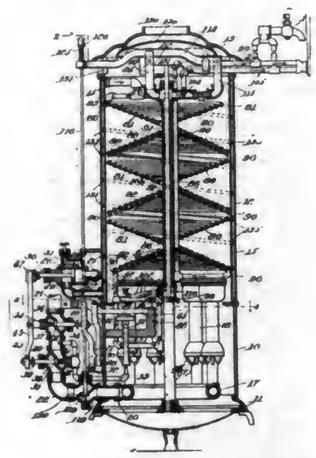
4. The combination with the car and the door, and the hook and staple for holding the door closed, of a rod passing through the staple and provided with a lateral lug intermediate its ends, said lug having a vertical opening, a seal comprising a stem for engaging the opening and a head adapted to rest on the lug, a casing on the car, a lateral opening for receiving the lug, a hook having its point formed into a cutting edge pivoted in the casing above the lug, the point of the hook engaging behind the seal when the lug is fully entered for the purpose specified.

5. In a device of the class described, a car door securing means including a rod having a lateral lug provided with a vertical opening, a seal comprising a stem for engaging the opening, and a head resting on the lug, a casing adjacent to the rod provided with an opening to permit the entrance of the lug, a cutter pivoted in the casing above the lug and provided with a cam surface for engagement by the lug, and the seal head to lift the cutter and permit it to ride over the seal, said cutter engaging behind the head when the lug is fully entered, and a receptacle in the casing for receiving the severed head.

[Claims 6 to 19 not printed in the Gazette.]

972,717. WATER-HEATER. THEODORE J. RADKE, Oak Park, Ill. Original application filed Apr. 22, 1909, Serial No. 491,449. Divided and this application filed Aug. 16, 1909. Serial No. 512,941.

1. A water heater comprising a casing, a heating coil therein divided into two branches, means at the upper end of the casing for connecting said branches with a source supplying cold water, main burners and a pilot burner below said coil, the branches of said coil communicating at their lower ends with pipes which are connected in looped arrangement with a draw-off faucet, one branch of said coil being subjected to the constant heat of the flame of the pilot burner, and arranged to direct the circulating water through the branches of the coil and past the faucet when said faucet is closed and to thereby maintain the water heated in the branched coil.



2. In a water heater, a heating coil divided into a plurality of branches through which the water may circulate in series when no water is being withdrawn from the coil, a cold water pipe and a draw-off device with which said branches are connected in parallel, a main burner for heating said coil and a pilot burner arranged to supply constant heat to one of the branches in a manner to maintain a constant circulation of water through the coil when the draw-off device is closed.

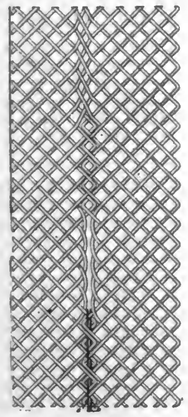
3. In a water heater, a heating coil divided into a plurality of branches through which the water may circulate in series when no water is being withdrawn from the coil, a cold water pipe having branched connection with said branches at the top of the coil, a draw-off device having looped connection with said branches, a burner beneath the coil for heating the same and a pilot burner arranged to supply constant heat to one of the branches in a manner to maintain a circulation of water through the coil when the draw-off device is closed.

4. In a water heater, a casing, a heating coil divided into two branches through which the water may circulate in series when no water is being withdrawn from the coil and connected with a source supplying cold water, said branches extending beyond the casing, a faucet having looped connection with said branches beyond the casing, a burner for heating said coil and a pilot burner arranged to supply constant heat to one of said branches in a manner to maintain a circulation of water through the coil when the faucet is closed.

5. A water heater comprising a casing, a heating coil therein comprising a plurality of branches having a common feed pipe, each branch consisting of coils arranged in series, a draw-off faucet having direct looped connection with the branches of said coil, whereby water flows through the branches in parallel when the draw-off faucet is open, main burners for heating said coil, and a pilot burner, one of the branches having a portion which is subject to the constant heat of the pilot burner, whereby a circulation of heated water is maintained through the branches in series when the draw-off faucet is closed.

[Claims 6 to 12 not printed in the Gazette.]

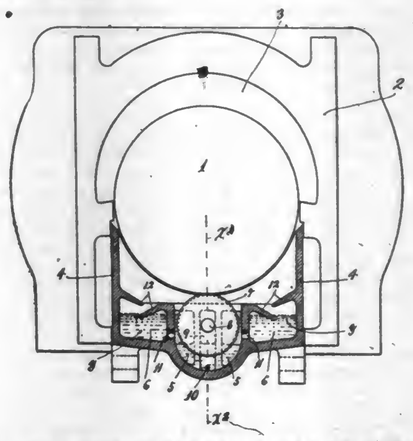
972,718. BRAID. ROBERT C. RAHM, Wyomissing, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a Corporation of Pennsylvania. Original application filed Jan. 14, 1907, Serial No. 352,067. Divided and this application filed May 16, 1907. Serial No. 374,070.



1. A stripe braid having the threads reversed in direction intermediately of the width of the braid and the bends formed thereby linked together alternately on the obverse and reverse sides of the braid, substantially as set forth.

2. A continuous braid having the threads, at portions only of the length of the braid, reversed in direction intermediately of the width of the braid and the bends formed thereby linked together alternately on the obverse and reverse sides of the braid to produce an intermittent stripe effect, substantially as set forth.

972,719. JOURNAL-LUBRICATING DEVICE. IVAR A. RANDEL, Chicago, Ill., assignor to McCord & Company, Chicago, Ill., a Corporation. Filed Mar. 7, 1910. Serial No. 547,629.

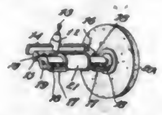


1. The combination with an axle and a bearing therefor, of an oil cellar having compartments provided with overlapped baffle plates, substantially as described.

2. The combination with an axle and a bearing therefor, of an oil cellar having outside and intermediate compartments spaced circumferentially of said axle and having communication at their lower portions, and a rotary oil distributer in the intermediate compartment, in the

form of a float immersed in oil contained in the said intermediate compartment and by its own buoyancy held in engagement with the said axle and arranged to be rotated thereby.

972,720. LATHE ATTACHMENT. WILLIAM CHARLES RIEHS, San Rafael, Cal. Filed Jan. 13, 1910. Serial No. 537,802.



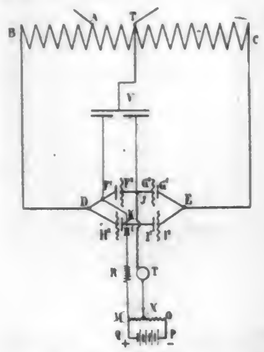
1. An attachment of the character specified comprising a frame composed of spaced substantially parallel bars connected at one end, one of said bars having at each end a lateral sectional bearing box extending in the opposite direction from the other bar, a shaft journaled in the boxes, an emery wheel secured to one end of the shaft, a pulley secured to the shaft intermediate the boxes, a carriage slidable on the lathe bed, a post slidable transversely of the carriage and having a transverse slot for receiving the other bar of the carriage and a set screw threaded through the post and engaging the bar.

2. An attachment of the character specified comprising a frame composed of spaced substantially parallel bars connected at one end, one of said bars having at each end a lateral sectional bearing box extending in the opposite direction from the other bar, a shaft journaled in the boxes, an emery wheel secured to one end of the shaft, and a pulley secured to the shaft intermediate of the boxes.

3. An attachment of the character specified, comprising a carriage composed of spaced substantially parallel bars connected at one end, one of said bars having lateral spaced bearing boxes, a shaft journaled in the boxes, an emery wheel secured to the shaft, and a pulley secured to the shaft intermediate the boxes.

4. An attachment of the character specified, comprising a bar having at each end a bearing box, a shaft journaled in the boxes, an emery wheel on the shaft, and a bar connected to the first named bar and extending substantially parallel therewith for engaging the tool holder of a lathe.

972,721. WIRELESS TELEGRAPHY OR WIRELESS TELEPHONY. OCTAVE ROCHEFORT, Paris, France, assignor to Compagnie Générale Radio-Telegraphique Carpentier, Gaiffe, Rochefort, Paris, France. Filed Nov. 8, 1909. Serial No. 526,794.



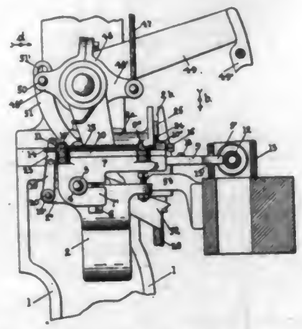
1. In a wireless telephone or telegraph receiver, an oscillation circuit having two parallel branches, a pair of electrolytic rectifiers in each branch, arranged in opposition, and a receiving circuit, tapping each branch between said rectifiers, said circuit including a source of continuous current and a signaling device.

2. In a wireless telephone or telegraph receiver, a receiving circuit including a source of continuous current and a signaling device, and comprising two branches in parallel, a pair of electrolytic rectifiers in each branch arranged in series so that the current divides and flows through both branches, traversing all four rectifiers continuously, a bipolar resonator, and connections between said resonator and rectifier whereby each oscillation in either direction affects one of the rectifiers in each branch.

3. In a wireless telephone or telegraph receiver, a bipolar resonator, a circuit connected with the ends thereof and having two parallel branches, a pair of electrolytic detectors in each branch, arranged in opposition, a receiving circuit tapping each branch between said detectors, and a pair of condensers having one side connected to a common point in the resonator, intermediate its end, and the other of each condenser side to one of said parallel branches between said detectors.

4. Improvements in wireless telegraphy or wireless telephony receptions, consisting in arranging four detectors forming electric rectifiers connected so as to arrange between the earth of the bipolar resonator and the ends of the circuit of the telephonic receiver, a condenser with three contacts.

972,722. WEFT-REPLENISHING LOOM. EPPA H. RYON, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Dec. 20, 1909. Serial No. 534,049.



1. In a filling detecting mechanism for looms, a member having a wedge shaped elongated or thickened end to engage the bobbin transversely of its length, a second member to engage the filling, pivoted on said first mentioned member, and having its engaging end in substantially the same horizontal plane as the engaging end of said first mentioned member, said second mentioned member adapted to swing on its pivot attachment in the direction of the length of the bobbin when the filling on the bobbin has been substantially exhausted.

2. In a filling detecting mechanism for looms, a member to engage the filling on the bobbin in the active shuttle, a second member, having a friction surface to engage the filling on said bobbin, and pivoted on said first mentioned member, said second mentioned member having its engaging end in substantially the same horizontal plane as the engaging end of said first mentioned member, and adapted to swing in the direction of the length of the bobbin when the filling on said bobbin has been substantially exhausted.

3. In a filling detecting mechanism for looms, a member to engage the filling on the bobbin in the active shuttle, a second member having a yielding friction surface to engage the filling on said bobbin, and pivoted on said first mentioned member, said second mentioned member adapted to swing in the direction of the length of the bobbin when the filling on said bobbin has been substantially exhausted.

4. In a filling detecting mechanism for looms, a member to engage the filling on the bobbin in the active shuttle, a

second member having a brush or bristles on its engaging end to engage the filling on said bobbin, and pivoted on said first mentioned member, said second mentioned member adapted to swing in the direction of the length of the bobbin when the filling on said bobbin has been substantially exhausted.

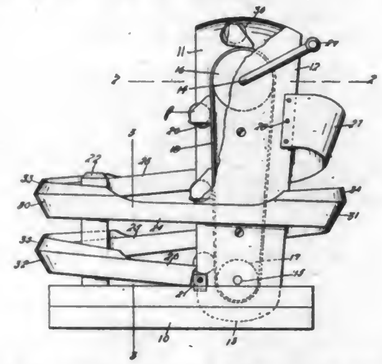
5. In a filling detecting mechanism for looms, a member to engage the filling on the bobbin in the active shuttle, a second member to coöperate with said first mentioned member, said second mentioned member having a yielding friction surface to engage the filling.

[Claims 6 to 14 not printed in the Gazette.]

972,723. MANUFACTURE OF FILTERS. FRANZ SEHR, Blankenhain, near Weimar, Germany. Filed Feb. 15, 1910. Serial No. 544,053.

A process for the manufacture of filters for any desired purposes or filter cartridges in the shape of hollow cylinders, consisting in quartz sand of size of grain corresponding to the object for which the filter is to be used, being thoroughly mixed dry with 5% feldspar and 15% kaolin, and thereupon being rammed into gypsum molds and calcined with the gypsum molds in furnaces at 1400–1500° C., the gypsum molds preventing the filter from falling to pieces during the burning, and the mass from melting to the molds, the latter becoming detached from the material as it contracts.

972,724. TOY. JOHN C. SMITH, Washington, Mo. Filed Mar. 28, 1910. Serial No. 551,982.



1. A toy comprising a chute continuously inclined from end to end and formed of a plurality of straight sections and connecting curved sections, a plurality of balls movable in said chute, and an elevating device arranged to receive the balls at the lowest end of the chute and deliver them at the highest end of the same.

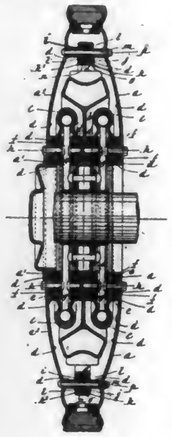
2. A toy comprising a chute continuously inclined from end to end and formed of a plurality of straight sections and connecting curved sections, an upwardly directed curved guard upon each of said curved chute sections, a plurality of balls movable in said chute, and an elevating device arranged to receive the balls at the lowest end of the chute and deliver them at the highest end of the same.

3. A toy comprising a base, a chute continuously inclined from end to end and formed of a plurality of straight sections and connecting curved sections and supported from said base, and an elevator device supported from said base and arranged to receive the balls at the lowest end of the chute and deliver them at the highest end of the same.

4. A toy comprising a base, spaced vertical members rising from said base, an endless belt operating between said vertical members, a plurality of elevating buckets spaced apart and carried by said belt, a chute continuously inclined from end to end and formed of a plurality of straight sections and connecting curved section, and a plurality of balls movable in said chute, said belt being arranged to receive said balls from the lowest end of the chute and deliver them to the same at the highest point thereof.

5. A toy comprising a base having a vertical aperture, spaced vertical members connected at their lower ends in said base aperture, an endless belt operating between said spaced members and provided with elevating buckets spaced apart, a chute continuously inclined from end to end and formed of a plurality of straight sections and connecting curved sections, a plurality of balls movable in said chute, and stop devices connected to said spaced members adjacent to the lower end of the belt and extending into the path of said balls to hold them in position to be engaged consecutively by the buckets.

972,725. CONSTRUCTION OF ELASTIC WHEELS. JACOBUS SPYKER, Amsterdam, Netherlands. Filed June 9, 1909. Serial No. 501,013.



1. An elastic wheel comprising in combination, a pneumatic chamber formed of metallic disks provided adjacent to the inner edge thereof with conical grooves and having flexible rubber connections, and rubber vulcanized on the interior thereof, adapted to interlock with the flexible connection and retain the elements in their operative position.

2. An elastic wheel comprising, in combination, a pneumatic chamber composed of rigid and flexible elements, a rubber lining vulcanized on said rigid elements, projecting and circularly extending lugs formed on said rigid member, similar elements formed on said flexible member aforesaid, said lugs adapted to interlock, and means whereby said lugs are retained in this position.

3. In an elastic wheel, a pneumatic chamber comprising rigid elements, a rubber lining vulcanized to said elements, and flexible connections for said rigid elements.

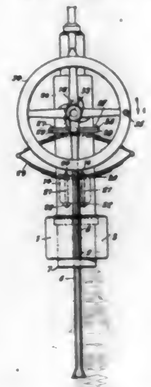
4. In an elastic wheel, a pneumatic chamber comprising, in combination, a plurality of rigid disks, a rubber lining vulcanized thereto, flexible elements coöperating with said rigid elements adapted to connect said rigid elements with a nave.

5. In an elastic wheel, a pneumatic chamber composed of rigid members in halves, flexible members connecting said rigid members, interlocking substantially conical connections between said rigid and flexible elements, and a rubber lining vulcanized to said rigid elements, said lining completing the air tight joint between said rigid and flexible elements.

972,726. POWER ROCK-DRILL. STERLING STANLEY STEVENSON, Saltillo, Mexico. Filed June 3, 1909. Serial No. 499,840.

1. A power rock drill, comprising a sectional frame provided at its lower end with annular grooves, and with

vertical guideways above the grooves, a two-part bushing consisting of upper and lower members spaced apart from each other, each having an annular rib for engaging a groove, a tool holder rotatable in the bushing, and having an annular gear ring received between the members of the bushing, a protecting cap above the holder and having a central opening for the passage of the drill end, a hammer slidable in the guideways, a power shaft journaled transversely of the frame above the hammer, a wiper cam wheel on the shaft provided with a plurality of wipers, a lifting link comprising spaced parallel side bars connected at each end by an integral cross bar, the hammer having a recess on its upper face for receiving the lower cross bar of the lifting link, the upper cross bar being arranged above the cam wheel for engagement by the wipers, the side bars of the link having laterally curved portions for receiving the shaft, an elliptical spring arranged between the shaft and the hammer, the lower member thereof resting upon the lower cross bar of the link, hangers engaging the spring on each side of the link for securing the spring and the link to the hammer, a cap plate secured to the casing and against which the upper member of the spring rests, means engaging the gear ring for rotating the tool holder.

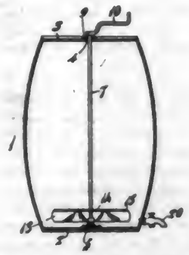


2. A power rock drill, comprising a frame, provided at its lower end with annular grooves and vertical guideways above the grooves, a two-part bushing each part having a rib for engaging a groove, a tool holder rotatable in the bushing, a protecting cap above the holder and having a central opening for the passage of the drill end, a hammer slidable in the guideways, a power shaft journaled in the frame above the hammer, a wiper cam wheel on the shaft, a lifting link, the hammer having a recess on its upper face for receiving the lower end of the link, the upper end being arranged above the cam wheel for engagement by the wiper, said link being laterally curved adjacent to the shaft, a spring arranged between the shaft and the hammer and normally pressing the said hammer downwardly, a cap plate secured to the casing against which the upper end of the spring rests, and a driving connection between the shaft and the tool holder for rotating the said holder.

972,727. AGITATOR OR STIRRER FOR PAINT-BARRELS AND THE LIKE. FRED B. STOCKMANN, Cincinnati, Ohio, assignor, by mesne assignments, to Margaret Frelinger, Newport, Ky. Filed June 28, 1909. Serial No. 504,707.

1. A stirrer or agitator device for paint barrels or the like, the same comprising a single sheet of metal having a flat body portion, made integral flaring wing portions at the opposite ends of such body portion but within the length thereof and a horizontal flange or forwardly-projecting portion along the upper edge of said body portion.

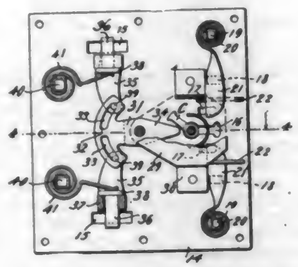
2. A stirrer or agitator device for paint-barrels or the like, the same comprising a single sheet of metal having a flat body portion, made integral flaring wing portions at the opposite ends of said body portion but within the length thereof, a horizontal flange extending along the upper edge of said body portion, an outwardly-extended eye-portion centrally made in the lower edge of the body portion, an aperture or guide-way pierced in the center of said upper flanged portion and means comprising an upright shaft for supporting said blade for rotation within a paint-barrel or the like.



3. A stirring or agitating device for use in paint-mixers or like receptacles, the same comprising an upright shaft, a raised bearing within the lower or bottom portion of said paint-mixer or like receptacle for receiving the lower end of said shaft, a cotter-pin in the extended end of said shaft below the raised portion of said bearing, a stirring-blade horizontally-extended at the lower end of said shaft above the said bearing and made of a single sheet of metal with oppositely-flaring wings and a horizontal flange, a rivet for securing said blade to the shaft and a driving hand-crank removably-attached to the upper end of said shaft.

4. A paint-mixer having therein a vertical shaft and a horizontal blade or paddle, a top-head having a central aperture for the outwardly-extending portion of said shaft and a hollow safety-plug having a closed head, a flanged base and a screw-threaded lower extended shank portion adapted to close said aperture and receive the upper end of the shaft when the device is not in use or to be handled in transportation.

972,728. LOCK. EDD O. STOEBLEE, Enderlin, N. D. Filed Apr. 8, 1910. Serial No. 554,293.



1. In a device of the class described, the combination with a door frame, having a door coöperating therewith, of a lock carried by the door frame, of a plurality of hasps carried by the door, a plurality of bolts in said lock adapted to engage said hasps, means whereby said bolts may be operated independently by the same key.

2. In a device of the class described, the combination with a door frame, having a door coöperating therewith, a lock carried by said frame, a plurality of spring operated bolts in said lock, a tumbler engaging said bolts, a plurality of hasps carried by the door adapted to be engaged by said bolts, and means whereby a key may be retained from engagement with said tumbler.

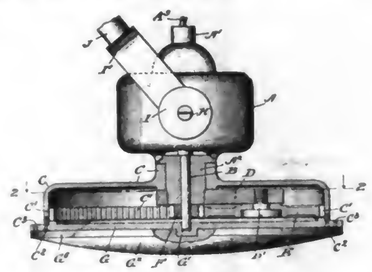
3. In a device of the class described, the combination with a door frame, having a door coöperating therewith, a lock carried by said frame, a plurality of spring operated bolts in said lock, a tumbler engaging said bolts, a plurality of hasps carried by the door adapted to be engaged by said bolts, means whereby a key may be retained from engagement with said tumbler and means whereby said last named means may be operated to permit the rotation of the key.

4. In a device of the class described, the combination with a door frame having a door coöperating therewith, of a plurality of hasps carried by the door, a lock carried by said frame comprising a plate, a plurality of bolts carried by said plate adapted to coöperate with said hasps, a tumbler adapted to operate each of said bolts independently, and means whereby a key may be retained from operating said tumbler.

5. In a device of the class described, the combination with a door frame, having a door coöperating therewith, of a plurality of hasps carried by said door, and a lock carried by said door frame comprising in combination a plate, a plurality of spring actuated bolts reciprocatingly carried by said plate adapted to coöperate with said hasps, and means whereby each of said bolts may be operated independently.

[Claims 6 to 10 not printed in the Gazette.].

972,729. ELECTRIC ROTARY FLOOR SURFACING, SCRUBBING, AND POLISHING MACHINE. WILLIAM H. STRANGE, Chicago, Ill., assignor of one-half to Robert H. Langston and John P. Sullivan, Chicago, Ill. Filed Sept. 8, 1906. Serial No. 333,857.



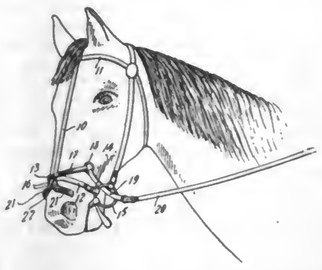
1. In a machine of the kind described, the combination of an electric motor having a shaft adapted to rotate vertically in a casing; a casing inclosing said motor, its lower extended part forming a fixed bearing; a head rotatably supported on said bearing, the interior periphery of said head forming a gear; an arm rigidly fixed on said bearing below and in contact with said head; a pivot stud supported in said arm; a gear wheel rotatably supported on said stud adapted to mesh in the gear of said head; a pinion rigidly affixed on said motor shaft below said arm, said pinion being adapted to mesh into said gear wheel; a plate secured to said head inclosing said gears, said plate being adapted to support tools for surfacing, scrubbing or polishing as described; and a handle attached to the casing of said motor.

2. The combination of a motor having a vertical shaft provided with a gear wheel and a downwardly extending bearing, an arm extending laterally from said bearing, a head journaled on said bearing above said arm and carrying an internal gear, gearing connecting said gears on said shaft and head and comprising an intermediate gear journaled on said arm, said head being hollow and forming a closed housing for said gearing, and means for attaching surfacing, scrubbing or polishing devices to said head below said gearing.

3. The combination of a motar having a vertical shaft provided with a gear wheel and a downwardly extending bearing, an arm extending laterally from said bearing, a head journaled on said bearing above said arm, gearing between said shaft and head comprising an intermediate gear journaled on said arm, and means for attaching surfacing, scrubbing or polishing devices to said head below said gearing.

4. The combination of a motor having its shaft vertically disposed and having a downwardly extending bearing, a bell-shaped head journaled on said bearing and arranged to support the motor, gearing operatively connecting said head and shaft and housed within said head, and a plate secured across said head below said gearing, forming a closure for said head and adapted to support surfacing, scrubbing or polishing devices.

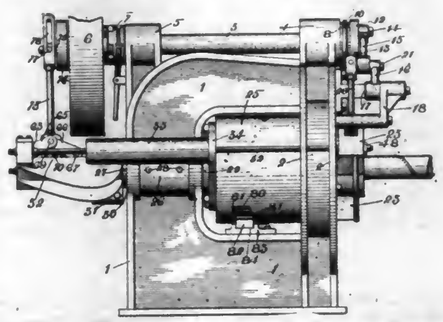
972,730. SAFETY DEVICE FOR HORSES. REIS H. STRONACH, Roxbury, Mass. Filed June 13, 1910. Serial No. 566,613.



1. The combination with a bridle, of a supporting strap carried thereby, a nose band carried by said supporting strap connected at its terminals to the bit rings of the bridle, and a plurality of choking members pivotally secured to said nose band adapted to be operated by the driving reins of the bridle.

2. The combination with a bridle, of a supporting strap carried thereby, a nose band carried by the lower terminal of said supporting strap connected at the terminals to the bit rings of the bridle, a pair of U-shaped members pivotally connected to said nose band adapted to conform to the contour of a horse's nose, one arm of the U-shaped member adapted to force the remaining arm into the animal's nostrils, auxiliary straps connecting said U-shaped members to driving reins, and a spring interposed between and rigidly secured to the choking portions of the U-shaped members and adapted to normally retain the same from closing the animal's nostrils.

972,731. SPIRAL-PIPE-FORMING MACHINERY. JAMES HALL TAYLOR, Chicago, Ill., assignor to American Spiral Pipe Works, Chicago, Ill., a Corporation of Illinois. Filed June 9, 1902. Serial No. 110,846.



1. In a spiral pipe machine, the combination with means adapted to grip the pipe and to head rivets inserted in the overlapping edges of the sheet metal forming the pipe, of means for oscillating the gripping mechanism to

bring the metal of the pipe in position to receive a fresh rivet and permit said gripping mechanism to head such fresh rivet, substantially as described.

2. In a spiral pipe machine, the combination with means adapted to grip the pipe and to head rivets inserted in the over-lapping edges of the sheet metal forming the pipe, of means for forming rivet holes through over-lapping edges of the metal of the spiral pipe, and means for oscillating the gripping mechanism as a whole with respect to said means for forming the rivet holes to bring the metal of the pipe in position to receive a fresh rivet and permit the said gripping mechanism to head the fresh rivet.

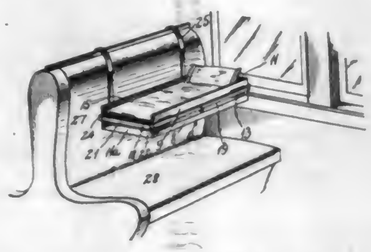
3. In a spiral pipe machine, the combination with means adapted to grip the pipe and to head rivets inserted in the over-lapping edges of the sheet metal forming the pipe, of means for forming rivet holes through over-lapping edges of the metal of the spiral pipe, means for oscillating the gripping mechanism as a whole with respect to said means for forming the rivet holes, and means causing the bodily reciprocation of the gripping mechanism, each reciprocal movement being concurrent with an oscillatory movement, whereby the pipe may be fed for each riveting and whereby the pipe may be drawn into position to receive fresh rivets to be headed by the gripping and heading mechanism.

4. In a spiral pipe machine, the combination with combined gripping and rivet-heading mechanism having jaw members, of a rivet-inserting device, means for first causing movement of the rivet-inserting device, to insert a rivet through the parts to be riveted together, means for then causing movement of the jaw members to cause the gripping and heading mechanism to engage and head the inserted rivet, means for causing a bodily advanced movement of said mechanism following each relative movement thereof to head and rivet, means for causing relative return movement of the jaw members to release the gripping and heading mechanism from the rivet, and means for then causing a bodily return movement of said jaw members and the gripping and heading mechanism to the normal position.

5. In a spiral pipe machine, the combination with inside gripping and heading mechanisms, complementary outside gripping and heading mechanisms, means serving to cause movement of the members of one of said gripping and heading mechanisms away from each other, means for causing bodily movement of the mechanisms in a forward direction and intervening reverse movements thereof, and means serving to impart oscillatory movement to said gripping and heading mechanisms concurrent with the forward movement thereof.

[Claims 6 to 56 not printed in the Gazette.]

972,732. COLLAPSIBLE BERTH FOR INFANTS. WILLIAM J. TEMPLE, Redlands, Cal. Filed June 7, 1910. Serial No. 565,626.



1. An infant's cot having a body having side leaves adapted to fold thereupon, a folding hanger frame detachably engaging said body and adapted to support the same.

2. An infant's cot having a body with a bottom to support the mattress, leaves connected to the edges of said body and adapted to fold thereupon, a folding frame adapted to extend around the outer sides of said leaves and normally holding said leaves in an upright position, and means for supporting said hanger frame.

3. An infant's cot having a body with side leaves hinged thereto at the lower edges and adapted to fold inwardly thereupon, and normally disposed in an upright position about said bottom, a removable hanger frame having bars engaging and extending around said leaves, said leaves having means for engaging said bars to support said leaves thereupon, and folding hooked extensions on said frame for supporting the same.

4. An infant's cot having a body with a bottom to support the mattress, leaves having hinge connections at the edges of said body and adapted to fold thereupon, a folding frame adapted to extend around the outer sides of said leaves, and means for supporting said hanger frame.

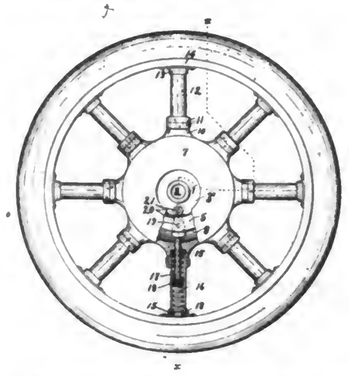
5. An infant's cot having a bottom adapted to support a mattress, having side boards extending upwardly therefrom, a hanger frame formed with bars extending along the outer sides of said side boards, means for supporting said side boards on said bars, said bars having a joint connection therebetween, enabling said frame to be folded up, and means carried by said frame for supporting the same.

972,733. FENCE-POST. EDWIN H. E. THIEROFF, Defiance, Ohio. Filed Sept. 11, 1908. Serial No. 452,640.



In a wire fastener for fence posts, a post having a passage therein of the same diameter throughout, the said passage being of rectangular configuration in transverse section and opening on opposite sides of the post, a wire-engaging fastener removably mounted in the passage and constructed from a single length of metal and formed to provide a longitudinally extending main body portion which is seated approximately throughout its entire length against the upper wall of the passage, the said metal being bent at its opposite ends to form hooks which extend in opposite directions and lie at right angles to each other, the tongue of one hook underlying a minor portion of the main body of the fastener and seated against the bottom wall of the passage and the other hook having its tongue arranged in a horizontal plane with the main body of the fastener and seated against one side wall of the passage, the said tongues being spaced from the main body of the fastener so as to take advantage of the elasticity of the metal, one of the hooks being arranged for the reception of the line wire of the fence and holding such line wire in its adjusted position but out of clamping or gripping engagement with the post, and a removable fastening having a main locking portion of the same transverse diameter throughout engaged with the opposite hook of the fastener to hold the same against displacement from the post.

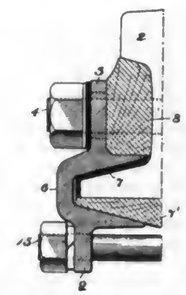
972,734. VEHICLE-WHEEL. GEORGE H. THOMAS, Elmira, N. Y., assignor to Thomas Resilient Wheel Company, Elmira, N. Y., a Corporation of New York. Filed Mar. 5, 1909. Serial No. 481,420.



1. In a vehicle wheel in combination, a central hub having a transverse opening, an outer hub casing with a transverse opening for the central hub, external annular flanges on said central hub operatively engaging the walls of said outer hub, spokes engaging the felly and gripped in the outer hub by threaded rings, each spoke having an internally threaded collar seated in each end, and a coil spring with its ends engaged by the collar threads, and rods operatively connecting the central hub to the springs midway of their length whereby all of the springs are compounded in action at once in support of the central hub.

2. A vehicle wheel having a central hub to carry the axle, an outer hub casing with a transverse opening for the central hub, cylindrical spokes interposed between the outer hub and tire carrying felly, each spoke having within it a coil spring secured at each end by an internally threaded collar, rods connected to the central hub by links, and having their outer ends enlarged with threads engaging each of the springs midway their lengths, whereby all of the springs are made active at the same time in support of the axle.

972,735. RAIL-JOINT. WILLIAM P. THOMSON and SAMUEL G. THOMSON, Philadelphia, Pa., assignors to Thomson-Thomson Company, Philadelphia, Pa., a Partnership. Filed Dec. 27, 1907. Serial No. 408,296.



1. In a rail joint, a splice bar having two upright bolting members located adjacent to the outer edge of the rail base, flanges projecting inwardly to form a recess to receive the greater portion of one of the base flanges of the rail, and bolting means above and below the rail base to clamp said inwardly projecting flanges to the rail base.

2. In a rail joint, a splice bar having an upright bolting member above the rail base and another upright bolting member below the rail base, both of which are located adjacent to the outer edge of the rail base, a flange projecting inwardly along the rail base from each of said bolting members to clamp the rail base, and bolting means for holding said splice bar to the rail.

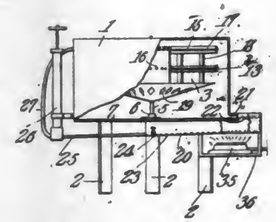
3. In a rail joint, a splice bar having two upright bolting members lying in planes adjacent to the outer edge of the rail base, bolting means applied to said bolting members above and below the rail base, and base-clamping flanges projecting inwardly to form a recess which is contractible by the application of said bolting means.

4. In a rail joint, a splice bar having an upright bolting member joined to an inwardly projecting member above the rail base and another upright bolting member joined to an inwardly projecting member below the rail base, each of which junctures forms an L-shaped structure having its apex adjacent to the outer edge of the rail base, and bolting means above and below the rail base to clamp said splice bar to the rails.

5. In a rail joint, a splice bar having an L-shaped portion above the rail base and embracing a filling block between its members and the rail, another L-shaped portion below the rail base, and bolting means above and below the rail base to clamp said parts to the rails.

[Claims 6 to 8 not printed in the Gazette.]

972,736. WASHING-MACHINE. WILLIAM PHILIP TIPPIT, Fayette, Mo. Filed July 12, 1909. Serial No. 507,153.



1. A device of the class described comprising a tank; a dish rack rotatably mounted in the tank; and means for directing a stream of fluid directly against the dishes in the rack to secure a rotation of the rack, said means being shiftably mounted to direct the stream of fluid alternately against opposite sides of the dishes.

2. A device of the class described comprising a tank; a dish rack rotatably mounted in the tank; a nozzle positioned to discharge a stream of fluid directly against the dishes in the rack to secure a rotation of the rack in one direction; and means for holding the nozzle in a position to impinge the dishes at a different angle to secure a reverse rotation of the rack.

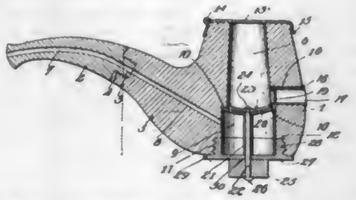
3. A device of the class described comprising a tank; a dish rack rotatably mounted in the tank; a nozzle positioned to discharge tangentially with respect to the rack to secure a rotation of the rack; and an arm carried by the tank and arranged to receive the nozzle to hold the same at different angles with respect to the rack.

4. A device of the class described comprising a tank; a dish rack rotatably mounted in the tank; a nozzle pivotally mounted intermediate its ends in the tank and arranged to discharge tangentially with respect to the rack to secure a rotation of the rack; and an arcuate arm terminally attached to the tank and having nozzle receiving elements whereby the angle of the nozzle may be adjusted with respect to the rack.

972,737. TOBACCO-PIPE. GEORGE PHILIP TOBIAS, Willow Springs, Mo. Filed Jan. 25, 1910. Serial No. 540,000.

1. A pipe comprising a bowl and a stem, said bowl having a receptacle for tobacco, circular in cross section extending from top to bottom of the same, and a lateral

opening near its upper end, a cover hinged to the top of the bowl, and normally closing the upper end of the receptacle, a cap screwing into the lower end of the receptacle, and closing said lower end, said receptacle having its lower end enlarged, a shoulder being formed between the upper portion and the enlarged portion, a concavo-convex grate resting against the shoulder and having its convex face downward, said grate and cap being circular in form, and each having a central opening, a tube extending between the grate and cap, the bore thereof registering with the openings, a stem journaled in the tube, and extending beyond the cap and grate, a stirring bar secured to the upper end of the stem and fitting against the upper face of the grate, a button secured to the lower end thereof, a tube in the lateral opening, and a screen arranged transversely of the tube.



2. A pipe comprising a bowl and a stem, said bowl having a receptacle for tobacco, circular in cross section, extending from top to bottom of the same, and a lateral opening near its upper end, a cover hinged to the top of the bowl and normally closing the upper end of the receptacle, a cap screwing into the lower end of the receptacle and closing said lower end, said receptacle having its lower end enlarged, a shoulder being formed between the upper portion and the enlarged portion, a concavo-convex grate resting against the shoulder and having its convex face downward, said grate and cap being circular in form and each having a central opening, a tube extending between the grate and cap, the bore thereof registering with the openings, a stem journaled in the tube and extending beyond the cap and grate, a stirring bar secured to the upper end of the stem and fitting against the upper face of the grate, a button secured to the lower end thereof, and a removable screen arranged transversely of the lateral opening.

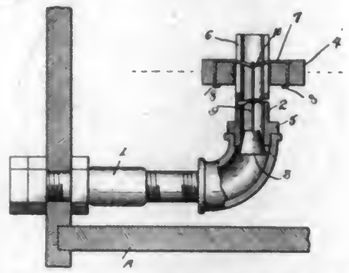
3. A pipe comprising a bowl and a stem, said bowl having a tobacco receptacle extending through the same, and provided with a lateral opening near its upper end, a removable screen in said opening, a cover for the upper end of the receptacle, said receptacle having its lower end enlarged, a shoulder being provided between the enlarged portion and the upper portion, a grate arranged transversely of the receptacle, the edge thereof resting against the shoulder, a cap screwing into the lower end of the opening and normally closing the same, a stem journaled in the grate and the cap, and extending above the grate and below the cap, a tube encircling the stem and bearing at its ends against the cap and grate, a stirring bar secured to the upper end of the stem, and a button secured to the lower end thereof.

4. A pipe comprising a bowl and a stem, said bowl having a tobacco receptacle extending through the same, and provided with a lateral opening near its upper end, a removable screen in said opening, a cover for the upper end of the receptacle, a cap detachably connected with the bowl and normally closing the lower end of the receptacle, a screen arranged transversely of the receptacle above the cap, a stirring bar on the screen, means for operating said bar, and means for connecting the cap and the screen and for holding them in spaced relation.

5. A pipe having a receptacle for tobacco opening at the top and bottom of the bowl, and provided with a lateral opening near its upper end, a removable cover for the upper end of the receptacle, a grate below the lateral opening, a cap detachably connected with the bowl and closing the lower end of the receptacle, a connection between the cap and the grate, a stirring bar on the grate, means connected with the bar and extending through the cap for operating the same, and a removable screen in the lateral opening.

[Claims 6 to 17 not printed in the Gazette.]

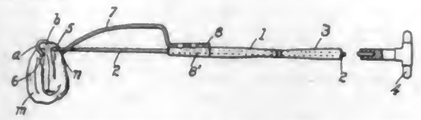
972,738. STOCK-WATERER. JESSE E. TOWNSEND, Richmond, Ind. Filed Jan. 25, 1910. Serial No. 540,055.



1. A valve mechanism for stock-watering troughs the same comprising a pipe having a valve seat and formed in opposite sides with vertically disposed slots, a float mounted upon the pipe and directed in its movements thereby, a connection passing through the vertical slots of the pipe and secured at its ends to the float and a valve adapted to close upward and having connection with the said connection attached to the float and passing through the vertical slots of said pipe.

2. Valve mechanism for stock-watering troughs comprising a vertically arranged pipe having a valve seat and provided in opposite sides with vertical slots, a float mounted upon the pipe, a wire passing through the vertical slots of the pipe and having its end portions connected with the said float, having its intermediate portion depressed, a valve adapted to close upward against said seat, and a stem connecting said valve with the depressed portion of the wire attached to said float.

972,739. MOP HOLDER AND WRINGER. EMIL T. WEBER, St. Louis, Mo. Filed July 2, 1910. Serial No. 570,164.

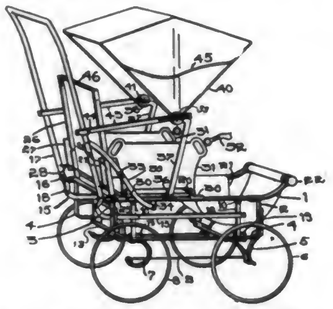


A mop-holder comprising a hollow handle, an upwardly arched spring arm projecting beyond one end of the same, and terminating at the free end in a mop-holding transverse member, a concaved neck bent in an opposite direction to the arch of the spring arm being formed in the latter at a point between the arch and said transverse member, a rotatable rod mounted to slide longitudinally in the hollow handle and projecting beyond the ends of the latter, the end of the rod opposite the arched spring arm terminating in a triangular mop-holding loop, the neck aforesaid being in the path of movement of the loop whereby the latter in its movement across the neck displaces the latter, the neck automatically springing into the opening of the loop after the loop has passed the neck, thus locking the parts together.

972,740. COLLAPSIBLE CART. JOHN WEBER, Jr., Toledo, Ohio, assignor to The Toledo Metal Wheel Company, Toledo, Ohio, a Corporation of Ohio. Filed Aug. 19, 1907. Serial No. 389,109.

1. A vehicle having a body provided with a seat, a bottom portion adjustable independently of the seat, and a roller for adjusting the bottom.

2. A vehicle having a body provided with back and bottom portions, and a self-locking adjustable roller for varying the size of the bottom independently of the back.



3. A vehicle having a body provided with a seat, inwardly folding seat sides, a pivoted vehicle directing member, and member and seat side locking links directly coacting between the body, member and sides to lock in set-up position.

4. A vehicle comprising a body, a pivoted wheel carrying frame mounted on each side of the body to fold beneath the body, wheels mounted in said frame, a brace member pivoted to the body and movable to engage the frames and hold said frames in unfolded position, a pivoted directing member for the vehicle mounted on the body and extending rearwardly of the vehicle, and a connection between the directing member and the brace member, said connection including an element pivotally connected to and extending forwardly from the directing member, an element connected to the brace member and extending toward the forward end of the vehicle when the vehicle is in set up position, and intermediate engaging means operatively connecting the elements to permit actuation of the brace member from the directing member and allowing folding of the brace member and one of said elements into different planes.

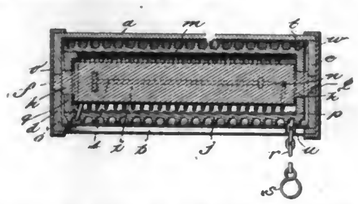
5. A vehicle comprising a body, a pair of pivoted wheel carrying frames mounted on the body and adapted to fold beneath the body, wheels mounted in said frames, forward and rear brace members pivoted to the body and movable to hold the frames in unfolded position, a directing member for the vehicle pivoted to the body and extending rearwardly of the vehicle, and link connecting mechanism between the directing member and brace members, said mechanism including an element connected to one of the brace members and extending toward the forward end of the vehicle when the vehicle is in set up position, an element pivotally connected to and extending forwardly from the directing member, and intermediate engaging means operatively connecting said elements and allowing folding of the brace member and one of said elements into different planes, said mechanism engaging the other brace member to effect simultaneous throw of said brace members from said directing member.

[Claims 6 to 8 not printed in the Gazette.]

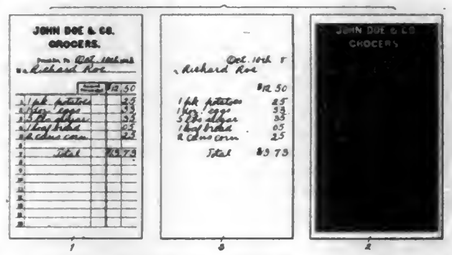
972,741. REEL-HOLDER. OTTO B. WEDELL, Elgin, Ill., assignor to Elgin Eyeglass Reel Co., Elgin, Ill., a Corporation of Illinois. Filed June 9, 1909. Serial No. 501,066.

1. In a reel holder, the combination of a case, a drum closely fitting in said case, a spring adapted to rotate said drum in one direction, and a chain adapted to be wound on said drum, said case being provided with means to prevent the rotation of said drum by engagement with the chain, the relation of the case and drum being such that, as the chain is wound up by the spring, it is coiled upon the drum in a single layer, substantially as described.

2. In a reel holder, the combination of a notched and slotted case, a revoluble drum centrally mounted therein, a spring inside of said drum for rotating the same in one direction, and a chain, one end of which is attached to said drum and passing out through said slot, said chain being adapted to travel in said slot as the drum is revolved and to engage with said notch to prevent the rotation of the drum, the relation of the case and drum being such that, as the chain is wound up by the spring, it is coiled upon the drum in a single layer, substantially as described.



972,742. MANIFOLD-PAPER. WILLIAM L. WEST, Franklin, Pa. Filed Nov. 16, 1908. Serial No. 462,885.



1. A manifold paper having words, lines, etc., outlined by carbon or other coloring material, the words, etc., being in intaglio, the carbon or other material being capable of being transferred by pressure to a superimposed surface.

2. A blank for duplicate records having words, lines, etc., formed by covering the surface of the blank with a transfer ink except the portions of the surface corresponding to such words, lines, etc., the transfer ink being capable of being transferred by pressure to a superimposed surface.

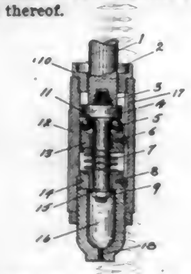
3. A manifolding sheet having words, etc., outlined by carbon or other coloring material, the words being in intaglio, and the carbon being capable of being transferred by pressure to a surface in contact therewith.

4. An article of the class described comprising a sheet, a copying or transfer coating on one surface thereof and an uncoated text in intaglio in said coating.

972,743. SPINDLE STEP-BEARING. DANIEL N. WILD, Cedar Falls, Iowa. Filed June 28, 1909. Serial No. 504,883.

1. A spindle step-bearing, comprising in combination, a bushing having a groove on its inner surface, a rotary spindle whose lower end extends into said bushing concentrically, a solid supporting-body detachably secured to the lower end of said spindle within said bushing, said supporting-body having a filleted expansion near its top, an annular element having a raceway located loosely about said supporting-body below its filleted expansion, anti-friction balls in said raceway and supporting said filleted expansion, means for preventing the rotation of said element consisting of a projection on the raceway element extending therefrom movably into said groove in said bushing, and means for resiliently upholding said element.

2. A spindle step-bearing, comprising, in combination, a hollow bushing, a spindle rotatable therein and spaced away therefrom, a spindle-support therein detachably-engaged therewith to rotate therewith, said support having an annular expansion concentric with said spindle, also a concentric depending stem, a raceway sleeve about and spaced away from the said stem, anti-friction balls in said raceway supporting said annular expansion, a vertically-adjustable sleeve about said stem and spaced apart therefrom, a coiled compression-spring seated between said sleeves and engaged therewith, and means for preventing a horizontal rotation of both sleeves but permitting vertical movements thereof.



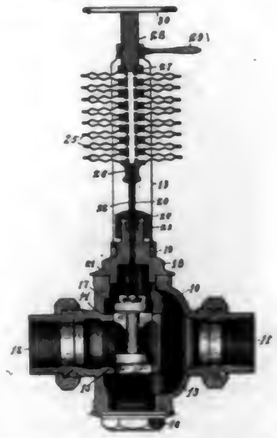
3. A spindle step-bearing, comprising, in combination, a hollow bushing, a rotary spindle therein, a hollow nut adjustably seated in the lower end of said bushing, a supporting-body for said spindle having a depending stem movable in the hollow of said bushing and extending into the hollow of said nut, a sleeve about said stem and upheld by said nut, resilient means interposed between said sleeve and said supporting body to resiliently and yieldingly support the latter to obviate sidewise oscillations thereof, and a washer removably secured on the lower end of the stem of said supporting-body below the lower surface of said sleeve.

4. A spindle step-bearing, comprising in combination, a hollow bushing, a rotary spindle dipping thereinto, a hollow nut seated adjustably in the lower end of said bushing, a supporting-body for said spindle having a solid depending stem movable in the hollow of said bushing and extending into the hollow of said nut, a sleeve seated loosely about said stem and supported on said nut between it and the said supporting-body, anti-friction means located between said supporting-body and said sleeve, and engaging-means removably secured to the lower end of the stem of said supporting-body below the lower end of said sleeve.

5. A spindle step-bearing, comprising in combination, a hollow bushing, a spindle rotatable therein and spaced away therefrom, a spindle-support therein detachably engaged with the spindle-end to rotate therewith, said support having a filleted expansion and a depending stem concentric with said spindle, a raceway sleeve about and spaced away from said stem, anti-friction means in said raceway supporting said filleted expansion, a vertically-adjustable sleeve about said stem and spaced apart therefrom, and resilient means yieldingly seated between said sleeves and engaged therewith.

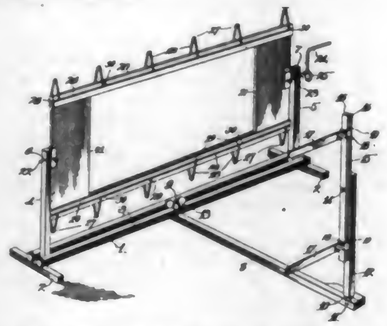
972,744. FLUID-PRESSURE-VALVE REGULATOR. THOMAS M. WILKINS, East Randolph, N. Y., assignor of five-sixteenths to W. E. Zierden, Johnsonburg, Pa., one-fourth to John G. Whitmore, Ridgway, Pa., and seven-sixteenths to Ziermore Regulator Company, Johnsonburg, Pa., a Corporation of Pennsylvania. Filed Aug. 19, 1909. Serial No. 513,580. Renewed Aug. 11, 1910. Serial No. 576,675.

1. The combination with a valve and casing therefor, of a hollow valve stem extending into and communicating with the valve casing and connected with the valve, a yoke rigid with the valve casing and provided with an opening in alinement with the valve stem, a plurality of superposed centrally communicating diaphragms the lower one of which is rigidly connected with the extremity of the valve stem, and a tension screw extending through the alined opening of the yoke and bearing against the top of the upper diaphragm.



2. The combination with a valve and casing therefor of a hollow valve stem extending into and communicating with the valve casing and connected with the valve, a yoke rigid with the valve casing and extending above the valve stem, a diaphragm rigidly connected with the upper end of the valve stem, and means carried by the yoke for exerting varying degress of pressure upon the diaphragm above and in alinement with the valve stem.

972,745. LACE-REEL. JOHN BARRY and MICHEAL L. SHAUGHNESSY, Westphalia, Kans. Filed Oct. 2, 1909. Serial No. 520,718.

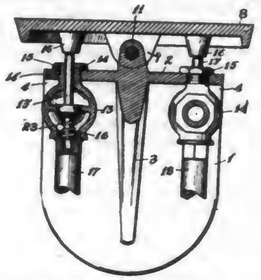


A lace reel comprising a stand including upright posts at its ends, a reel between and pivoted to said posts, a swing frame comprising a horizontal bar pivoted to the stand between the posts thereof, and a post upon the outer end of said bar and susceptible of being turned, a bar pivoted to said post for rotation in a vertical plane, and arms projecting laterally from said bar and extending parallel with the pivot thereof.

972,746. COMBINED RINSER AND STERILIZER. BENJAMIN W. BEACH, Georgetown Station, N. Y. Filed June 10, 1910. Serial No. 566,234.

1. The combination with a supporting bracket, of fluid controlling valves carried thereby, a can supporting table pivoted on the bracket and adapted to operate the valves in either direction of its movement, and means adapted to normally close the valves and balance the table.

2. The combination with a supporting bracket, of fluid controlling valves carried thereby, a can supporting table pivoted on the bracket and adapted to operate the valves in either direction of its movement, means to normally close the valves and to balance the table, and means to limit the movement of the table in either direction.



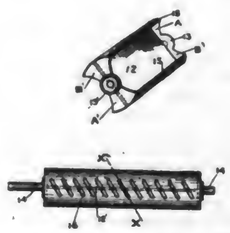
3. The combination with a supporting bracket, of fluid controlling means removably supported thereon, a can table pivoted upon the bracket and having apertures therein, and spraying nozzles carried by the fluid controlling means and arranged coincident with the apertures.

4. The combination with a supporting bracket, of spring operated valves carried thereby, a can table pivoted to the bracket and having apertures therein, spraying nozzles carried by the valve and arranged coincident with the apertures, and valve stems engaging the table to hold the same balanced.

5. The combination with a supporting bracket, of a can table pivoted thereto, valves carried by the bracket, and valve stems projecting through the bracket and engaging the table for holding the table in horizontal position.

[Claims 6 and 7 not printed in the Gazette.]

972,747. DISH-WASHING MACHINE. ALPHA R. BEAL and ANTON HETTEL, Rochester, N. Y.; said Hettel assignor to said Beal. Filed Mar. 29, 1907. Serial No. 365,227.

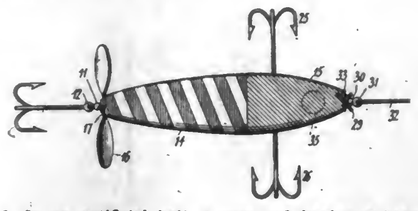


1. A rotatable sprayer for dish-washing machines consisting of a central body portion, oppositely facing buckets on each of the two faces of the body in which water is held by centrifugal action, two of said buckets—one on each face—being active when the sprayer is rotating in one direction and the other two when rotating in the opposite direction, each of the buckets having slots extending diagonally to the plane of the body portion.

2. A rotatable sprayer for dish-washing machines comprising a central or plate-like body portion, a bucket-forming plate secured to each of the longitudinal edges of the body, each of said plates being secured midway its longitudinal edges for forming a bucket at each of the opposite sides or faces of the body, each of said bucket-forming plates having a series of diagonal slots traversed by the edge of the body portion and thus divided between the opposite buckets.

3. A rotatable sprayer for dish-washing machines comprising a plate-like body portion, two bucket-forming plates each having one of its side faces secured, midway its longitudinal edges, to an edge of the body portion, each of the bucket-forming plates having a series of slots disposed diagonally to the axial line of the body portion, the diagonal slots in one plate extending in a reverse direction to those of the other plate, each of the slot series being traversed by the edge of the body portion and thus divided between the opposite buckets.

972,748. ARTIFICIAL BAIT. FREDERICK W. BREDER and JOHN H. LOYD, Springfield, Mo.; said Loyd assignor to Marshall O. Brixey, Springfield, Mo. Filed Apr. 19, 1909. Serial No. 490,876.



1. In an artificial bait, a core rod having a bearing block intermediate the ends and with means at one end for the attachment of a draft line, hooks mounted to swing upon said rod at its other end, a forward body portion mounted upon said rod and having a recess to receive said stop collar, said forward body portion having a transverse aperture through which said rod extends, a transverse rod engaging over said core rod within said aperture, hooks movably connected to said transverse rod and extending laterally from said forward body portion, a rearward body portion mounted for rotation upon said core rod, a spinner upon said rearward body portion and rotative therewith upon the core rod, and another spinner rotative upon said core rod in advance of said forward body portion.

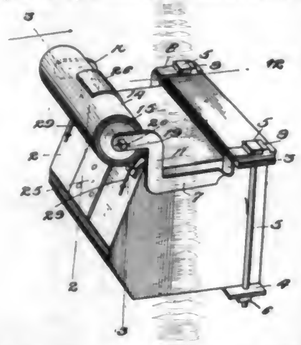
2. In an artificial bait, a core rod having means at one end for the attachment of a draft line, hooks mounted to swing upon said rod at its other end, a forward body portion mounted upon said rod, said forward body portion having a transverse aperture through which said rod extends, a transverse rod engaging over said core rod within said aperture, hooks movably connected to said transverse rod and extending laterally from said forward body portion, a rearward body portion mounted for rotation upon said core rod, a spinner having a tubular stud engaging over said core rod and externally threaded and fitting within said rearward body portion and thereby coupling the stud and the spinner thereto, and another spinner rotative upon said core rod in advance of said forward body portion.

3. In an artificial bait, a core rod having means at one end for the attachment of a draft line, hooks mounted to swing upon said rod at its other end, a forward body portion mounted upon said rod, said forward body portion having a transverse aperture through which said rod extends, a transverse rod engaging over said core rod within said aperture, and with open twist coils at its ends, hooks having eyes detachably engaging said coils and extending laterally from said forward portion, a rearward body portion mounted for rotation upon said core rod, and another spinner rotative upon said core rod in advance of said forward body portion.

972,749. LOCK FOR JOURNAL-BOX LIDS. LEONARD L. BROWN, Clifton Forge, Va., assignor of one-fourth to George T. Sigler, Clifton Forge, Va., and three-fourths to William T. Sigler. Filed Mar. 9, 1910. Serial No. 548,152.

1. A locking device for doors of journal boxes comprising telescopically arranged cylinders supported by a journal box one of said cylinders being rotatable and the other stationary, said cylinders provided with latch receiving slots, and a journal box door latch adapted for engagement with said slots.

2. A door locking device for journal boxes, comprising a stationary and a rotatable cylinder supported in telescopic relation, the stationary cylinder provided with a longitudinal slot and the rotatable cylinder provided with a central slot and a communicating longitudinal slot, and a door latch having a head adapted to be passed through said longitudinal slots when in alinement, and retained in said cylinder by rotating the rotatable cylinder.

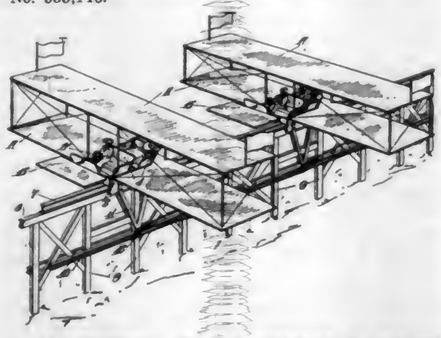


3. A door locking device for journal boxes comprising a pair of locking cylinders adapted to be supported by a journal box, said cylinders provided with latch-receiving slots, a plate adapted to be connected to a door and projected over said slots, and a latch carried by said plate for engagement with said slots.

4. A device of the character described comprising a pair of supporting arms, a cylinder having an internally threaded tubular end extension that is rotatably mounted in one of said arms, said cylinder provided with a latch receiving slot, a second cylinder fitted within the first mentioned cylinder and provided with a slot, a shaft extending through the inclosed cylinder and having one end threaded for engagement with said tubular extension, the other end of said shaft being fastened to the other supporting arm, and a latch for engagement with the slots of said cylinders.

5. In a device of the character described, the combination with a journal box and the door thereof, of supporting bars fastened to the upper surface thereof and projecting on each side of said surface, said bars terminating in arms at their free ends which overhang said door, latch engaging means carried by said arms and a latch carried by said door.

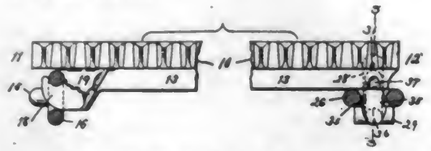
972,750. AMUSEMENT APPARATUS. GEORGE A. BUDOR, Berkeley, Cal., assignor, by mesne assignments, to Aerial Amusement Construction Company, Phoenix, Ariz., a Corporation of Arizona. Filed Dec. 27, 1909. Serial No. 535,146.



1. An amusement apparatus consisting of aeroplanes having bearing-wheels, a track upon which said wheels are guided and movable, a motor, and intermediate connections by which power is transmitted to one or more of the guiding wheels, seats carried upon the apparatus, and a guiding plane and controlling wheel connected therewith.

2. An amusement apparatus including an elevated monorail, an aeroplane having centrally located, flanged bearing-wheels adapted to travel upon the rail, and seats carried by the apparatus, turnable guiding planes and steering-post and wheel connected therewith, and guide rail located below the bearing-rail, convergent braces extending from the plane toward said guide rail, and rollers carried by the brace frame adapted to travel against the rail, a motor mounted in the body of the machine, and intermediate mechanism by which power is transmitted from the motor to the bearing wheels.

972,751. CHAIN GRATE. EDWARD C. CLARK, Nutley, N. J., assignor to The Oscar Barnett Foundry Company, a Corporation of New Jersey. Filed Feb. 11, 1910. Serial No. 543,246.



1. The combination with a chain, and a transverse member at one side thereof, of a fastening shoe forming at one end portion of itself a shank which will pass through a link of the shain, said shoe being inserted in a link, means securing the end of said shank to the said transverse member, and a head at the other end of the shoe having in opposite sides of itself curved seats fitting the ends of adjacent links at the opposite side of the chain from the transverse member.

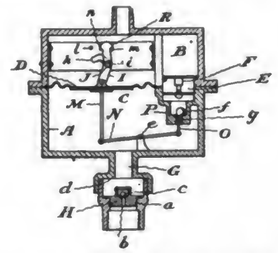
2. The combination with a chain, and a transverse member at one side thereof, of a fastening shoe forming at one end portion of itself a shank which will pass through a link of the chain, said shoe being inserted in a link, means securing the end of said shank to the said transverse member, and a head at the other end of the shoe lying at the opposite side of the chain from the transverse member, said head having at its sides facing lengthwise of the chain seats fitting the ends of adjacent links and at its other sides seats for the parallel portions of the link through which the shoe extends.

3. The combination with a chain, of a transverse member lying across a link of said chain and having at its opposite sides seats for the ends of adjacent links, a fastening shoe forming at one end portion of itself a shank which will pass through a link of the chain, said shoe being inserted in the link across which the transverse member lies, means securing the end of said shank to said transverse member, and a head at the other end of the shoe adapted to engage the opposite side of the chain from the transverse member.

4. The combination with a chain, of a transverse member lying across a link of said chain and having at its opposite sides seats for the ends of adjacent links, a fastening shoe forming at one end portion of itself a shank which will pass through a link of the chain, said shoe being inserted in the link across which the transverse member lies, means securing the end of said shank to said transverse member, and a head at the other end of the shoe having in opposite sides of itself curved seats fitting the ends of adjacent links at the opposite side of the chain from the transverse member.

5. The combination with a chain, of a transverse member lying across a link of said chain, said member having a socket in its face next said link and seats in its opposite sides for the ends of adjacent links, said socket and seats being substantially in alinement transversely of the member, a fastening shoe forming at one end portion of itself a shank which will pass through a link of the chain and having at its other end a head too large to pass through the link, said shoe being inserted in the chain with its shank extending through said link across which the transverse member lies and into said socket of the transverse member, and a pin passed through said transverse member and shank at the opposite side of said lateral seats of the transverse member from the chain.

972,752. AUTOMATIC CONTROLLING APPARATUS FOR LIGHTING SYSTEMS. MERVYN G. COWPER-SMITH, Toronto, Ontario, Canada. Filed Sept. 20, 1909. Serial No. 518,633.



1. In apparatus for controlling illuminating devices the combination of a movable diaphragm; a cut-off device movable thereby; a pivoted arm movable by the diaphragm; a plate having a slot therein with which the arm engages adapted to guide the arm to, and support it in, a plurality of positions at different heights; a tumbler pivoted on the arm; and stationary means with which the tumbler co-acts to determine the position relative to the slot toward which the arm moves when actuated by the diaphragm.

2. In apparatus for controlling illuminating devices the combination of a movable diaphragm; a cut-off device movable thereby; a pivoted arm movable by the diaphragm; a plate having a slot therein with which the arm engages adapted to guide the arm to, and support it in, a plurality of positions at different heights; and means whereby the arm is directed to assume *seriatim* each of said positions when alternately raised and lowered by the diaphragm.

3. In apparatus for controlling illuminating devices the combination of a movable diaphragm; a cut-off device movable thereby; a pivoted arm movable by the diaphragm; and a plate having a slot therein with which the arm engages adapted to guide the arm to, and support it in, a plurality of positions at different heights.

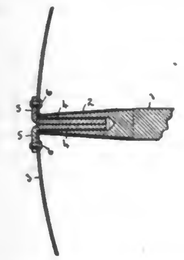
4. In apparatus for controlling illuminating devices the combination of a movable diaphragm; a cut-off device movable thereby; a pivoted arm movable with the diaphragm; a pin on said arm; a plate having an L-shaped slot therein in which the pin may move, one end of the slot being lower than the other; a tumbler pivoted on the arm; means limiting the swing of the tumbler on the arm; and means adjacent each end of the slot for tilting the tumbler on the arm.

5. In apparatus for controlling illuminating devices the combination of a movable diaphragm; a cut-off device movable thereby; a pivoted arm movable with the diaphragm; a pin on said arm; a plate having an L-shaped slot therein in which the pin may move, one end of the slot being lower than the other; a tumbler pivoted on the arm and having a shoulder formed thereon at each side; means limiting the swing of the tumbler on the arm; and pins adjacent the ends of the slots with which the aforesaid shoulders may engage.

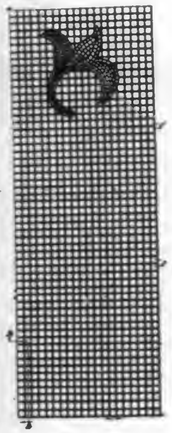
[Claims 6 to 9 not printed in the Gazette.]

972,753. TANG. WILLIAM CRONK, Montour Falls, N. Y. Filed Oct. 22, 1909. Serial No. 524,033.

The combination, with a tool and its handle, of a tang composed of two separate parts, corresponding portions of said parts being passed through the tool and driven into a central bore in the handle side by side and the remaining portions being bent over at right angles in opposite directions and fastened to the tool against its outward side.



972,754. DECORATIVE STRUCTURE. WILTON CUNNINGHAME, Chicago, Ill., assignor to Sylvester Simon, Chicago, Ill. Filed Apr. 22, 1910. Serial No. 557,086.



1. A decorative mosaic structure comprising a backing, and a facing thereon entirely composed of mosaic units arranged on said backing and secured thereto along one area only, said units being formed from pliable but inelastic material whereby they are individually and collectively free to conform in any direction with any flexure or distortion of said backing, as set forth.

2. A mosaic section comprising a backing, and pliable inelastic units arranged mosaically on said backing, said units being secured to said backing along one aren only and separated a distance from each other at their edges to retain their individuality and to be adapted to follow individually as well as collectively any flexure or distortion of the backing, as set forth.

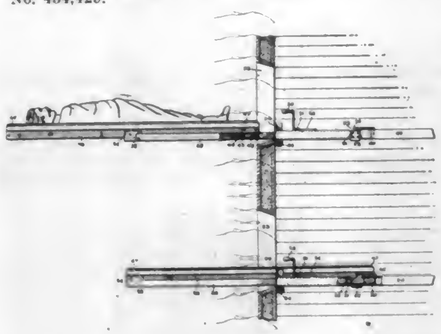
3. A mosaic section comprising a backing, and pliable inelastic units arranged on said backing into a mosaic design, said units being secured to said backing at one of their bases but separated a distance from each other at their edges, whereby they are enabled to follow individually as well as collectively any flexure or distortion of said backing, as set forth.

4. A mosaic section or panel comprising a permanent backing, and mosaic units of pliable inelastic material arranged on said backing and permanently supported solely thereby, said backing being sufficiently pliable to follow the curvature or irregularity of the surface of a wall, ceiling or other support to be decorated, said units being separated by gaps from each other all around their edges to be entirely free from each other, whereby they

may individually, as well as collectively, follow in any direction any flexure, warping or distortion of said backing without separating therefrom, as set forth.

5. A mosaic structure comprising a backing, pliable but inelastic units secured at one face to said backing and arranged to produce a mosaic design, the adjacent edges of the units being entirely free from engagement and connection with each other, and an elastic decorative coating applied to the outer faces and to the edges of said units.

972,755. MORTUARY REFRIGERATOR. VICTOR A. DE CANIO, Union Hill, N. J. Filed May 22, 1908. Serial No. 434,429.



1. In a device of the class described, a stationary frame embodying spaced flanges cut away to form an aperture intermediate their ends, a frame movable relative to the stationary frame, a roller carried by the movable frame disposed between the flanges of the stationary frame, and means carried by the movable frame adapted to limit its movement and to be withdrawn through the aperture of the flange.

2. In a device of the class described, a stationary frame embodying spaced flanges cut away to form an aperture intermediate its length, a stop carried by the stationary frame adjacent the aperture, a frame movable relative to the stationary frame and provided with a roller disposed between the flanges, means carried by the movable frame adapted to contact with the stop and proportioned to be lifted through the aperture of the flange.

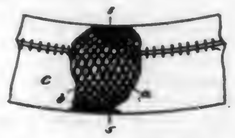
3. In a device of the class described, a stationary frame embodying spaced flanges, one of which is cut away intermediate its length to form an aperture, a stop carried by the stationary frame adjacent the aperture, a roller journaled at one end of the stationary frame, a frame mounted and movable upon the roller and relative to the stationary frame, rollers journaled upon the movable frame and proportioned to travel between the flanges, means carried by the movable frame adapted to contact with the stop of the stationary frame, and proportioned to permit such stopping means and roller of the movable frame to be lifted through the aperture of the flange of the stationary frame.

4. In a device of the class described, a longitudinally movable frame embodying spaced flanges, one of which is cut away adjacent one end, a roller carried by the frame adjacent the end opposite the cut away portion, an article supporting frame provided with a roller engaged between the flanges of the movable frame, and adapted to be lifted through the cut-away portion of the flange, said article supporting frame resting and movable upon the roller of the movable frame.

5. In a device of the class described, a stationary supporting member, a plurality of frames mounted and movable on the stationary supporting member and relative to each other, a detent adapted to maintain the several frames against movement, and means adapting one frame for supporting an article.

[Claim 6 not printed in the Gazette.]

972,756. RESILIENT TIRE. MALBY GEORGE CROFTON DODWELL, Wellington, New Zealand. Filed Jan. 25, 1910. Serial No. 540,018.



1. A resilient tire comprising diagonally arranged intersecting resilient metallic elements free to move angularly relatively to each other when subjected to stress and formed with shoulders which define such movement and allow transmission of the stresses positively from one element to another.

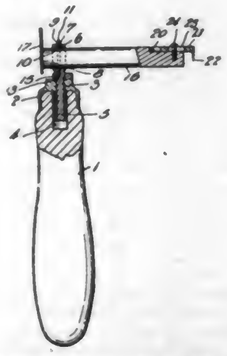
2. A resilient tire comprising intersecting diagonally disposed resilient metallic elements having crimps or loops at their places of intersection adapted to permit relative angular movement within defined limits and transmission of stresses.

3. A resilient tire woven or platted into substantially circular cross sectional area and formed of series of intersecting diagonally arranged strands of wire, crimped at the places of intersection to permit angular relative movement within defined limits and the transmission of stresses positively from one strand to another.

4. A resilient tire comprising a tube of intersecting strands of wire arranged diagonally and crimped at the places of intersection to permit relative angular movement within defined limits and the transmission of stresses positively from one strand to another.

5. A resilient tire comprising a tube of intersecting strands of wire arranged diagonally and crimped at the places of intersection to permit relative angular movement within defined limits and the transmission of stresses positively from one strand to another, and a casing for said cylinder.

972,757. COMBINED CUTTING-TOOL AND GAGE. JAMES S. DUFFY, Seattle, Wash. Filed July 8, 1909. Serial No. 506,625.



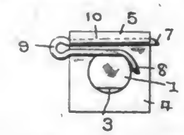
1. In a device of the character described, a cutter-blade, a gage-rod arranged rectangularly to said cutter-blade, a gage-plate on said rod in parallel with said cutter-blade, a handle having a screw-threaded socket, and means engageable in said socket for securing the cutter-blade and said rod to the handle.

2. In a device of the character described, a cutter-blade formed with two obliquely arranged cutting-knives, a gage-rod arranged rectangularly to said cutter-blade, a gage-plate on said rod in parallel with said cutter-blade, a handle, and means for securing the cutter-blade and said rod with the handle.

3. In a device of the character described, the combination of a head provided with a screw-threaded stem and formed with a slot extending through the head and into said stem, a handle having a screw-threaded socket at one end adapted to receive said stem, a cutter-blade seated within the slot of said head, said head and cutter-blade being each provided with an aperture, a rod extending through said apertures of the head and blade, and a gage-plate secured to one end of the rod.

4. In a device of the character described, the combination of a head provided with a screw-threaded stem and formed with a slot extending through the head and into said stem, a handle having a screw-threaded socket at one end adapted to receive said stem, a collar loose upon said stem intermediate the head and handle, a cutter-blade seated within the slot of said head and having one of its edges bear against said collar, said head and cutter-blade being each provided with an aperture, a rod extending through said apertures of the head and blade, and a gage-plate secured to one end of the rod.

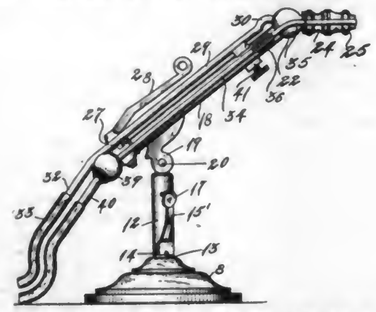
972,758. NUT-LOCK. WARREN FIFIELD, Sauk Rapids, Minn., assignor of one-third to A. J. Weber, Castle Rock, Wash. Filed Mar. 23, 1909. Serial No. 485,256.



1. A device of the character described, comprising a bolt having a mutilated threaded portion, said portion having flattened surfaces thereon removing complete segments from said bolt, a nut applied to said bolt having a transverse rib projecting from the upper edge of one of its faces and a bifurcated spring pin inserted between said projecting rib and one of said flattened surfaces, the under face of said projecting rib being concaved to form a channel and said channel inclined from one edge to the opposite side edge of said nut, whereby longitudinal and lateral movement of said spring pin is prevented.

2. A device of the character described, comprising a bolt having a mutilated thread portion thereon, said portion having segments cut therefrom to form flattened portions thereon, a nut applied to said bolt having a transverse rib projecting from the upper edge of the forward face thereof, the under face of said projecting rib being concaved to form a channel and a bifurcated spring pin having a head thereon inserted between said rib and a flattened portion of said bolt, the arms of said pin conforming in outline to the curvature of said channel and said head engaging one end of said rib, said channel being inclined from that end of the rib engaged by said head to the opposite end of the channel, whereby longitudinal and lateral movement of said spring pin is prevented.

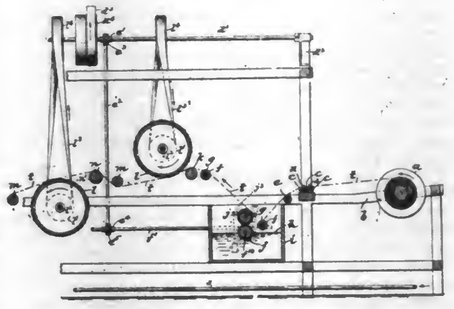
972,759. BLOWPIPE. JAMES H. FLOWER, Ashtabula, Ohio. Filed Sept. 9, 1909. Serial No. 516,828.



1. In a blow pipe, a gas tube, an air tube, a pilot light tube at one side of the gas tube and having upper and lower sections, a turning sleeve connecting the adjacent ends of the sections, and a disk located within the sleeve between the adjacent ends of the sections and adapted to control the gas supply through said pilot tube.

2. In a blow pipe, a main gas tube having a branch at substantially right angles thereto, a pilot tube arranged in parallelism with said main gas tube and in communication with the said branch, the said main gas tube and branch being provided with internally threaded open ends, and an interchangeable plug and nipple adapted to be engaged in either of the internally threaded ends of the main tube and branch.

972,760. PROCESS OF FINISHING THREADS OR YARNS FROM WARP-BEAMS. GEORGE A. FREDENBURGH, Pawtucket, R. I., assignor to Boston Braiding Company, a Corporation of Rhode Island. Filed Oct. 29, 1909. Serial No. 525,336.



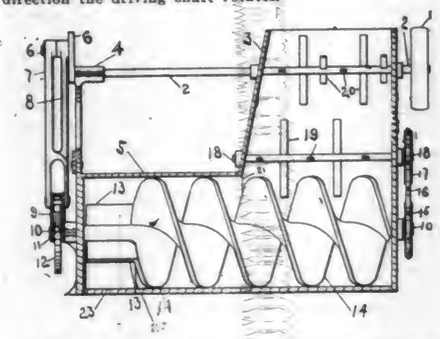
1. The herein described process of finishing a plurality of single threads as they come from one or more warp beams, consisting in smoothing the surface thereof, then passing the same through a cold mixture sizing, then squeezing said threads, then partially stretching the threads, then partially brushing the upper and thereafter the lower half of the threads, then subjecting the same to a second sizing, squeezing, stretching and brushing, thereafter winding up the same, and subjecting the same to heat from a plane beneath and longitudinally of the line of travel of the threads through the entire course of the operation.

2. The herein described process of finishing a plurality of single threads as they come from one or more warp beams, consisting in smoothing the lower sides of the threads, then further smoothing the same on all sides except the top thereof, thence passing the same through a cold sizing mixture, thence pressing the threads, thence polishing the threads upon all sides but one, then polishing the same upon the lower side, then brushing the same upon the upper side, then further polishing the same upon the upper side then on all sides but one, and thereafter brushing the same on the under side, thereafter polishing it on the same side, then partially stretching the threads, then repeating the complete operations, then winding up the threads, and slowly drying said threads throughout the length of their travel during the carrying out of the operation.

972,761. FEEDING DEVICE. FOREST G. GAUNTT, Fort Wayne, Ind. Filed Nov. 29, 1909. Serial No. 530,336.

1. The combination in a feeder of a hopper, a driving shaft adapted to operate in either direction of rotation and having agitators in the hopper, a casing having near one end thereof an inlet opening in communication with said hopper and at the other end thereof a discharge opening, the intermediate portion of said hopper being tubular, a rotatable flight feeding device longitudinally disposed in said tubular portion, and a one direction driving mechanism connecting the driving shaft and the feeding device to rotate the device in one direction to

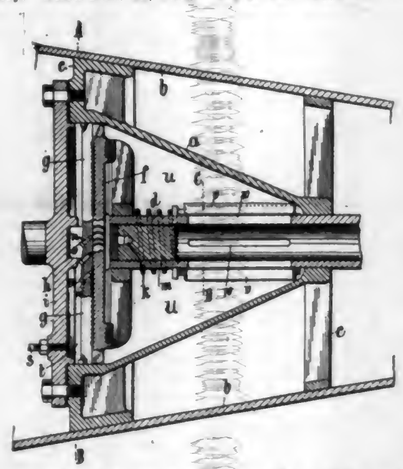
carry material from the hopper regardless of which direction the driving shaft rotates.



2. The combination with a rotatable continuous pitched scroll flight carrying device, of a rotatable agitating and flight clearing device having arms operating toward and between the scroll portions of the flight carrying device, and driving means separate from the flight clearing arms and operable to actuate the clearing device and the scroll device in synchronism to effect clearing of the scroll flight carrying device by the arms of the flight clearing device.

3. The combination in a feeder of a housing having an inlet opening near one end and a discharge opening near the other end thereof, a rotatable element in the housing having a radially extending flight of scroll form extending from the inlet opening to adjacent the discharge opening to effect axial travel of material from the inlet end toward the discharge end of the housing, said scroll form of the flight terminating short of the housing in a kicker portion at said discharge opening, said kicker portion being continuous with the thread of the scroll of the flight and of similar radial extent to effect radial travel of the material.

972,762. TURBINE. MAX GLASS, Vienna, Austria-Hungary. Filed Nov. 22, 1909. Serial No. 529,410.



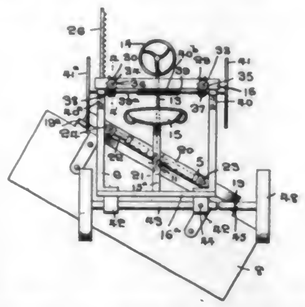
1. A turbine having a rotor provided with a row of buckets, a series of rows of nozzles opening to said row of buckets, each of the nozzles of each series having an independent controlled passage leading thereto, in combination with means for closing said passages serially in rows.

2. A turbine having a rotor provided with a row of buckets, a series of rows of nozzles opening to said row of buckets, together with a circular rotary slide-valve common to all of said nozzles and perforated to form a stepped port whereby said nozzles may be controlled serially in rows.

3. A turbine having a rotor provided with a row of buckets, a series of rows of nozzles opening to said row of buckets and a rotary member adapted to effect the closure of said nozzles serially in rows.

4. In a turbine, a hollow rotor shaft with ports opening into the same behind the rotor and blades on said shaft in proximity to said ports for forcing therethrough the motor fluid received from the rotor, substantially as described.

972,763. GRADING-MACHINE. SAMUEL C. HANNA, Shelby, Ohio, assignor to F. B. Zieg Mfg. Co., Fredericktown, Ohio. Filed Oct. 21, 1909. Serial No. 523,780.



1. In a grader, the combination with a forward and rear truck, a frame swiveled to the forward truck and adjustably attached to the rear truck; of a scraping blade pivotally mounted on said frame and between the forward and rear trucks, a curved plate attached to said scraping blade and having a plurality of openings therein, a rotatably mounted shaft on the frame, a gear attached to said shaft adapted to engage said openings and swing the blade on its pivot when the shaft is rotated and a slide plate for said curved plate.

2. In a grader, the combination with a forward and rear truck; of a frame swiveled at one end to the forward truck, an auxiliary frame at the rear end thereof, a tubular socket carried by said auxiliary frame, standards adjustably mounted on the rear truck, said standards being channel shaped in cross section, rack bars slidably mounted in said standards, means entering said tubular socket and connecting the auxiliary frame with said rack bars and additional means to raise and lower said rack bars, whereby the scraping blade and frame to which the same is attached will be tilted at different vertical angles.

3. In a grader, the combination with a front and rear truck, and standards mounted on said rear truck, said standards being channel-shaped in cross section; of a frame having one end thereof swiveled to said front truck, the opposite end of said frame being adjustably mounted in said channel-shaped standards, a scraping blade carried by said frame, means to adjust said blade horizontally in the arc of a circle, and additional means coöperating with said standards for adjusting said frame and blade at an angle to the horizontal without affecting said trucks and parts carried thereon.

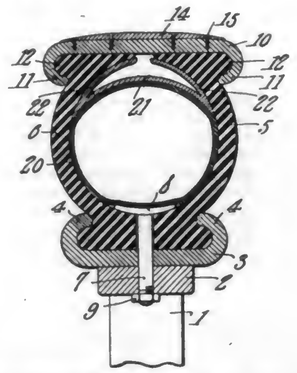
4. In a grader, the combination with a frame, a front truck swiveled to said frame, an auxiliary frame at the rear of the main frame, a guide frame carried by the main frame, a rear truck, standards adjustably mounted on said rear truck, a scraping device pivotally attached to said frame and between the front and rear trucks, the upper edge of which is adapted to bear against the guide frame, means carried by said standards adapted to tilt said frames and scraping device at an angle to the horizontal, a semi-circular plate attached to said blade, said plate having a plurality of openings therein, a shaft extending

longitudinally of said frame and rotatably mounted thereon and a gear having prongs adapted to engage the openings in the plate and swing the blade on its pivot when said shaft is rotated.

5. In a grader, the combination with a frame, a front truck swiveled to said frame, a rear truck and an auxiliary frame having one of its ends extending over said rear truck; of standards, rack bars carried by said standards, a tubular socket carried by the auxiliary frame, plungers carried by said rack bars adapted to enter said tubular socket and means to raise or lower said rack bars, whereby the frames and parts carried thereby will be disposed at an angle to the horizontal.

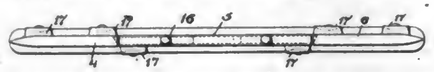
[Claims 6 and 7 not printed in the Gazette.]

972,764. TIRE. EMMETT H. HERNDON, Sanford, Fla., assignor of one-half to Richard H. Whitner, Sanford, Fla. Filed Apr. 12, 1910. Serial No. 554,940.



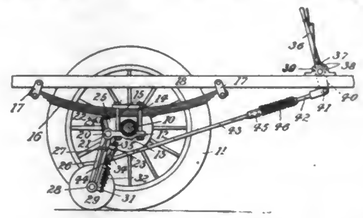
A tire comprising a wheel rim, an inner clencher rim secured thereon, an outer casing formed in two sections, the inner portion of each being fitted into said clencher rim, an outer clencher rim for holding together the outer portions of the two sections of the outer casing, said outer portions being spaced from each other, an inner tube, a steel arch surrounding the outer portion of the inner tube and conforming in shape thereto, and outwardly extending, convergent, curved springs connected with the edges of said arch and pressed against the inner sides of the sections of said outer casing to hold them expanded, said springs and said arch being crescent shape in cross section, and the outer ends of said springs being spaced from each other and arranged adjacent the space between the two sections of the outer casing.

972,765. BAG-FASTENER. CHRISTIAN HIEBING and ALBERT FULLER, Newark, N. J., assignors to The J. E. Mergott Company, Newark, N. J., a Corporation of New Jersey. Filed Feb. 25, 1907. Serial No. 359,204.



In a bag fastener, the combination of a pair of hinged frame members, a pair of locking members, the adjacent ends of said locking members being beveled and provided with integral ears for securing said locking members in alinement upon one of said frame members, a second locking member also provided with integral ears for securing it to the other frame members, the ends of said locking member being beveled to correspond with the beveled ends of said locking members and a pair of spring actuated bolts within said second locking member for engagement with the first named locking members respectively.

972,766. ANTISKIDDING DEVICE FOR AUTOMOBILES. AUGUST HORMEL, New York, N. Y. Filed Nov. 18, 1909. Serial No. 528,650.



1. A device of the character described, comprising a vehicle body, a suspended trailer adapted to swing in a longitudinal direction and laterally displaceable relatively to said body, and means for increasing the frictional contact between ground and trailer by such lateral displacement.

2. A device of the character described, comprising a vehicle body, a suspended trailer adapted to swing in a longitudinal direction and laterally displaceable relatively to said body, and means for progressively increasing the frictional contact between ground and trailer by a progressive relative lateral displacement between body and trailer.

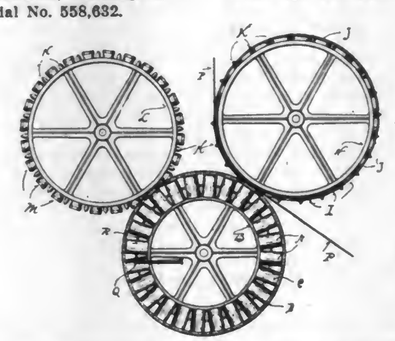
3. A device of the character described, comprising a vehicle body, an inclined guide carried thereby, a suspended trailer adapted to swing in a longitudinal direction and laterally displaceable relatively to said body, and a member extending upwardly from the trailer into engagement with the inclined guide.

4. In a device of the character described, an arbor and a V-shaped guide combined with a two-arm lever loosely embracing the arbor and engaging the guide, an arm loosely mounted on the arbor and carrying a trailer, and a spring interpolated between said lever and arm.

5. In a device of the character described, an arbor and a V-shaped guide combined with a two-arm lever embracing the arbor and engaging the guide, a pair of arms loosely mounted on the arbor and straddling the lever, a trailer carried by the arms, lugs formed on the arms, and springs interpolated between the lever and said lugs.

[Claims 6 to 8 not printed in the Gazette.]

972,767.. PAPER-BOX MACHINERY. CHARLES FRANCIS JENKINS, Washington, D. C. Filed Apr. 30, 1910. Serial No. 558,632.



1. The combination of a rotary receptacle-holder, rotary means for cutting a disk from suitable material and placing it immediately over said receptacle, and rotary means for forming said disk into a suitable closure for and inserting it into said receptacle.

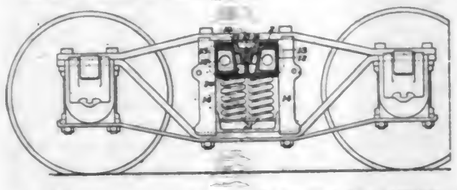
2. The combination of a rotary receptacle-holder, rotary means for cutting and forming, from strip material, a suitable closure for said receptacle, means for inserting

said closure, and means for stripping the waste of said material from the cutting means.

3. The combination of a rotary receptacle holder, rotary means for cutting a disk from strip material and placing it immediately over said receptacle, rotary means for forming said disk into a suitable closure for and inserting it into said receptacle, and means for keeping the three in such synchronism that they co-act.

4. The combination of a pocketed-wheel having a rim with cutting and forming dies therein and located over the pockets, a chute for directing the receptacles into the pockets, a wheel having cutting punches thereon arranged to co-act with the cutting dies to cut disks from strip material, a perforated loose ring inclosing said cutting punches to strip the waste of the material from the cutting punches, and a wheel carrying drawing-plungers to form and insert the closures in the receptacles carried in said pocketed wheel.

972,768. BOLSTER. HARRY T. KRAKAU, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed June 24, 1909. Serial No. 504,051.



1. A bolster, comprising a main compression member, a tension member, a web connecting said members, and supplemental compression members connecting the main compression member with the tension member, said compression members being arranged in downwardly diverging or A-form; substantially as described.

2. A bolster, comprising a main compression member, a tension member, a web connecting said members, and supplemental compression members connecting the main compression member with the tension member, said compression members being arranged in downwardly diverging or A-form, and said supplemental compression members extending substantially the full width of the main compression member and of the tension member and a tension member having a straight horizontal portion between the said supplemental compression members; substantially as described.

3. A bolster, comprising a main compression member, a tension member, consisting of oblique tapered end portions and a substantially straight central portion, a central web connecting the main compression member with the tension member, and central supplemental compression members connecting the main compression member and the tension member throughout substantially their entire width; substantially as described.

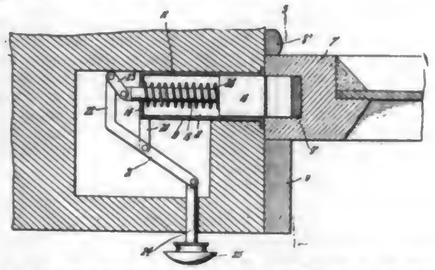
4. An integral cast bolster, having its main compression member and its tension member connected by a web, and also by central divergent supplemental compression members; substantially as described.

5. A bolster provided at its end portions with laterally open seats or pockets, and column guides slidably seated therein; substantially as described.

[Claims 6 to 15 not printed in the Gazette.]

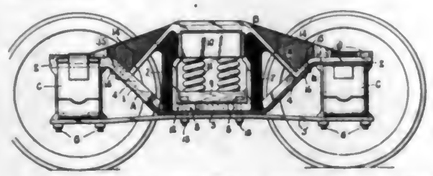
972,769. SASH-LOCK. GUSTAVE LARK, Rossford, Ohio. Filed May 6, 1909. Serial No. 494,304.

1. A sash lock including a socket member, a rack mounted for longitudinal sliding movement in said member, and having forwardly projecting teeth, a plate adapted to be fixed to a window sash and having teeth adapted to mesh with said rack teeth, a stem projecting from said rack and engaged through a wall of said socket member, a lever pivoted on said socket member, and a link connection pivotally connected at its opposite ends to the free end of said lever and to the free end of said stem, and operating to permit of the rack being reciprocated evenly in the socket member without wabbling.



2. The herein described sash lock consisting of an angular casing having an open end, a spring pressed angular rack mounted for sliding movement in the casing, said rack having its teeth projecting through the open end of the casing and having a stem projecting centrally through the end wall of the casing, an actuating rock shaft fulcrumed on one side of the casing and having an angularly disposed end extending approximately parallel with the end wall of said casing and terminating at approximately the opposite side of said casing, an inclined link connection between the free end of said angular extremity and free end of said stem operating to permit of the stem being reciprocated evenly by said rock shaft without wabbling.

972,770. SIDE FRAME FOR CAR-TRUCKS. WILLIAM D. LOWRY, St. Louis, Mo. Filed July 16, 1910. Serial No. 572,355.



1. A truck frame, comprising a tension member having upwardly extending flanges, and a compression member above said tension member having columns seated between the flanges of said tension member.

2. A truck frame, comprising a compression member having columns separated at their lower ends, and a tension member beneath said compression member, the tension member being provided with flanges between which the lower ends of said columns are seated.

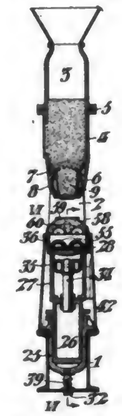
3. A truck frame, comprising a compression member having columns separated at their lower ends, a tension member beneath said compression member, the tension member being provided with flanges between which the lower ends of said columns are seated, said columns being provided at their lower ends with arms for supporting a spring seat.

4. A truck frame, comprising a compression member having columns separated at their lower ends, a tension member beneath said compression member, the tension member having provided with flanges between which the lower ends of said columns are seated, said columns being provided at their lower ends with arms for supporting a spring seat, and means for connecting said arms to said tension member.

5. A truck frame, comprising a compression member having columns separated at their lower ends, a tension member beneath said compression member, the tension member being provided with flanges between which the lower ends of said columns are seated, said columns being provided at their lower ends with arms for supporting a spring seat, and bolts connecting said arms to said tension member.

[Claims 6 to 9 not printed in the Gazette.]

972,771. MOLDING-MACHINE. VICTOR MAUCK and JACOB EDWARD WENTLING, Conshohocken, Pa. Filed Jan. 15, 1909. Serial No. 472,421.



1. In a molding machine, the combination with a stationary sand hopper forming a stationary abutment; of a rotary sand meter mounted on a horizontal axis at the discharge opening of said hopper; means arranged to turn said meter, comprising a plunger operatively related to a shaft on said meter concentric with said axis; a cylinder inclosing said plunger; a valve arranged to control a motor fluid with respect to said cylinder; a drag frame beneath said hopper; a mold plate in said frame; means arranged to raise and lower said frame and plate in differential relation with respect to said abutment, including a plunger carrying said plate, a plunger carrying said frame and inclosing said plate plunger; a cylinder inclosing both of said plungers; and, means arranged to control a motor fluid in operative relation to said cylinder.

2. In a molding machine, the combination with a sand hopper forming a stationary abutment; of a rotary sand meter mounted on a horizontal axis at the discharge opening of said hopper; means arranged to turn said meter, operatively related to a shaft on said meter concentric with said axis; a drag frame beneath said hopper; a mold plate in said frame; means arranged to raise and lower said frame and plate in differential relation with respect to said abutment, including a plunger carrying said plate, a plunger carrying said frame and inclosing said plate plunger; a cylinder inclosing both of said plungers; and, means arranged to control a motor fluid in operative relation to said cylinder.

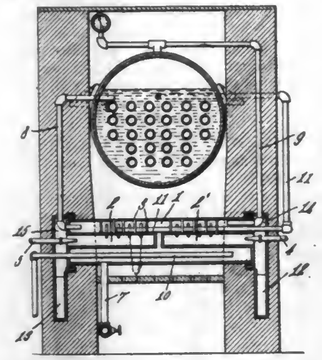
3. In a molding machine, the combination with a sand hopper forming a stationary abutment; of a rotary sand meter at the discharge opening of said hopper; means arranged to turn said meter; a drag frame beneath said hopper; a mold plate in said frame; means arranged to raise and lower said frame and plate in differential relation with respect to said abutment, including a plunger carrying said plate, a plunger carrying said frame and inclosing said plate plunger; a cylinder inclosing both of said plungers; and, means arranged to control a motor fluid in operative relation to said cylinder.

4. In a molding machine, the combination with a sand hopper forming a stationary abutment; of a rotary sand meter at the discharge opening of said hopper; means arranged to turn said meter; a drag frame beneath said hopper; means arranged to raise and lower said frame with respect to said abutment, including a plunger carrying said frame; a cylinder inclosing said plunger; and, means arranged to control a motor fluid in operative relation to said cylinder.

5. In a molding machine, the combination with a sand hopper forming a stationary abutment; of a rotary sand meter at the discharge opening of said hopper; means arranged to turn said meter; a drag frame beneath said hopper; a mold plate in said frame; means arranged to raise and lower said plate with respect to said abutment, including a plunger carrying said plate, a cylinder inclosing said plunger; and, means arranged to control a motor fluid in operative relation to said cylinder.

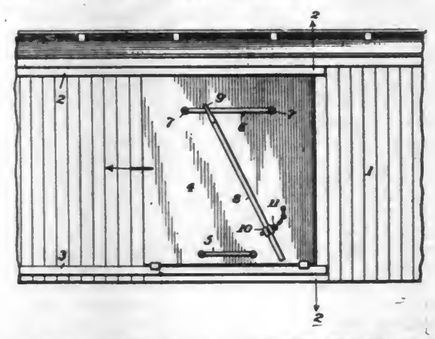
[Claims 6 to 13 not printed in the Gazette.]

972,772. FEED-WATER HEATER AND SMOKE-CONSUMER. GEORGE C. MILLER, Fitchburg, Mass. Filed Aug. 12, 1909. Serial No. 512,604.



The combination with a boiler, of a tank arranged above the fire box of said boiler in the bridge wall thereof, air pipes extending longitudinally of said tank from opposite ends thereof with their inner ends closed and spaced apart, said air pipes being spaced from the inner side walls of said tank, a plurality of vent pipes extending transversely through said tank into said air pipes, means for supplying water to said tank and steam jets discharging into the open ends of said air pipes.

972,773. HANDLE FOR SLIDING DOORS. DANIEL W. MILLSAPS, Marion, S. C., assignor to The Millsaps Company, Marion, S. C., a Corporation of South Carolina. Filed June 4, 1910. Serial No. 565,079.



1. The combination with a horizontally sliding door, of a rod secured across said door in a substantially horizontal position near the top, and a pole having means at its upper end for engaging said rod at different points to operate said door.

2. The combination with a horizontally sliding door, of a track-way secured across said door near the top in a substantially horizontal position, and a pole extending from near the bottom of said door to said track-way and being provided with means at its upper end for engaging said track-way to operate said door.

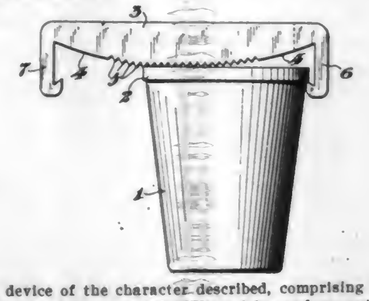
3. The combination with a freight car, of a sliding door therefor, a rod parallel to the face of the door se-

cured thereto across the upper portion thereof, and an operating pole slidably engaging said rod at its upper end and extending down near the bottom of said door.

4. The combination with a freight car, of a sliding door therefor, a rod parallel to the face of the door secured thereto across the upper portion thereof, an operating pole slidably secured to said rod at its upper end and having its free end extending down near the bottom of said door, and means for releasably securing said free end to the door.

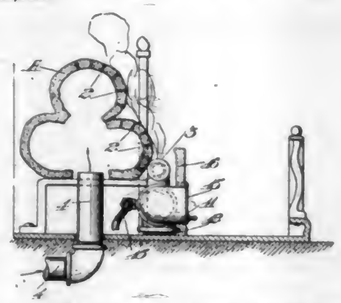
5. The combination with a freight car, of a sliding door therefor, a rod parallel to the face of the door secured thereto across the upper portion thereof, an operating pole having an eye at its upper end slidably fitting said rod and having its free end extending down near the bottom of said door, and a spring catch on said door for releasably holding the free end of said rod.

972,774. JAR-COVER-REMOVING DEVICE. WILLIAM MURRAY, Philadelphia, Pa. Filed June 25, 1910. Serial No. 568,771.



A device of the character described, comprising a body portion having a rounded or curved lower face, notches in said rounded or curved lower face, two hooks at one end of said device, and a single hook at the other end, substantially as described.

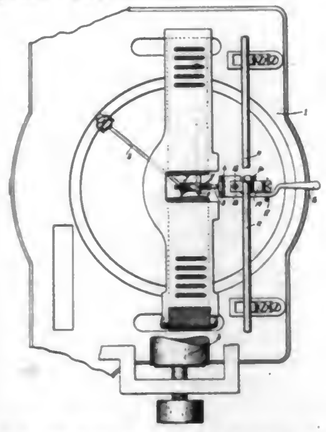
972,775. GAS BURNER AND GRATE. WILLIAM C. MCGEORGE, Oakland, Cal., assignor of one-half to George D. Cooper, Oakland, Cal. Filed Jan. 31, 1910. Serial No. 541,008.



1. The combination with a hollow member into which fresh air is admitted, said member having perforations for the discharge of the air, a burner comprising a perforated tube disposed lengthwise of said member, said tube being closed at one end and connected at the other end with a mixing chamber, and said tube having perforations discharging across the path of the heated fresh air being delivered from the said hollow member.

2. The combination of a hollow member, a fresh air pipe leading to the interior thereof, said member having perforations for the discharge of the air, and a burner positioned proximate to the hollow member and exterior thereto and adapted to discharge across the path of the heated fresh air being delivered from said hollow member.

972,776. ATTACHMENT FOR TYPE-WRITERS. EVANDER B. MCGILVARY, Madison, Wis. Filed Sept. 22, 1905. Serial No. 279,573.



1. In a type-writing machine, a plurality of type-carrying members movable in converging paths to a common printing point; an auxiliary-character-carrying member located near the point of convergence of said paths and adapted to be operated by the movement of any of said type-carrying members toward its printing position and means for moving the auxiliary-character-carrying member into and out of the paths of movement of the type-carrying members.

2. In a type-writing machine, the combination of printing instrumentalities, and means, operatively relatable thereto at the will of the operator, for underscoring the printed characters as they are formed.

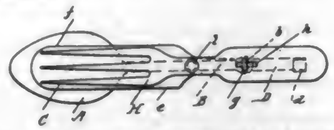
3. In a type-writing machine, an auxiliary-character-carrying member common to all the type-carrying members and provided with a type-receiving opening; and means for moving said auxiliary-character-carrying member into and out of the path of movement of the type-carrying members and thereby moving said opening into and out of the type-receiving position.

4. In a type-writing machine, a yielding arm carrying an auxiliary character common to the type characters of the machine, a said arm being provided with a type-receiving opening and means for actuating said arm to move said opening into and out of the type-receiving position.

5. In a type-writing machine, the combination of a movable arm, a yielding auxiliary-character-carrying member supported by said arm, and formed with type-receiving aperture and a handle secured to said arm for moving said aperture toward and from its type-receiving position.

[Claims 6 to 21 not printed in the Gazette.]

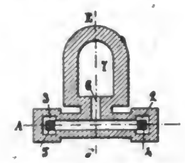
972,777. TABLE IMPLEMENT. HARVEY JONES RICHARDSON, Gilmour, Ind., assignor of one-half to Peter N. Staff, Terre Haute, Ind. Filed Mar. 11, 1909. Serial No. 482,783.



1. In a foldable table implement, the combination, with a spoon provided with a shank, of a knife-blade provided with a shank having its middle portion pivoted to the spoon shank and provided with a hook-shaped stop at its other end from the blade, which stop engages with one side edge of the spoon shank when the knife is opened, the tip of the blade being foldable into engagement with the bowl of the spoon when the knife is closed.

2. In a foldable table implement, the combination, with a spoon provided with a shank, of a knife-blade provided with a shank having its middle portion pivoted to the spoon shank and provided with a hook-shaped stop at its other end from the blade, which stop engages with one side edge of the spoon shank when the knife is opened, the tip of the blade being foldable into engagement with the bowl of the spoon when the knife is closed, and a fork detachably connected to the knife on the opposite side of it from the spoon and having the points of its prongs arranged within the bowl of the spoon and forming a guard for the knife-blade when the knife is closed.

972,778. ELECTRIC FURNACE FOR THE CONTINUOUS MANUFACTURE OF GLASS. MARIUS SAUVAGEON, Colombes, France. Original application filed Aug. 5, 1909, Serial No. 511,375. Divided and this application filed Aug. 2, 1910. Serial No. 575,091.



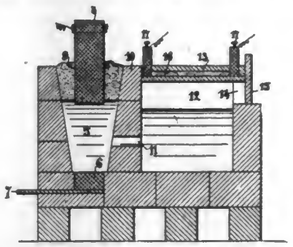
1. An electric furnace for the continuous production of glass, comprising in combination, a combined melting and refining chamber of long narrow form and relatively small capacity, a mass of molten glass in said chamber, constituting a heating resistance and serving to support by flotation a mass of glass-producing material, said chamber being provided with a lateral outlet passage for the delivery of refined glass, electrodes immersed in the molten glass in said chamber at the ends thereof whereby the current flowing between the electrodes will be confined to the melting and refining chamber and the resulting heat will be produced only in said chamber, and a working chamber receiving refined glass from the melting and refining chamber through the said outlet passage.

2. An electric furnace for the continuous production of glass, comprising in combination, a combined melting and refining chamber of long narrow form and relatively small capacity, and having a lateral outlet passage, a mass of molten glass in said chamber, constituting a heating resistance and serving to support by flotation a mass of glass-producing material, electrodes immersed in the molten glass in said chamber at the ends thereof, a working chamber of relatively large capacity in communication with the melting and refining chamber through the said outlet passage and receiving refined glass through said passage, and a roof over said chambers, provided with an opening for the introduction of glass-producing material into the melting and refining chamber and an opening for the withdrawal of glass from the working chamber.

972,779. ELECTRIC FURNACE FOR THE CONTINUOUS MANUFACTURE OF GLASS. MARIUS SAUVAGEON, Colombes, France. Original application filed Aug. 5, 1909, Serial No. 511,375. Divided and this application filed Aug. 2, 1910. Serial No. 575,092.

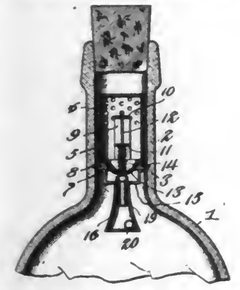
1. An electric furnace for the continuous production of glass, comprising in combination, a combined melting and refining chamber of relatively small capacity, a lower electrode at the bottom of said chamber, an upper electrode in the upper part of said chamber, a mass of molten glass in said chamber, in contact with said electrodes and constituting a heating resistance and serving to support by flotation a mass of glass-producing material around said upper electrode, and a working chamber of relatively large capacity in constant communication with the melting and refining chamber to receive refined glass therefrom and bring the same to a suitable working temperature.

2. An electric furnace for the continuous production of glass, comprising in combination, a combined melting and refining chamber of relatively small capacity, a lower electrode at the bottom of said chamber, an upper electrode in the upper part thereof, said melting and refining chamber being widened toward the top to provide a space around the upper electrode, a mass of molten glass in the melting and refining chamber, in contact with



the said electrodes and constituting a heating resistance and serving to support by flotation a mass of glass-producing material in said space around the upper electrode, a working chamber of relatively large capacity in constant communication with the melting and refining chamber to receive refined glass therefrom, and means for heating the glass in the working chamber to bring such glass to a suitable temperature.

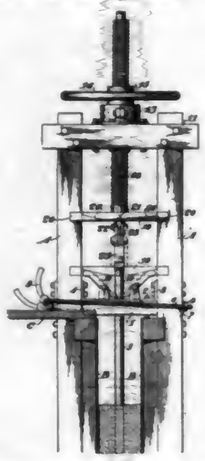
972,780. NON-REFILLABLE BOTTLE. ISAAC B. SOLOMON, Boston, Mass., assignor to Howard C. Rand, Boston, Mass. Filed Nov. 30, 1908. Serial No. 465,109.



In combination with a bottle having its neck interiorly provided with a circular groove; of a cylindrical casing considerably less in diameter than the diameter of the neck and arranged within the neck and having a closed top and provided on its side and at a point below the top with a plurality of outlet openings, the casing being further interiorly provided with an annular flange the inner surface of which is concaved, and still further provided on its exterior with a circular recess, a split resilient member having its inner peripheral portions insertible into the recess of the casing and its outer peripheral portion insertible into the groove of the neck, a hollow inverted hemispherical-shaped valve having its upper edge provided with a circular flange bearing on the upper side of the first-named flange and its outer surface bearing on the concaved inner surface of the said first-named flange, a stem rising from the center of the valve, upstanding arms supported upon the lower end of the casing, and members connecting said arms and provided with alining openings to receive the said stem, a helical spring encircling the rod and bearing on the lower connecting member and concaved surface of the valve, an arbor connected to the casing below the valve, a bell-shaped hollow member connected to the arbor, said bell-shaped member having its reduced portion open and its enlarged portion closed and provided with a plurality of perforations, a weighted ball member within the bell member, and a tube

provided with an enlarged mouth having one end portion arranged within the bell member and its opposite end portion widened and bearing on the arbor and engaging the convexed surface of said valve.

972,781. MOLDING-MACHINE. CARL P. BOHLAND and JOSEPH J. CONNELLY, Superior, Wis.; Anna M. Connelly administratrix of Joseph J. Connelly, deceased. Filed Dec. 10, 1909. Serial No. 532,370.



1. The combination with a mold having a collar mounted thereon, of a screw-threaded sleeve, a rod passing through the sleeve, means for connecting the sleeve to the rod, and a screw-threaded nut having a screw-threaded engagement with the sleeve rotatably mounted in the collar, whereby upon the rotation of the nut the mold is caused to be moved.

2. The combination with a mold, of a rod, raising means engaging the rod for causing the mold to be raised, and a clutch on the mold adapted to be operated by the raising mechanism for locking the mold against movement upon the rod.

3. The combination with a mold, of a sleeve, a rod passing through the sleeve, clutching means for engaging the rod, means engaging the sleeve for causing the mold to be raised, and for causing the sleeve to engage the clutching means for locking the mold against movement upon the rod whereby the sleeve may be returned to its original position before the raising operation.

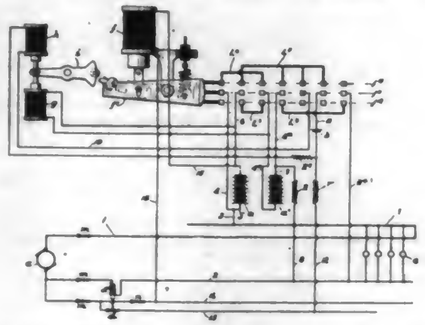
4. The combination with a mold, of a sleeve, a rod extending through said sleeve, clutching means adapted to engage the rod, and means adapted to engage the sleeve for causing the mold to be raised and to cause the clutching means to engage the rod, whereby the mold will be locked against downward movement.

5. The combination with a mold, of screw-threaded sleeve, a rod passing through the sleeve, means on the sleeve adapted to engage the rod, a guide-plate connected to the sleeve, and a rotatable nut adapted to engage the sleeve for causing the mold to be moved upwardly.

[Claim 6 not printed in the Gazette.]

972,782. SYSTEM OF ELECTRICAL DISTRIBUTION. JUSTUS B. ENTZ, Philadelphia, Pa., assignor to The Electric Storage Battery Company, Philadelphia, Pa., a Corporation of New Jersey. Filed May 28, 1904. Serial No. 210,156.

1. The combination of a main battery, a pilot cell, circuit connections for passing current through said main battery and causing the pilot cell to first become fully charged, and two opposing magnets and means controlled thereby, one of said magnets controlled by the pilot cell voltage and the other by the main battery voltage and said means operating to cut out the main battery when the effect of its voltage overpowers the effect of the voltage of the pilot cell, substantially as described.



2. The combination of a main battery, a pilot cell having substantially the same characteristics as the main battery, circuit connections for passing current through said batteries under like conditions and causing the pilot battery to first become fully charged, and means for opposing the effect of the fully charged pilot cell and the effect of the main battery and for cutting the latter off charge when its effect preponderates, substantially as described.

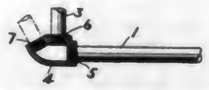
3. The combination of a main battery, a pilot cell, circuit connections for passing current through said batteries and causing the pilot cell to first become fully charged, means for opposing the effect of the main battery and the effect of the pilot cell, and devices responsive to said means for interrupting the circuit through the main battery.

4. The combination of a main battery, a pilot cell, having substantially the same characteristics as the main battery, circuit connections for passing current through said batteries under like conditions and causing the pilot battery to first become fully charged, means for opposing the effect of the main battery and the effect of the fully charged pilot cell, and devices responsive to said means for interrupting the circuit through the main battery.

5. The combination of a main battery, a pilot cell having substantially the same characteristics as the main battery, circuit connections for passing current through said batteries under like conditions to first fully charge the pilot cell, devices responsive to the state of charge of the main battery and pilot cell, and means controlled by said devices and adapted to throw the main battery off charge, substantially as described.

[Claims 6 to 21 not printed in the Gazette.]

972,783. STAND FOR HAMMOCKS, COUCHES, AND THE LIKE. WILLIAM J. MCBAIDE, Philadelphia, Pa., assignor to George F. Hoffman, Philadelphia, Pa., and Peter H. Corr, Taunton, Mass., trading as Hoffman-Corr Manufacturing Company. Filed Feb. 8, 1910. Serial No. 542,742.



1. A hammock stand comprising the combination of a base consisting of lengthwise and crosswise ranging members attached to each other and provided with an upright and with an inclined socket, and disconnected standards adapted for application to the upright and to the inclined sockets, whereby the position of the standards can be changed, substantially as described.

2. A hammock stand comprising the combination of a base provided with sockets arranged at different inclinations in respect to each other and a pair of disconnected standards detachably applicable to said sockets, whereby the standards can be arranged in different positions, substantially as described.

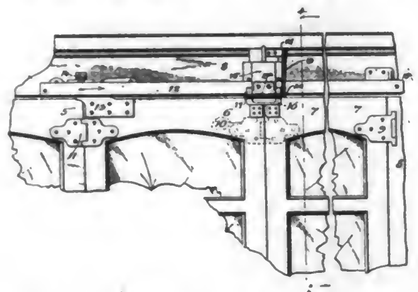
3. A hammock stand comprising the combination of a base consisting of cross pieces each provided with three sockets, a lengthwise member adapted to two of said sockets, and disconnected standards detachably adapted to four of said sockets, substantially as described.

4. A hammock stand comprising the combination of a base provided with tubular standards, extension pieces having each of their ends insertible into the ends of said standards and provided with flanges or projections arranged near one of their ends, and caps provided with suspension devices and detachably applicable to the ends of the extension pieces, substantially as described.

5. In a hammock stand the combination of a tubular standard, an extension piece having each of its ends insertible into said standard and provided near one of its ends with a flange or projection, and a cap provided with suspension means and with two sockets, whereof one is adapted to detachably receive the ends of the extension piece and whereof the other is available for the reception of a canopy lug, substantially as described.

[Claim 6 not printed in the Gazette.]

972,784. DOOR-CHECK. CHARLES SCHENCK, Chicago, Ill., assignor to Transportation Appliance Corporation, Chicago, Ill., a Corporation of Illinois. Filed Dec. 11, 1909. Serial No. 532,662.

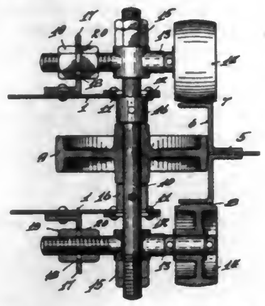


1. In a door check, a bracket for attachment to the car body, a locking member hinged to the bracket and adapted to be rotated into position to engage the door, and adapted to remain in locking engagement with the door, when said door exerts pressure against the locking member, and a spring attached to the locking member, and adapted to maintain the locking member in position to engage the door when the locking member is thrown into locking position, and adapted to maintain the locking member out of position for engagement with the door when it is thrown into non-locking position, substantially as described.

2. In a door check, a bracket for attachment to the car body, a downwardly extending arm on the bracket, a pin secured to the downwardly extending arm, a locking member on the pin, and adapted to rotate about the same, the locking member adapted to be rotated into position for engaging the door, the pin being located so that the locking member engages the door on dead center, and a spring attached to the locking member and adapted to maintain the same in position to engage the door when the locking member is thrown into locking position, and adapted to maintain the locking member out of position for engagement with the door when it is thrown into non-locking position, substantially as described.

972,785. GUIDE-FRAME FOR GAS-HOLDERS. HENRY JOHN STOFFELS, Norwood, Ohio, assignor to The Stacey Manufacturing Company, Elmwood, Ohio, a Corporation. Filed Mar. 21, 1910. Serial No. 550,777.

1. A carriage for guiding a gas-holder, a bracket arm, a unitary three-fold axle for radially and tangentially journaling a series of rollers in the same horizontal plane mounted on said arm, a radially disposed and a pair of tangentially disposed rollers journaled on said axle, and means for adjusting said axle radially.



2. The combination of a gas-holder and guiding column, a bracket arm, an axle supported upon said arm for journaling a radially disposed roller, a radial roller adapted to travel upon the guiding column, angularly disposed axles mounted on said axle for journaling tangentially disposed rollers, rollers on said axles traveling upon the guiding column, said rollers forming a three-point bearing against said column, means mounted on said arm for horizontally supporting said angularly disposed axles, means for coincidentally adjusting said axles upon the same relative to the column.

3. In a device of the class described, a guide member consisting of a channel-iron having a main intermediate and internal bearing face at right angles to two exterior bearing faces, rollers carried by the member to be guided engaging said bearing faces respectively, the peripheries of said rollers lying approximately in the same plane, and means for adjusting said rollers radially relative to said guide member independently and as a unit.

4. In a device of the class described, a guide member having three bearing faces, a radial and two tangential thereto, a series of rollers in the same horizontal plane, carried by the member to be guided engaging said bearing faces respectively, and means for adjusting said rollers radially as a unit relative to said guide member.

972,786. ANTIFRICTION ALLOY. JOSEPH R. STRATTON, Moncton, New Brunswick, Canada, assignor of one-third to Robert A. Borden, Moncton, New Brunswick, Canada. Filed Nov. 27, 1909. Serial No. 530,210.

1. An anti-friction alloy comprising approximately 82 per cent. of zinc, 1.7 per cent. of copper, 5.8 per cent. of tin, 9.8 per cent. of lead, .7 per cent. of antimony.

2. An anti-friction alloy comprised mainly of zinc approximately 10% of lead, tin, copper and antimony.

3. An anti-friction alloy comprised mainly of zinc approximately 6% of tin, lead, copper and antimony.

4. An anti-friction alloy comprised mainly of zinc approximately 2% of copper, lead, tin and antimony.

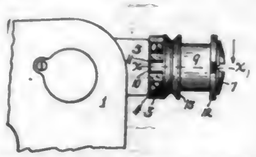
5. An anti-friction alloy comprised mainly of zinc approximately 5% of antimony, lead, tin, and copper.

[Claims 6 to 18 not printed in the Gazette.]

972,787. ADJUSTABLE SHAFT-ENGAGING MEANS. FRANCIS P. HUYCK, Toledo, Ohio. Original application filed June 7, 1907, Serial No. 377,710. Divided and this application filed Nov. 29, 1909. Serial No. 530,377.

1. In an attaching device, the combination with the drive shaft, and the bearing part from which one end of said shaft projects, of an anchor detachably secured to the projected end of such shaft in abutment with the head to prevent relative endwise movements of the shaft and head, a member mounted on the shaft, said anchor and member having separable interlocking portions to cause them to revolve in unison, and means independent of the anchor for locking the member to the shaft.

2. The combination with a shaft, of a member mounted thereon, means internal of the member but independent of the shaft for clamping the member to the shaft, and anchor means detachably secured to the shaft at an end of said member and in loose interlocking engagement therewith to coöperate with said clamping means to prevent endwise and rotary movements of the member relative to the shaft.



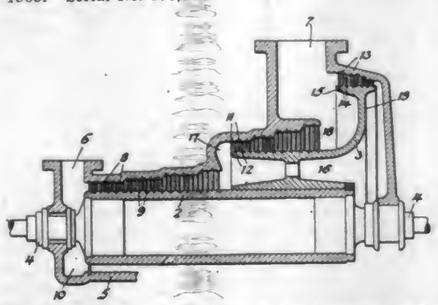
3. The combination with a shaft, and a bearing part therefor, of an anchor carried by such shaft in abutment with such bearing part, a plurality of relatively movable members encircling the shaft and capable of coöperating to lock the outer member to the shaft, said anchor and one of said members having loose interlocking portions to cause them to rotate in unison and which coöperate with the member and locking means to prevent relative endwise movements of the anchor and member.

4. The combination with a shaft of a sleeve mounted on the shaft, a second sleeve disposed within the first sleeve, and slotted to adapt it to have uniform compression throughout its length, said two sleeves having surfaces which coöperate to effect a radial compression of the inner sleeve when the two sleeves are relatively moved, and a member secured to the shaft at an end of the outer sleeve and having interlocking engagement with such sleeve to cause the sleeve and member to rotate in unison and to assist in preventing relative endwise movements of said member and outer sleeve, said member also serving to prevent endwise movement of the shaft.

5. The combination with a shaft, and a bearing part therefor, of a member clamped to the shaft in abutment with the bearing part, a sleeve mounted on the shaft, a compression sleeve disposed within the first sleeve, said two sleeves having surfaces which coöperate to effect a radial compression of the inner sleeve when the two sleeves are relatively rotated, said outer sleeve and member having complemental interlocking portions which cause the sleeves and member to rotate in unison and to assist in preventing relative endwise movements of said member and outer sleeve, substantially as described.

[Claim 6 not printed in the Gazette.]

972,788. ELASTIC-FLUID TURBINE. WILLIAM J. A. LONDON, Hartford, Conn., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Original application filed Mar. 6, 1906, Serial No. 304,477. Divided and this application filed Feb. 19, 1909. Serial No. 478,933.



1. In an elastic fluid turbine, a full peripheral admission axial-flow high-pressure stage, a divided stage of lower pressure and a passage in the turbine rotor for placing the inlets of said low-pressure stage in communication one with the other and with the outlet of said high-pressure stage.

2. In an elastic fluid turbine, one or more stages through which the fluid flows in one direction only and a divided low-pressure stage, the divisions of which are of different diameters for the purpose of counterbalancing the axial rotor thrusts and through the divisions of which the motive fluid flows in opposite directions.

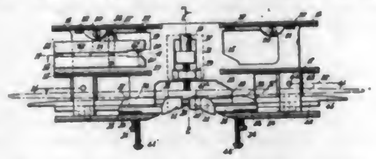
3. In an elastic fluid turbine, one or more stages through which the motive fluid flows in one axial direction only and a divided low-pressure stage comprising sections of different diameters located at one end of said turbine and through which the motive fluid flows in opposite directions.

4. In an elastic fluid turbine, one or more stages through which the motive fluid flows in one axial direction only and a low-pressure stage comprising sections of different diameter through the sections of which the fluid flows in opposite axial directions.

5. In an elastic fluid turbine, one or more stages through which the motive fluid flows in one axial direction only and a blade-carrying member of greater diameter than any of the stages and between the blades of which the motive fluid flows in an opposite direction to the motive fluid flowing through said stages.

[Claim 6 not printed in the Gazette.]

972,789. SAW-FITTING DEVICE. CECIL R. PIERCE, Rainier, Wash. Filed Dec. 10, 1909. Serial No. 532,332.



1. In a fitting tool for cross-cut saws, a frame, a gage flange projecting from one side of the frame composed of two sections spaced apart, and a pointer gage for the raker teeth of the saw composed of two sections arranged below and between the two sections of the gage flange and adjustable to and from each other to adapt the pointer gage to saw teeth of varing spread.

2. In a fitting tool for cross-cut saws, a frame, a gage flange projecting outwardly from one side of the frame composed of two sections spaced apart, lugs carried by the frame arranged underneath and spaced from the flange sections, a pointer gage for the raker teeth of the saw composed of two sections adjustable to and from each other, each section having a shank, screws threaded through the sections of the gage flange and arranged to clamp the shanks of the pointer gage to the upper faces of the lugs, guide flanges arranged at the same side of the frame below the first mentioned flanges, and a screw carried by the frame and arranged to bear on a jointing file between the two sections of the pointer gage and clamp the said file to the opposite and under faces of the said lugs.

3. In a fitting tool for cross-cut saws, a frame, a pointer gage for the teeth of the saw carried by the frame, composed of two sections adjustable to and from each other and having an opening through which a tooth of the saw is adapted to pass, and a gage flange carried by the frame and arranged to bear on the adjacent teeth of the saw when the raker tooth is inserted in the slot of the pointer gage.

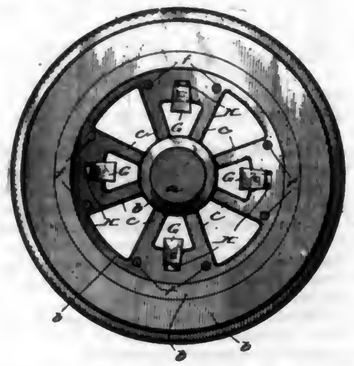
4. In a fitting tool for cross-cut saws, a frame, a gage flange projecting outwardly from one side of the frame, lugs rigid with the frame arranged underneath and spaced from the gage flange, with the under faces thereof inclining upwardly and inwardly, a pointer gage, screws threaded through the gage flange and arranged to clamp the opposite end portions of the pointer gage to the upper faces of the lugs, and a screw adjustable on the frame and arranged to clamp a jointing file to the under inclined faces of the lugs.

5. In a fitting tool for cross-cut saws, a frame, a pointer gage carried by the frame having a slot to receive the raker teeth and constructed of two sections, each of

which is provided with an outwardly-extending shank, and one of said sections having a stem extending from its inner end and slidably received in the opposed end of the opposite section.

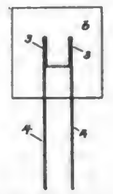
[Claims 6 to 12 not printed in the Gazette.]

972,790. STEAM-LOCOMOTIVE. SYLVESTER A. BARICKMAN, Richwood, W. Va. Filed Jan. 4, 1910. Serial No. 536,369.



In a locomotive, the combination, with a universal shaft-coupling, having two annular plates, *j j*, containing semi-cylindrical grooves *k*, suited to take the lugs of coupling-yokes, L L, of tapering dove-tailed wedges, G, and tapering double-dovetailed mortises, H, cut, one-half in each plate, by means of which wedges and mortises, secured firmly, the one in the other, of their own friction, and with set-screws, I, said plates are held firmly in position and prevented from shearing; substantially as herein shown and described.

972,791. PIN-TICKET. LOUIS BAUM, Harrisburg, Pa., assignor to A. Kimball Company, New York, N. Y., a Corporation of New York. Filed Nov. 22, 1909. Serial No. 529,448.

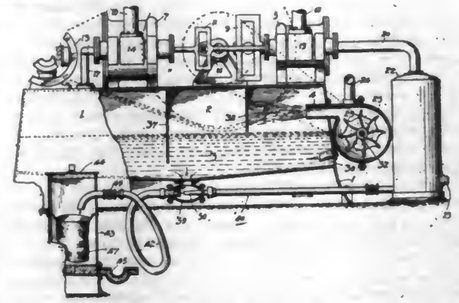


A pin ticket comprising a card-board and a single piece of wire consisting of a cross-bar at the front of the card-board, and at the back of the card-board the said wire forming at each end of said cross-bar a doubled-end—both doubled-ends projecting upward from the cross-bar, and one strand of the wire of each doubled-end extending downward below said cross-bar and in straight alinement with its doubled-end.

REISSUES.

13,155. PNEUMATIC CLEANSING APPARATUS. ALBERT E. MOORHEAD, San Francisco, Cal., assignor to Mechanical Dust Suction Company, San Francisco, Cal., a Corporation of California. Filed Aug. 28, 1908. Serial No. 450,791. Original No. 820,007, dated May 8, 1906, Serial No. 263,973.

1. In pneumatic cleansing apparatus, a hollow base, having a collecting-tank or receiver therein, an air-exhaust pump, a pipe connection between said exhaust-pump and said tank, an outlet from said exhaust-pump, an inlet-pipe for dust and refuse from carpet cleansing connected with said tank, to discharge into the same, and a device for agitating said dust and refuse mixed with the air and liquid, and forcing it into the tank located between said inlet pipe and the tank, substantially as described.



2. In pneumatic cleansing apparatus, a hollow base, having a collecting-tank or receiver therein, an air-compressor pump and an air-exhaust pump mounted thereon, a compressed-air receiver, a pipe connection between said compressor-pump and said receiver, a pipe connection between said exhaust-pump and said tank, an outlet for said exhaust pump, an air-outlet for said compressor-pump, an outlet in the bottom of said tank, an ejector connected with said outlet, and a pipe connection between said ejector and a store of compressed air, with means for cutting off said connection, substantially as described.

3. In pneumatic cleansing apparatus, a hollow base, having a collecting-tank or receiver therein, an air-compressor pump and an air-exhaust pump mounted thereon, a compressed-air receiver, a pipe connection between said compressor-pump and said receiver, a pipe connection between said exhaust-pump and said tank, an outlet for said exhaust-pump, an air inlet for said compressor pump, an inlet-pipe for dust and refuse connected with the tank, into which it discharges, and a device for agitating and forcing said refuse into said tank between the tank and said inlet-pipe, substantially as described.

4. In pneumatic cleansing apparatus, a hollow base, having a collecting-tank or receiver therein, an air-compressor pump and an air-exhaust pump mounted thereon, a compressed-air receiver, a pipe connection between said compressor-pump and said receiver, a pipe connection between said exhaust-pump and said tank, an outlet for said exhaust pump, an air-inlet for said compressor-pump, an inlet-pipe for dust and refuse connected to discharge into the tank, and a device for agitating and forcing said refuse into said tank between the tank and said inlet-pipe, said tank and agitating device containing an antiseptic solution for sterilizing said refuse, substantially as described.

5. In pneumatic cleansing apparatus, a hollow base, having a collecting-tank or receiver therein, an air-compressor pump and an air-exhaust pump mounted thereon, a compressed air receiver, a pipe connection between said compressor-pump and said receiver, a pipe connection between said exhaust-pump and said tank, an outlet for said exhaust-pump, an air-inlet for said compressor-pump, an inlet-pipe for dust and refuse connected to discharge into the tank, an agitating-chamber between said inlet-pipe and said tank, containing an antiseptic solution, and rotatory helical impellers for moving said refuse toward and delivering it to said tank, substantially as specified.

6. In pneumatic cleansing apparatus, a hollow base, having a collecting-tank or receiver therein, an air-compressor pump and an air-exhaust pump mounted thereon, a compressed-air receiver, a pipe connection between said compressor-pump and said receiver, a pipe connection between said exhaust-pump and said tank, an outlet for said exhaust pump, an air-inlet for said compressor-pump,

an elongated agitating chamber connected with said tank, an inlet-pipe for dust and refuse connected with said agitating-chamber at its ends, said chamber containing an antiseptic solution, rotatory helical impellers in said chamber for agitating said refuse and moving it mechanically toward the center, and a central fan-impeller for discharging said refuse into said tank, substantially as described.

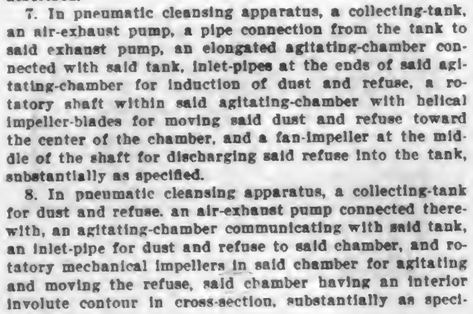
7. In pneumatic cleansing apparatus, a collecting-tank, an air-exhaust pump, a pipe connection from the tank to said exhaust pump, an elongated agitating-chamber connected with said tank, inlet-pipes at the ends of said agitating-chamber for induction of dust and refuse, a rotatory shaft within said agitating-chamber with helical impeller-blades for moving said dust and refuse toward the center of the chamber, and a fan-impeller at the middle of the shaft for discharging said refuse into the tank, substantially as specified.

8. In pneumatic cleansing apparatus, a collecting-tank for dust and refuse, an air-exhaust pump connected therewith, an agitating-chamber communicating with said tank, an inlet-pipe for dust and refuse to said chamber, and rotatory mechanical impellers in said chamber for agitating and moving the refuse, said chamber having an interior involute contour in cross-section, substantially as specified.

9. In pneumatic cleansing apparatus, a hollow base, having a collecting-tank or receiver therein, an air-compressor pump and an air-exhaust pump mounted thereon, an agitating and mixing chamber connected with said tank, rotatory agitators in said chamber, a compressed-air receiver, a pipe connection between said compressor-pump and said receiver, a pipe connection between said exhaust-pump and said tank, and a common cross-shaft mounted on said base, with operative connections for working said pumps and the said rotatory agitators, substantially as specified.

10. In pneumatic cleansing apparatus, a collecting-tank for dust and refuse, means for exhausting air therefrom, an elongated agitating and mixing chamber connected with said tank, inlet-pipes for dust and refuse at the ends of said chamber, rotatory helical impellers within said chamber for agitating and moving said refuse, and a rotatory fan of larger diameter than the impellers for discharging the refuse into said tank, substantially as described.

13,156. SEPARATOR AND STACKER. EDWARD J. VRAALSTAD, Buffalo, N. Y., assignor of one-half to Buffalo Pitts Company, Buffalo, N. Y., a Corporation of New York. Filed May 5, 1910. Serial No. 559,648. Original No. 954,365, dated Apr. 5, 1910, Serial No. 433,135.



1. In a separator and stacker having a straw-chamber, a fan casing paralleling the side of the separator and into the inner side of which said straw-chamber opens, a shiftable chute or off-take opening into the opposite side of said fan casing, and ejecting means within the latter.

2. In a separator and stacker having a straw-chamber, a fan casing into the inner side of which said straw-chamber opens, an adjustable chute opening into said fan casing on the side thereof opposite to the straw-chamber opening, and a duplex fan within said fan casing for ejecting the straw and chaff.

3. In a separator and stacker having a straw-chamber, a chaff-outlet, a fan-casing into which said straw-chamber opens, a fan in said casing for ejecting the straw, an adjustable chute, and a second fan in said casing, said chute or off-take opening into said fan-casing adjacent to said second fan.

4. In a separator and stacker having a straw-chamber, and a chaff-outlet, a fan casing having inner and outer openings, said inner opening forming a communication with the straw-chamber, a duplex fan on a common shaft within said fan-casing, a divider between said fans, and an adjustable chute or off-take, one of said fans serving wholly for ejecting the straw and of less capacity than the other fan.

5. A separator and stacker having a straw-chamber, a chaff-outlet at one side of the machine, a fan-casing arranged longitudinally of the machine and communicating at its inner side directly with said straw-chamber, means at the outside of the machine for conveying material from said chaff-outlet to the outer side of said fan-casing, a discharge duct leading from said fan-casing, and a fan in said casing for ejecting the straw and chaff through said fan-casing and into said duct.

6. In a separator and stacker having a straw-chamber, a chaff-outlet, the former being located in rear of the latter, a fan-casing arranged longitudinally of the machine and having at one side an opening into the straw-chamber, a chute connecting the other side of said fan casing with the forwardly located chaff outlet, a discharge duct leading from said fan-casing, and a fan within said casing having separate series of blades for ejecting straw and chaff, respectively, into said duct and a disk separating said series of blades from each other.

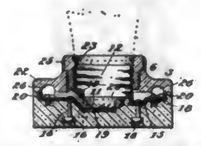
7. In a separator and stacker having a straw-chamber, a chaff outlet, the former being located in rear of the latter, a fan-casing arranged longitudinally of the machine at one side of the straw-chamber and having at its inner side an opening into the latter, a chute connecting the outer side of said fan-casing, at the side of the machine, with the forwardly located chaff-outlet, a discharge duct leading from said fan-casing, and a fan within said casing having separate series of blades for ejecting straw and chaff, respectively, into said duct, and a disk separating said series of blades from each other.

8. In combination with a thresher, a separator and stacker having a straw-chamber, a fan casing communicating at its inner side directly with said straw-chamber, and having an air-inlet in its outer side, a discharge duct leading from said fan-casing, a fan within said casing having a series of blades for ejecting the straw from said chamber into said duct, a series of blades in the air-inlet side of the casing for pneumatically forcing the straw through said duct, and a disk separating said two series of blades and dividing the casing into two sections, said duct leading from both of said sections.

9. In combination with a thresher, a separator and stacker having a straw-chamber, a fan-casing communicating at its inner side directly with said straw-chamber, and having an air-inlet in its outer side communicating with the interior of the thresher at a point forward of the straw-chamber, a discharge duct leading from said fan-casing, a fan within said casing having a series of blades for ejecting the straw from said chamber into said duct, a series of blades in the air-inlet side of the casing for pneumatically forcing the straw through said duct, and a disk separating said two series of blades and dividing the casing into two sections, both of which are in direct communication with said duct.

10. In a separator and stacker having a straw-chamber, a chaff-outlet, the former being located in rear of the latter, a fan-casing arranged longitudinally of the machine and having at its inner side an opening into the straw-chamber, a chute connecting the outer side of said fan-casing, at the side of the machine, with the forwardly located chaff-outlet, a discharge duct leading from said fan-casing, and a fan within said casing comprising a disk arranged longitudinally of the machine and having on its inner side a series of narrow blades for handling the straw from the straw-chamber, and on its outer side a series of wider blades for handling the material from the chaff-outlet, said wider blades pneumatically ejecting the straw through said discharge duct without contacting therewith.

13,157. LAMP-RECEPTACLE. HARRY WALLACE LAWRENCE, Denver, Colo., assignor to The New England Electric Co., a Corporation of Colorado. Filed Aug. 26, 1909. Serial No. 514,828. Original No. 864,427, dated Aug. 27, 1907, Serial No. 350,916.



1. A lamp receptacle comprising a porcelain base or block having an upper face with a pair of grooves or channels to receive circuit wires, said base having a central annular groove between said grooves or channels for the circuit wires, a threaded shell received in said annular groove, said threaded shell having outwardly bent ears, means for securing said ears to the base, and means for making electrical connections from one of said ears to one of the grooves or channels for the circuit wires.

2. A lamp receptacle comprising a porcelain base or block having a central annular groove having less than a complete circumference of annular extent, a threaded shell having a cut away portion and adapted to be inset in said groove, and a metallic strap or piece inset in the base and extending through the interrupted portion of said groove.

3. A lamp receptacle comprising a porcelain base or block having an annular groove therein, said groove having a plurality of outward extensions, and a threaded shell having outwardly bent ears inset in said groove, said ears being received in said extensions.

4. A lamp receptacle comprising a porcelain base or block having a flat upper face and an annular groove of less than a complete circumference of angular extent, a threaded shell having a cut away portion received in said annular groove, the base having a passage extending through the interrupted portion of said groove and having an additional passage leading from the groove at an opposite diametrical point from said first named passage, a metallic strap located in said first named passage and constituting a central stud terminal, and an additional clip located in the last named passage and constituting a shell terminal of the receptacle.

5. A lamp receptacle comprising a porcelain base or block having a flat upper face with an annular groove of less than a complete circumference of angular extent, said groove having radial extensions at a plurality of points, a threaded shell having outwardly bent ears upon its lower edge adapted to be received in said groove and extensions, the shell having a cut away portion corresponding to the interrupted portion of said groove, a passage in the porcelain base extending through the interrupted portion of said groove, a metallic strap within said passage and constituting a central stud terminal, and a metallic clip attached to one of said ears of the shell and constituting a shell terminal.

6. A lamp receptacle comprising a porcelain base or block having a flat upper face with a pair of parallel channels, a central annular groove between said channels, a threaded shell received in said groove, passages extending from said channels toward said groove, and a pair of metallic clips in said channels, one of said clips constituting a central stud terminal, the other of said clips being attached to the threaded shell and constituting a shell terminal.

7. A lamp receptacle comprising a porcelain base or block having a flat upper face with grooves or channels, a threaded shell projecting above the plane of said face, terminals and connections for said threaded shell, and a central stud terminal located wholly below the plane of said grooves or channels, and a cover plate having a hole to fit upon said threaded shell and having a lower face with grooves adapted to coöperate with said grooves or channels.

8. A lamp receptacle comprising an insulating base, a threaded shell adapted to receive an electric light bulb plug, outwardly projecting feet portions on said shell, said base having formed therein depressions to receive said feet.

9. A lamp receptacle comprising an insulating body, an insulating wall formed in said body, a terminal plate extending into said base and surrounded by said wall, a threaded shell having its lower edge surrounding said wall, said shell having outwardly projecting feet portions, and said base having formed therein depressions to receive said feet.

10. A lamp receptacle comprising an insulating body, an insulating wall formed in said body, a terminal plate extending into said base and surrounded by said wall, and a threaded shell having its lower edge surrounding said wall.

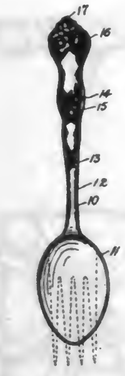
DESIGNS.

40,932. EMBLEM. CHARLES L. THATCHER, Providence, R. I., assignor to Irons and Russell Company, Providence, R. I., a Corporation of Maine. Filed Aug. 6, 1910. Serial No. 576,021. Term of patent 7 years.



The ornamental design for an emblem, as shown and described.

40,933. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. THOMAS B. LASHAR, Bridgeport, Conn., assignor to International Silver Company, Bridgeport, Conn., a Corporation of New Jersey. Filed Mar. 11, 1910. Serial No. 548,751. Term of patent 7 years.



The ornamental design for a handle for spoons, forks or similar articles, as shown.

40,934. PERCOLATOR-COVER. CHARLES F. SMITH, New Britain, Conn., assignor to Landers, Frary & Clark, New Britain, Conn., a Corporation. Filed July 7, 1910. Serial No. 570,909. Term of patent 14 years.



The ornamental design for a percolator cover, as shown.

40,935. MUSICAL-INSTRUMENT PEDAL. HEINRICH SANDNER, Union Hill, N. J. Filed Aug. 18, 1910. Serial No. 577,893. Term of patent 7 years.



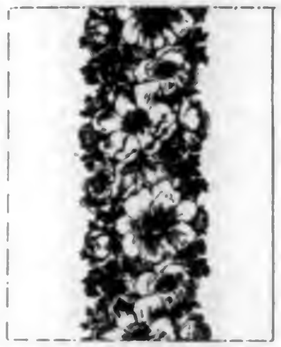
The ornamental design for a musical instrument pedal as shown.

40,936. CEILING-PLATE. HERMAN GOTHBERG, Roselle Park, N. J. Filed Aug. 1, 1910. Serial No. 575,035. Term of patent 7 years.



The ornamental design for a ceiling-plate, as shown.

40,937. TEXTILE FABRIC. EMILE SINS, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 21, 1910. Serial No. 562,786. Term of patent 3½ years.



The ornamental design for a textile fabric, as shown.

40,938. TEXTILE FABRIC. EMILE SINS, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed May 23, 1910. Serial No. 563,021. Term of patent 3½ years.



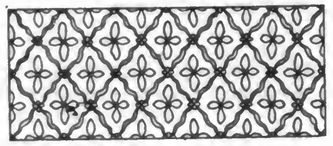
The ornamental design for a textile fabric as shown.

40,939. TEXTILE FABRIC. PAUL DUPONT, Paris, France, assignor to Cheney Brothers, South Manchester, Conn., a Corporation of Connecticut. Filed Aug. 8, 1910. Serial No. 576,349. Term of patent 3½ years.



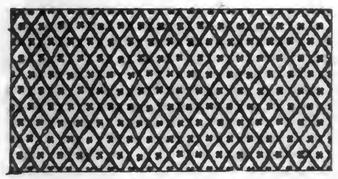
The ornamental design for a textile fabric as shown.

40,940. CARPET. WILLIAM A. ELLIOT, Yonkers, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,014. Term of patent 7 years.



The ornamental design for a carpet, as shown.

40,941. CARPET. WILLIAM A. ELLIOT, Yonkers, N. Y., assignor to Bigelow Carpet Company, a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 574,015. Term of patent 7 years.



The ornamental design for a carpet, as shown.

TRADE-MARKS

PUBLISHED OCTOBER 11, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 27,609. (CLASS 9. EXPLOSIVES, FIREARMS, EQUIPMENTS, AND PROJECTILES.) EDWARD H. WAGNER, New York, N. Y. Filed May 23, 1907.

CONDENSED

Particular description of goods.—Fireworks.

Ser. No. 39,370. (CLASS 37. PAPER AND STATIONERY.) ALBANY PERFORATED WRAPPING PAPER COMPANY, Albany, N. Y. Filed Dec. 16, 1908.

RED CROSS



Particular description of goods.—Packages of Toilet-Paper.

Ser. No. 41,583. (CLASS 39. CLOTHING.) DAYTON DRY GOODS CO., Minneapolis, Minn. Filed Apr. 3, 1909.

WHITE CROSS



Particular description of goods.—Hosiery, Undershirts, Drawers, Union Suits, and Tights.

Ser. No. 43,634. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE N. K. FAIRBANK COMPANY, Chicago, Ill. Filed July 19, 1909.



Particular description of goods.—Soap.

Ser. No. 44,044. (CLASS 48. MALT EXTRACTS AND LIQUORS.) PREISS & WIMMER BREWING CO., St. Cloud, Minn. Filed Aug. 9, 1909.



No claim being made to the words "Old Heidelberger."
Particular description of goods.—Beer.

Ser. No. 45,944. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) THE STANLEY WORKS, New Britain, Conn. Filed Nov. 17, 1909. Used ten years.

800

Particular description of goods.—Wrought-Steel Narrow Butts or Hinges.

Ser. No. 46,206. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) BEDELL PARKER, New York, N. Y. Filed Nov. 30, 1909.



Particular description of goods.—Cotton, Woolen, Linen, and Silk Piece Goods.

Ser. No. 46,210. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) BEDELL PARKER, New York, N. Y. Filed Nov. 30, 1909.

DELPARK

Particular description of goods.—Cotton, Woolen, Linen, and Silk Piece Goods.

Ser. No. 46,611. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE GLOBE SOAP COMPANY, Cincinnati, Ohio. Filed Dec. 20, 1909.

HUSTLER

Particular description of goods.—Soap.

Ser. No. 46,686. (CLASS 12. CONSTRUCTION MATERIALS.) R. F. CONWAY COMPANY, Chicago, Ill. Filed Dec. 22, 1909.

Cubanel

Particular description of goods.—Asphalt.

Ser. No. 46,808. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ARTHUR C. TODD, New York, N. Y. Filed Dec. 30, 1909.

Deep
Sea

Particular description of goods.—Candy.

Ser. No. 46,927. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) ADOLPH MOLT, Delawanna, N. J. Filed Jan. 6, 1910.



Particular description of goods.—Compasses, Dividers, Proportional Dividers, Planimeters, T-Squares, Triangles, Curves, Measuring-Rules, Slide-Rules, Scales, Measuring-Tapes, Transits, Levels, Measuring-Rods, Plumb-Bobs, Sextants, and Blue-Printing Frames and Machines.

Ser. No. 46,965. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE REA-PATTERSON MILLING COMPANY, Coffeyville, Kans. Filed Jan. 7, 1910. Used ten years.

BUOYANT

Particular description of goods.—Wheat-Flour.

Ser. No. 47,291. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) COLUMBIA COTTON OIL AND PROVISION CORPORATION, Relee, Va. Filed Jan. 21, 1910.

BUTTERCUP

Particular description of goods.—A Compound of Lard, Beef Fat, Oleo-Stearin, and Cotton-Seed Oil.

Ser. No. 47,875. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) TRYGVE VICTOR TOKSTAD, New York, N. Y. Filed Feb. 17, 1910.



The diagonal band being blue and the seal red.
Particular description of goods.—Smoked Fat Herrings.

Ser. No. 48,339. (CLASS 37. PAPER AND STATIONERY.) CROWN-COLUMBIA PULP AND PAPER CO., San Francisco, Cal. Filed Mar. 11, 1910.



Particular description of goods.—Wrapping-Paper.

Ser. No. 48,456. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) PRENTISS VISE COMPANY, New York, N. Y. Filed Mar. 16, 1910.

"REX"

Particular description of goods.—Vises.

Ser. No. 48,479. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) LEON S. LEON, Chicago, Ill. Filed Mar. 16, 1910.

ALL-ONE

Particular description of goods.—Embroidery-Stamping Outfits Consisting of a Box Containing Wax of Different Colors, a Pad, and a Bottle.

Ser. No. 48,653. (CLASS 15. OILS AND GREASES.) CHARLES J. BUSHMEYER, Oklahoma, Okla. Filed Mar. 25, 1910.

Esonia

Particular description of goods.—Lubricating-Oils and Lubricating-Greases.

Ser. No. 48,869. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CHARLES B. LONGWELL, Wheeling, W. Va. Filed Apr. 6, 1910.



Particular description of goods.—Medicinal Preparations for the Treatment of Nervous Prostration, Insomnia, Vertigo, Exhaustion from Overwork or Worry, Nervous Debility, Melancholia, Impaired Energy, and Piles.

Ser. No. 49,284. (CLASS 25. LOCKS AND SAFES.) THE MOSLER SAFE COMPANY, New York, N. Y. Filed Apr. 25, 1910.



Particular description of goods.—Safes.

Ser. No. 49,355. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) BADISCHE ANILIN & SODA FABRIK, Ludwigshafen-on-the-Rhine, Germany. Filed Apr. 28, 1910. Used ten years.

Particular description of goods.—Coal-Tar Dyestuffs, Indigo and Indigo Preparations, Coal-Tar Derivatives Used in the Manufacture of Dyes, Mineral Acids, Alkalies, and Alkali Salts, Chlorin, Chromic Acid, Chromates, and Chrome Salts, Mordants and Chemicals for Dyeing, Discharging, Bleaching, and Printing, and Chemical Preparations for Photographic Purposes.

Ser. No. 49,574. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) MITCHELL & COMPANY OF BELFAST LIMITED, Belfast, Ireland. Filed May 7, 1910.



No claim is made to the use of the words "Mitchell's," "Old Irish Whisky," and "Mitchell & Co. of Belfast, Ltd. Distillers, Belfast, Ireland."

Particular description of goods.—Blended Whisky.

Ser. No. 49,788. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE DICKINSON DRUG COMPANY, New Britain, Conn. Filed May 18, 1910.

MARSAY

Particular description of goods.—Aseptic Soap.

Ser. No. 49,795. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) COLUMBIA COTTON OIL AND PROVISION CORPORATION, Relee, Va. Filed May 18, 1910.



Particular description of goods.—A Compound of Cotton-Seed Oil, Beef-Fat, and Oleo-Stearin.

Ser. No. 49,810. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CHARLES E. GILLAM, Lockport, N. Y. Filed May 19, 1910.



Particular description of goods.—Peridient Anesthetic.

Ser. No. 49,986. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) WALTER S. TANNER, Richmond, Va. Filed May 28, 1910.



Consisting of the words "Blue Ribbon Brand," associated with the representation of a blue ribbon.

Particular description of goods.—Ready-Mixed and Semi-paste Paints and Colors Ground in Oil.

Ser. No. 50,062. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE AMERICAN PURE COFFEE & SPICE COMPANY, Dayton, Ohio. Filed June 2, 1910.

MONIBAK

Particular description of goods.—Spices, Flavoring Extracts, Cocoa, Tea, and Blended Coffee.

Ser. No. 50,141. (CLASS 15. OILS AND GREASES.) DEBEVOISE-ANDERSON COMPANY, New York, N. Y. Filed June 6, 1910.

CARBO

Particular description of goods.—A Residue from the Distillation of Petroleum.

Ser. No. 50,320. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE GOULDS MANUFACTURING COMPANY, Seneca Falls, N. Y. Filed June 15, 1910. Used ten years.

GOULDS

Particular description of goods.—Power and Hand Pumps.

Ser. No. 50,424. (CLASS 37. PAPER AND STATIONERY.) SCOTT PAPER COMPANY, Philadelphia, Pa. Filed June 18, 1910.



Which consists of a picture of Christopher Columbus and the name "Colombo."

Particular description of goods.—Toilet-Paper.

Ser. No. 50,491. (CLASS 9. EXPLOSIVES, FIREARMS, EQUIPMENTS, AND PROJECTILES.) FREDRIK EMIL KREUGER, London, England. Filed June 22, 1910.



Particular description of goods.—Matches.

Ser. No. 50,524. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WM. A. COOMBS MILLING COMPANY, Coldwater, Mich. Filed June 23, 1910.

JUNO

Particular description of goods.—Wheat-Flour.

Ser. No. 50,575. (CLASS 8. SMOKERS' ARTICLES, NOT INCLUDING TOBACCO PRODUCTS.) B. BARLING & SONS, London, England. Filed June 25, 1910.

EB
WB

Particular description of goods.—Tobacco-Pipes.

Ser. No. 50,577. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) A. STEINHARDT & BRO., New York, N. Y. Filed June 25, 1910.



Particular description of goods.—Pins Made of Steel Wire, Brass Wire, Horn, Rubber, Celluloid, and Aluminum, Hair-Pins, Toilet-Pins, Hat-Pins, Safety-Pins, Beauty-Pins, Shawl-Pins, Belt-Pins, Lace-Pins, Bar-Pins, Veil-Pins, and Knitting-Needles.

Ser. No. 50,617. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) S. STEIN & CO., New York, N. Y. Filed June 28, 1910. Used ten years.

KINGSLEY

Particular description of goods.—Woolen Piece Goods.

Ser. No. 50,753. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE PATENT AXLE BOX AND FOUNDRY COMPANY LIMITED, Wednesfield, England. Filed July 8, 1910.

IRACIER

Particular description of goods.—Axle-Boxes and Fittings Therefor.

Ser. No. 50,793. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) THE S. GALESKI OPTICAL CO., Richmond, Va. Filed July 11, 1910.



Particular description of goods.—Lenses for Eyeglasses.

Ser. No. 50,821. (CLASS 39. CLOTHING.) KAHN & FRANK, New York, N. Y. Filed July 18, 1910.

ROXONIA

Particular description of goods.—Knitted Underwear, Sweaters, Men's Shirts, Men's Drawers, Ladies' Vests, Ladies' Pants, Misses' Vests, Children's Shirts, Children's Drawers, and Children's Pants.

Ser. No. 50,832. (CLASS 48. MALT EXTRACTS AND LIQUORS.) HENRY C. BLAIR, Philadelphia, Pa. Filed July 14, 1910.

AlcoAID

Particular description of goods.—A Non-Alcoholic Beverage Containing Malt, Hops, and Phosphates.

Ser. No. 50,937. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed July 20, 1910. Used ten years.



The letter "A" appearing colored in red.

Particular description of goods.—Lubricating-Oils.

Ser. No. 51,036. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HUNTOON, PAIGE & COMPANY, Paterson, N. J. Filed July 23, 1910.

EXCELSIOR

Particular description of goods.—Blended Coffee.

Ser. No. 51,044. (CLASS 32. FURNITURE AND UPHOLSTERY.) LEGGETT & PLATT SPRING BED & MFG. CO., Carthage, Mo. Filed July 25, 1910.



Particular description of goods.—Spring-Beds.

Ser. No. 51,045. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THOMAS M. AMBLER, St. Louis, Mo. Filed July 25, 1910.

Twinplex

Consists of the word "Twinplex."

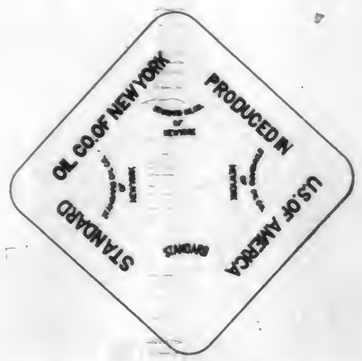
Particular description of goods.—Razor-Blade Sharpeners.

Ser. No. 51,058. (CLASS 48. MALT EXTRACTS AND LIQUORS.) THE BROADWAY BREWING & MALTING CO., Buffalo, N. Y. Filed July 26, 1910.



Particular description of goods.—Bottled Beer.

Ser. No. 51,067. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed July 26, 1910. Used ten years.



Particular description of goods.—Refined Petroleum for Illuminating, Heating, and Power Purposes.

Ser. No. 51,072. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) J. ALLEN SMITH & COMPANY, Knoxville, Tenn. Filed July 26, 1910. Used ten years.

NEW SOUTH

Particular description of goods.—Wheat-Flour.

Ser. No. 51,074. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) J. ALLEN SMITH & COMPANY, Knoxville, Tenn. Filed July 26, 1910. Used ten years.

STANDARD FANCY

Particular description of goods.—Wheat-Flour.

Ser. No. 51,083. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE DUKE H. WATSON CO., Findlay, Ohio. Filed July 26, 1910.

JUST IT

Particular description of goods.—Blemish-Eradicator, Being a Remedy for Scars, Ringbone, and other Blemishes for Horses, Mules, and Cattle.

Ser. No. 51,086. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE MALTBIE CHEMICAL COMPANY, Newark, N. J. Filed July 26, 1910.

CHROMIAC

Particular description of goods.—A Nerve Tonic and Stimulant.

Ser. No. 51,099. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) DR. A. HERBRAND, G. M. B. H., Berlin, Germany. Filed July 27, 1910.

NICOMORS

Particular description of goods.—A Composition for Diminishing the Noxious Effects of Nicotin.

Ser. No. 51,107. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE N. K. FAIRBANK COMPANY, Chicago, Ill. Filed July 27, 1910.

DIXIE

Particular description of goods.—Cotton-Seed Salad-Oil.

Ser. No. 51,162. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) BENJAMIN E. LEVY, New York, N. Y. Filed July 30, 1910.



Particular description of goods.—Powder-Puffs.

Ser. No. 51,173. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SAMPSON GROVE, Boardman, Fla. Filed July 30, 1910.

Puritan

Particular description of goods.—Citrus Fruits and Pecan-Nuts.

Ser. No. 51,174. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SAMPSON GROVE, Boardman, Fla. Filed July 30, 1910.



Particular description of goods.—Citrus Fruits and Pecan-Nuts.

Ser. No. 51,298. (CLASS 3. BAGGAGE, HORSE EQUIPMENTS, PORTFOLIOS, AND POCKET-BOOKS.) THE TREDEGAR COMPANY, Richmond, Va. Filed Aug. 6, 1910.



Particular description of goods.—Horse and Mule Shoes.

Ser. No. 51,332. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) HEATON-PENINSULAR BUTTON FASTENER CO., Boston, Mass. Filed Aug. 9, 1910. Used ten years.



Particular description of goods.—Staple-Like Metallic Fasteners for Attaching Buttons to Boots and Shoes and for Securing Pieces of Clothing Together.

Ser. No. 51,333. (CLASS 40. FANCY GOODS, FURNISHINGS AND NOTIONS.) HEATON-PENINSULAR BUTTON FASTENER CO., Boston, Mass. Filed Aug. 9, 1910. Used ten years.



Particular description of goods.—Staple-Like Metallic Fasteners for Attaching Buttons to Boots and Shoes and for Securing Pieces of Clothing Together.

Ser. No. 51,367. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) LEE BROOM & DUSTER COMPANY, Lincoln, Nebr. Filed Aug. 12, 1910.

EXCELO

Particular description of goods.—Brooms.

Ser. No. 51,392. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Y. Filed Aug. 13, 1910.

Protylin

Particular description of goods.—A Medicinal Tonic.

Ser. No. 51,402. (CLASS 15. OILS AND GREASES.) TIDE WATER OIL COMPANY, New York, N. Y. Filed Aug. 15, 1910.

PIONEER

Particular description of goods.—Lubricating-Oils.

Ser. No. 51,491. (CLASS 39. CLOTHING.) HOOD RUBBER CO., Boston, Mass. Filed Aug. 22, 1910.



Particular description of goods.—Rubber Boots and Shoes, Rubber Overshoes, and Rubber-Soled Canvas Shoes.

Ser. No. 51,511. (CLASS 50. MERCHANDISE NOT OTHERWISE CLASSIFIED.) THE SECURITY LADDER COMPANY, Goshen, Ind. Filed Aug. 23, 1910.



Particular description of goods.—Step-Ladders.

Ser. No. 51,599. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) LAFAYETTE L. HIXSON, Newton, Iowa. Filed Aug. 29, 1910.

NOTORIETY

Particular description of goods.—A Card Game.

Ser. No. 51,602. (CLASS 38. PRINTS AND PUBLICATIONS.) ADAM BUDGE, New York, N. Y. Filed Aug. 29, 1910.

ARTS & DECORATION

Particular description of goods.—Monthly Magazines.

Ser. No. 51,673. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) GEORGE W. SCHINDLER, Washington, D. C. Filed Sept. 6, 1910.



Particular description of goods.—A Remedy for Corns.

Ser. No. 51,719. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PATRICK E. DEVINE, New York, N. Y. Filed Sept. 8, 1910.

ENIVED

Particular description of goods.—A Remedy for Rheumatism.

Ser. No. 51,749. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) WILLIAM C. JAEGER, Philadelphia, Pa. Filed Sept. 10, 1910.



HOO-KO

Particular description of goods.—A Remedy for Whooping-Cough.

Ser. No. 51,818. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) WHITTEMORE-WRIGHT COMPANY, INCORPORATED, Boston, Mass. Filed Sept. 14, 1910.

WAXO-KLENO

Particular description of goods.—Wax for Laundry Purposes.

Ser. No. 51,857. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) LUCIAN K. BAUMAN, Holyoke, Mass. Filed Sept. 16, 1910.



Particular description of goods.—A Remedy for Rheumatism and Backache.

TRADE-MARKS

REGISTERED OCTOBER 11, 1910.

79,805. ANTICORROSIVE PAINTS. D. ANDERSON & SON, LIMITED, Belfast, Ireland.
Filed June 28, 1910. Serial No. 50,616. PUBLISHED AUGUST 9, 1910.

79,806. COFFEE. C. W. ANTRIM & SONS, Richmond, Va.
Filed June 7, 1910. Serial No. 50,165. PUBLISHED AUGUST 9, 1910.

79,807. CANNED SALMON. ASTORIA & PUGET SOUND CANNING CO., Bellingham, Wash.
Filed June 21, 1910. Serial No. 50,465. PUBLISHED AUGUST 9, 1910.

79,808. WATCH-MOVEMENTS. BALTIMORE BARGAIN HOUSE, Baltimore, Md.
Filed May 7, 1910. Serial No. 49,593. PUBLISHED AUGUST 9, 1910.

79,809. BEDS, CRIBS, BED-SPRINGS, AND MATTRESSES. BARCALO MANUFACTURING COMPANY, Buffalo, N. Y.
Filed January 28, 1910. Serial No. 47,446. PUBLISHED AUGUST 9, 1910.

79,810. RUST-PROOFING AND LUBRICATING OIL. JOHN C. BEEKMAN, Tarpon Springs, Fla.
Filed May 31, 1910. Serial No. 50,012. PUBLISHED AUGUST 9, 1910.

79,811. LOCKETS. BLISS BROTHERS COMPANY, Attleboro, Mass.
Filed June 18, 1909. Serial No. 43,087. PUBLISHED SEPTEMBER 7, 1909.

79,812. LEATHER-DRESSING. FRED. R. BRADBURY, East Brownfield, Me.
Filed June 23, 1909. Serial No. 43,191. PUBLISHED AUGUST 9, 1910.

79,813. OLIVE-OIL. BRAGNO AND MUSTARI, Chicago, Ill.
Filed June 17, 1910. Serial No. 50,417. PUBLISHED AUGUST 9, 1910.

79,814. WRITING-PENS. MARIE BROWN, New Brighton, N. Y.
Filed June 25, 1910. Serial No. 50,569. PUBLISHED AUGUST 9, 1910.

79,815. AIR CLEANING DEVICES AND PARTS THEREOF. ALVIN S. CAHN, New York, N. Y.
Filed May 18, 1910. Serial No. 49,792. PUBLISHED AUGUST 9, 1910.

79,816. FRESH FRUIT, VEGETABLES, MELONS, AND CANNED FRUITS. CALIFORNIA FARMERS' UNION, INC., Fresno, Cal.
Filed June 17, 1910. Serial No. 50,353. PUBLISHED AUGUST 9, 1910.

79,817. FIBER-BOARD. CASE & MARSHALL, INCORPORATED, Burnside, Conn.
Filed April 27, 1908. Serial No. 34,404. PUBLISHED AUGUST 9, 1910.

79,818. HORSE AND STOCK FEED. CHAPIN & COMPANY, INCORPORATED, Buffalo, N. Y.
Filed June 6, 1910. Serial No. 50,149. PUBLISHED AUGUST 9, 1910.

79,819. SUGAR AND SUGAR-SYRUP. CHEMISCHE FABRIK REISHOLZ G. M. B. H., Dusseldorf-Reishols, Germany.
Filed November 9, 1909. Serial No. 45,777. PUBLISHED AUGUST 9, 1910.

79,820. HOSIERY. HOWARD J. CLARK, Orchard Park and Buffalo, N. Y.
Filed May 6, 1910. Serial No. 49,543. PUBLISHED AUGUST 9, 1910.

79,821. MACARONIC PASTE FOODS. THE CLEVELAND MACARONI COMPANY, Cleveland, Ohio.
Filed August 21, 1908. Serial No. 36,866. PUBLISHED JUNE 7, 1910.

79,822. BLASTING-FUSES. COAST MANUFACTURING & SUPPLY CO., Fitchburg, Cal.
Filed July 8, 1910. Serial No. 50,755. PUBLISHED AUGUST 9, 1910.

79,823. RHEUMATIC REMEDIES. THE COLONIAL DRUG CO., Chicago, Ill.
Filed June 28, 1910. Serial No. 50,619. PUBLISHED AUGUST 9, 1910.

79,824. MATCHES. EAST JERSEY MATCH COMPANY, Garfield, N. J.
Filed June 17, 1910. Serial No. 50,414. PUBLISHED AUGUST 9, 1910.

79,825. TOILET ROUGE. THE EL PERFECTO VEDA ROSE CO., San Francisco, Cal.
Filed July 5, 1910. Serial No. 50,708. PUBLISHED AUGUST 9, 1910.

79,826. BLENDED TEA. HART CYRUS FISHER, San Francisco, Cal.
Filed April 18, 1910. Serial No. 49,187. PUBLISHED AUGUST 9, 1910.

79,827. CERTAIN MACHINERY AND PARTS THEREOF. FLINT AND WALLING MFG. CO., Kendallville, Ind.
Filed April 4, 1910. Serial No. 48,836. PUBLISHED AUGUST 9, 1910.

79,828. COFFEE. GOHL & KING, Williamsport, Pa.
Filed May 4, 1909. Serial No. 42,214. PUBLISHED AUGUST 9, 1910.

79,829. PAPER-SIZE. THE GRASSELLI CHEMICAL COMPANY, Cleveland, Ohio.
Filed June 25, 1910. Serial No. 50,570. PUBLISHED AUGUST 9, 1910.

79,830. SILK, COTTON, MERCERIZED, AND MACHINE SEWING-THREADS. GUDEBROD BROS. CO., New York, N. Y.
Filed May 7, 1910. Serial No. 49,588. PUBLISHED AUGUST 9, 1910.

79,831. SILK, COTTON, MERCERIZED, AND MACHINE SEWING-THREADS. GUDEBROD BROS. CO., New York, N. Y.
Filed May 7, 1910. Serial No. 49,589. PUBLISHED AUGUST 9, 1910.

79,832. HAMMOCKS. HEMLOCK MANUFACTURING CO., Chattanooga, Tenn.
Filed July 14, 1909. Serial No. 43,512. PUBLISHED AUGUST 9, 1910.

79,833. DRESS GOODS MADE OF LINEN, SILK AND COTTON MIXTURES, AND SILK. L. HESS & CO., New York, N. Y.
Filed January 21, 1910. Serial No. 47,289. PUBLISHED AUGUST 9, 1910.

79,834. CANNED FRUIT, VEGETABLES, FISH, AND OYSTERS. THE P. S. HESSLER MERCANTILE COMPANY, Denver, Colo.
Filed June 17, 1910. Serial No. 50,408. PUBLISHED AUGUST 9, 1910.

79,835. MATCHES. THE INDEPENDENT MATCH CO., Philadelphia, Pa.
Filed July 15, 1910. Serial No. 50,844. PUBLISHED AUGUST 9, 1910.

79,836. MATCHES. THE INDEPENDENT MATCH CO., Philadelphia, Pa.
Filed July 15, 1910. Serial No. 50,845. PUBLISHED AUGUST 9, 1910.

79,837. FANNING-MILLS, LAND-ROLLERS, SEEDERS, AND GRAIN AND SEED SEPARATORS. JOHNSON & FIELD MFG. CO., Racine, Wis.
Filed June 7, 1910. Serial No. 50,160. PUBLISHED AUGUST 9, 1910.

79,838. TOILET PREPARATIONS FOR REDUCING FLESH. JOHN L. JOHNSON, Ridgefield Park, N. J.
Filed June 30, 1910. Serial No. 50,650. PUBLISHED AUGUST 9, 1910.

79,839. MACHINERY PACKING OF ALL KINDS. ROBERT A. KEASBEY COMPANY, New York, N. Y.
Filed June 17, 1910. Serial No. 50,368. PUBLISHED AUGUST 9, 1910.

79,840. LIME, HYDRATED LIME, AND PLASTER. THE KELLEY ISLAND LIME & TRANSPORT COMPANY, Cleveland, Ohio.
Filed June 17, 1910. Serial No. 50,412. PUBLISHED AUGUST 9, 1910.

79,841. BEER. KŐBÁNYAI POLGÁRI SERFŐZŐ RÉSZVÉNY TÁRSASÁG, Budapest, Austria-Hungary.
Filed December 17, 1909. Serial No. 46,572. PUBLISHED AUGUST 9, 1910.

79,842. DEVICE FOR TRANSFERRING AN OBJECT ON A SCALE. GEORGE F. LATTIER, Baltimore, Md.
Filed June 29, 1910. Serial No. 50,626. PUBLISHED AUGUST 9, 1910.

79,843. PETROLEUM ILLUMINATING-OIL. MALONEY OIL & MANUFACTURING COMPANY, Scranton, Pa.
Filed June 4, 1910. Serial No. 50,122. PUBLISHED AUGUST 9, 1910.

79,844. FURNITURE-POLISHES. WILLIAM MCKINLEY, Wilmington, Del.
Filed July 6, 1910. Serial No. 50,725. PUBLISHED AUGUST 9, 1910.

79,845. CERTAIN CHEMICALS. MERCK & CO., New York, N. Y.
Filed September 14, 1906. Serial No. 22,101. PUBLISHED JULY 27, 1909.

79,846. WET AND DRY ADHESIVE PASTES, MUCILAGE, ADHESIVE GUMS, AND GLUES. MONARCH PASTE CO., Buffalo, N. Y.
Filed April 22, 1910. Serial No. 49,246. PUBLISHED AUGUST 9, 1910.

79,847. HARNESS, SADDLES, AND HORSE-COLLARS. MONTGOMERY MOORE MFG. CO., Nashville, Tenn.
Filed June 16, 1910. Serial No. 50,336. PUBLISHED AUGUST 9, 1910.

79,848. SALT. MORTON SALT COMPANY, Chicago, Ill.
Filed May 24, 1910. Serial No. 49,899. PUBLISHED AUGUST 9, 1910.

79,849. CHOCOLATE CREAM DROPS. THE MUNGER CANDY COMPANY, Corning, N. Y.
Filed March 11, 1910. Serial No. 48,343. PUBLISHED AUGUST 9, 1910.

79,850. COVERS FOR MANHOLES AND HAND-HOLES. R. MUNROE & SONS MFG. CORPORATION, Pittsburg, Pa.
Filed August 21, 1909. Serial No. 44,284. PUBLISHED AUGUST 9, 1910.

79,851. WOOD CLEANING AND POLISHING MATERIAL. FRANK X. MURAWSKI, New York, N. Y.
Filed June 4, 1910. Serial No. 50,132. PUBLISHED AUGUST 9, 1910.

79,852. POST-CARDS, PICTURE-CARDS, AND ADVERTISING NOVELTY CARDS. NATIONAL INVISIBLE PRINT CO., St. Louis, Mo.
Filed April 14, 1910. Serial No. 49,081. PUBLISHED AUGUST 9, 1910.

79,853. READY-MIXED PAINTS. ELI N. NEWBURGER, Cleveland, Ohio.
Filed April 2, 1910. Serial No. 48,816. PUBLISHED AUGUST 9, 1910.

79,854. BROOMS. THE O. K. BROOM WORKS, New York, N. Y.
Filed June 29, 1910. Serial No. 50,634. PUBLISHED AUGUST 9, 1910.

79,855. CARBON-PAPER. PEN-CARBON MANIFOLD COMPANY, New Brunswick, N. J.
Filed April 21, 1910. Serial No. 49,222. PUBLISHED AUGUST 9, 1910.

79,856. DRESSING AND INVIGORANT FOR THE HAIR. PHILO HAT SPECIALTIES CO., Newark, N. J.
Filed June 14, 1909. Serial No. 43,022. PUBLISHED AUGUST 9, 1910.

79,857. FACE-POWDER AND GREASELESS FACIAL CREAM. THE JOHN POSTANCE COMPANY, Cleveland, Ohio.
Filed October 1, 1909. Serial No. 45,082. PUBLISHED AUGUST 9, 1910.

79,858. WHEAT-FLOUR. RED WING MILLING COMPANY, Red Wing, Minn.
Filed June 16, 1910. Serial No. 50,340. PUBLISHED AUGUST 9, 1910.

79,859. GLOVES. RELIANCE GLOVE CO., Chicago, Ill.
Filed May 6, 1910. Serial No. 49,556. PUBLISHED AUGUST 9, 1910.

79,860. FARM, GARDEN, AND FLOWER SEEDS. ROBINSON SEED AND PLANT COMPANY, Dallas, Tex.
Filed May 26, 1910. Serial No. 49,928. PUBLISHED AUGUST 9, 1910.

79,861. PRESSURE-REGULATING VALVES. WILLIAM ROSS, Troy, N. Y.
Filed April 23, 1910. Serial No. 49,271. PUBLISHED JUNE 21, 1910.

79,862. TOOTH-BRUSHES, NAIL-BRUSHES, AND HAIR-BRUSHES. SAKABE & SEKINE, New York, N. Y.
Filed June 27, 1910. Serial No. 50,596. PUBLISHED AUGUST 9, 1910.

79,863. VELVETS AND PLUSHES. THE SALT'S TEXTILE MANUFACTURING COMPANY, Bridgeport, Conn.
Filed January 18, 1910. Serial No. 47,225. PUBLISHED AUGUST 9, 1910.

79,864. WOMEN'S, CHILDREN'S, AND INFANTS' COATS, CLOAKS, WRAPS, CAPES, AND DRESSES. THE SALT'S TEXTILE MANUFACTURING COMPANY, Bridgeport, Conn.
Filed January 18, 1910. Serial No. 47,226. PUBLISHED AUGUST 9, 1910.

79,865. CERTAIN SPORTING GOODS. SLAZENGER & SONS, London, England.
Filed February 11, 1910. Serial No. 47,730. PUBLISHED AUGUST 9, 1910.

79,866. WHEAT-FLOUR. E. O. SMITH COMPANY, Springfield, Mass.
Filed August 26, 1908. Serial No. 36,967. PUBLISHED APRIL 20, 1909.

79,867. WHEAT-FLOUR. SPARKS MILLING COMPANY, Alton, Ill., and Terre Haute, Ind.
Filed June 23, 1910. Serial No. 50,520. PUBLISHED AUGUST 9, 1910.

79,868. ELECTRICAL INSULATING COMPOSITIONS AND MATERIALS. STANDARD CHEMICAL COMPANY, Bayonne, N. J.
Filed April 1, 1910. Serial No. 48,796. PUBLISHED AUGUST 9, 1910.

79,869. HEAT-INSULATING MATERIAL. UNION FIBRE COMPANY, Winona, Minn.
Filed July 5, 1910. Serial No. 50,702. PUBLISHED AUGUST 9, 1910.

79,870. HAIR-TONIC. CHARLES F. WAGNER, New York, N. Y.
Filed May 17, 1909. Serial No. 42,491. PUBLISHED MARCH 15, 1910.

79,871. COTTON SATINES. WARNER-GODFREY CO., New York, N. Y.
Filed December 8, 1909. Serial No. 46,352. PUBLISHED AUGUST 9, 1910.

79,872. COTTON PIECE GOODS. WARNER-GODFREY CO., New York, N. Y.
Filed December 8, 1909. Serial No. 46,353. PUBLISHED AUGUST 9, 1910.

79,873. COMPOUND ALCOHOLIC BEVERAGES. JACOB WEICHSELBAUM, Savannah, Ga.
Filed February 14, 1910. Serial No. 47,818. PUBLISHED AUGUST 9, 1910.

79,874. CLOCKS AND WATCHES. THE WESTERN CLOCK MFG. CO., Peru, Ill.
Filed July 2, 1910. Serial No. 50,686. PUBLISHED AUGUST 9, 1910.

79,875. CLOCKS AND WATCHES. THE WESTERN CLOCK MFG. CO., Peru, Ill.
Filed July 5, 1910. Serial No. 50,699. PUBLISHED AUGUST 9, 1910.

79,876. SHERRY. JULIUS WILE, SONS & CO., New York, N. Y.
Filed March 11, 1910. Serial No. 48,349. PUBLISHED APRIL 19, 1910.

79,877. WRITING-PAPER. W. E. WROE & COMPANY, Chicago, Ill.
Filed February 10, 1910. Serial No. 47,723. PUBLISHED AUGUST 9, 1910.

79,878. CERTAIN DETERGENTS. JOHN C. PATTERSON, Pittsburg, Pa.
Filed June 29, 1910. Serial No. 50,627. PUBLISHED AUGUST 9, 1910.

79,879. KNITTED GOODS. S. D. STRETTON & SONS, Leicester, England.
Filed May 20, 1910. Serial No. 49,826. PUBLISHED AUGUST 9, 1910.

79,880. MATTRESSES AND PILLOWS. TAYLOR BEDDING MFG. CO., Taylor, Tex.
Filed April 18, 1910. Serial No. 49,186. PUBLISHED JULY 26, 1910.

79,881. POLISHING AND CLEANING PREPARATIONS. MARSHALL M. WELCH, Atlanta, Ga.
Filed May 12, 1910. Serial No. 49,666. PUBLISHED AUGUST 9, 1910.

LABELS

REGISTERED OCTOBER 11, 1910.

15,346.—*Title:* "EL COMO." (For Cigars.) C. B. HENSCHEL MFG. Co., Milwaukee, Wis. Filed October 3, 1910.

15,347.—*Title:* "LA ZAR." (For Cigars.) C. B. HENSCHEL MFG. Co., Milwaukee, Wis. Filed October 3, 1910.

15,348.—*Title:* "CARMENA." (For Cigars.) C. B. HENSCHEL MFG. Co., Milwaukee, Wis. Filed October 3, 1910.

15,349.—*Title:* "CUBAN IMPORT." (For Cigars.) C. B. HENSCHEL MFG. Co., Milwaukee, Wis. Filed October 3, 1910.

15,350.—*Title:* "CHARLES THE FOURTH." (For Cigars.) W. E. JENKINS CIGAR Co., Kansas City, Mo. Filed September 29, 1910.

15,351.—*Title:* "BOULDER CREAMERY BUTTER." (For Butter.) GEORGE L. REED, Denver, Colo. Filed September 27, 1910.

15,352.—*Title:* "CRYSTAL." (For Rice.) PORTLAND RICE MILLING Co., Portland, Oreg. Filed September 22, 1910.

15,353.—*Title:* "CHANTECLER CHOCOLATE CANDIES." (For Chocolate Candies.) HUYLER'S, New York, N. Y. Filed September 28, 1910.

15,354.—*Title:* "LADY BETTY." (For Chocolates.) PAUL F. BEICH Co., Bloomington, Ill. Filed September 9, 1910.

15,355.—*Title:* "SCOT TISSUE." (For Paper Toweling.) SCOTT PAPER COMPANY, Philadelphia, Pa. Filed September 22, 1910.

15,356.—*Title:* "KLEENHANZ." (For a Compound for Cleaning the Hands.) NELSON BROS., Chicago, Ill. Filed September 1, 1910.

15,357.—*Title:* "RAT CORN." (For a Powder for Exterminating Rodents.) BOTANICAL MANUFACTURING Co., Philadelphia, Pa. Filed August 30, 1910.

PRINTS

REGISTERED OCTOBER 11, 1910.

2,647.—*Title:* "LIGHT HOUSEKEEPERS." (For Flour.) WASHBURN CROSBY COMPANY, Minneapolis, Minn. Filed September 9, 1910.

2,648.—*Title:* "BAKING FIT TO WRITE ABOUT." (For Flour.) WASHBURN CROSBY COMPANY, Minneapolis, Minn. Filed September 29, 1910.

2,649.—*Title:* "BABY'S OWN SOAP." (For Soap.) WILLIAM M. CURTIS, Boston, Mass. Filed April 8, 1910.

2,650.—*Title:* "WEBSTER-WHITCOMB SCREW TAIL-STOCK." (For Screw Tail-Stocks.) AMERICAN WATCH TOOL COMPANY, Waltham, Mass. Filed September 29, 1910.

2,651.—*Title:* "CHAMBERLIN EQUIPMENT." (For Metal Weather-Strips.) CHAMBERLIN METAL WEATHER STRIP Co., Detroit, Mich. Filed September 27, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE PFAUTZ.

Decided June 1, 1910.

DRAWINGS SHOULD BE LIMITED TO AS FEW SHEETS AS POSSIBLE.

"There are two principal reasons for the rule requiring drawings to be limited to as few sheets as possible consistent with a clear showing of the invention; one is that it has now come to be a serious problem to find space for the storage of drawings, whether they form a part of a patent or of an abandoned application, and the other is that it is a useless expense to photolithograph an unnecessary number of sheets of drawings for the purpose of attaching the same to patents."

ON PETITION.

FILTER.

Mr. J. R. H. Potts for the applicant.

BILLINGS, *First Assistant Commissioner:*

This is a petition from the action of the Examiner requiring the drawings to be limited to one sheet.

The application as filed contains three sheets of drawings. The Examiner has suggested that Figures 1, 2, and 3, now shown on the first two sheets, should be placed upon a single sheet to be substituted for those now on file in the case. There are two principal reasons for the rule requiring drawings to be limited to as few sheets as possible consistent with a clear showing of the invention; one is that it has now come to be a serious problem to find space for the storage of drawings, whether they form a part of a patent or of an abandoned application, and the other is that it is a useless expense to photolithograph an unnecessary number of sheets of drawings for the purpose of attaching the same to patents.

I am of the opinion that there are too many sheets of drawings in this case and that but one sheet should have been originally filed. Should all the present sheets of drawings be canceled, however, and a new sheet substituted in lieu thereof, the Office would be burdened with the care of four sheets of drawings for all time. In order to decrease the number of sheets of drawings and at the same time obviate the necessity of caring for an additional sheet, it is held that Figs. 4 and 5 contained on Sheet 3 and the descriptions specifically relating thereto in the specification should be canceled. The other two sheets of drawings may remain as amply illustrating the invention.

The petition is granted to the extent indicated.

EX PARTE MASTAGLIO.

Decided September 23, 1910.

PROSECUTION OF APPLICATION—RESPONSIVE ACTION.

Where the Examiner required that the specification be rewritten and new drawings filed, *Held* that the filing of a substitute specification accompanied by blueprints in which many of the reference-numerals of the original drawings were omitted was not such proper prosecution of the case as required by the rules.

ON PETITION.

CALCULATING-MACHINE.

Mr. L. K. Bohm for the applicant.

BILLINGS, *Acting Commissioner:*

This is a petition that the above-entitled application be held not abandoned.

The application was filed on January 15, 1909, and an amendment thereto was filed January 27, 1909. On March 11, 1909, applicant was notified that the claims were informal, that the specification should be rewritten in idiomatic English, and that new drawings would be required, since the drawings on file were photolithographs and were so poorly executed and some of the figures so crowded that the operation of the device could not be understood. On March 10, 1910, a substitute specification was filed, accompanied by a set of blue-prints. On April 9, 1910, the Examiner held that the case was abandoned for the lack of sufficient prosecution, on the ground that applicant had not complied with the requirements of the last Office letter, since these blueprints were identical with the original drawings, with the exception of the change in numbering of some or all of the parts. After some correspondence this requirement was repeated and made final, and the present petition was taken on August 31, 1910.

It appears from the attorney's statement that the specification was entirely rewritten, and that in the blue-prints accompanying the substitute specification very many of the reference-numerals were omitted in order to avoid the Examiner's criticism of crowding of figures. Since the substitute specification, due to the omission of many of the reference-numerals and the change in the numbering of the parts, cannot be read on the original drawings, there are no drawings in the case corresponding to this substitute specification, except the blue-prints above referred to.

It is very evident, and the attorney must have known, that such blue-prints cannot be accepted in

the place of proper drawings. As applicant did not comply with the requirement of the Examiner to furnish proper drawings within one year from the date of such requirement, it must be held that the case is abandoned for the lack of proper prosecution.

As no excuse has been given for the delay in prosecuting the case, it cannot be held that such delay has been shown to have been unavoidable within the meaning of section 4894, Revised Statutes.

The petition is denied.

VANDERVELD *v.* SMITH.

Decided September 7, 1910.

1. INTERFERENCE—MOTION TO DISSOLVE—TRANSMISSION.
   A motion to dissolve on the ground of irregularity in the declaration thereof based in part upon an alleged difference in the meaning of the counts as applied to the applications of the different parties and in part upon the alleged lack of right of one of the parties to make the claims *Held* properly refused transmission.
2. SAME—SAME—SAME.
   A motion to dissolve on the ground of non-patentability which does not clearly point out the pertinency of the references relied upon should not be transmitted.

APPEAL on motion.

DISPLAY-RACK.

Mr. Luther V. Moulton and *Messrs. Shoemaker & Edmonston* for Vanderveld.

Mr. Robert P. Hains for Smith.

TENNANT, *Acting Commissioner:*

This is an appeal by Vanderveld from the decision of the Examiner of Interferences refusing to transmit his motion to dissolve filed April 23, 1910, as to three of the four grounds alleged.

The first ground of the motion, which alleged that there is no interference in fact for the reason that—

Vanderveld's rack is not locked in the sense of the issue, or by means corresponding, suggesting, or equivalent to the locking means of Smith's device—

was construed by the Examiner of Interferences to be a denial of Vanderveld's right to make the claims in issue, and the motion was transmitted as to this ground.

The second ground of the motion, which alleges irregularity in the declaration, is based in part upon ambiguity of the issue, in part upon alleged differences in meaning of the claims when read upon devices of the respective parties, in part upon the ground that Vanderveld has no right to make the claim, and in part on the ground that Smith has no right to make the claim because the same is anticipated by the prior art.

The Examiner refused to transmit this ground of the motion, holding that these allegations were not such as constitute informalities upon which motions to dissolve upon the ground of informality in the declaration of the interference may be based. The decision of the Examiner of Interferences in respect to this point is undoubtedly right. Rule 122 specifically defines the grounds under which the allegations for motions for dissolution may be made, and the allegation that the counts of the issue have different meanings in the case of the different parties is a separate and distinct ground from that of informality, as are also the denial of the right of one of the parties to make the claim and the allegation of non-patentability of the issue.

By the third ground of the motion it is attempted to add a patent to this interference. The claim in issue does not appear in the patent, and the patent cannot therefore be added to this interference. The decision of the Examiner of Interferences refusing to transmit the motion as to this count is right.

The fourth ground of the motion alleges non-patentability in view of the prior art; but, as stated by the Examiner of Interferences, it is not alleged that each of the patents cited is in itself an anticipation of the issue nor is it pointed out how these patents are to be combined to anticipate the same. The Examiner of Interferences points out that—

it was alleged in opposition to the motion, and not denied by counsel for the moving party, that eight of these patents were filed subsequent to the dates of completion of invention alleged in Smith's preliminary statement.

The Examiner held that motions for dissolution based upon such patents were not entitled to consideration. The decision of the Examiner as to all the points of this ground is clearly right. It is well settled that where a party moves to dissolve an interference in view of the prior art the pertinency of the references must be clearly set forth, and where more than one reference is relied upon to anticipate the claim in issue it must be pointed out how the references are to be combined. Manifestly the patents filed subsequently to the sworn date of the completion of the invention alleged in the preliminary statement of the parties do not constitute a ground for the dissolution of the interference.

I find no error in the decision of the Examiner of Interferences, and it is accordingly affirmed.

EX PARTE BOVING.

Decided September 14, 1910.

TRADE-MARKS—GOODS OF THE SAME DESCRIPTIVE PROPERTY.

A "family liniment" and crude oil to be used as a "remedy for skin diseases" *Held* to constitute merchandise of the same descriptive properties.

ON APPEAL.

TRADE-MARK FOR REMEDY FOR SKIN DISEASES.

Mr. John S. Duffie for the applicant.

TENNANT, *Assistant Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing registration of a mark consisting of the numerals "23" inclosed in a wreath, for "crude oil—a remedy for skin diseases."

Registration was refused in view of registered Trade-Mark No. 75,618, Columbia Drug Co., granted October 26, 1909, which comprises the numerals "23" upon a black background, for "a family liniment."

It is contended on behalf of the applicant that (1) there is no such similarity between the marks

as would be likely to cause confusion in the mind of the public and (2) that the goods upon which these respective marks are used are of different descriptive properties.

The salient feature of each of the marks by which the goods of the respective parties are to be known is undoubtedly the number "23." It is true that these numbers are displayed in slightly different form; but it is believed that the embellishments are not of such distinctive character as would overshadow the significance of the number itself. In fact, it would appear that the surroundings only serve to embellish and throw the number into relief. It must therefore be held that the marks are so nearly identical as to be likely to cause confusion in the mind of the public.

Differences between these two marks are not more striking than those shown in the application of The Indian Portland Cement Co. and the registered mark upon which registration of The Indian Portland Cement Company's mark was refused. (*In re The Indian Portland Cement Co.*, 134 O. G., 518; 30 App. D. C., 463.) In that case the court said:

While a comparison of the two marks as represented shows difference in details, the feature of each is a conventional Indian head, calculated to make the manufactures on which they are used known to the public as Indian-head cement. We agree with the Commissioner that the resemblance is such as to produce the confusion in trade which it is the object of the Trade-Mark Act to prevent. (See *in re Herbst Importing Co., post*, 383; 137 O. G., 1939.)

The decision will be affirmed, and the clerk will certify this decision to the Commissioner of Patents as required by law.

As to the characteristics of the merchandise it is sufficient to say that they are adapted to be used for the same general purpose. That of the Columbia Drug Co. is stated to be "for a family liniment," while specimens forming part of this application for registration show that the merchandise of the opposer, although stated to be crude oil, is to be used as a remedy for rheumatism, neuralgia, eczema, catarrh, and many skin diseases.

In the case of *Walter Baker & Co.* v. *Harrison* (138 O. G., 770; 32 App. D. C., 272) the Court of Appeals of the District of Columbia said:

Things may be said to possess the same descriptive properties when they can be applied to the same general use.

The same court also said in the case of *The Phoenix Paint and Varnish Company* v. *John T. Lewis & Bros. Company*, (139 O. G., 990; 32 App. D. C., 285:)

We think two trade-marks may be said to be appropriated to merchandise of the same descriptive properties in the sense meant by the statute when the general and essential characteristics of the goods are the same. To rule that the goods must be identical would defeat the purpose of the statute and destroy the value of trade-marks. The test is whether there is such a sameness in the distinguishing characteristics of the goods as to be likely to mislead the general public. If there is, only one mark should be registered. Congress evidently intended to prevent the second registration of a mark that would enable an unscrupulous dealer to obtain the benefit of a valuable trade reputation established by conscientious effort and fair dealing to the injury of the public as well as the owner of the mark.

It must therefore be held that the merchandise of the respective parties is of the same descriptive properties and that the marks are so nearly identical as would be likely to cause confusion in the mind of the public.

The decision of the Examiner of Trade-Marks is affirmed.

EX PARTE BEAUMONT MANUFACTURING COMPANY.

Decided September 29, 1910.

1. TRADE-MARK—ANTICIPATION—REPRESENTATION OF A SPINNING-WHEEL.
   Where a registered trade-mark consisted of the representation of a spinning-wheel, *Held* that registration was properly refused of a mark applied to goods of the same descriptive properties which showed a spinning-wheel, a woman running it, and the interior of a room, since the salient feature of both is the spinning-wheel.
2. SAME—GOODS OF SAME DESCRIPTIVE PROPERTIES.
   Bleached sheetings and linen fabrics *Held* goods of the same descriptive properties.

ON APPEAL.

TRADE-MARK FOR SHIPPING-CLOTH.

Mr. Titian W. Johnson for the applicant.

TENNANT, *Assistant Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing to register as a trade-mark for bleached sheeting a mark consisting of the representation of a spinning-wheel, a woman standing beside it in the act of running the wheel, together with the representation of the interior of a room, including a chair, flowers, etc.

Registration is refused in view of the trade-mark of James McCutcheon & Co., No. 20,863, registered March 22, 1892, which consists of the representation of a spinning-wheel, for linen fabrics. It is believed that the goods are of substantially the same descriptive properties within the ruling of the Court of Appeals of the District of Columbia in the cases of *Walter Baker & Co.* v. *Harrison* (138 O. G., 770; 32 App. D. C., 272) and *Phoenix Paint and Varnish Company* v. *John T. Lewis & Bros.*, (139 O. G., 990; 32 App. D. C., 285.)

The mark of the applicant differs from that of the registrant mainly in the features found in addition to the spinning-wheel. It is believed, however, that the salient feature of the mark which would suggest itself to the mind of the consumer is the representation of the spinning-wheel, and for this reason it must be held that the marks are so nearly identical as to be likely to cause confusion in the mind of the public.

In the case of *Wayne County Preserving Company* v. *Burt Olney Canning Company* (140 O. G., 1003; 32 App. D. C., 279) the Court of Appeals of the District of Columbia said in respect to marks which differ in detail, but convey the same general impression:

These marks, when appearing on the canned goods of the respective parties, exposed to the public on the shelves of the retailer, are so similar as to be likely to cause confusion; and where, as in this case, there is no evidence on that subject except the marks themselves, it is the duty of the court to protect the prior registrant and user from the probability of any such occurrence.

It is observed that the mark of James McCutcheon & Co. was registered in 1892, which is long prior to the alleged date of adoption of the applicant.

In view of the facts above stated I am of the opinion that the action of the Examiner refusing to register this mark is right, and it is accordingly affirmed.

ADJUDICATED PATENTS.

The A. H. Worrest patent, No. 662,050, for a thill-coupling, *Held* not infringed. *Metal Stamping Co.* v. *Gerhab.* (C. C.,) 180 Fed. Rep., 112.

Citation of Decisions.

Citation of decisions of the Court of Appeals of the District of Columbia rendered during the October term, 1909, and January term, 1910, published in the OFFICIAL GAZETTE of the United States Patent Office and in volume 34 of *Appeal Cases, District of Columbia:*

	O. G.		App. D. C.	
	Vol.	Page.	Vol.	Page.
Arbetter v. Lewis	154	516	34	491
Bastian v. Champ	152	734	34	225
Cosper v. Gold	151	195	34	196
Cosper v. Gold and Gold	151	194	34	198
Crescent Oil Company v. W. C. Robinson & Son Company	153	822	34	440
Dilg v. Moore, Commissioner of Patents	150	269	34	106
Engel v. Sinclair *et al*	152	489	34	212
Floyd v. Rohlfing	152	230	34	206
Gold, *in re*	150	573	34	239
Gold v. Gold	150	570	34	229
Gold v. Gold	152	731	34	152
Goldberg v. Halle	151	452	34	183
Heinze, *in re*	151	1014	34	187
Illinois Match Company v. Broomall	153	548	34	427
Lindmark v. De Ferranti	153	1082	34	445
McIlhenny v. The New Iberia Extract of Tabasco Pepper Company, Ltd	153	547	34	430
McKeen v. Jerdone	153	272	34	163
Moore v. Heany	149	831	34	31
Oakes v. Young	152	1225	34	434
Peters v. Hopkins and Dement	150	1044	34	141
Pool v. Dunn	151	450	34	132
Scott v. Cruse	154	252	34	414
Seamless Rubber Company, The, *ex parte*	153	547	34	357
Stanbon v. Furber *et al*	153	823	34	418
Storer v. Barr	152	231	34	178
Success Company, The, *in re*	152	958	34	443
Von Recklinghausen v. Dempster	154	252	34	474
Waterman, *in re*	152	232	34	185
Weintraub v. Hewitt	154	254	34	487
Wm. A. Rogers, Limited, v. International Silver Co	153	1085	34	410
Wm. A. Rogers, Limited, v. International Silver Co	154	837	34	413
Wm. A. Rogers, Limited, v. International Silver Co	155	554	34	484
Woltereck, *in re*	151	451	34	130
Wright, *in re*	151	1015	34	199
Wrigley v. Norris	152	488	34	138
Young v. Struble	152	1223	34	218

Registration of Patents in Peru.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 1, 1910.

The following paper, relating to the registration of patents in Peru, which has been transmitted by the Department of State, is published for the information of those concerned.

EDWARD B. MOORE,
Commissioner.

DEPARTMENT OF STATE,
Washington, D. C., September 29, 1910.

The Honorable the Secretary of the Interior.

SIR: I have the honor to inclose herewith, for transmission to the Commissioner of Patents, at whose request it was obtained by this Department from the Legation of Peru, a translation of a decree dated July 22, 1910, by which the Peruvian Government authorized its consulates at New York, London, Paris, Rome, and Buenos Ayres to receive applications for the registration of patents.

I have the honor to be, sir, your obedient servant,

ALVEY A. ADEE,
Acting Secretary of State.

Decree of the 22nd July, 1910, empowering certain consulates to receive applications for patents.

1. The consulates in New York, London, Berlin, Rome, Paris and Buenos Ayres are empowered to receive applications for patents.

A. The following requisites are to be complied with:

The application, drawn up in Spanish, must be presented together with three copies of the description as well as the plans or drawings necessary for the better understanding of the invention or discovery, according to art. 7 of the law of the 28th of January, 1869.

B. The consuls, on receiving the application, shall give a receipt therefor, wherein shall be embodied the date and time upon which the documents were handed in, as well as the sums paid for the insertion of advertisements, refund of stamped paper, dues to the experts, fiscal charges, fees, etc.

2. The power which the preceding article confers on the consulates is limited to inventions or discoveries originating in the country where the application is made, or patented in the same. Application for discoveries originating in other countries and which are not patented in the country to which the consulate is accredited, shall not be accepted.

3. Before accepting an application, the consuls must possess proof of the matter treated in the preceding article. This may be attained by requiring the applicant to furnish the patent granted by the country of origin.

4. When an application is refused on the grounds of its not belonging to the country in which this is made, or through its not having been patented therein, or through the want of any legal requisite, the consuls shall take note of the fact, advising the Director of Fomento of the reasons for their refusal.

5. Upon receipt of the documents granting the patent or protection solicited, the consul shall immediately hand these to the applicant with no further requirement than a receipt which shall vouch for the fact of the documents having been received by the interested party, which receipt shall be remitted to the Director of Fomento as soon as obtained.

All complaints or suits which may be made to, or brought against, the consulates for frauds in regard to patents granted by Peru, shall be received without any fee being charged for this service and the documents, together with all vouchers and proofs, shall be sent to the Director of Fomento, as well as any other paper which the complainants may adduce as evidence of fraud, so as to enable the Government to take the necessary steps.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 20, 1910.

George A. Knox, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of The Voegeli Brothers Drug Company, of No. 2 Washington avenue south, Minneapolis, Minn., for registration of a trade-mark and the trade-mark registration to George A. Knox, of Rochester, N. Y., and the notice of such declaration sent by registered mail to the said George A. Knox at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George A. Knox, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Harry W. Russell, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Beall Brothers, of Alton, Ill., for registration of a trade-mark and the trade-mark registration to Harry W. Russell, of Huntsville, Ala., and the notice of such declaration sent by registered mail to the said Harry W. Russell at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Harry W. Russell, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Amman Iron Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Th. Goldschmidt, 16 Salkenberge Weg, Essen a. d. Ruhr, German Empire, for registration of a trade-mark and the trade-mark registration of the Amman Iron Co., of Swansea, county of Glamorgan, Wales, and the notice of such declaration sent by registered mail to the said Amman Iron Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Amman Iron Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Theo. Noel Company, of Chicago, Ill., for registration of a trade-mark and the trade-mark registration of Samuel J. Brinkerhoff and George D. Brinkerhoff, of Minneapolis, Minn., and the notice of such declaration sent by registered mail to the said Samuel J. Brinkerhoff and George D. Brinkerhoff at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Charles C. Brooks, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Wehrman Medicine Company, 1269 Michigan avenue, Columbus, Ohio, and the application of G. H. Mullen, of Guyandotte, W. Va., for the registration of a trade-mark; the trade-mark registration of the Good Samaritan Ointment Company, 222 Broadway, Camden, N. J.; the trade-mark registrations of Samuel A. Richmond, of Tuscola, Ill.; and the trade-mark registration of Charles C. Brooks, of Waverly, N. Y., and the notice of such declaration sent by registered mail to the said Charles C. Brooks at the address given has been returned by the post-office as undeliverable.

Notice is therefore given to the said Charles C. Brooks, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Newell Coal Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Hokkaido Tanko Kisen (Kabushiki) Kaisha, of Mororan, Japan, for registration of a trade-mark and the trade-mark registration of the Newell Coal Company, of Peoria, Ill., and the notice of such declaration sent by registered mail to the said Newell Coal Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Newell Coal Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

James E. Blauvelt, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Edward Wright Dodez, No. 714 Washington Boulevard, Fort Wayne, Ind., for registration of a trade-mark and the trade-mark registration of James E. Blauvelt, No. 6 South Broadway, Nyack, N. Y., and the notice of such declaration sent by registered mail to the said James E. Blauvelt at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said James E. Blauvelt, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 8, 1910.

Luin F. Mangis, his assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Hitchcock-Hill Company, of 100 Lake street, Chicago, Ill., for registration of a trade-mark and a trade-mark registered to Luin F. Mangis, of 435 Main street, Portland, Oreg., and a communication having been received from the post-office to the effect that it has been unable to deliver the letter to said Mangis, notice is hereby given to the said Mangis, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

Maud Meyberg, her assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of G. R. Springer, of 1332 Grand avenue, Kansas City, Mo., for registration of a trade-mark and a trade-mark registered to Maud Meyberg, of Chicago, Ill., and the notice of said declaration sent by registered mail to the said Maud Meyberg having been returned undelivered, notice is hereby given to the said Maud Meyberg, her assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

William Johnson Nelson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Lanman & Kemp, of 135–137 Water street, New York, N. Y., for registration of a trade-mark and trade-mark registration to the following named parties: (1) Minard's Liniment Manufacturing Company, Framingham, Mass.; (2) George H. Rundle, Piqua, Ohio; (3) Adella B. De Grath, 302 West Thirty-fourth street, New York, N. Y.; (4) William Johnson Nelson, Bridgewater, county of Lunenberg, Province of Nova Scotia, Canada, and the notice of such declaration sent by registered mail to the said William Johnson Nelson at the address given above has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said William Johnson Nelson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 6, 1910.

George J. Washburn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of William S. Scull, of Front and Federal streets, Camden, N. J., for registration of a trade-mark and the trade-mark registrations to Wolfe, McMillan and Company, of 11 South Front street, Philadelphia, Pa.; George J. Washburn, of 115 East Second street, Davenport, Iowa; The Brewster Manufacturing Company, of Newark, N. J.; Chase and Sanborn, of Boston, Mass.; Bensdorp and Company, of Amsterdam, Netherlands, and Walter McEwan, of Albany, N. Y., and the notice of such declaration sent by registered mail to the said George J. Washburn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George J. Washburn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

ISSUE OF OCTOBER 11, 1910.

Patents	649—	No. 972,143 to No. 972,791, inclusive.
Designs	10—	No. 40,932 to No. 40,941, inclusive.
Trade-Marks	77—	No. 79,805 to No. 79,881, inclusive.
Labels	12—	No. 15,346 to No. 15,357, inclusive.
Prints	5—	No. 2,647 to No. 2,651, inclusive.
Reissues	3—	No. 13,155 to No. 13,157, inclusive.
Total	756	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	1	.....	North Carolina	5	.....
Arkansas	5	.....	North Dakota	3	.....
California	24	4	Ohio	55	5
Colorado	10	2	Oklahoma	4	.....
Connecticut	14	3	Oregon	2	1
Delaware	.....	1	Pennsylvania	64	7
Florida	1	1	Rhode Island	3	.....
Georgia	4	2	South Carolina	1	.....
Idaho	1	.....	South Dakota	1	.....
Illinois	54	11	Tennessee	9	2
Indiana	18	1	Texas	16	2
Iowa	9	.....	Utah	5	.....
Kansas	6	.....	Vermont	.....	.....
Kentucky	6	.....	Virginia	5	1
Louisiana	3	.....	Washington	10	1
Maine	.....	1	West Virginia	5	.....
Maryland	7	2	Wisconsin	13	5
Massachusetts	38	4	Wyoming	.....	.....
Michigan	22	1			
Minnesota	6	4	Alaska Territory	1	.....
Mississippi	3	.....	Arizona Territory	1	.....
Missouri	18	2	District of Columbia	6	.....
Montana	1	.....	New Mexico Ter't'y	2	.....
Nebraska	6	.....	Philippine Islands	.....	.....
Nevada	.....	.....			
New Hampshire	.....	.....	Total to citizens of the United States	593	89
New Jersey	34	5			
New York	91	21			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	.....	.....	Netherlands	1	.....
Austria-Hungary	6	1	Newfoundland	.....	.....
Belgium	.....	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	1	.....
Canada	8	.....	Norway	1	.....
Chile	.....	.....	Persia	.....	.....
China	.....	.....	Russia	1	.....
Costa Rica	.....	.....	Scotland	.....	.....
Cuba	.....	.....	South Australia	.....	.....
Denmark	.....	.....	Spain	.....	.....
Ecuador	.....	.....	Sweden	1	.....
England	18	2	Switzerland	1	.....
France	12	.....	Tasmania	.....	.....
Germany	13	1	Transvaal, South Africa	.....	.....
Guatemala	.....	.....	Turkey	1	.....
Ireland	.....	1	Victoria	1	.....
Isle of Man	.....	.....	Western Australia	.....	.....
Italy	.....	.....			
Japan	.....	.....	Total to citizens of foreign countries	66	5
Luxemburg	.....	.....			
Mexico	1	.....			

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VOL. 159—No. 3. TUESDAY, OCTOBER 18, 1910. PRICE—$5 per year.

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CONTENTS.

	Page.
ISSUE OF OCTOBER 18, 1910	495
CHANGES IN CLASSIFICATION	495
THE OFFICIAL GAZETTE	495
APPLICATIONS UNDER EXAMINATION	496
NOTICE	496
PATENTS GRANTED	497
REISSUES	731
DESIGNS	733
TRADE-MARKS—REGISTRATION APPLIED FOR	735
TRADE-MARKS—REGISTERED	743
LABELS	746
COMMISSIONER'S DECISIONS—	
Ex parte Langhaar	747
DECISIONS OF THE U. S. COURTS—	
Bossert Electric Const. Co. v. Pratt Chuck Co. Same v. Sprague Electric Co.	747
IMPERIAL URGENCY ORDINANCES RELATING TO PUTTING INTO FORCE IN KOREA OF LAWS BEARING ON PATENTS, TRADE-MARKS AND COPYRIGHTS	750
ADJUDICATED PATENTS	751
INTERFERENCE NOTICES	751

ISSUE OF OCTOBER 18, 1910.

Patents	673—	No. 972,792 to No. 973,464, inclusive.
Designs	9—	No. 40,942 to No. 40,950, inclusive.
Trade-Marks	67—	No. 79,882 to No. 79,948, inclusive.
Labels	13—	No. 15,358 to No. 15,370, inclusive.
Prints	None.	
Reissues	2—	No. 13,158 to No. 13,159, inclusive.
Total	764	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	1	Ohio	38	6
Arkansas	3	.....	Oklahoma	5	.....
California	20	2	Oregon	6	4
Colorado	8	.....	Pennsylvania	60	.....
Connecticut	12	1	Rhode Island	9	.....
Delaware	.....	.....	South Carolina	1	.....
Florida	2	.....	South Dakota	2	.....
Georgia	6	.....	Tennessee	5	2
Idaho	3	.....	Texas	15	.....
Illinois	60	5	Utah	3	.....
Indiana	11	8	Vermont	.....	1
Iowa	11	1	Virginia	5	.....
Kansas	5	1	Washington	11	.....
Kentucky	6	.....	West Virginia	3	1
Louisiana	3	.....	Wisconsin	19	2
Maine	2	1	Wyoming	.....	.....
Maryland	10	1			
Massachusetts	54	3	Alaska, District of	.....	.....
Michigan	12	4	Arizona Territory	2	.....
Minnesota	14	1	District of Columbia	6	.....
Mississippi	2	.....	Hawaii Territory	1	1
Missouri	15	2	New Mexico Ter't'y	3	.....
Montana	2	.....	Panama	.....	.....
Nebraska	11	.....	Philippine Islands	.....	.....
Nevada	2	.....	U. S. Army	.....	.....
New Hampshire	1	1	U. S. Navy	.....	.....
New Jersey	32	2			
New York	83	21	Total to citizens of the United States	614	72
North Carolina	4	.....			
North Dakota	3	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	.....	.....	Netherlands	.....	.....
Austria-Hungary	.....	.....	Newfoundland	.....	.....
Belgium	1	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	1	.....
Canada	11	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Russia	.....	.....
China	.....	.....	Scotland	.....	.....
Colombia	.....	.....	South Australia	.....	.....
Costa Rica	.....	.....	Spain	1	.....
Cuba	.....	1	Sweden	1	1
Denmark	1	.....	Switzerland	1	.....
Egypt	1	.....	Tasmania	.....	.....
England	17	4	Transvaal, South Africa	.....	.....
France	9	.....	Victoria	.....	.....
Germany	21	2	Western Australia	.....	.....
Ireland	.....	.....			
Italy	2	.....	Total to citizens of foreign countries	68	8
Japan	1	.....			
Mexico	.....	.....			

Changes in Classification.

(ORDER No. 1,876.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 3, 1910.

The following change in the disposition of the classes of inventions is hereby directed, to take effect immediately:

Transfer class 128, Surgery, and class 174, Electricity, Medical and Surgical, from Division XXIV to Division XLIII.

EDWARD B. MOORE,
Commissioner.

The Official Gazette.

The OFFICIAL GAZETTE is published every Tuesday, simultaneously with the weekly issue of patents. From January 1, 1872, (the commencement of its publication,) to June 30, 1883, it was published and bound in semi-annual volumes; from July 1, 1883, to December 31, 1902, in quarterly volumes; from January 1, 1903, to December 31, 1908, in bimonthly volumes; since January 1, 1909, in monthly volumes. Terms: Annual subscriptions, $5; monthly, 50 cents. For postage upon foreign subscriptions, except those from Canada and Mexico, $5 or more, as required. Moneys received from foreign subscribers in excess of the subscription price of $5 will be deposited to the credit of the subscriber and applied to postage upon the subscription as incurred. Single copies, 10 cents; if mailed to foreign countries, excepting Canada and Mexico, 10 cents additional for postage. *Payment in advance required. No club rates. No discount to newsdealers. No sample copies.* All subscriptions must commence with the beginning of a volume. None taken for less than an entire volume. All orders should be addressed to "The Superintendent of Documents, Government Printing Office, Washington, D. C."

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 11, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New.	Amended	
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Aug. 27	Aug. 29	364
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Aug. 20	Aug. 26	195
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Sept. 12	Sept. 27	204
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Sept. 6	Aug. 27	444
167	5. Bookbinding; Harvesters; Jewelry; Music.	July 13	July 5	574
318	6. Bleaching and Dyeing; Chemicals: Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Aug. 6	Aug. 18	341
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Aug. 22	Aug. 19	518
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Aug. 25	Sept. 1	395
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	July 6	Aug. 2	401
235	10. Carriages and Wagons	Aug. 2	Aug. 8	730
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Aug. 18	Aug. 17	374
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Aug. 3	Aug. 5	697
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	July 12	Sept. 1	533
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Aug. 13	Aug. 17	332
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Aug. 17	Aug. 20	666
109	16. Telegraphy; Telephony	July 5	July 22	230
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Sept. 12	Sept. 12	235
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Aug. 27	Aug. 30	309
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Aug. 20	Aug. 29	376
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Sept. 7	Sept. 12	254
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Aug. 8	Aug. 11	304
340	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	July 5	July 15	641
370	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Aug. 23	Aug. 27	371

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New.	Amended	
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	July 23	Aug. 1	539
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Sept. 20	Sept. 19	147
106	26. Electricity, Generation; Motive Power.	Aug. 5	Aug. 3	292
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Sept. 12	Sept. 6	333
65	28. Internal-Combustion Engines	Aug. 10	Aug. 2	385
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking; Woodworking-Tools.	Aug. 4	Aug. 31	413
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Aug. 4	Sept. 9	385
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Sept. 1	Sept. 2	266
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Aug. 13	Sept. 1	359
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Aug. 22	Aug. 31	331
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Aug. 23	Aug. 12	394
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Sept. 12	Sept. 17	505
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Aug. 16	Aug. 9	656
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Aug. 5	Aug. 9	447
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Aug. 15	Aug. 16	321
321	39. Water Distribution	Aug. 3	July 7	451
280	40. Baggage: Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Aug. 17	Sept. 12	531
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	July 9	July 1	603
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	July 13	July 23	620
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Aug. 1	Aug. 10	473

Oldest new case, July 5; oldest amended, July 1.

Total number of applications awaiting action..... 18,219

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Aug. 17	Sept. 22	796
	Designs	Sept. 9	Sept. 22	86
	Labels and Prints	Oct. 5	Oct. 6	18

Notice.

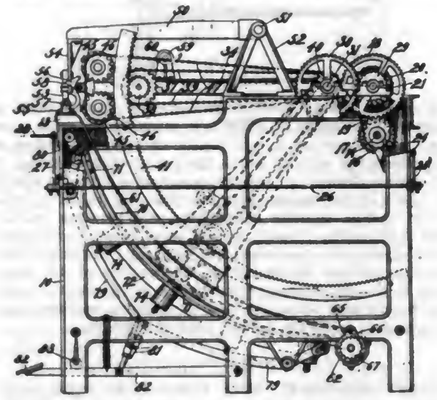
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Subscription per year..... $2.00

PATENTS

GRANTED OCTOBER 18, 1910.

972,792. FLESHING, UNHAIRING, WORKING-OUT, AND SETTING MACHINE. HENRY ALEPS, Milwaukee, Wis. Filed Jan. 10, 1910. Serial No. 537,190.



1. A hide and leather working machine, comprising a swinging cylinder frame, a working cylinder carried thereby, a flexible bolster mounted in the path of the working cylinder for holding the material in an operative relation to the working cylinder, and a stiff yielding backing for the bolster spaced therefrom and concentric with the axis of swinging movement of the cylinder frame to prevent yielding of the bolster to local irregularities in the thickness of the material, but permitting the bolster to yield to accommodate material of different general thickness.

2. A hide and leather working machine, comprising a frame, a cylinder frame pivotally mounted to swing thereon, a suitably driven working cylinder carried by the cylinder frame, a flexible bolster supported by the frame in a position to be engaged by the working cylinder and adapted to support material and present it in an operative relation to the cylinder, and a stiff metal plate yieldingly mounted on the frame at a distance from the bolster and concentric to the pivotal mounting of the cylinder frame and forming a reinforcement or backing for the bolster.

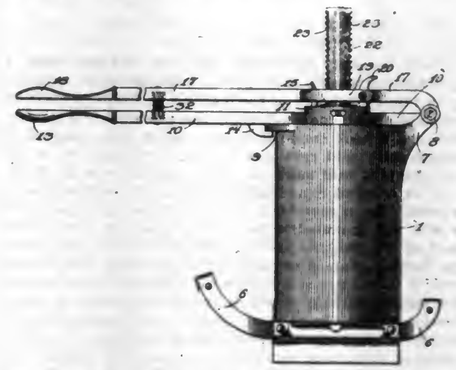
3. A hide and leather working machine, comprising a frame, a cylinder frame mounted thereon to have a swinging movement, a working cylinder carried by the cylinder frame, a flexible bolster supported by the frame and extending in the path of the working cylinder, a stiff metal plate spaced from the bolster and concentric with the axis of swinging movement of the cylinder frame, and spring supporting means on the frame for holding the plate in position to form a reinforcing backing for the bolster.

4. A hide and leather working machine, comprising a frame, a cylinder frame mounted thereon to have a swinging movement, a working cylinder carried by the cylinder frame, a stiff plate concentric with the axis of swinging movement of the cylinder frame adapted to support the material to be treated, and means at each end of the plate for adjusting it with relation to the axis of the cylinder frame to accommodate work of different thickness and work of tapering thickness.

5. A hide and leather working machine, comprising a frame, a cylinder frame mounted thereon to have a swinging movement, a working cylinder carried by the cylinder frame, a flexible bolster supported by the frame and extending in the path of the working cylinder, a stiff metal plate conforming to the curvature of the path of the cylinder, treadles mounted on the frame, levers connected with the treadles and fulcrumed on the frame, spring frames carried by the levers and adapted to be advanced thereby toward or away from the pivotal axis of the cylinder frame, and spring members carried by the spring frames and yieldingly supporting the metal plate whereby the metal plate forms a reinforcing backing for the bolster which may be moved into operative or inoperative relation to the working cylinder or inclined to accommodate work of tapering thickness.

[Claims 6 to 13 not printed in the Gazette.]

972,793. MORTAR-FEEDING DEVICE. CHARLES E. ALLRED, Oakland, Cal. Filed Oct. 13, 1909. Serial No. 522,463.



1. A device of the character described comprising a reservoir provided with a discharge outlet, a piston slidable in said reservoir, a holding and guiding lever for said piston, and a second lever for sliding said piston through the first-mentioned lever.

2. A device of the character described comprising a reservoir provided with a discharge outlet, a holding and guiding lever pivoted to said reservoir, a sleeve slidable through said lever, a piston slidably connected to said sleeve, and a second lever for sliding said sleeve through the holding and guiding lever.

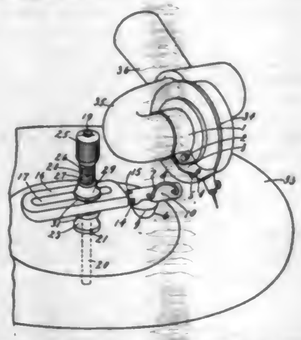
3. A device of the character described comprising a reservoir provided with a discharge outlet, a piston in said reservoir for ejecting material therefrom, a piston operating lever pivotally connected to said reservoir, and means for holding said piston while said lever is moving to a piston operating position and guiding said piston when actuated by said lever.

4. A device of the character described, comprising a reservoir provided with a discharge outlet, a piston in said reservoir, a rod therefor, a holding and guiding lever pivotally connected to said reservoir, a sleeve carried by said lever, a resilient slidable connection between said sleeve and rod, and means for sliding said sleeve to cause the piston to discharge material from said reservoir.

5. A device of the character described, comprising a reservoir provided with a discharge outlet, a lever pivoted thereto, a guiding collar carried by said lever, a pawl also carried by said lever, a sleeve slidable in said collar and having a toothed surface that is engaged by said pawl, a piston in said reservoir having a rod entering said sleeve, a spring interposed between said sleeve and piston, and a second lever pivoted to said reservoir and provided with a pawl for depressing said sleeve to cause the piston to eject material from said reservoir.

[Claims 6 and 7 not printed in the Gazette.]

972,794. AUTOMATIC CUT-OFF AND STOP FOR SOUND-REPRODUCING MACHINES. WILFORD G. ALTENBURGH, National City, Cal. Filed July 26, 1909. Serial No. 509,620.



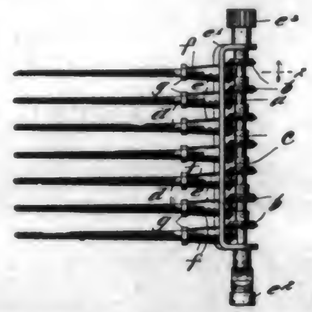
1. In a sound reproducing machine, a sound tube, a sound box, a needle, a projecting arm adjustably mounted upon the central post of the machine and provided with a revoluble catch mounted upon the extended end of said arm and a hook mounted on said sound tube, adapted to engage with said revoluble catch for raising said needle and stopping said machine, all substantially as set forth.

2. In a sound reproducing machine, the combination of a sound tube, a sound box, a needle, an arm provided with a slot and mounted upon a spindle set in the central post of the machine and provided with a pin to prevent its turning, clamps on said spindle on each side of said arm, a thumb nut screwed on the top end of said spindle for tightening said clamp, a spring to provide a slight tension on the clamp at all times, a catch mounted on a cylinder set in the extended end of said arm, a weight mounted upon said cylinder, a lug on said cylinder for stopping it at a certain position, and a clamp attached to said sound tube and provided with a hook adapted to engage with the said catch, all substantially as set forth.

3. In a sound reproducing machine, the combination of a sound tube, a sound box, a needle, a radially projecting arm mounted upon the central post of the machine and adapted to be adjusted longitudinally, and having a catch revolubly mounted upon said arm, and an adjustable clamp mounted upon said sound tube and provided with a hook adapted to engage with said catch for raising said needle and stopping said machine, all substantially as set forth.

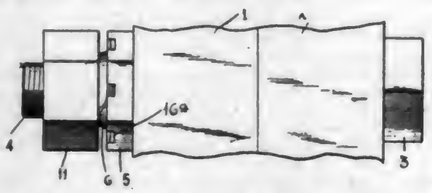
4. In a sound reproducing machine, the combination of a sound tube, a sound box, a needle, a radially projecting arm provided with a slot and mounted upon a spindle, said spindle being set vertically into a hole in the central post of the machine and provided with a pin to prevent its turning, clamps on said spindle on each side of said arm, means for tightening said clamp, a catch revolubly mounted on a stud screwed horizontally into the extended end of said arm and provided with a weight for setting the position of said clamp, means for stopping the revolution of said catch, and a clamp attached to said sound tube and provided with a hook adapted to engage with said catch to raise said needle and then stop the machine, all substantially as set forth.

972,795. COTTON-PICKING MACHINE. JOHN F. APPLEBY, Chicago, Ill. Filed Jan. 21, 1907. Serial No. 353,216.



A cotton picking machine including a driving shaft *a* carrying a plurality of gears *b*, a plurality of gears *c* in mesh with the gears *b*, a plurality of picking spindles *d* upon the inner ends of which the gears *c* are mounted, a supporting element a^1 carrying bearings *e* through which the bases of the picking spindles pass, the opposite ends of the picking spindles being free, said bearings having slots *f* extending through to the bores thereof and occupying planes that are transverse to the driving shaft, and adjusting devices for contacting the bearings to suit their bores to the diameters of the portions of the picking spindles within said bores, whereby the picking spindles may be caused to maintain definite axes of rotation.

972,796. NUT-LOCK. JOHN ARRENBRECHT, Salem, Ohio. Filed July 26, 1910. Serial No. 573,897.

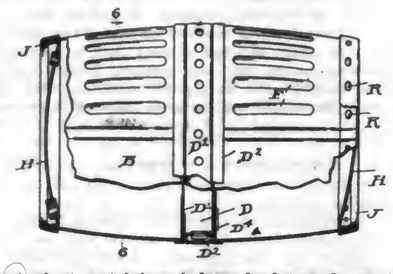


In a nut lock, the combination with two pieces of material, and a bolt extending through said material and having the threaded end thereof protruding from one of said pieces of material, of a split nut screwed upon said bolt to engage one of the pieces of material, said nut having the outer face thereof provided with a conical-shaped sleeve having a threaded bore registering with the threaded bore of said nut, said nut having the outer face thereof provided with a plurality of recesses in communication with inclined ways formed in the faces of said nut, a locking nut screwed upon said bolt and having the inner face thereof provided with a recess having tapering walls adapted to engage the smooth tapering periphery of said sleeve, and oppositely disposed compound curved resilient arms secured to the inner face of said locking nut and adapted to engage in two oppositely disposed recesses of said split nut, said nut being cut away to provide clearance for said arms, substantially as, and for the purpose herein described.

972,797. SHEET-METAL BARREL. HENRY W. AVERY and WALLACE S. JUDD, Cleveland, Ohio. Filed Jan. 20, 1908. Serial No. 411,597.

1. A longitudinal half barrel section formed of drawn metal, said section being of substantially equal thickness throughout, and having a centrally drawn bilge, and having along its longitudinal edges, extending from end to end, outwardly turned flanges.

2. A metallic bilge barrel formed of two drawn longitudinal sections, the metal whereof is of substantially equal thickness throughout, each section having a centrally disposed bilge and having an outwardly turned flange along each of its longitudinal edges, said sections being secured together by seams formed by double folding together the said flanges.



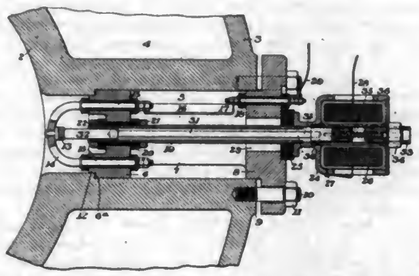
3. A sheet metal barrel formed of two drawn longitudinal sections, the metal whereof is of substantially equal thickness throughout, each section being provided with a centrally disposed bilge, and each section being formed with an outwardly turned flange along each of its longitudinal edges, and the two sections being secured together by a seam formed by double folding said outwardly turned flanges and by pressing the seam inward so that the outer surfaces of said seams are substantially regular continuations of the curved surface of the barrel, and said barrel having in the centrally placed bilge a circumferential reëntrant rib of substantially equal depth throughout.

4. A sheet metal barrel having a head fitted to the end of the body portion, one of said parts being provided with a groove into which the edge of the other part is fitted, and a channel band fitted over the chime formed by the head and the end of the body, said channel band having perforations through one side thereof and crimps or corrugations formed through the overlapping thicknesses of the chime and projecting into the said perforations.

5. A sheet metal barrel section having a drawn bilge in the middle portion thereof and an inset stiffening rib having its full depth at the middle portion of the section and diminishing in depth toward its ends near the edges of the section where it becomes flush with the body.

[Claim 6 not printed in the Gazette.]

972,798. SPARK-PLUG. GEORGE BAEHR, McKeesport, Pa. Filed Aug. 24, 1909. Serial No. 514,349.



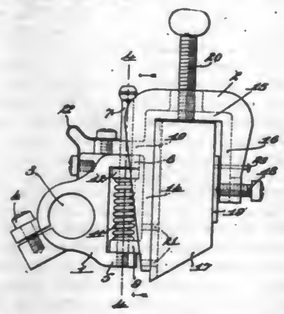
1. A spark device for gas engine cylinders including inner and outer heads provided with alined openings, a fixed electrode carried by the inner head, a movable electrode working in the opening in the inner head, a solenoid carried by the outer head and lying at the outer side thereof, and means coöperating with the solenoid and the movable electrode for actuating the latter and passing through the opening in the outer head, substantially as described.

2. A spark device for gas engine cylinders including inner and outer heads provided with alined openings, arms connecting the heads, a fixed electrode carried by the inner head at the outer side thereof, a movable electrode working in the opening in the inner head, an electric connection upon the outer head, a conductor leading from the connection to the fixed electrode, a solenoid carried by the outer head at the outer side thereof, a solenoid casing to which one terminal of the solenoid is connected, a solenoid core, and a rod of conducting material extending through the opening in the outer head and connected at opposite ends with the solenoid core and the movable electrode respectively, substantially as described.

3. The combination with an explosive cylinder having a spark chamber communicating with the interior of the cylinder, of inner and outer heads fitted to the chamber, the inner head having an opening, a fixed electrode carried by the inner head between the latter and the interior of the cylinder, a movable electrode working in the opening in the inner head, and electrically controlled means carried by the outer head for actuating the movable electrode, substantially as described.

4. The combination with an explosive cylinder having a spark chamber communicating with the interior of the cylinder, of inner and outer heads fitted to the chamber and provided with alined openings, a fixed electrode carried by the inner head between the latter and the interior of the cylinder, a movable electrode working in the opening in the inner head, and electrically controlled means carried by the outer head and disposed entirely at the outer side thereof for actuating the movable electrode through the opening in the outer head, substantially as described.

972,799. BRUSH-HOLDER FOR DYNAMO-ELECTRIC MACHINES. HERBERT A. BALCOME, Jamaica Plain, Mass., assignor to B. F. Sturtevant Company, Boston, Mass., a Corporation of Massachusetts. Filed Mar. 19, 1902. Serial No. 98,892.



1. A brush holder, having, in combination, a stationary member, a movable member mounted to slide thereon provided with an open-sided socket to receive a brush of greater width than the said stationary or movable member, means for frictionally clamping the brush in the socket and a feed screw bearing against the end of the brush, substantially as described.

2. A brush holder, having, in combination, a stationary member, a movable member mounted to slide thereon provided with a socket to receive the brush, means for clamping the brush in the socket, a feed screw bearing against the end of the brush, and means for guiding the brush, substantially as described.

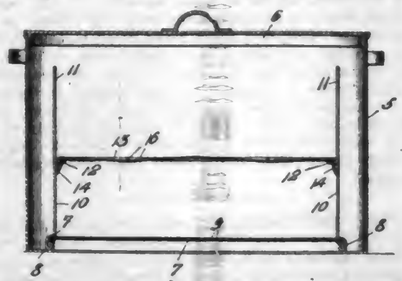
3. A brush holder, having, in combination, a stationary member, a movable member, means for clamping a brush thereto, guide-rods secured to the stationary member, lugs on the movable member provided with perforations to receive the guide-rods, a screw-threaded rod mounted in the stationary member, a follower having a screw-threaded engagement therewith, and springs surrounding the guide-rods and interposed between the follower and one of the lugs on the movable member, substantially as described.

4. A brush holder, having, in combination, a stationary member, a movable member, means for clamping a brush thereto, means independent of the brush for supporting and guiding the movable member on the stationary member including guide rods secured to the stationary member, and lugs on the movable member provided with perforations to receive the guide rods, substantially as described.

5. A brush holder, having, in combination, a stationary member, a movable member, means for clamping a brush to the movable member, means independent of the brush for supporting and guiding the movable member on the stationary member including guide rods secured to the stationary member, lugs on the movable member provided with perforations to receive the guide rods, springs acting upon the movable member, and means for adjusting the tension of the springs, substantially as described.

[Claim 6 not printed in the Gazette.]

972,800. CANNING DEVICE. NETTIE BARRETT, Mount Sterling, Ohio. Filed Oct. 19, 1909. Serial No. 523,488.



1. In a device of the character described, the combination of a base frame, said frame comprising a boundary wire formed of a single length of material, said wire being bent into substantially rectangular form and provided with downwardly bent loops at its corners to form supporting feet, crossed wires secured between the boundary wires and adapted to divide the space inclosed thereby into a plurality of spaces of equal size, a bail member pivotally secured to each end of said frame adjacent to the loops, said bail members comprising the vertical parallel portions and the curved connecting bail portions, the vertical portions being bent to provide laterally extending loops, said loops extending inwardly, and a can-supporting frame formed from a single length of wire, said wire being downwardly extended at the corners of the frame and adapted to be removably positioned in the loops of said bail members, the space inclosed by said frame wire being divided into a plurality of smaller spaces by intersecting wires secured to said frame wire.

2. In a device of the character described, the combination of a base frame having supporting feet at its corners, said frame comprising a boundary wire, the sides and ends of said frame wire being connected by a plurality of intersecting wires, a bail secured to the opposite ends of said frame, said bails each being formed from a single length of wire bent between its ends to provide inwardly extending loops, a can-supporting frame disposed above the base frame and parallel therewith, said frame consisting of a single length of wire bent into substantially rectangular form, said wire being downwardly and outwardly extended at the corners of said frame and bowed in opposite directions to provide a resilient loop, the ends of said bowed portions being brought together to form a contracted termination, said bowed portions being insertible through the loops of the bail members and adapted to be sprung inwardly to secure the frame in said loops, and a plurality of crossed wires secured between said frame wire adapted to receive and support a plurality of cans on said base frame.

3. In a device of the character described, the combination of a rectangular base frame having a supporting leg at each corner thereof, said frame being adapted to receive and support a plurality of bottles, a bail member pivotally secured to each end of said frame, a can receiving frame formed from a single length of wire bent between its ends to provide resilient loop portions, each of said bail members being formed from a single length of wire bent to provide inwardly extending loops, the loops of said bails being adapted to receive the corner loops of said frame to removably support the same, and a plurality of crossed wires secured to said frame wire and dividing the space inclosed thereby into a plurality of can-receiving spaces, said bail members being adapted to be folded inwardly and downwardly upon the base frame, when said can supporting frame is removed therefrom.

972,801. COMPOSITION OF MATTER. ELMER ELLSWORTH BLACKMAN, Lincoln, Nebr. Filed July 24, 1909. Serial No. 509,399.

1. A composition of matter for making porous substances non-porous consisting of mineral wax, twenty per cent.; mineral oil, five per cent.; powdered steatite five per cent.; and naphtha, seventy per cent., mixed as described.

2. The method for compounding a composition of matter for making porous substances non-porous, consisting in first melting the mineral wax, adding the mineral oil, then the powdered steatite and thoroughly agitating the same until cold and last mixing the aforesaid with naphtha as required.

972,802. REMOVABLE SUPPORTING-FORM FOR CONCRETE. JACOB B. BLAW, Pittsburg, Pa., assignor to Blaw Collapsible Steel Centering Company, Pittsburg, Pa., a Corporation of New Jersey. Filed May 15, 1907. Serial No. 373,732.



1. A mold or form comprising alternate circumferential stiffening members with inwardly projecting flanges and plates interposed therebetween, strips extending along the vertical edges thereof, and means for detachably securing the strips to the webs of the stiffening members with the outer surfaces of the plates in alinement with the outer surfaces of the webs of the stiffening members.

2. A form or mold comprising spaced T sections with inwardly projecting flanges and a plurality of plates extending between the edges of the webs of the T sections, strips extending along the edges of said plates overlapping the webs of the T sections, and means for detachably clamping the edges of the strips to the webs of the T sections so that the outer surfaces of the plates and the T sections are flush.

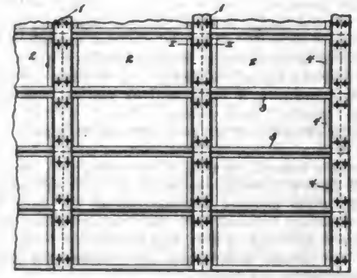
3. A form or mold comprising spaced T sections and a plurality of plates extending between the edges of the T sections, and strips extending the width of the plates for detachably securing the plates to the inner edges of the T sections with the edges of such plates abutting the edges of the T sections and their outer surfaces flush with the outer surfaces of the T sections.

4. A removable form or mold comprising spaced stiffening members, each formed of commercial sections with one flange projecting inwardly and the other flange constituting a portion of the outer surface of the form, and a shell comprising a plurality of plates with their edges abutting the edges of the last mentioned flanges, overlapping strips 3 and spacing strips 4 secured to the plates, and means for detachably securing the overlapping strips to such flanges.

5. The combination in a form or mold, of T sections spaced apart and intermediate plates abutting the edges of the T sections and provided with perforated plates for engaging the inner sides of the T flanges, staples on the T sections extending through the perforations in the plates, and wedges for engaging the staples.

[Claim 6 not printed in the Gazette.]

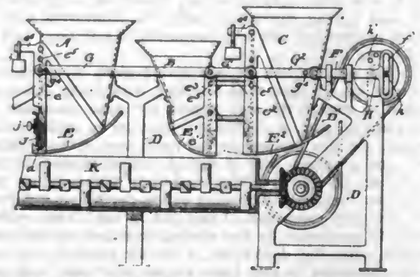
972,803. CONCRETE-RETAINING WALL. JACOB B. BLAW, Pittsburg, Pa., assignor to Blaw Collapsible Steel Centering Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Jan. 23, 1909. Serial No. 473,893.



1. In combination, a concrete retaining wall comprising spaced channel bars with their flanges projecting inwardly, and having their body portions intermediate the flanges provided with perforations, lagging comprising plates abutting at the backs of the channel bars and provided with loops in proximity to their abutting edges projecting through the said perforations, and wedges for the loops.

2. In combination, a concrete retaining wall comprising spaced channel bars with their flanges projecting inwardly, and having their body portions intermediate the flanges provided with perforations, lagging comprising plates abutting at the backs of the channel bars and provided with loops in proximity to their abutting edges projecting through the said perforations and arranged transversely of the channel bars in proximity to the abutting edges of the plates, wedges arranged longitudinally of the channel bars, and flanged sections secured along the ends of the plates with their flanges abutting the flanges of the channel.

972,804. MEASURED FEED APPARATUS. WILLIAM B. BOLLES, Cleveland, Ohio. Filed June 30, 1909. Serial No. 505,133.



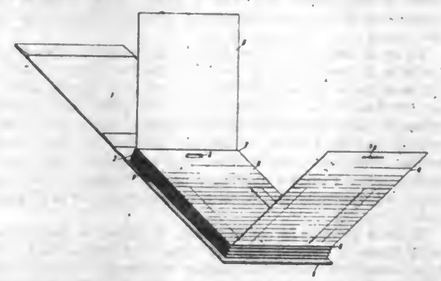
1. In a measured feed apparatus, the combination of a plurality of hoppers, each having for its bottom a curved plate, a pivoted frame associated with each hopper and of which the associated curved plate is the bottom member, each hopper having the lower edge of one of its ends cut away just above the associated curved plate, and a link connected with one of said frames above its pivot and with the adjacent frame below its pivot.

2. In a measured feed apparatus, the combination of a plurality of hoppers, each having for its bottom a curved plate, a pivoted frame associated with each hopper and of which the associated curved plate is the bottom member, each hopper having the lower edge of one of its ends cut away just above the associated curved plate, links connecting said frames, and means whereby said links may be connected with said frames at different distances from their pivots.

3. In a measured feed apparatus, the combination of a plurality of hoppers, each having for its bottom a curved plate, a pivoted frame associated with each hopper and of which the associated curved plate is the bottom member, each hopper having the lower edge of one of its ends cut away just above the associated curved plate, links connecting said frames, at least one of said links having a plurality of holes near one end adapted for the reception of a pivot pin by which it is connected with a swinging frame.

4. In a measured feed apparatus, the combination of a plurality of feed hoppers each having for its bottom a movable plate and each hopper having the lower edge of one of its ends cut away just above the path of its bottom plate, means for simultaneously operating the several bottom plates, and means whereby the throw of any of said plates may be varied with respect to the throws of the other plates.

972,805. MANIFOLDING-PAD. EDWARD KIBBY BOTTLE, Niagara Falls, N. Y., assignor to The Carter-Crume Co., Limited, Niagara Falls, N. Y., a Corporation. Filed Mar. 22, 1907. Serial No. 363,911.

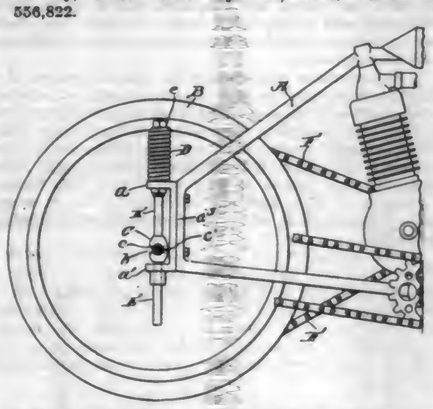


1. In a device of the class described, in combination, a holder, a metallic member rigidly secured to said holder and provided with an abutment presenting a plane surface and a flat projection, said flat projection being spaced from said abutment and lying in a plane substantially parallel to the plane surface of the abutment, and a pad formed of a plurality of superimposed leaves connected to one another along weakened lines, one end thereof being provided with registering slits through which said flat projection extends, said registering slits extending substantially parallel with the end of the pad and being spaced therefrom a distance substantially equal to the distance that the flat projection is spaced from the abutment, whereby when the pad is in position with said flat projection extending through said registering slits said end of the pad will rest against said abutment.

2. In a device of the class described, in combination, a holder, a metallic member rigidly secured to said holder and comprising an abutment provided with a plane-abutting surface, an integral flat projection, said flat projection being spaced from said abutment and lying in a plane substantially parallel to the plane of said abutting surface, and a pad formed of a plurality of superimposed leaves connected to one another along weakened lines, one end thereof being provided with registering slits through which said flat projection extends, said registering slits extending substantially parallel with the end of the pad and being spaced therefrom a distance substantially

equal to the distance that the projection is spaced from said abutting surface, whereby when the pad is in position with said projection extending through said registering slits, said end of the pad will rest against said abutting surface.

972,806. SPRING ATTACHMENT. WILFRED BRAMHAM, Beverly, Mass. Filed Apr. 21, 1910. Serial No. 556,822.



1. In a vehicle in combination, a frame, a wheel and its axle, a bearing for said axle, an upwardly extending guide rod fast on said bearing and adapted to slide in said frame, said axle being substantially in the path of movement of said guide rod, and a spring under tension the upper end of which is connected with said guide rod and the lower end with said frame.

2. In a vehicle in combination, a frame, a wheel and its axle, a bearing block for said axle, a bracket secured to said frame above said block, a tension spring secured at its lower end to said bracket, a guide rod passing through said bracket and connecting the top of said spring and said block, a bracket secured to said frame below said block and a guide rod secured to said block and passing through said last named bracket, said axle being substantially in the path of movement of said guide rods.

3. In a vehicle in combination, a frame, a runway on said frame, a wheel, and its axle, said frame and axle being relatively movable, means including a spring connecting said frame and axle, a driving belt connecting said wheel and frame and a bearing block for said axle abutting against said runway.

4. In a vehicle in combination, a frame, a runway on said frame, a wheel and its axle, said frame and axle being relatively movable, means including a spring connecting said frame and axle, a driving belt connecting said wheel and frame and a bearing block for said axle provided with an anti-friction roller abutting against said runway.

5. In a vehicle in combination, a frame, a runway on said frame, a wheel and its axle, a driving belt connecting said frame and axle, a bearing block for said axle abutting against said runway, a bracket secured to said frame above said block, a tension coiled spring secured at its lower end to said bracket, a guide rod passing through said bracket and connecting the top of said spring and said block, a bracket secured to said frame below said block and a guide rod secured to said block and passing through said last named bracket.

[Claim 6 not printed in the Gazette.]

972,807. GEM-SETTING. JOHN S. BRANT, Providence, R. I., assignor to Cory & Reynolds Company, Providence, R. I., a Corporation of Rhode Island. Filed Sept. 9, 1909. Serial No. 516,933.

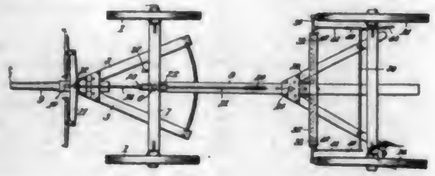
1. In a gem setting, the combination of a body provided with a central orifice, and with recesses opening into the orifice, a frame resting against the back of the body, and prongs upon the frame registering in the recesses and adapted to engage a gem.



2. In a gem setting, the combination of a relatively thick base member having a central opening therethrough, a thin, narrow flange or lip forming a depressed seat provided with a plurality of lateral recesses extending therethrough and being in direct communication with the opening, the inner edge of the flange constituting the perimeter of said opening, a plate bearing against the back of the base member, and prongs integral with the plate adapted to extend through said recesses to engage a gem.

3. In a gem setting, the combination with a base member having a central opening, a depressed seat, and a plurality of lateral recesses extending into the opening, of a removable plate member bearing against the back of the said base, prongs integral with the plate extending through the recesses to engage a gem, and having the outer or free ends of the prongs wider than the recesses, for the purpose hereinbefore set forth.

972,808. AUTOMATIC WAGON-BRAKE. GEORGE W. BASWEB, Add, Ky. Filed Jan. 4, 1910. Serial No. 536,347.



1. The combination of a running gear, a brake rod mounted on the same and provided with brake shoes arranged to engage the rear wheels, a tongue connected to the running gear, a doubletree mounted to slide on the tongue, a casing secured to the reach bar of the running gear and provided with a slot, a lever pivotally connected to the casing and extending through the opening of the reach bar, a slotted link pivotally connected at one end to said lever, a link pivotally connected to the slotted link and having connection with the doubletree, and a spring pressed rod pivotally connected to said lever and to said brake rod.

2. The combination of a running gear, a brake rod mounted on the same and provided with brake shoes arranged to engage the rear wheels, a tongue connected to the running gear, a doubletree mounted to slide on the tongue, a casing secured to the reach bar of the running gear and provided with a slot, a casing secured to the reach bar, a lever pivotally connected to the casing and extending through the opening of the reach bar, a slotted link pivotally connected at one end to said lever, a link pivotally connected to the slotted link and having connection with the doubletree, a spring pressed rod pivotally connected to said lever and to said brake rod, and a latch bolt carried by the running gear and adapted to be inserted in the slot of said slotted link to prevent sliding movement of the slotted link.

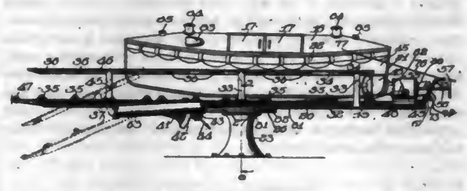
3. The combination with a running gear, including a slotted reach bar, a slotted sand bar, a king bolt passed through the sand bar, a tongue secured to the running gear and provided with a slot, a doubletree mounted on the tongue, a bolt passed through the doubletree and the slot of the tongue to permit backward and forward movement of the doubletree on the tongue, a casing secured to the reach bar, a lever pivoted to the casing and extending through the slot of the reach bar, a link pivoted at one end to said lever and at its opposite end passed through the slot of the sand bar and slidably embracing the king bolt, a link pivotally secured to the slotted end of the slotted link and also having pivotal connection with the bolt passed through the doubletree, a brake beam, a brake rod swingingly connected to the brake beam and having downwardly extending arms at its ends, and at the extremities thereof carrying the brake shoes for application to the rear wheels, the brake rod having an arm intermediate its ends, a link connected to the last mentioned arm and to the aforesaid lever and having a collar intermediate its ends, a spring confined in the aforesaid casing between said collar and one end of the casing, to hold the brake shoes normally in engagement with the rear wheels whereby the brake shoes may be applied to the wheels automatically, and means whereby the brake shoes may be applied to the wheels manually.

4. The combination with a running gear, including a slotted reach bar, a slotted sand bar, a king bolt passed through the sand bar, a tongue secured to the running gear and provided with a slot, a doubletree mounted on the tongue, a bolt passed through the doubletree and the slot of the tongue to permit backward and forward movement of the doubletree on the tongue, a casing secured to the reach bar, a lever pivoted to the casing and extending through the slot of the reach bar, a link pivoted at one end to said lever and at its opposite end passed through the slot of the sand bar and slidably embracing the king bolt, a link pivotally secured to the slotted end of the slotted link and also having pivotal connection with the bolt passing through the doubletree, a brake beam, a brake rod swingingly connected to the brake beam and having downwardly extending arms at its ends and at the extremities thereof carrying the brake shoes for application to the rear wheels, the brake rod having a crank arm intermediate its ends, a link connected to the last mentioned arm and to the aforesaid lever and having a collar intermediate its ends, a spring confined in the aforesaid casing between said collar and one end of the casing, to hold the brake shoes normally in engagement with the rear wheels whereby the brake shoes may be applied to the wheels automatically, and means whereby the brake shoes may be applied to the wheels manually.

5. The combination with a running gear, including a slotted reach bar, a slotted sand bar, a king bolt passed through the sand bar, a tongue secured to the running gear and provided with a slot, a doubletree mounted on the tongue, a bolt passed through the doubletree and the slot of the tongue to permit backward and forward movement of the doubletree on the tongue, a casing secured to the reach bar, a lever pivoted to the casing and extending through the slot of the reach bar, a link pivoted at one end to said lever and at its opposite end passed through the slot of the sand bar and slidably embracing the king bolt, a link pivotally secured to the slotted end of the slotted link and also having pivotal connection with the bolt passing through the doubletree, a brake beam, a brake rod swingingly connected to the brake beam and having downwardly extending arms at its ends and at the extremities thereof carrying the brake shoes for application to the rear wheels, the brake rod having an arm intermediate its ends, a link connected to the last mentioned arm and to the aforesaid lever and having a collar intermediate its ends, a spring confined in the aforesaid casing between said collar and one end of the casing to hold the brake shoes normally in engagement with the rear wheels whereby the brake shoes may be applied to the wheels automatically, and a latch bolt carried by the running gear and adapted to be inserted in the slot of the slotted link to prevent automatic operation of the brake.

[Claim 6 not printed in the Gazette.]

972,809. LIFE-BOAT APPARATUS. AUGUST BAUN, Chicago, Ill. Filed June 29, 1909. Serial No. 505,076.



1. In life boat launching apparatus, the combination with a boat, of a supporting device which supports the keel and the sides of the boat and holds said boat in substantially horizontal position, an ejecting device which is movably mounted on said supporting device so as to engage one end of said body, and means for moving said ejecting device so as to force said boat lengthwise of said supporting device and eject the same therefrom.

2. In life boat launching apparatus, the combination with a boat, of a supporting device which supports the keel and the sides of the boat and holds said boat in substantially horizontal position, an ejecting device which is movably mounted on said supporting device so as to engage one end of said boat, and means for moving said ejecting device, comprising a spring, so as to force said boat lengthwise of said supporting device and eject the same therefrom.

3. The combination with a boat, of a supporting device for the same on which it is supported so as to be capable of movement lengthwise, a spring operated ejecting device adapted to engage with one end of the boat by means of which the boat may be moved from said supporting device, and means for adjusting the tension of the spring element of said spring operated device.

4. In life boat launching apparatus, the combination with a boat, of a supporting device which supports the keel and the sides of the boat and holds said boat in substantially horizontal position, an ejecting device which is movably mounted on said supporting device so as to engage one end of said boat, means for moving said ejecting device comprising a spring, so as to force said boat lengthwise of said supporting device and eject the same therefrom, and releasing means for said ejecting device.

5. The combination with a boat of a supporting device for the same on which it is supported so as to be capable of movement lengthwise, a spring operated ejecting device adapted to engage with one end of the boat by means of which the boat may be moved from said supporting device, and releasing means operable from inside the boat for releasing said spring operated device.

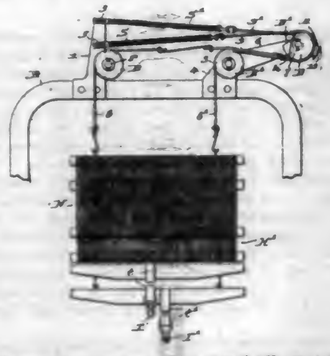
[Claims 6 to 21 not printed in the Gazette.]

972,810. LOOM HARNESS MECHANISM. LOUIS S. BURBANK, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Apr. 27, 1910. Serial No. 557,877.

1. The combination with a vertically-movable loom-harness, and means to depress it, of an overhead lifting spring, an oscillating cam-like compensator located above and at one side of the harness, a flexible connector between the compensator and the spring, and a flexible connector between said compensator and the harness, the surface of the compensator coöperating with the harness connector having a uniform radius, and that part of the surface coöperating with the spring connector having a varying radius, the spring connector moving toward the axis of the compensator as the latter is turned to elongate the spring, said connectors extending inward from the top and bottom of the compensator and above the harness.

2. The combination with a vertically-movable loom-harness, and means to depress it, of an overhead, laterally extended lifting spring fixed at one end, an oscillating compensator having a cam-like edge and located at one

side of the free end of the spring, a flexible connector between the free end of the spring and the compensator, engaging a portion of its edge and attached thereto, and a flexible connector between the harness and said compensator, engaging another portion of its edge and attached to the latter, the edge of the compensator coöperating with one of said connectors nearing the axis of the compensator from the point of attachment of said connector and the portion of the edge effectively coöperating with the other connector having a uniform radius, the compensator lying between the connectors.



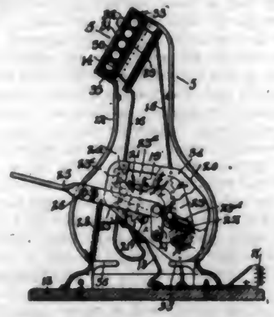
3. The combination with a vertically-movable loom-harness, and cam-actuated means to depress it, of overhead sheaves, straps attached to the top of the harness and led over said sheaves, an oscillating compensator at one side of the sheaves, having a lower segmental portion of its face of relatively large and uniform radius and an upper portion of its face of a varying radius, the greatest radius of which is near the point of attachment of the spring connector with the said compensator, a flexible connector passing around portion of the latter having the uniform radius and attached to said straps and the compensator, a lifting spring above the sheaves and fixed at one end, and a flexible connector attached to the free end of the spring and to said compensator and passing over the part thereof having a varying radius, to reduce the changes in the length of the spring and equalize the tension thereon as the harness rises and falls, said connectors extending inward from the compensator and located one above the other.

4. The combination with a vertically-movable loom-harness, and cam-actuated means to depress it, of an overhead lifting spring, overhead sheaves, a bridle led thereover and attached to the harness, an oscillating, cam-like compensator at one side of the sheaves having a circular portion of relatively large radius and a portion of varying radius less than that of the circular portion, and a flexible member connecting said bridle and the spring and passing around said portions of the compensator, and fixedly attached to the latter between such portions, the circular portion acting upon that part of said flexible member leading to the bridle and the portion of varying radius acting on that part of the member leading to the spring.

972,811. CIGAR-LIGHTER. JOHN W. BURNETT, Cambridge, Mass., assignor of one-half to William K. Mason, Cambridge, Mass. Filed Apr. 13, 1910. Serial No. 555,222.

1. In an electric cigar lighter, the combination with an electric circuit including a resistance element, of a switch for controlling said circuit and provided with means made operative by the closing of the circuit for automatically breaking the circuit after a predetermined period, whereby injurious heating of the resistance is prevented.

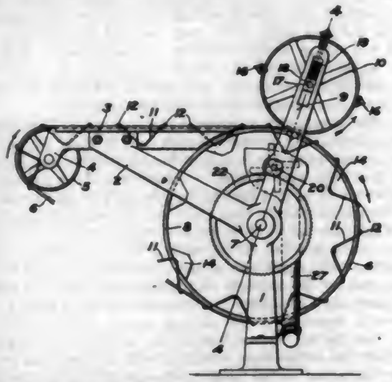
2. In an electric cigar lighter, the combination with an electric circuit including a resistance element, of a switch for controlling said circuit, and means for manually operating said switch to close the circuit, said switch including means controlled by gravitation for automatically breaking the circuit after a predetermined period, whereby injurious heating of the resistance is prevented.



3. In an electric cigar lighter, the combination with an electric circuit including a resistance of a time switch in said circuit made operative by the closing of the circuit for automatically breaking the circuit after a predetermined period irrespective of the position of said resistance.

4. In an electric cigar lighter, the combination with an electric circuit including a resistance element, of a switch for controlling said circuit, and means for manually operating said switch to close the circuit, said switch being provided with means for automatically breaking the circuit after a predetermined period irrespective of the position of said manual operating means.

972,812. FRUIT-CORING MACHINE. ALBERT J. BURNS, Rochester, N. Y., assignor of one-half to Frederick D. H. Cobb and one-half to Cobb Preserving Company, a Corporation of New York, Rochester, N. Y. Filed Dec. 28, 1905. Serial No. 293,562.



1. In a machine for coring fruit sections, a support, a table on said support having converging surfaces, a series of connected holders for fruit sections movable between said converging surfaces, each holder having open converging sides running against the converging surfaces of the table and a core section opening at its bottom, a cutter adapted to cut the core sections from the fruit sections as the holders successively pass the cutter, means moving substantially in the same direction and at the same speed as the holders for pressing the fruit sections into the holders during the cutting action, and means for moving said holders in succession.

2. In a machine for coring fruit sections, a support, a table on said support having converging surfaces, a belt, a series of holders for fruit sections attached to said belt and running between said converging surfaces, each holder having open converging sides running against the converging surfaces of the table and a core section opening at its bottom, a cutter adapted to cut the core sections from the fruit sections as the holders successively pass the cutter, means moving substantially in the same direction and at the same speed as the holders for pressing the fruit sections into the holders during the cutting action, and means for moving said holders in succession.

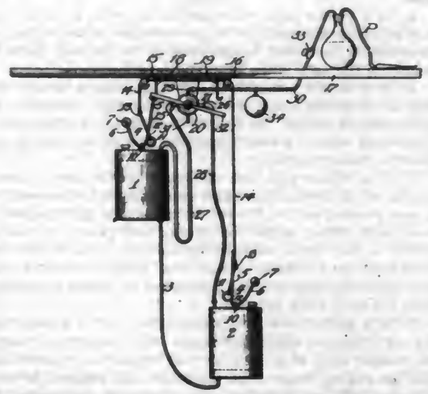
3. In a machine for coring fruit sections, a drum having openings in its periphery, a belt having pockets adapted to hold fruit sections therein with their edges and core sections toward the interior of the belt and adapted to project through the openings in the drum, means for pressing a fruit section into each pocket during the cutting action by pressure upon its outer surface, a cutter adapted to cut the core section from each fruit section as the holders successively pass the cutter, and means for actuating the drum and belt.

4. In a machine for coring fruit sections, a drum having openings in its periphery and an inwardly converging pair of plates adjacent to each opening, a belt provided with pockets for fruit sections having converging open sides adapted to register with said plates and having core section openings adapted to project through said openings in the drum, means for pressing a fruit section into each holder during the cutting action, a cutter adapted to cut the core section from each fruit section as the pocket passes the cutter, and means for actuating the drum and belt.

5. In a machine for coring fruit sections, a drum having openings in its periphery, a belt having pockets adapted to hold fruit sections therein with their edges and core sections toward the interior of the belt and adapted to project through the openings in the drum, a series of pressers for pressing a fruit section into each pocket during the cutting action by pressure upon its outer surface, a cutter adapted to cut the core section from each fruit section as the holders successively pass the cutter and means for actuating the drum and belt.

[Claims 6 to 22 not printed in the Gazette.]

972,813. AIR-COMPRESSOR. JARVIS R. BURROWS, Chicago, Ill. Filed Feb. 25, 1910. Serial No. 545,981.



1. In combination, two tanks connected together at their lower ends for the interflow of fluid, means whereby one of said tanks may be raised and the other lowered, valve mechanism having connection with the tops of said tanks and provided with a delivery outlet and a relief inlet, and adjusting means for said valve mechanism controlled automatically upon vertical adjustment of said tanks to effect connection of the upper tank with the relief inlet and connection of the lower tank with the delivery outlet, whereby fluid in the upper tank flows into the lower tank to drive air or gas from said lower tank through said valve mechanism and through said delivery outlet.

2. In combination, two tanks connected together at their lower ends for the interflow of fluids, valve mechanism connected with the upper ends of the tanks and having a delivery outlet and a relief inlet, means whereby relative vertical adjustment may be effected between said tanks independently of the valve mechanism, and means operable during relative adjustment between the tanks for effecting operation of the valve mechanism to connect one of said tanks with the relief inlet and the other tank with the delivery outlet, whereby a volume of fluid is adapted to flow from the higher to the lower tank to force air or gas from the lower tank through the valve mechanism and through the delivery outlet.

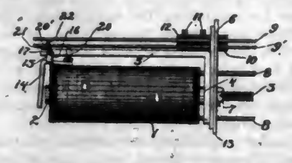
3. In combination, two tanks connected together at their lower ends for the interflow of fluids, valve mechanism connected with the upper parts of the tanks and having a relief inlet and delivery outlet, controlling lever mechanism for said valve mechanism, means for effecting relative vertical adjustment of the tanks independently of said lever mechanism, and means automatically controlled upon vertical adjustment of the tanks for effecting a slight movement of the lever mechanism whereby the valve mechanism is actuated to connect the higher tank with the relief inlet and the lower tank with the delivery outlet, whereby a volume of fluid may circulate successively from the higher to the lower tank to drive gas from the lower tank through the valve mechanism and delivery outlet.

4. In combination, two tanks connected together at their lower ends for the interflow of fluid, means whereby one of said tanks may be raised and the other simultaneously lowered, valve mechanism connected with the tops of the tanks and having a relief inlet and a delivery outlet, and means automatically controlled when one of said tanks reaches its upper position to actuate the valve mechanism to connect said raised tank with the relief inlet and to connect the lower tank with the delivery outlet, whereby a volume of fluid may successively flow from the upper tank into the lower tank to drive gas from said lower tank through the valve mechanism and delivery outlet.

5. In combination, two tanks connected together at their lower ends for the interflow of fluid, valve mechanism connected with the upper ends of the tanks and having a delivery outlet, said valve mechanism being adapted for limited movement sufficient only to connect either tank with the delivery outlet, means whereby said tanks may be relatively vertically adjusted, and means operable during a short period of such relative adjustment to cause actuation of the valve mechanism and to connect the lower tank with the delivery outlet, whereby a given volume of fluid may successively flow from the higher into the lower tank to force gas from the lower tank through the valve mechanism and delivery outlet.

[Claims 6 to 17 not printed in the Gazette.]

972,814. ELECTRICAL RELAY. JOHN F. CADELL, Baltimore, Md., assignor, by mesne assignments, to The North Electric Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 29, 1907. Serial No. 399,676.



1. In an electrical relay, an electromagnet having an L-shaped, pivoted armature at one end and secured at the other end to a perforated, L-shaped return bar, parallel rows of spring contacts secured on said return bar and means disposed in said perforation and adapted to be

actuated by said armature to cause a simultaneous closure of said contact-springs.

2. In an electrical relay, an electromagnet provided with a central core, a perforated, L-shaped return bar secured to said magnet core at one end, a pivoted armature secured on the other end of said return bar, parallel rows of contact-springs secured to said return bar and a pressure bar disposed in the perforation in said return bar and adapted to be engaged by said armature and to force one row of said springs into contact with another row.

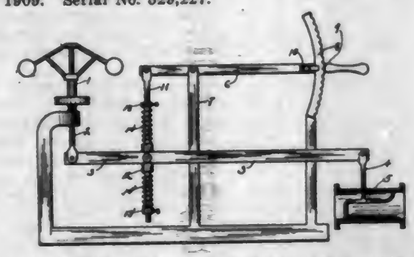
3. In an electrical relay, an electromagnet provided with a central core, an L-shaped return bar having an opening secured to said core at one end of said magnet and having one arm extending above the latter, a pivoted armature secured on said return bar at the other end of said magnet, parallel rows of contact-springs carried by said return bar and a pressure bar loosely carried on the armature and having a reduced portion adapted to pass through said opening and to engage one of said rows of contacts to force the latter into contact with another row.

4. In an electrical relay, an electromagnet, a return bar therefor secured to said magnet at one end thereof and having an opening, a removable armature pivoted on said return bar at the other end, a plurality of parallel rows of contact-springs mounted on said return bar and means carried by said armature and disposed in said opening for effecting the simultaneous closure of said contact-springs.

5. In an electrical relay, an electromagnet, a return bar therefor secured to said magnet and having an elongated opening, an L-shaped armature having slotted ears pivotally mounted on said return bar, contact-springs and means actuated by said armature through said opening for closing all of the contact-springs.

[Claims 6 to 11 not printed in the Gazette.]

972,815. SPEED-REGULATING MECHANISM. JOHN C. CARPENTER, Houston Heights, Tex. Filed Nov. 22, 1909. Serial No. 529,227.



1. In a speed regulating mechanism, the combination with a governor device, a manual control device, and a device for controlling the application of power to the element whose speed is to be regulated, of an interconnecting lever connected with said governor, manual control and power controlling devices so as to operate upon the two former alternatively as fulcrums and actuate the latter, the connection of one of said devices to said lever being resilient.

2. In a speed regulating mechanism, the combination with a speed responsive device, a manual control device, and a device for controlling the application of force to the element whose speed is to be regulated, of an interconnecting device, connected with said speed responsive, manual control and force controlling devices so as to operate upon the two former alternatively, as fulcrums, and actuate the latter, the connection of one of said elements to said interconnecting device being resilient.

3. In a speed regulating mechanism, the combination with a speed responsive device, a manual control rod, and a device for controlling the application of force to the element whose speed is to be regulated, of an interconnecting device, connected with said speed responsive device, manual control rod, and force controlling device, so as to operate upon the two former alternatively, as fulcrums, and actuate the latter, the connection of one of said elements to said interconnecting device being resilient.

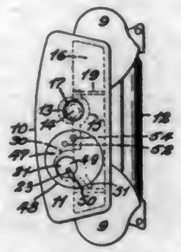
4. In a speed regulating mechanism, the combination with a speed responsive device, a manual control lever, and a device for controlling the application of force to the element whose speed is to be regulated, of an interconnecting device, connected with said speed responsive device, manual control lever and force controlling device so as to operate upon the two former alternatively, as fulcrums, and actuate the latter, the connection of one of said elements to said interconnecting device being resilient.

5. In a speed regulating mechanism, the combination with a speed responsive device, a manual control device, and a motive fluid valve, of an interconnecting device, connected with said speed responsive device, manual control device and motive fluid valve so as to operate upon the two former alternatively, as fulcrums, and actuate the latter, the connection of one of said elements to said interconnecting device being resilient.

[Claims 6 to 8 not printed in the Gazette.]

972,816. [WITHDRAWN.]

972,817. SEAL-LOCK FOR LOOSE-LEAF BINDERS AND THE LIKE. ARTHUR H. CHADWICK, Hamilton, Ontario, Canada. Filed Nov. 8, 1909. Serial No. 526,927.



1. In a binder lock, the combination with a binder having an operating shaft, of a pivoted gate, a seal plate, and means for engaging the gate to hold the seal plate in position.

2. In a binder lock, the combination with a binder having an operating shaft, of a pivoted gate, a seal plate, an imperforate seal, and means carried by the seal plate for engaging the gate when in closed position.

3. In a binder lock the combination with a binder having an operating shaft and an access orifice therefor, of a gate pivoted within the end of the binder and adapted to close said orifice, a seal plate, and means for locking the gate in closed position.

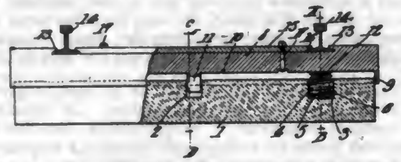
4. In a binder seal lock the combination with a binder having an operating shaft and an access orifice therefor, of a gate pivoted within the end of the binder and adapted to close said orifice, means for locking said gate in closed position, a seal plate adapted to hold an imperforate seal over said gate locking means, and means carried by the seal plate for engaging the gate when in closed position to hold the seal plate in place.

5. In a binder lock, the combination with a binder having an operating shaft and access orifice therefor through the binder end, of a gate pivoted within the binder end, said gate being larger than the orifice and adapted to overlap the same when closed, key operated mechanism for locking said gate in closed position and for unlocking and raising said gate, and a plate at right angles to the gate for protecting the end of the operating shaft.

[Claims 6 to 8 not printed in the Gazette.]

972,818. RAILWAY-TIE. ARNOLD CLARK, Latty, Ohio. Filed June 16, 1910. Serial No. 567,318.

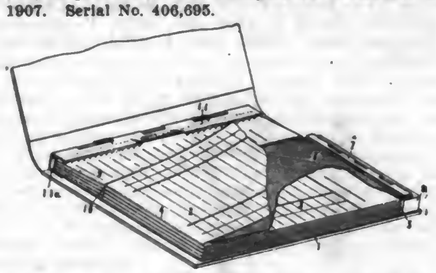
1. A railway tie including a plastic body having recesses in its upper face, a cap extending continuously throughout the length and width of the body, an extension upon the cap and slidably mounted within one of the recesses, non-contacting nested cushioning devices within the remaining recesses and bearing upwardly against the cap to hold it out of contact with the body.



2. A railway tie including a plastic body having recesses in its upper face, metallic linings within certain of the recesses, outer and inner concentric springs within the lined recesses, a cap, stems projecting therefrom and into the recesses, said springs constituting means for holding the cap normally spaced from the body, and flanges depending from the cap and closing the space between the cap and body.

3. A railway tie including a body, a spring supported cap spaced therefrom, means upon the cap for closing the space between the cap and body, said cap having rail engaging shoulders, a rail securing plate interposed between the shoulders, and means for fastening said plate to the cap.

972,819. MANIFOLDING-PAD. ROBERT CLARK, Walthamstow, England, assignor to Carter-Crume Co., Limited, Niagara Falls, N. Y., a Corporation. Filed Dec. 16, 1907. Serial No. 406,695.



1. In a device of the class described, in combination, a plurality of leaves connected end to end in a continuous strip and folded into superposed relation, each leaf extending unweakened between folds and being connected to the following leaf along a weakened line, each of said leaves having integral therewith an extension upon its lateral edge connected along a weakened line, means for fastening said extensions to one another, a cover, means securing said extensions within said cover, and a transfer sheet mounted within said cover and adapted to be inserted between pairs of said leaves.

2. In a device of the class described, in combination, a plurality of leaves connected end to end in a continuous strip and folded into superimposed relation, each leaf extending unweakened between folds and being connected to the following leaf along a weakened line, each of said leaves having an extension upon its lateral edge connected along a weakened line, means positively fastening said extensions to one another, a cover, means removably holding said leaves within said cover, a gripping member mounted upon said cover, and a transfer medium removably held by said gripping member and adapted to be inserted between pairs of said leaves.

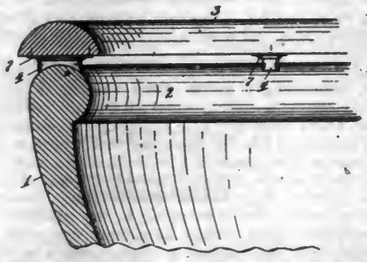
3. In a device of the class described, in combination, a plurality of leaves connected end to end in a continuous strip and folded into superimposed relation each of said leaves having an extension upon its lateral edge connected along a weakened line, means positively fastening said extensions to one another, a member adjacent said folded strip, and a transferring medium removably held upon said member.

4. In a device of the class described, in combination, a plurality of leaves connected end to end in a continuous strip and folded into superimposed relation, each of said leaves having an extension upon its lateral edge connected along a weakened line, means positively fastening said extensions to one another, a cover, means removably holding said leaves within said cover, a member mounted upon said cover adjacent said folded strip, and a transferring medium removably held upon said member.

5. In a device of the class described, in combination, a plurality of leaves connected end to end in a continuous strip and folded into superimposed relation, each of said leaves having an extension upon one of its edges connected along a weakened line, means positively fastening said extensions to one another, a cover, means removably holding said leaves within said cover, a block secured to said cover adjacent said leaves, a gripping member supported thereby, and a transferring medium removably held by said gripping member and adapted to be inserted between pairs of said leaves.

[Claim 6 not printed in the Gazette.]

972,820. BUFFER ATTACHMENT FOR CLOSET-SEATS. JOHN CHARLES CLEIS, South Bend, Ind. Filed Mar. 12, 1909. Serial No. 482,924.



1. The combination with a closet bowl and seat, of plates secured to the under side of the seat and disposed radially with respect to the opening therein, each plate having a marginal inwardly directed flange, elongated buffers provided with enlarged heads engaged by the flanges, the outer faces of the buffers being transversely concaved to engage the bowl for centering the seat upon the latter.

2. The combination with a closet bowl and seat, of elongated buffers secured to the underside of the seat and disposed radially with respect to the opening therein, the outer faces of the buffers being concaved to engage the bowl for centering the seat upon the latter and to prevent lateral thrust in all directions.

3. The combination with a closet bowl and seat, of plates secured to the underside of the seat and disposed radially with respect to the opening therein, and elongated buffers secured in said plates, the outer faces of the buffers being concaved to engage the bowl to center the seat and to prevent lateral thrust thereof.

4. The combination with a closet bowl and seat, of buffers secured to the underside of the seat, the outer faces of the buffers being concaved to engage the bowl for centering the seat upon the latter and to prevent lateral thrust in all directions.

972,821. ATTACHMENT FOR MOTOR-VEHICLES. CHARLES A. CLINE, Jr., West Branch, Mich. Filed July 7, 1909. Serial No. 506,337.

1. An attachment for motor vehicles for the purpose described, comprising a drum adapted to be fitted about the hub of a driving wheel of a motor vehicle and provided at its inner end with a plurality of radially projecting arms each adapted to extend over a portion of the space or opening between two spokes of the wheel, a block extending transversely of each of said arms and having op-

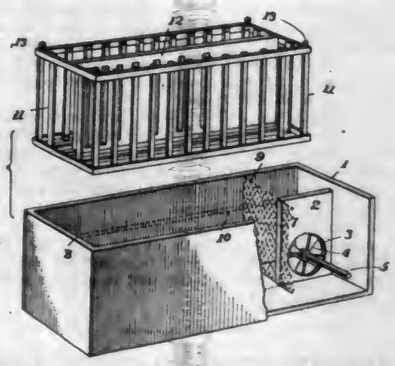
positely diverging grooves adjacent its ends for receiving spokes of the wheel, means connecting the blocks and arms, and a cable having one end attached to the drum.



2. An attachment for motor vehicles for the purpose described, comprising a drum adapted to be fitted about the hub of a driving wheel of a motor vehicle and provided at its inner end with a plurality of radially projecting arms each adapted to extend over a portion of the space or opening between two spokes of the wheel, a block extending transversely of each of said arms and having oppositely diverging grooves formed at the ends of its face adjacent the arm, whereby said arms and blocks will engage opposite faces of spokes between which the blocks extend, an adjustable connection between each block and the adjacent arm, and a cable having one end attached to the drum.

3. An attachment for motor vehicles for the purpose described, comprising a hollow drum adapted to be fitted about the hub of a driving wheel of a motor vehicle, and provided at its inner end with a plurality of radially projecting arms each adapted to extend over a portion of the space between two spokes of the wheel, a two part sleeve, having its members pivotally connected, adapted to surround a portion of the hub within the drum, the exterior surface of said sleeve conforming to the adjacent inner surface of the drum, blocks adjustably connected with the radial arms and adapted to engage spokes of the vehicle wheel, and a cable having one end attached to the drum.

972,822. DYEING-MACHINE. ROBERT H. COMEY, Camden, N. J., assignor to R. H. Comey Company, Camden, N. J., a Corporation of New Jersey. Filed Oct. 27, 1909. Serial No. 524,935.



1. The combination in a dye vat, of an upright partition dividing the vat into two sections, each of which is adapted to contain material to be treated, the said partition having openings therethrough at various points to permit the passage of the dye liquor from one side to the other but to prevent the passage of the material treated, and means at one end of the partition for creating a circulation from one side to the other and means for preventing the material from entering said means.

2. The combination in a dye vat, of an upright partition dividing the vat into two sections, each of which is adapted to contain material to be treated throughout most of its length, means for maintaining a space at one end of said vat free from said material, and means for creating a circulation from one side of said partition to the other in said free space, the said partition being so constructed as to permit circulating dye liquor to travel through said material and to pass from one side to the other.

3. The combination in a dye vat, of an upright partition dividing the vat into two sections, and provided with openings throughout at various points from top to bottom, and means for continuously circulating dye liquor in said sections and through said openings.

4. The combination in a dye vat, of an upright partition at one end extending longitudinally into said vat, an open-work removable cage adapted to contain the material to be treated fitting in said vat close against the end of said partition, and means in said partition for creating a circulation of the dye liquor from one side to the other.

5. The combination in a dye vat, of an upright partition at one end extending into said vat, an open-work removable cage adapted to contain the material to be treated fitting in said vat close against the end of said partition, means in said partition for creating a circulation of the dye liquor from one side to the other, and an upright partition in said cage constituting a continuation of said first mentioned partition when the cage is in place.

972,823. MOUTHPIECE FOR MUSICAL INSTRUMENTS. HENRY E. COOK and EDWIN P. BULLOCK, Bozeman, Mont. Filed Nov. 1, 1909. Serial No. 525,737.



1. A mouth piece for musical wind instruments having a cupped end, and a peripheral flange extending laterally from said cup and extending less than one half the distance thereabout, said flange being disposed out of the plane of the end of the cup, substantially as and for the purpose set forth.

2. A mouth-piece for musical instruments having a cupped end, and a peripheral flange extending laterally therefrom and only partially around the same, a shallow groove being formed between the flange and the cup and co-extensive with said flange.

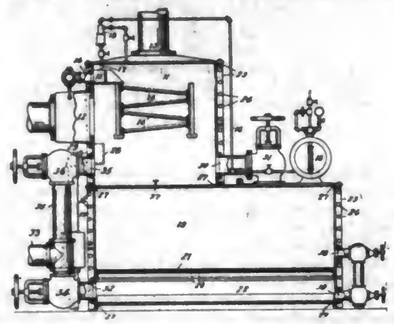
3. A mouth-piece for musical wind instruments having a cupped end circular in plan, and a flange extending laterally from the outer edge of said cup and only partially around the same, the outer surface of said flange being disposed out of the plane of the end surface of said cup substantially as and for the purpose set forth.

4. A mouth-piece for musical wind instruments having a cupped end circular in plan, and a flange extending laterally from the outer edge of said cup and integrally formed therewith, the outer surface of said flange being disposed out of the plane of the end of the cup, the inner edge of the flange and the outer edge of the cup being curved toward each other to form a shallow groove substantially as and for the purpose set forth.

5. A mouth-piece for musical wind instruments having a cupped end, and a flange projecting outwardly from the rim of said cup and extending only partially around the periphery thereof, a groove being formed between the edge of the cup and said flange, substantially as and for the purpose set forth.

[Claim 6 not printed in the Gazette.]

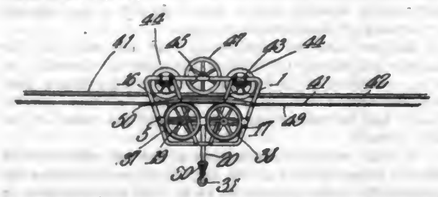
972,824. FEED-WATER HEATER AND PURIFIER. THOMAS J. COOKSON, Cincinnati, Ohio. Filed Dec. 19, 1908. Serial No. 468,309.



1. The combined feed-water heater and purifier, comprising in combination the heating chamber, the filtering chamber adjoining and below the heating chamber, the collection chamber adjoining and below the filtering chamber, a pipe connecting the heating chamber with the filtering chamber, a cut-off valve in said pipe, a delivery pipe, a pipe connecting the heating chamber with the delivery pipe, a cut-off valve in the last mentioned connecting pipe, a pipe connecting the collection chamber with the said delivery pipe, a cut-off valve in the last mentioned pipe arranged to separate the collection chamber from both the heating chamber and the delivery pipe, and an independent pipe and cut-off valve connecting the filtering chamber at will directly with the collection chamber, whereby the heated water may be supplied from the heating chamber directly to the delivery pipe, or through the filtering medium, or through the filtering and collection chambers without passing through the filtering medium, substantially as described.

2. The combined feed-water heater and purifier, comprising in combination the heating chamber, the filtering chamber adjoining and below the said heating chamber, the collecting chamber adjoining and below the filtering chamber, a delivery pipe and suitable connecting pipes from said chambers, the said chambers being composed of cast plates, and means for clamping said plates together comprising flanges 23 on the said plates, corner pieces 24 having flanges 25 fitting the flanges 23 and beveled at their inner corners to leave a space, a packing in said space at the inner ends of the flanges 23 and bolts 26, substantially as described.

972,825. CABLEWAY-CARRIAGE. SEBERN A. COONEY, Trenton, N. J., assignor of one-half to John A. Roebling's Sons Co., Trenton, N. J. Filed Oct. 15, 1909. Serial No. 522,772.



1. In a cableway carriage, a pair of oppositely rotating winding drums, and driving wheels one for each winding drum, said driving wheels both being rotatable in the same direction one as the other.

2. In a cableway carriage, a pair of rotatable winding drums, driving wheels, one for each winding drum, and oppositely acting transmission gearings between the driving wheels and respective winding drums.

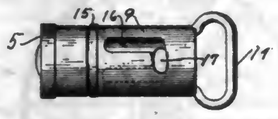
3. In a cableway carriage, a pair of rotatable winding drums, rotatable driving wheels, one for each winding drum, connections between one driving wheel and the corresponding winding drum for causing the rotation of the latter in the same direction as the driving wheel, and connections between the other driving wheel and its winding drum for causing the winding drum to rotate in the opposite direction to that of the corresponding driving wheel.

4. In a cableway system, a carriage provided with a pair of oppositely rotatable winding drums, driving wheels, one for each winding drum and rotatable in the same direction, and a power cable for the driving wheels interwound about said wheels.

5. In a cableway system, a carriage, a pair of oppositely rotating winding drums mounted thereon, driving wheels, one for each winding drum, mounted on said carriage, and an actuating cable for the driving wheels interwound about the latter.

[Claims 6 to 12 not printed in the Gazette.]

972,826. FAUCET. HENRY G. CORDLEY, Glen Ridge, N. J., and GEORGE R. LONG, Waterbury, Conn., assignors to Scoville Manufacturing Company, a Corporation of Connecticut. Filed Aug. 21, 1909. Serial No. 514,028.



1. In a faucet, a tubular body portion; a valve seat within said body portion; a valve coöperating with said seat; a tubular valve operating member within said body portion and closed at its inner end and capable of longitudinal and of rotary movements within said body portion and to the closed inner end of which said valve is secured, the periphery of said valve operating member being provided with two cam grooves located opposite one another and each comprising a portion extending longitudinally of said operating member and a second portion extending transverse thereto; and a rod extending across said body portion and through both of said cam grooves, the arrangement of the parts being such that when said valve is upon its seat said rod will be within the transversely extending portions of said cam grooves.

2. In a faucet, a tubular body portion; a valve seat within said body portion; a valve coöperating with said seat; a tubular valve operating member within said body portion and capable of longitudinal and of rotary movements therein and adapted to operate said valve, the periphery of said valve operating member being provided with two cam grooves located opposite one another and each comprising a portion extending longitudinally of said operating member and a second portion extending transverse thereto; and a rod extending across said body portion and through both of said cam grooves; the arrangement of the parts being such that when said valve is upon its seat said rod will be within the transversely extending portions of said cam grooves.

3. In a faucet, a tubular body portion; a valve seat within said body portion; a valve coöperating with said seat; a tubular valve operating member within said body portion and capable of longitudinal and of rotary movements therein and adapted to operate said valve, the periphery of said valve operating member being provided with a cam groove comprising a portion extending longitudinally of said operating member and a second portion extending transverse thereto; and an abutment extending inwardly from said body portion and into said cam groove,

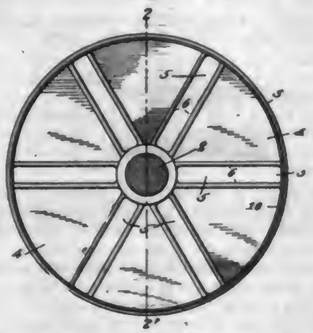
the arrangement of the parts being such that when said valve is upon its seat said abutment will be within the transversely extending portion of said cam groove.

4. In a faucet, a tubular body portion; a valve seat within said body portion; a valve coöperating with said seat; a valve operating member within said body portion and capable of longitudinal and rotary movement therein and adapted to operate said valve, said valve operating member being provided with a cam groove comprising a portion extending longitudinally of such operating member and a second portion extending transverse thereto; and an abutment extending inwardly from said body portion and into said cam groove.

5. In a faucet, a tubular body portion; a valve seat within said body portion; a valve coöperating with said seat; a valve operating member within said body portion and capable of longitudinal and rotary movement therein and adapted to operate said valve, said valve operating member being provided with a cam groove; an abutment extending inwardly from said body portion and into said cam groove; and a spring in engagement with said valve operating member and tending to move it outward to thereby move said valve from its seat.

[Claims 6 to 8 not printed in the Gazette.]

972,827. CHURN-DASHER. OBADIAH M. CORNWELL, Plattsburg, Miss. Filed Dec. 31, 1909. Serial No. 535,765.



1. A churn dasher having a rim and a hub connected by a plurality of webs formed by narrow radial slots, the rim having a convexed periphery, substantially as described.

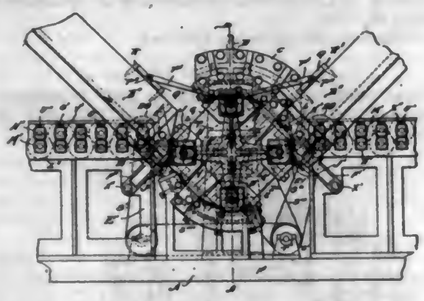
2. A churn dasher having a rim and a hub connected by a plurality of webs separated by radial slots, the opposing walls of the slots being substantially at right-angles to the lower surface of the webs and the material of the webs adjacent to the slots being increased in thickness on the upper surface of said webs.

3. A churn dasher provided with a hub and rim connected by radial webs, the latter being separated from each other by radial slots, the walls of the slots being raised along the length of the webs, whereby to form, between the latter and the said rim, receptacles for conveying the butter as it is produced to the top of the milk.

972,828. CAN-SHEARING MACHINE. CLARENCE COSBY, Richmond, Va. Filed Oct. 2, 1909. Serial No. 520,704.

1. In a shearing machine, the combination of a fixed curved blade, a rotatable mandrel provided with a blade and adapted to receive and support a tubular article thereon, and means to revolve the mandrel to bring the article to contact with the fixed blade.

2. In a shearing machine, the combination of fixed segmental blades spaced apart, a rotary mandrel having spaced circular blades thereon arranged to coöperate with said blades, said mandrel being adapted to receive and support a tubular article thereon, and means to revolve the mandrel in proximity to the fixed blades, to shear the article between said fixed and circular blades.



3. In a shearing machine, the combination of a pair of fixed blades spaced apart, a rotary mandrel having a pair of spaced circular blades thereon arranged to coöperate with said fixed blades, said mandrel being adapted to receive and carry a tubular article thereon, and means to move the mandrel along and in proximity to the fixed blades, to open the article.

4. In a shearing machine, the combination of a pair of fixed blades spaced apart, a rotary mandrel having thereon a pair of spaced circular blades to coöperate with said fixed blades, means to move the mandrel along the fixed blades with its axis transverse to said blades, means to feed tubular articles onto the mandrel before said movement, and means to strip the articles from the mandrel after said movement.

5. In a shearing machine, the combination of segmental fixed blades, a shaft, a head thereon, a mandrel mounted for rotation in the head and having circular blades thereon arranged to coöperate with said blades, the mandrel being free at one end to receive tubular articles thereon over said circular blades, means to rotate the shaft, whereby the mandrel is revolved to bring the article in contact with the segmental blades, and means to rotate the mandrel during such contact.

[Claims 6 to 21 not printed in the Gazette.]

972,829. HOSE-COUPLING. JOHN L. CREVELING, New York, N. Y., assignor to Safety Car Heating and Lighting Company, a Corporation of New Jersey. Filed June 30, 1909. Serial No. 505,160.



1. A hose coupling comprising two like members adapted to be operatively coupled by a downward swinging movement, having independent locking means upon the upper side thereof comprising a boss upon each member, a hook carried thereby and a boss adapted to be engaged by the hook of the opposite member.

2. A hose coupling comprising two substantially like members and means for holding the same in operative relation, combined with locking means comprising a boss upon the upper side of each member, a hook carried thereby and a boss adapted to engage the hook of the other member.

3. A hose coupling comprising a pair of substantially identical members and means carried by each member for engaging the other member so as to hold said members in operative relation to each other, combined with means whereby the members may be retained in said relation

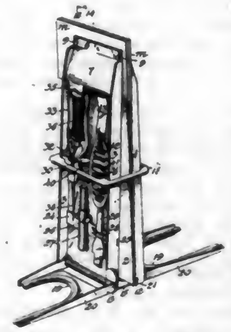
comprising a hook-supporting member carried by each coupling member upon the upper side thereof, a hook carried thereby and a boss upon each member adapted to be engaged by the hook of the other member.

4. A hose coupling comprehending two substantially like members each adapted to engage the other so as to maintain an operative relation therewith and means for preserving said operative relation, comprising a hook carried by a boss upon the upper side of each coupling member and an engaging boss upon the upper side of each coupling member and adapted to be engaged by the hook of the other coupling member.

5. A hose coupling comprehending two substantially like parts adapted to be coupled together by a downward swinging movement in such manner as to form a fluid tight joint between the members, combined with means for holding the members together comprising a boss located above the fluid joint and a hook carried thereby and a boss adapted to be engaged by the hook of the other member.

[Claims 6 to 8 not printed in the Gazette.]

972,830. TOOL-KIT. ALBERT H. DE VOE, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Mar. 19, 1909. Serial No. 484,434.



1. A tool-case formed of reversible separable sections provided with holders for a plurality of tools and each having a work-clamping jaw upon the face thereof farthest from the other, and means whereby said sections may be forced together face-to-face in reversed relation with their clamping jaws opposed to each other.

2. A tool-case formed of reversible separable sections having in their normally adjacent faces tool-embracing cavities together forming a closed tool receptacle and provided upon their opposite faces with outwardly exposed work-clamping jaws, and means whereby said sections may be forced together face-to-face in reversed relation with their clamping jaws opposed to each other.

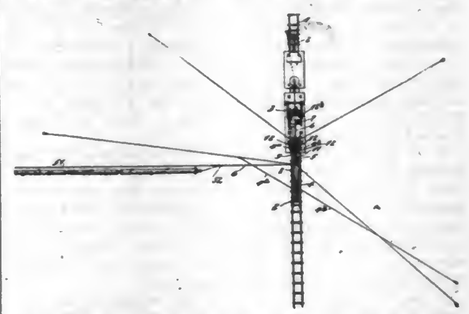
3. A tool-case formed of separable sections each provided upon one face with means for detachably holding a tool and having upon its opposite face a work-clamping jaw, and means whereby said sections may be forced together with their clamping jaws in operative relation.

4. A tool-case formed of reversible separable sections provided in their normally adjacent faces with tool-embracing cavities containing tool-holding means and each formed upon its outer face with a work-clamping jaw, and means whereby said sections may be forced together with their clamping jaws opposed to each other.

5. A tool-case formed of separable sections each provided upon one face with tool-holding means and upon an extremity of the other face with a work-clamping jaw, said sections being hinged together at the opposite end from said jaws, and means whereby said sections may be forced together with their clamping jaws in operative relation.

[Claims 6 to 16 not printed in the Gazette.]

972,831. LOGGING SYSTEM. JOSEPH H. DICKINSON, Montclair, N. J., and WILLIAM A. GILCHRIST, Memphis, Tenn., assignors to Lidgerwood Manufacturing Company, a Corporation of New York. Filed Jan. 5, 1910. Serial No. 536,539.



1. In a logging system, a hauling engine, a yarding engine, and an inhaul operated in one direction by the hauling engine and in the other direction by the yarding engine.

2. In a logging system, a hauling engine, a yarding engine, an inhaul rope operable by the hauling engine to inhaul the logs, and outhauled by the yarding engine.

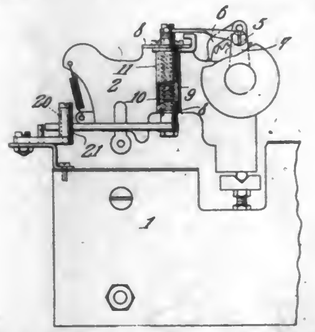
3. In a logging system, a hauling engine, a yarding engine located a distance from the hauling engine, an inhaul rope traversing the space between said engines, an inhaul drum on the hauling engine to inhaul the rope, and an outhaul drum on the yarding engine to outhaul the rope.

4. In a logging system, a hauling engine, a yarding engine located a distance from the hauling engine, and an inhaul and outhaul rope system connected directly to said engines.

5. In a logging system, a hauling engine, a second engine located a distance from the hauling engine, an inhaul drum on the hauling engine, an outhaul drum at the said second engine, and an inhaul rope connected to said drums and traversing the space between said engines.

[Claims 6 to 19 not printed in the Gazette.]

972,832. TYPE-WRITER. CHARLES SUMNER DU BELLE, Williamsport, Pa. Filed Oct. 21, 1908. Serial No. 458,825.



1. In a typewriter, means for automatically causing the actuation of the line spacing mechanism of the typewriter, comprising a member carried by the typewriter carriage and spring constrained toward its inactive position, another member on a fixed portion of the typewriter frame, and means more yieldable than the said constraining means for the carriage sustained member, for permitting the passage of the carriage sustaining member past the fixedly supported member on the movement of the typewriter carriage away from its initial position.

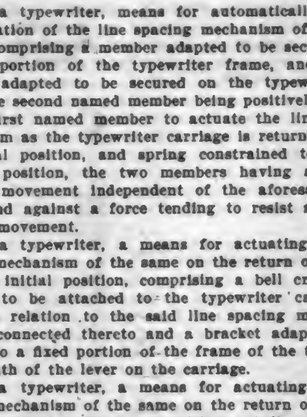
2. In a typewriter, means for automatically causing the actuation of the line spacing mechanism of the typewriter, comprising a member adapted to be secured upon a fixed portion of the typewriter frame, and another member adapted to be secured on the typewriter carriage, the second named member being positively engaged by the first named member to actuate the line spacing mechanism as the typewriter carriage is returned toward its initial position, and spring constrained toward its inactive position, the two members having a relative yielding movement independent of the aforesaid movements and against a force tending to resist such independent movement.

3. In a typewriter, a means for actuating the line spacing mechanism of the same on the return of the carriage to initial position, comprising a bell crank lever adapted to be attached to the typewriter carriage in operative relation to the said line spacing mechanism, a lever connected thereto and a bracket adapted to be secured to a fixed portion of the frame of the typewriter in the path of the lever on the carriage.

4. In a typewriter, a means for actuating the line spacing mechanism of the same on the return of the carriage to initial position, comprising a bell crank lever adapted to be attached to the typewriter carriage in operative relation to the said spacing mechanism, a lever adapted to be mounted on the carriage, a link connection between the lever and bell crank lever, and a bracket adapted to be secured adjustably to a fixed portion of the frame of the typewriter in the path of the lever on the carriage.

5. In a typewriter, a means for actuating the line spacing mechanism of the same on the return of the carriage to initial position, comprising a bell crank lever adapted to be attached to the typewriter carriage in operative relation to the said line spacing mechanism, another lever adapted to be mounted on the carriage, a link connection between the two levers, a spring connected to the second named lever and tending to move it in a direction toward the line spacing mechanism, a plate carrying the second named lever and spring and adapted to be attached to the typewriter carriage, and a bracket adapted to be secured adjustably to a fixed portion of the frame of the typewriter in the path of the lever on the carriage.

972,833. THIN-PLACE DETECTOR FOR FILLING-REPLENISHING LOOMS. LYSZANDER DUNAWAY, Scottdale, Ga., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed June 15, 1908. Serial No. 438,640.



1. The combination, in a loom provided with mechanism to replenish filling automatically, of a thin-place detector, a normally inoperative dog operatively positioned by or through detecting action of said detector and provided with a cam slot means actuated by the dog when operatively positioned to cause the operation of the replenishing mechanism, and a direct connection between the dog and the detector said connection including a rocking arm having an outturned end loosely entering the cam slot, to disengage the latter from the cloth when the dog actuates the means to cause filling replenishment.

2. In a loom, in combination, means to feed the woven fabric forward, a thin-place detector, means operated by or through detecting movement of said detector to permit a rearward movement of the fabric, and means carried by the detector for elevating it above the normal position during such rearward movement of the fabric.

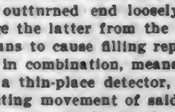
3. In a loom, in combination, means to feed the woven fabric forward, a thin-place detector, means operated by or through detecting movement of said detector to permit a rearward movement of the fabric, and a protector pivotally connected with the detector and normally engaging the fabric at a forward inclination from the pivotal support, whereby in the rearward movement of the fabric said protector will elevate the detector above its normal position.

4. In a loom, in combination, means to feed the woven fabric forward, a thin-place detector including a pivotally-mounted arm and a depending detecting member thereon normally resting on the fabric adjacent the fell, means operated by or through downward movement of said detecting member to permit a rearward movement of the fabric, and a U-shaped protector pivotally mounted on the arm and having its legs depending from said arm and resting on the fabric, said legs normally being inclined in the direction of movement of the fabric, rearward movement of said fabric acting to swing the legs rearward toward an upright position to thereby elevate the arm and said detecting member above the normal position thereof.

5. The combination, in a loom provided with automatic filling-replenishing mechanism, of a thin place detector, and means controlled thereby to cause the operation of the replenishing mechanism by or through detecting action of the detector, said means including a pivotally mounted and longitudinally movable dog having a cam-slot therein, and a member coöperating with the cam-slot and connected with the detector, longitudinal movement of the dog to cause filling replenishment acting through the cam-slot and said coöperating member to elevate the detector from detecting position.

[Claims 6 to 8 not printed in the Gazette.]

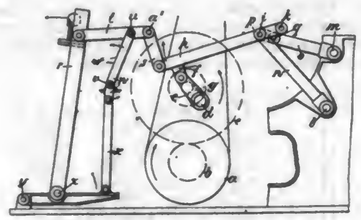
972,834. BUCKLE FOR BALE-TIES. DUDLEY E. EDDLEMAN and JAMES E. ARMSTRONG, Weatherford, Tex., assignors, by direct and mesne assignments, of one-half to said Eddleman and one-half to Ezra A. Frantz, Weatherford, Tex. Filed June 22, 1909. Serial No. 503,702.



A bale tie buckle comprising a wire loop having a straight tie engaging portion, an arm extending perpendicularly from one end thereof, an arcuate arm extending from the other end of said portion toward the perpendicular arm, and a stud extending at right angles from the perpendicular arm and toward the arcuate arm, the said arcuate arm being offset, and the end thereof out of alinement with the stud, and the terminal faces of the arm and stud being disposed in parallel planes, said terminal portions of the buckle being shiftable into alinement and substantially into contact with said stud by a pull upon a tie engaging said terminal portions.

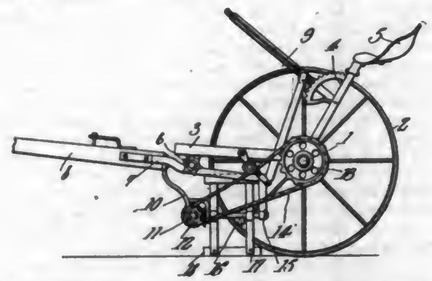
972,835. LAY-MOTION. OSKAR EILHAUER, Neustadt-on-the-Orla, Germany. Filed Aug. 3, 1908. Serial No. 446,809.

1. A device for moving a loom batten, comprising at each end of the batten a link pivoted to said batten, a second link supporting the first-mentioned link, an intermediate crank-actuated toggle attached to the rear end of said first-mentioned link, means for pivotally connecting the end of the rear arm of said toggle to the loom frame, and means for adjusting said first-mentioned means to obtain a single beat of the batten or a double beat of the batten.



2. A device for moving a loom batten, comprising at each end a crank-actuated link with two eyes at the rear end, a pivot, means for supporting said pivot in positions for engagement with said eyes respectively, the rear position being approximately at the same height as the middle of the reed and the other position being about level with the foot of the reed, a second link attached to the batten at one end, a bell crank lever one arm of which supports the second link near its rear end, a stationary pivot for said bell crank lever, a lever having a fixed fulcrum and a bearing for the foot end of the batten, a third link connecting the last-mentioned lever with the other arm of the bell crank lever, and an intermediate link connecting the first and second links.

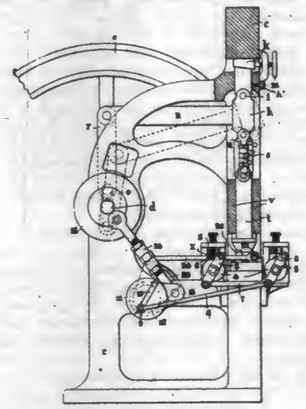
972,836. COTTON-CHOPPER. THOMAS W. FELTON, San Gabriel, Tex. Filed Apr. 7, 1910. Serial No. 553,912.



In combination with a planter structure including a frame, wheels supporting the frame, a tongue frame pivoted thereto, a tongue attached to the forward intermediate portion of the tongue frame, a chopper attachment comprising a bracket detachably applied to the rear portion of the tongue, a laterally disposed shaft journaled to said bracket, means for rotating said shaft from the supporting wheels, a second bracket secured at its ends to the sides of the tongue frame at points in triangular relation to the point of attachment of the first said bracket with the tongue, a second shaft journaled for rotation at the lower parts of both of said brackets, means operatively connecting said shafts together and chopping blades carried by the second mentioned shaft.

972,837. SWAGING-MACHINE. SEBASTIAN ZIANI DE FERRANTI, Grindleford Bridge, near Sheffield, England. Filed July 22, 1907. Serial No. 385,055.

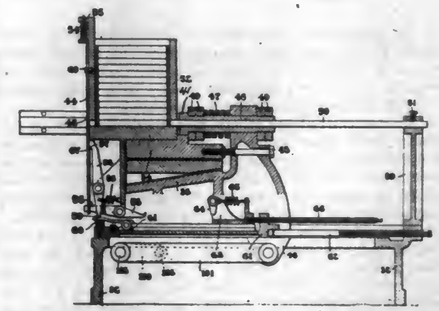
1. In combination in a machine for swaging metal strip, co-acting swaging dies and co-acting clamps for said strip, automatic means for intermittently and positively actuating the same, said means including a rotatable member and separate means connected thereto causing said clamps to hold the strip during the swaging operation, and means for intermittently feeding said strip parallel to itself intermediate of the swaging operations.



2. In combination in a machine for swaging metal strip, co-acting swaging dies and a rotatable member from which said dies are actuated; an oscillatably mounted member and a connection therefrom to said rotatable member; co-acting clamps and means for feeding said strip together with means operated by said oscillatable member for causing said clamps and feeding means to function alternately.

3. In combination in a machine for swaging turbine blade strip, co-acting swaging dies and a rotatable member from which said dies are actuated; co-acting clamps and means for feeding said strip; a connection (14) from said rotatable member to oscillate a crank (11) and a cam piece (29), and means operated from said crank and cam piece respectively for alternately actuating said feeding means and said clamps.

972,838. ELECTRIC WELDING-MACHINE. SEBASTIAN ZIANI DE FERRANTI, Grindleford Bridge, near Sheffield, England. Original application filed Dec. 15, 1905, Serial No. 291,933. Divided and this application filed Feb. 18, 1907. Serial No. 358,048.



1. In a machine for attaching turbine blades to a carrying element and in combination, means for holding blades a magazine for blades means for transferring a blade from said magazine to said holding means, together with means including said holding means for attaching said blade to the carrying element, substantially as described.

2. In a machine for attaching turbine blades to a carrying element and in combination, means for holding blades, a magazine for blades means for transferring a blade from said magazine to said holding means, means for preventing said blade being displaced rearwardly during

welding together with means for attaching said blade to said carrying element, substantially as described.

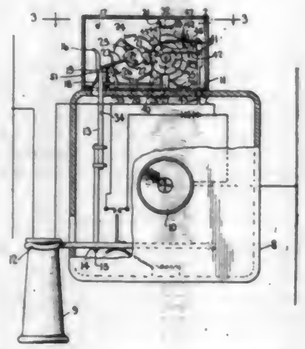
3. In a machine for attaching turbine blades to a carrying element and in combination, means for clamping blades, a magazine for blades means for transferring blades from said magazine to said clamping means, together with means including said clamping means for welding said blades to their carrying elements while held by the clamping means, substantially as described.

4. In a machine for attaching turbine blades to a carrying element and in combination, means for automatically clamping blades, a magazine for blades means for automatically transferring blades from said magazine to said clamping means, and means including said clamping means for welding said transferred blades to the carrying element, substantially as described.

5. In a machine for attaching turbine blades to a carrying element and in combination means for clamping blades, a magazine for blades means for transferring blades from said magazine to said clamping means, means for causing a clamped blade and the carrying element to contact, and means including said clamping means for attaching the blades to said carrying element, substantially as described.

[Claims 6 to 22 not printed in the Gazette.]

972,830. TELEPHONE ATTACHMENT. WILLARD C. FISK and HARRY L. WHITE, Orofino, Idaho. Filed Apr. 14, 1910. Serial No. 555,346.



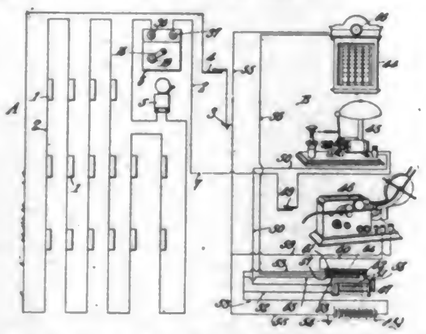
1. An attachment for telephones consisting of an interrupting device connected with the telephone circuit, means connecting the device to the telephone receiver hook, and means to prevent the telephone circuit from being opened until the interrupting device has operated.

2. An attachment for telephones, consisting of an interrupting device connected with the telephone circuit, means for operatively connecting the device to the telephone receiver hook, and locking means between the receiver hook and device operating to prevent the telephone circuit from being opened until the interrupting device has operated.

3. An attachment for telephones, consisting of a rotary interrupting element connected in circuit with the telephone primary circuit, means for rotating said interrupting element, a movable member assembled with the telephone receiver hook for actuating said means, and locking means engaging said movable member when the telephone receiver hook rises for preventing said hook from being lowered to open the circuit before the interrupting element has operated.

4. An attachment for telephones, comprising a casing, a rotary interrupter within the casing connected in parallel with the telephone primary circuit, actuating mechanism operatively connected with said interrupter, a movable arm connected to the telephone receiver hook and operating to actuate said mechanism when the receiver hook is raised, a locking member within the casing, cam means within the casing for actuating said locking member, and a keeper on said movable arm to engage said locking member when the receiver hook is raised to prevent the said hook from being lowered until the interrupter has operated.

972,840. FIRE-ALARM. JOHN E. W. FOGAL, ARTHUR M. CRICHTON, and ARCHIE C. MOWAY, Quincy, Ill., assignors to Quincy Elevator Gate Company, Quincy, Ill. Filed Feb. 18, 1909. Serial No. 478,618.



1. In an electric signal system, a circuit controlling element normally held in closed circuit position and having a normal tendency to move first to open circuit position and then progressively and rapidly to closed circuit position, and signal controlling means released to initial but inactive operation by the opening of the circuit and then rendered active to cause the signals on the reclosing of the circuit by the circuit controlling element.

2. In an electric fire alarm system, a thermostat normally in closed circuit position and having a normal tendency to move first to the open circuit position and then to the closed circuit position, and signal controlling means set into initial but inactive operation by the opening of the circuit and then rendered active to cause the signals on the reclosing of the circuit by the thermostat.

3. In an electric fire alarm system, a thermostat held normally in closed circuit position by an easily fusible material and having a normal tendency to move first to the open circuit position when released and then to the closed circuit position, and signal controlling means set into initial but inactive operation by the opening of the circuit and then rendered active to cause the signals on the reclosing of the circuit by the thermostat.

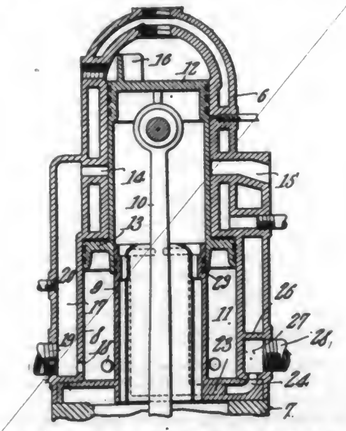
4. In an electric signal system, a means for causing signal impulses on a line comprising a mechanically operated circuit breaker actuated to interrupt the circuit a predetermined number of times, normally energized electrically operated means for holding the said circuit breaker inactive, and means controlled by the circuit breaker for rendering the electrically operated means inactive on the release and subsequent operation of the said circuit breaker.

5. In an electric signal system, a means for causing signal impulses on a line comprising a mechanically operated circuit breaker actuated to interrupt the circuit a predetermined number of times, a normally charged electromagnet for holding said circuit breaker inactive, and a shunt circuit around the electromagnet established and maintained by the said circuit breaker when released from the control of the electromagnet.

[Claims 6 to 12 not printed in the Gazette.]

972,841. INTERNAL-COMBUSTION ENGINE. CHARLES W. FOSTER, New Haven, Conn. Filed Feb. 23, 1910. Serial No. 545,495.

1. In a two-cycle internal combustion engine, a working cylinder having an enlargement, a cylinder extending into the enlargement to form an annular compression chamber between the same and said enlargement, said cylinder having passages opening through its side and connected to a charge forming device, a piston in the working cylinder, said piston having an extension fitting on the second mentioned cylinder, with ports in the extension registering with the ends of the aforesaid passages when the piston is at the end of its inward stroke, a head on the piston extension working in the compression chamber, and a receiver opening into said compression chamber, said receiver having a fuel inlet, and an outlet into the working cylinder.

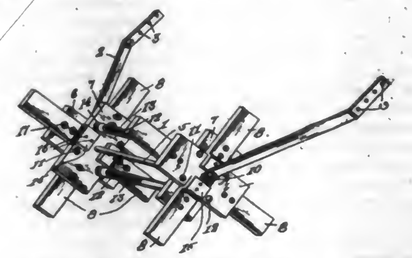


2. In a two-cycle internal combustion engine, a working cylinder having an enlargement, a cylinder extending into the enlargement to form an annular compression chamber between the same and said enlargement, said cylinder being shaped at its lower end to close the corresponding end of the compression chamber, and said cylinder having passages opening through its side, and connected to a charge forming device, a piston in the working cylinder, said piston having an extension fitting on the second mentioned cylinder, and said extension having ports opening into the compression chamber, and registering with the ends of the aforesaid passages at the end of the inward stroke of the piston, a head on the piston extension working in the compression chamber, and a receiver opening into the compression chamber, said receiver having a fuel inlet, and an outlet into the working cylinder.

3. In a two-cycle internal combustion engine, a working cylinder having an enlargement, a cylinder extending into the enlargement to form an annular compression chamber between the same and said enlargement, said cylinder having a base portion extending across the lower end of the compression chamber, and forming a closure for said end, and the wall of said cylinder containing diametrically opposite passages opening through its side, and the base portion of the cylinder having a branched passage connected to a charge forming device, the branches of said passages leading respectively to the first mentioned passages, a piston in the working cylinder, said piston having an extension fitting on the second mentioned cylinder, and said extension having ports opening into the compression chamber, said ports registering with the ends of the aforesaid passages in the cylinder, at the end of the inward stroke of the piston, a head on the piston extension working in the compression chamber, and a receiver opening into the compression chamber, said receiver having a fuel inlet, and an outlet into the working cylinder.

972,842. FENDER FOR CULTIVATORS. GEORGE M. FOSTER, Bryson, Tex. Filed Feb. 21, 1910. Serial No. 545,108.

1. A device of the character described comprising a shaft, hangers at the ends of said shaft, a rotatable fender wheel on said shaft, said wheel having spaced heads, and means for adjusting said heads toward and from each other.



2. A device of the character described comprising a shaft, hangers at the ends of said shaft, a rotatable fender wheel on said shaft, said wheel having spaced heads composed of crossed plates, the latter being formed with openings, fender arms formed with longitudinal series of openings adapted to be placed in alinement with the openings in said crossed plates, and fastenings arranged in said alining openings to adjustably connect said fender arms to the plates.

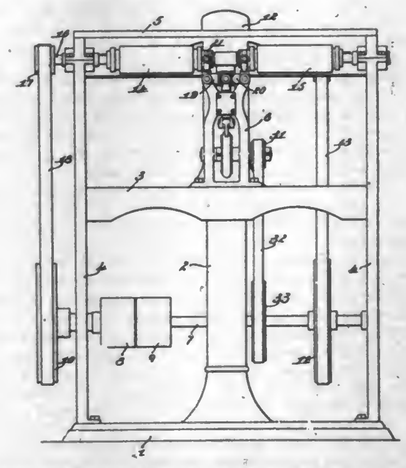
3. A device of the character described comprising a shaft, hangers at the ends of said shaft, a rotatable fender wheel on said shaft, said wheel having spaced heads, said heads being slidable on said shaft, and turn buckles adjustably connecting said heads.

4. A device of the character described comprising a shaft, hangers for the latter, a rotatable fender wheel on said shaft, said wheel having spaced heads, means for adjusting said heads toward and from each other and fender blades or arms radially adjustable on said heads.

5. A device of the character described comprising a shaft, hangers for the latter, a rotatable fender wheel on said shaft, said wheel having spaced heads, turn buckles adjustably connecting said heads and radially extending fender blades or arms connected to said heads.

[Claims 6 and 7 not printed in the Gazette.]

972,843. BUFFING-MACHINE. ALFRED B. FOWLER, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Apr. 23, 1902. Serial No. 104,264.



1. A buffing machine, having, in combination, a buffing roll shaft, a buffing roll mounted to rotate therewith and move longitudinally thereon, means for rotating the shaft, and means for reciprocating the roll, arranged to impart

a complete reciprocation to the roll during a small number of revolutions of the roll substantially as described.

2. A buffing machine, having, in combination, a buffing roll shaft, two buffing rolls mounted to rotate therewith and move longitudinally thereon, means for rotating the shaft, and means for simultaneously reciprocating the rolls in opposite directions, substantially as described.

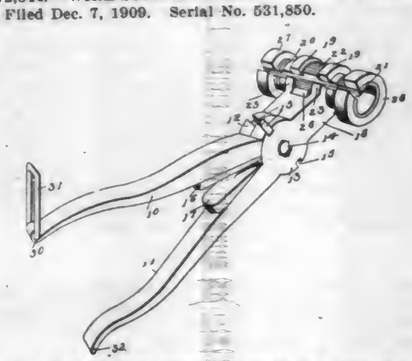
3. A buffing machine, having, in combination, two buffing rolls, means for rotating the rolls, and means for simultaneously reciprocating the rolls in opposite directions, substantially as described.

4. A buffing machine, having, in combination, a buffing roll shaft, two buffing rolls mounted to rotate therewith and move longitudinally thereon, means for rotating the shaft, oppositely disposed bell cranks connecting with the inner ends of the rolls, a slide connecting with the bell cranks, and means for reciprocating the slide, substantially as described.

5. A buffing machine, having, in combination, a buffing roll shaft, two buffing rolls mounted to rotate therewith and move longitudinally thereon, means for rotating the shaft, two levers connecting with the inner ends of the rolls, and means for actuating the levers to reciprocate the rolls simultaneously in opposite directions, substantially as described.

[Claim 6 not printed in the Gazette.]

972,844. WIRE-SPLICER. MARTON FRIDAY, Bluffs, Ill. Filed Dec. 7, 1909. Serial No. 531,850.



1. A wire twisting implement including a head, a socket rotated in said head, fingers carried by said head for holding said socket in position, a ratchet formed centrally upon said socket between said fingers, a pawl mounted in said head and engaged with said ratchet, split rings disposed in threaded relation upon the opposite ends of said socket, said socket having a longitudinal slot formed in one side thereof for the reception of wires therethrough, and shoulders formed upon the inner wall of said socket adjacent the ends of the same.

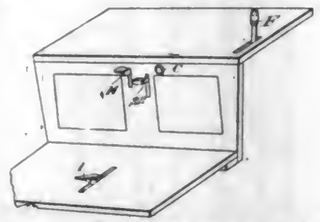
2. A wire twisting implement including a hollow socket, a head rotatably disposed about said socket, a ratchet carried by said socket, a pawl mounted in said head for engagement with said ratchet, fingers carried by said head and curved about said socket to retain the same in position, said socket having a longitudinal opening formed in one side thereof, and split rings engaged in threaded relation upon the opposite ends of said socket.

3. The combination of a head, fingers carried by said head and bent circularly, a socket rotatably disposed between said fingers, a ratchet mounted rigidly on said socket and located between said fingers, and split rings adjustably disposed upon the opposite ends of said socket.

4. A wire twisting implement including a head, a handle carried by said head, a pair of spaced fingers formed upon the outer end of said head and bent circularly, a cylindrical member disposed through said fingers, means disposed upon said cylindrical member and said head for imparting rotation thereto, and wire retaining links adjustably disposed upon the opposite ends of said cylinder.

5. A wire twisting implement including a head, a socket mounted for rotation in the head and having ratchet teeth, said socket also having a longitudinal slot in one side for the reception of a length of wire, a pawl loosely mounted in said head to seat against the teeth to admit of the rotation of the socket in one direction, locking rings carried upon the ends of the socket to secure the wire therein for twisting the same, and a pair of handles carried by the head for swinging the head to effect the rotation of the socket.

972,845. SAFETY-BRAKE AND LOCK-SWITCH MECHANISM FOR ELECTRIC AUTOMOBILES. OLIVER P. FRITCHLE, Denver, Colo., assignor to The Fritchle Automobile and Battery Company, Denver, Colo., a Corporation of Colorado. Filed Dec. 27, 1909. Serial No. 534,972.



1. The combination with a switch-arm of a rake-setting device and a controller mechanism, each having a part engaging the switch-arm to hold it in open position.

2. The combination with a switch-arm of a brake-setting device and a controller mechanism and a lock, each having a part engaging the switch-arm to hold it in open position.

3. The combination of a switch-arm, and a brake-setting device comprising an operating rod having an arm to hold the switch-arm open when the brake is set, and arranged to be disengaged therefrom when the brake is released.

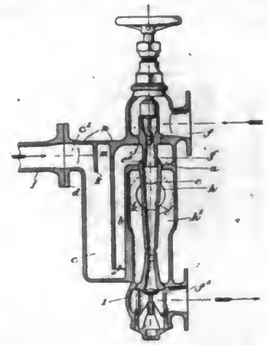
4. The combination of a switch-arm, and a brake-setting device comprising an operating rod having an arm to hold the switch-arm open when the brake is set, a controller-mechanism comprising a handle and having a holding device to engage the switch-arm and mechanism connected to the controller handle for disengaging such holding device.

5. A safety device for electric automobiles, comprising a switch-arm, a spring-pressed hook engaging the arm, a controller-mechanism having a handle and connections therefor to disengage the hook when the controller is in off position, a brake setting device, an operating rod therefor, and an arm connected to said rod to operate the switch-arm to open the switch.

972,846. INJECTOR. GUSTAV FUSCH, Hanover, Germany, assignor to Schutte and Koerting Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Dec. 16, 1907. Serial No. 406,610.

1. The combination with an injector having a steam and water mixing nozzle and a suction chamber in communication with said mixing nozzle, of a storage reservoir, in close proximity to the suction chamber, through which the water passing to the suction chamber is drawn in normal operation, and having an inlet adapted to be connected to the source of water supply and an outlet at its lower end, and a relatively short conduit leading from said outlet to the suction chamber.

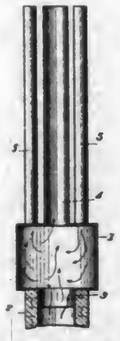
2. The combination with an injector having a steam and water mixing nozzle and a suction chamber in communication with said mixing nozzle, of a storage reservoir in close proximity to the suction chamber, a relatively short conduit leading from the lower end of said reservoir to said mixing nozzle, said reservoir having a water inlet adapted to be connected to the source of water supply, and opening to the reservoir substantially above the lower end thereof, and having also provision by which an air pocket is formed in the upper end of said reservoir.



3. The combination in an injector having a mixing nozzle *e* and a suction chamber *a*, of the reservoir *c* having the water inlet *c'*, the conduit *b* leading from the lower end of the reservoir *c* to the suction chamber *a*, and the partition *k* in its upper end whereby the air pocket *m* is provided in the upper end of said reservoir.

4. The combination in an injector having a mixing nozzle *e* and a suction chamber *a*, of the reservoir *c* having the water inlet *c'*, the conduit *b'* leading from the lower end of the reservoir *c* to the suction chamber *a*, the partition *k* in its upper end whereby the air pocket *m* is provided in the upper end of said reservoir, and the restricted ports *m'* leading from the reservoir adjacent the mouth of the air pocket to the suction chamber *a*.

972,847. DEVICE FOR INCREASING THE DRAFT OF CHIMNEYS AND FOR OBTAINING DRAFT WITH BAD CHIMNEYS. GUILLAUME GEESSELS, Brussels, Belgium. Filed Mar. 30, 1908. Serial No. 424,228.



1. In a device for increasing the draft of chimneys the combination with the upper end of the chimney, of a box having a greater diameter than the passage of the chimney, means for securing the said box to the chimney, a central pipe mounted upon the upper wall of the said box and having a smaller diameter than the passage of the chimney and a plurality of vertical pipes having a smaller diameter than the said central pipe and secured to the said top wall of the box around the said central pipe, substantially as and for the purpose set forth.

2. In a device for increasing the draft of chimneys, the combination with the upper end of the chimney, of a box communicating with said chimney, a central pipe mounted on the upper wall of said box and having a smaller diameter than the passage of the chimney and a plurality of vertical pipes having a smaller diameter than the said central pipe and secured to the said top wall of the box around the said central pipe, substantially as and for the purpose set forth.

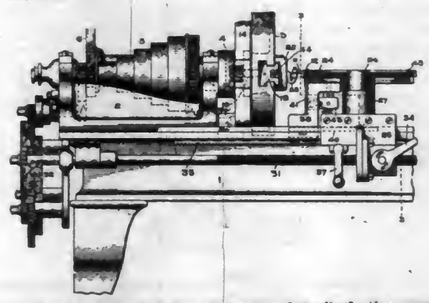
3. In a device for increasing the draft of chimneys the combination with the upper end of a chimney of a cylindrical box having a greater diameter than the chimney passage, a lower tubular extension secured to the said box and adapted to engage the said chimney opening, a central vertical pipe having a lesser diameter than that of the said chimney passage and secured to the upper wall of the said box, a plurality of vertical pipes having a smaller diameter than the central one and secured in the said upper wall of the box so as to surround the central pipe and to project into the said box, substantially as and for the purpose described.

4. In a device for increasing the draft of chimneys, the combination with a reservoir connected with the chimney, a main outlet pipe connected with said reservoir, and a plurality of auxiliary pipes connected with said reservoir, substantially as and for the purpose set forth.

5. In a device for increasing the draft of chimneys, the combination with a reservoir connected with the chimney and having a cross-sectional area exceeding the cross-sectional area of said chimney, a main outlet pipe connected with said reservoir, a plurality of auxiliary pipes connected with said reservoir, substantially as and for the purpose set forth.

[Claims 6 to 15 not printed in the Gazette.]

972,848. MACHINE FOR CUTTING TURBINE VANES OR BUCKETS. HENRY GEISENHÖNER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Jan. 27, 1902. Serial No. 91,329.



1. In a machine of the character described, the combination of a work-holder which presents the surface of the work to be cut edgewise to the tool, a tool for forming the slots by successive cuts, a tool-holder, a means for rotating the tool-holder, and a means for imparting an orbital motion to the tool-holder, the tool being arranged to pass through the work in the direction of the width of the bucket, whereby it is maintained out of engagement with the work during a part of each revolution.

2. In a machine of the character described, the combination of a work-holder which presents the work edgewise to the tool, a tool for forming the passages by successive cuts across the peripheral face of the blank, a tool-holder, the axes of the work- and tool-holders being located in planes substantially at right angles to each other, means for continuously rotating the tool-holder in one direction, thereby causing it to pass through the peripheral face of the blank, and means for moving the tool and its holder laterally with respect to the work during the idle portion of its stroke so as to clear the work and return to an operative position.

3. In a machine of the character described, the combination of a tool for forming the passages by a succession of cuts, a tool-holder, a shaft for rotating the tool-holder, a support which holds the blank in a plane at right angles, or substantially so, to the path of movement of the

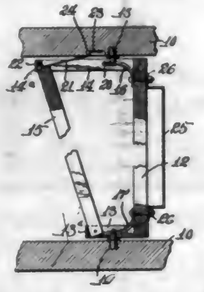
tool-holder, and a cam which imparts an orbital motion to the tool-holder at substantially right angles to the plane of the work so that the tool will clear the work during a portion of its stroke.

4. In a machine for cutting curved slots in the edge of metal blanks, the combination of a tool arranged to form the passages by successive cuts from one side of the blank to the other, a tool-holder, a revolving head upon which the tool-holder is mounted in a manner to have independent movement, a cam for moving the tool across the edge of the blank and also for moving the tool-holder toward and away from the center of revolution of the head, a rotatable support which presents the blank edgewise to the tool and at right angles to the tool, or substantially so, and means for locking said support while the tool is cutting.

5. In a machine of the character described, the combination of a tool, a tool-holder, a pivotally supported head which carries the holder, a cam for causing the path of the tool to vary from a true circle, said cam constructed and arranged to cause the tool to enter and leave the work on a path of large radius and to travel in a path of different curvature while passing through the center portion of the work, a work-holder which supports the work in a plane substantially at right angles to that of the tool and presents the blank edgewise to the tool, and means for feeding the tool and work-holder with respect to each other.

[Claims 6 to 13 not printed in the Gazette.]

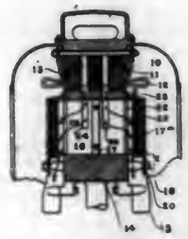
972,849. STANCHION. ROBERT M. GLOR, Attica, N. Y. Filed Nov. 28, 1908. Serial No. 464,916.



In a stanchion, top and bottom members, a stanchion frame pivotally mounted between said top and bottom members, said frame comprising an upright, laterally extending members at the top and bottom of said upright, each of said laterally extending members consisting of parallel arms, a locking bar pivoted within the lower arms and slidable within the upper arms, a removable bolt rotatable in the upper arms and having one end formed into a handle, and a metal plate fixed to said bolt and having an offset end, said offset end adapted to be pressed into a recess in the top stanchion member when the locking bar is swung open, said locking bar being engaged by the under face of said plate and wedged in position and said offset end adapted to engage the end of said bar when the latter is closed.

972,850. ROTARY FIELD MEMBER OF DYNAMO-ELECTRIC MACHINES. ALEXANDER M. GRAY, Milwaukee, Wis., assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed May 13, 1909. Serial No. 495,759.

1. In a dynamo-electric machine, a rotary field member comprising a frame having outwardly projecting field magnets and at the sides ventilating fans or blowers, said field magnets comprising poles having radial ventilating passageways and field coils having portions which project laterally beyond the frame and are spaced from the poles, forming between the poles and coils air spaces which communicate with the radial ventilating passageways in the core so that air will be forced by said fans into the spaces between the coils and the poles and thence through said radial passageways in the poles.



2. In a dynamo-electric machine, a rotary field member comprising a frame having projecting field magnets and fans or blowers at the sides of the frame, said magnets comprising poles having radial air passageways and coils which are spaced from the poles forming between the latter and the coils air spaces, portions of the coils projecting laterally beyond the sides of the frame so that air will be forced by said fans into the spaces between the poles and the laterally projecting portions of the coils, thence around the poles, and thence through said radial passageways in the poles.

3. In a dynamo-electric machine, a rotary field member comprising a frame having at the sides fans or blowers and having projecting field magnets comprising field poles having ventilating passageways and field coils which surround the poles and are spaced therefrom so as to form between the poles and coils air spaces which extend about the poles, the end portions of the coils projecting beyond the sides of the frame so that air may be forced by said fans outwardly between the coils and the poles and will thence escape through said passageways in the poles.

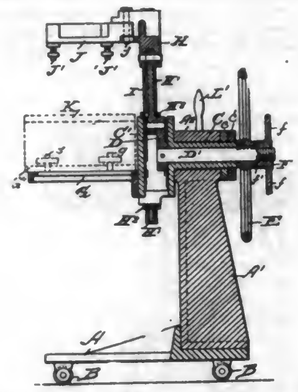
4. In a dynamo-electric machine, a rotating field member comprising a frame having projecting field magnets and blowers at the sides of the frame including fan blades and coil supporting rings which are spaced from the sides of the rim, said field magnets comprising poles having radial ventilating passageways which extend in the plane of rotation, and field coils, the sides and ends of the coils being spaced from the poles and the ends resting on said rings of the blowers so that air may be forced outward by the fans between the ends of the coils and the poles and thence may pass freely around the poles and emerge from the latter through the radial passageways thereof.

5. In a dynamo-electric machine, a stator, a rotary field member comprising a frame having projecting field magnets and having at the sides fan blades and coil supporting rings which are spaced from the frame, said field magnets including field poles having radial ventilating passageways and coils which are spaced from the poles on all sides and have end portions which extend beyond the frame and rest upon the rings, the spaces between the coils and the poles providing free passageways for the air which is forced by the fans outwardly along the sides of the rim into the spaces between the coils and poles, around to the sides of the poles, and thence outward into the stator through the radial ventilating openings in the poles.

[Claim 6 not printed in the Gazette.]

972,851. MOLDING-MACHINE. GEORGE L. GRIMES, Detroit, Mich. Filed Feb. 4, 1910. Serial No. 541,984.

1. In a molding machine, a supporting frame provided with a suitable bearing, a rotating head having an annular trunnion mounted in the bearing, said head having a projecting platform to receive and support a flask, an adjustable frame provided with guide bars adapted to slide in said head and also provided with projecting arms adapted to bear upon the top of the flask, a shaft sleeved in the trunnion and provided with a crank arm at one end, a pitman connecting the crank arm and adjustable frame, and means for rotating said head.



2. In a molding machine, a supporting frame provided with a suitable bearing, a rotating head having an annular trunnion mounted in the bearing, said head also provided with a projecting platform to support a flask, an adjustable frame provided with guide bars adapted to slide in the rotating head, said frame also provided with arms adapted to bear upon the flask, a shaft sleeved in the trunnion provided at one end with means for raising and lowering said frame, a hand wheel keyed to the shaft whereby the same may be rotated, and means for locking said shaft against rotation.

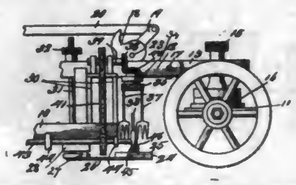
3. In a molding machine, a supporting frame provided with a suitable bearing, a rotating head having an annular trunnion mounted in the bearing, said head having a projecting platform to receive and support a follow-board and flask, an adjustable frame provided with guide bars adapted to slide in said head and also provided with projecting arms adapted to bear upon the top of the flask, a shaft sleeved in the trunnion and provided with a crank arm at one end, a pitman connecting the crank arm and adjustable frame, and means for rotating said head.

4. In a molding machine, a supporting frame provided with a suitable bearing, a rotating head having an annular trunnion mounted in the bearing, said head having a projecting platform to receive and support a follow-board and flask, an adjustable frame provided with guide bars adapted to slide in said head and also provided with projecting arms adapted to bear upon the top of the flask, a shaft sleeved in the trunnion and provided with a crank arm at one end, a pitman connecting the crank arm and adjustable frame, means for securing the rotating head and its projecting platform in its initial and subsequent positions, and means for securing said adjustable frame with its projecting arms in its initial and subsequent positions.

5. In a molding machine, a supporting frame provided with a suitable bearing, a rotating head having an annular trunnion mounted in the bearing, said head also provided with a projecting platform to support a flask, an adjustable frame provided with guide bars adapted to slide in the rotating head, swinging arms pivoted to said frame, a shaft sleeved in the trunnion provided at one end with a crank arm and threaded at the other end to receive a locking nut, a pitman connecting the crank arm with the adjustable frame, a hand wheel keyed to the shaft adjacent to the end of the trunnion, and a locking nut mounted on the end of the shaft adapted to draw said crank arm into frictional locking relation with the rotating head and also force the hub of the hand wheel into frictional locking relation with the end of the trunnion.

[Claims 6 to 8 not printed in the Gazette.]

972,852. CUTTING APPARATUS. JOSEPH GUZOWSKI, Chicago, Ill. Filed May 13, 1908. Serial No. 432,576.



1. The combination with a support and cutting apparatus carried thereby, of an upright projecting above and extending substantially the entire length of the cutting apparatus, and means movable around said upright and across said apparatus for removing the cut portions.

2. The combination with a support and a cutter reciprocably mounted on said support, of an upright projecting above the cutting apparatus, and means movable around said upright and across said apparatus for removing the cut portions.

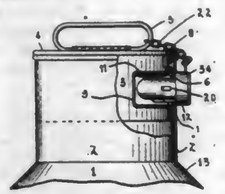
3. The combination with a support and a cutting apparatus carried thereby, of an upright projecting above and extending substantially the length of the cutting apparatus, means movable around said upright and across said apparatus for removing the cut portions, and means for adjusting said apparatus with respect to the support.

4. The combination with a support and a cutting apparatus carried thereby, of an upright projecting above and extending substantially the length of the cutting apparatus, means movable around said upright and across said apparatus for removing the cut portions, and means for adjusting said apparatus with respect to the last said means, and also with respect to the support.

5. The combination with a support and cutting apparatus carried thereby, of an upright projecting above the cutting apparatus, an endless belt movably supported above said cutting apparatus, and means depending from said belt for removing the cut portions.

[Claims 6 to 14 not printed in the Gazette.]

972,853. MILK-CAN LOCK. HAROLD H. HAMBRY and GEORGE MCCANS, Donora, Pa. Filed Apr. 29, 1910. Serial No. 558,360.

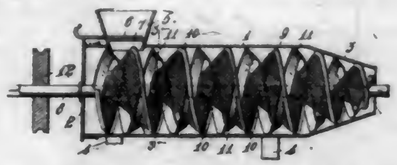


1. A lock comprising a shell, a plug movably mounted in said shell, tumblers carried by said plug and adapted to be projected through said shell to engage the inner walls, means in connection with said plug for locking said plug within said shell, said means including spring actuated latches movably mounted in said plug, and a key adapted to retract said latches.

2. A lock of the type described embodying a shell, a spring pressed plug movably mounted in said shell, pivoted tumblers carried by said plug and adapted to be projected from the walls of said shell, and means carried by said plug and adapted to lock said plug within said shell.

3. A lock of the type described embodying a shell, a spring pressed plug movably mounted in said shell, pivoted tumblers carried by said plug and adapted to be projected from the walls of said shell, means carried by said plug and adapted to lock said plug within said shell, said means including spring pressed latches having the confronting ends thereof overlap and provided with a key opening.

972,854. CORN-POPPER. FRED H. HAMBICK, Shawnee, Okla. Filed Feb. 7, 1910. Serial No. 542,463.



1. In a corn popper of the character described, a cylindrical casing, a double spiral conveyer revolubly mounted therein, and comprising a foraminous blade arranged to feed the popped kernels of corn toward the discharge end of the casing, and an imperforate blade arranged to hold the unpopped kernels of corn back in the casing, both of said blades being substantially coextensive in length with said casing.

2. In a corn poppet of the character described, a cylindrical casing having a feed opening, a double spiral conveyer revolubly mounted in said casing, and comprising a foraminous blade arranged to feed the popped kernels of corn toward the discharge end of the casing, and an imperforate blade arranged through said foraminous blade and adapted to hold back the unpopped kernels of corn in the casing, both of said blades being substantially coextensive in length with said casing.

3. In a corn popper, a cylindrical casing having a double spiral conveyer revolubly mounted in the casing, and comprising a shaft, a wire netting blade arranged spirally thereon for feeding the popped kernels of corn toward the discharge end of the casing, and an imperforate blade consisting of a strip of sheet metal running through said wire netting blade in a reverse direction thereto and in position to form a series of pockets in connection with the wire netting blade, whereby the kernels of corn will be caught and carried around and the unpopped kernels of corn caused to drop back through the wire netting blade while the popped kernels are carried forward, thereby, to the discharge end of the casing, both of said blades being substantially coextensive in length with said casing, and means whereby the conveyer is revolved in said casing.

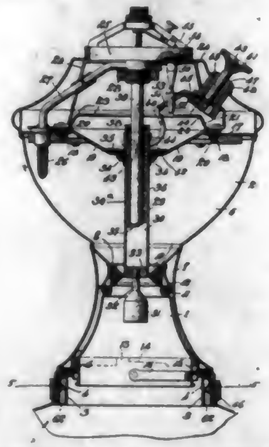
4. A corn popper comprising a cylindrical casing, a foraminous spiral blade revolubly mounted in said casing, and an imperforate blade of less width than said foraminous blade wound in an opposite direction to said foraminous blade and arranged to retard the progress of the unpopped kernels of corn, both of said blades being substantially coextensive in length with said casing.

972,855. ACETYLENE-GAS GENERATOR. WILLIAM W. HARRIS, Bridgeport, Conn., assignor to Acetylene Lamp Company, New York, N. Y., a Corporation of New York. Filed Oct. 30, 1907, Serial No. 399,907. Renewed Sept. 1, 1910. Serial No. 580,084.

1. An acetylene gas generator comprising a water holder, a carbid holder, means within the carbid holder adapted to be reciprocated in response to changes in gas pressure, a tubular valve rod carrying a valve at its lower end, and connected to said reciprocable means, said valve rod being closed below the reciprocable means to prevent access of gas to its interior, and means within said tubular valve rod to depress the reciprocable means when the gas pressure is reduced.

2. An acetylene gas generator comprising a water holder, a carbid holder, a diaphragm secured within the carbid holder, a tubular valve rod connected to said diaphragm, said valve rod being hermetically sealed below said diaphragm to prevent access of gas to the interior thereof, and means within said valve rod to normally depress the diaphragm and the valve.

3. An acetylene gas generator comprising a water holder, a carbid holder above the water holder, means within the carbid holder and exposed to the gas pressure therein and adapted to be reciprocated by changes in gas pressure, a tubular valve rod connected to said reciprocating means and extending downwardly through the carbid holder, said valve rod being of uniform cross sectional area throughout its length below the reciprocating means, a rigid valve carried by said valve rod at the lower end thereof, the lower end of said rod being closed to prevent access of gas therein, and a guiding means rigidly supported above the reciprocating means and extending downwardly into the valve rod a suitable distance.

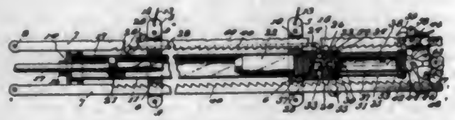


4. An acetylene gas generator comprising a water holder, a carbid holder above the water holder and exposed to the gas pressure therein, a valve rod connected to the diaphragm and extending downwardly through the carbid holder and adapted to contact with the carbid therein, said rod being of uniform cross sectional area below the diaphragm, a rigid valve connected to the lower end of said rod, a stationary guiding means arranged centrally above the diaphragm and extending into the valve rod a suitable distance, the lower end of said valve rod being closed to prevent access of gas therein.

5. An acetylene gas generator comprising a water holder, a carbid holder above the water holder, a diaphragm adapted to be moved in one direction by gas pressure, means operating on the diaphragm in opposition to the gas pressure, a two-part valve connected to said diaphragm and adapted to reciprocate therewith, said parts being of uniform cross sectional area and connected together by a reduced part, the upper part of the valve extending through the carbid holder and being of uniform cross-sectional area throughout, whereby said valve may be readily reciprocated through the carbid in said holder and the inner protecting housing dispensed with.

[Claims 6 to 23 not printed in the Gazette.]

972,856. STAY-BOLT BREAKER. CHARLES HARTER, Barberton, Ohio, and JOHN W. SMALL, Los Angeles, Cal. Filed Feb. 11, 1910. Serial No. 543,408.



1. A stay bolt breaker including a cylinder, a cutting or breaking tool, a fluid actuated projectile for operating said tool, means including pawl and ratchet mechanism for feeding the machine forward, and means for retracting the machine.

2. A stay bolt breaker including a cylinder, a cutting or breaking tool, a fluid actuated projectile for operating said tool, means including pawl and ratchet mechanism for feeding the machine forward with a step by step movement, and means for retracting the machine.

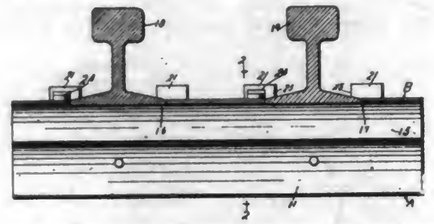
3. A stay bolt breaker having means for attachment to a boiler and including a cylinder having spaced ports, a cutting tool, a fluid actuated projectile for operating the cutting tool, means including pawl and ratchet mechanism for feeding the machine forward with a step by step movement, and a valve for admitting fluid under pressure to the rear of the projectile when the valve is in one position and to the front of the projectile to retract the latter when the valve is in another position.

4. A stay bolt breaker including spaced guides for attachment to a boiler, a cylinder slidably mounted between the guides, a cutting tool, a fluid actuated projectile slidably mounted within the cylinder for actuating the cutting tool, means including pawl and ratchet mechanism for feeding the cylinder forward with a step by step movement, and means for retracting the cylinder.

5. A stay bolt breaker including a plurality of spaced yokes, guides carried by the yokes and having means for attachment to a boiler, a longitudinally movable cylinder mounted for rotation in the yokes, a cutting tool, a fluid actuated projectile for operating the cutting tool, means including pawl and ratchet mechanism for feeding the cylinder forward in the direction of the work with a step by step movement, and means for retracting the cylinder.

[Claims 6 to 20 not printed in the Gazette.]

972,857. RAILROAD-TIE. JOHN HEINONEN, Brush Prairie, Wash. Filed June 7, 1910. Serial No. 565,463.



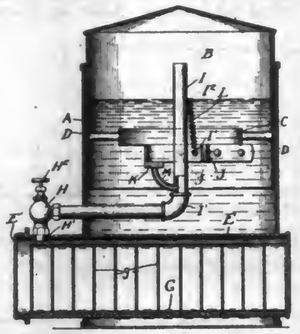
1. A railroad tie comprising a base section constructed of a piece of sheet metal bent to form upwardly diverging sides and a top member disposed upon and between the free edges of said sides and having its terminals bent downwardly and extending contiguous to the respective sides of said base member.

2. A railroad tie comprising a base section constructed of a piece of sheet metal bent to form upwardly diverging sides and a top member disposed upon and between the free edges of said sides and having its terminals bent downwardly and extending contiguous to the respective sides of said base member and having transverse grooves formed in the top face thereof for the reception of the rail base.

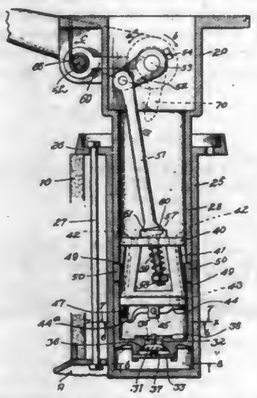
3. A railroad tie comprising a base section constructed of a piece of sheet metal bent to form upwardly diverging sides, a top member disposed upon and between the free edges of said sides and having its terminals bent downwardly and extending contiguous to the respective sides of said base member, and cross braces disposed at intervals within the assembled tie, each of said cross braces being formed of a pair of connected metal plates having a shape corresponding to the cross section of the tie and their edges oppositely bent to form flanges.

972,858. APPARATUS FOR GENERATING ACETYLENE GAS. SAMUEL F. HODGES and WILLIAM H. LEE, Nocona, Tex. Filed Jan. 20, 1910. Serial No. 539,063.

In an apparatus for generating acetylene gas the combination with the reservoir, gas holder, and generator with the annulus constructed as herein shown and described, and located centrally within said holder, and braces for securing the annulus to the inner walls of the same, and the periphery of the annulus, a water and gas pipe formed with a vertical and horizontal section, a union uniting said sections, a short curvilinear pipe secured to and projected from the lower end of the vertical section, a cock secured to the forward end of the generator for regulating the flow of water from the reservoir to the gas generator, a water valve lever looped about and pivoted on said water and gas pipe, a valve secured to the underside of the lever, a coiled spring connecting the valve lever and the vertical section of water and gas pipe, all constructed, arranged and operating substantially as and for the purposes set forth.



972,859. ADJUSTABLE CHAIR. ANTON N. HORNUNG, Chicago, Ill. Filed Nov. 11, 1908. Serial No. 462,1[illegible]



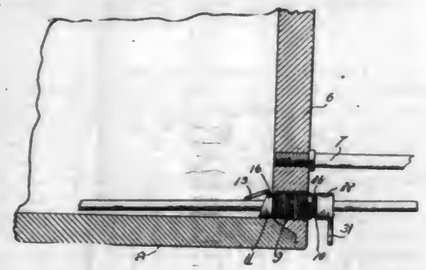
1. In an adjustable chair, having tilting parts, in combination, a main shaft, a hydraulic pump operatively connected with said main shaft, an auxiliary shaft, a clamp controlled by said auxiliary shaft for controlling said tilting parts, and means whereby said main shaft may affect said auxiliary shaft during part of its operation.

2. In an adjustable chair, having tilting parts, in combination, a hydraulic pump for raising the chair, an operating shaft, yielding connection between said shaft and said pump, a clamp for controlling said tilting parts, an auxiliary shaft for operating said clamp, and means whereby said operating shaft may actuate said auxiliary shaft to operate said clamp against the tension of said yielding connection.

3. In an adjustable chair having tilting parts, in combination, a hydraulic pump for raising the chair, an operating shaft, an operating lever therefor, yielding connection between said shaft and said pump, a rod extending from said tilting parts, a clamp for said rod, an auxiliary shaft for operating said clamp, means for posi-

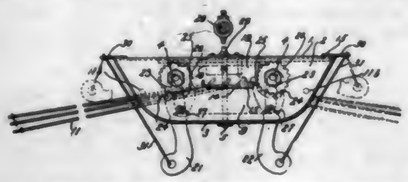
tively limiting the movement of said pump, and means whereby said operating shaft may actuate said auxiliary shaft to affect said clamp to release said rod after said pump has come to rest.

972,860. DRAIN-PIPE INLET. WILLIAM HOTELING, Oblong, Ill. Filed Oct. 1, 1909. Serial No. 520,550.



A device of the character described comprising a tubular member, a valve carried by said member and constantly tending to close the bore thereof at one end, the other end of said member being reduced exteriorly and internally and forming a shoulder within the bore of said tubular member, threads formed on the outer face of said reduced end, a compressible annular member within said reduced end disposed against said shoulder and having the opening therethrough of less diameter than the bore of the member, a follower slidingly mounted within said reduced end for movement toward and away from said compressible member and having a length in excess of the distance from the outer face of the compressible member to the outer end of the reduced end of the tubular member, a cap mounted for travel on the threaded outer face of the reduced end of the tubular member and adapted to engage the outer end of the follower to slide same against the compressible member, and a handle carried by said cap for manually rotating same.

972,861. MUSIC-LEAF TURNER. ANTON HOYER, Chicago, Ill. Filed Apr. 24, 1909. Serial No. 491,997.



1. A music leaf turner comprising arms adapted to be secured to music leaves, means for supporting said arms, an actuating finger adapted to successively operate said arms when moving in either direction, a rack supporting said finger, gears meshing with said rack, means for operating each gear, and means for locking said gears from reverse movement while the operating means is returning to normal position.

2. A music leaf turner comprising a casing having an opening in the front side thereof, a plurality of arms journaled in said casing and protruding from said opening, a fork on the inner end of each arm, a rack slidably mounted in the casing, a forwardly directed finger thereon adapted to engage said forks and operate the arms in succession, a pair of gears journaled in the casing and each having engagement with said rack, levers pivoted in the casing, one adjacent each gear and having teeth thereon adapted to mesh with and operate the gear, and means for independently operating said levers.

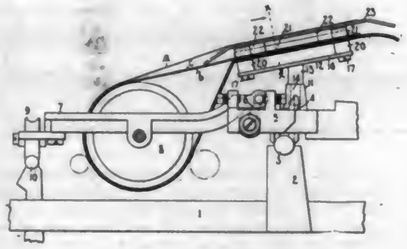
3. A music leaf turner comprising a casing having an elongated opening in one side thereof, a plurality of leaf arms protruding from said opening and each having a downturned inner end, means providing journal bearings for said inner ends, a fork on each arm within the casing, an actuating finger adapted to successively engage said forks, a movable rack mounted in the casing, gears meshing with said rack, levers mounted adjacent said gears and having teeth thereon adapted to mesh with the gear teeth and each adapted to operate one of said gears and thereby swing said arms in one direction.

4. A music leaf turner comprising a casing, a plurality of arms pivoted therein, a fork on each arm, an actuating finger adapted to engage said forks and successively operate the arms, a rack adapted to bring said forks and finger into successive operative engagement with each other, a pair of gears engaging said rack, and means for operating said gears independently of each other.

5. A music leaf turner comprising a casing having an opening in one side, leaf arms protruding from said opening and having their inner ends journaled in the casing, a fork on the inner end of each arm, a movable rack in the casing, a finger on said rack adapted to engage said forks in succession, a pair of shafts mounted in the casing, a gear journaled on each shaft and meshing with said rack, a lever adjacent each gear and having teeth thereon adapted to mesh with the gear teeth, links connecting each lever with the adjacent shaft, and means for operating said levers.

[Claim 6 not printed in the Gazette.]

972,862. TYPE-WRITING MACHINE. OSCAR L. INGRAM, Walla Walla, Wash., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Jan. 16, 1908. Serial No. 411,115.



1. In a typewriting machine, the combination of a platen, a paper table, the forward edge of which is at the rear of the platen, and means which permit portions of sheets in the machine to be transferred from above the paper table to a position below the paper table.

2. In a typewriting machine, the combination of a carriage, a rotative platen, a paper table at the rear of the platen and which supports the paper as it is being fed forward to the platen for printing, and means which permit printed portions of sheets advanced beyond the platen to be arranged part below the paper table and part on top of the paper table.

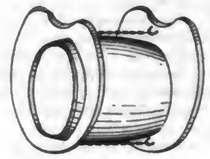
3. In a typewriting machine, the combination of a carriage, and an erasing plate movably mounted on the carriage to swing to a position where certain of superposed sheets may be placed under the erasing plate and another of said sheets placed on top of said erasing plate.

4. In a typewriting machine, the combination of a carriage, a platen, and a paper table pivoted at one end only to said carriage and adapted to be swung laterally and longitudinally of the platen.

5. In a typewriting machine, the combination of a carriage, a rotative platen, and a laterally swinging paper table pivoted at one end only to the carriage and in rear of the platen so that sheets as they pass from the platen may be placed some above and some below the paper table.

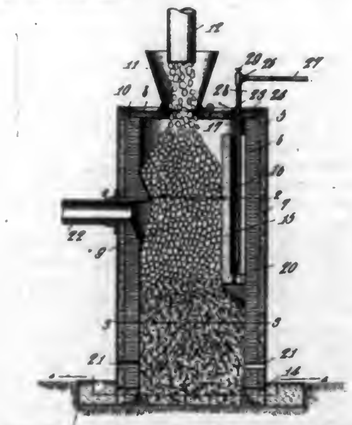
[Claims 6 to 23 not printed in the Gazette.]

972,863. COLLAPSIBLE STAND FOR LIFTING BARRELS, BOXES, AND THE LIKE. JOHN BRADFORD JAMES, Ely, England. Filed Dec. 24, 1908. Serial No. 469,142.



A collapsible support for barrels or the like, comprising two spaced face pieces adapted to fit over the ends of a barrel, the upper half of the face pieces being circular in outline, the lower half having a cutout portion forming two supporting feet, and chains connecting the face pieces substantially as described.

972,864. METHOD OF PRODUCING GAS. EDMUND G. JEWETT, Bellingham, Wash. Filed Mar. 6, 1908. Serial No. 419,583.

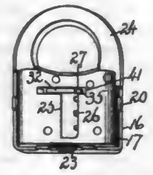


A method of producing gas which consists in blasting a bed of fuel to incandescence, and simultaneously distilling a superposed body of fuel, and carrying the distilled and separated matter successively into contact with an excess of oxygen, to burn the same and then injecting said hot products of combustion by a steam blast, into the incandescent body of fuel from which the distilled matter has been previously expelled, whereby substantially complete combustion of the said distilled and separated matter is first effected, and the products of said combustion, together with the excess oxygen are injected into said incandescent body of fuel, the combustion of the distilled and separated matter taking place in a chamber inclosed by and communicating at its opposite ends with the chamber containing the incandescent bed of fuel.

972,865. LOCK. CHARLES E. JOHNSON, New Britain, Conn., assignor to The Corbin Cabinet Lock Company, New Britain, Conn., a Corporation of Connecticut. Filed Jan. 19, 1909. Serial No. 473,052

1. A lock including a container formed in sections having flat meeting surfaces with recesses opening depthwise from said meeting surfaces, said recesses being provided for lock mechanism, lock mechanism located within the container, and means for securing the sections of the container together.

2. A case formed to completely inclose a container, a container formed in sectional halves to completely fill the case and provide a support therefor at all points, said container having openings and recesses located at the meeting faces of the sectional halves, lock mechanism located within said openings and recesses, and means for holding the retainer in place.



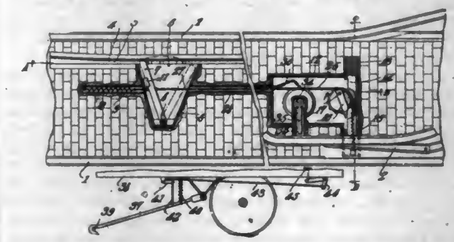
3. A lock case formed to inclose a container, a container formed in sections having an unbroken outer surface resting against the entire inner surface of the case and fitting snugly therein and with a meeting surface between the sections forming a complete support for the sections one against the other with recesses located in the meeting surfaces of the sections, lock mechanism located within the container, and means for securing the container within the case.

4. A container for a lock including two sections having flat meeting surfaces, said sections having a key chamber and an actuator chamber and a bolt chamber formed at their meeting faces, and wards projecting from each of the sections into the key chamber.

5. A container for a lock including sections formed to closely fit each other, said sections having a key chamber located at their meeting faces, and a plural number of wards projecting into the key chamber from one section, the bottoms of the spaces between said wards being formed on the arc of a circle.

[Claims 6 to 13 not printed in the Gazette.]

972,866. RAILWAY-SWITCH. CYRUS C. JOHNSON, Taylorville, Ill. Filed Dec. 12, 1908, Serial No. 467,254. Renewed Mar. 19, 1910. Serial No. 550,512



1. A railway switch comprising a shiftable switch member, mechanism movable in one direction for shifting said member, means for automatically moving said mechanism in said direction, a car-actuated device for overcoming the action of said means, and means for automatically setting the mechanism during the actuation of said device by a car, to shift the switch member during the movement of said mechanism to normal position.

2. A railway switch comprising a shiftable switch member, mechanism for automatically shifting the same into active position, said mechanism including means for holding the said mechanism yieldingly in a predetermined position, means for relieving the mechanism from the action of said holding means to shift the switch member into active position, and means for automatically setting said mechanism when relieved of the holding means.

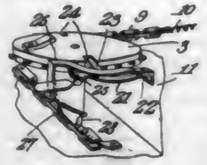
3. A railway switch comprising a shiftable switch member, mechanism for automatically shifting the same into active position, said mechanism including means for holding the same yieldingly in a predetermined position, means for overcoming the action of said holding means to shift the switch member into active position, and means for automatically setting the mechanism while relieved of the action of the holding means.

4. A railway switch comprising a shiftable switch member, mechanism for automatically shifting the same into active position, said mechanism including means for holding it yieldingly in a predetermined position, means for overcoming the action of said holding means, and means to shift the switch member into active position for automatically setting the mechanism when relieved of the action of the holding means, said holding means operating to shift the mechanism and switch member, when released.

5. A railway switch comprising a shiftable switch member, revoluble means for actuating the same, ratchet mechanism for imparting an intermittent revoluble movement to said means, and automatically and mechanically operated means for actuating the ratchet mechanism in opposite directions alternately.

[Claims 6 to 15 not printed in the Gazette.]

972,867. LOCK FOR SWITCH-OPERATING MECHANISMS. CYRUS C. JOHNSON, Taylorville, Ill. Filed Dec. 12, 1908, Serial No. 467,255. Renewed Mar. 19, 1910. Serial No. 550,513.



1. In a railway switch the combination with superposed revoluble members, one of said members having diametrically opposed peripheral notches, a flexible actuating device engaging the other member, and a pawl and ratchet connection between said members for imparting an intermittent revoluble movement to the notched member from the other member; of a spring-controlled locking lever, means thereon disposed to be seated in either of the notches to hold the notched member against movement, and means upon the flexible actuating means for shifting the lever to disengage the notched member immediately prior to the actuation of said member.

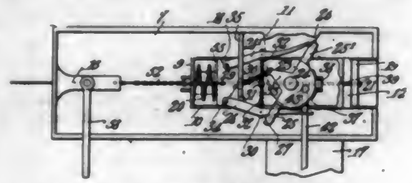
2. In apparatus of the class described the combination with a switch-tongue; of superposed revoluble members adjacent thereto, one of said members being notched, a connection between the notched member and the tongue, flexible means for actuating the other member, a pawl and ratchet connection between the members, a spring-controlled locking lever, means thereon and normally seated in one of the notches for holding said notched member against rotation, and means upon the flexible actuating device for shifting the lever to release the notched member immediately prior to the actuation of said member by the pawl and ratchet mechanism.

3. Switch-operating mechanism comprising a shiftable switch member, superposed revoluble members adjacent thereto, one of said members being provided with diametrically opposed notches in the periphery thereof, means actuated by said member for moving the shiftable switch member, flexible means for actuating the other member, actuating devices for said flexible device, pawl and ratchet connections between the revoluble members for imparting an intermittent rotation to the notched member from the other revoluble members, a locking-lever, an arm extending therefrom, a spring for holding the arm normally in engagement with the notched member, and means upon the flexible actuating device for shifting the lever to disengage the notched member immediately prior to the actuation thereof by the pawl and ratchet mechanism.

4. In switch-operating mechanism superposed revoluble members, a flexible actuating device engaging one of the members, pawl and ratchet mechanism for intermittently rotating the other member from the first mentioned member, spring-controlled means for locking the intermittently rotated member between the movements thereof, and means actuated by said flexible actuating means for unlocking said members during the movement of said actuating means in one direction.

5. In apparatus of the class described superposed revoluble members, pawl and ratchet mechanism for imparting an intermittent rotation to one of the members from the other member, flexible means for actuating one of said members, spring-controlled means for locking the other member against movement in one direction, and means upon said spring-controlled means for shifting the locking device during the movement of said means in one direction to permit simultaneous movement of the superposed revoluble members.

972,868. SWITCH. CYRUS C. JOHNSON, Taylorville, Ill. Filed Sept. 1, 1909, Serial No. 515,603. Renewed June 3, 1910. Serial No. 564,859.



1. A device of the class described comprising a casing; a head pivotally supported by the casing; a slide to reciprocate in the casing beneath the head; fingers pivoted at one end to the slide and alternately engageable by the head to rock the head in opposite directions; a switch point; a connection between the switch point and the head; resilient means for moving the slide in one direction; means operable to move the slide in an opposite direction; and a car-carried mechanism to actuate the last-named means.

2. A device of the class described comprising a casing; a head pivotally supported by the casing; a slide to reciprocate in the casing beneath the head; fingers pivoted at one end to the slide and alternately engageable by the head to rock the head in opposite directions; a switch point; a connection between the switch point and the head; resilient means for moving the slide in one direction; means operable to move the slide in an opposite direction; a locking device to hold the head in predetermined positions; and means carried by the slide to render the locking device inoperative during the movement of the head.

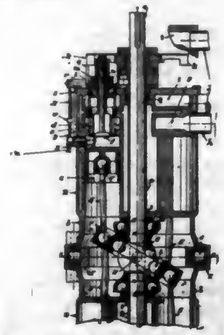
3. A device of the class described comprising a casing; a notched head pivotally supported by the casing; a slide to reciprocate in the casing beneath the head; fingers pivoted at one end to the slide and alternately engageable by the head to rock the head in opposite directions; a switch point; a connection between the switch point and the head; resilient means for moving the slide in one direction; means for moving the slide in an opposite direction; a latch pivotally supported at its upper end by the casing and arranged to engage the notches in the head; resilient means for holding the latch in engagement with the notches; and a resilient member connected at one end with the slide and at the other end arranged to engage the latch to lift the same from the notches during the movement of the slide under the impulse of the resilient means for moving the slide.

4. A device of the class described comprising a casing; a partition located within the casing; a head pivotally supported by the casing; a slide to reciprocate in the casing beneath the head; a compression spring located within the slide and having abutment at one end with the slide and at the other end with the partition; a rod adjustably assembled at one end with the slide and at the other end arranged to extend through the partition; means assembled with the rod for moving the slide against the action of the spring; fingers pivoted at one end to the slide and alternately engageable by the head to rock the head in opposite directions; a switch point; and a connection between the switch point and the head.

5. A device of the class described comprising a casing; a head pivotally supported by the casing; a slide to reciprocate in the casing beneath the head; means operatively connecting the slide with the head to rock the head in opposite directions; an arm extending from the casing; a rod pivoted at one end to the head and at the other slidably mounted in the arm; a compression spring surrounding the rod between the head and the arm and operative to hold the head at the limit of its travel; a switch point; a connection between the switch point and the head; resilient means for moving the slide in one direction; and means operable to move the slide in an opposite direction.

[Claims 6 to 9 not printed in the Gazette.]

972,869. EXPLOSION-ENGINE. WILLIAM ANTHONY JONES, West New Brighton, N. Y. Filed May 25, 1908. Serial No. 434,909.



1. A central shaft, a number of cylinders around said shaft and parallel thereto, a cam, concentric with said shaft, with a plurality of cam surfaces, valves in said cylinders, each valve having an actuating piece projecting in the path described by each cam surface during the rotation of the cam.

2. A central shaft, a number of cylinders whose axes are parallel to the shaft, valves opening into the cylinders, a cam piece having more than one surface each of which acts in succession on the valves, and causes them to repeat the same motions.

3. A central shaft, a number of cylinders whose axes are parallel to the shaft, valves opening into the cylinders, a cam piece having more than one surface each of which acts in succession on each valve, and causes it to repeat the same motions, the number of cam surfaces being different from the number of valves on which these surfaces act.

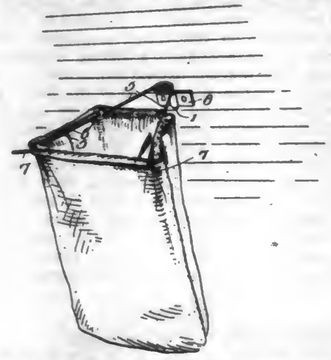
4. A central shaft, a number of cylinders whose axes are parallel to the shaft, valves opening into the cylinders, a cam piece having more than one surface for actuating each valve and causing it to repeat the same motions, the cam piece revolving about the same axis as the central shaft.

5. A central shaft, a number of cylinders whose axes are parallel to the shaft, a cam piece for actuating valves to the cylinders, the cam piece revolving about the same axis as the central shaft and in the opposite direction.

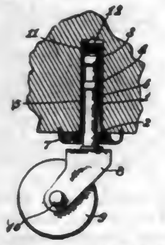
[Claims 6 to 10 not printed in the Gazette.]

972,870. SACK-HOLDER. EMELIA F. KANDLBINDER, Shreveport, La. Filed May 7, 1910. Serial No. 560,072.

The herein described sack-holder, constructed of a single piece of spring wire twisted upon itself intermediate of its ends to form an attaching shank, the wire being then separated and coiled in opposite directions to form a complete intermediate convolution, upper and lower one-half convolutions constituting an eye, the wire being then extended from the one-half convolutions to form outstanding arms which diverge outwardly from the coiled portions, each of said arms being formed with an inner crimp and an outer crimp, said crimps extending outwardly and upwardly in planes oblique to the planes of the convolutions, the outermost crimps terminating in outwardly deflected extremities.



972,871. FURNITURE-CASTER. BERTRAND P. KENYON, Grand Rapids, Mich., assignor to Diamond Steel Truck Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Jan. 15, 1910. Serial No. 538,195.



1. A furniture caster, comprising a socket having journal bearings at its respective ends, a pintle having journals at its respective ends rotative in said bearings, and pintle retaining means located between the said journal bearings and protected thereby from lateral pressure of the pintle.

2. A furniture caster, comprising a pintle having journals at its respective ends and an enlargement near the middle; and a socket having a spring tongue near the middle adapted to engage said enlargement and retain the pintle in said socket.

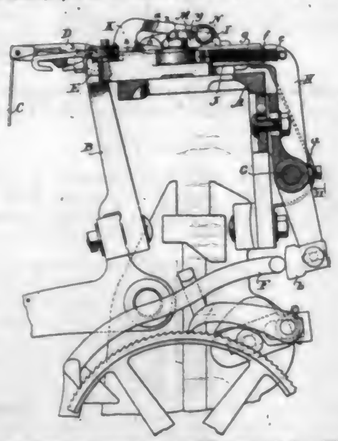
3. A furniture caster, comprising a pintle having enlargements at its respective ends forming journals and a circumferential enlargement near the middle; and a sheet metal socket rigidly surrounding the respective ends of the pintle and having a flexible tongue near the middle bent inward to engage the circumferential enlargement and retain the pintle in the socket.

4. A furniture caster, comprising a pintle having a circumferential enlargement at each end and near the middle, a socket of sheet metal rigidly surrounding the pintle at the ends and having a spring tongue near the middle to engage the middle enlargement of the pintle, a closure in the upper end of the socket, and a thrust bearing in the upper end of the socket engaged by the end of the pintle.

972,872. WEFT-REPLENISHING LOOM. JOHN G. KING, Burlington, N. C., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Jan. 26, 1909. Serial No. 474,212.

1. A weft-replenishing loom, provided with picking, shedding and weft-supplying mechanisms, a take-up, a

weft-absence detector, a weft-hammer, and a change-shaft controlling the weft-supplying mechanism, combined with a slide which carries the detector; a plurality of fixed teeth the forward one being the higher; a bunter loosely mounted on the change-shaft; a shoulder on the change-shaft; a shoulder on the bunter coöperating with said shoulder on the change-shaft; a sliding coupler engaging the bunter, said coupler having a plurality of teeth, a cam, a shelf, and a recess forward of the shelf; a slotted detent adjustably pivoted to the coupler and having a hook adapted to engage said fixed teeth; a dagger pivoted to the detector slide, extending through the detent slot, and adapted to engage the teeth and cam on said coupler; a gravity dog adjustably pivoted to said dagger and adapted to engage the recess and shelf of said coupler; a stop-pin adjustably secured to said coupler to limit its rearward position; springs which retract said slide and coupler; and an adjustable toe on the bunter adapted to engage and put out of action a pawl governing the take-up.



2. A weft-replenishing loom, provided with picking, shedding and weft-supplying mechanisms, a take-up, a weft-absence detector, a weft-hammer, and a change-shaft controlling the weft-supplying mechanism, combined with a slide which carries the detector; a plurality of fixed teeth the forward one being the higher; a bunter loosely mounted on the change-shaft; a shoulder on the change-shaft; a shoulder on the bunter coöperating with said shoulder on the change-shaft; a sliding coupler engaging the bunter, said coupler having a plurality of teeth, a cam, a shelf, and a recess forward of the shelf; a slotted detent pivoted to the coupler and having a hook adapted to engage said fixed teeth; a dagger pivoted to the detector slide, extending through the detent slot, and adapted to engage the teeth and cam on said coupler; a gravity dog pivoted to said dagger and adapted to engage the recess and shelf of said coupler; a stop-pin secured to said coupler to limit its rearward position; springs which retract said slide and coupler; and a toe on the bunter adapted to engage and put out of action a pawl governing the take-up.

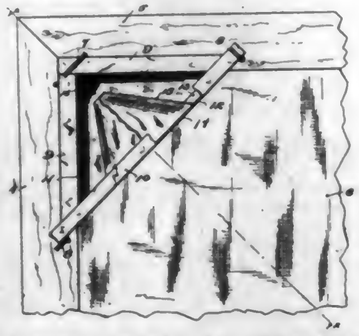
3. A weft-replenishing loom, provided with picking, shedding and weft-supplying mechanisms, a weft-absence detector, a weft-hammer, and a change-shaft controlling the weft-supplying mechanism, combined with a slide which carries the detector; a plurality of fixed teeth the forward one being the higher; a bunter loosely mounted on the change-shaft; a shoulder on the change-shaft; a shoulder on the bunter coöperating with said shoulder on the change-shaft; a coupler engaging the bunter, said coupler having a plurality of teeth, a cam, a shelf, and a recess forward of the shelf; a slotted detent pivoted to the coupler and having a hook adapted to engage said fixed teeth; a dagger pivoted to the detector slide, extending through the detent slot, and adapted to engage the teeth and cam on said coupler; a gravity dog pivoted to said dagger and adapted to engage the recess and shelf of said coupler; a stop-pin secured to said coupler to limit its rearward position; and means to retract said slide and coupler.

4. A weft-replenishing loom, provided with picking, shedding and weft-supplying mechanisms, a weft-absence detector, a weft-hammer, and a change-shaft controlling the weft-supplying mechanism, combined with a slide which carries the detector; a bunter coöperating with the change-shaft and adapted to actuate it after a plurality of movements; a coupler engaging the bunter; and a dagger controlled by the detector slide and adapted to engage said coupler to feed said coupler step-by-step toward said bunter.

5. A weft-replenishing loom, provided with picking, shedding and weft-supplying mechanisms, a take-up, a weft-absence detector, and a change-shaft controlling the weft-supplying mechanism, combined with a bunter cooperating with the change-shaft and with the take-up, and adapted to stop the take-up at its first movement but to actuate the change-shaft only after a succession of movements; a coupler engaging the bunter; and means governed by the detector to feed said coupler step-by-step toward said bunter.

[Claims 6 to 9 not printed in the Gazette.]

972,873. FLY-TRAP SASH ATTACHMENT. HENRY C. KOSSOW, Milwaukee, Wis. Filed June 20, 1910. Serial No. 567,923.

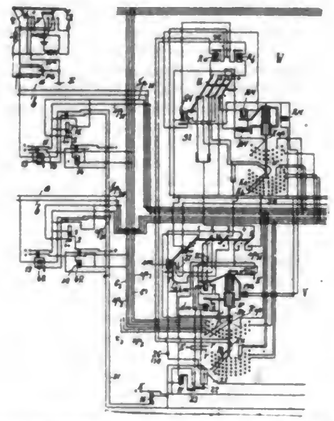


1. A fly-screen sash-attachment comprising a flat triangular frame having a longitudinally slotted outwardly extending base-flange that fits between a stile and rail of the sash crosswise of the adjacent corner of the same to abut the cover or glass thereof in which a fly-optlet is provided; a sheet of wire-netting closing the triangular frame, and an open apex wire-netting cone secured at its base to the inner side of said flange in register with the slot thereof.

2. A fly-trap sash-attachment comprising a flat triangular frame having a longitudinally slotted outwardly extending base-flange that fits between a stile and rail of the sash crosswise of the adjacent corner of the same and is provided with a lip that abuts the sash cover or glass in which a fly-outlet is provided; a sheet of wire-netting closing the triangular frame, and an open apex wire-netting cone secured at its base to the inner side of said flange in register with the slot thereof.

3. A fly-trap sash-attachment comprising a triangular frame consisting of folded sheet-metal side-strips, one of which is caught in the fold of the other, and a base strip that is folded at its ends on the side-strips and provided with an outwardly extending longitudinally slotted flange fitting between a stile and rail of the sash crosswise of the adjacent corner of the same to abut the cover or glass thereof in which a fly-outlet is provided; a sheet of wire-netting caught in the folds of said side-strips in opposition to said base-strip, and an open apex wire-netting cone secured at its base to the inner side of said flange in register with the slot thereof.

972,874. SELF-ACTING TELEPHONIC LINE-CONNECTING SYSTEM. BERNHARD KUGELMANN, Bad Kissengen, Germany. Filed June 12, 1907. Serial No. 378,672.



1. In a telephone system, the combination, with the subscribers' lines divided into groups, of common lines and a number of pre-selectors for each group, each pre-selector comprising a traveling contact device, adapted to be moved successively in two directions, and to make contact by the movement in the first direction with said common lines, and each pre-selector arranged to engage with a subscriber's line.

2. In a telephone system, the combination with the subscribers' lines divided into groups, of common lines and a number of pre-selectors for each group, each pre-selector comprising a traveling contact device, adapted to make contact with each of the said common lines and each pre-selector arranged to engage with a subscriber's line, a switching apparatus for each pre-selector, the said switching apparatus arranged to set in action the next idle pre-selector, when a subscriber is calling up.

3. In a telephone system, the combination with the subscribers' lines divided into groups, or common lines and a number of pre-selectors for each group, each pre-selector comprising a traveling contact device, adapted to make contact with each of the said common lines and each pre-selector arranged to engage with a subscriber's line, a calling relay device for each subscriber, a common relay device, a switching apparatus for each pre-selector, arranged to set in action the next idle pre-selector.

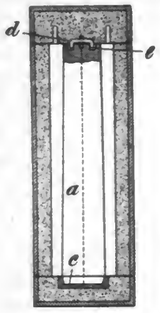
4. In a telephone system, the combination with the subscribers' lines, divided into groups, of common lines and a number of pre-selectors for each group, each pre-selector comprising a traveling contact device, adapted to make contact with each of the said common lines, and each pre-selector arranged to engage with a subscriber's line, a calling relay device for each subscriber, a common relay device, a switching apparatus for each pre-selector, arranged to set in action the next idle preselector, a line selecting apparatus connected with each preselector, and means arranged to make the final connection with a desired subscriber's line.

972,875. MANUFACTURE OF HOLLOW CASTINGS. WILHELM KURZE, Wilhemshütte, Neustadt-on-the-Rübenberge, Germany. Filed Sept. 27, 1909. Serial No. 519,861.

1. Process of manufacture of hollow castings consisting in applying to a core of iron or steel a coating of an oil and thereupon a layer of a silicious material, substantially as described.

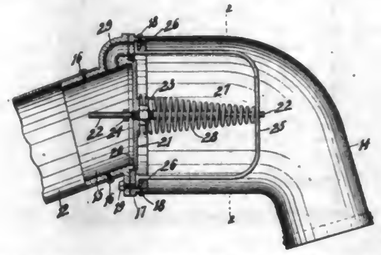
2. Process of manufacture of hollow castings consisting in applying to a core of iron or steel a coating of linseed oil and thereupon a layer of silicious earth, substantially as described.

3. Process of manufacture of hollow castings consisting in applying to the opposed sections of a divided core of iron or steel a coating of an oil and thereupon a layer of a silicious material substantially as described.



4. Process of manufacture of hollow castings consisting in applying to the opposed sections of a divided core of iron or steel, a coating of linseed oil and thereupon a layer of silicious earth, substantially as described.

972,876. PENSTOCK. CHARLES H. LAING, Racine, Wis. Filed Feb. 26, 1910. Serial No. 546,101.



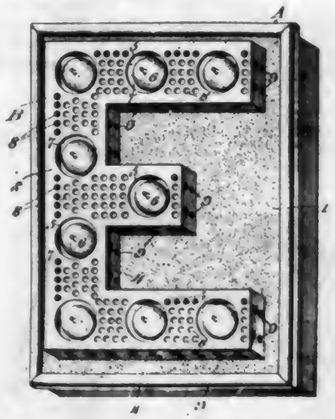
1. A penstock, comprising an inclined discharge spout having a supply valve and drain, a spring seated valve at the mouth of the discharge spout to entrap the water therein upon the supply valve being closed, and a vent for permitting air to enter the upper end of the discharge spout and take the place of the water as it escapes through the drain.

2. A penstock, comprising a discharge spout provided with a supply valve and a drain, a member connected to the mouth of the discharge spout and forming a valve seat, a cross bar on said member having a guide opening, a nozzle connected with said member, a valve seated on the valve seat and provided with a valve stem passing through the guide opening of the cross bar, a guide mounted on the nozzle through which the valve stem also passes, and a spring surrounding the valve stem and confined between the guide and the valve for holding the valve normally on its seat, there being a vent opening connecting the interior of the discharge spout with the nozzle above the valve.

3. A penstock, comprising a discharge spout provided with a supply valve and a drain, a member connected to the mouth of the discharge spout and forming a valve seat, a cross bar on said member having a guide opening, a flanged ring connected with said member, a nozzle mounted thereon, a valve seated on the valve seat, a valve stem carried by the valve and having one end passing through the guide opening of the cross bar, a U-shaped guide secured to the flanged ring and having an opening through which the other end of the valve stem passes, and a coil spring surrounding the valve stem and confined between the U-shaped guide and the valve, there being a vent opening connecting the interior of the discharge spout and the nozzle above the valve.

4. A penstock, comprising a discharge spout provided with a supply valve and a drain, a member connected to the mouth of the discharge spout and forming a valve seat, a cross bar on said member having a guide opening, a nozzle connected with said member, a valve seated on the valve seat, a valve stem passing through the guide opening of the cross bar and having the valve threaded thereon, a jam nut for locking the valve on the valve stem, a guide carried by the nozzle, said valve stem having a reduced end passing through the guide and a shoulder to engage the guide for limiting the opening movement of the valve, and a coil spring surrounding the valve stem and bearing on the guide and on the valve to hold the valve normally closed, there being a vent opening connecting the interior of the discharge spout and the nozzle above the valve.

972,877. ELECTRIC-SIGN LETTER. FREDERICK HURST LANSDELL, Atlanta, Ga. Filed Nov. 20, 1909. Serial No. 529,146.



1. A sign character comprising a support, a hollow character mounted thereon and having its face provided with openings and closely arranged apertures between adjacent openings, and lamps secured in the character with portions protruding out of the openings, said openings being larger in diameter than the protruding portions of the lamps to leave annular spaces around the lamps.

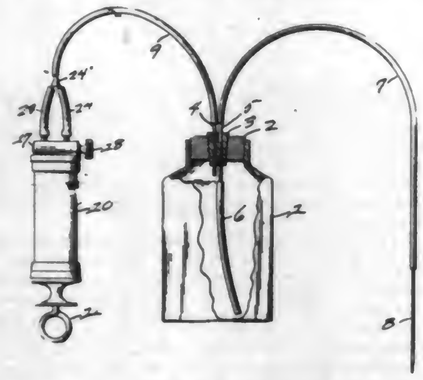
2. A sign character comprising a supporting panel, a hollow character secured to the panel and arranged in outstanding relation therefrom, said character consisting of a front plate and marginal or side walls, said front plate having lamp openings, lamps in the character partially projecting through the openings, said side walls having ventilating apertures, and a baffle arranged in the character and extending along the side walls thereof in spaced relation to the ventilating apertures.

3. A sign character comprising a hollow structure consisting of front, back and side walls, said front wall having openings and side walls having ventilating apertures, lamps in the character partially protruding through the openings, and a baffle carried by the front wall within the character and extending along the side walls in spaced relation thereto and spaced from the back wall whereby a ventilating space is provided entirely around the character.

4. A sign character comprising a panel including a plate having openings, a hollow character having a back plate provided with openings registering with those of the panel plate, lamp sockets each made in two parts comprising a plug having a tapered portion which is passed through the openings of the panel plate and back plate and is provided with a shoulder to rest on the back plate, and a socket having a shoulder to bear against the panel plate and a recess to receive the tapered portion of the plug, the plug being hollow and the interior wall thereof being threaded to receive the lamp bulb, whereby the lamp sockets form the sole connecting means between the character and the panel, and lamp bulbs screwing into the hollow plug.

5. A sign character comprising a panel including a plate having openings, a hollow character applied to the panel and consisting of a front and side walls, said front wall having its face provided with openings and closely arranged small apertures between adjacent openings, and said side walls having ventilating openings, lamps arranged within the character at the openings in the front wall, and a baffle arranged within the character and extending along the side walls in spaced relation thereto and also spaced from the panel.

972,878. EMBALMER'S INJECTING AND ASPIRATING APPARATUS. BERT LEON, Toledo, Ohio, assignor of one-half to Willard A. Sherer, Toledo, Ohio. Filed July 16, 1910. Serial No. 572,234.

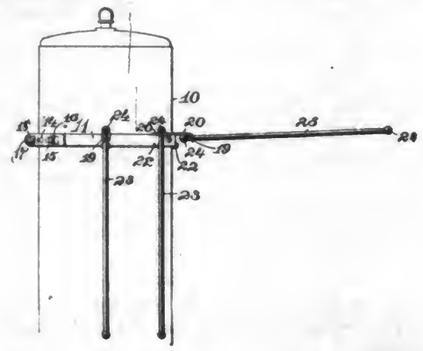


In an apparatus of the class described, an air pump having dual connections with an aspirating-jar, reversely arranged checks at the pump ends of said connections to cause the air to be drawn by the pump through one of said connections and forced through the other, a valve device adapted to simultaneously close one of said connections and open the other, said valve device having vents connecting with the portions of the connections between the valve and the checks, the vents being opened and closed with the valve device so that when one is open the other is closed, substantially as described.

972,879. RACK FOR BOILERS AND THE LIKE. WILLIAM C. LEONARD, Newark, N. J. Filed May 27, 1910. Serial No. 563,731.

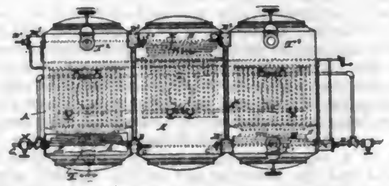
1. A towel rack comprising a band adapted to be placed around a support, means for connecting the ends of the band, a series of rod supports, each rod support comprising a wire formed in two downwardly projecting portions adapted to be clasped between the band and the element which it surrounds, the downwardly projecting portions terminating in hooks which embrace the lower edge of the band, the downwardly projecting portions extending from their top ends into substantially horizontal strands substantially parallel, the horizontal strands being connected by a downwardly projecting loop, and rods, each rod being adapted to be placed in a support and having heads on its ends whereby the rod can be suspended or projected from its support.

2. A towel rack comprising a band adapted to be placed around a support, adjusting means on the band for varying its length, and for connecting the ends together, a series of rod supports, each rod support comprising a wire formed in two downwardly projecting portions adapted to be clasped between the band and the element which it surrounds, the downwardly projecting portions terminating in hooks which embrace the lower edge of the band, the downwardly projecting portions extending from their top ends into substantially horizontal strands substantially parallel, the horizontal strands being connected by a downwardly projecting loop, and rods, each rod being adapted to be placed in a support and having heads on its ends whereby the rod can be suspended or projected from its support.



3. A towel rack comprising a band having a lip on one end, an extension strip on the other end of the band, the extension strip having a lip on its end, a bolt passing through the extension strip and the band, the extension strip and the band being perforated, the perforations being so disposed that they can be placed in register to vary the length of the band, means for clasping the lip on the band and the lip on the extension strip to cause the band to embrace an element, a series of rod supports, each support comprising a wire bent into downwardly projecting portions terminating at their lower ends in hooks, the downwardly projecting portions being adapted to be embraced between the band and the element on which it is supported, the hooks catching on the lower edge of the band, the downwardly projecting portions having their top ends engaging the top edge of the band and bent into substantially parallel horizontal strands, the horizontal strands being connected by a downwardly projecting loop, and a series of rods, each rod being adapted to be placed in a support, each rod having a head on each end, one head being adapted to rest on the horizontal strands when the rod is suspended, the other head being adapted to bear underneath the horizontal strands when the rod is placed in the downwardly projecting loop to project the rod.

972,880. EVAPORATING APPARATUS. SAMUEL MORRIS LILLIE, Philadelphia, Pa. Filed Dec. 21, 1906. Serial No. 348,850.



1. In a multiple effect evaporating apparatus the combination of a series of effects each having a steam chamber and an evaporating chamber provided with evaporating tubes, with a heater independent of the evaporating tubes of the effects arranged in the steam chamber of one of the effects, a liquor supply pipe for delivering liquor to the heater, and a system of pipes for conducting the heated liquor from the heater to the evaporating chamber of the effects.

2. In a multiple effect evaporating apparatus the combination of a series of effects each having steam and evaporating chambers, with heaters arranged in the steam chambers and wholly outside of the evaporating chambers of the effects and connected in series, a liquor supply pipe for delivering liquor to the heater of the coolest effect, and a system of pipes for conducting the heated liquor from the heater of the hottest effect to the evaporating chambers of the several effects in succession.

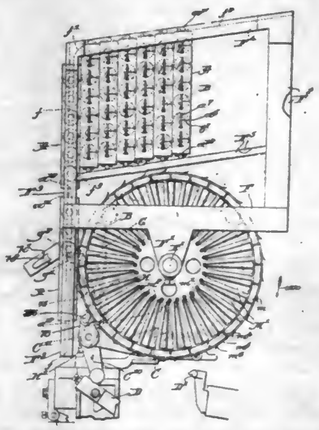
3. In a multiple effect evaporating apparatus the combination of a series of effects each having steam and evaporating chambers, with heaters arranged in the steam chambers of the effects and wholly outside of the evaporating chambers, a liquor supply pipe for delivering liquor to the heaters independently of the evaporating chambers, a system of pipes for conducting the heated liquor from the heaters to the evaporating chambers of the effects, means for reversing the direction of passage of the vapors of the several effects, and means for reversing the direction of circulation of the liquor through the heaters to cause it to circulate in the reverse direction to its flow through the effects during evaporation.

4. In a multiple effect evaporating apparatus, the combination of a series of effects operating as a unit, and having circulating liquor pipes for causing the liquor being evaporated to traverse the effects in succession, with means located in a plurality of the steam chambers and outside of the evaporating chamber of the effects for heating the liquor before being delivered to the evaporating chambers of the effects.

5. In an evaporating apparatus, a cylindrical body divided into steam and evaporating chambers, circulating means for circulating the liquor to be evaporated within the evaporating chamber, a heater for the liquor arranged in the steam chamber outside of the evaporating chamber, and means for causing the liquor to flow first through the heater and then into the evaporating chamber, whereby said liquor is first heated by the steam in the steam chamber and then vaporized by the same steam in the evaporating chamber.

[Claims 6 to 10 not printed in the Gazette.]

972,881. FILLING-SUPPLYING MECHANISM FOR AUTOMATIC FILLING-REPLENISHING LOOMS. CHARLES A. LITTLEFIELD, Lowell, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Mar. 26, 1910. Serial No. 551,618.



1. An automatic filling-replenishing loom having a rotary feeder, an automatic transferrer coöperating therewith, a magazine having means to engage the upper ends of and suspend a series of cages independently of each

other and sustain them slidably in upright position, each cage adapted to hold a plurality of filling-carriers, means to direct the cages singly from the magazine into discharging position relatively to the feeder, a device to discharge automatically the carriers one by one from the positioned cage and place them in the feeder, and means projecting between the sides of the cage and coöperating with the next carrier to be discharged to maintain in position the cage holding such carrier.

2. An automatic filling-replenishing loom having a rotary feeder, a magazine having inclined supports, a series of cages each adapted to hold a plurality of removable filling-carriers and provided with projections to rest upon and slide along the supports, a guideway to coöperate with the projections and direct the cages into discharging position, an inserter to engage and discharge the carriers one by one and insert them in the feeder, and a transferrer to remove the carriers singly and automatically from said feeder.

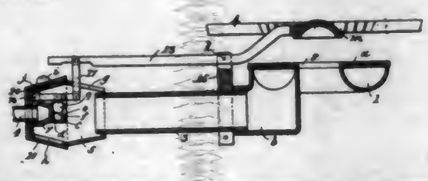
3. An automatic filling-replenishing loom having a rotary feeder, a magazine having inclined supports, a series of cages each adapted to hold a plurality of removable filling-carriers and provided with projections to rest upon and slide along the supports, a guideway to coöperate with the projections and direct the cages into discharging position, an inserter to engage and discharge the carriers one by one and insert them in the feeder, and a transferrer to remove the carriers singly and automatically from said feeder, combined with means to coöperate with the leading carrier of the discharging cage and position such carrier for coöperation with the inserter.

4. An automatic filling-replenishing loom having a rotary feeder, a magazine having inclined supports, a series of cages having lateral projections to rest upon and slide along the supports while the cages are maintained in upright position, each cage adapted to hold a plurality of removable filling-carriers, a guideway to direct the cages by gravity into discharging position, an automatic inserter to remove the carriers singly from a positioned cage and insert them in the feeder, fixedly mounted means projecting between the sides of the cage and coöperating successively with the carriers therein to govern the feed movement of such cage as its carriers are removed, and a transferrer to remove the carriers automatically from the feeder.

5. An automatic filling-replenishing loom having a rotary feeder, a magazine having inclined supports, a series of cages each adapted to hold a plurality of removable filling-carriers and provided with lateral projections to rest upon and slide along the supports, a guideway to coöperate with said projections and direct the cages one by one into discharging position, means to govern the feed of a cage during discharge of its carriers, and an instrumentality to coöperate automatically with the carriers in the cage and insert them one by one in the feeder.

[Claims 6 to 19 not printed in the Gazette.]

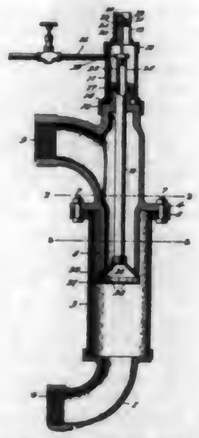
972,882. BURNER FOR GAS-STOVES. ROBERT M. LOVELL, Baltimore, Md., assignor of one-half to Henry Kolb, Baltimore, Md. Filed Jan. 24, 1910. Serial No. 539,694.



1. In a burner adapted for application to a gas stove, an aerated-gas chamber having a covering plate provided with exit apertures, an air and gas mixing chamber in communication with the aerated-gas chamber, a gas supply pipe which enters the mixing chamber, a valve shell which is screwed on to the end of the gas supply pipe, having a conical valve chamber the wall of which is provided with an inlet and an outlet port the same being of unequal sizes, the latter being larger than the former, combined with a conical puppet valve having a transverse duct of smaller size than the inlet port and a lever one end of which is situated above the said covering plate, and the other end indirectly connected to the puppet valve, whereby upon the depression of the outer end of the lever, the said puppet valve is lifted, substantially as specified.

2. In a burner adapted for application to a gas stove, an aerated-gas chamber having a covering plate provided with exit apertures, an air and gas mixing chamber in communication with the aerated-gas chamber, a gas supply pipe which enters the mixing chamber, a valve shell which is screwed on to the end of the gas supply pipe, having a conical valve chamber the wall of which is provided with an inlet and outlet port the same being of unequal sizes, the latter being larger than the former, combined with a conical puppet valve having a transverse duct of smaller size than the inlet port and which is flared at its entrance end, and a lever one end of which is situated above the said covering plate, and the other end indirectly connected to a puppet valve, whereby upon the depression of the outer end of the lever, the said puppet valve is lifted, substantially as specified.

972,883. BEER-CARBONATING DEVICE. NICHOLAS LUDWIG, Denver, Colo. Filed Sept. 13, 1909. Serial No. 517,404.



1. A carbonator for beer, comprising a gas and beer mixing cylinder provided with a discharging outlet, a valve controlled beer inlet to said cylinder, a gas cylinder arranged to be connected to a supply of beer charging gas under pressure, a hollow stem on said beer inlet valve extending into said gas cylinder, a tube above said gas cylinder, a rod connected to the upper end of said hollow stem and extending into said tube, a piston on the end of said rod and slidably mounted in said tube, said piston being arranged to be operated by gas flowing into said gas chamber to control the flow of beer into said mixing cylinder, said hollow stem being provided with apertures leading into it from said gas cylinder and said beer inlet valve being also provided with apertures that communicate with the said stem and its gas inlet apertures.

2. In a carbonating device for beer, the combination of a beer and gas receiving and mixing cylinder, provided with a discharging aperture arranged to be turned and set to point in any desired direction from said cylinder, a beer inlet tube connected to said mixing cylinder provided with a valve seat, a hollow valve arranged to fit said seat and provided with gas discharging apertures, a hollow stem portion on said valve extending through said beer inlet tube, a gas cylinder on said beer inlet tube surrounding the end of said hollow valve stem, a packing box surrounding said valve stem within said gas cylinder in which said stem is slidably supported, a cap on the end of said stem, adapted to engage said packing box and limit the sliding movement of said beer inlet valve away from its seat, said hollow stem being provided with a gas passage from said gas cylinder adjacent to said cap, a gas pressure actuated piston seated in said gas cylinder and adjustably connected to said hollow stem, said gas actuated piston being proportioned in area to said beer inlet valve to automatically open or close said beer and gas mixing valve and said gas inlet passage in said gas cylinder by the pressure of said gas in said cylinder.

3. In a carbonating device for beer, the combination of the beer and gas mixing cylinder, provided with a discharge outlet and a beer inlet, a tube provided with a valve seat and with a packing box in alinement with its valve seat, and with a beer inlet aperture adapted to be connected to a supply of beer under pressure, and the gas inlet cylinder provided with a tube and piston and arranged to be connected to a supply of carbonic acid gas under pressure, with a hollow valve stem extending slidably through said beer inlet tube's packing box into said gas cylinder at one end and extending to and provided with a hollow conical shaped valve at its opposite end arranged in said beer and gas mixing cylinder to control the beer inlet valve, a cap portion on said hollow stem within said gas cylinder arranged to define the beer valve's movement away from its seat, said hollow stem being provided with gas inlet apertures close to its cap portion arranged to be opened and closed by the sliding movement of said hollow stem in said gas cylinder and said packing box, said beer inlet valve being provided with a circumferential row of gas discharging apertures in its end arranged to discharge a suitable beer charging gas into said mixing chamber below said beer inlet tube's valve seat, and a piston adjustably secured to said hollow stem and arranged to fit slidably within said tube of said gas cylinder arranged and adapted to control the beer inlet valve by the gas pressure in said gas cylinder.

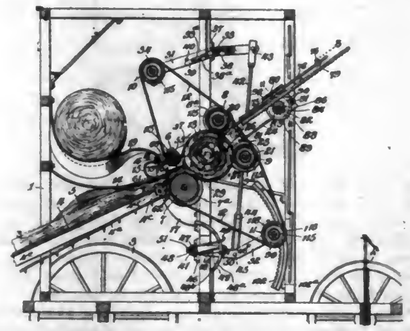
4. In a device as specified, a main tubular member having a beer inlet on one side thereof and a valve seat in its lower end; a gas chamber on the upper end of said tubular member; a piston tube forming a continuation of the gas chamber and in axial line therewith; a hollow stem extending through the tubular member and into the gas chamber, having gas inlet apertures adjacent to its upper end; a hollow valve on the lower end of the stem adapted to have a varying position relatively to the valve seat at the lower end of the tubular member, and having gas outlet apertures; a rod on the upper end of the valve stem which extends into the piston tube; a piston in said chamber upon said rod; a valved pipe connecting the gas chamber with a supply of suitable gas; and a packing box on the upper end of the tubular member adapted to close the gas inlet apertures in the upper end of the valve stem when said stem is at the limit of its downward movement.

5. In a device as specified, a main tube having a lateral beer inlet and a valve seat outlet at its lower end; a gas chamber on the upper end of the main tube, and a piston tube forming a continuation of the gas chamber and in axial line therewith; a hollow stem extending through the main tube, having gas inlet apertures adjacent to its upper end; a valve on the lower end of said stem adapted to stand at varying positions relatively to the seat in the main tube; a piston in the piston tube connected with the valve stem; means for admitting gas to the gas chamber; means for closing the gas inlets in the valve stem when the same is at the limit of its downward movement; and means for limiting the said downward movement.

[Claim 6 not printed in the Gazette.]

972,884. BALING-PRESS. UMMO FRANKLIN LUEBBEN, Lincoln, Nebr., assignor to Patent Holding Company, Lincoln, Nebr. Filed Mar. 29, 1909. Serial No. 486,415.

1. A baling press of the class described provided with bale-forming mechanism including lower inwardly moving surfaces, rear upwardly moving surfaces, and top forwardly moving surfaces, said surfaces consisting of intersecting stretches of flexible elements arranged to engage and form a preliminary wind or roll of the end of the mat, and means for holding the mat against the lower inwardly moving surfaces as the same is fed into the bale-forming mechanism.



2. A baling press of the class described provided with bale-forming mechanism including lower inwardly moving surfaces, rear upwardly moving surfaces, and top forwardly moving surfaces, said surfaces consisting of intersecting stretches of flexible elements and forming a space in which the preliminary wind or roll of the mat is formed and spaced apart at the front to provide an entrance to the said space.

3. A baling press of the class described provided with bale-forming mechanism including lower surfaces moving inwardly to carry the mat rearwardly, rear surfaces moving upwardly to turn the mat upward, and upper surfaces moving forwardly to turn the mat back on itself and cause the end thereof to come in contact with the incoming material to form the preliminary wind or beginning of the bale, said surfaces consisting of intersecting stretches of flexible elements.

4. A baling press of the class described provided with bale-forming mechanism including lower surfaces moving inwardly to carry the mat rearwardly, rear surfaces moving upwardly to turn the mat upward, and upper surfaces moving forwardly to turn the mat back on itself and cause the end thereof to come in contact with the incoming material to form the preliminary wind or beginning of the bale, said surfaces consisting of intersecting stretches of flexible elements and the upper and lower moving surfaces being converged forwardly.

5. A baling press of the class described provided with bale-forming mechanism including rolls and belts, the latter having rearwardly moving bottom portions, upwardly moving rear portions and forwardly moving top portions arranged to engage the end of the mat to form the preliminary wind or roll, said portions intersecting each other.

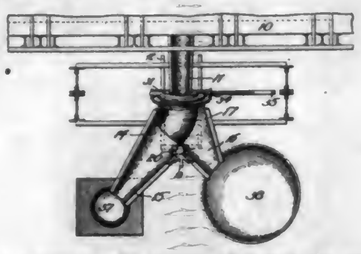
[Claims 6 to 96 not printed in the Gazette.]

972,885. MULTIPLE TAPPING-SPOUT. WALTER MACGARGOS, Indiana Harbor, Ind., assignor to American Steel Foundries, New York, N. Y., a Corporation of New Jersey. Filed Apr. 21, 1910. Serial No. 556,852.

1. In a device of the character described, the combination of a relatively stationary spout with a plurality of discharge mouths, a movable connector adapted to convey the molten metal from the furnace to said spout, and means whereby said connector may be shifted to have the metal issue from any one of the mouths of said spout without interruption of the flow, substantially as described.

2. In a device of the character described, the combination of a spout with a plurality of discharge mouths, a rotary bent connector adapted to convey the molten metal from the furnace, and means to rotate said connector,

whereby to have the metal issue from any one of the discharge mouths of said spout without interruption of the flow, substantially as described.

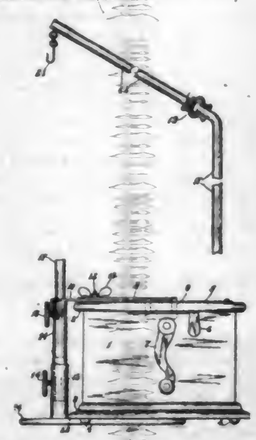


3. In a device of the character described, the combination of a spout having a plurality of discharge mouths, a rotary bent connector adapted to convey the molten metal from the furnace to said spout, and fluid-actuated means to rotate said connector, whereby to have the metal issue from any one of the mouths of said spout without interruption of the flow, substantially as described.

4. In a device of the character described, the combination of a spout having a plurality of discharge mouths, a rotary bent connector adapted to convey the molten metal from the furnace to said spout, a gear on said connector, a rack meshing with the teeth of said gear, and means to reciprocate said rack to rotate said connector, whereby the metal may be caused to issue from any one of the mouths of said spout without interruption of the flow, substantially as described.

5. In a device of the character described, the combination with a plurality of discharge spouts, of a connector adapted to conduct molten metal from a furnace to one of said spouts, and means for moving said connector into register with any of said spouts, substantially as described.

972,886. HORN-CRANE. ALBERT S. MARTEN, East Orange, N. J., assignor to The Tea Tray Company of Newark, N. J., a Corporation of New Jersey. Filed Nov. 17, 1906. Serial No. 343,785.



1. In a horn crane, the combination with a standard adapted to extend upward from the table or other supporting surface upon which a talking machine stands, of an arm adapted to project from said standard over the top of the talking machine cabinet and having an apertured end portion to enter the cover holding slot thereof and receive the locking key, said arm being in sections which are longitudinally adjustable independent of said attachment of the arm to the cabinet at its cover-holding slot.

2. In a horn crane, the combination with an arm adapted to extend over the top of the talking machine cabinet and having an end portion to enter the cover-holding slot thereof, said arm comprising sections longitudinally adjustable with respect to each other, and means for clamping them, of a standard extending upward from said arm to receive an amplifying horn and downward from said arm to engage the table or other supporting surface upon which the machine stands.

3. In a horn crane, the combination of a standard comprising upper and lower sections longitudinally adjustable upon each other, means for clamping said sections in fixed relation to each other, a base piece on the lower section adapted to extend under a talking machine and to project forwardly therefrom in engagement with the table or other surface upon which the machine stands, an arm upon the upper section adapted to project over the top of the talking machine and having a portion to enter the cover-holding slot thereof, and a horn supporting rod adjustable upon said upper section of the standard independent of the lower section and its relation to said upper section.

4. In a horn crane, the combination of a standard comprising upper and lower telescopic sections, the lower section having a base piece adapted to extend under the talking-machine and to project forwardly therefrom in engagement with the table or other surface upon which the machine stands, and the upper section having an arm adapted to project over the top of the talking-machine and provided with a portion to enter the cover-holding slot thereof, said arm being in longitudinally adjustable sections, and a horn-supporting arm or rod on said standard.

5. In a horn crane, the combination of a base piece adapted to extend under a talking machine and to project forwardly therefrom in engagement with table or other surface upon which the machine stands, a socket projecting upwardly from said base piece with a circular chamber, a round tubular upper section having its lower end slidably and rotatably fitting said chamber of the socket, a fixed arm on said tubular upper section adapted to project over the top of the talking machine and having a portion adapted to enter the cover-holding slot thereof, a horn-supporting rod having a round lower end slidably and rotatably fitting said tubular upper section, and set screws one working through the wall of said upper section against said end of the horn-supporting rod and another working through the wall of said socket against said lower end of the upper section.

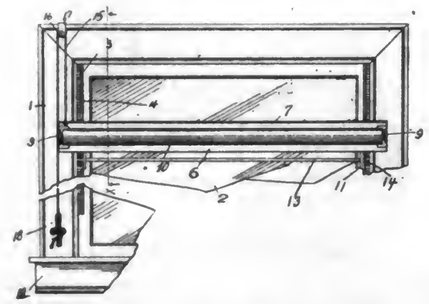
[Claims 6 and 7 not printed in the Gazette.]

972,887. WINDOW-WEIGHT. FRANK L. MAUPIN, Post, Tex. Filed Feb. 19, 1909. Serial No. 478,861.



A window weight comprising a weight receiving section closed at the bottom and open at the top, and an adjusting section closed at the top and open at the bottom, the weight receiving section fitting within the adjusting section, said weight receiving section being provided with two series of diametrically opposed indentations arranged in rows longitudinally of the section, the adjusting section being formed with integral, inwardly extending spring tongues to engage the indentations.

972,888. ADJUSTABLE SHADE-BRACKET. JAMES M. MAYS, Pittsburg, Pa. Filed Sept. 15, 1909. Serial No. 517,941.



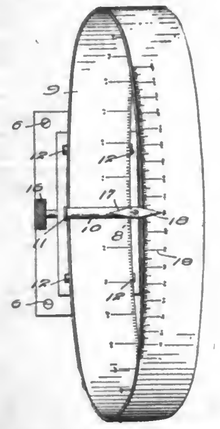
1. In a curtain-shade roller support, the combination of vertical racks, guide strips carried by said racks, a plate extending from one rack to the other, and adapted to revolubly support a curtain shade roller, brackets projecting rearwardly from said plate and slidably engaging in said guide strips, revoluble shafts journaled in said brackets, pinions mounted upon the ends of said shafts and meshing with said racks, and means connecting with one end of said plate for vertically shifting the same upon said racks.

2. In a curtain shade roller support, the combination with racks, guide strips projecting inwardly from said racks, brackets slidably mounted in said guide strips, a plate connecting said brackets and having a bearing at each end for supporting a curtain shade roller, shafts revolubly mounted in said brackets rearwardly of said plate, pinions carried by said shafts and meshing with said racks, and means connecting with one end of said plate for vertically shifting the same upon said racks.

3. In a curtain shade roller support, the combination with a window frame, of vertical racks carried thereby, guide strips projecting inwardly from said racks, brackets slidably engaging in said guide strips, a plate connecting said brackets and provided at each end with a bearing for supporting a curtain shade roller, shafts revolubly mounted in said brackets rearwardly of said plate, pinions mounted upon the ends of said shafts and meshing with said racks, a sheave, a bracket at the top of the window frame for supporting said sheave, and a cable connecting with one end of said plate and adapted to pass over said sheave, substantially as and for the purpose herein described.

4. In a curtain shade roller support, a pair of racks adapted to be fixed to a window-frame, guide strips projecting toward each other and inwardly from said racks, a pair of brackets each having its inner end slidably connected in said guide strips, a plate connected to the outer ends of the brackets and projecting from said brackets, said plate having each of its ends provided with a bearing for supporting a curtain shade roller, said brackets projecting below said plate, a pair of shafts arranged in parallelism with respect to each other and journaled in said brackets, said shafts of less length than said plate, pinions carried by the ends of said shafts and meshing with said racks, and means connected with the plate for vertically moving the same.

972,889. NAUTICAL INSTRUMENT. CLARENCE A. MCCALLISTER, Marietta, Wash. Filed Sept. 17, 1909. Serial No. 518,205.



1. An instrument of the class described comprising a base, a ring rotatably mounted upon said base, said ring being disposed at a vertical inclination to the base and provided with a scale of days and a scale of latitude degrees, and a standard carried by the base, said standard having arms at its upper end, one of said arms being adapted to register with the scale of days, the other of said arms extending over a portion of the ring in spaced relation therewith to project a shadow upon the scale of latitude degrees.

2. An instrument of the class described comprising a base, having an upper concave surface, a ring mounted upon the concave surface of said base, said ring having a scale of days upon its outer surface, and a scale of latitude upon its inner surface and inclined from the vertical, means for retaining the ring upon the base, means for rotating said ring, and a perpendicular standard disposed at the rear edge of said base, said standard carrying indicating arms at its upper end, one of said arms being adapted to register with the scale of days upon the outer circumference of the ring, the other of said arms extending over a portion of the ring in spaced relation therewith to project a shadow upon the scale of latitude degrees provided upon the inner circumference of the ring.

3. An instrument of the class described, comprising a base having a longitudinally concave upper surface, a ring mounted upon the concave surface of the base and disposed at a vertical rearward inclination thereto, means for retaining the ring on the base, a rack carried by said ring, a pinion mounted in the base engaging with said rack to rotate the ring, said ring being provided with a scale of days upon its circumference and a scale of latitude degrees on its inner surface, and oppositely disposed indicating arms carried by the base, one of said arms registering with the scale of days, and the other of said arms over a portion of the ring being extended in spaced relation therewith to project a shadow upon the scale of latitude degrees.

4. An instrument of the class described comprising a base, having a transversely inclined upper surface, a ring having a scale of days upon its circumference and a scale of latitude upon its inner surface mounted upon said base and extending at an inclination thereto, a transversely mounted roller carried by the base adapted to retain the ring in position thereon, bearing rollers disposed in the opposite ends of the base, means for rotating said ring, a vertical standard carried by the base, an indicating arm secured to the upper end of said standard, said arm being positioned over the scale of days upon the ring,

and a pivoted indicating arm spaced over and adapted to project a shadow upon the scale of latitude.

5. An instrument of the class described comprising a base, a ring vertically positioned upon said base and having a scale of days upon its circumference and a scale of latitude upon its inner surface, a roller rotatably mounted upon the base, said ring extending beneath the roller, bearing rollers mounted in the opposite ends of the base, a circumscribing rack carried by the ring, a pinion mounted in the base adapted to engage with said rack to rotate the ring, a perpendicular standard mounted upon the rear of said base, said standard carrying oppositely disposed arms, one of said arms being positioned over the scale of days, the other of said arms being spaced over and adapted to project a shadow upon the scale of latitude of the ring.

[Claim 6 not printed in the Gazette.]

972,890. RAILROAD-TIE. THOMAS E. MCCORMICK, Canton, Ohio. Filed Dec. 26, 1908. Serial No. 469,429.



1. A railroad tie having, in combination, a central slotted anchoring portion composed of a plurality of flanged bars and a rail-bearing portion arranged in extension thereof at each end, said bearing portions each having a transverse groove remote from the slotted portion, and an elastic material set in said groove.

2. A railroad tie having, in combination, a central slotted portion composed of a plurality of separated bars having laterally extending flanges, and a top portion provided with a transverse groove in each end, and rail-bearing material of a substance different from the tie secured in said groove.

3. A railroad tie comprising a central slotted body the sides of which converge toward its top, and the bars of which are flanged to provide anchoring portions and a rail-bearing portion at each end of the slotted portion provided with a transverse groove, and an elastic rail-bearing material secured in said groove.

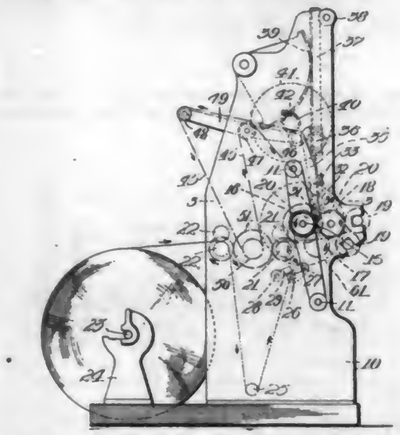
4. A railroad tie having a central body portion and rail-bearing end portions, each of the latter being provided with a transverse groove in its surface, and a longitudinal chamber extending from the end thereof toward the anchoring portion and extending under said groove, a rail-bearing block set in said transverse groove with its surface flush with the surface of the central portion, and rail-fastening means carried by said block including bolts passing through the latter into said chamber.

5. A railroad tie having, in combination, a central portion tapered from its bottom to its top and end portions each tapered on its opposite sides and on its bottom from the central portion to its end, and a rail-bearing block carried by said end portion having its surface flush with the surface of the central portion.

972,891. SLITTING AND REWINDING MACHINE. FRANCIS MEISEL, Boston, Mass., assignor to Meisel Press & Mfg. Co., Boston, Mass., a Corporation of Massachusetts. Filed Oct. 9, 1908. Serial No. 457,015.

1. In a slitting and rewinding machine, the combination of a pair of feed rolls for the web, winding cylinders or drums for receiving the web therefrom, and an independent laterally adjustable guide between the feed rolls and winding cylinders or drums for guiding the edges of the web to the cylinders or drums.

2. In a slitting and rewinding machine, the combination of a set of feed rolls, winding cylinders or drums, a guide between the feed rolls and drums, and means for forming a loop between the feed rolls and guide.



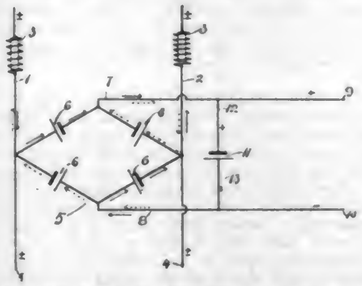
3. In a slitting and rewinding machine, the combination of a pair of feed rolls, an idler roller located at a distance from the feed rolls, a rod over which the web passes located in position adjacent to the feed rolls, whereby the web forms a loop in passing from the feed rolls over said idler roller to the rod, winding drums for receiving the web from the rod, and a guide for the edge of the web located adjacent to said rod.

4. In a slitting and rewinding machine, the combination of a set of feed rolls, an idler roller located at a distance below said feed rolls, a rod located forward of the feed rolls and at a distance above the idler rolls, winding drums for receiving the web from the rod, and a guide for the edge of the web located adjacent to the said rod between the feed-rolls and winding rolls.

5. In a slitting and rewinding machine, the combination of a pair of feed rolls, an idler roller located at a distance from the feed rolls, a rod over which the web passes located in position adjacent to the feed rolls, whereby the web forms a loop in passing from the feed rolls over said idler roller to the rod, a guide for the edge of the web located adjacent to said rod, said guide consisting of a pair of members, and a rod parallel with the first named rod along which said members are adjustable.

[Claims 6 to 14 not printed in the Gazette.]

972,892. RECTIFIER. WILLIAM MEYER, Chicago, Ill. Filed Mar. 30, 1908. Serial No. 424,230.



1. In a device of the class described, the combination of a reactance interposed in an alternating current circuit for causing the current to approach the true sine curve for producing a sinusoidal current, an asymmetric cell rectifier for such circuit, and an asymmetric cell shunted across the leads from the rectifier said last-mentioned cell having an aluminum anode.

2. In a device of the class described, the combination of a chemical rectifier interposed in an alternating current circuit, a reactance interposed in each side of the circuit, conductors for delivering direct current from the rectifier, an asymmetric cell shunted across said conductors, and having an aluminum anode and conductors for delivering alternating current from the rectifier suitable for administration as a sinusoidal current.

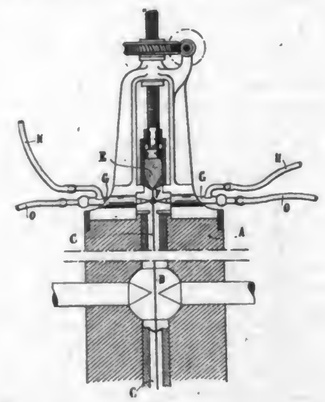
3. In a device of the class described, the combination of a balanced chemical rectifier interposed in an alternating current circuit, means interposed in said circuit for nullifying fluctuations in the respective components of the alternating current, and an asymmetric cell shunted across the direct current leads from the rectifier said cell having an aluminum anode.

4. In a device of the class described, the combination of a chemical rectifier interposed in an alternating current circuit for transforming the alternating current into a direct current, means interposed in the alternating current circuit for causing the current curve to approach the true sine curve, and an asymmetric cell shunted across the conductors of the direct current circuit of the rectifier said last-mentioned cell having an aluminum anode.

5. In a device of the class described, the combination with a chemical rectifier interposed in an alternating current circuit for delivering a uni-directional current, and an asymmetric cell shunted across the direct current leads of the rectifier and disposed with the positive pole of the cell connected with the positive lead, and the negative pole of the cell with the negative lead said cell having an aluminum anode.

[Claims 6 to 11 not printed in the Gazette.]

972,893. MANUFACTURE OF FILAMENTS FOR ILLUMINATING AND HEATING PURPOSES. GEORGES MICHAUD and EUGÈNE DELASSON, Montreuil, Seine, France. Filed May 6, 1908. Serial No. 431,204.



1. The process of manufacturing incandescing filaments, which consists in agglomerating material, forming the same into a filament, subjecting said filament to the action of a gaseous flame whereby an initial fusion is produced, and afterward subjecting said filament to the heat from an electric arc.

2. The process of manufacturing incandescing filaments, which consists in agglomerating material, forming the same into a filament, subjecting said filament to an oxy-hydrogen flame, and afterward subjecting said filament to the heat from an electric arc.

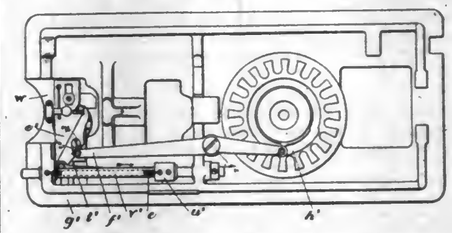
3. A filament comprising oxid of thorium, oxid of cerium, oxid of glucinium, oxid of chromium, oxid of aluminium, and silicate of aluminium.

4. A filament comprising a plurality of radiant materials, and an agglutinant composed of arabin and ammonia soap.

5. A filament comprising a plurality of radiant materials, and an agglutinant composed of substantially nine parts of arabin and one part of ammonia soap.

[Claim 6 not printed in the Gazette.]

972,894. SEWING-MACHINE. WILLIAM V. MILLER, Toronto, Ontario, Canada, assignor, by mesne assignments, to The Singer Manufacturing Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 19, 1906. Serial No. 301,824.



1. In a sewing machine, the combination with stitch-forming mechanism and work-holding means, of a thread-severing mechanism comprising relatively movable thread-engaging members, automatically acting means for operating said members whereby one of them performs an initial movement to enter a loop of a stitch formed by the stitch-forming mechanism, and manually operated means for actuating the other of said members transversely to said initial movement to sever the thread.

2. In a sewing machine, the combination with stitch-forming mechanism comprising a reciprocating needle and a coöperating loop-taker, of a thread-severing device comprising a slide-plate, a severing member fixed thereon and movable therewith adjacent the needle-path, a movable severing member pivotally connected to the slide-plate, automatically acting means for operating the slide-plate to position the fixed and oscillating severing members in the needle-thread-loop distended by the loop-taker in the production of the last stitch of a group of stitches, and manually operated means to actuate the oscillating severing member to sever the thread.

3. In a sewing machine, the combination with stitch-forming mechanism comprising a reciprocating needle and complemental lower-thread mechanism, of a thread-severing device comprising a slide-plate, a severing member fixed thereon and movable therewith adjacent the needle-path, a movable severing member pivotally connected to the slide-plate, automatically acting means for operating the slide-plate to position the fixed and oscillating severing members in the needle-thread loop of the last stitch of a group of stitches, manually operated means to actuate the oscillating severing member to sever the needle-thread, a second pivotally mounted severing member movable differentially in respect of the first-named pivotally-mounted severing member, and means whereby the second-named severing member is operated to sever the lower thread.

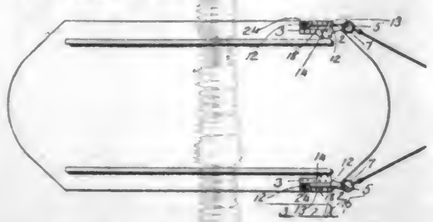
4. In a sewing machine, the combination with stitch-forming mechanism comprising a reciprocating needle and complemental lower-thread mechanism, of a thread-severing device comprising a slide-plate, a severing member fixed thereon and movable therewith adjacent the needle-path, a movable severing member pivotally connected to the slide-plate, automatically acting means for operating the slide-plate to position the fixed and oscillating severing members in the needle-thread-loop of the last stitch of a group of stitches, manually operated means to actuate the oscillating severing member to sever the needle-thread, a second pivotally mounted severing member movable differentially in respect of the first-named pivotally mounted severing member, and a connection intermediate said piv-

oted severing members whereby the second-named member is actuated to sever the lower thread.

5. In a sewing machine, the combination with stitch-forming mechanism comprising a reciprocating needle and complemental lower-thread mechanism, of a thread severing device comprising a slide-plate, a severing member fixed thereon and movable therewith adjacent the needle-path, a movable severing member pivotally connected to the slide-plate, automatically acting means for operating the slide-plate to position the fixed and oscillating severing members in the needle-thread-loop of the last stitch of a group of stitches, manually operated means to actuate the oscillating severing member to sever the needle-thread, a second severing member pivotally mounted upon a stationary fulcrum, and an operative connection intermediate said pivotally mounted severing members whereby the actuation of the one in severing the needle-thread produces the actuation of the other to sever the lower thread.

[Claims 6 to 36 not printed in the Gazette.]

972,895. HAWSER-SECURING DEVICE FOR SCOWS. GARRETT V. MITCHELL, Bayonne, N. J. Filed Feb. 25, 1910. Serial No. 545,851.



1. A hawser securing device for rotatable scows, having reversible decks, said device having means adjacent each deck adapted to be engaged by the hawser, means adapted to positively support said hawser in elevated position, means adapted to guide the hawser from one to the other of said first mentioned means and means for positively disengaging the hawser from the first mentioned means, substantially as decribed.

2. A hawser securing device for rotatable scows, having reversible decks, said device having means provided with recesses adapted to be engaged by the hawser, lugs adjacent the entrance to said recesses normally retaining said hawser therein, means adapted to guide the hawser from the recess in one into the recess in the other of the first mentioned means and means for positively disengaging the hawser from the lugs and recesses, substantially as described.

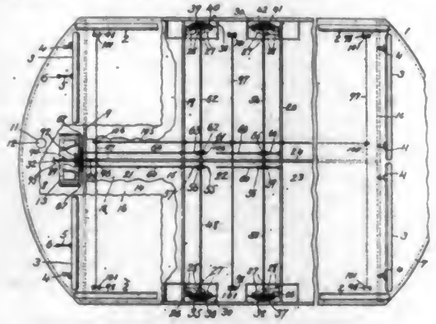
3. A hawser securing device for rotatable scows, having reversible decks, said device having means provided with recesses adapted to be engaged by the hawser, lugs adjacent the entrance to said recesses normally retaining said hawser therein, means adapted to guide the hawser in its movement from the recess in one into the recess in the other of the first mentioned means, bars adapted to be operated to disengage the hawser from the lugs and recesses and levers adapted to operate said bars, substantially as described.

4. A hawser securing device for rotatable scows, having reversible decks, said device having means provided with recesses adapted to be engaged by the hawser, lugs adjacent the entrance to said recesses normally retaining said hawser therein, means adapted to guide the hawser in its movement from the recess in one into the recess in the other of the first mentioned means, hooked bars adapted to be operated to disengage the hawser from the lugs and recesses, and means adapted to operate said bars, substantially as described.

5. A hawser securing device for rotatable scows, having reversible decks, means provided with recesses adapted to be engaged by the hawser, means adapted to guide the hawser from the recess in one into the recess in the other of the first mentioned means, bars adapted to be operated to disengage the hawser from said recesses and fulcrumed levers, on which said bars are fulcrumed, adapted to operate said bars, substantially as described.

[Claim 6 not printed in the Gazette.]

972,896. AUTOMATICALLY-OPERATING DUMPING-SCOW. GARRETT V. MITCHELL, Bayonne, N. J. Filed Feb. 25, 1910. Serial No. 545,852.



1. A rotatable dumping scow having reversible decks, a watertight chamber adapted to carry an operator, means allowing access to and exit from said chamber, air chambers adjacent its decks, a water chamber intermediate said air chambers, combined inlet and outlet openings for said water chamber located adjacent its floors on each side, valves controlling said openings, means operatable from the operator chamber adapting said valve to be operated to open or close said openings, substantially as described.

2. A rotatable dumping scow having reversible decks, a watertight chamber adapted to carry an operator, means allowing access to and exit from said chamber, air chambers adjacent its decks, a water chamber intermediate said air chambers, combined inlet and outlet openings for said water chambers located adjacent its floors on each side, valves controlling said openings, means operatable from the operator chamber adapting said valve to be operated to open or close a plurality or all of said openings simultaneously, substantially as described.

3. A rotatable dumping scow having reversible decks, air chambers adjacent its decks, a water chamber intermediate said air chambers, transverse bulkheads subdividing said water chamber, longitudinal swash-bulkheads in the subdivision of said water chamber, combined inlet and outlet openings for said water chamber located adjacent its floors on each side, valves controlling said openings and means adapting said valves to be operated to open or close said openings, substantially as described.

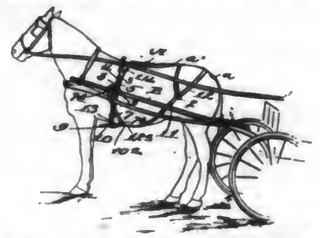
4. A rotatable dumping scow having reversible decks, air chambers adjacent its decks, a water chamber intermediate said air chambers, transverse bulkheads subdividing said water chamber, longitudinal swash-bulkheads in the subdivisions of said water chamber, combined inlet and outlet openings for said water chamber located adjacent its floors on each side, valves controlling said openings and means adapting said valves to be operated to open or close a plurality or all of said openings simultaneously, substantially as described.

5. A rotatable dumping scow having reversible decks, air chambers adjacent its decks, a water chamber intermediate said air chambers and means adapting said water chamber and the uppermost air chamber to be drained into the lower air chamber when either deck is uppermost, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

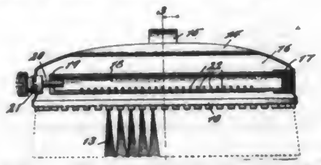
972,897. HARNESS. THOMAS S. MOFFETT, Spokane, Wash. Filed May 26, 1910. Serial No. 563,511.

1. The combination of a back band split adjacent its rear end to form side extensions and a tongue between said extensions, and a breeching having a buckle secured thereto, said tongue being apertured to engage said buckle.



2. The combination of hold-back straps having loops formed at one end and connecting members at the opposite end, a back-band, a breeching adjustably connected to said back band and having connecting members at its forward end, and a connection to receive the members of the hold-back straps and the breeching.

972,898. BRUSH. ROBERT J. MONTGOMERY, Chicago, Ill. Filed Feb. 8, 1909. Serial No. 476,722.



1. In a brush, the combination with the bristle-bearing portion, and a back of yielding material adapted to fit loosely thereon, of means carried by said back adapted to distort said back after it has been placed in position on said bristle-bearing portion to hold it tightened against said bristle-bearing portion.

2. In a brush, the combination with the bristle-bearing portion, and a back of yielding material adapted to be placed loosely thereon, of means adapted to distort said back after it has been placed in position on said bristle-bearing portion whereby said back is held firmly thereon.

3. In a brush, the combination with the bristle-bearing portion, and a back of yielding material adapted to fit loosely thereon, of means carried by said back adapted to contract it either longitudinally or transversely to tighten it at the ends or at the sides, respectively, against said bristle-bearing portion.

4. In a brush, the combination with the bristle-bearing portion, and a back of yielding material adapted to loosely fit thereon, of a screw mounted in said back and adapted to exert pressure upon said back to bind it at a plurality of points against said bristle-bearing portion.

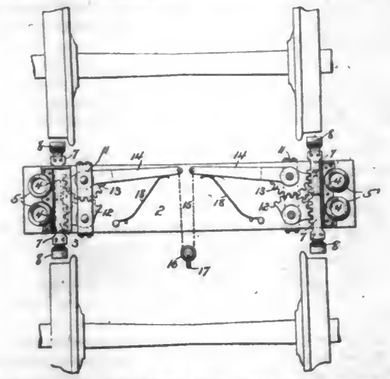
5. In a brush, the combination with the bristle-bearing portion, and a back of yielding material adapted to be placed loosely thereon, of a rod mounted at one end in said back, and adjusting means mounted on said back adapted to bear against said rod whereby said back may be distorted and thereby secured firmly in position upon said bristle-bearing portion.

[Claims 6 to 11 not printed in the Gazette.]

972,899. CAR-BRAKE. IRA D. MORRISON and LOUIS J. ANDREWS, Savannah, Ga. Filed Oct. 4, 1909. Serial No. 520,859.

1. The combination with a car truck and guides or housings thereon, of alining rack-bars mounted in said housing, brake-shoes carried by the respective rack-bars, said rack-bars having teeth at the same side thereof, and means for moving said rack-bars simultaneously in opposite directions.

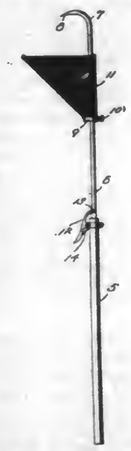
2. The combination with a car truck and housings thereon, of two rack-bars mounted in each housing, brake-shoes secured to the rack-bars, intermeshing toothed-segments mounted in the truck and meshing with said rack-bars, and means for transmitting motion to said two segments to move the rack-bars in opposite directions and apply the brake-shoes to the wheels.



3. The combination with a car truck and a housing located on the spring plank thereof, of two alining rack-bars located in said housing and projecting beyond the respective ends thereof, brake-shoes at the exposed ends of said rack-bars, two intermeshing toothed segments mounted on the spring plank and meshing respectively with the respective rack-bars, an arm or lever secured to one of said toothed segments and means connected with said arm or lever for moving it to apply the brake-shoes to the wheels.

4. The combination with a car truck and housing located upon respective ends of the spring plank thereof, of two rack-bars mounted in each housing and projecting beyond the ends thereof, a brake-shoe carried by each rack-bar, two pairs of intermeshing toothed segments mounted on the spring plank and meshing with said rack-bars, an arm or lever secured to one toothed segment of each pair, springs bearing against said arms or levers and tending to move the same in a direction to move the brake shoes away from the wheels, and means connected with said levers for operating them to apply the brake shoes to the wheels.

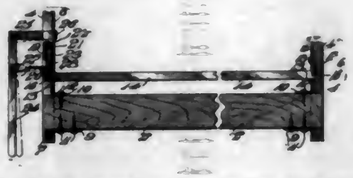
972,900. FRUIT-PICKER. HARRY L. MOSIER, Keller, Tex. Filed Oct. 25, 1909. Serial No. 524,500.



The herein described fruit picker comprising a tubular handle, a rod loosely telescoping in said handle and having

a goose neck at its upper end terminating in outwardly diverging pointed fingers, a basket adjustably supported on said rod whereby it may be moved toward or away from the said goose neck, a collar clamped to the handle near its end receiving the rod, and a spring controlled lever pivoted to said collar and having a forked end frictionally engaging the rod to normally hold it in adjusted position relative to the handle.

972,901. HEDDLE-FRAME. GEORGE NUTTALL, Chester, Pa. Filed June 7, 1909. Serial No. 500,507.



1. In a heddle frame, the combination with channeled end pieces, of cross rails, said end pieces having strips adjacent each end deflected therefrom, fastening devices for securing said strips upon opposite edges of the cross rails, said end pieces having apertures at suitable points, heddle rods adapted to pass through said apertures, means on one of the end pieces for engagement with one end of a heddle rod, and yielding means on the other of said end pieces for engagement with the other end of the same heddle rod, both of said means being contained within said end pieces.

2. In a heddle frame, the combination with the cross rails, of U-shaped end pieces rigidly secured thereto, the ends of the side flanges of said pieces being deflected, said pieces having apertures through the bottom thereof, heddle rods adapted to pass through said apertures, fastening devices within one of said end pieces each adapted to receive one end of a heddle rod, bushings secured within the other end piece by deflecting a portion of the metal thereinto, and a spring mounted on each of said bushings and detachably secured to a heddle rod.

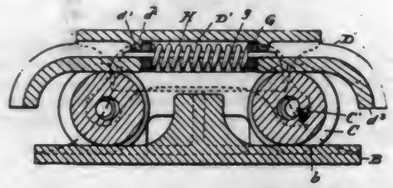
3. In a heddle frame, the combination of U-shaped end pieces having portions of the bottom thereof deflected and forming apertures therethrough, cross rails having their ends reduced and passing through said apertures so as to be flush with the sides of the end pieces, fastening devices engaging such deflected portions and the cross rails, said end pieces having slots therethrough, heddle rods adapted to pass through the slots, means carried by one of the end pieces for detachably securing one end of each heddle rod thereto, and springs movably mounted in the opposite end piece each having one end adapted to engage the other end of one of said heddle rods and having its opposite end abutting against the bottom of the end pieces, whereby a tension is exerted upon the heddle rods.

4. In a heddle frame, the combination with U-shaped end pieces having portions thereof near each end deflected and forming apertures, of cross rails passing through said apertures and having their sides flush with the sides of the end pieces, means for securing said outwardly deflected portions at each end upon different sides of the cross rails, said end pieces having slots through the bottom thereof, heddle rods adapted to pass through said slots, means located within one of said end pieces for securing one end of the heddle rod thereto, and means secured within the other of said end pieces for securing the other end of the heddle rod in position.

5. In a heddle frame, the combination with U-shaped end pieces having apertures therethrough, of cross rails extending through said apertures and having their sides flush with the sides of said end pieces, said end pieces having a portion of the bottom thereof deflected to form said apertures, means for securing said deflected portion to the cross rails, said end pieces having slots through the bottom thereof, heddle rods adapted to pass through said slots, fastening devices in one of said end pieces for securing one end of said heddle rods, and springs pivotally supported between the sides of the other end pieces and having means at one end adapted to engage the ends of the heddle rods, the other ends of said springs being adapted to engage the bottom of said end pieces.

[Claims 6 and 7 not printed in the Gazette.]

972,902. ROLLER SIDE BEARING FOR RAILWAY-CARS. JOHN F. O'CONNOR, Chicago, Ill., assignor, by mesne assignments, to William H. Miner, Chicago, Ill. Filed Oct. 1, 1909. Serial No. 520,554.



1. In a roller side bearing, the combination with a lower bearing plate, of an upper bearing plate, anti-friction rollers interposed between said bearing plates, a pair of separate and independently movable spacers one at each end of the rollers and each having studs fitting in the ends of the anti-friction rollers and provided with shoulders for followers to bear against, said upper bearing plate having a recess to receive a spring, and shoulders for followers to engage, and a spring and followers, substantially as specified.

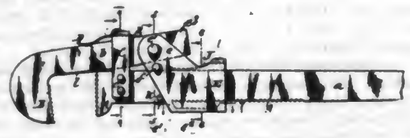
2. In a roller side bearing, the combination with a lower bearing plate, of an upper bearing plate, anti-friction rollers interposed between said bearing plates, a pair of spacers having studs fitting in the ends of the anti-friction rollers and provided with shoulders for followers to bear against, said upper bearing plate having a recess to receive a spring, and shoulders for followers to engage and a spring and followers, said upper and lower bearing plates having oppositely inclined or double cone-faced treads, and said anti-friction rollers being of double cone form, substantially as specified.

3. In a roller side bearing, the combination with a lower bearing plate, of an upper bearing plate, anti-friction rollers interposed between said bearing plates, a pair of spacers having studs fitting in the ends of the anti-friction rollers and provided with shoulders for followers to bear against, said upper bearing plate having a recess to receive a spring and shoulders for followers to engage, and a spring and followers, said lower bearing member having upright wings furnished with guide shoulders and said upper bearing plate having depending sides furnished with guides engaging said guide shoulders on the lower bearing plate, substantially as specified.

4. In a roller side bearing, the combination with a lower bearing plate, of an upper bearing plate, anti-friction rollers interposed between said bearing plates, a pair of spacers having studs fitting in the ends of the anti-friction rollers and provided with shoulders for followers to bear against, said upper bearing plate having a recess to receive a spring and shoulders for followers to engage, and a spring and followers, said lower bearing member having upright wings furnished with guide shoulders, and said upper bearing plate having depending sides furnished with guides engaging said guide shoulders on the lower bearing plate, one of said last mentioned guides being in a separate piece and removable, substantially as specified.

5. In an anti-friction side bearing, the combination with a lower bearing plate, of an upper movable bearing plate, anti-friction rollers between said bearing plates, separate and independently movable spacers one at each end of the rollers and each having studs fitting in the ends of the rollers, a spring and followers, said upper bearing plate and said spacers having stop shoulders to engage the followers, substantially as specified.

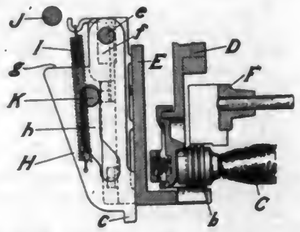
972,903. PIPE-WRENCH. ANTHONY A. O'DONNELL, Springville, N. Y. Filed May 25, 1909. Serial No. 498,285.



1. A pipe wrench comprising a handle provided with a fixed jaw, a shank movable lengthwise of the handle and having a movable jaw which coöperates with the fixed jaw, a guide on the handle for said shank, a yoke slidable on said handle and pivotally connected at the front end of its rear side with said shank and provided on its front side with adjusting teeth adapted to engage with adjusting teeth on the front side of the handle and having a fulcrum which is arranged transversely in line with the pivot of the shank and engages with the rear side of the handle, a spring interposed between the rear side of the rear end of said yoke and the rear side of the handle for holding the teeth of the yoke yieldingly in engagement with those of the handle.

2. A pipe wrench comprising a handle provided with a fixed jaw, a shank movable lengthwise of the handle and having a movable jaw which coöperates with the fixed jaw, a guide on the handle for said shank, a yoke slidable on said handle and pivotally connected at the front end of its rear side with said shank and provided on its front side with adjusting teeth adapted to engage with adjusting teeth on the front side of the handle and having a fulcrum which is arranged transversely in line with the pivot of the shank and engages with the rear side of the handle, a spring interposed between the rear side of the rear end of said yoke and the rear side of the handle for holding the teeth of the yoke yieldingly in engagement with those of the handle, and a stop for limiting the forward movement of the yoke on the handle and preventing engagement of same with said guide.

972,904. WEFT-REPLENISHING LOOM. EDWARD DANA OSGOOD and ALONZO E. RHOADES, Hopedale, Mass., assignors to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Apr. 25, 1908. Serial No. 429,231.



1. A weft-replenishing loom having, in combination, a holder for a spare weft-carrier; a transferrer to transfer the spare weft-carrier from the holder to the working shuttle; a rising, falling and swinging shuttle placer having a cam slot and a finger adapted to enter the shuttle and encounter a shoulder thereof; a spring tending to lift the shuttle placer; a swinging pusher yieldingly connected to the transferrer to move said shuttle placer downwardly; and an actuator connected with said transferrer and entering the cam-slot of said shuttle placer.

2. A weft-replenishing loom having, in combination, a holder for a spare weft-carrier; a transferrer for transferring said weft-carrier into the working shuttle on the loom; a vertically moving shuttle placer adapted to swing lengthwise of the shuttle; and connecting mechanism between said placer and transferrer whereby when the transferrer acts the placer descends into operative relation with the shuttle and swings inwardly to move the shuttle inwardly should the shuttle be displaced too far outwardly.

3. A weft-replenishing loom having, in combination, a holder for a spare weft-carrier; a transferrer for transferring said weft-carrier into the working shuttle on the loom; a vertically moving shuttle placer adapted to swing lengthwise of the shuttle; and mechanism causing the placer to descend into operative relation with the shuttle and to swing inwardly to move the shuttle inwardly.

4. A weft-replenishing loom having, in combination, a holder for a spare weft-carrier; a transferrer for transferring said weft-carrier into the working shuttle on the loom; a shuttle placer carried by a fixed part of the loom and adapted to swing lengthwise of the shuttle; and connecting mechanism independent of the spare weft-carrier between said placer and transferrer whereby when the transferrer acts the placer swings inwardly to engage the shuttle and move it inwardly.

5. A weft-replenishing loom having, in combination, a holder for a spare weft-carrier; a transferrer for transferring said weft-carrier into the working shuttle on the loom; a shuttle placer carried by a fixed part of the loom and adapted to engage the shuttle and to move it lengthwise; and connecting mechanism independent of the spare weft-carrier between said placer and transferrer whereby when the transferrer acts the placer engages the shuttle and moves it into position.

[Claims 6 to 8 not printed in the Gazette.]

972,905. HEATER. TRUMAN G. PALMER, Chicago, Ill. Filed Oct. 18, 1909. Serial No. 523,193.



1. In a heater, the combination with a shell, of a separate baffle within the shell formed of a sheet metal plate with a longitudinal series of radially extending fins or vanes.

2. In a heater, the combination of a reticulated heating shell, and a separate baffle within the shell formed by a single sheet metal plate having radially extending vanes or fins.

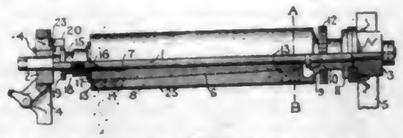
3. In a heater, the combination of a cylindrical open mesh heating shell, and a separate baffle within the shell formed of a flat sheet metal plate with a longitudinal series of radially extending fins or vanes.

4. In a heater, the combination of an openwork heating shell, and a baffle in said shell formed of a twisted sheet metal blank having pairs of horizontally alined diametrically disposed fins or vanes, each pair being offset angularly with respect to the adjacent pair.

5. In a heater, the combination of a cylindrical open-work heating shell, and a reflector inclosing said shell and having a top with an opening through which said shell is extended upwardly.

[Claims 6 to 9 not printed in the Gazette.]

972,906. FORM-SUPPORT FOR PRINTING-PRESSES. GEORGE E. PANCOAST, Brooklyn, N. Y., assignor to American Lithographic Company, a Corporation of New York. Filed Mar. 6, 1900, Serial No. 7,446. Renewed Dec. 3, 1904. Serial No. 235,332.



1. A contractible and expansible support for a printing form comprising a plurality of radially adjustable supporting sections and means for adjusting them, said sections being removable and replaceable by sections of different dimensions, whereby the effective diameter of the support may be varied for forms of different curvatures, substantially as described.

2. A support for a printing form adjustable in diameter and constructed to present, in one adjustment, a substantially complete and a true and uniform curved supporting surface which may be reduced in diameter in all directions, substantially as described.

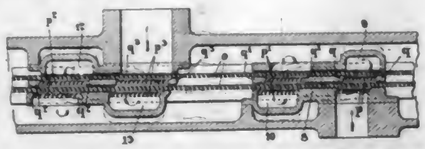
3. A support for a printing form adjustable in diameter and constructed to present, in one adjustment, a substantially complete and a true and uniform cylindrical supporting surface which may be reduced in diameter in all directions, substantially as described.

4. A support for a printing form comprising radially adjustable sections so constructed that they together present, in one adjustment, a substantially complete and a true and uniform curved supporting surface which may be reduced in diameter in all directions, substantially as described.

5. A support for a printing form comprising radially adjustable sections so constructed that they together present, in one adjustment, a substantially complete and a true and uniform curved supporting surface which may be reduced in diameter in all directions, said sections being removable and replaceable by sections of different dimensions, whereby the diameter of the support may be varied for forms of different curvatures.

[Claims 6 to 21 not printed in the Gazette.]

972,907. TURBINE. CHARLES ALGERNON PARSONS, Newcastle-upon-Tyne, England. Filed Aug. 25, 1909. Serial No. 514,594.



1. A turbine having a number of successive stages each of which comprises a plurality of means for fractionally converting the pressure energy of the working fluid into kinetic energy, reaction means interposed between said converting means for transforming said kinetic energy into mechanical energy while further converting said pressure energy into kinetic energy and means whereby the working fluid is passed more than once in the same direction through the same reaction means.

2. A turbine having a number of successive stages each of which comprises a plurality of means for fractionally converting the pressure energy of the working fluid into kinetic energy, a rotor, reaction means carried by said rotor and interposed between said converting means for transforming said kinetic energy into mechanical energy while further converting said pressure energy into kinetic energy and means whereby the working fluid is passed more than once in the same direction through the same reaction means.

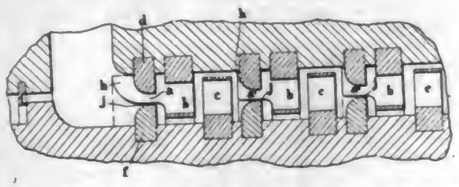
3. A turbine having a number of successive stages each of which comprises a plurality of means for fractionally converting the pressure energy of the working fluid into kinetic energy, reaction means interposed between said converting means for transforming said kinetic energy into mechanical energy while further converting said pressure energy into kinetic energy, said converting means only partly extending over said reaction means, and means whereby the working fluid is passed more than once in the same direction through the same reaction means.

4. A turbine having a number of successive stages each of which comprises a plurality of means for fractionally converting the pressure energy of the working fluid into kinetic energy, reaction means interposed between said converting means for transforming said kinetic energy into mechanical energy while further converting said pressure energy into kinetic energy; said converting means only partly extending over said reaction means and terminating in short end blockings to form impingement zones, and means whereby the working fluid is passed more than once in the same direction through the same reaction means.

5. A turbine having a number of successive stages each of which comprises a plurality of means for fractionally converting the pressure energy of the working fluid into kinetic energy, reaction means interposed between said converting means for transforming said kinetic energy into mechanical energy while further converting said pressure energy into kinetic energy, said converting means only partly extending over said reaction means and terminating in short end blockings to form impingement zones which gradually increase in cross sectional area in the direction of flow of the fluid through the turbine, and means whereby the working fluid is passed more than once in the same direction through the same reaction means.

[Claims 6 to 40 not printed in the Gazette.]

972,908. FLUID-PRESSURE TURBINE. CHARLES ALGERNON PARSONS, Newcastle-upon-Tyne, England. Filed Dec. 18, 1909. Serial No. 533,747.



1. A turbine having fixed and rotating parts, the space between which is restricted radially to form jets at intervals along the length of the turbine and guide blades extending through said restrictions.

2. A turbine having fixed and rotating parts, the space between which is restricted radially to form jets at a plurality of intervals along the length of the turbine and guide blades extending through said restrictions, these guide blades giving a circumferential direction to the working fluid after having been expanded in said restrictions.

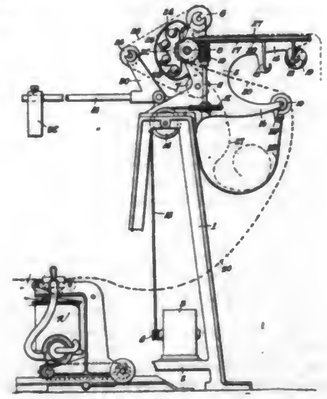
3. A turbine having fixed rotating parts the space between which is restricted radially to form jets at intervals along the length of the turbine and guide blades placed within said restrictions and carried by one of said parts whereby the steam is expanded in flowing axially through said restrictions and is then given a circumferential direction by said blades.

4. A turbine having in combination fixed and moving parts, the space between which is restricted radially to form jets at intervals along the length of the turbine, guide blades in said restriction carried by one of said parts, said blades being arranged to convey the working fluid axially during expansion of the same and then acting to give a circumferential direction thereto, and means carried by said turbine parts for absorbing the velocity of the working fluid thus generated when passing through said restrictions.

5. A turbine having in combination fixed and moving parts, the space between which is restricted radially to form jets at intervals along the length of the turbine, guide blades in said restriction carried by one of said parts, said blades being arranged to convey the working fluid axially during expansion of the same and then acting to give a circumferential direction thereto, and means carried by said turbine parts for absorbing the velocity of the working fluid thus generated when passing through said restriction, said velocity absorbing means giving a gradually increasing cross sectional area for the passage of the working fluid between adjacent restrictions.

[Claims 6 to 16 not printed in the Gazette.]

972,909. BLUE-PRINTING MACHINE. CHARLES F. PEASE, Chicago, Ill. Filed Apr. 24, 1909. Serial No. 491,939.

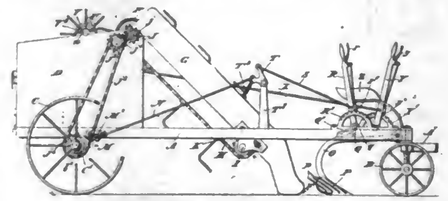


1. In a blueprint machine, the combination with a support, of a feeding table arranged thereon, a plurality of rollers arranged near one side of said table and forming substantially a triangle, two of said rollers being arranged in a substantially vertical plane, a driving roller arranged between said last named rollers and provided with a gear-wheel, a vertically disposed worm-gear arranged to mesh with said gear wheel, means for rotating said worm gear, a transparent endless belt trained around said first named plurality of rollers and in engagement with said driving roller, and means arranged adjacent said driving roller for removably supporting tubular lights, substantially as described.

2. In a blue-print machine, a support, a plurality of rollers arranged upon said support to form substantially a triangle, a transparent endless belt arranged upon said rollers, a driving roller arranged between two of said rollers in engagement with said belt, between which and said belt, the blue-print paper and drawings pass, one of said rollers forming said triangle being arranged in a substantially horizontal plane with said driving roller and upon a swinging bracket, an adjustable weight carried by said bracket, a source of light arranged upon said support adjacent said driving roller, and means mounted upon said support in engagement with said driving roller for rotating said driving roller.

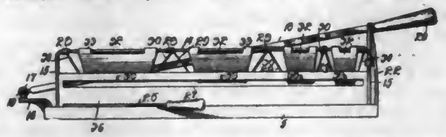
972,910. PEANUT-GLEANER. HENRY LAFAYETTE PIPPEN, Whitakers, N. C. Filed May 28, 1908. Serial No. 435,498.

1. In a peanut gleaner, the combination of a wheeled vehicle, a downwardly-forwardly inclined swinging frame, a grate supported thereby, the forward end of said grate adapted to rake peanuts from the ground, an endless conveyer having a plurality of rakes adapted to convey the peanuts over said grate and deliver them, a plow running in advance of the grate adapted to loosen peanuts in the soil, a plow-beam swung from the vehicle-frame, a cross-shaft having a crank connected with said swinging plow-beam, a lifting lever mounted on said shaft, an angle lever having one arm connected with said inclined frame, and a rod connecting the other arm of said angle-lever and said lifting lever, whereby the plow and front end of the grate can be raised and lowered simultaneously.



2. In a peanut gleaner, the combination of a wheeled vehicle, a downwardly-forwardly inclined swinging frame, a grate supported thereby, the forward end of said grate adapted to rake peanuts from the ground, an endless conveyer having a plurality of rakes adapted to convey the peanuts over said grate and deliver them, a plow running in advance of the grate adapted to loosen peanuts in the soil, driving connections for running said conveyer from the supporting drive-wheels of the machine, said driving connections including a clutch, a plow running in advance of the grate, a swinging plow-beam, a cross-shaft having a crank connected to said plow-beam, a lifting-lever mounted on said shaft, an elbow-lever having one arm connected with said inclined frame, a rod connecting its other arm with said lifting lever, another angle-lever having one arm operating a clutch-throw, and a rod connecting the other arm of the latter angle-lever with the first-mentioned angle-lever, whereby the machine can be thrown out of gear and the grate and plow raised simultaneously by means of said lifting-lever.

972,911. SEED-POTATO CUTTER. BYRON PORTER, Morgan, Utah. Filed Oct. 26, 1909. Serial No. 524,692.



1. In a seed potato cutter, a base frame, fixed cutters arranged therein, a pair of side frames rising from the opposite sides of the base frame, a plurality of arms extending inwardly from the side frames, leaves secured to said side frames between the arms, inverted V shaped leaves carried by said arms, and coöperating with the first-named leaves to form a series of graduated potato receiving compartments, the legs of each V shaped leaf forming the oppositely inclined end walls of adjacent compartments, a lever pivotally mounted on the base frame and movable in a vertical plane through said compartments whereby a plurality of various sized potatoes are sectioned with one thrust of the lever.

2. In a seed potato cutter, a base frame, fixed cutters arranged therein, a plurality of graduated potato receiving compartments on said base frame having their open bottoms registering with said cutters, a pivoted knife above said fixed cutters movable in a horizontal plane across the open bottom of one of the compartments, this last-named compartment being adapted to receive the largest of the seed potatoes, an operating lever on said base frame movable in a vertical frame through said com-

partments, said lever having one end loosely mounted on said base frame, a pair of guides at the opposite end of the base frame receiving the free end of the operating lever, a stop positioned between the guides for checking the downward movement of said lever, said operating lever being adapted to be moved laterally from engagement with said stop and its thrust continued whereby to section the potato in the small compartment after the horizontal knife has been actuated to section longitudinally the potato in the large compartment.

972,912. FENCE-POST. GEORGE L. PRESCOTT, FRANK R. ELLIS, and CHRISTIAN JENSEN, Milwaukee, Wis. Filed Feb. 24, 1908. Serial No. 417,478.



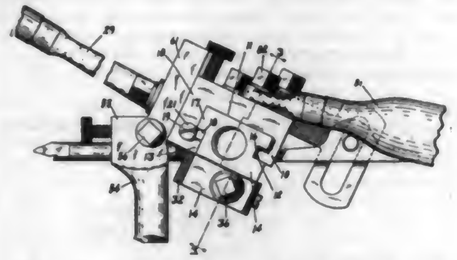
1. In a fence post, a metallic member composed of commercial split tubing having a relatively small diameter and re-inforced with a filling of non-metallic cementitious material adhering to the walls of said member, and a base provided with a socket in which said tubular member engages and having outwardly extending inner flanges; said tubing having sufficient rigidity to prevent it from springing away from the filling and destroying the adhesive engagement thereof with the inner surfaces of the metal.

2. A fence post having an integrally formed base provided with a tubular upper end and a pointed lower end and having the intermediate portion expanded to form divergent wings, together with a tubular upper portion having its lower end socketed in the tubular portion of the base, one of said wings being offset inwardly where it merges into the tubular portion and forming a shoulder supporting the lower end of the tubular portion.

972,913. SHAPER. JOHN F. PRIBNOW, Mellen, Wis. Filed Feb. 7, 1910. Serial No. 542,507.

1. A saw shaper comprising a main body-block having an under cut groove formed from end to end therethrough, a pair of correspondingly-shaped anvil carriers fitted in said groove, a clamping screw having opposite threads at its opposite ends threaded into the two anvil carriers, a lever secured to one end of said screw, a handle secured to the main body, a journal formed on the screw between the threads thereof, a bearing block mounted in the groove of the main body and having a bearing adapted to receive the journal of the screw, a shaper anvil mounted upon each anvil block, and means for clamping said anvil in position and for longitudinally adjusting said anvil upon its block.

2. A saw shaper comprising a main body-block having an under cut groove formed from end to end therethrough, a pair of correspondingly-shaped anvil carriers fitted in said groove, a tapered gib mounted in said groove between overlapping portions of the body and blocks, means for holding said gib in longitudinal adjustment, a clamping screw having opposite threads at its opposite ends threaded into the two anvil carriers, a lever secured to one end of said screw, a handle secured to the main body, a journal formed on the screw between the threads thereof, a bearing block mounted in the groove of the main body and having a bearing adapted to receive the journal of the screw, a shaper anvil mounted upon each anvil block, and means for clamping said anvil in position and for longitudinally adjusting said anvil upon its block.



3. A saw shaper comprising a main body-block having an under cut groove formed from end to end therethrough, a pair of correspondingly-shaped anvil carriers fitted in said groove, a clamping screw having opposite threads at its opposite ends threaded into the two anvil carriers, a lever secured to one end of said screw, a handle carried by the main body, a journal formed on the screw between the threads thereof, a bearing block mounted in the groove of the main body and having a bearing adapted to receive the journal of the screw, an abutment finger, a carrier for said finger, means for clamping said carrier upon the main body, means for adjusting said carrier bodily on the main body, and means for adjusting the finger axially in its carrier.

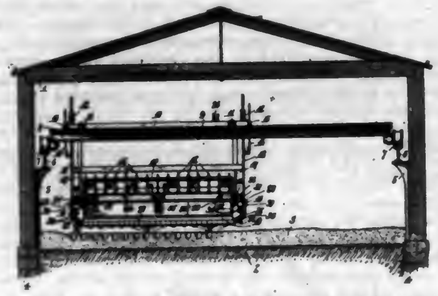
4. A saw shaper comprising a main body-block having an under cut groove formed from end to end therethrough, a pair of correspondingly-shaped anvil carriers fitted in said groove, a clamping screw having opposite threads at its opposite ends threaded into the two anvil carriers, a lever secured to one end of said screw, a handle secured to the main body, a journal formed on the screw between the threads thereof, a bearing block mounted in the groove of the main body and having a bearing adapted to receive the journal of the screw, an abutment finger, a carrier for said finger, means for clamping said carrier upon the main body, means for adjusting said carrier bodily on the main body, means for adjusting the finger axially in its carrier, a rest coöperating with said finger, a clamping screw upon which said rest is pivoted, and a slotted support carried by the main body and adapted to receive said clamping screw and rest.

972,914. PATTERN OR MOLD FORMING MACHINE. FELIX QUINN, Buffalo, N. Y., assignor of one-half to Patrick J. Ridge, Buffalo, N. Y. Filed Jan. 29, 1910. Serial No. 540,830.

1. The combination with a cast house, of tracks secured to the sides thereof, a crane mounted thereon, and mechanism carried by the crane for excavating, forming and tamping molds for pigs in the floor of the cast house.

2. The combination with a cast house provided with tracks, of a crane adapted to travel on said tracks, a frame mounted in the crane and movable vertically with reference to the crane and movable bodily with the crane, means carried by the frame for excavating the molds, and patterns or forms carried by said frame.

3. The combination with a cast house provided with tracks, of a crane traveling on said tracks, a frame mounted and traveling on the crane, and mechanism carried by the frame for digging a trench, forming the mold, and tamping the material.

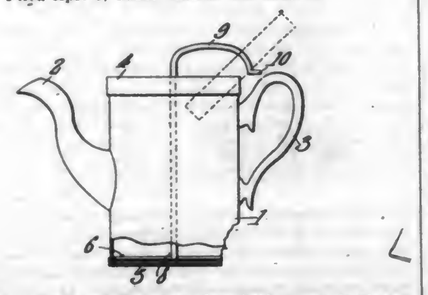


4. The combination with a cast house, of tracks secured to the sides thereof, a crane mounted on said tracks and moving longitudinally of the cast house, a frame mounted upon and moving laterally on the crane, and excavating-mechanism carried by said frame.

5. In combination with a cast house having longitudinally extending aerial tracks therein, of a crane mounted on the tracks, supplemental tracks secured on the crane and extending laterally of the cast house, a frame mounted on the tracks, and a vertically adjustable excavating-mechanism carried by the frame.

[Claims 6 to 20 not printed in the Gazette.]

972,915. COFFEE-POT. ROBERT LEE RAMEY, Danville, Va. Filed Apr. 1, 1910. Serial No. 552,773.

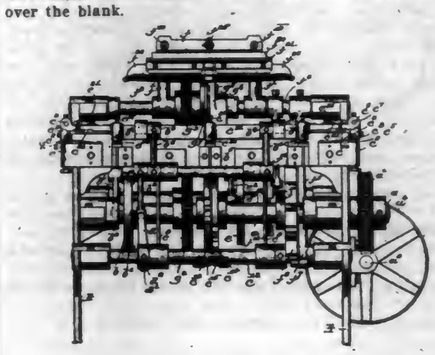


1. In a device of the class described, a pot having a handle; a head slidable in the pot; and a plunger secured at its lower end to the head, the upper end of the plunger being curved into close proximity to the handle, whereby one hand of the operator may be employed to engage both the handle and the plunger.

2. In a device of the class described, a pot having a handle; a cover for the pot; a head slidable in the pot; a plunger secured at one end to the head, the plunger being extended through and above the cover and slidably mounted therein; the plunger being curved into close proximity to the handle and being provided with a thumb piece adapted for manual engagement simultaneously with the handle; the cover being slidable upon the curved portion of the plunger to rest against the thumb-piece.

972,916. COLLAR AND CUFF FOLDING MACHINE. GEORGE REECE, Wollaston, Mass., assignor to Reece Folding Machine Company, Portland, Me., and Boston, Mass. Filed June 13, 1900. Serial No. 20,125.

1. In a machine for infolding both end edges and at least one of the long side edges of blanks that are long in shape as compared with their width, the combination of; a support for supporting the blanks to be infolded; a plurality of moving infolders having edges corresponding to the several blank edges to be infolded; a side shifting die carrier movable toward and from said support; a blank defining die carried by said carrier; said die being of fixed width and divided into a plurality of sections, at least one of which sections is movable endwise; all said sections being connected to said carrier to at all times whether moving or at rest have their defining portion in a single plane; a section actuating mechanism, said mechanism having connections for shifting said carrier sidewise and simultaneously causing the endwise movement of at least one of said sections whereby it may lengthen the die to outward blank-defining position and shorten it to an inward position to assist disengagement of the folded blank and die, and a single operative movement of said actuating mechanism serving to change the die from blank-defining position to completely shortened position; and mechanism for moving the infolders inwardly in substantially the same plane as the die when in folding position, so that said infolders may infold both of the end edges and at least one of the long side edges of the blank, while the die rests stationarily over the blank.



2. In a machine for infolding both end edges and at least one of the long side edges of blanks that are long in shape as compared with their width, the combination of; a support for supporting the blanks to be infolded; a plurality of moving infolders having edges corresponding to the several blank edges to be infolded; a side shifting die carrier movable toward and from said support; a blank defining die carried by said carrier; said die being of fixed width and divided into a plurality of sections, both end sections of which are movable endwise; all said sections being connected to said carrier to at all times whether moving or at rest have their defining portions in a single plane; a section actuating mechanism, said mechanism having connections for shifting said carrier sidewise and simultaneously causing the endwise movements of both of said end sections whereby it may lengthen the die to outward blank-defining position, and shorten it to an inward position to assist disengagement of the folded blank and die, and a single operative movement of said actuating mechanism serving to change the die from blank-defining position to completely shortened position; and mechanism for moving the infolders inwardly in substantially the same plane as the die when in folding position, so that said infolders may infold both of the end edges and at least one of the long side edges of the blank, while the die rests stationarily over the blank.

3. In a machine for infolding both end edges and at least one of the long side edges of blanks that are long in shape as compared with their width, the combination of a support for supporting the blanks to be infolded; a plurality of moving infolders having edges corresponding to the several blank edges to be infolded; a member having movements toward and from said support; a blank defining die carried by said member, said die being of fixed width and divided into a plurality of sections, at least one of which sections is movable endwise; all said sections being connected to said member to at all times whether moving or at rest have their defining portions in a single plane; a section actuating mechanism, said

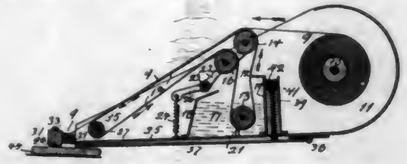
mechanism having connections for causing the endwise movements of at least one of said sections whereby it may lengthen the die to outward blank-defining position, and shorten it to an inward position to assist disengagement of the folded blank and die, and a single operative movement of said actuating mechanism serving to change the die from blank-defining position to completely shortened position; mechanism for moving the infolders inwardly in substantially the same plane as the die when in folding position, so that said infolders may infold both of the end edges and at least one of the long side edges of the blank closely over the die edges, while the die rests stationarily over the blank; and a power shaft or part having mechanical connections extending to and for causing the said die-carrying member movements, for operating said section actuating mechanism, and for operating said infolder mechanism.

4. In a high speed power operated folding machine comprising folding mechanism and a die with which is comprised working mechanism for changing the position of die parts, the combination with said die, die parts and working mechanism, of a swinging die-positioning arm, at the outer end of which are carried said die, die parts and working mechanism, a shaft about which said arm swings, intermittently and in opposite directions, a worm wheel from which the movements of said arm are effected, and a fast running shaft adapted to be connected up with power mechanism, and provided with a worm engaging said worm wheel, all combined substantially as and for the purposes set forth.

5. In a machine for folding collars and the like, means for receiving a blank to be folded, folding mechanism, including a folder and means for yieldingly maintaining said folder normally in a position away from said receiving means, mechanism for shifting said folder laterally for infolding a blank, and a pinching device for pressing the said folder against a fold.

[Claims 6 to 52 not printed in the Gazette.]

972,917. LABEL-ATTACHING MEANS. FRANK D. RETTICH, Cincinnati, Ohio. Filed Nov. 26, 1909. Serial No. 529,889.

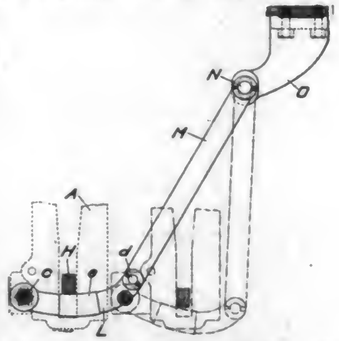


1. In a label-addressing device, the combination of a casing, means to support a rolled up label-ribbon therein, a paste-receptacle within the casing, a belt, a roller at one end thereof whereby the belt is caused to move, a roller at the other end whereby it is guided to move through the paste-receptacle, intermediate guide-rollers, a spring-actuated yoke-frame on which these rollers are mounted and whereby they are held in a position to direct the movement of the belt so as to apply paste to the label-ribbon and cutting devices to separate label-bearing portions from the end thereof.

2. In a label-addressing device, the combination of a casing containing label-ribbon supporting means, means to move the ribbon and means to apply paste to it, a stationary cutting jaw rigidly connected to the front-end of the casing, a spring-actuated flap of a width not exceeding the underside of the casing hinged at its rear-end to this underside near its rear-end and extending to the front-end where it is laterally enlarged on one side, the lateral enlargement being also upwardly extended and provided with an opening at the upper end of this extension, a movable cutting-jaw pivoted to one end of the stationary cutting-jaw and a shank thereon which extends into the opening mentioned.

3. In a label-addressing device, the combination of a casing containing label-ribbon supporting means and two transverse partitions between its sides which form a paste-receptacle, a stationary cutting-jaw rigidly connected to the front end of the casing, means to move the ribbon, a belt supported to move through the paste-receptacle, means to move the belt and the ribbon in a manner that this latter passes over the cutting-jaw mentioned while at the same time paste is applied to it, a flap hingedly connected to the underside of the casing near the rear end thereof and extending to the front-end where it is also laterally and upwardly extended on one side, the upward extension having an elongated opening near its upper end, a movable cutting-jaw pivoted to one end of the stationary cutting-jaw, a shank extending from the pivoted end of this jaw into the opening mentioned, a spring supported on the flap-extension and in lateral engagement with the shank near its end to maintain by this action the cutting-edges of the cutting-jaws in cutting contact, a spring-barrel formed inside of the casing against one of the partitions therein, and a spring within it which acts through an opening in the bottom of the casing against the upper side of the flap to cause the same to hold the movable cutting jaw in a normally inoperative position.

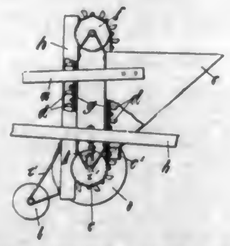
972,918. AUTOMATIC WEFT-REPLENISHING LOOM. ALONZO E. RHOADES, Hopedale, Mass., assignor to Draper Company, Portland, Me., a Corporation of Maine. Filed Nov. 23, 1907. Serial No. 403,551.



1. An automatic weft-replenishing loom, wherein replenishment is effected by substituting a fresh weft-carrier for the spent weft-carrier in the shuttle, having, in combination, a shuttle; weft-replenishing mechanism; a shuttle-placing mechanism independent of the weft-replenishing mechanism and acting to move the shuttle inwardly and into registration with an incoming fresh weft-carrier.

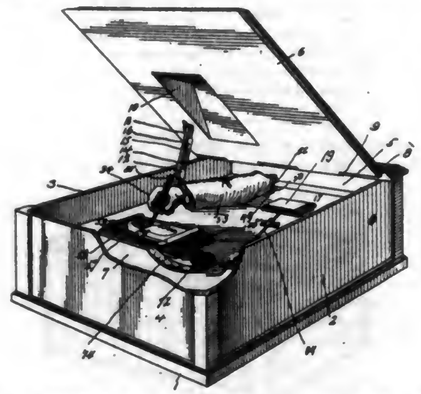
2. A loom having, in combination, a lay; a picker-stick; a shuttle-placer pivoted to the lay and outside of the picker-stick; and a link connecting the other end of the shuttle-placer to a fixed part of the loom.

972,919. POTATO-PLANTER. EMIL RICHTER, Mehlthener, Germany. Filed Apr. 21, 1910. Serial No. 556,669.



A potato planter comprising a hopper having an opening in its lower end, a tube adjacent to the hopper, an endless conveyer extending through the hopper and into said tube, a drive wheel supported on the shaft of the lower drum of the conveyer for propelling the conveyer and adapted for varying the spacing of the potatoes, a bracket connected to the beam of the plow for supporting one end of said shaft, a roller in front of the drop-tube adapted to press a fertilizer in and level the bottom of a furrow, and a share in line with and in rear of said tube for closing the furrow and covering the potatoes.

972,920. AUTOMATIC WRITING-MACHINE. GEORGE P. RIGGS, St. Marys, W. Va. Filed Aug. 23, 1909. Serial No. 514,190.



1. A machine of the type described, comprising a casing, a horizontal revoluble contour head within said casing, a horizontal shiftable arm guiding device adapted to be actuated by said head, an arm carried by said device and adapted to be actuated thereby, a card holder arranged in said casing and adapted to hold cards to be written upon through the medium of the movement of said arm, and a card withdrawing device within said casing and actuated by said contour head and adapted to withdraw cards from said holder.

2. A machine of the type described, comprising a casing, a motor driven contour head arranged in said casing, a shiftable arm guiding device actuated by said head, a hinged arm supported by said device and adapted to be guided thereby, a card holder within said casing and adapted to hold cards to be written upon through the medium of the movement of said arm, and means actuated by said contour head for withdrawing cards from said holder.

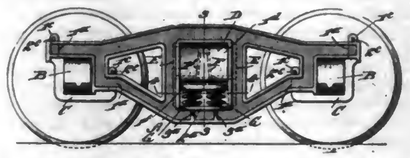
3. A machine of the type described, comprising a casing, a revoluble horizontal contour head arranged in said casing and having irregular peripheral edges, a horizontal shiftable arm guiding device located above said head and adapted to be guided by the peripheral edges thereof, a hinged arm supported by said device and adapted to be guided thereby, a card holder within said casing and adapted to support cards to be written upon through the medium of the movement of said arm, and means actuated by said contour head for removing the cards from said holder.

4. A machine of the type described, comprising a casing, a revoluble horizontal contour head arranged in said casing and having irregular peripheral edges, a horizontal shiftable arm guiding device located above said head and adapted to be guided by the peripheral edges thereof, a hinged arm supported by said device and adapted to be guided thereby, a card holder within said casing and adapted to support cards to be written upon through the medium of the movement of said arm, means actuated by said contour head for removing the cards from said holder, and means adapted to elevate said arm during the withdrawing of a card from said holder.

5. In a writing machine, the combination with a casing, and a motor located in said casing, of a revoluble contour head arranged within said casing and adapted to be driven by said motor, a horizontal shiftable arm guiding device within said casing and adapted to be actuated by said head, a hinged arm supported by said device and adapted to be guided thereby, a card holder within said casing and adapted to support cards to be written upon through the medium of the movement of said arm, a card withdrawing device actuated by said head and adapted to withdraw cards from said holder, and means within said casing for controlling the operation of said motor.

[Claims 6 to 10 not printed in the Gazette.]

972,921. CAR-TRUCK. GILBERT P. RITTER, Chicago, Ill. Filed Feb. 20, 1904. Serial No. 194,559.



1. In a car truck, the combination with side frames, of a bolster, a spring, a plurality of bolster guide members, and a vertically movable wedge interposed between said spring and said bolster guide members, substantially as and for the purposes specified.

2. In a car truck, the combination with side frames provided with vertical bolster guide-ways, of a bolster, a plurality of wedge shaped bolster guide members, and a wedge engaging said bolster guide members, substantially as and for the purposes specified.

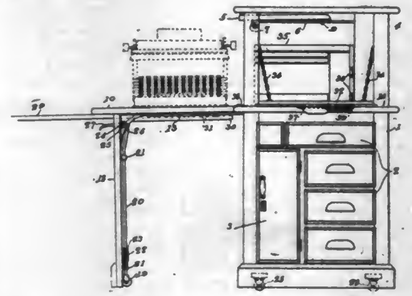
3. In a car truck, the combination with side frames, of a bolster, a vertically movable wedge, and a plurality of downwardly movable yieldingly supported bolster guide members which engage said side frames, substantially as and for the purposes specified.

4. In a car truck, the combination with side frames, of a bolster, a yieldingly supported wedge independent of said bolster, and a plurality of downwardly movable bolster guide members acted on by said wedge, substantially as and for the purposes specified.

5. In a car truck, the combination with side frames, of a bolster, a plurality of yieldingly supported bolster guide members, and means operative by the load imposed on said bolster adapted to cause said bolster guide members to expand and thereby engage the side frames, substantially as and for the purposes specified.

[Claims 6 to 23 not printed in the Gazette.]

972,922. TYPE-WRITER CABINET. HENRY J. RITTER, Tippecanoe City, Ohio. Filed Oct. 10, 1908. Serial No. 457,080.

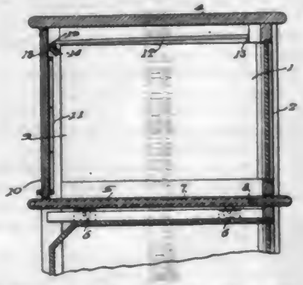


1. In a cabinet of the character described, a main frame comprising a casing, a supporting platform slidably mount-

ed in said main frame, beneath said casing and forming a bottom therefor, an extension slidably mounted beneath said supporting platform, adapted to extend beyond the outer end of said platform for use concurrently therewith and movable both with said platform and independently thereof, whereby it may be closed without disturbing the machine supported by said platform, and a desk hinged to the front of said main frame near the bottom of said casing and adapted to be supported in a substantially horizontal position at right angles to said supporting platform, whereby the user sitting in the angle between the platform and door may use from his position the desk, the platform and the extension.

2. In a cabinet of the character described, a main frame comprising a casing, a supporting platform slidably mounted in said main frame beneath said casing and forming a bottom therefor, a stationery holder mounted in said cabinet and having one end pivotally connected to said casing at one of the forward corners thereof, and a connection between said platform and the holder arranged to swing the holder about its pivotal center and cause it to extend across the front opening of said cabinet when said platform is drawn out and swing the holder back into the cabinet when the platform is moved into the cabinet, and a writing shelf hinged to the front of said main frame near said opening and adapted to close the same.

972,923. TYPE-WRITER CABINET. HENRY J. RITTER, Tippecanoe City, Ohio. Original application filed Oct. 10, 1908, Serial No. 457,080. Divided and this application filed Mar. 18, 1909. Serial No. 484,263.



The combination, with a casing, and a door therefor, of substantially straight guide-rods mounted in said casing, extending from the front to the rear thereof and arranged parallel with and at a distance from the respective end walls thereof, said guide-rods having at their forward ends downwardly and inwardly bent portions, a door resting near one edge on said rods when in open position, eyes secured to the inner face of said door near the other edge thereof and extending about the body portion of said guide-rods when the door is open and engaging the downwardly bent portions of said rods to form a support for said door when the latter is closed, said rods and said eyes forming the sole support for said door when it is open and maintaining the same in a vertical position when closed.

972,924. NUT-LOCK. JOSEPH E. ROBINSON, Wheeling, W. Va. Filed Mar. 9, 1907. Serial No. 361,567.

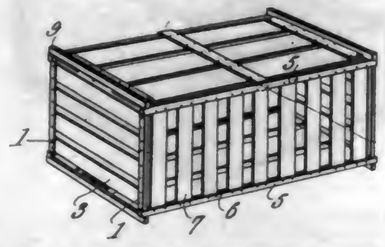


1. A nut lock comprising a threaded bolt, a nut therefor having one or more slots therein in open relation to the bolt opening, and having an externally threaded portion intersected by an unthreaded surface about each slot, a blade for insertion in said slots, and a threaded ring for said externally threaded portion of the nut, substantially described and for the purpose set forth.

2. A nut lock comprising a threaded bolt, a nut therefor having one or more slots therein in open relation to the bolt opening, and having an externally threaded portion intersected by an unthreaded surface about each slot, a blade for insertion in said slots, a threaded ring for said externally threaded portion of the nut, and means for locking said ring upon the nut, substantially as described and for the purpose set forth.

3. A nut lock comprising a threaded bolt, a nut therefor having an externally threaded reduced portion intersected by one or more unthreaded surfaces, and having slots extending from said surfaces to the bolt opening, a blade for said slots, a threaded ring for said reduced portion, and an inter-locking washer disposed between said nut and ring, substantially as described and for the purpose set forth.

972,925. COLLAPSIBLE CRATE. BYRD C. ROCKWELL, Malvern, Ark. Filed Dec. 6, 1909. Serial No. 531,665.



1. A crate consisting of longitudinally channeled corner posts, wires extending longitudinally within and beyond the ends of the channels, connections projecting into the channels and secured to the posts to hold the wires against lateral displacement within the channels, said connections and posts constituting end panels, and side panels pivotally mounted upon the projecting ends of the wires.

2. A crate including parallel stringers, connections there between and coöperating therewith to constitute side panels, corner posts interposed between the ends of the stringers and channeled longitudinally, wires disposed longitudinally within said channeled corner posts and extending therebeyond and through the stringers, said wires constituting pivotal connections between the posts and stringers, and slats connected to the corner posts and extending into the channels, the ends of said slats abutting against the wires to hold the wires against displacement in a transverse direction.

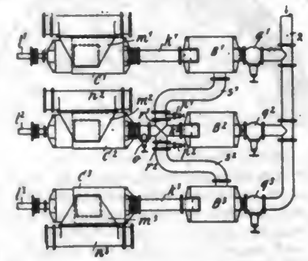
3. A crate including longitudinally channeled corner posts, wires extending longitudinally within the channels and beyond the ends of the posts, connecting means interposed between the posts and having opposite ends seated within the channels and abutting against the wires, said means being adapted to hold the wires against displacement in a transverse direction and side panels pivotally mounted upon the projecting portions of the wires.

4. A crate including longitudinally channeled corner posts, wires extending longitudinally within the channels and beyond the ends of the posts, devices interposed between the posts and extending into the channels to hold the wires against displacement in a transverse direction, strips adjacent the ends of the posts and engaged by the terminal portions of the wires, and side panels having end portions projecting between the posts and strips and pivotally mounted upon the wires.

5. A crate consisting of hingedly connected side and end panels, each end panel including corner posts, connections between said posts, and pivot devices disposed longitudinally within the posts and retained therein by the connections, tie strips engaged by the terminals of the pivot devices, retaining projections upon said strips, and panels having their end portions insertible between the said strips and the end panels, each of said insertible panels having intermediate means for bearing upon the side panels.

[Claims 6 to 8 not printed in the Gazette.]

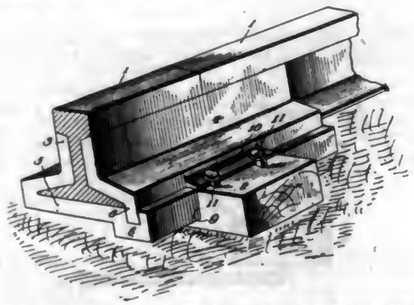
972,926. MARINE PROPULSION BY STEAM-TURBINES. MARTIN ROELLIG, Wilmersdorf, Berlin, Germany. Filed Apr. 25, 1910. Serial No. 557,344.



1. A system of marine propulsion comprising, in combination, a plurality of propeller shafts, a steam turbine engine operatively connected with each of said shafts for independently driving the same, each of said engines comprising a plurality of separate sections, means for supplying live steam to said engines, means for shutting off the supply of steam to one or more of the sections of each engine, and steam connections between the sections of the several engines, substantially as and for the purpose set forth.

2. A system of marine propulsion comprising, in combination, a plurality of propeller shafts, a steam turbine engine operatively connected with each of said shafts for independently driving the same, each of said engines comprising a plurality of separate sections and means for conveying steam successively from one of said sections to another, means for supplying live steam independently to each of said engines, a valve or valves for controlling the passing of steam between adjacent sections in each of said engines, and steam connections between the sections of the several engines, substantially as and for the purpose set forth.

972,927. RAIL-SPLICE. WILLIAM F. RUTLAND, Sr., Rion, S. C. Filed June 14, 1910. Serial No. 566,803.



1. A rail splice including a pair of separate coacting splice bars, and base straps rigid with and extending laterally from one of the splice bars and formed at their extremities with hooks having an interlocking connection with the other splice bar, the base straps being spaced apart longitudinally to provide an intermediate seating recess for a cross tie.

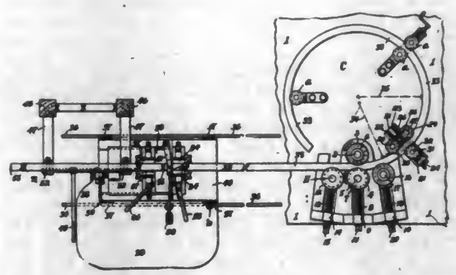
2. A rail splice including a pair of separate coacting splice bars, base straps rigid with one of said splice bars, and tongues depending from the other splice bar and having an interlocking connection with the base straps, the base straps of the tongues being spaced apart longitudinally to provide intermediate seating recesses for the reception of a cross tie.

3. A rail splice including a pair of separate coacting splice bars, base straps rigid with and extending laterally from one of the splice bars and having an interlocking connection with the other splice bar, the base straps being spaced apart longitudinally to provide an intermediate seating recess for the reception of a cross tie, and flanges outstanding from the splice bars and adapted to bear upon the upper surface of the cross tie.

4. A rail splice including a pair of separate coacting splice bars, base straps rigid with and extending laterally from one of said splice bars, tongues depending from the other splice bar and having an interlocking connection with the base straps, the base straps and the tongues being spaced apart longitudinally to provide intermediate seating recesses for the reception of a cross tie, and flanges outstanding from the lower edges of the splice bars opposite said seating recesses and adapted to bear upon the upper surface of the tie.

5. A rail splice including a pair of separate coacting splice bars, a base plate rigid with and extending laterally from one of said splice bars and formed with a longitudinal socket, and a tongue provided on the other splice bar and adapted to be received in the socket, the socket and the tongue being correspondingly polygonal in cross section, whereby to hold the splice bars against relative turning movement.

972,928. PROCESS OF MAKING LONG PIPE-COILS. LEOPOLD C. SCHNEIDER, Philadelphia, Pa., assignor to The Philadelphia Pipe Bending Company, a Corporation of New Jersey. Filed Apr. 26, 1909. Serial No. 492,127.



1. The process of making a coil of pipe, which consists in continuously feeding and coiling a section of pipe, and while thus continuously fed welding to said pipe a second section of pipe.

2. The process of making a coil of pipe of great length, which consists in continuously feeding and coiling a length of pipe, and while thus continuously fed welding thereto a second length of pipe, and then continuously feeding and coiling said second length of pipe.

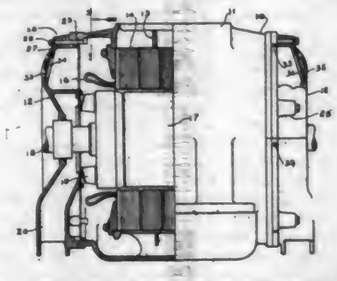
3. The process of making a coil of pipe, which consists in continuously feeding and coiling a length of pipe, and while thus continuously fed welding thereto a second length of pipe while the first length is moving through a substantially definite distance, and then continuously feeding and coiling said second length of pipe.

4. The process of making a pipe coil, which consists in continuously feeding and coiling a length of pipe, and while said length of pipe is thus moving, welding thereto successive lengths of pipe.

5. The process of making a pipe coil, which consists in continuously feeding and coiling a length of pipe, and, while said length of pipe is thus moving and without interruption of the coiling process, welding thereto successive lengths of pipe.

[Claims 6 to 9 not printed in the Gazette.]

972,929. DYNAMO-ELECTRIC MACHINE. CHARLES E. SEARCH, Milwaukee, Wis., assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Mar. 27, 1909. Serial No. 486,137.



1. In combination, in a dynamo-electric machine, an inclosing housing comprising a yoke or main portion and an end cover, said yoke having an annular portion which supports the end cover and on which the latter may be turned, and clamping devices which hold said end cover tightly against the yoke or loosely so that it may be turned relative to the yoke through any angle.

2. In combination with the movable and stationary members of a dynamo-electric machine, an inclosing housing comprising a yoke or main portion and an end cover, said yoke having an annular bearing portion for the end cover and on which the latter may be turned, and clamping bolts carried by one of said parts and engaging the other, said bolts holding the yoke and end cover tightly together or loosely so that the latter may be turned through any angle, depending on whether the bolts are tightened or loosened.

3. In combination in a dynamo-electric machine, an inclosing housing comprising a yoke or main portion and end covers having bearings in the yoke which permit the end covers to be turned, said yoke having internal flanges adjacent the end covers, and clamping bolts extending through the end covers and having portions engaging the flanges, said bolts being movable relative to said flanges so that when the former are loosened the end covers may be turned through any angle.

4. In combination with the rotary and stationary members of a dynamo-electric machine, an inclosing housing comprising a yoke or main portion and end covers, said yoke having at its ends cylindrical portions which are engaged by corresponding portions of the end covers and form bearings therefor, and means for holding said end covers to the yoke so that the former may be turned through any angle, said means comprising shoulders on the yoke adjacent the end covers, and bolts extending through the latter and having outwardly projecting portions which engage said shoulders.

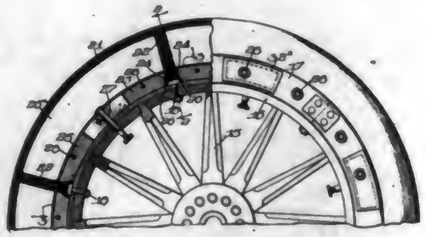
5. In combination, in a dynamo-electric machine, an inclosing housing comprising a yoke or main portion and an end cover, and means carried by said end cover securing the latter to said yoke, said end cover being adapted to be turned through any angle with respect to said yoke and having a man-hole through which access may be had to different parts of the interior of the housing.

[Claim 6 not printed in the Gazette.]

972,930. VEHICLE-WHEEL. JUNE M. SELLECK, Chicago, Ill. Filed Aug. 21, 1908. Serial No. 449,607.

1. In a vehicle wheel, the combination with a tire having inwardly projecting portions, of a plurality of clamping members extending circumferentially around the wheel, said projecting portions of the tire being clamped between the ends of adjacently disposed clamping members.

2. In a vehicle wheel, the combination with the rim of a wheel, of a tire whose base interlocks with said rim, said tire being provided with projections extending between the sides of the wheel rim, and a plurality of clamping members extending circumferentially around the wheel, said projections being clamped between the ends of adjacently disposed clamping members.



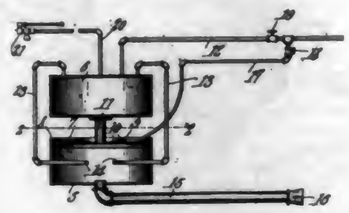
3. In a vehicle wheel, the combination of spaced members between which the base portion of a tire projects, said members being provided with inwardly projecting portions and adapted to extend over portions of the tire casing, clamping members housed between the first said members and coöperating with the inwardly projecting portions for clamping the tire casing in position, means for securing said clamping members in their adjusted positions, one of the first said members being provided with an opening through which access may be had to the clamping members and also through which the inner tube of the tire may be removed without removing the outer casing from the wheel, and a closure for said opening.

4. In a wheel, the combination of spaced members between which the base portion of a tire casing projects, said members being provided with laterally projecting portions adapted to extend over the base portion of the casing, and means disposed between the said members and coöperating therewith for clamping the casing in position, one of said members being constructed to permit access to said clamping means.

5. In a wheel, the combination of spaced members between which the base portion of a tire casing projects, said members being provided with laterally projecting portions adapted to extend over the base portion of the casing, and means disposed between the said members and coöperating therewith for clamping the casing in position, tion, one of said members being adapted to permit the inner tube to be removed from the casing from the side of the wheel rim without detaching the casing from the wheel.

[Claims 6 to 20 not printed in the Gazette.]

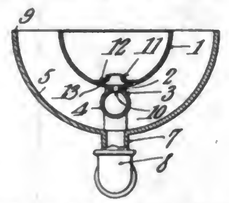
972,931. LIQUID-FUEL BURNER. HOOKER SHAPEL, Iola, Kans. Filed Jan. 6, 1910. Serial No. 536,645.



1. In a liquid fuel burner, a chamber having burner openings in its top, and a pan on said top surrounding the burner openings, a retort overlying the chamber, a fuel supply pipe to the retort, a vapor delivery pipe from the retort to the chamber, an air supply pipe to the chamber, and a fuel supply pipe discharging into the pan.

2. In a liquid fuel burner, a chamber having burner openings in its top, spaced and concentric annular flanges rising from the top of said chamber, the inner flange surrounding the burner openings, a retort overlying the chamber, a fuel supply pipe to the retort, a vapor delivery pipe from the retort to the chamber, an air supply pipe to the chamber, and a fuel supply pipe discharging on the top of the chamber between the flanges.

972,932. DRINKING-CUP. ANDREW G. SHEAK, Binghamton, N. Y. Filed Nov. 29, 1909. Serial No. 530,446.



1. A drinking fountain consisting of a cup having an inlet opening, a supply pipe communicating with the inlet opening, and a nozzle having a tapered bore communicating with and of greater cross dimension than said inlet opening and operating to direct a short thick steady column of water above the surface of water in the cup.

2. A drinking fountain consisting of a cup having an inlet opening, a supply pipe communicating with the inlet opening, a screened nozzle over said inlet opening having its bore communicating with and of greater diameter than the inlet opening, said bore being tapered from its intake to its discharge end whereby to direct a short thick steady column of water above the surface of the water in the cup.

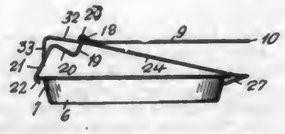
3. A drinking fountain consisting of a cup having an inlet opening, a supply pipe communicating with said inlet opening, a frusto-conical screened nozzle having its base peripheral edges extended to engage the walls of the cup adjacent said opening, the bore of said nozzle communicating with and of greater diameter than said inlet opening whereby to direct the jet from the inlet opening in a thick, steady column arising a short distance above the surface of the water in the cup.

4. A drinking fountain consisting of a cup having an inlet opening, a supply pipe communicating with said inlet opening, a frusto-conical screened nozzle communicating with said inlet opening and having a peripheral flange to engage the walls of the cup whereby to space the intake end of the nozzle from the throat of said opening, said nozzle operating to reduce the pressure and spread of the jet issuing from the inlet opening and direct said jet in a short, thick, steady column above the surface of the water in the cup.

5. A drinking fountain consisting of a cup having an inlet opening, a frusto-conical nozzle over the inlet opening having a peripheral flange to engage the inner walls of the drinking cup and coöperate therewith to form a chamber to reduce the pressure and spread the jet from the inlet opening, and an overflow bowl without the cup and having its rim spaced from and extending beyond the rim of the cup to prevent the lips from being inserted onto the edge of the cup.

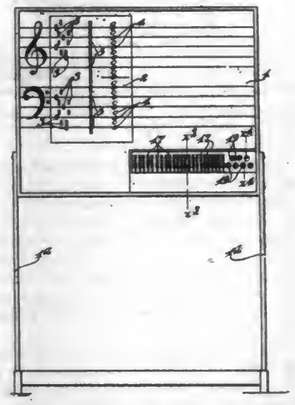
[Claim 6 not printed in the Gazette.]

972,933. PAN AND PLATE LIFTER. WILLIAM W. SHIRLEY, Pittsburg, Pa. Filed May 5, 1910. Serial No. 559,448.



A lifting device comprising a pair of members, one of which includes a handle portion terminating in a pair of right-angularly disposed arms and further having longitudinally-extending members constituting supports and connected with said arms and further including vertically-disposed abutments depending from said members and each provided with a hooked end, the other of said members including a handle portion having one end formed with a depending hook and its other end looped around said arms for pivotally-connecting the members together and said last-mentioned member further including angle-shaped extensions projecting from the looped portions thereof.

972,934. KEY-CONTROLLED MUSIC-INSTRUCTION BOARD. ANDREW L. SKOOG, Minneapolis, Minn. Filed Apr. 5, 1909. Serial No. 487,844.



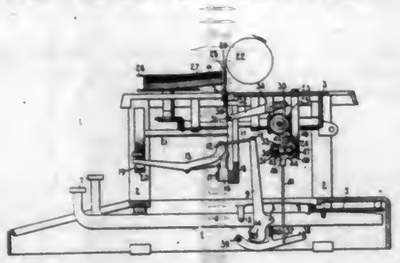
1. In a device of the kind described, the combination with a board marked to indicate a musical staff and clef and having several series of sight openings, the one series being arranged for key signatures, another series being arranged for natural notes and another series being arranged for accidentals, of a multiplicity of independently movable note strips having characters or marks arranged for coöperation with said natural note and accidental sight openings, key controlled means for imparting different movements to said strips, another series of independently movable signature strips marked with sharps and flats for coöperation with said signature sight openings, and means for moving said signature strips.

2. In a device of the kind described, the combination with a board marked to indicate a musical staff and clef and having several series of sight openings, the one series being arranged for natural notes, another series being arranged for accidentals and the other series being arranged for key signatures, a series of independently movable note strips each marked for coöperation with said natural note and accidental sight openings, a lever connected to each note strip, a series of differentially acting keys for operating on each lever, another series of independently movable signature strips marked with sharps and flats arranged for coöperation with said signature sight openings, and means for imparting differential movements to said signature strips.

3. In a device of the kind described, the combination with a board marked to indicate a musical staff and clef and having several series of sight openings, one series designating natural notes, another series designating accidentals and the third series designating key signatures, of a multiplicity of independently movable note strips each marked for coöperation with said natural note and accidental sight openings, another series of independently movable signature strips marked for coöperation with said signature sight openings and spring devices yieldingly holding said note and accidental strips in normal posi-

tions, levers connected to each of said note strips, a series of keys capable of different movements on each lever, and keys with connections to said signature strips, the latter being arranged to be temporarily set in different positions.

972,935. TYPE-WRITING MACHINE. CHARLES E. SMITH, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Oct. 29, 1906. Serial No. 341,069.



1. In a typewriting machine, the combination of a ribbon having fields of different characteristics; a ribbon vibrator; a universal bar; intermediate connections between said universal bar and vibrator, said connections including a pair of links, which links are movable bodily together as one part and which are separate from but are operatively connected to the ribbon vibrator; and means for effecting a relative lengthwise adjustment between said links to determine which field of the ribbon shall be presented to operative position.

2. In a typewriting machine, the combination of a ribbon having fields of different characteristics; a ribbon vibrator; a universal bar; intermediate connections between said universal bar and vibrator, said connections including a pair of links, which links are movable bodily together as one part and which are separate from but are operatively connected to the ribbon vibrator; and an adjusting device carried by one of said links and coöperative with the other link to effect a shortening or lengthening in the combined length of the links and thereby determining which field of the ribbon shall be presented to operative position.

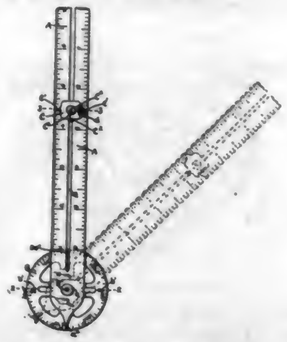
3. In a typewriting machine, the combination of a ribbon vibrator; a universal bar; intermediate connections between said universal bar and vibrator, said connections including a pair of links, which links are movable bodily together as one part and which are separate from but are operatively connected to the ribbon vibrator; a crank arm forming the connection between said links; and means for effecting an adjustment of said crank arm.

4. In a typewriting machine, the combination of a ribbon vibrator; a universal bar; intermediate positive and constantly maintained connections between said universal bar and vibrator, said connections including a two-part link, the two parts of which are movable together as one part and which are separate from but are operatively connected to the ribbon vibrator; adjusting means for effecting a relative lengthwise adjustment between the parts of said link; and indicating means to assist in effecting the desired adjustment of said adjusting means.

5. In a typewriting machine, the combination of a ribbon vibrator; a universal bar; intermediate positive and constantly maintained connections between said universal bar and vibrator, said connections including a two-part link, the two parts of which are movable together as one part and which are separate from but are operatively nected to the ribbon vibrator; adjusting means for effecting a relative lengthwise adjustment between the parts of said link; and controlling means extending outside the framing of the machine for operating said adjusting means.

[Claims 6 to 27 not printed in the Gazette.]

972,936. COMBINATION DRAFTING INSTRUMENT. WILLIAM SMITH, Portland, Oreg. Filed Sept. 22, 1909. Serial No. 519,078.



1. A combination drafting instrument, composed, essentially, of the following instrumentalities, viz:—a graduated rule having straight edges for the greater portion of its length, a longitudinal slot parallel to and between such edges, and an indicating finger projecting from its inner end,—a protractor upon which said rule is superposed in such manner that said finger may register with any point on the rim of said protractor,—a hollow rivet serving as a central pivot for said protractor, as a means of connection thereof with said rule, and also adapted to receive a needle point,—and a slide movable in the slot in the rule and having a pointer at its side adapted to register with any point on the rule, and a central aperture for the reception of a marking device,—all substantially as and for the purposes set forth.

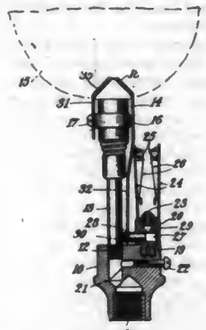
2. A combination drafting instrument, composed, essentially, of the following instrumentalities, viz: a graduated rule having straight edges for the greater portion of its length, a longitudinal slot parallel to and between such edges, and an indicating finger projecting from its inner end,—a protractor upon which said rule is superposed in such manner that one edge of said rule is in direct alinement with the center of said protractor, and also so that said finger may register with any point on the rim of said protractor,—a hollow rivet serving as a central pivot for said protractor, as a means of connection thereof with said rule, and also adapted to receive a needle point,—and a slide movable in the slot in the rule and having a pointer at its side adapted to register with any point on the rule, and a central aperture for the reception of a marking device,—all substantially as and for the purposes set forth.

972,937. CLASP OR BUCKLE. GEORGE P. SPANGLER, Los Angeles, Cal. Filed May 5, 1910. Serial No. 559,625.



A clasp or buckle, comprising a shield or plate provided with a rearwardly disposed bar spaced therefrom, holding means for connecting the shield or plate with a strap or other device, inter-locking elements, one of said inter-locking elements being connected with said shield or plate rearwardly thereof, and holding means for connecting the other of said inter-locking elements with a strap or other device; one of said inter-locking elements consisting of a spring tongue adapted to be passed between said shield and said bar and being provided with an opening, and the other of said inter-locking elements being formed for hook engagement with said spring tongue through said opening.

972,938. SELF-LIGHTING GAS-BURNER. JOHN R. STANTON and FORTUNATO MARCIANO D'ARSI, New York, N. Y., and WILLIAM F. MUNZER, West Hoboken, N. J. Filed June 13, 1910. Serial No. 566,472.



1. In a self-lighting gas burner, in combination, a base adapted for connection with a gas supply pipe, a main burner mounted on the base, a pilot burner alongside of the main burner, catalytic means for lighting the pilot burner, a transversely slidable valve plug for closing and opening the gas supply to the pilot burner, said valve plug being outside the said base, and a thermostatic valve-actuating device arched over the main burner to be heated thereby and having a leg extending into engagement with the valve plug to actuate the latter and cut off the supply of gas to the pilot burner when the main burner is lighted.

2. In a self-lighted gas burner, in combination, a main burner, a rotatably movable pilot burner alongside the main burner and having a valve socket directed toward the main burner, catalytic means for lighting the pilot burner, a valve plug slidably mounted in the valve socket to control the supply of gas to the pilot burner and prevented by the main burner from removal from said socket except when the pilot burner is turned to carry the plug clear of the main burner, and a thermostatic valve-actuating device associated with the main burner and the valve plug to actuate the latter and cut off the supply of gas to the pilot burner when the main burner is lighted.

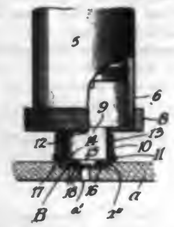
3. In a self-lighting gas burner, in combination, a base adapted for connection with a gas supply pipe and having a plurality of gas passages, a main burner mounted on the base to receive gas from one of said passages, a pilot burner mounted on the base to receive gas from another of said passages, means for regulating the flow of gas through the last mentioned passage to the pilot burner, catalytic means for lighting the pilot burner, a transversely slidable valve plug mounted in the pilot burner to control the supply of gas thereto, and a thermostatic valve-actuating device of arch form having a leg mounted at one side of the main burner and a leg on the other side of the main burner extending into connection with the said valve plug to actuate the same and cut off the supply of gas to the pilot burner when the main burner is lighted.

972,939. VACUUM-PUMP. GRAY STAUNTON, Evanston, Ill. Filed June 20, 1908. Serial No. 439,495.

1. A vacuum-pump sealing member for operation in conjunction with the port and valve of a vacuum package, providing a central orifice and integral means for maintaining said valve in spaced relation to said orifice.

2. In a vacuum-pump sealing member, the combination, with the port and valve of a vacuum package, of a boss surrounding a central orifice in said member and means, comprising projections on said boss, for preventing the closing of said orifice by said valve.

3. In a vacuum pump sealing member, the combination with a vacuum package providing a plane surface and a valved aperture therein, of a throat, an apertured thimble of rubber held thereover by its resilience comprising a part for coaction with the plane surface of the package, and a part for maintaining the valve of the package aperture spaced from the aperture in the thimble.

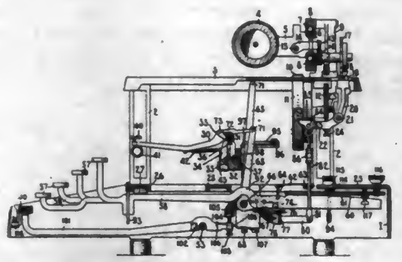


4. The combination of a pump providing an open mouthed throat and a bead surrounding the lower edge thereof, and an apertured thimble of resilient material retained on the throat by engagement over the bead thereof, said thimble comprising a side wall of shape to conform to the outer surface of the throat, a head extending across the mouth of the throat having an aperture therein and projections on the head around said aperture.

5. In a vacuum pump sealing member for operation in conjunction with the port and valve of a vacuum package, a rubber thimble having in its head a central orifice, a boss surrounding said arifice, and radially disposed ribs around said orifice projecting from said boss, between which ribs air is admitted in its passage from the valve to the vacuum package.

[Claim 6 not printed in the Gazette.]

972,940. TYPE-WRITING MACHINE. HERBERT H. STEELE, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 12, 1907. Serial No. 367,812.



1. In a typewriting machine, the combination of a type bar, a key lever having its fulcrum at its rear end, a sub-lever pivoted to said key-lever and to a fixed fulcrum, and having an up-standing arm connected with said type bar and a rearwardly extending arm, and a universal bar lying below the key lever and operated by said rearwardly extending arm of the sub-lever.

2. In a typewriting machine, the combination of a series of type bars, a series of key levers, a series of bell-crank sub-levers each having an arm connected with a type bar and an arm pivoted directly to a key lever, and a universal bar lying beneath the key levers, the sub-lever arms that are pivoted to the key-levers being adapted to operate said universal bar.

3. In a typewriting machine, the combination of a series of type bars, a series of key levers, a series of bell-crank sub-levers each having an arm connected with a type bar and an arm pivoted directly to a key lever, and a universal bar lying beneath the key levers, the sub-lever arms that are pivoted to the key-levers being extended to operate said universal bar, the points at which said arms contact with

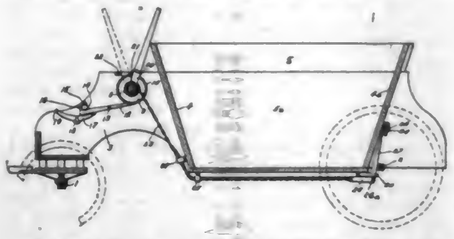
said universal bar being farther from the fulcra of the sub-levers than are the points at which said sub-levers are pivoted to said key levers.

4. In a typewriting machine, the combination of a series of types, a series of key-levers, a series of sub-levers for operating said types and each pivoted directly to a key lever, and a universal bar lying beneath said key levers and operated by said sub-levers.

5. In a typewriting machine, the combination of a series of types, a series of sub-levers for operating said types, a fulcrum rod on which said sub-levers are pivotally mounted, a series of key levers each having one of said sub-levers pivoted thereto, and a universal bar mounted beneath said series of key levers and operated by said sub-levers.

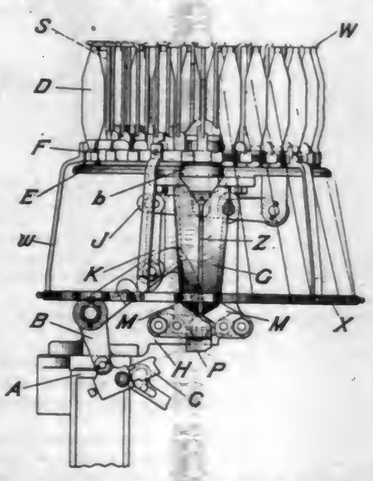
[Claims 6 to 18 not printed in the Gazette.]

972,941. DUMP-WAGON. JOSEPH STIFTER, Pittsburg, Pa. Filed Apr. 29, 1909. Serial No. 492,972.



In a dump wagon, a regulating mechanism for the closing movement of the doors or gates of the wagon, said mechanism consisting of an eccentrically mounted cross head, a pair of hangers pivoted to the ends of the cross head, rearwardly projecting straps carried by the doors or gates and through which extend said hangers, and right angularly disposed links pivotally attached to the lower ends of the hangers for connecting them to the elevating cables for the doors or gates.

972,942. AUTOMATIC WEFT-REPLENISHING LOOM. EDWARD S. STIMPSON, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 11, 1908. Serial No. 432,163.



1. A weft-replenishing loom having, in combination, a holder for the active spare weft-carrier; a transferrer which transfers said weft-carrier from the holder to the working shuttle; a magazine for spare weft-carriers located above the holder and holding the weft-carriers in vertical position butt end down; a guide-chute leading from the magazine to the holder; a horizontal rotary feeder which feeds the spare weft-carriers one by one from the magazine into the guide-chute; and means governed by the transferrer for advancing the feeder one step for each action of the transferrer.

2. A weft-replenishing loom having, in combination, a holder for the active spare weft-carrier; a transferrer which transfers said weft-carrier from the holder to the working shuttle; a magazine for spare weft-carriers located above the holder and holding the weft-carriers in vertical position; a guide-chute leading from the magazine to the holder; a feeder which feeds the spare weft-carriers one by one from the magazine into the guide-chute; and means governed by the transferrer for advancing the feeder one step for each action of the transferrer.

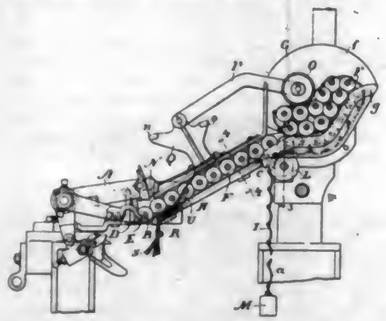
3. A weft-replenishing loom having, in combination, a holder for the active spare weft-carrier; a transferrer which transfers said weft-carrier from the holder to the working shuttle; a magazine for spare weft-carriers located above the holder and holding the weft-carriers in vertical position; a guide-chute leading from the magazine to the holder; a feeder which feeds the spare weft-carriers one by one from the magazine into the guide-chute; and means for advancing the feeder one step for each action of the transferrer.

4. A weft-replenishing loom having, in combination, a holder for the active spare weft-carrier; a transferrer which transfers said weft-carrier from the holder to the working shuttle; a magazine for spare weft-carriers located above the holder; a guide-chute leading from the magazine to the holder; a feeder which feeds the spare weft-carriers one by one from the magazine into the guide-chute; and means for advancing the feeder one step for each action of the transferrer.

5. A magazine for a weft-replenishing loom having a flat stationary horizontal plate upon which stand the butts of vertically disposed weft-carriers, and having a discharge aperture, in combination with a horizontal step-by-step rotating feeder above the said plate having a series of recesses one for the butt of each spare weft-carrier, and a corresponding series of sockets; a corresponding series of bent weft-carrier retainers mounted to move up and down and turn in said sockets, each retainer having a tip-engager adapted to extend over and engage the tip of a weft-carrier; and a spring tending to depress each retainer.

[Claims 6 to 28 not printed in the Gazette.]

972,943. WEFT-SUPPLYING MECHANISM FOR LOOMS. EDWARD S. STIMPSON, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Jan. 21, 1909. Serial No. 473,515.



1. A weft-replenishing mechanism for looms having, in combination, a transferrer; an open-mouthed hopper; an inclined channel leading from the hopper to the transferrer, there being an open throat between the hopper and channel; a roller at the throat; a flexible weft-carrier holder embracing weft-carriers within the hopper, its free end passing through said throat over said roller; a weight attached to said free end; and a rising and falling presser consisting of a roller resting on the mass of weft-carriers within the hopper.

2. A weft-replenishing mechanism for looms having, in combination, a transferrer; an open-mouthed hopper; a channel leading from the hopper to the transferrer, there being an open throat between the hopper and channel; a roller at the throat; a flexible weft-carrier holder embracing weft-carriers within the hopper, its free end passing through said throat over said roller; and means to feed said holder as the spare weft-carriers are transferred to the loom.

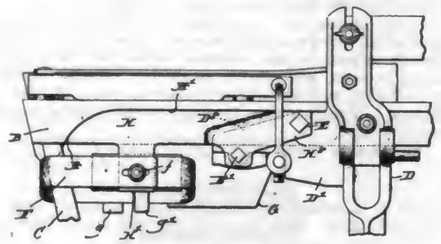
3. A weft-replenishing mechanism for looms having, in combination, a transferrer; a hopper; a flexible weft-carrier holder embracing weft-carriers and wrapped with said weft-carriers into a bundle within the hopper; and means to feed said holder as the spare weft-carriers are transferred to the loom.

4. A weft-replenishing mechanism for looms having, in combination, a hopper having an outer wall over which the weft-ends of the contained weft-carriers extend; an inclined channel extending from the hopper to the transferring point; a thread guiding and supporting plate alongside said channel; a thread guide through which the weft-ends pass; a weight suspended from the weft-ends; and a yielding presser-plate bearing upon the weft-ends extending over said thread guiding and supporting plate.

5. A weft-replenishing mechanism for looms having, in combination, a hopper having an outer wall over which the weft-ends of the contained weft-carriers extend; an inclined channel extending from the hopper to the transferring point; a thread guiding and supporting plate alongside said channel; and a yielding presser-plate bearing upon the weft-ends extending over said thread guiding and supporting plate.

[Claims 6 to 13 not printed in the Gazette.]

972,944. PICKER CHECK-STRAP HOLDER FOR LOOMS. MELVIN L. STONE, Lewiston, Me., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Apr. 23, 1909. Serial No. 491,722.

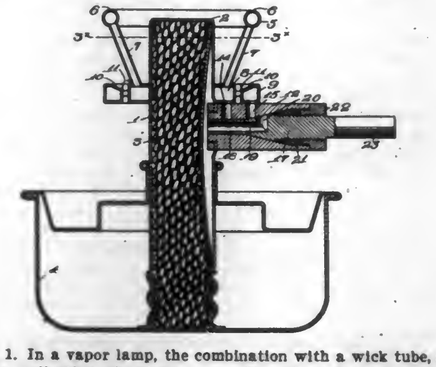


1. The combination, with a lay and a lay-sword having a lateral wing extending toward the outer end of the lay and applied to the back thereof, of a picker check-strap, a holder therefor resting against the back of the lay between its outer end and the wing and shaped to overlap a portion of said wing and bolts connecting the wing and the holder with the lay, said bolts passing through the overlapping portion of the holder and forming the sole fastening connection between it and the lay.

2. The combination, with a lay and a lay-sword having a lateral wing applied to the back of the lay, of a picker check-strap, an elongated holding bracket resting against the back of the lay and having its inner end overlapping a part of said wing, and having a depending integral ear for attachment to the check-strap, and bolts connecting the wing and the lay and passing through the part of the holder overlapping the wing, to secure the holder fixedly in place.

3. The combination with a lay, a lay-sword having a lateral extension resting against the back of the lay and extended toward its outer end, and diagonally arranged bolts rigidly connecting said extension and the lay, of a metallic holder for the picker check-strap located at the back of the lay, and having its inner end offset from its main plane and fitting and overlapping the bolt receiving extension, said overlapping part of the holder having openings to receive the bolts, whereby the holder and the lay-sword are attached to the lay by the same bolts, the latter constituting the sole fastening connection between the lay and the holder.

972,945. ALCOHOL-VAPOR-LAMP BURNER. ALFRED H. S. SWAN, Rochester, N. Y., assignor to Rochester Stamping Company, Rochester, N. Y., a Corporation of New York. Filed Apr. 26, 1910. Serial No. 557,633.



1. In a vapor lamp, the combination with a wick tube, a gas collecting chamber surrounding the tube, a supplemental burner surrounding the chamber having gas jet orifices and a main burner located above and connected to said chamber, of a valve casing having a central perforation leading directly from the interior of the wick tube and provided with inner and outer passages connecting it directly with the gas collecting chamber and supplemental burner, and a valve head adjustable in the casing and cooperating with both passages.

2. In a vapor burner the combination with a wick tube, a main burner and a gas collecting chamber connected thereto and surrounding said tube, a supplemental burner ring surrounding the collecting ring and provided with an inclined surface having an orifice directing the jet emitted therefrom toward the tube, a valve casing having a central perforation communicating with the interior of the wick tube and provided with inner and outer passages connecting it with said rings, and a valve head adjustable in the casing and coöperating with both passages, said head being provided with a central longitudinally extending channel for conducting the gas from the chamber to the supplemental burner.

3. In a valve for burners, the combination with a hollow casing having two outlet passages leading therefrom, of a valve head adjustable in the casing having a part adapted to open or close one passage and provided with a conduit which opens communication with the other passage when the head is adjusted into the open position.

4. In a valve for burners, the combination with a hollow casing having two outlet passages leading therefrom, of a valve head adjustable in the casing having a tip coöperating with one passage and a body portion coöperating with the other passage, and provided with a longitudinal perforation opening at its forward end into the valve casing and at its rear end opening into the space between said casing and the valve head when the latter is adjusted to open the passage controlled by its body portion.

5. In a valve for vapor burners, the combination with a casing having a cylindrical bore at its inner end and a conical bore at its outer end and provided with two outlet passages one leading from each of said bores, of a valve head adjustably fitting the two bores of the casing for

opening and closing both passages and provided with a longitudinal perforation opening communication between the inner end of the casing and the passage leading from its outer end when said head is in open position.

[Claims 6 and 7 not printed in the Gazette.]

972,946. MAIL CRANE AND CATCHER. JOHN A. TIMMERMAN, Creston, Iowa. Filed Feb. 1, 1910. Serial No. 541,029.



1. In a mail receiving and delivering apparatus, a mail crane with severable means for supporting a mail bag, an arc-shaped deflector provided with means for severing said bag from its support, and a tubular receiving device mounted for rotation and adapted to receive said bag from said deflector.

2. In a mail receiving and delivering apparatus, a mail crane with severable means for supporting a mail bag, an arc-shaped deflector provided with means for severing said bag from its support, a tubular receiving device mounted for rotation and adapted to receive said bag from said deflector, and means for checking the rotation of said receiver.

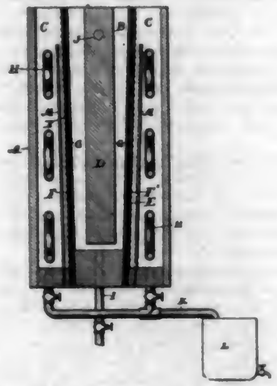
3. In an apparatus of the class described, a mail crane provided with severable means for supporting a mail bag, an arc-shaped deflector mounted within a car, said deflector provided with means for severing said mail bag from its supports and adapted to throw said bag within the car, an arc-shaped tubular receiver mounted for rotation within the car and adapted to receive said bag from said deflector, and a spring-pressed pawl adapted to check the rotation of said receiver.

4. In an apparatus of the class described, the combination of an arm pivotally connected to the side of a car, severable means for supporting a mail bag therefrom, and a receiver composed of an arc-shaped tube mounted for rotation between and supported by uprights, and means on said receiver for severing said bag from its support.

5. In a mail receiving apparatus, a pair of uprights, a shaft mounted for rotation between said uprights, and a weighted arc-shaped receiver mounted for rotation on said shaft, said receiver formed with an open end, said open end provided with knife edges adapted to engage and sever the supports of a mail bag.

972,947. ELECTROLYTIC DECOMPOSITION OF SOLUTIONS. CLINTON P. TOWNSEND, Washington, D. C., assignor to The Development and Funding Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 12, 1902, Serial No. 102,b82. Renewed Mar. 9, 1909. Serial No. 482,401.

1. The process of electrolyzing solutions, which consists in passing an electric current through the solution to an electrode, and recovering a product of electrolysis by means of a liquid which is substantially immiscible with water or an aqueous solution and inert toward said product, as set forth.



2. The process of electrolyzing solutions, which consists in passing an electric current through the solution and a diaphragm to an electrode, and recovering a product of electrolysis by means of a liquid which is substantially immiscible with water or an aqueous solution and inert toward said product, as set forth.

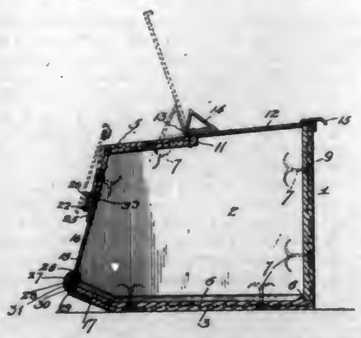
3. The process of electrolyzing solutions, which consists in passing an electric current through the solution and a diaphragm to an electrode and recovering a product of electrolysis by means of a non-saponifying oil, as set forth.

4. The process of electrolyzing solutions, which consists in interposing a diaphragm and a pervious electrode between a body of the solution and a body of a liquid which is substantially immiscible with water or an aqueous solution and inert toward a product of the electrolysis, and passing an electric current through said solution and diaphragm to said electrode, whereby said product is removed from the field of electrolysis, as set forth.

5. The process of electrolyzing solutions, which consists in interposing a diaphragm and a pervious electrode between a body of the solution and a body of a non-saponifying oil, and passing an electric current through said solution and diaphragm to said electrode, whereby a product is removed from the field of electrolysis, as set forth.

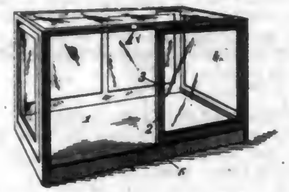
[Claims 6 to 12 not printed in the Gazette.]

972,948. GARBAGE-RECEPTACLE. JOSEPH P. URBAN, Detroit, Mich. Filed July 26, 1909. Serial No. 509,642.



A garbage receptacle comprising separable bottom, front, sides and integral top and rear sections formed of concrete slabs, said bottom section having a bead arranged on its inner face, adjacent its front and side edges, said bead having a straight outer edge to form a flat shoulder and a beveled rear or inner face, the lower ends of said front and side sections resting on said bottom section with their inner faces abutting said shoulder to form water tight joints, means for securing said sections together, said receptacle having a receiving opening in its top at the rear thereof and a discharge opening in its rear section near the bottom, and closures for said openings.

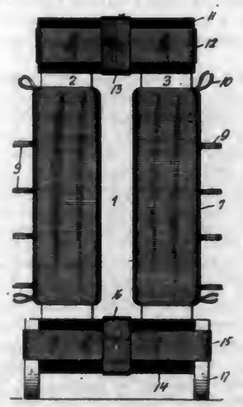
972,949. BOLT FOR SHOW-CASE DOORS. ANTHONY VANDERVELD, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Dec. 18, 1909. Serial No. 533,860.



1. In a bolt for show case doors, a bed plate, a cap plate superposed on the bed plate and having its middle part spaced apart from the same, a flat bolt slidable between the plates having a recess and a projection extending into the recess, and a rod having a flat end provided with a lateral recess to receive the projection, said flat end of said rod being inserted in the recess of the bolt and retained therein by the plates.

2. In combination with a door having a groove extending throughout one side of its stile, bed plates covering the respective ends of the groove, cap plates covered by the bed plates, a flat bolt slidable between each pair of plates and having a recess provided with a lateral projection, a rod for each bolt having a flat end inserted in the recess of the bolt and provided with a lateral recess to receive the said projection and also extended in said groove to near the middle thereof, a recessed plate in the stile opposite the adjacent ends of the rods and having slots, thumb pieces movable in the slots and attached to the respective rods, and a spring in the groove between the thumb pieces.

972,950. COIL. ANTON VOEGTLE, HARRY C. LEA, and RICHARD H. VOEGTLE, Sharpsburg, Pa. Filed June 17, 1909. Serial No. 502,796.



An inductance coil comprising a rectangular laminated core consisting of a series of rectangular frames, each comprising vertical plates, a top plate and a bottom plate, the said plates forming vertical members, a top member and a bottom member of the core, insulation surrounding each of the vertical members intermediate the ends thereof, layers of insulated wire wrapped upon said vertical members, each layer being insulated from the other, connections carried by the insulated wire, insulation covering the top member and the upper ends of the vertical members, means for binding said insulation in position, insulation covering the bottom member and the lower ends of said vertical members, means for holding said insulation in position, and supports secured to the last mentioned insulation by the last mentioned means.

972,951. YELLOW DYE. PAUL VOLKMANN, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Jan. 12, 1910. Serial No. 537,730.

The herein described new coloring matter obtainable from phenylhydrazin-ortho- and para-sulfonic acid and dioxytartaric acid, which is in dry state in the shape of its sodium salt a yellow powder soluble in concentrated sulfuric acid with a yellow color; yielding upon reduction with stannous chlorid and hydrochloric acid anilin-sulfonic acid and 1-sulfophenyl-3-carboxy-4-amino-5-pyrazolone; and dyeing wool bright greenish-yellow shades, substantially as described.

972,952. CHLORHYDRINS AND PROCESS OF MAKING SAME. HENRY V. WALKER, Brooklyn, N. Y., assignor to The Maas & Waldstein Company, Newark, N. J., a Corporation of New Jersey. Filed Jan. 21, 1909. Serial No. 473,497.

1. The process of making chlorhydrins which consists in mixing a bicarbonate of a fixed alkali and a solution containing a hypochlorite of a fixed alkali and reacting therewith upon an olefin.

2. The process of making chlorhydrins which consists in first mixing a bicarbonate of a fixed alkali and a solution containing a hypochlorite of a fixed alkali, second agitating an olefin therewith, and at the same time preventing any rise of temperature due to the reaction.

3. The process of making chlorhydrins which consists first in subjecting a solution of a hypochlorite containing an excess of free alkali to the action of a bicarbonate of a fixed alkali in excess, whereby there results an alkaline solution of hypochlorous acid free from chlorin, and reacting therewith upon an olefin.

4. The process of making olefin chlorhydrins having five carbons and over, consisting in mixing a bicarbonate of a fixed alkali and a solution containing a hypochlorite of a fixed alkali, reacting therewith upon gas naphtha, separating the oily layer containing the chlorhydrins from the aqueous layer, and fractionating the oily layer to obtain the chlorhydrins therefrom.

5. The process of making olefin chlorhydrins having five carbons and over consisting in first mixing a bicarbonate of a fixed alkali and a solution containing a hypochlorite of a fixed alkali, second, agitating gas naphtha therewith, and at the same time preventing any rise of temperature due to the reaction, and third, separating the oily layer containing the chlorhydrins from the aqueous layer, and fourth, fractionating the liquid so separated to obtain the chlorhydrins therefrom.

[Claims 6 and 7 not printed in the Gazette.]

972,953. SOLVENT FOR PYROXYLIN, &c., AND PROCESS FOR MAKING THE SAME. HENRY V. WALKER, Brooklyn, N. Y., assignor to The Maas & Waldstein Company, Newark, N. J., a Corporation of New Jersey. Filed Jan. 21, 1909. Serial No. 473,499.

1. The process of preparing a novel solvent which consists in mixing a bi-carbonate of a fixed alkali and a solution containing a hypochlorite of a fixed alkali, causing the mixture to react with gas naphtha, separating the

oily from the aqueous portion of the reaction product, and distilling the oily portion with a caustic alkali.

2. The process of preparing a novel solvent which consists in mixing a bi-carbonate of a fixed alkali and a solution containing a hypochlorite of a fixed alkali, causing the mixture to react with gas naphtha, separating the oily from the aqueous portion of the reaction product, and distilling the oily portion with slaked lime.

3. As a new product of manufacture, an oxid of a primary olefin having approximately from five to eight carbon atoms, both inclusive.

4. As a new product of manufacture, an oxid of a primary olefin obtained from gas naphtha, having approximately from five to eight carbon atoms, both inclusive.

5. As a new product of manufacture, a mixture of a primary olefin oxid having approximately from five to eight carbon atoms, both inclusive, and a diluent, such as benzin, which mixture is capable of dissolving pyroxylin.

[Claims 6 and 7 not printed in the Gazette.]

972,954. PROCESS OF MAKING HYPOCHLOROUS ACID. HENRY V. WALKER, Brooklyn, N. Y., assignor to The Maas & Waldstein Company, Newark, N. J., a Corporation of New Jersey. Filed Jan. 21, 1909, Serial No. 473,498. Renewed Mar. 23, 1910. Serial No. 551,195.

1. The process of making hypochlorous acid, which consists in subjecting an aqueous solution of hypochlorite of soda to the action of an excess of a bicarbonate of a fixed alkali.

2. The process of making a liquid rich in hypochlorous acid, which consists in adding to an aqueous solution of a hypochlorite of a fixed alkali, a bicarbonate of a fixed alkali in excess to produce the formation of a carbonate of the alkali and hypochlorous acid.

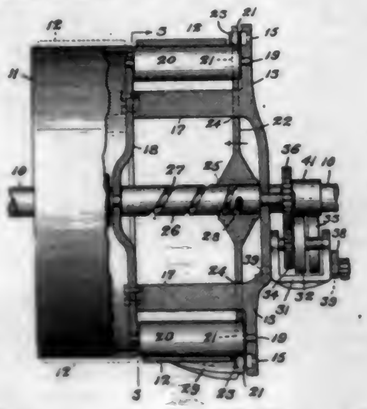
3. The process of making hypochlorous acid, which consists in subjecting hypochlorite of soda dissolved in water to the action of bicarbonate of soda in the proportion of about 75 parts by weight of actual sodium hypochlorite to 85 parts by weight of actual sodium bicarbonate.

4. The process of making hypochlorous acid, which consists in subjecting hypochlorite of soda dissolved in water to the action of bicarbonate of soda.

5. The process of making hypochlorous acid, which consists in subjecting a hypochlorite of a fixed alkali dissolved in water to the action of a soluble bicarbonate.

[Claims 6 and 7 not printed in the Gazette.]

972,955. SUPPORT AND SHIFTER FOR DRIVING-BELTS. RODOLPHUS W. WALKER, Lawrence, Mass. Filed May 6, 1909. Serial No. 494,497.

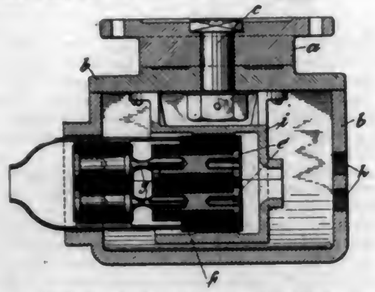


1. The combination with a shaft, pulley, and belt, of a support independent of said members, a plurality of belt receiving rolls mounted on said support in a curved series at one side of the pulley so that their outer portions lie in an arc corresponding to the periphery of the pulley, and a belt shipper having belt-engaging fingers arranged to engage the belt near the points where the tangent stretches of the belt are merged with the bight, and fingers arranged to engage the bight of the belt intermediately of said first mentioned fingers.

2. The combination with a shaft, pulley and belt, of a series of rolls supported independently of the shaft and at one side of the pulley in an arc corresponding to the periphery of the pulley, and a palmate belt shipper likewise supported independently of the shaft and having fingers each between two of said rolls.

3. The combination with a shaft, pulley and belt, of a support for the belt at one side of the pulley, a shipper for the belt, a screw actuator for the shipper, a manually movable hanger, a pair of rolls journaled in said hanger and adapted to engage the shaft one at a time, a pair of coöperating gears connecting said rolls, and a gear on said actuator in coöperative relation with one of the gears of said pair of gears.

972,956. TERMINAL-PLUG RECEPTACLE. JOHN E. WARD, New York, N. Y., assignor to Ward Equipment Company, New York, N. Y., a Corporation of New York. Filed July 9, 1909. Serial No. 506,708.



1. A terminal plug receptacle for railway cars, comprising a bracket, a casing pivoted to the bracket so as to swing horizontally when in position on the car, electrodes, and a frame within the casing to support the electrodes.

2. A terminal plug receptacle for railway cars, comprising a bracket, a casing pivoted to the bracket so as to swing parallel with the car bearing surface of the bracket, a block containing one or more electrodes, and means within the casing to support the block.

3. A terminal plug receptacle for railway cars, comprising a bracket, a casing having a cover plate pivoted to the bracket, a block containing one or more electrodes, and a frame suspended from the cover plate to support the block.

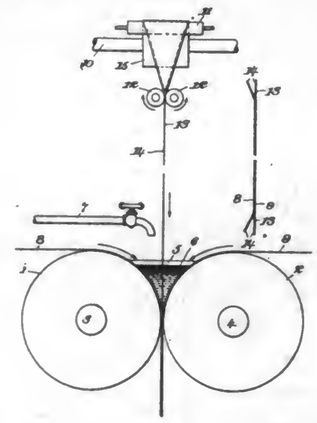
4. A terminal plug receptacle for railway cars, comprising a bracket, a casing having a cover plate pivoted to the bracket and a body portion having openings both at the front and back for the yard plug and battery terminals respectively, a block containing one or more electrodes, and a frame suspended from the cover plate to support the block and also having openings front and back for the yard plug and battery terminals respectively.

5. A terminal plug receptacle for railway cars containing insulated socket electrodes for the yard plug terminals and also for the battery terminals, and means for pivotally supporting the receptacle from the car.

[Claim 6 not printed in the Gazette.]

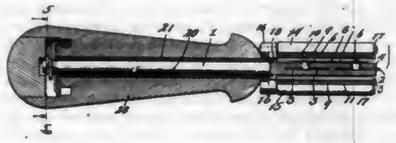
972,957. MACHINE FOR MAKING ROOFING. HENRY R. WARDELL, New York, N. Y., assignor to H. W. Johns-Manville Company, a Corporation of New York. Filed Jan. 18, 1910. Serial No. 538,706.

1. The combination with a pair of rolls, means for maintaining a liquid body of cementitious material between them and means for feeding two webs of flexible fabric between the rolls and through the cementitious material, of mechanism for feeding a double thickness of a narrower strip of fabric between the two first mentioned webs along the edges thereof.



2. The combination with a pair of rolls, means for maintaining a liquid body of cementitious material between them and means for feeding two webs of flexible fabric between the rolls and through the cementitious material, of mechanism for folding and feeding a narrower strip of fabric between the two first mentioned webs along the edges thereof with the bight of the fold on the side farthest from the edges of the webs.

972,958. RAZOR-STROPPING DEVICE. DIXON E. WASHINGTON, Chicago, Ill., assignor of one-half to J. C. Morgan, Chicago, Ill. Filed Sept. 16, 1909. Serial No. 517,987.



1. The combination of a strop having two sections, means for holding a double-edged blade therebetween, said means being movable successively in opposite directions relatively to said sections, and means for causing simultaneous engagement between the strop sections and both faces of one edge of the blade when said holding means is moved in one direction and for causing a simultaneous engagement between said strop sections and both faces of the other edge when the holding means is moved in the opposite direction.

2. In a device for the purpose described, the combination of guides adapted to receive a double strop, a holder for double-edged blades, and means operatively related to said guides and blade holder for simultaneously bringing both faces of either edge of a blade into contact with the folds or sections of the strop.

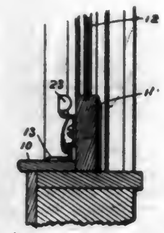
3. In a device for the purpose described, the combination of a blade holder, a double strop, means for mounting said strop and blade holder, said means being adapted to permit relative movement therebetween, and means actuated by said relative movement for simultaneously bringing said strop into simultaneous engagement with both faces of the same edge of a blade mounted in said holder.

4. In a device for the purpose described, the combination with a strop comprising contiguously disposed sections, of a blade holder movable between said sections, and means movable into and out of clamping engagement with a blade in said blade holder, said means being slidably engaged by the sections of said strop and adapted to force said sections simultaneously against both faces of the same edge of said blade.

5. In a device for the purpose described, a blade holder, a double strop, guides for said strop movable relatively to said blade holder, said guides being mounted on opposite sides of the blade holder and adapted to be moved simultaneously into and out of engagement with both faces of one edge of a blade carried by the blade holder.

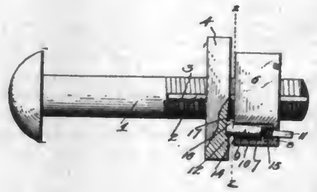
[Claims 6 to 21 not printed in the Gazette.]

972,959. SASH-LOCK. EDWARD L. WATROUS, Des Moines, Iowa. Filed Dec. 13, 1905. Serial No. 291,657.



In a sash lock, the combination of a keeper having a body in which is a central aperture, a hook 18 on the edge of the body, and prongs disposed at right angles to the body and extending from the edge thereof, and a rotatable cam arranged at a right angle to the keeper and having a lug of hook-shape in cross-section which describes a part of a circle and is tapered or gradually reduced in size from one of its ends to the other.

972,960. NUT-LOCK. JOHN K. WEDGWORTH, Cuba, Ala. Filed Nov. 22, 1909. Serial No. 529,401.



1. In a nut lock, a bolt, a nut adapted to be screwed thereon, a spring projected locking pin arranged in said nut, a nut engaging surface having formed therein a series of ratchet notches adapted to receive the projecting inner end of the locking pin, means to prevent the pin from dropping out of the nut and a stop lug formed on the inner projecting end of the locking pin and adapted to be engaged with the inner end of the nut to hold said pin in a projected position.

2. In a nut lock, a bolt, having formed therein a longitudinal groove, a nut adapted to be screwed on said bolt, a washer plate arranged on the bolt and having formed in

oily from the aqueous portion of the reaction product, and distilling the oily portion with a caustic alkali.

2. The process of preparing a novel solvent which consists in mixing a bi-carbonate of a fixed alkali and a solution containing a hypochlorite of a fixed alkali, causing the mixture to react with gas naphtha, separating the oily from the aqueous portion of the reaction product, and distilling the oily portion with slaked lime.

3. As a new product of manufacture, an oxid of a primary olefin having approximately from five to eight carbon atoms, both inclusive.

4. As a new product of manufacture, an oxid of a primary olefin obtained from gas naphtha, having approximately from five to eight carbon atoms, both inclusive.

5. As a new product of manufacture, a mixture of a primary olefin oxid having approximately from five to eight carbon atoms, both inclusive, and a diluent, such as benzin, which mixture is capable of dissolving pyroxylin.

[Claims 6 and 7 not printed in the Gazette.]

972,954. PROCESS OF MAKING HYPOCHLOROUS ACID. HENRY V. WALKER, Brooklyn, N. Y., assignor to The Maas & Waldstein Company, Newark, N. J., a Corporation of New Jersey. Filed Jan. 21, 1909, Serial No. 473,498. Renewed Mar. 23, 1910. Serial No. 551,195.

1. The process of making hypochlorous acid, which consists in subjecting an aqueous solution of hypochlorite of soda to the action of an excess of a bicarbonate of a fixed alkali.

2. The process of making a liquid rich in hypochlorous acid, which consists in adding to an aqueous solution of a hypochlorite of a fixed alkali, a bicarbonate of a fixed alkali in excess to produce the formation of a carbonate of the alkali and hypochlorous acid.

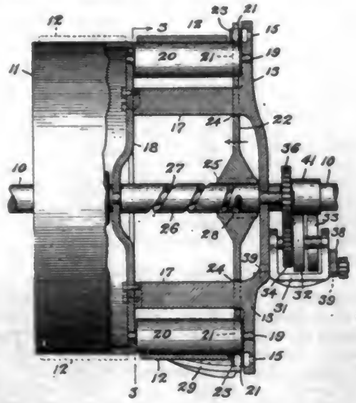
3. The process of making hypochlorous acid, which consists in subjecting hypochlorite of soda dissolved in water to the action of bicarbonate of soda in the proportion of about 75 parts by weight of actual sodium hypochlorite to 85 parts by weight of actual sodium bicarbonate.

4. The process of making hypochlorous acid, which consists in subjecting hypochlorite of soda dissolved in water to the action of bicarbonate of soda.

5. The process of making hypochlorous acid, which consists in subjecting a hypochlorite of a fixed alkali dissolved in water to the action of a soluble bicarbonate.

[Claims 6 and 7 not printed in the Gazette.]

972,955. SUPPORT AND SHIFTER FOR DRIVING-BELTS. RODOLPHUS W. WALKER, Lawrence, Mass. Filed May 6, 1909. Serial No. 494,497.

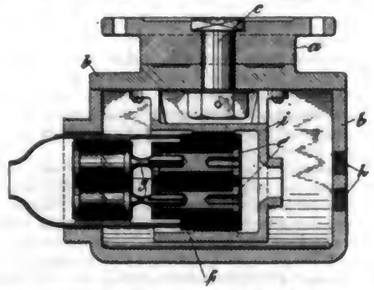


1. The combination with a shaft, pulley, and belt, of a support independent of said members, a plurality of belt receiving rolls mounted on said support in a curved series at one side of the pulley so that their outer portions lie in an arc corresponding to the periphery of the pulley, and a belt shipper having belt-engaging fingers arranged to engage the belt near the points where the tangent stretches of the belt are merged with the bight, and fingers arranged to engage the bight of the belt intermediately of said first mentioned fingers.

2. The combination with a shaft, pulley and belt, of a series of rolls supported independently of the shaft and at one side of the pulley in an arc corresponding to the periphery of the pulley, and a palmate belt shipper likewise supported independently of the shaft and having fingers each between two of said rolls.

3. The combination with a shaft, pulley and belt, of a support for the belt at one side of the pulley, a shipper for the belt, a screw actuator for the shipper, a manually movable hanger, a pair of rolls journaled in said hanger and adapted to engage the shaft one at a time, a pair of coöperating gears connecting said rolls, and a gear on said actuator in coöperative relation with one of the gears of said pair of gears.

972,956. TERMINAL-PLUG RECEPTACLE. JOHN E. WARD, New York, N. Y., assignor to Ward Equipment Company, New York, N. Y., a Corporation of New York. Filed July 9, 1909. Serial No. 506,708.



1. A terminal plug receptacle for railway cars, comprising a bracket, a casing pivoted to the bracket so as to swing horizontally when in position on the car, electrodes, and a frame within the casing to support the electrodes.

2. A terminal plug receptacle for railway cars, comprising a bracket, a casing pivoted to the bracket so as to swing parallel with the car bearing surface of the bracket, a block containing one or more electrodes, and means within the casing to support the block.

3. A terminal plug receptacle for railway cars, comprising a bracket, a casing having a cover plate pivoted to the bracket, a block containing one or more electrodes, and a frame suspended from the cover plate to support the block.

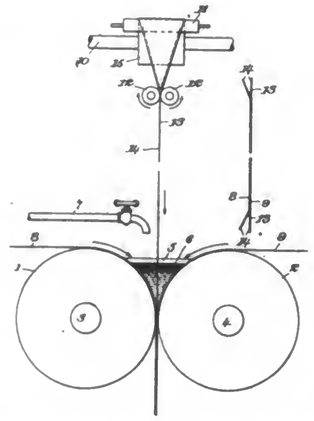
4. A terminal plug receptacle for railway cars, comprising a bracket, a casing having a cover plate pivoted to the bracket and a body portion having openings both at the front and back for the yard plug and battery terminals respectively, a block containing one or more electrodes, and a frame suspended from the cover plate to support the block and also having openings front and back for the yard plug and battery terminals respectively.

5. A terminal plug receptacle for railway cars containing insulated socket electrodes for the yard plug terminals and also for the battery terminals, and means for pivotally supporting the receptacle from the car.

[Claim 6 not printed in the Gazette.]

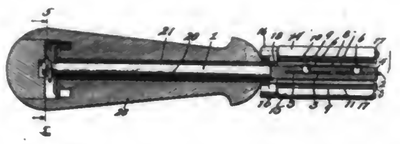
972,957. MACHINE FOR MAKING ROOFING. HENRY R. WARDELL, New York, N. Y., assignor to H. W. Johns-Manville Company, a Corporation of New York. Filed Jan. 18, 1910. Serial No. 538,706.

1. The combination with a pair of rolls, means for maintaining a liquid body of cementitious material between them and means for feeding two webs of flexible fabric between the rolls and through the cementitious material, of mechanism for feeding a double thickness of a narrower strip of fabric between the two first mentioned webs along the edges thereof.



2. The combination with a pair of rolls, means for maintaining a liquid body of cementitious material between them and means for feeding two webs of flexible fabric between the rolls and through the cementitious material, of mechanism for folding and feeding a narrower strip of fabric between the two first mentioned webs along the edges thereof with the bight of the fold on the side farthest from the edges of the webs.

972,958. RAZOR-STROPPING DEVICE. DIXON E. WASHINGTON, Chicago, Ill., assignor of one-half to J. C. Morgan, Chicago, Ill. Filed Sept. 16, 1909. Serial No. 517,987.



1. The combination of a strop having two sections, means for holding a double-edged blade therebetween, said means being movable successively in opposite directions relatively to said sections, and means for causing simultaneous engagement between the strop sections and both faces of one edge of the blade when said holding means is moved in one direction and for causing a simultaneous engagement between said strop sections and both faces of the other edge when the holding means is moved in the opposite direction.

2. In a device for the purpose described, the combination of guides adapted to receive a double strop, a holder for double-edged blades, and means operatively related to said guides and blade holder for simultaneously bringing both faces of either edge of a blade into contact with the folds or sections of the strop.

3. In a device for the purpose described, the combination of a blade holder, a double strop, means for mounting said strop and blade holder, said means being adapted to permit relative movement therebetween, and means actuated by said relative movement for simultaneously bringing said strop into simultaneous engagement with both faces of the same edge of a blade mounted in said holder.

4. In a device for the purpose described, the combination with a strop comprising contiguously disposed sections, of a blade holder movable between said sections, and means movable into and out of clamping engagement with a blade in said blade holder, said means being slidably engaged by the sections of said strop and adapted to force said sections simultaneously against both faces of the same edge of said blade.

5. In a device for the purpose described, a blade holder, a double strop, guides for said strop movable relatively to said blade holder, said guides being mounted on opposite sides of the blade holder and adapted to be moved simultaneously into and out of engagement with both faces of one edge of a blade carried by the blade holder.

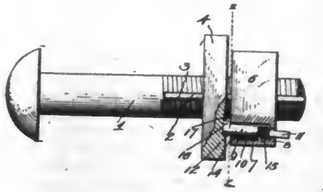
[Claims 6 to 21 not printed in the Gazette.]

972,959. SASH-LOCK. EDWARD L. WATROUS, Des Moines, Iowa. Filed Dec. 13, 1905. Serial No. 291,637.



In a sash lock, the combination of a keeper having a body in which is a central aperture, a hook 18 on the edge of the body, and prongs disposed at right angles to the body and extending from the edge thereof, and a rotatable cam arranged at a right angle to the keeper and having a lug of hook-shape in cross-section which describes a part of a circle and is tapered or gradually reduced in size from one of its ends to the other.

972,960. NUT-LOCK. JOHN K. WEDGWORTH, Cuba, Ala. Filed Nov. 22, 1909. Serial No. 529,401.

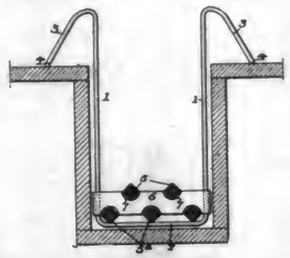


1. In a nut lock, a bolt, a nut adapted to be screwed thereon, a spring projected locking pin arranged in said nut, a nut engaging surface having formed therein a series of ratchet notches adapted to receive the projecting inner end of the locking pin, means to prevent the pin from dropping out of the nut and a stop lug formed on the inner projecting end of the locking pin and adapted to be engaged with the inner end of the nut to hold said pin in a projected position.

2. In a nut lock, a bolt, having formed therein a longitudinal groove, a nut adapted to be screwed on said bolt, a washer plate arranged on the bolt and having formed in

its outer side a series of ratchet notches, a beveled lug arranged in said washer plate and adapted to engage the groove in said bolt whereby the washer plate is held against turning on the bolt, a spring projected locking pin arranged in said nut, said pin having a beveled inner end adapted to be engaged with the beveled notches in said washer plate, a laterally projecting stop lug formed on one side of the inner end of said locking pin, said lug being adapted to be brought into engagement with the inner end of the bolt when the inner end of said locking pin is brought into engagement with the square surface of said ratchet notches thereby holding said locking pin in projected position and the nut lock on the bolt.

972,961. METALLIC REINFORCE FOR CONCRETE CONSTRUCTION. DANIEL A. WEDMORE, Philadelphia, Pa., assignor to Philadelphia Steel & Wire Co., Philadelphia, Pa., a Corporation of New Jersey. Filed July 9, 1907. Serial No. 382,826.



1. The combination, with a wire stirrup consisting of vertical runs and a cross member integral therewith, of a sheet metal supporting and spacing member constructed for engagement by reinforcing bars, said supporting and spacing member being vertically disposed and extending between the vertical runs of said stirrup and having its ends turned to form hooks for engagement with said vertical runs.

2. The combination with a stirrup comprising an integral U-shaped member, of a sheet metal supporting and spacing member carried by said stirrup and extending between the legs of the same, said spacing member being notched on its upper and lower edges for the reception of reinforcing bars.

3. The combination with a stirrup consisting of vertical runs and a cross member integral therewith, of a sheet metal supporting and spacing member for reinforcing bars having side clips in engagement with said stirrup and extending between the legs of the same, said spacing member being notched on its upper and lower edges for reinforcing bars.

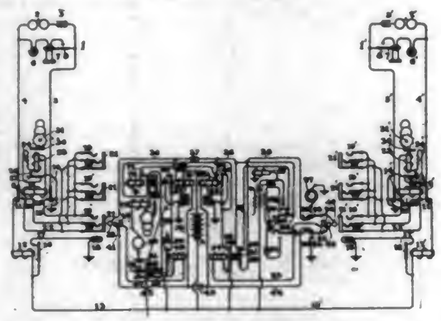
4. The combination of a stirrup for reinforced concrete construction, and a sheet metal spacing and supporting member for reinforcing bars carried by said stirrup and extending between the legs of the same, said spacing member having side extensions forming positioning means.

5. The combination of a stirrup for supporting reinforcing bars, and a sheet metal spacing and supporting member for said bars carried by said stirrup, said spacing and supporting member having side extensions forming positioning means and hook portions to engage the legs of said stirrup.

[Claims 6 to 10 not printed in the Gazette.]

972,962. SERVICE-METER SYSTEM. ALFRED H. WEISS, Chicago, Ill., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 29, 1907. Serial No. 404,222.

1. In a telephone system, the combination with a telephone line, of a cut-off relay for the line, a service meter for the line having its coil connected in series with the cut-off relay, an auxiliary resistance for said cut-off relay normally in series with the coil thereof but adapted to be shunted by the actuation of the service meter, a cord circuit to connect with the line, a pair of sources associated with the cord circuit, one of said sources being normally connected with the coil of the service meter when the cord is connected with the line but of insufficient voltage to actuate the meter, and the other of said sources being adapted to be connected temporarily with the coil of the service meter and being of a potential high enough to actuate the service meter, substantially as described.



2. In a telephone system, the combination with a telephone line, of a service meter therefor connected with one of the jack contacts for the line, said service meter having an actuating coil and an auxiliary coil normally in series and contacts adapted to complete a shunt around the auxiliary coil when the meter is actuated, a cord circuit to connect with the line having a pair of sources associated therewith, one of said sources being connected with the coil of the line service meter when the cord is connected with the line but being of insufficient electro-motive force to actuate the service meter, the other source being adapted to be momentarily connected with the coil of the service meter and being of sufficient electro-motive force to actuate it, the first source being of sufficient electro-motive force to maintain the actuation of the service meter after the second source is disconnected therefrom, substantially as described.

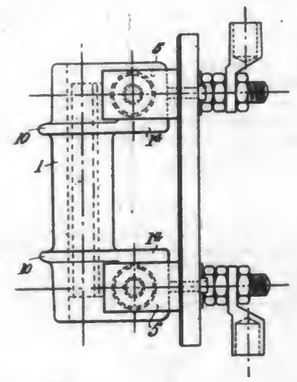
3. In a telephone system, the combination with a telephone line, of a service meter associated therewith and having its coils connected with one of the jack contacts of the line, an actuating coil and a resistance coil for said service meter normally connected in series, and contacts of the service meter adapted to shunt said resistance coil when the service meter is actuated, a cord circuit adapted to be connected with the line, means to direct a current through the coil of said meter insufficient for its actuation when the cord is connected with the line, and means to direct an increased current through the coil of said service meter sufficient for its actuation when it is desired to register a call, the current insufficient for the actuation of the service meter being sufficient to maintain the actuation thereof after the stronger current is removed, substantially as described.

4. In a telephone system, the combination with a telephone line, of a cut-off relay and the coil of a service meter therefor connected in series, an auxiliary coil for the service meter normally in series therewith, means to shunt said auxiliary coil when the service meter is actuated, a cord circuit to connect with the line, a pair of sources associated therewith, one of said sources being connected through the cut-off relay and the coils of the service meter when the cord is connected with the line but furnishing insufficient current for the actuation of the service meter, means to connect the other of said sources through the coils of the cut-off relay and the service meter without interrupting the circuit therethrough, said source furnishing sufficient current for the actuation of the service meter, the former source furnishing sufficient current to maintain the actuation of the service meter after the latter source has been removed, substantially as described.

5. In a telephone system, the combination with a telephone line having a service meter and a cut-off relay connected in series and with the sleeve contact of the line jack, a cord circuit to connect therewith having a source of current normally connected with the sleeve contact of the plug, a key having series contacts in the circuit of said source, a second source adapted to be connected with the sleeve of the plug by the actuation of said key, the first source being disconnected by the actuation of said key and means to reconnect the first source with the sleeve of the plug before the second source is disconnected therefrom, when the key is released, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

972,963. ELECTRICAL FUSE. ALLEN WEST, Westminster, London, England. Filed Dec. 4, 1909. Serial No. 531,354.



1. A fuse carrier for electrical purposes formed with side lugs at the top and bottom from insulating material all in one piece, and having a contact cheek or cheeks disposed within the lugs, and with a spring adapted to press same outward and means for limiting their outward travel substantially as hereinbefore described.

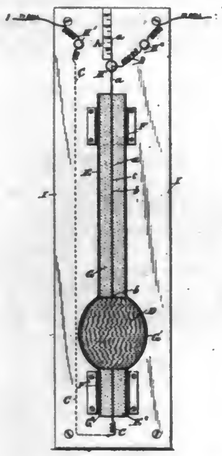
2. A fuse carrier, comprising a body portion formed of insulating material and provided with a contact chamber at one end having an opening, a contact cheek arranged in the said chamber, and means for pressing the said cheek outwardly through the said opening in the chamber.

3. A fuse carrier, comprising a body portion formed of insulating material and provided at one end with a contact chamber having openings arranged opposite to each other, contact cheeks arranged in the said chamber, and means for pressing the said cheeks in opposite directions through the said openings in the chamber.

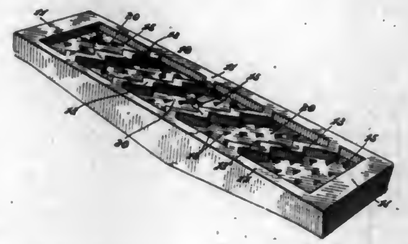
972,964. THERMIC CIRCUIT-CLOSER FOR ELECTROMAGNETIC APPARATUS. GARRETT WHITE, Chapel Hill, Tenn., assignor of one-half to William B. Neely, Chapel Hill, Tenn. Filed Sept. 2, 1909. Serial No. 515,987.

1. A thermic circuit closer for an electric circuit having, in combination, an open-topped glass tube constructed with a mercury-chamber expansion near its lower end, a lining of a material absorbent of dampness and non-absorbent to mercury within the main body of said tube including its upper end, a lower contact wire sealed within the lower end of the tube, and an endwise movable needle extending into the upper end of said lined tube; said expansion and the lower end of the lined portion of the tube being occupied by mercury.

2. A thermic circuit closer for an electric circuit, having, an open-topped glass tube supported in upright position and constructed with a cylindrical main portion including its upper end, a relatively short subjacent cylindrical portion including its lower end and a mercury chamber expansion connecting said cylindrical portions and supplied with mercury, a lining of plaster of paris within said main portion, a filling of plaster of paris within said subjacent portion, a movable needle extending downward a variable distance within the upper end of said lined tube to contact with the mercury column, and a lower contact wire sealed within the lower end of the tube by said filling, said lining being adapted to prevent humidity within the tube by absorbing dampness, substantially as hereinbefore specified.



972,965. GRATE-BAR. ANDERSON WILDERSPIN, Grand Saline, Tex., assignor of one-half to David C. Earnest, Dallas, Tex. Filed June 24, 1910. Serial No. 568,750.



1. A grate bar provided on its top face with a marginal rib and transverse zigzag partitions forming a plurality of individual fuel pockets adapted to retain fine fuel, said bar having ventilating holes extending through the body thereof and opening into said pockets.

2. A grate bar provided on its top face with a marginal rib and diagonal zigzag transverse partitions forming a plurality of individual fuel pockets adapted to retain fine fuel, said bar having ventilating holes extending through the body thereof and opening into said pockets.

3. A grate bar provided with a plurality of individual fuel pockets in its top face, separated by transverse zigzag partitions, individual air pockets on its bottom face and ventilating holes connecting said pockets.

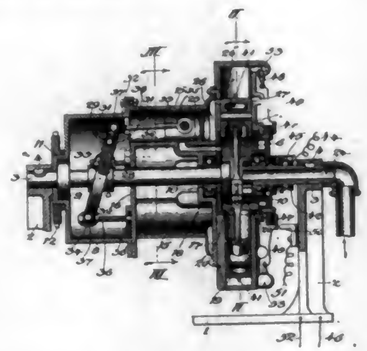
4. A grate bar provided with a plurality of individual fuel pockets in its top face formed by a surrounding rim and by transverse zigzag partitions forming clinker breaking points projecting longitudinally of the bar.

5. A grate bar provided with a plurality of individual

fuel pockets in its top face formed by a surrounding rim and by transverse zigzagged partitions forming breaking points projecting longitudinally of the bar, said bar having ventilating holes extending through the body thereof and opening into said pockets.

[Claim 6 not printed in the Gazette.]

972,966. INTERNAL-COMBUSTION ENGINE. MARTIN L. WILLIAMS, South Bend, Ind. Filed Jan. 21, 1907. Serial No. 353,223.



1. In a gas engine, a circular series of power cylinders, a circular series of compression cylinders, a centrally disposed fixed reaction shaft, a piston in each of said several cylinders and operative connections between each piston and said shaft whereby said pistons are all caused to move in definite timed relation with each other, the compression cylinders being arranged with their axes substantially parallel and the exhaust ends of the several power cylinders arranged adjacent to the compression ends of the respective corresponding compression cylinders, ducts connecting the several power cylinders with their corresponding compression cylinders and terminating in ports in the power cylinders controlled by the respective pistons therein, said compression cylinders being each provided with an induction port, a source of gas supply common to all of the compression cylinders, and means for igniting the charges in the power cylinders in regular succession.

2. In a gas engine, a circular series of power cylinders having their axes substantially radial to a common center and their exhaust ends radially inward, a circular series of associated compression cylinders having their axes parallel with each other and their compression ends respectively adjacent to the corresponding exhaust ends of the power cylinders, a piston in each of said several cylinders, a fixed reaction shaft centrally disposed relatively to the power cylinders and provided with a reaction crank, piston rod connections between said crank and the several pistons of the power cylinders, a reaction cam disk fixedly mounted opposite the ends of the several compression cylinders and operative piston rod connections between said cam disk and the several pistons of said compression cylinders, ducts controlled by the power pistons connecting the compression ends of the compression cylinders with the adjacent ends of the corresponding power cylinders, a gas supply chamber common to all of the compression cylinders, and means for igniting the charges in the power cylinders in succession whereby the reaction of the power pistons upon said shaft imparts a relative rotation between said shaft and cylinders.

3. In a rotary gas-engine, a circular series of power cylinders, an associated circular series of compression cylinders, a piston in each of the respective cylinders, the exhaust end of each power cylinder being adjacent to the compression end of the associated compression cylinder, each associated power and compression cylinder being provided with a connecting duct, and each compression cylinder being provided with an induction port, an eccentrically disposed reaction crank to which the power pistons are operatively connected, a reaction cam mounted opposite the ends of the compression cylinders, an annular member mounted for rotation upon said cam, piston-rod connections between the compression pistons and said annular member, and suitable guides for said piston rods.

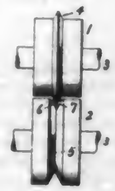
4. In a rotary gas-engine, a circular series of power cylinders, a circular series of associated compression cylinders, a piston in each of the respective cylinders, an eccentrically disposed reaction crank to which the power pistons are operatively connected, a circular cam-disk mounted opposite the ends of the compression cylinders, and inclined from a plane perpendicular to the axis of rotation of the engine, an annular member mounted to rotate upon said cam-disk, piston-rod connections between said annular member and the respective compression pistons, and suitable guides for said piston-rods.

5. In a rotary gas-engine, a circular series of power cylinders, a circular series of associated compression cylinders, a piston in each of the respective cylinders, an eccentrically disposed reaction crank to which the power pistons are operatively connected, a reaction-cam mounted opposite the ends of the compression cylinders, an annular member mounted for rotation upon said cam, a roller bearing between said annular member and cam, piston-rod connections between said annular member and the respective pistons of the compression cylinders, and suitable guides for said piston-rods.

[Claims 6 to 8 not printed in the Gazette.]

972,967. METHOD OF MAKING CHANNEL RIBBON. JAMES DANIEL WILSON, Baltimore, Md. Filed Oct. 21, 1909. Serial No. 523,798.

1. The improved method of forming channel ribbon from wire which consists in partly cutting the metal



longitudinally of the wire and reducing and forming the wire into the desired channel shape by a single pair of die rolls at one operation.

2. The improved method of forming channel ribbon from wire which consists in longitudinally slitting such wire and forming it into the desired channel shape with straight edges by a single pair of die rolls which act on the broad sides only of the ribbon, and at one operation.

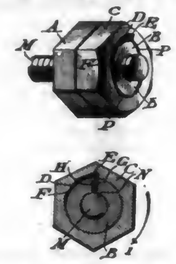
3. The improved method of directly forming channel ribbon from wire which consists in longitudinally partly dividing such wire so that the amount of material will be greater on one side than on the other, and forming it into the desired channel shape with straight edges by a single pair of rolls, and at one operation.

4. The method of forming channel ribbon direct from wire which consists in centering a wire in and by a forming groove of a rotary roll, partly splitting said wire by a cutting die-rib of a coöperating rotary roll, and directly reducing and forming the divided portions of the metal of the wire to the channel form.

5. The method of forming channel ribbon with straight edges direct from wire at a single operation which consists in centering a wire in and by a forming groove of one rotary roll of a pair, partly splitting said wire by a cutting die-rib of the coöperating rotary roll of said pair, and directly reducing and forming the divided portions of the metal of the wire to the channel form.

[Claims 6 to 9 not printed in the Gazette.]

972,968. NUT-LOCK. JOSEPH B. WISMER, Franconia, Pa. Filed Mar. 3, 1910. Serial No. 547,016.



1. In a nut lock, a nut having a neck portion, a sleeve rotatable thereon, and a detent in said neck portion, said sleeve having a bore with a cam groove which is provided with a recess at one end and an intermediate shoulder.

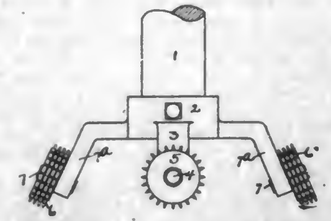
2. In a nut lock, a nut having a neck portion, a sleeve rotatable thereon, and a detent in said neck portion, said sleeve having a bore with a cam groove which is provided with a recess at one end and an intermediate shoulder, said detent extending radially of the bore of the nut with its outer end constructed to engage either said recess or shoulder.

3. In a nut lock, a nut having a neck portion, a sleeve rotatable thereon, and a radially-extended detent in said neck portion, said detent being confined between the sleeve and nut both radially and lengthwise of the bore of the nut, said sleeve having a bore with an enlarged portion with a shoulder to be engaged by the outer ends of said detent in radial alinement with its inner end.

4. In a nut lock, a nut, a detent therein disposed radially of the nut, a rotatable sleeve on a member of the nut, said sleeve having a bore partly elliptical with an intermediate shoulder, the elliptical portion being adapted to ride on said detent in one direction of rotation of the sleeve and force it endwise into engagement with a bolt on which said nut is fitted and ride on said detent in the other direction of rotation of the sleeve and relieve said detent of the pressure of said portion, said detent having a point which is adapted to pierce the thread of said bolt, and a shoulder set back from said part adapted to rest upon said thread at the side of the place of occupation of said point.

5. In a nut lock, a nut having a neck portion, a sleeve rotatable thereon, said neck portion having at its outer end a radially extending shoulder to freely embrace the outer face of the sleeve, and a detent in said neck portion, said sleeve having a cam groove, which is provided with a recess at one end and an intermediate shoulder.

972,969. STONE-CUTTING TOOL. WILLIAM F. WITTICH, Erie, Pa., assignor to The Wittich Success Shaft Sinking and Tunnelling Machine Company, Erie, Pa., a Corporation of Arizona. Filed June 4, 1908. Serial No. 436,613.



1. In a stone cutting tool, the combination of a rotary carrier; a cutter point thereon; a head carrying the carrier, the carrier being adapted to be rotated by traction as the carrier is advanced over a face being cut; and means for automatically retracting and advancing abruptly the cutter point as the carrier is rotated.

2. In a stone cutting tool, the combination of a shaft; a cam plate fixed on the shaft having swells extending in a radial direction from the shaft; a carrier rotatively mounted with relation to the cam plate of said shaft; a cutting point mounted on the carrier; and means connected with the point for engaging the cam plate for automatically actuating the point as the carrier is rotated.

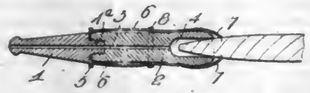
3. In a stone cutting tool, the combination of a shaft 4; a cam plate fixed thereon, having a hub extending laterally therefrom; a carrier wheel 13 rotatively mounted on the hub, and having guide slots in the face thereof; point holders slidingly mounted in the slots; points on the holders; lugs on the holders engaging the cam plate for retracting the holders and points; and springs arranged in the sockets and tensioned against the holder and the socket for advancing the points as the carrier is rotated.

4. In a stone cutting tool, the combination of a rotary head; a rotary carrier mounted on the head, the axis of the carrier being radial to the axis of the head; a point mounted radially in the carrier; and means for automatically advancing and retracting the point as the carrier is rotated.

5. In a stone cutting tool, the combination of a rotary head; a rotary carrier mounted on the head and arranged to be rotated by traction as the head is rotated; a point mounted on the carrier; and means for automatically advancing and retracting the point as the carrier is rotated.

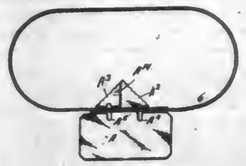
[Claims 6 to 9 not printed in the Gazette.]

972,970. CIGAR-HOLDER. GEORGE WOLFF, West Hoboken, N. J. Filed May 5, 1910. Serial No. 559,441.



A device of the character set forth comprising a mouth piece having a nipple at one end, a stem having at one end a socket to receive said nipple and at its other end a socket to receive the object to be held, an annular member arranged on said nipple and clamped between the stem and mouth piece, a series of spring fingers projecting from said annular member and extending longitudinally along the exterior of the stem, said fingers being curved longitudinally and having their outer ends bent inwardly to form prongs which project beyond the outer end of the stem to engage the object, and a clamping ring slidably mounted on said fingers for varying the gripping action thereof.

972,971. PROTECTIVE SEAL. TINGLEY S. WOOD, Leadville, Colo. Filed May 13, 1905. Serial No. 260,840.
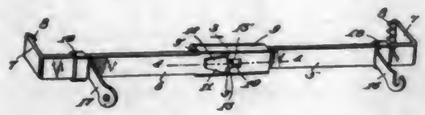


1. The combination with a securing device having an opening, of a seal provided with an enlarged part and a tongue extending from the enlargement, the tongue having weakened lines upon which it may be folded upon itself through an arc of 180° after being passed through the

opening of the securing device to form a stop to prevent reverse movement, the seal being made of such material as to prevent repeated bending on the same line without rupturing the material on the line of the bend.

2. The combination with a slotted shackle or other securing device, of a seal of the class described provided with a tongue at one end and an enlarged part at the other end to limit the movement of the tongue in the direction of its insertion through the slot of the shackle or other securing device, the seal being provided with recesses at the base of the tongue whereby the extremities of the slot through which it is passed may be disclosed.

3. The combination with a securing device provided with a slot, of a sealing device having a tongue at one extremity and an enlarged part at the other extremity, the tongue having a width equal or approximately equal to the slot of the securing device, the tongue being cut away on one side and correspondingly reinforced on the opposite side of its base, the reinforced part being provided with a lip adapted to be bent down over the slot of the securing device after the tongue is inserted to its limit of movement, the tongue being adapted to be folded to prevent reverse movement after insertion.

972,972. WINDOW-SHADE HOLDER. GEORGE WM. WRAY, El Reno, Okla. Filed Oct. 28, 1900. Serial No. 525,068.



1. A shade roller support comprising two longitudinally adjustable members, one of said members having an elongated sleeve integrally formed on its inner end, the other of said members being slidable in said sleeve, said sleeve having a rectangular opening therein, a cam locking lever having a contracted neck portion disposed through said opening and an enlarged substantially triangular shaped bearing portion adapted to engage with the outer face of said sleeve, the cam portion of said member having lateral extensions adapted to engage with said slidable member and secure the same in its adjusted position, a roller supporting bracket slidably disposed upon each of said members, the outer ends of said members being angularly disposed and provided with inwardly directed extremities adapted to engage in the opposite sides of a window frame.

2. A shade roller support comprising two adjustable bars, the inner end of one of said bars having an integral transversely extending portion on each of its opposite edges, the longitudinal edges of said transversely extending portion being inwardly bent toward each other to form a rectangular elongated sleeve, the other of said bars being positioned in and slidable through said sleeve, said sleeve having an elongated opening provided through its outer face, a cam locking lever formed from a single piece of material, said lever having a substantially triangular shaped portion adapted to bear upon the outer face of said sleeve and a contracted neck portion bent at a right angle and disposed through said opening, the end of said neck portion having lateral extensions formed integrally therewith extending on opposite sides of said opening, said slidable bar having a plurality of serrations in its outer face, the outer edge of said extensions providing a bearing portion adapted to engage in said serrations and bind the slidable bar in said sleeve to secure the same in its adjusted position, in combination with a roller supporting bracket longitudinally movable on each of said bars, each of said brackets comprising a rectangular sleeve portion engaged on said bars, and an outwardly extending roller supporting arm, the outer ends of said bars being angularly disposed and having inwardly turned extremities, said extremities being serrated for engagement in the opposite sides of a window frame.

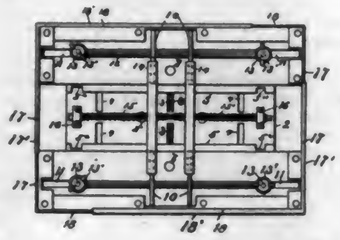
972,973. METAL HOOP. JAMES E. WAIGHT, Bay City, Mich., assignor of one-half to John M. Kelton, Bay City, Mich. Filed Feb. 6, 1908. Serial No. 414,581.



1. A hoop comprising an annular band having an outwardly bulging yielding bead formed along one longitudinal edge, a shoulder formed at the junction of the baud and bead, the free edge of the bead forming a lip on one side of the bead adjacent the barrel, said free edge lying adjacent and adapted under heavy pressure to contact with said shoulder.

2. A hoop comprising an annular band, an outwardly bulging yielding bead formed along one longitudinal edge thereof, one edge of the bead being connected to the band and forming a shoulder at that point, and a lip connected to the opposite edge of the bead and extending behind the bead on that side adjacent the barrel, the free edge of the lip lying adjacent and adapted under heavy pressure to contact with the shoulder.

972,974. FORM FOR PAPER-BOX-COVERING MACHINES. CHARLES G. WYATT, St. Joseph, Mo. Filed June 24, 1910. Serial No. 568,755.



1. In a form for paper box covering machines having a form shaft therefor, a holder adapted to be rotated on said shaft; holder securing means, adapted to secure said holder on said shaft; a boss plate, secured to said holder; a width adjusting screw, adapted to be rotated by a wrench, said screw being rotatably mounted at the center thereof, in a bearing, secured on said boss plate, and having a right threaded one half portion and a left threaded other half portion; a pair of width plates, slidably guided by said boss plate; securing means, on each of said width plates, whereby the same are secured to said boss plate, at various distances from each other; screw engaging means, whereby one of said width plates is engaged with the right threaded portion of said screw; other screw engaging means, whereby the other width plate is engaged with the left threaded portion of said screw; a pair of length plates, adjustably secured to each of said width plates, and a side portion of said form, secured at one edge thereof to each of said length plates; the whole adapted to slidably guide and move said side portions of said form, from and toward each other; and to secure the same at any desired points of said movements.

2. In a form for paper box covering machines, a boss plate, provided with adjusting and securing means, whereby said boss plate is adapted to be adjusted and secured on an end portion of a shaft; a pair of width plates; provided with transversely arranged guiding means, whereby

the same are guided; securing means, for securing said width plates to said boss plate; a screw, adapted to be rotated by a wrench; said screw being rotatably mounted on said boss plate, and having a right threaded portion of same engaged with one of said width plates, and a left threaded portion engaged with the other one of said width plates, whereby said width plates are moved from and toward each other; a longitudinally arranged lengthening screw adapted to be rotated by a wrench, said screw being rotatably mounted in bearings, secured to said boss plate, and having a right threaded one half portion, and a left threaded one half portion formed thereon; a pair of transversely arranged drive bars, each having a channel formed therein, one of said bars having the right threaded portion of said screw screwed through the central part thereof, the other one of said drive bars having the left threaded portion of said screw, screwed through the central part thereof; a pair of length plates, each provided with a spline on the inner end thereof, inserted in the channel in one of said drive bars, said length plates being slidably secured; one to each of said width plates; a side portion and an end portion of a box form secured to each of said length plates, and another pair of length plates similarly engaged with the other one of said drive bars, said other length plates each having the remaining side portion and end portion of said box form secured thereto.

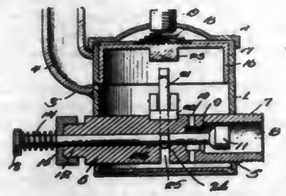
3. In a form for paper box covering machines, a holder, adapted to be adjusted and secured on an end portion of a shaft; a boss plate, secured to said holder; a width plate, slidably secured to said boss plate; width screw driving means, mounted transversely on the rear side of said boss plate whereby said width plate is slidably moved; a length plate, slidably secured to an end portion of said width plate; a lengthening screw, secured longitudinally to the front side of said boss plate; length driving means, arranged transversely to said screw, and driven thereby; and slidable engaging means, whereby one end of said length plate is slidably engaged with said driving means.

4. In a form for paper box covering machines, a boss plate, provided with adjusting and securing means, for adjusting and securing the same on an end portion of a shaft; a width plate; slidable guiding and securing means, adapted to slidably guide and secure said width plate transversely to said boss plate; width screw driving means, mounted transversely on the rear side of said boss plate, across the central portion thereof, whereby said width plate is slidably driven; a length plate, provided with slidable guiding and securing means, whereby said length plate is slidably guided longitudinally and secured to said width plate at one end portion thereof, another length plate, similarly guided and secured to the other end portion of said width plate; separate length plate driving means, one for each of said length plates; slidable engaging means, whereby each of said length plates is slidably engaged with its said driving means; a lengthening screw, rotatably secured to the front side of said boss plate, and adapted to move said two length plate driving means toward and from each other; a side portion of a box form, having the rear edge thereof secured to one of said length plates, and having the front edge portion extended inward and a return bend formed on the front edge thereof, adapted to act as a guide; another side portion of a box form, having the rear edge thereof secured to said other length plate, and the front edge thereof extended and guided in said return bent portion of the first mentioned portion of said box form.

5. In a box form, a side portion and an end portion of said form, secured together, and adapted to form a corner of said box form; a length plate, having the rear edge of said box form portions secured thereto, a width plate; longitudinal guiding and securing means, whereby said length plate is longitudinally guided and secured to said width plate; driving means whereby said length plate is driven; slidable engaging means whereby said length plate is slidably engaged with said driving means; a boss plate; a lengthening screw, for moving said driving means; said lengthening screw being rotatably secured to the front side of said boss plate; transverse guiding and securing means, whereby said width plate is guided and secured to said boss plate; and width screw moving means, mounted on the back of said boss plate, whereby said width plate is slidably moved.

[Claim 6 not printed in the Gazette.]

972,975. AUTOMATIC SAFETY GAS-VALVE. HARRY L. YOUNG, St. Joseph, Mo. Filed Dec. 4, 1909. Serial No. 531,334.



1. A valve including a casing, a valve carrier removably secured therein, said carrier being formed to provide a chamber connected with the gas supply and also formed with bores establishing communication between said chamber and the interior of the casing, a valve mounted in the carrier to close the bores against the chamber, a lever normally operative to engage and hold the valve in open position, and a piston movable within the casing and operated by the gas pressure, said lever being arranged in the path of movement of the piston.

2. A valve including a casing, a valve carrier removably secured therein, said carrier being formed to provide a chamber connected with the gas supply and also formed with bores establishing communication between the said chamber and the interior of the casing, a valve mounted in the carrier to close the bores against the chamber, a lever normally operative to engage and hold the valve in open position, and a piston movable within the casing and operated by the gas pressure, said lever being arranged in the path of movement of the piston, and adapted to be actuated to release the valve upon the diminution of the gas pressure beyond the predetermined point.

972,976. BLOW-OUT GUARD FOR INNER TUBES. GROVER C. YOUNGREEN and JOHN C. LOEF, Los Angeles, Cal. Filed Oct. 26, 1909. Serial No. 524,709.

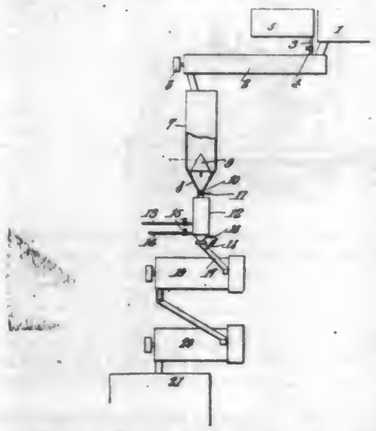


A blow out guard for inner tubes comprising a jacket of non-stretchable thin material for insertion within the outer casing and around the inner tube, the material of said jacket being folded on itself and extending double substantially laterally around the inner tube, the inner layer of one side being extended beyond the fold to form a flap, and snap fasteners secured by rivets to the opposite folds outside said flap.

972,977. METHOD OF CLEANING GRAIN. NATHAN ZIMMER, Hopkinsville, Ky. Filed Apr. 8, 1909. Serial No. 488,658.

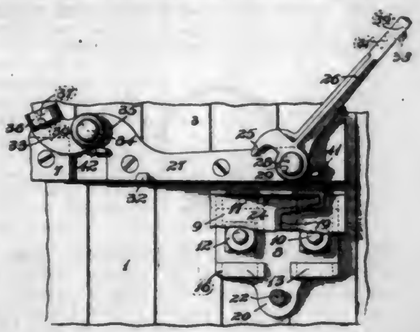
1. The method of treating grain to remove the superficial or bee-wing layer preparatory to grinding the grain, which consists in first moistening the grain, then causing a blistering or loosening of the bee-wing layer without disturbing the underlying bran layers by flowing the moistened grain in a stream through an atmosphere of steam, and then removing the loosened bee-wing layer from the grain.

2. The method of treating grain to remove the superficial or bee-wing layer preparatory to grinding the grain, which consists in moistening the grain with cold water, then causing the moistened grain to gravitate in a stream through an atmosphere of steam under pressure to loosen or blister the bee-wing layer without disturbing the underlying bran layers, and then removing the loosened or blistered bee-wing layer from the grain.



3. The method of treating wheat to remove the superficial or bee-wing coating which consists in first moistening the wheat with cold water, and then flowing the wheat so moistened through an atmosphere of steam under pressure.

972,978. CAR-DOOR FASTENER. JULIUS J. ACKER, Horton, Kans., assignor of twenty-four and one-half one-hundredths to Cyrus L. Bundy, Jersey City, N. J., and fifty-one one-hundredths to Walter P. Murphy, St. Louis, Mo. Filed Aug. 14, 1909. Serial No. 512,782.



1. The combination with a car body having a door opening in the side thereof, an outside door arranged to close said opening, and a stop secured to the side of the car body and adapted to coöperate with the forward edge of the door in the closed position thereof, of a bracket secured to the side of the car body below the door opening, but close to the plane of the bottom edge of the door, said bracket having an outwardly projecting horizontal portion which is provided with an opening therein, a locking lever pivotally mounted at one end on the outer face of the door near the bottom edge thereof so as to swing in a vertical plane, said locking lever having a substantially right angular lug at its pivot and which is adapted to engage the rear edge portion of the opening in said horizontal portions of the bracket and hold the door with its forward edge in contact with said stop, means for supporting the free end of said locking lever when said lever is in locking position, and means on the outer face of the door for engaging the free end of said locking lever to hold the same on said support.

2. The combination with a car body having a door opening in the side thereof, an outside door arranged to close said opening, and a stop secured to the side of the car body and adapted to coöperate with the forward edge of the door in the closed position thereof, of a bracket secured to the side of the car body below the door opening, but close to the plane of the bottom edge of the door, said bracket having an outwardly projecting portion which is provided with an opening therein, a locking lever pivotally mounted on the outer face of the door near the bottom edge thereof so as to swing in a vertical plane, said locking lever having a substantially right angular lug at its pivot end which is adapted to engage the rear edge portion of the opening in said bracket and hold the door with its forward edge in contact with said stop, a laterally projecting lug on the outer face of the door which is arranged and adapted to support the free end of said locking lever when said lever is in locking position and a latch pivotally mounted on the outer face of the door above said outwardly projecting lug and arranged and adapted to engage the free end of said locking lever to hold the same on said lug, the end portion of the locking lever and the latch member which coöperates therewith being arranged to receive a sealing band or loop.

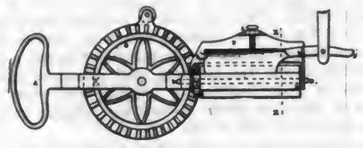
3. The combination with a car body having a door opening in the side thereof, and an outside door arranged to close said opening, of a bracket secured to the side of the car body below the door opening, but close to the plane of the bottom edge of the door, said bracket having an outwardly projecting portion having an opening therein, a locking lever pivotally mounted on the outer face of the door near the bottom edge thereof so as to swing in a vertical plane parallel with the outer face of said door, said locking lever having a substantially right angular lug near its pivot end, the end portion of said lug being hooked toward the pivot end of said lever and adapted to swing through the opening in the outwardly projecting portion of said bracket whereby said lug coöperates with the rear edge portion of said opening to hold the door in closed position, means for supporting the lever in substantially horizontal locking position, a latch member pivoted on the outer face of the door and adapted to engage the free end of said locking lever and hold the same in locking position, said latch member and the coöperating end of the locking lever being arranged to receive a sealing band or loop.

4. The combination with a car body having a door opening in the side thereof, and a door constructed to close said opening, of a retaining bracket secured to the side of the car body below the door opening but close to the plane of the bottom edge of the door, said bracket comprising an inner member which is secured by bolts inserted from the inner side and having securing nuts on their outer ends, and an outer member slidably mounted on said inner member so as to inclose said securing nuts and said outer member being removable only in an upward direction, a laterally projecting portion on said outer bracket member, and a locking lever pivotally mounted on the outer face of the door near the bottom edge thereof and having a lug near its pivot end which is arranged and adapted to enter an opening in said bracket extension and coöperate with the rear edge portion of said opening to hold the door in closed position, means for supporting said locking lever in substantially horizontal locking position with the free end of the lever toward the front edge of the door, and a latch member pivotally mounted on the outer face of the door to engage and hold the free end of the locking lever in its locking position.

5. The combination with a car body having a door opening in the side thereof, and a door constructed to close said opening, of a bracket secured to the side of the car body below the door opening but close to the plane of the bottom edge of the door, said bracket comprising an inner member secured by bolts inserted from inside and having securing nuts on their outer ends and said inner member having vertically disposed undercut lugs on their outer faces, and an outer member having counterpart mortised portions which are adapted to fit said undercut lugs, whereby said outer member is slidably secured to the inner member and removable therefrom only in an upward direction, a lateral extension on said outer member having an opening therein, a locking lever pivotally mounted on the outer face of the door near the lower edge thereof and arranged to swing in a vertical plane parallel with the outer face of the door, said locking lever having a substantially right angular lug near its pivot end which is adapted to enter the opening in said lateral bracket extension and coöperate with the rear edge portion thereof to hold the door in closed position, a projection on the outer face of the door near the lower edge thereof and arranged and adapted to fit a counterpart seat in the free end portion of said locking lever to support the same in substantially horizontal locking position with its free end portion toward the front edge of the door, and an angular latch member pivotally mounted on the outer face of the door adjacent to said supporting projection and adapted to engage the free end of said locking lever in its locking position, said latch member and said locking lever being arranged to be sealed by a single sealing device.

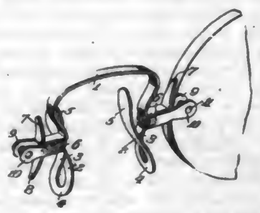
[Claims 6 to 8 not printed in the Gazette.]

972,979. MACHINE FOR SHARPENING AND HONING RAZORS. GEORGE D. ADAMSON, Indianapolis, Ind. Filed June 1, 1909. Serial No. 499,374.



A sharpening machine comprising a handled frame, parallel sharpening member bearing rods mounted thereon, sharpening members journaled on said rods, an instrument support mounted on said rods and parallel therewith, a drive wheel journaled in said frame and operatively connected with driving means borne by said sharpening members.

972,980. MOUNTING FOR EYEGLASSES. LEO F. ADT, Troy, N. Y. Filed Jan. 18, 1905. Serial No. 241,610.



1. A lens attaching device embodying a shank or post formed from a blank bent longitudinally of the shank to provide a front, a rear, a top and a bottom wall, and a pair of attaching lugs extending outwardly from the outer edges of the blank, one of said lugs being adjustably attached to enable lenses of different thicknesses to be accommodated between the attaching lugs.

2. A lens attaching device embodying a hollow tubular shank formed from a strip of sheet material rolled longitudinally of the shank to form a front, a rear, a top and a bottom wall, and a pair of attaching lugs extending in the same direction from the outer edge of the strip of sheet material for engaging opposite surfaces of the lens, the strip of material being slitted longitudinally of the shank on one side of one of said lugs in order that the lug may be adjusted to lenses of different thicknesses.

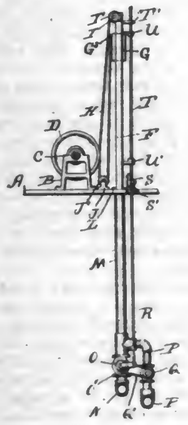
3. A lens attaching device embodying a hollow tubular shank composed of a strip of sheet material having a pair of attaching lugs proceeding from one edge of the sheet material for engaging the opposite faces of a lens, one of said lugs lying in proximity to one end of the strip and the latter being slitted on the other side of the lug and longitudinally of the shank to permit lenses of different thicknesses to be accommodated between the attaching lugs.

4. A lens attaching device formed from a blank of sheet material which embodies a body portion adapted to be bent up transversely to form the shank, a lens attaching lug extending longitudinally of the body portion and enlarged toward its end, and a pair of ears extending longitudinally of the body portion at opposite sides of the lug and arranged divergently relatively to the latter.

5. A blank for making lens attaching devices embodying a body portion adapted to be bent up to form the shank or post, a lens attaching lug extending laterally from the body portion having its edges diverging to form an enlargement toward the end of the lug, and ears extending from the body portion at opposite sides of the lug having their adjacent edges arranged substantially parallel to the divergent edges of the lug.

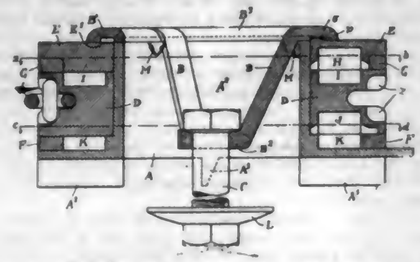
[Claims 6 to 11 not printed in the Gazette.]

972,981. HYDRAULIC MOTOR. PAUL ANDERSEN, Pinole, Cal. Filed Nov. 30, 1907. Serial No. 404,640.



A hydraulic motor comprising a base provided with a series of spaced uprights having bearings at their ends, a shaft mounted in said bearings, a drum provided with a ratchet hub mounted on said shaft between each pair of uprights, a slidably mounted clutch coacting with said hub, a guide way arranged opposite each of said hubs, a weight mounted in each of said guideways, a coiled spring connected to the top of each of said weights, a cable connected to each of said springs passing over pulleys carried by the base and guideways having their ends wound around said drum, cylinders arranged under said weights, pistons mounted in said cylinders engaging said weights, a feed and discharge pipe connected to the lower ends of said cylinders provided with valves, levers and rods for operating said valve and tripping arms operated by said weights for operating said levers and rods.

972,982. WINDLASS. CIPRIANO ANDRADE, Jr., New York, N. Y. Filed May 4, 1910. Serial No. 559,384.



1. In windlasses, in combination; a bed plate, having recesses in its upper face; a central pin perpendicular to said bed plate and integral therewith; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having recesses in its top face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave, said top plate having wedges on its upper face; a covering member above the upper face of said top plate, said covering member being fixed with reference to the pin, said covering member having on its lower face wedges, each of said wedges registering in the path of travel of the corresponding wedge on the top plate, and coöperating with its corresponding wedge on the top plate to force the top plate away from the covering member and down on the sheave when the two wedges are brought into rotary contact, the covering member also having a portion of its lower face in continuous bearing contact with the upper face of the top plate; pawls let into the lower face of said top plate, said pawls engaging in said recesses in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; pawls let into the lower face of said sheave, said pawls engaging said recesses in the upper face of said bed plate, and coöperating with said pawls in the lower face of said top plate, whereby said sheave is free to rotate in one direction with reference to said bed plate and top plate, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said top plate; means for securing said windlass solidly to the deck or floor; means for tripping said pawls in the bottom of said top plate; means for tripping said pawls in the bottom of said sheave.

2. In windlasses, in combination; a bed plate, having recesses in its upper face; a central pin perpendicular to said bed plate and integral therewith; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having recesses on its top face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave, said top plate having wedges on its upper face; a covering member above the upper face of said top plate, said covering member being fixed with reference to the pin, said covering member having on its lower face wedges, each of said wedges registering in the path of travel of the corresponding wedge on the top plate, and coöperating with its corresponding wedge on the top plate to force the top plate away from the covering member and down on the sheave when the two wedges are brought into rotary contact; pawls let into the lower face of said top plate, said pawls engaging in said recesses in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; pawls let into the lower face of said sheave, said pawls engaging in said recesses in the upper face of said bed plate, and coöperating with said pawls in the lower face of said top plate, whereby said sheave is free to rotate in one direction with reference to said bed plate and top plate, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said top plate; means for securing said windlass solidly to the deck or floor; means for tripping said pawls in the bottom of said top plate; means for tripping said pawls in the bottom of said sheave.

3. In windlasses, in combination; a bed plate, having recesses in its upper face; a central pin perpendicular to said bed plate and integral therewith; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having recesses on its top face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave, said top plate having a wedge on its upper face; a covering member above the upper face of said top plate, said covering member being fixed with reference to the pin, said covering member having on its lower face a wedge, registering in the path of travel of the wedge on the top plate, and coöperating with said wedge on the top plate to force the top plate away from the covering member and down on the sheave when the two wedges are brought into rotary contact, the covering member also having a portion of its lower face in continuous bearing contact with the upper face of the top plate; a pawl let into the lower face of said top plate, said pawl engaging in said recesses in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; a pawl let into the lower face of said sheave, said pawl engaging in said recesses in the upper face of said bed plate, and coöperating with said pawl in the lower face of said top plate, whereby said sheave is free to rotate in one direction with reference to said bed plate and top plate, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said top plate; means for securing said windlass solidly to the deck or floor; means for tripping said pawl in the bottom of said top plate; means for tripping said pawl in the bottom of said sheave.

4. In windlasses, in combination; a bed plate, having recesses in its upper face; a central pin perpendicular to said bed plate and integral therewith; a sheave rotating freely about said pin as an axis, the lower face of said sheave resting on the upper face of said bed plate, said sheave having recesses on its top face; a top plate rotating freely about said pin as an axis, the lower face of said top plate resting on the upper face of said sheave, said top plate having a wedge on its upper face; a covering member above the upper face of said top plate, said covering member being fixed with reference to the pin, said covering member having on its lower face a wedge, registering in the path of travel of the wedge on the top plate, and coöperating with said wedge on the top plate to force the top plate away from the covering member and down on the sheave when the two wedges are brought into rotary contact; a pawl let into the lower face of said top plate, said pawl engaging in said recesses in the upper face of said sheave, whereby said sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; a pawl let into the lower face of said sheave, said pawl engaging in said recesses in the upper face of said bed plate, and coöperating with said pawl in the lower face of said top plate, whereby said sheave is free to rotate in one direction with reference to said bed plate and top plate, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said top plate; means for securing said windlass solidly to the deck or floor; means for tripping said pawl in the bottom of said top plate; means for tripping said pawl in the bottom of said sheave.

972,983. DILATOR. RICHARD S. ARTHUR, Newark, N. J., assignor of one-half to Lester R. Lantz, Wyalusing, Pa. Filed May 17, 1909. Serial No. 496,550.

1. In a dilator of the character described, the combination with a plurality of expanding and contracting spring-seated blades or fingers, of a screw-threaded member in engagement with said blades or fingers.



2. In a dilator of the character described, the combination with a plurality of expanding and contracting blades or fingers, of a spring-seated, screw-threaded actuating spindle in engagement with said blades or fingers.

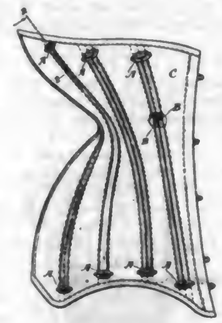
3. In a dilator of the character described, the combination with a plurality of expanding and contracting blades or fingers, of a plurality of gears, a screw-threaded actuating spindle in engagement with said gears, and a spring for supporting the actuating spindle.

4. In a dilator of the character described, the combination with a plurality of expanding and contracting blades or fingers, of an actuating member normally rotatable to effect movement of the blades or fingers, said actuating member being resiliently supported.

5. In a dilator of the character described, the combination with a plurality of expanding and contracting blades or fingers, of means for actuating said blades or fingers including a series of gear-segments, and a yieldably supported screw-threaded spindle in engagement with said gear-segments.

[Claims 6 and 7 not printed in the Gazette.]

972,984. SHIELD FOR CORSET STEELS AND BONES. GRACE L. BAAD, Bay Ridge, N. Y. Filed Mar. 31, 1909. Serial No. 486,905.

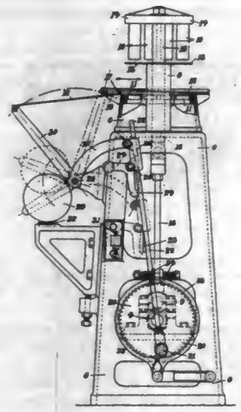


A shield for corset stiffenings, consisting of a plate having a substantially flat outer edge, and having a dome-shaped projection inclosed by said flat outer edge, said flat outer edge completely surrounding said dome, and having perforations whereby it may be sewed to a corset.

972,985. MANUFACTURE OF CUP, CORNET, AND LIKE BISCUITS. THOMAS OWEN BATES, Liverpool, England. Filed June 20, 1910. Serial No. 567,884.

1. In a machine for cutting or punching biscuits from a sheet of cooked biscuit material, the combination with a plurality of punches, and a perforated punching table, of a tray for receiving biscuit sheet debris, means for moving said tray into a position between said punches and said punching table, means for removing debris from said punches, and means for imparting a sudden and quick return movement to the tray and for suddenly stopping such movement whereby the momentum acquired during such movement by the debris causes it to be thrown off said tray.

2. In a machine for cutting or punching biscuits from a sheet of cooked biscuit material, the combination of a plurality of punching devices, a perforated punching table, a tray for receiving biscuit sheet debris, means for moving said tray into a position between said punching devices and said punching table, a crank shaft, means operated from said crank shaft for operating said tray-moving means and disengaging mechanism whereby a sudden and quick return movement is imparted to the tray, substantially as described.



3. In a machine for cutting or punching biscuits from a sheet of cooked biscuit material, the combination of a plurality of punches, a perforated punching table, a tray for receiving biscuit sheet debris, means for removing debris from said punches, a crank shaft, a slidable member operated from said crank shaft, means connected with said slidable member for moving said tray into a position between said punches and said punching table, and means controlled by the movement of said slidable member for imparting a sudden and quick return movement to said tray.

4. In a machine for cutting or punching biscuits from a sheet of cooked biscuit material, the combination of a plurality of punches, a perforated punching table, a tray for receiving biscuit sheet debris, means for removing debris from said punches, means for moving said tray into a position between said punches and said punching table, a weight connected with said tray-moving means and adapted to be raised when said tray is so moved, and means for permitting said weight to fall whereby a sudden and quick return movement is imparted to said tray.

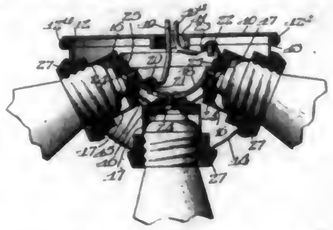
5. In a machine for cutting or punching biscuits from a sheet of cooked biscuit material, the combination of a plurality of punches, a perforated punching table, a tray for receiving biscuit sheet debris, means for removing debris from said punches, a crank shaft, a rod operated from said crank shaft, a member slidable to and fro on said rod, means operated by the movement in one direction of said slidable member for moving said tray into a position between said punches and said punching table, and a weight connected to said tray-moving means and adapted to fall during the movement in the opposite direction of said slidable member whereby a sudden and quick return movement is imparted to said tray.

[Claims 6 to 11 not printed in the Gazette.]

972,986. PLURAL LAMP-SOCKET. REUBEN B. BENJAMIN, Chicago, Ill., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 27, 1907. Serial No. 364,854.

1. In a plural lamp socket, a base-plate, a cover carried by said base-plate, a plurality of lamp-receiving sockets extending through said cover and sustained thereby, a plurality of contact-plates within said cover and sustained by said lamp-receiving sockets, and lamp-terminal-engaging means associated with each of said sockets and electrically connected with said contact-plates.

2. In a device of the class described, an outer casing, a plurality of lamp-receiving sockets extending therethrough and sustained thereby, a pair of conducting plates arranged one within the other, the outer of said conducting plates being electrically connected with and interlocking with each of the lamp-receiving sockets, and a center contact for each of said sockets, said center contacts being electrically connected with the inner of said plates.



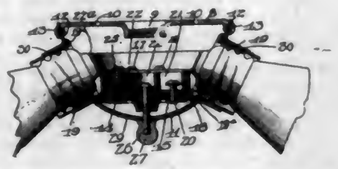
3. In a device of the class described, an outer cover, a plurality of lamp-receiving sockets extending through said cover and sustained thereby, a plurality of plates located within said cover and sustained by said sockets, means for securing supply wires to each of said plates, electrical connection between one of said plates and the center terminal of each of said sockets, and electrical connection between the other of said plates and the outer terminals of said sockets.

4. In a device of the class described, a base-plate, a cover supported by said base-plate, a pair of conducting plates located within said cover, said plates being without direct support on or connection with said base-plates, lamp receiving sockets extending through said cover and sustained thereby and adapted to sustain said plates, contacts associated with the sockets, and electrical connection between said plates and said contacts.

5. In a device of the class described, a base, a cover carried thereby, a plurality of sockets extending through said cover, insulating bushings separating said cover from said sockets and sustaining said sockets in the cover, and a plurality of conducting plates located within said cover and adapted to conduct current to the contacts of said sockets, each of said sockets having an individual base of insulating material secured to both of said plates.

[Claims 6 to 11 not printed in the Gazette.]

972,987. PLURAL LAMP-SOCKET. REUBEN B. BENJAMIN, Chicago, Ill., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 11, 1907. Serial No. 367,659.



1. In a plural lamp-socket, the combination of a substantially hemispherical cover, a base within said cover, said base having a dished plate upon each of its sides, the cover having a plurality of openings disposed in a circle, a lamp-receiving socket located in each of said openings and located to be brought into electrical contact with one of said plates when said cover is in place, the other of said plates being so disposed as to be engaged by the center terminals of lamps carried by the device, binding-screws carried by each of said plates, and means for securing said base to said cover independently of said sockets.

2. In a plural lamp-socket, the combination of a bowl-shaped cover, supporting means to which said cover is secured, a base inclosed by said cover, a plate upon one side of said base, a plurality of lamp-receiving sockets carried by said cover but insulated therefrom and engaging said plates only when the cover is in place, a second plate secured to the opposite side of said base and having a portion adapted to be engaged by lamps when inserted into said sockets, and means independent of said sockets for securing said base and cover together.

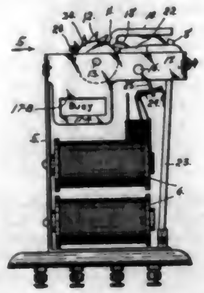
3. In a plural lamp socket, the combination of an insulating base, a plate upon one side of said base adapted to serve as a contact plate for engagement with the center contacts of a plurality of lamps, a cover, a plurality of lamp-receiving sockets secured thereto but insulated therefrom, a circular plate located upon the opposite side of said base and engaging peripherally all of said sockets when the cover is put in place, and means for securing said cover and the sockets carried thereby to said base, said means being located in the axial line of said cover and base.

4. In a plural lamp socket, the combination of an insulating base, a plate carried by said base upon each of its sides, a cover inclosing said base and provided with openings arranged radially about the axis of said cover, a lamp-receiving socket in each of said openings, said sockets having each an outturned flange adapted to retain said sockets in place in said openings, said flanges being electrically connected with one of said plates, and means independent of said sockets for securing said cover and said base together.

5. In a plural lamp-holding device, an insulating block, a circular plate secured to each side of said block, means for connecting a lead with each of said plates, a casing surrounding said block and threaded lamp-receiving shells carried by said casing and adapted to engage one of said plates when the casing and block are assembled, said shells being so located that the center terminals of lamps inserted therein will engage the other of said plates.

[Claims 6 and 7 not printed in the Gazette.]

972,988. INDICATING MEANS FOR PARTY-LINE TELEPHONES. JAMES H. BLYTHE, Denver, Colo. Filed June 24, 1907. Serial No. 380,446.



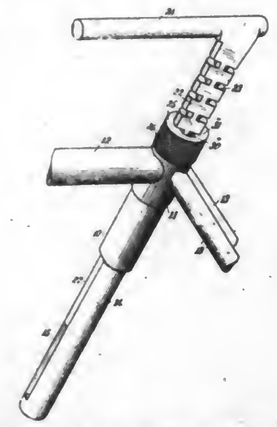
1. A device for indicating the condition of party line telephones, consisting of an indicating member, a disk having a recess on the periphery of its inner face for actuating said indicating member, and suitable means for actuating said disk.

2. A device for indicating the condition of party line telephones, an indicating plate pivotally mounted, the said plate provided with a laterally extending projection and means adapted to engage the projection for actuating the plate.

3. An indicating means for party line telephones consisting of an indicating plate, a disk having a cam recess on the face of the inner periphery of the disk, suitable means for actuating said disk, and means for limiting the movement of said disk for the purpose set forth.

4. A device for indicating the condition of party line telephones provided with a pivotally mounted indicating plate having a laterally extending projection thereon, and a revolubly mounted disk provided with a recessed cam portion on the inner periphery of its face, the said disk adapted to engage the projection of the said plate as means of actuating the same, and suitable means for actuating the disk.

972,989. ADJUSTABLE POST-SUPPORT. JAMES ERNEST BOND, Globe, Ariz. Filed Jan. 5, 1910. Serial No. 536,505.



1. A device of the class described, comprising a socket, a post slidable within said socket, a rotatable member associated with said socket and serving in a predetermined position to hold said post against movement longitudinally of said socket, and means for locking said member in position such that said post is held against movement longitudinally of said socket.

2. A device of the class described, comprising a socket, a post slidable within said socket, a rotatable member associated with said socket and serving in a predetermined position to hold said post against movement longitudinally of said socket, means for locking said member in position such that said post is held against movement longitudinally of said socket, and means for clamping said socket within a suitable hollow part of a bicycle frame, said member being adapted to hold said post in any one of a plurality of positions.

3. A device of the class described, comprising a socket, a post slidable therein, said socket and said post being formed to hold said post against rotation within said socket, and a collar rotatably associated with said socket and having an opening permitting said post to pass therethrough, said post having a part cut away, whereby said collar can be rotated when said post is in a predetermined position, to lock said post in place.

4. A device of the class described, comprising a socket having an opening of angular cross section, a post of angular cross section slidable within said opening, a collar rotatably associated with said socket and having an opening corresponding in cross section to that of said post, said post having a part of circular cross section, whereby, when said part registers with said opening of said collar the latter can be rotated to lock said post against movement longitudinally of said socket.

5. A device of the class described, comprising a socket having an opening of angular cross section, a post of angular cross section slidable within said opening, a collar rotatably associated with said socket and having an opening corresponding in cross section to that of said post, said post having a part of circular cross section, whereby, when said part registers with said opening of said collar the latter can be rotated to lock said post against movement longitudinally of said socket, said collar having means engaging said socket, whereby said collar can be releasably held against rotation.

[Claims 6 to 8 not printed in the Gazette.]

972,990. ASBESTOS MOLD. GEORGE HALE BRABROOK, Taunton, Mass. Filed July 14, 1905. Serial No. 269,723.

1. A mold for producing metal castings consisting of compressed asbestos, and provided with an inside facing of finely powdered material other than asbestos, said facing being compressed into the inside face of the mold.

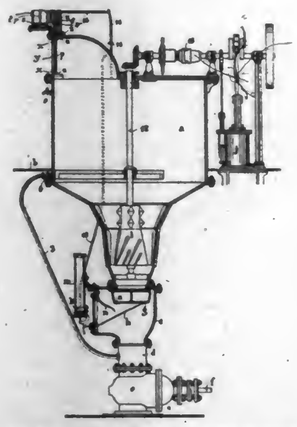
2. A mold for metal castings formed of asbestos provided with a facing to receive the molten metal, said facing consisting of material other than asbestos and mixed with a volatile liquid non-mixable with water, said facing being capable of receiving an impression from a pattern and also capable of withstanding a high degree of heat.

3. A mold for metal castings formed of compressed asbestos provided with a facing of suitable material compressed into the face of the asbestos mold.

4. A mold for metal castings formed of compressed sheets of asbestos shaped to the form of the article to be cast and provided with a facing of suitable material mixed with a volatile liquid non-mixable with water.

5. A mold for metal castings formed of compressed asbestos shaped to the form of the article to be cast and provided with a facing of suitable material compressed into the inner face of the asbestos material.

972,991. METHOD OF AND MEANS FOR REMOVING ASHES ON BOARD SHIP. EUGÈNE BROUQUIÈRE, Saléchan, France. Filed Feb. 4, 1908. Serial No. 414,290.



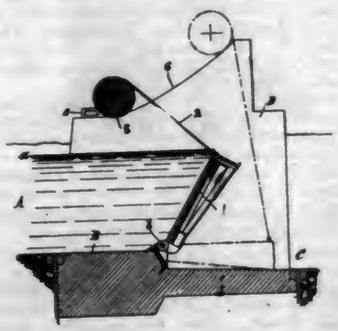
1. An ash ejector consisting of a water-tight receptacle, an automatic hollow and floatable valve at the lower end of said receptacle, a tube connecting said valve with the sea so that the external water exerts a certain pressure on the valve, means for conducting water under pressure above the automatic valve, a lateral casing for said valve for bringing the valve out of the way of the falling cinders when the same is open, and a watertight door in the upper part of the receptacle for the admission of the ashes, substantially as described and for the purpose set forth.

2. In an ash ejector the automatic floatable valve having a shoulder at one of its edges, a blade spring provided in the valve casing for assisting the back rotation of the valve, a piston for opening the valve, means for connecting the piston with the supply-pipe for water under pressure, and a flexible cable connecting the piston with the valve, substantially as described and for the purpose set forth.

3. In an ash-ejector the watertight door having gaskets of elastic material at the parts which are in contact with the wall and means for lifting the door from the boiler-room, consisting of a piston, a vertical rod mounted with slight play in the upper end of the door, curved blade springs for pressing against the outer surface of the door

and a thickened part with beveled inner surface at the upper end and a beveled lower end of the door, substantially as described and for the purpose set forth.

972,992. AUTOMATIC VALVE OR GATE FOR WEIRS OR THE LIKE. HANS BÜCHLER, Zurich, Switzerland, assignor to Stanwerke A. G., Zurich, Switzerland. Filed Dec. 15, 1909. Serial No. 533,192.



1. The combination with a hinged crest, of a weight, upwardly directed surfaces on which said weight rests and is designed to travel, and a flexible connection between the crest and weight a portion of which is wound on and maintained tangential to the weight under all conditions of operation.

2. The combination with a hinged crest; of an upwardly directed curved way, a weight capable of traveling on said way and a flexible connection between the weight and crest for the supporting of the latter a portion of which connection is wound on a portion of the weight and is maintained tangential thereto under all conditions of operation, whereby increasing hydrostatic pressure will cause the crest to automatically move about its hinge point and cause the weight to move on the way and simultaneously increase the lever arm of the weight with respect to the crest.

3. The combination with a hinged crest; of an upwardly directed curved way above the crest, a roller weight capable of traveling on said way and a flexible connection between the crest and weight, a portion of which is wound upon the latter and maintained tangential thereto under all conditions of operation for the supporting of the crest, whereby increasing hydrostatic pressure will cause the crest to automatically move about its hinge point and cause the weight to move on the way and simultaneously increase the lever arm of the weight with respect to the crest.

972,993. RAIL-JOINT. WARREN L. BUCKLAND, Rochester, N. Y. Filed Dec. 7, 1908. Serial No. 466,204.



A rail having its web thickened at the end and cut vertically and longitudinally to bisect the rail on a vertical medial plane, to provide two flat contacting faces, each half face having a projecting tongue located below the ball of the rail, the width of said tongue being substantially one half the width of the web of the rail, a second vertical abutting end of the ball of the rail being located a suitable distance from the end of the tongue, a vertical wall formed below the tongue and on a plane with the contacting surface of the flange of the rail, the latter surface being located on a plane beyond the said second abutting end of the ball of the rail, said half section having a correspondingly shaped recessed portion formed therein on the opposite side of the rail beyond the abutting surfaces.

972,994. INSULATOR. JOHN H. CAMPBELL, Ripley, Ohio. Filed Nov. 23, 1904, Serial No. 234,072. Renewed Feb. 25, 1910. Serial No. 546,015.



1. In an insulator of the character described, a head portion, to which head the wire is attached, and a pin, said pin forming means of attachment to a support, a groove in the lower part of said head, in combination with a bead on the cross arm, over which the head fits, said bead extending up into said groove, as and for the purposes set forth.

2. In an insulator of the character described, a head portion to which head the wire is attached, and a pin, said pin forming means of attachment to a support, an enlarged part or shoulder below said head, a groove in the bottom of said shoulder, a bead on the cross arm, said grooved shoulder and bead forming a watershed on the cross arm, as and for the purposes set forth.

3. In an insulator, a head portion, to which head the wire is attached, and a pin, said pin forming means of attachment to a support, said head and pin made integral, a groove in the bottom of said head, a shoulder at the lower part of the head, between said head and pin, said shoulder provided with a groove in its bottom, the shoulder with its lower edge and the groove tightly hugging the cross arm, thus preventing water or dampness from entering the hole in the cross arm by forming a tight joint at said point of connection with said cross arm, as set forth.

972,995. HEMMER-GUIDE. VICTOR H. CANHAM, Guelph, Ontario, Canada. Filed May 4, 1908. Serial No. 430,744.



1. A hemmer guide comprising a base, a horizontally disposed hemmer guide bar and a folding collapsible connection between them.

2. A hemmer guide comprising a base, a horizontally disposed hemmer guide bar and a folding collapsible connection between them, consisting of a lazy-tong structure.

3. A hemmer guide comprising a base, a horizontally disposed hemmer guide bar, a horizontally disposed gage bar and a folding collapsible connection between the base and the two bars.

4. A hemmer guide comprising a base, a horizontally disposed hemmer guide, a horizontally disposed gage bar, and a folding collapsible connection between the base and the two bars, said two bars connected by an upwardly turned loop.

5. A hemmer guide comprising a base, a horizontally disposed hemmer guide bar, a horizontally disposed gage bar, and a collapsible connection between the base and the two bars, said connection consisting of a lazy-tong structure.

[Claims 6 to 12 not printed in the Gazette.]

972,996. RUBBER SHOE. JOSEPH S. CAPEN, Stoughton, Mass. Filed May 12, 1909. Serial No. 495,471.



1. As a new article of manufacture, a rubber shoe comprising a rubber heel tread, a superposed supporting member, and a further superposed sole lining provided with an expansion aperture.

2. As a new article of manufacture, a rubber shoe comprising an outer heel tread and its lining, a superposed leather supporting member, and an inner sole lining, rubber coated, arranged above said leather member and provided with an aperture within its margin and above said leather member.

3. As a new article of manufacture a rubber shoe comprising the outer tread and sides 3—4, one or more side heel linings at 8, the heel-supporting member 7, and the inner sole lining 11—12 provided with the central aperture 13.

972,997. TRANSPORTATION SYSTEM. WILLIAM C. CARR, Buffalo, N. Y. Filed Oct. 31, 1908. Serial No. 460,515.



1. In a transportation system, a main track, a side track, a switch rail pivoted at one end and mechanism for throwing the switch rail including a transversely extending spring tensioned multi-membered connection attached to the pivot of the switch rail and a car on the track having means controlling the switch throwing mechanism.

2. In a transportation system, a main track, a side track, some at least of the rails of said track serving as conductors of electricity, a switch rail pivotally supported at its inner end and mechanism for throwing the switch rail including an extensible connection consisting of a plurality of members one at least of which is of insulating material, said connection being attached at its inner end to the pivot of the switch rail and at its outer end to one of the rails of the track.

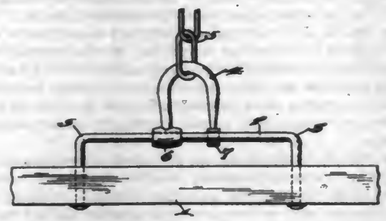
3. In a transportation system, a main track, a side track, some at least of the rails of said tracks serving as conductors of electricity, a switch rail pivotally supported at its inner end and mechanism for throwing the switch rail including an extensible connection consisting of a plurality of members one at least of which is a turn buckle, said turn buckle being composed at least in part of insulating material, said connection being attached at its inner end to the pivot of the switch rail and at its outer end to one of the rails of the tracks.

4. In a transportation system, a main track, a side track, a pivoted switch rail and means operated from a car for throwing the switch rail in either direction including two approximately oppositely extending connections which are attached at their inner ends to the pivot of the switch rail and are supported at their outer ends from opposite outer rails of the track.

5. In a transportation system, a main track, a side track, a single switch rail having its inner end pivoted centrally between the tracks and adapted to be swung into operating position in either direction and means extending in the rear of and independent of its pivot for supporting the switch rail in horizontal position; said means consisting of a rod extending rearwardly from the inner end of the switch rail and carrying a roller and a transversely extending curved support against the lower surface of which the roller travels.

[Claims 6 to 16 not printed in the Gazette.]

972,998. CLEVIS. MILES CASSIDY, Ardmore, Pa. Filed Apr. 19, 1910. Serial No. 556,416.



1. The combination with a bent rod, of a clevis having a sleeve at one end, and a hook at its other end, both rotatably and slidably mounted on said rod, whereby the hooked end may be moved off of said rod at the bend therein, substantially as described.

2. The combination with a rod bent at two points, of a clevis having a sleeve at one end, and a hook at its other end rotatably and slidably mounted on said rod between the two bends, substantially as described.

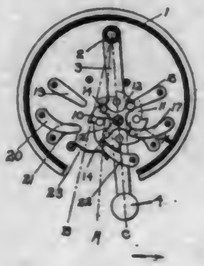
3. The combination with a support, a rod bent adjacent its ends and secured at its ends to said support, and locating the intermediate portion of said rod parallel with the support, of a clevis, an integral sleeve on one end of said clevis mounted to slide on the intermediate portion of said rod, and a hook integral with the clevis at the other end of the clevis and adapted to slide on said rod, said hook normally engaging three sides of said rod, and adapted when moved to an unusual position to be slid off of said rod, substantially as described.

4. The combination with a support, of a bent rod secured to said support, a U-shaped clevis, an integral sleeve at one end of said clevis mounted on said rod, an integral hook on the other end of said clevis mounted on said rod, said clevis adapted to be moved on the rod to move the hook off the rod at the bend therein, substantially as described.

972,999. ELECTRIC REVERSING-SWITCH. JOHN F. CAVANAGH, Providence, R. I., assignor of three-fourths to Lindsley and Allen Electric Company, Providence, R. I., a Corporation of Rhode Island. Filed Nov. 5, 1908. Serial No. 461,115.

1. A switch of the character described comprising a casing provided with oppositely disposed sets of contacts,

an arm pivotally mounted to swing between said contacts and also provided with contacts, and means for shifting the contacts on said arm to reverse the current passing through the contacts in said casing.



2. A switch of the character described comprising a circuit having contact terminals, an arm mounted to swing between said terminals and provided with contacts, and means for automatically shifting said contacts each time said arm is swung, whereby the current is reversed through said circuit.

3. A switch of the character described comprising a circuit provided with contact terminals, an arm mounted to swing between said terminals and provided with a rotatable member having contacts, and means for automatically rotating said member as said arm is swung to reverse the direction of current through said circuit.

4. A switch of the character described comprising a circuit provided with contact terminals, an arm mounted to swing between said terminals, a rotatable member mounted on said arm and provided with contacts, means for automatically rotating said member as said arm is swung, and independent contact plates carried by said rotatable member.

5. A switch of the character described comprising a circuit having contact terminals, an arm mounted to swing between said terminals, a rotatable member mounted on said arm and provided with contact pins extending therethrough, means for automatically rotating said member as said arm is swung, and independent contact plates mounted on said rotatable member.

[Claims 6 to 9 not printed in the Gazette.]

973,000. RESISTANCE-GRID. HERBERT W. CHENEY, Milwaukee, Wis., assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Dec. 26, 1908. Serial No. 469,478.

1. A resistance grid comprising a conductor having end turns out of alinement, and an insulated reinforcing bar located between said end turns.

2. A resistance grid comprising a conductor having end turns out of alinement, and an insulated reinforcing bar located between the end turns, adjacent end turns being on opposite sides of said bar.

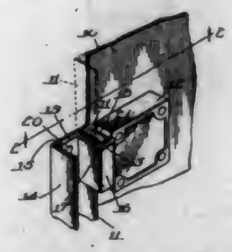
3. The combination of a resistance grid comprising a conductor having hook-shaped end turns, and an insulated reinforcing bar located in said hook-shaped end turns.

4. The combination of a resistance grid comprising a conductor with hook-shaped end turns, and an insulated bar located in said end turns, the elements of said conductor being practically parallel with each other.

5. The combination of a resistance grid comprising a conductor having hook-shaped end turns, and an insulated reinforcing bar located in said end turns, elements of said conductor being sprung when said bar is placed in said end turns.

[Claims 6 to 10 not printed in the Gazette.]

973,001. LOCK FOR LOCKER-DOORS. DURAND CHURCHILL, Chicago, Ill. Filed May 16, 1906. Serial No. 317,107.



1. In combination, a door frame, a door opening outwardly on said frame, a laterally projecting flange on the edge of the door extending lengthwise of the axis of the door, a stop on the frame extending across the edge of the door and adapted to receive the flange, and a lock on the door adapted to engage the stop.

2. In combination, a frame, a door, a flange on the door extending lengthwise of the axis on the door and projecting laterally beyond the face of the door, a stop on the frame projecting beyond the flange and across the edge of the door when the door is closed, and interengaging means on the door and the stop for locking the door.

3. In combination, a frame, a door, a laterally projecting flange on the door extending beyond the face thereof, a stop on the frame adapted to project beyond the edge of the door and across the flange and disposed in close proximity to the door when the latter is closed, and means carried by the door and adapted to engage only the adjacent portion of the stop for locking the door.

4. In combination, a frame, a door, a laterally projecting flange on the door extending beyond the face thereof, a stop secured to the frame and projecting beyond the edge of the door and adapted to receive the flange and means on the door removably engaging the stop beyond the flange for locking the door.

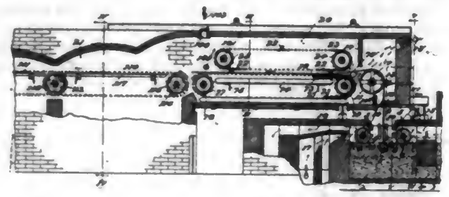
5. In combination, a frame, a door, a flange on the door, a lock on the door spaced from the flange, and a substantially U shaped member on the frame arranged to receive the flange, one wall of the member being adapted to enter the space between the flange and the lock and be engaged by the latter when the door is closed.

[Claims 6 to 14 not printed in the Gazette.]

973,002. MACHINE FOR DRAWING SHEET-GLASS. IRVING W. COLBURN Franklin, Pa., assignor to Colburn Machine Glass Company, Franklin, Pa., a Corporation of New Jersey. Filed Apr. 13, 1907. Serial No. 368,096.

1. In a glass working machine, the combination of means for drawing a sheet of glass of uniform width, a carrier for receiving the drawn sheet and advancing it through the machine, said carrier consisting of a plurality of endless carrier sections with adjacent ends, means for driving said sections, and longitudinally extending horizontal supports for each section whereby the carrier sections are maintained level.

2. In a glass working machine, the combination of means for drawing a sheet of glass of uniform width, a sectional carrier for receiving the drawn sheet and advancing it through the machine, each section consisting of endless chains passing over supporting and driving sprocket wheels, and longitudinally extending supports for maintaining the chains level between the sprockets.



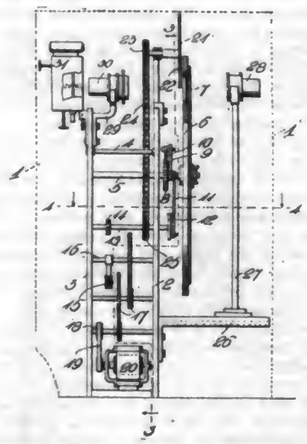
3. In a glass working machine, the combination of means for drawing a sheet of glass of uniform width, a sectional carrier for receiving the drawn sheet and advancing it through the machine, one of said sections being composed of two parallel endless sprocket chains carrying transverse bars constituting a table, and the other section consisting of a plurality of parallel chains, and means for driving both sections at the same speed.

4. In a glass working machine, the combination of means for drawing a sheet of glass of uniform width, a sectional carrier for receiving the drawn sheet and advancing it through the machine, one of the sections consisting of sprocket chains having antifrictional bearings traveling on horizontal supports between the sprockets, and means driving the said sections at the same speed.

5. In a glass working machine, the combination of sheet glass drawing mechanism, a continuously moving carrier receiving and advancing the drawn sheet through the machine, a cutting table consisting of endless chains supporting transverse slats constituting the surface of the table, and means driving said drawing mechanism, carrier and cutting table at the same speed.

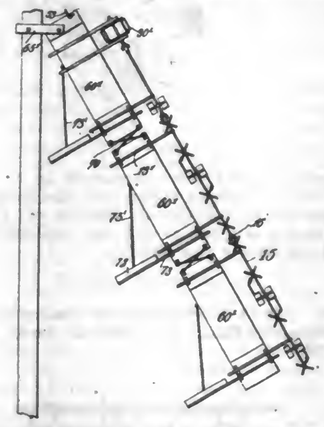
[Claims 6 to 17 not printed in the Gazette.]

973,003. ADVERTISING DEVICE. JAMES P. COUGHLIN, Chicago, Ill. Filed Dec. 6, 1909. Serial No. 531,604.



In an advertising device of the character described, a supporting frame, a slide carrying wheel revolubly mounted thereon, a pawl and ratchet gear connected with said wheel, a cam operating disk connected with said pawl and ratchet mechanism, an intermittent driving mechanism to periodically turn said cam, a train of speed reducing gears operably connected with said intermittent driving mechanism, a motor operably connected to said train of gears, lenses arranged in suitable position to project the matter contained on the slides arranged in said wheel, means whereby light is thrown through said slides and lenses, and a shutter to cut off said light when the wheel is turning to change the position of the slide.

973,004. CURRENT-MOTOR. FELIX H. CRAGO, Townsend, Mont. Filed Aug. 1, 1908. Serial No. 446,396.



1. In a current motor, a power shaft carrying a plurality of motor blades disposed along said shaft, a water elevator having one end dipping into the stream, a support for the shaft and water elevator, anchoring means extending from the support to the shore in an upstream direction, and means for maintaining the down stream end of the shaft at a greater distance from the shore of the stream than the upstream end of said shaft.

2. In an apparatus of the class described, a supporting means, a water elevator mounted thereon, a shaft carried by the supporting means a flexible connection between the shaft and the water elevator, a plurality of blades secured to said shaft and adapted to be actuated by the current of the water, and means for maintaining the shaft at an angle to the flow of the current with the down stream end farther from the shore of the stream than the upstream end.

3. In a current motor of the class described, a series of floats, a shaft section carried by each float, motor blades on each shaft section, detachable connections between the shaft sections and between the floats, each float constituting a separate unit of the motor, and blades projecting outward from the floats at the side opposite to the motor shaft and serving as rudders to hold the float out in the current.

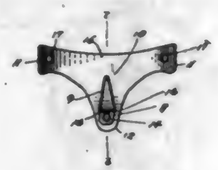
4. In a current motor of the class described, a series of independent units each comprising a float, a motor shaft supported thereby, motor blades on the shaft, a blade extending outward from the opposite side of the float and serving as a rudder, and detachable connections for the float sections and for the sections of the shaft.

5. In a current motor of the class described, a float, a motor arranged at one side of the float, and a blade extending from the opposite side of the float and arranged to be immersed in the water said blade having an inclined edge and being arranged to be depressed by the action of the current to counterbalance the weight of the motor.

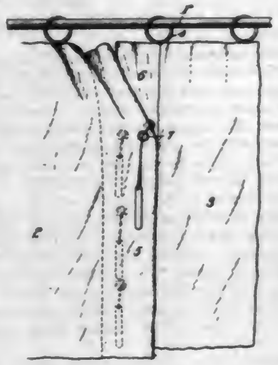
973,005. NECKTIE-HOLDER. EDMUND T. CRAIGE, Philadelphia, Pa. Filed Oct. 28, 1909. Serial No. 525,180.

1. The combination in a neck-tie holder of a body portion curved to fit the collar, arm portions enlarged on the under edge near the ends, a stem portion having a loop attached, a metallic band, folded at its center around the bent ends of said loop, an eyelet passing through said stem portion and rotatably securing thereto ends of said band, substantially as described and for the purposes set forth.

2. In a neck-tie holder, the combination of a curved body portion made up of a plurality of layers having arms which are curved inwardly and having a stem portion which is curved outwardly at its lower end, said arm portions being provided with enlargements on the under edge at the ends, a rotatably adjustable hinged loop, affixed on the inner side, and a centrally indented and folded band, which secures said loop to said stem, substantially as described and for the uses stated.



973,006. CURTAIN FOR BERTHS. GEORGE T. CRANDELL, Leavenworth, Kans. Filed Jan. 22, 1910. Serial No. 539,526.



1. A pair of curtains, each curtain having a plurality of eyelets in its meeting edge, and weights secured to the meeting edge of one of the curtains and adapted to be passed through the eyelets of both curtains to detachably fasten the curtains together.

2. A pair of curtains, each having a fold at its meeting edge, eyelets in the meeting edges of the curtains, buttons disposed adjacent the outer face of one of the curtains, weights suspended from said buttons and adapted to be passed through the eyelets of both curtains to detachably fasten the curtains together, some of the weights being disposed within the fold of one of the curtains when the curtains are fastened together.

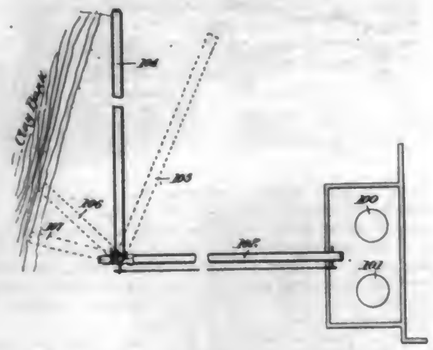
3. A pair of curtains each having openings in its meeting edge, and weights suspended from one of the curtains and adapted to be passed through the openings of both curtains to detachably fasten the curtains together.

4. A pair of curtains each having its meeting edge overlapped to provide a fold, each curtain having eyelets in its meeting edge, and weights suspended from one of the curtains and adapted to be passed through said eyelets to fasten the curtains together, the weights being inserted between the fold of one of the curtains when the curtains are fastened together.

5. A pair of curtains whose meeting edges are provided with openings, and weights suspended from one of the curtains and passed through said openings to detachably fasten the curtains together.

[Claim 6 not printed in the Gazette.]

973,007. CONVEYING SYSTEM. WILLIAM R. CUNNINGHAM, Bucyrus, Ohio, assignor to The American Clay Machinery Co., Bucyrus, Ohio, a Corporation of Ohio. Filed Sept. 3, 1908, Serial No. 451,505. Renewed Aug. 30, 1910. Serial No. 579,747.



1. In a clay-handling system, the combination of a plurality of belt-conveyers extending from the clay-bank to the place of final deposit, said conveyers having their adjacent ends arranged in substantially overlapping planes; and a turn-table support at the head of one of said conveyers and about which the last-named conveyer may be turned to stand at different angles relative to the companion conveyer and to the clay-bank, said support including a vertically disposed frame having a horizontal ring flange at the base, and power transmitting gears mounted in said frame.

2. In a clay-handling system, the combination of a plurality of belt-conveyers extending from the clay-bank to the place of final deposit, said conveyers having their adjacent ends arranged in substantially overlapping planes; and a turn-table support at the head of one of said conveyers and about which the last-named conveyer may be turned to stand at different angles relative to the companion conveyer and to the clay-bank, said turn-table support comprising a vertical frame with a horizontal ring at its base having a vertical opening through which the material delivered from one conveyer is discharged onto the other conveyer, horizontal and vertical shafts, and intermeshing power transmitting gears mounted in said frame and turnable therewith about said base ring.

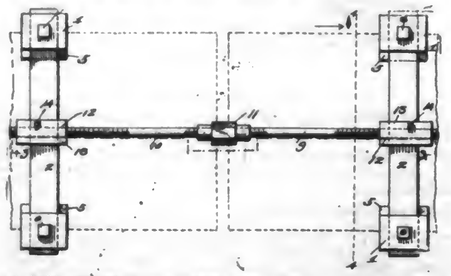
3. In a system of the character described, the combination with a conveyer, of a second conveyer connecting therewith, and a driving-head mechanism for said second conveyer, said mechanism including a vertical supporting frame turnable about a vertical axis, a drum in said frame over which the conveyer thereof passes, driving-connections carried by the frame and movable therewith, and a base-plate upon which the frame is turnably-mounted, said base-plate having an opening forming a communication between the adjacent ends of the two conveyers.

4. The combination with a conveyer, of a driving-head mechanism therefor, said mechanism comprising a vertically-extending frame, a drum mounted in said frame over which the conveyer passes, means including a horizontal open center ring at the base of the frame forming a turntable about which the frame is turnable whereby the conveyer may be moved to different angles, a driving-shaft mounted in the upper portion of the frame, means for communicating motion to said shaft, and driving-connections between said shaft and the drum around which the conveyer passes.

5. The combination with a conveyer, of a driving-head mechanism therefor, said mechanism comprising a vertically-extending frame, a drum mounted in said frame over which the conveyer passes, means including a horizontal open center ring at the base of the frame forming a turntable about which the frame is turnable whereby the conveyer may be moved to different angles, a driving-shaft mounted in the upper portion of the frame, means for communicating motion to said shaft, driving-connections between said shaft and the drum around which the conveyer passes, said connections comprising a vertical shaft, gearing between the same and the driving-shaft, a horizontal shaft, gearing between the horizontal and vertical shafts, and gearing between the horizontal shaft and the drum around which the conveyer passes.

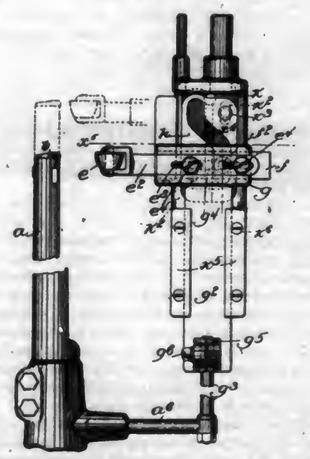
[Claims 6 to 10 not printed in the Gazette.]

973,008. BELT-STRETCHER. CHARLES CYR, Munising, Mich. Filed May 16, 1910. Serial No. 561,622.



A belt stretcher comprising gripping members adapted to be arranged on the edges of said belt at its ends, each of said members comprising a block having an undercut face to provide a belt engaging lip, said lip having a plurality of spurs formed thereon, said block having an opening therein, bars extending through the openings in the blocks on opposite edges of the belt, set screws carried by said blocks to adjust the same upon the ends of said bars, blocks longitudinally movable upon the bars between the gripping members, set screws to secure said blocks in their adjusted positions, said blocks each having a threaded opening therein, and adjusting rods having threaded ends for engagement in said openings adapted to be rotated to draw said bars and guide members toward each other whereby the belt is stretched.

973,009. PEGGING-MACHINE. JOHN F. DAVEY, Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass., a Corporation of New Jersey. Filed May 28, 1900. Serial No. 18,239.



1. In a pegging machine, the combination with the nose-plate; of a horn vertically movable with relation to said nose plate; and a gage to position the work as it is fed through the machine, said gage having a positive unyielding connection with said horn, so as to partake in the vertical movement thereof, and to be maintained in the proper gaging position.

2. In a pegging machine, a head; a work support vertically movable with relation to said head; and an edge gage to position work as it is fed through the machine, the said gage being positively and unyieldingly connected with said work support so as to remain in the same plane with relation to said work support throughout the vertical movement thereof.

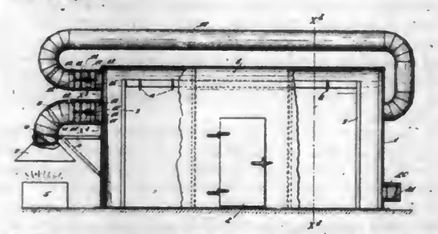
3. A vertically movable work supporting member, and an edge gage positively connected with said work supporting member so far as relates to the movement thereof; and means for automatically producing a secondary movement of said gage relative to the work-supporting portion of said member in a direction different from the direction of movement of said work-supporting member.

4. In a pegging machine, the combination with the nose plate; of a horn movable toward and from said nose plate; and a gage to position the work as it is fed along in the operation of the machine, said gage being directly connected with the horn and located to engage the side of the upper of the shoe supported on the said horn.

5. In a pegging machine, the combination with the horn; of a gage for the material normally standing adjacent to said horn to position the material thereon; and means, operating in response to the movement of said horn preparatory to placing the shoe thereon, for moving said gage away from the horn, whereby said gage does not interfere with the removal or insertion of the material.

[Claims 6 to 20 not printed in the Gazette.]

973,010. SMOKE-HOUSE. NILS O. DAVIDSON, Macoun, Saskatchewan, Canada. Filed Dec. 10, 1909. Serial No. 532,393.



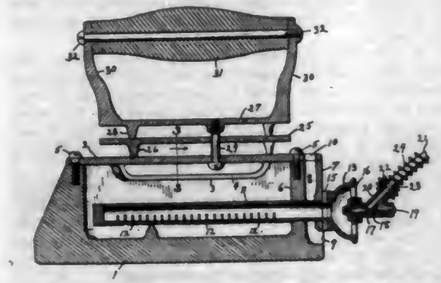
1. The combination with a smokehouse, of a smoke-admission pipe opening into the same and provided with a hood adapted to overlie a fire at the exterior of the smokehouse, a circulating pipe or conduit opening from said smokehouse at one point and opening into the same at another point, and fans located in said smoke-admission and circulating pipes.

2. The combination with a smokehouse, of a damper-equipped smoke-admission pipe opening into the same and provided with a hood adapted to overlie a fire at the exterior of said smokehouse, a smoke-circulating pipe opening from said smokehouse at one point and opening into the same at another point, fans located in said smoke-admission and circulating pipes, and a damper-equipped air discharge pipe or passage opening from said smokehouse, substantially as described.

973,011. GAS-HEATED SAD-IRON. ALFRED H. DAVIES, Akron, Ohio. Filed Jan. 4, 1910. Serial No. 536,328.

1. A gas heated sad-iron comprising a hollow body open at the top, a cover plate adapted to close said opening, the sides of said body provided at their top edges with elongated recesses, each recess extending for the greater portion of the length of the side, said cover plate provided with integral exhaust flues extending from the outer edges of the cover plate toward the center thereof, said recesses adapted to accommodate said flues, an inner wall and an outer wall at the rear end of said body, said walls

having an air space between, the said space opening exteriorly at the bottom through said outer wall, said cover plate provided with a transversely elongated aperture registering with the upper opening of said air space, a burner extending from the exterior of said outer wall across said air space through said inner wall and through the interior of said iron body and means connected to said outer wall for conducting a mixture of gas and air into the interior of said burner.



2. A gas heated sad iron comprising a hollow iron body open at the top, a cover plate adapted to close said opening, the sides of said body provided at their top edges with elongated recesses, each recess extending for the greater portion of the length of the side, said cover plate provided with integral exhaust flues extending from the outer edges of said cover plate toward the center thereof, said recesses adapted to receive said flues, an inner wall and an outer wall at the rear end of said body, said walls having an air space between them, said space opening exteriorly at the bottom through said outer wall, said cover plate provided with a transversely elongated aperture registering with the upper opening of said air space, a burner extending from said outer wall across said air space, through said inner wall and into the interior of said iron body, a mixer attached exteriorly to said outer wall and provided with an aperture forming communication with the interior of said burner and means for conducting gas into said mixer.

3. In a device of the character described, a hollow iron body, exhaust flues arranged at the top edges of the sides of said body and extending from the outer sides of said body inwardly, an inner wall and an outer wall at the rear end of said body, said walls having an air space between them, said space having air inlet and outlet openings, a burner on the inside of said body and means connected to said outer wall for conducting gas into the interior of said burner.

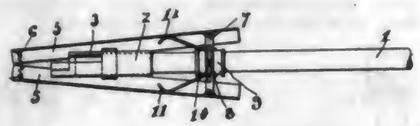
4. In a device of the character described, a hollow iron body provided with an internal burner, said body having spaced walls, the space between said walls being adapted to permit the passage of air between them, said space provided with air inlet and outlet openings and gas conducting means attached to the outer wall and adapted to conduct gas into said burner.

973,012. SYSTEM FOR CLOSING BOOTS BY MEANS OF SPRING-BUTTONS. LOUIS JEAN MAXIMILIEN DELAVEAU, Grenoble, France. Filed Nov. 20, 1909. Serial No. 529,154.



A shoe having in combination an upper and fastening means therefor, said means including a ball and socket fastener having the ball portion attached to the inner flap of said upper and the socket portion attached to the outer flap of said upper, and also including an auxiliary flap of thin leather attached to the inner side of said outer flap and provided with button holes adapted to coöperate with the ball portion of said fasteners.

973,013. ROCK-EXTRACTOR FOR DRILL-HOLES. CHARLES DESMARAIS, Hull, Quebec, Canada. Filed Mar. 22, 1909. Serial No. 484,968.



1. A device of the character described comprising a rod, a sleeve movably mounted on the rod, jaws pivotally connected to the sleeve, means for opening the jaws, means for locking the jaws in opened position and means carried and actuated by said rod for closing the jaws or forcing them to operative position.

2. A device of the character described comprising a shaft, a sleeve movably mounted on the shaft, jaws pivotally connected to the sleeve, a second sleeve revolubly mounted on the shaft and movable therewith, and connections between the second sleeve and the jaws for opening the jaws.

3. A device of the character described comprising a shaft, a sleeve mounted to have limited rotary movement on the shaft and provided with a cut away portion having a shoulder, jaws pivotally connected to said sleeve, a pin carried by the shaft and adapted to play in the cut away portion, a second sleeve revolubly mounted on the shaft and movable therewith, and connections between the second sleeve and the aforesaid jaws for opening the jaws.

4. A device of the character described comprising a shaft, a slotted sleeve provided with a cut away portion having a shoulder and mounted upon said shaft to have limited rotary and longitudinal movement relatively to the shaft, a pin on said shaft adapted to play in the cut away portion and the slot of said sleeve, jaws pivotally connected to said sleeve and means for forcing said jaws to open position.

5. A device of the character described comprising a shaft, a sleeve mounted thereon and having a shoulder, jaws pivotally connected to said sleeve, a pin carried by said shaft and adapted to engage the shoulder on said sleeve to lock the jaws in opened position, means for opening the jaws and means for closing the jaws.

[Claim 6 not printed in the Gazette.]

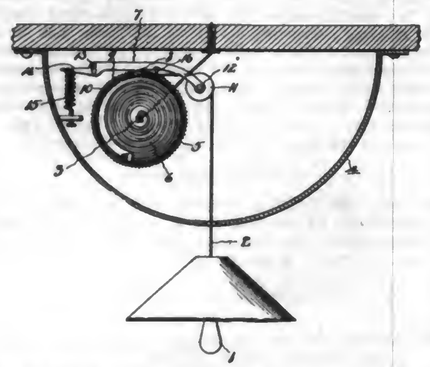
973,014. ELECTRIC-LAMP FIXTURE. PERRY E. DOOLITTLE, Toronto, Ontario, Canada, assignor, by mesne assignments, to Doolittle Rim Co., Ltd. Filed Dec. 21, 1908. Serial No. 468,545.

1. An electric lamp adjusting fixture having a rotatable drum, a coiled winding spring therefor, a pendent lamp-carrying cord passing over said drum and carried by and following the convolutions of said spring and means to hold said drum inoperative, substantially as described.

2. An electric lamp adjusting fixture having a rotatable drum, a coiled winding spring therefor, a pendent lamp-carrying cord passing over said drum and carried by and following the convolutions of said spring and a brake member held in engagement with the drum solely by the weight of the lamp to maintain said drum in inoperative position, substantially as described.

3. An electric lamp adjusting fixture having a rotatable drum, a coiled winding spring within said drum, means to normally hold the drum stationary, a continuous flexible conductor to which the lamp is secured, leading from a fixed block to and around the convolutions of said spring

and secured thereto and passing over said drum to the lamp, whereby the only part of the flexible conductor subjected to a depending action is that part around the drum, substantially as described.

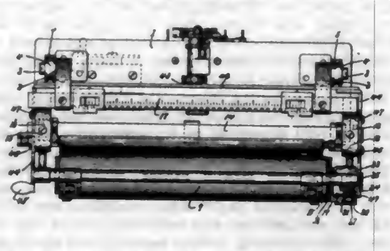


4. An electric lamp adjusting fixture having a rotatable drum, a winding spring therefor, a pendent lamp carrying cord running over said drum, a substantially horizontal brake lever having projections, and corresponding projections on the drum to engage the same, said lever being engaged by said cord and being held in engagement with the drum by the depending weight of the lamp, and means at the end of said lever engaged by said cord, substantially as described.

5. A lamp adjusting fixture having a rotatable drum, a winding spring for said drum, a flexible lamp carrying member passing over the drum, a substantially horizontal pivoted brake member having means to engage the drum to prevent its rotation and held in engagement with the drum by the weight of the lamp, and means to release said member from contact with the drum upon a positive pull downward on the lamp carrying member exerting force in excess of the weight of the lamp, substantially as described.

[Claim 6 not printed in the Gazette.]

973,015. TYPE-WRITING MACHINE. FRANK J. DYETT, Ilion, N. Y. Filed Aug. 12, 1905. Serial No. 274,016.



1. In a typewriting machine, the combination with a carriage, and a platen journaled therein and provided with a ratchet-ring; of a feeding pawl having a uniform throw or movement, means for shielding a portion of the ratchet-ring from the pawl, a toothed part for moving said means variable distances to change the effective throw or feed of the pawl, and a pinion coacting with said toothed part, substantially as and for the purpose set forth.

2. In a typewriting machine, the combination with a carriage, and a platen journaled therein and provided with a ratchet-ring; of a feeding pawl having a uniform throw or movement, a pivoted arm movable in between the ratchet-ring and the pawl, means for moving said arm variable distances about its pivot to change the effective throw or feed of the pawl, said means including a pinion, and means interposed between the arm and the pinion for shifting the arm as the pinion is rotated, substantially as and for the purpose described.

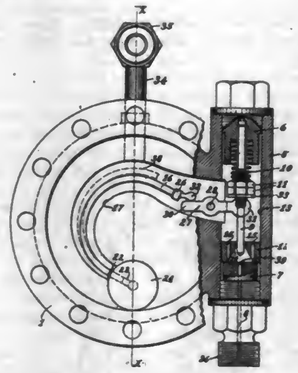
3. In a typewriting machine, the combination with a carriage, and a platen having a ratchet-ring and provided with a shaft journaled in the carriage; of a pawl having a uniform throw or movement, a sleeve on the shaft of the platen, an arm extending from the sleeve and having a part thereof designed to be interposed between the ratchet-ring and the pawl, a second arm extending from the sleeve and provided with teeth, and a pinion coacting with said teeth, substantially as and for the purpose specified.

4. In a typewriting machine, the combination with a carriage having a bar provided with an upwardly extending arm, and a platen having a ratchet-ring, and provided with a shaft journaled in the carriage; of a pawl having a uniform throw or movement, a sleeve on the shaft of the platen between the bar of the carriage and the ratchet-ring, means on the sleeve movable in between said ratchet-ring and the pawl, and a pinion journaled in said upwardly extending arm and connected to the sleeve for moving said means variable distances to change the effective throw or feed of the pawl, substantially as and for the purpose set forth.

5. In a typewriting machine, the combination with a carriage, and a platen journaled therein and provided with a ratchet-ring; of a feeding pawl having a uniform throw or movement, means for shielding a portion of the ratchet-ring from the pawl, a stop-member, and means for moving the first-named means variable distances to change the effective throw or feed of the pawl, said second-named means including a rotatable adjusting member, and a part revoluble with the adjusting member and coacting with the stop-member, the adjusting member being movable axially for carrying said part into and out of engagement with the stop-member, substantially as and for the purpose specified.

[Claims 6 to 8 not printed in the Gazette.]

973,016. PRESSURE-REGULATED VALVE. ALVA THRIFT EDMONSON, Chicago, Ill. Filed Oct. 11, 1909. Serial No. 522,133.

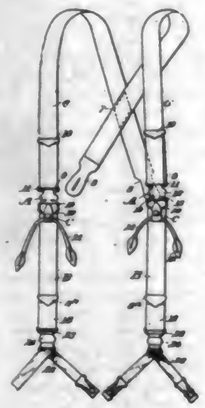


1. A device of the character described comprising a casing and a removable cover therefor, said casing having a hollow cylindrical portion on one side thereof, screw plugs for the ends of the said cylindrical portion, one of the said plugs having an opening therethrough beveled at its inner end to form a valve-plug seat, a pin within the said cylindrical portion and extending longitudinally thereof, one end of the said pin being carried within an opening in one of the said screw plugs and the other end of the said pin being conically shaped to provide a suitable valve plug for the said valve-plug seat, a guiding disk for the last-mentioned end of the said pin, the said guiding disk having an opening therethrough to provide a fluid passage to the said valve-plug seat, a suitable open-

ing through the wall of the said casing to the valve, a curved elliptical tube carried within the said casing, a hollow bolt attached to the said tube and extending through the wall of the said casing whereby pressure may be applied to the interior of the said tube, an adjustable nut on the said pin, a coil spring acting between one of the said screw plugs and the adjustable nut and tending to seat the valve plug, and a lever fulcrumed between its ends and connecting the free end of the said tube with the adjustable nut, the said tube normally acting on the said lever against the coil spring to hold the valve plug from its seat, an increase of pressure in the said tube tending to straighten same and thereby permit the coil spring to operate the valve plug toward its seat for purposes substantially as described.

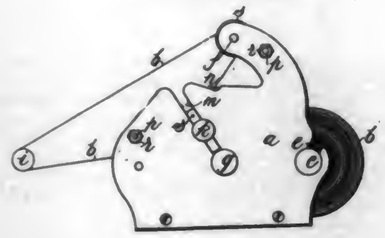
2. A device of the character described comprising a casing and a removable cover therefor, said casing having a chamber on one side thereof, screw plugs for the said chamber, one of the said plugs having an opening therethrough beveled at its inner end to form a valve-plug seat, a pin within the said chamber, one end of the said pin being carried within an opening in one of the said screw plugs and the other end of the said pin being conically shaped to provide a suitable valve plug for the said valve-plug seat, a guiding disk for the last-mentioned end of the said pin, the said guiding disk having an opening therethrough to provide a fluid passage to the said valve-plug seat, a suitable opening through the wall of the said casing to the valve, a curved elliptical tube carried within the said casing, a hollow bolt attached to the said tube and extending through the wall of the said casing whereby pressure may be applied to the interior of the said tube, an adjustable nut on the said pin, a coil spring acting between one of the said screw plugs and the adjustable nut and tending to seat the valve plug, and a lever fulcrumed between its ends and connecting the free end of the said tube with the adjustable nut, the said tube normally acting on the said lever against the coil spring to hold the valve plug from its seat, an increase of pressure in the said tube tending to straighten same and thereby permit the coil spring to operate the valve plug toward its seat for purposes substantially as described.

973,017. GARMENT-SUPPORTER. PAUL J. EKLUND, Minneapolis, Minn. Filed May 25, 1909. Serial No. 498,323.



In a device of the kind described, a pair of suspender straps, a second pair of straps, engaging means carried by the forward ends of the first pair of straps to be detachably connect said forward ends with the respective upper ends of the second pair of straps, a cast off fixed to each of the second pair of straps adjacent its upper end, a trousers supporter carried by each cast off, a pair of stocking supporting devices, and engaging means carried by the stocking supporting devices to detachably connect the stocking supporting devices to the lower ends of the second pair of straps, said trousers supporters and stocking supporting devices being connected to the suspender straps solely through the second pair of straps whereby respective trousers supporters and stocking supporting devices may remain connected when the second pair of straps are disconnected from the suspender straps.

973,018. DEVICE FOR PAYING OUT PAPER TO AND WINDING UP PAPER FROM ADDING AND LIKE MACHINES. JOHN ELLIOTT, Barnsley, England. Filed Jan. 12, 1910. Serial No. 537,642.

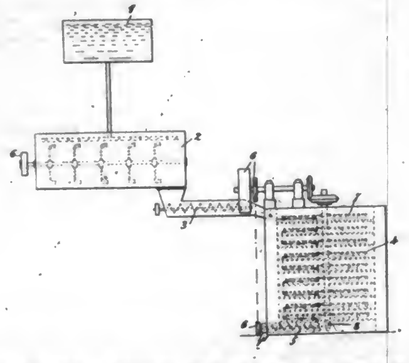


1. In a paper feeding device, the combination, with a supporting frame provided with guides, of a paper delivering roller journaled in stationary bearings in the frame, a paper receiving roller journaled in stationary bearings at the bottom of the said guides and arranged adjacent to the paper delivery roller, a pressure roller slidable in the said guides and bearing downwardly on the paper receiving roller, and guide rollers arranged above the pressure roller and on the opposite side of the receiving roller from the delivery roller, the paper from the delivery roller being adapted to be passed therefrom once over the pressure roller, the receiving roller and the guide rollers in succession, and thence from the upper guide roller over the pressure roller for a second time and wound upon the receiving roller under the lap of paper which passes around it first from the delivery roller.

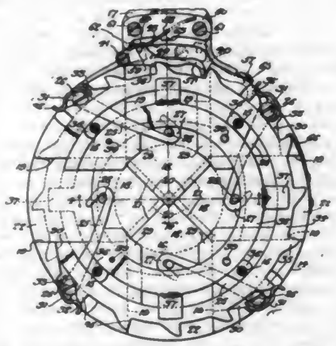
2. In a paper feeding device, the combination, with a supporting frame, of a paper delivery roll and a paper receiving roll both journaled in the said frame, a pressure roll slidable in the frame adjacent to the said receiving roll, guide rollers also free to revolve, and a strip of paper which also forms a driving band for revolving the receiving roll, said strip of paper being wound on the delivery roll at one end and on the receiving roll at the other end with its intervening portion passing over the pressure roll and the guide rolls, said intervening portion being provided with a loop which passes over and engages with the end portion of the paper which is wound on the receiving roll, whereby the said receiving roller is driven continuously at a speed which diminishes in proportion to the increase quantity of paper wound on it.

973,019. PROCESS OF GRANULATING COMMERCIAL CALCIUM-CYANAMID POWDER. ANASSAGORA D'ERCOLE, Rome, Italy. Filed Nov. 12, 1908. Serial No. 462,220.

A process of granulating commercial calcium cyanamid powder consisting in first uniformly wetting the powder with water in a proportion not less than 25% and not more than 35%, thereby causing the particles to adhere and then repeatedly spreading out said particles into very thin layers and drying and granulating the same.



973,020. PHOTOGRAPHIC SHUTTER. JOSHUA T. FISK, Rochester, N. Y., assignor to Crown Optical Company, Rochester, N. Y., a Corporation. Filed May 28, 1909. Serial No. 498,882.



1. In a photographic shutter, a circular series of pointed blades bodily movable from and to the center of the lens aperture to open and close the same, said blades being arranged to initially expose a series of divergent radial slots extending from the center to the edge of the aperture, substantially as described.

2. In a photographic shutter, the combination with a suitable support having an aperture therein, of a circular series of pointed blades and means for moving said blades bodily from and to the center of said aperture to open and close the same, said blades being arranged to initially expose a series of divergent radial slots extending from the center to the edge of the aperture and having substantially parallel side edges, substantially as described.

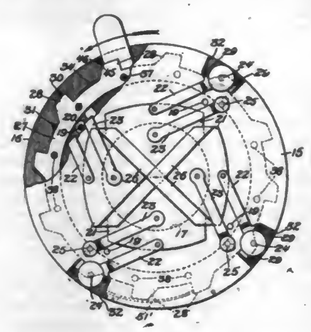
3. In a photographic shutter, the combination with a suitable support having an aperture therein, of a circular series of pointed shutter blades bodily movable in their own planes from and to the center of said aperture to open and close the same, and means for maintaining the edges of the pointed ends of adjacent blades substantially parallel as they are shifted, substantially as described.

4. In a photographic shutter, the combination with a suitable support having an aperture therein, of a circular series of non-pivoted pointed blades arranged to overlap, in normal position, to close said aperture, means for bodily shifting said blades from and to the center of said aperture, and means for maintaining the edges of the pointed ends of adjacent blades substantially parallel as they are shifted, substantially as described.

5. In a photographic shutter, a circular series of pointed shutter blades bodily movable in radial direction to and from the center of the lens aperture to open and close the same, substantially as described.

[Claims 6 to 50 not printed in the Gazette.]

973,021. PHOTOGRAPHIC SHUTTER. JOSHUA T. FISK, Rochester, N. Y., assignor to Crown Optical Company, Rochester, N. Y., a Corporation. Filed Nov. 8, 1909. Serial No. 526,862.



1. In a photographic shutter, the combination with a support having an aperture therein, of a circular series of blades having pointed inner ends arranged to overlap in closed position, and a number of pairs of parallel arms pivoted at their outer ends to said support, the inner ends of the arms of each pair being pivoted to one of said blades, whereby said blades are bodily shiftable in radial direction from and to the center of the aperture to open and close the same with the adjacent edges of the pointed end portions of said blades maintained in parallel relation, substantially as described.

2. In a photographic shutter, the combination with a support having an aperture therein, of a circular series of blades having pointed inner ends arranged to overlap in normal position to close said aperture, a number of pairs of parallel arms pivoted to said support and to said blades, and means for oscillating said arms to shift said blades radially from and to the center of said aperture to open and close the same, substantially as described.

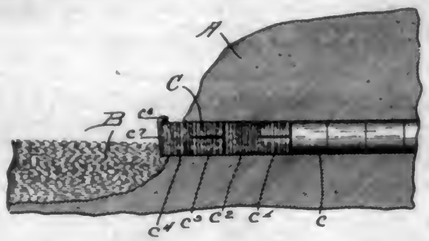
3. In a photographic shutter, the combination with a support having an aperture therein, of a circular series of blades having pointed inner ends arranged to overlap in normal position to close said aperture, a number of pairs of parallel arms pivoted to said support and to said blades, and an actuator arranged to engage one of the arms of each pair to oscillate the same to shift said blades, substantially as described.

4. In a photographic shutter, the combination with a support having an aperture therein, of a circular series of blades having pointed inner ends arranged to overlap in normal position to close said aperture, a number of pairs of parallel arms pivoted to said support and to said blades, an actuator ring mounted on said support about said aperture and arranged to oscillate said parallel arms to shift said blades, and means for driving said ring step-by-step in one direction, substantially as described.

5. In a photographic shutter, the combination with a support having an aperture therein, of a circular series of blades having pointed inner ends arranged to overlap in normal position to close said aperture, a number of pairs of parallel arms pivoted to said support and to said blades, a toothed actuator ring, one of the arms of each pair having lugs engaging the teeth of said ring, and a spring actuated driver for shifting said ring step-by-step in one direction, substantially as described.

[Claims 6 to 43 not printed in the Gazette.]

973,022. DRAIN-TILE OUTLET. JAMES FITZPATRICK, Fort Dodge, Iowa. Filed Nov. 18, 1908. Serial No. 463,237.



1. In a device of the class described a culvert comprising corrugated sections riveted together and the outer extremity of the section at one end non-corrugated to tightly receive a tile section therein, a bearing rigidly secured on the top of the culvert opposite from the non-corrugated end, a pintle secured thereto, a valve for closing against the end of the culvert and ribs rigidly secured thereto having the ends curved over the valve to engage the pintle.

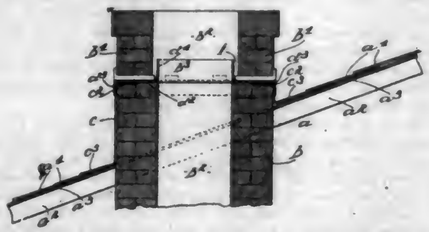
2. In a device of the class described a culvert end comprising sections corrugated and secured together, the outer section having a perpendicular face and the outer end of the inner section shaped to receive a tile section tightly therein, a gate valve hinged to the culvert for the center of gravity to lie at the rear of the perpendicular face to thereby close the gate valve by gravity.

3. A drain tile section comprising a plurality of cylindric sheet metal sections interfitting at the ends and riveted together, at the inner end shaped to engage therein the end of the tile section, a gate valve for closing the end of the tile section, ribs integral therewith curved over the edge of the valve and an apertured hinge member rigidly secured to the outer side of the sheet metal section.

4. The combination with the tile in a tile drain of an outlet section having greater length than the tile section and comprising a plurality of corrugated sheet metal tubes or pipes shaped at their inner ends to fit the tile, a plate adapted to close the end of the outlet section, strengthening ribs integral therewith curved over the periphery thereof to provide hinge members and a hinge member rigidly secured to the top of the outlet section on the outside thereof.

5. The combination with a drain of an outlet section therefor adapted to be well bedded in the bank of the drainage ditch, a metallic knuckle riveted on said section at its outer end, a gate provided with upwardly projecting lugs or ears adapted one to engage on each side of the knuckle and a pintle extending through said lugs and knuckle to afford a hinge whereby the gate closes the outlet section to all except outward pressure.

973,023. CONSTRUCTION OF CHIMNEYS. ALFRED W. FLETCHER, Brooklyn, N. Y. Filed Sept. 15, 1909. Serial No. 517,774.



1. An attachment for use in chimney constructions, said attachment being adapted to be placed transversely in a chimney over the roof construction and comprising a plate having downwardly directed flanges which overlap the flashing of the chimney when in use, said plate being provided with apertures or openings which correspond with the flues in the chimney and around which are upwardly directed flanges or collars, and said plate being also provided on the top surface thereof with transversely and longitudinally arranged bars or raised members on which the top portion of the chimney may be laid.

2. The combination with a chimney construction of an attachment which is placed in the chimney transversely thereof and over the roof construction, and comprising a plate having downwardly directed flanges which overlap the flashing of the chimney, said plate being provided with apertures or openings which correspond with the flues in the chimney, and around which are upwardly directed flanges or collars, and said plate being also provided on the top surface thereof with bars or raised members on which the top portion of the chimney is laid.

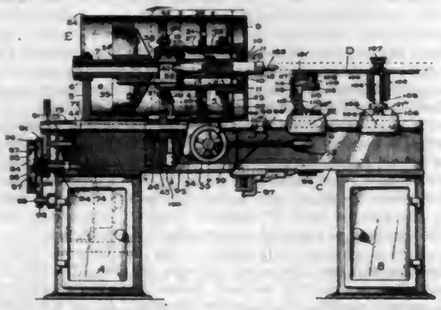
973,024. CAR-TRUCK. GEORGE G. FLOID, Granite City, Ill., assignor to American Steel Foundries, New York, N. Y., a Corporation of New Jersey. Filed Oct. 28, 1909. Serial No. 525,027.



1. In a railway car-truck, the combination of a bolster, a side-frame having an aperture for the accommodation of the end of the bolster, the parts of the side-frame constituting the side-walls of said aperture being grooved, and columns with which the bolster column guides are adapted to coöperate shiftably mounted in said grooves, there being a projection and recess connection between each column and one of the walls of the groove, whereby when said columns are moved out of normal position the bolster may be taken out lengthwise through the side-frame aperture, substantially as described.

2. In a railway car-truck, the combination of a bolster, a side-frame having an aperture for the accommodation of the end of the bolster, the portions of said side-frame forming the side-walls of said aperture being provided with vertical under-cut grooves, and columns with which the bolster column guides are adapted to coöperate shiftably mounted in said under-cut grooves, whereby when they are moved out of normal position the bolster may be taken out lengthwise through the side-frame aperture, substantially as described.

973,025. MACHINE FOR CUTTING TURBINE BUCKETS OR VANES. SHEPHERD T. FONDA, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Jan. 27, 1902. Serial No. 91,328.



1. In a machine of the character described, the combination of a tool-holder, a support for the holder, which is

movable about an axis, means for moving the holder radially toward and away from the axis of the support, a means for turning the tool-holder about its own axis while moving with the support, and means for moving the tool-holder longitudinally to withdraw the tool from cutting engagement with the work on the idle or return stroke.

2. In a machine of the character described, the combination of a tool-holder, a rotary carrier in which the holder is journaled, a disk having transverse guide-ways adapted to receive the carrier, means for moving the carrier laterally on the guide-ways when the disk is rotated, and means for oscillating the tool-holder about its axis.

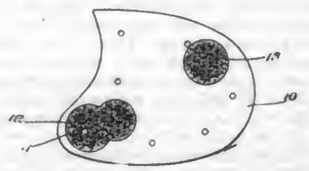
3. In a machine of the character described, the combination of a tool-holder, a rotary carrier in which the holder is journaled, a disk having transverse guide-ways adapted to receive the carrier, means for moving the carrier laterally as it revolves, means for oscillating the tool-holder about its axis to maintain the tool normal to the cut, and means for moving the tool longitudinally to withdraw it from cutting engagement with the work on the idle or return stroke.

4. In a machine of the character described, the combination of a tubular shaft, means for rotating the shaft, a disk on the shaft having transverse guide-ways, a carrier mounted in the guide-ways, a spring acting on the carrier, a tool-holder mounted in the carrier, a cam adapted to move the carrier laterally on the guide-ways and against the spring as the shaft rotates, and means for oscillating the tool-holder about its axis to maintain the tool normal to the cut.

5. In a machine of the character described, the combination of an oscillating tool-holder, a tubular shaft, means for rotating the shaft, a carrier for the tool-holder, which is mounted within the shaft, a cam for moving the carrier laterally with respect to the axis of the shaft, gearing for oscillating the tool-holder about its axis, and a cam for actuating the gearing as the tubular shaft revolves.

[Claims 6 to 35 not printed in the Gazette.]

973,026. ELASTIC HEEL. ROLON E. FOSTER and PHILIP W. PRATT, Boston, Mass., assignors to Foster Rubber Company, Boston, Mass., a Corporation of Maine. Filed Dec. 4, 1909. Serial No. 531,336.

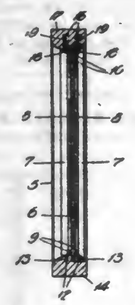


A heel having a body of elastic material, said body having an integral projection forward from one side of the usual breast line to form an arch support, the said projection having a greater transverse thickness than that of the other side of the body of the heel, said projection having an insertion or plug of material which is less elastic than the body of said projection.

973,027. WINDOW-GRILLE. ROSALIE A. W. FOX, Seattle, Wash., assignor of one-half to Ellen J. Wylde, Seattle, Wash. Filed May 24, 1909. Serial No. 498,095.

1. The combination with a window-sash, provided with apertures in its lower rail and a spring pressed bolt protruding downwardly from the upper rail thereof and in spaced relation with the sash glass, of a grille adapted to fit against the glass of said sash and provided with lugs disposed to enter said apertures for securing the grille at the bottom with the sash and adapted to be secured at the top with the sash by being inserted between said glass and said bolt.

2. In combination, a window-sash frame, a pane of glass in the frame, a grille adapted to fit within the frame, and devices for detachably connecting the grille to the frame and in juxtaposition with said pane of glass.

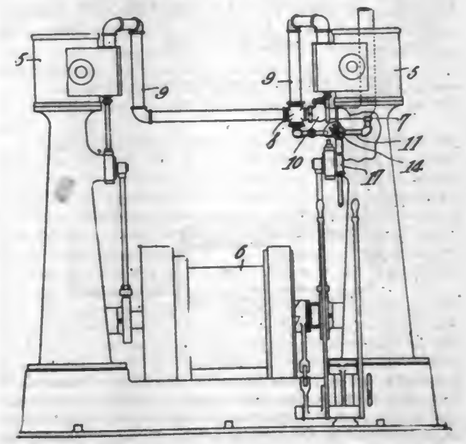


3. The combination with the frame of a window-sash and the glass thereof, of companion grilles arranged to be fitted within the sash from opposite sides and to be placed in juxtaposition with said glass, and means to detachably and independently secure the grilles to the sash.

4. The combination of a glazed window-sash, a grille adapted to fit within the frame of said sash and in juxtaposition with the sash-glass, lugs provided upon said grille and disposed to engage in apertures provided in the frame of said sash, a bolt-socket inserted in the sash-frame, a bolt in said socket, and a spring serving to protrude said bolt from its socket whereby the bolt will afford means for detachably securing said grille in operative position.

5. The combination with a window-sash having a glazed opening to afford a recess to one side of the sash-pane, of a rectangular shaped grille constructed to be inserted within said recess, and means connected with the sash-frame and coacting with said sash pane for removably securing the grille within the recess.

973,028. HOISTING-ENGINE. JOHN WELKER FREEMAN, Joplin, Mo. Filed Nov. 2, 1909. Serial No. 525,916.

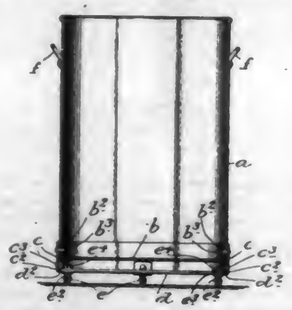


1. In a steam engine, the combination with a steam supply pipe to the cylinder, and a throttle valve therein; of a by-pass around the throttle valve, a valve in the by-pass, and an air line connected to the by-pass valve, and controlled thereby.

2. In a steam engine, the combination with a steam supply pipe to the cylinder, a throttle valve therein, and an

air line; of a by-pass around the throttle valve, a valve casing in the by-pass having passages in communication therewith, and a passage communicating with the air line, and a valve in the casing controlling said passages, said valve in one position establishing communication with the first mentioned passages, and in another position between the air line passages and the one of the first mentioned passages which leads to the cylinder.

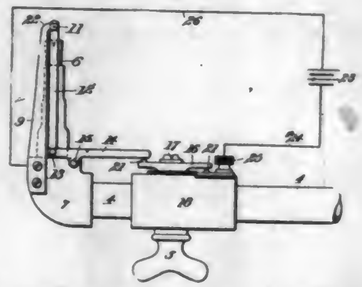
973,029. ASH CAN OR BARREL. MINNA FROESE, New York, N. Y. Filed Dec. 16, 1909. Serial No. 533,351.



1. An ash can or barrel, the top of which is open and the bottom of which is closed, said bottom being provided with a reinforced depending flange or rim, and cross bars connected with said flange or rim and extending transversely across the bottom of the can or barrel and at a distance therefrom equal to the depth of said flange or rim and said cross bars being provided with rollers.

2. An ash can or barrel, the top of which is open and the bottom closed, the bottom being also reinforced and provided with a depending flange or rim and cross bars connected with said flange or rim and extending transversely of said bottom and at a distance therefrom equal to the depth of said flange or rim, and rollers or casters swiveled in the end portions of said cross bars.

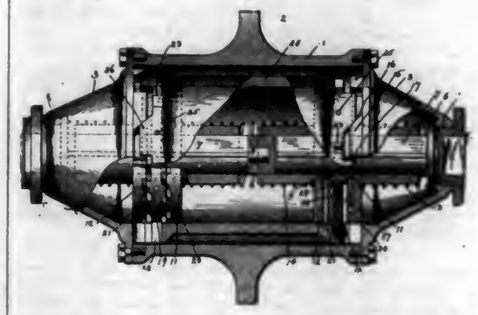
973,030. AUTOMATIC GAS-IGNITER AND SAFETY DEVICE. EUGENE E. GERALD, Baltimore, Md. Filed Jan. 22, 1910. Serial No. 539,462.



1. In a device of the character described, the combination of a burner, a gas supply pipe, a valve, a button carried by the stem of the valve, and an electric circuit adapted to be closed by the opening of the valve, comprising uprights on opposite sides of the burner, a resistance connecting the uprights above the burner in the path of the escaping gas, a pivoted bar normally in contact with the button when the valve is open, and a rod in position to be heated by the flame and pivotally connected at its ends with one of the uprights and the bar.

2. In a device of the character described, the combination of a burner, a gas supply pipe, a valve, a button carried by the stem of the valve, and an electric circuit adapted to be closed by the opening of the valve, comprising uprights on opposite sides of the burner, a resistance connecting the uprights above the burner in the path of the escaping gas, a pivoted bar normally in contact with the button when the valve is open, a rod in position to be heated by the flame and pivotally connected at its ends with one of the uprights and the bar, a metal strip secured to the valve casing and normally in contact with the button when the valve is open, and wires connecting the metal strip and one of the uprights with a source of electricity.

973,031. DRIVING-GEARING. ROYAL H. GILBERT, Lakewood, Ohio. Filed Feb. 1, 1909. Serial No. 475,329.



1. In a motor vehicle, in combination, a driving member, axle sections, forward and reverse coupling devices for each axle section, a driving coupling member coöperating with the coupling devices of each axle section, and means between said driving coupling members and said driving member and operated by the rotation of the latter for automatically shifting the driving coupling devices into engagement with the forward or reverse coupling devices of the two axle sections according to the direction of rotation of the driving member.

2. In a driving gear for motor vehicles, in combination, a driving member, axle sections, forward and reverse coupling members for each axle section, driving coupling devices adapted when in one position to coöperate with the forward coupling member of each axle section, and when in another position to coöperate with the reverse coupling device of each axle section, and means between said driving coupling devices and the driving member and operated by the rotation of the latter for shifting said driving coupling members into engagement with the forward or reverse coupling devices of the axle sections according to the direction of rotation of the driving member.

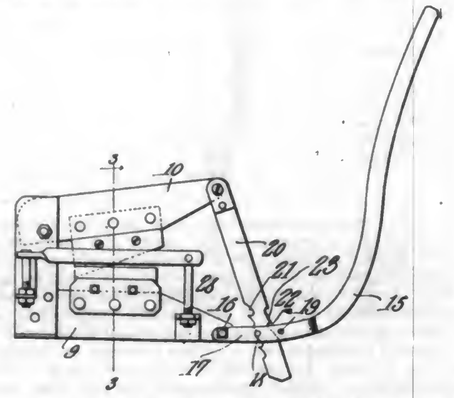
3. In a driving gear for motor vehicles, in combination, a driving member, axle sections, forward and reverse coupling members for each axle section, a driving coupling device for each axle section, a member secured to said drive coupling devices, and means between said member and the driving member and operated by the rotation of the latter for automatically shifting said member and the driving coupling devices carried thereby into engagement with the forward or reverse coupling devices carried by the axle sections in accordance with the direction of rotation of the driving member.

4. In a driving gear for motor vehicles, in combination, a driving member, axle sections, forward and reverse coupling devices for each axle section, a driving coupling member for each axle section and adapted to coöperate with the forward and reverse coupling devices of the corresponding axle section, a cam member secured to said driving coupling devices for shifting the same, and suitable cams between said cam member and the driving member and adapted by the rotation of the latter to shift the driving coupling members into engagement with such of the coupling devices of the axle sections as will cause the latter to be driven by the driving member in a forward or reverse direction according to its direction of rotation.

5. In a driving gear for motor vehicles, in combination, a driving member, axle driving sections, a forward and reverse coupling device for each axle driving section, a driving coupling device for each axle driving section and adapted to coöperate with the corresponding forward and reverse coupling devices, and means between said driving coupling devices and the driving member and actuated by the rotation of the latter for causing the driving coupling devices to be shifted into engagement with the forward or reverse coupling devices of the axle sections according to the direction of rotation of the driving member.

[Claims 6 to 9 not printed in the Gazette.]

973,032. MACHINE FOR SHEARING METAL. CHRISTOPHER C. GOBLE, Byron, Nebr. Filed Feb. 19, 1910. Serial No. 544,817.

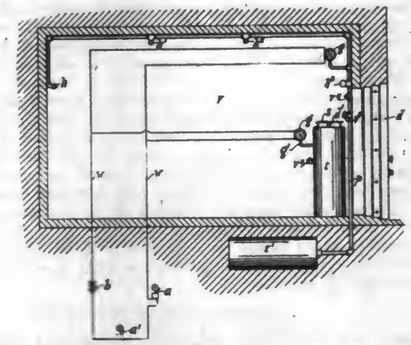


1. In a machine of the class described, a base, a fixed blade upon the base, a movable blade coöperating with the fixed blade, a lever pivoted to the base and provided with spaced studs, and an arm connected to the movable blade and extending between the studs and formed upon both edges with teeth coöperating with the studs, movement of the lever in one direction acting to move the arm to bring one of the teeth upon one edge thereof into operative engagement with one of the studs whereby to elevate the movable blade, and movement of the lever in an opposite direction acting to bring the other stud into engagement with one of the teeth upon the other edge of the arm whereby to depress the movable blade.

2. In a machine of the class described, a base, a fixed blade upon the base, a movable blade coöperating with the fixed blade, a lever pivoted to the base and provided with spaced studs, and an arm connected to the movable blade and extending between the studs and formed upon both edges with teeth coöperating with the studs the said teeth being oppositely directed on the two edges, movement of the lever in one direction acting to move the arm to bring one of the teeth upon one edge thereof into operative engagement with one of the studs whereby to elevate the movable blade, and movement of the lever in an opposite direction acting to bring the other stud into engagement with one of the teeth upon the other edge of the arm whereby to depress the movable blade.

3. In a machine of the class described, a base, a fixed blade upon the base, a movable blade coöperating with the fixed blade, a lever pivoted to the base and provided with spaced studs, and an arm connected to the movable blade and extending between the studs and formed upon both edges with teeth coöperating with the studs and having spaced portions, and an arm connected to the movable blade and received loosely between the spaced portions and the studs, the lever being formed in its opposite edge with teeth coöperating with the corresponding studs, movement of the lever in one direction acting to move the arm to bring one of the teeth upon one edge thereof into operative engagement with one of the studs whereby to elevate the movable blade, and movement of the lever in an opposite direction acting to bring the other stud into engagement with one of the teeth upon the other edge of the arm whereby to depress the movable blade.

973,033. PROTECTIVE SYSTEM AND APPARATUS FOR SAFEGUARDING VAULTS, SAFES, AND THE LIKE. JACOB CARVELL GOUGH, Cleveland, Ohio, assignor, by direct and mesne assignments, of one-half to Margaret Duncan Gough, Curwensville, Pa., and one-half to Albert Lynn Lawrence, Cleveland, Ohio. Filed Sept. 12, 1903. Serial No. 172,866.



1. In a protective system of the class described, the combination with a chamber or receptacle for valuable property, a system of piping extending within said chamber to the more vulnerable positions therein, a tank of permanent construction, normally charged with noxious gas under pressure, and connected with said system of piping, readily disruptable heads or closure-parts, also associated with said system of piping, and an explosive charge associated with the latter, substantially as set forth.

2. The combination with a chamber or receptacle for valuables or valuable property, of a gas or fluid-discharging tank, of permanent construction, and means, comprising a readily disruptable closure-part, and associated explosive charge for bringing the same into operation, upon or by reason of an unauthorized attempt to gain access to the contents of said receptacle, substantially as set forth.

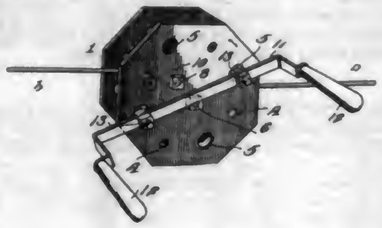
3. The combination with a retaining compartment for valuables and the like, of a gas-discharging tank or device of permanent construction proportioned to the size of the compartment associated therewith, and means, comprising a readily detonated explosive charge associated with a comparatively easily fractured or disrupted barrier, adapted to cause the discharge of the tank upon or by reason of an unauthorized attempt to gain access to the contents of the said compartment, substantially as set forth.

4. The combination with a retaining compartment or receptacle for valuable property, of a gas-discharging tank or device of permanent construction proportioned to the size of the retaining compartment associated therewith, and means, comprising a comparatively easily disrupted barrier of small size sealing said tank and an explosive charge or cartridge of the class discharged by a primary explosion, adapted to effect the discharge of the tank upon or by reason of an unauthorized attempt to gain access to the interior of said receptacle, substantially as set forth.

5. In a protective appliance of the class described, the combination with a gas-discharging tank or device, of a disruptable closure-part or seal, and an interior head or partition provided with a vent and dividing the tank into separate compartments, substantially as set forth.

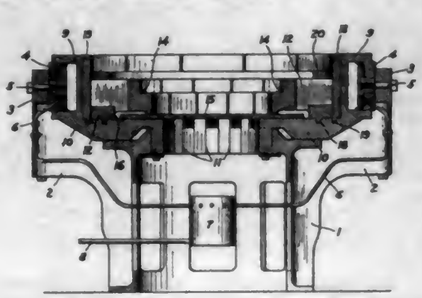
[Claims 6 to 11 not printed in the Gazette.]

973,034. WIRE-FENCE STRETCHER. CHARLES L. GRAHAM, Ashley, N. D. Filed Nov. 10, 1909. Serial No. 527,257.



A wire stretcher comprising a pair of disks having openings near their centers and also near their peripheries, connecting and spacer bolts in the center openings of said disks, one of said connecting and spacer bolts being removable from the disks to enable the bolts to be disposed on opposite sides of the wire to be stretched, a lever, headed bolts formed for removable engagement in the outer openings of the disks and formed so that the said headed portions will bear against one disk to hold the bolts in their operative positions, said disks being formed to provide openings which are disposed between the said outer openings, and a pin for insertion in either of the said second named openings and to bear against the wire when stretched so as to retain the wire in stretching position to coact with the spacer and connecting bolts in securing the stretcher on the wire.

973,035. TIRE-SETTER. EDWARD A. GRENELLE, Rochester, N. Y., assignor to The West Tire Setter Company, Rochester, N. Y., a Corporation of New York. Filed May 17, 1909. Serial No. 496,642.



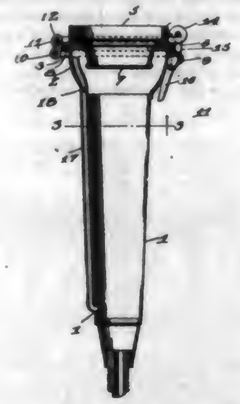
1. In a tire setter, the combination of a frame, tire-setting mechanism comprising a series of cylinders and pistons carried by the frame and arranged to operate toward a center and a series of dies actuated by said cylinders and pistons, and a stop engaged by a portion of said mechanism for limiting the action of the dies upon the tire.

2. In a tire setter, the combination of a frame, a series of cylinders and pistons carried thereby adapted to operate toward a center, a series of dies actuated by said cylinders and pistons, a stop ring for stopping the action of the series of pistons and cylinders on the dies, and a circular stop for stopping the series of dies in a desired position.

3. In a tire setter, a frame, a series of cylinders and pistons carried thereby adapted to operate toward a center, a series of dies actuated by said cylinders and pistons, each having a pressure-face, and circular stop means above and below the middle line of the pressure-faces for stopping the dies in a desired position and for preventing the tilting thereof.

4. In a tire setter, a frame, tire-setting mechanism comprising a series of cylinders and pistons carried by the frame and arranged to operate toward a center and a series of dies actuated by said cylinders and pistons, and stopping means arranged to engage a portion of said mechanism and to arrest the inward movement of the dies by a positive resistance equalized with respect to the plane of the axes of the cylinders and pistons.

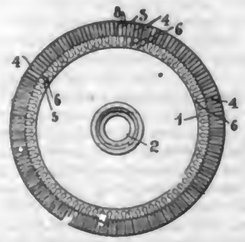
973,036. TEAT-CUP. FLOYD B. GROFF, St. Johnsville, N. Y. Filed July 20, 1910. Serial No. 572,845.



1. In a teat-cup comprising a body portion and a bowl provided at the upper extremity thereof, the combination of a flexible mouthpiece with clamping means to secure the mouthpiece in position, said bowl provided with an annular flange to which the clamping means are secured, said mouthpiece having a corresponding flange which is gripped by the clamping means, said clamping means consisting of a clamping ring encircling the flange of the bowl and a clamping ring adapted to encircle the flange of the mouthpiece, a suitable hinge between the two rings, the lower ring provided with a lug, the other provided with a cam, and means of connection between the cam and its ring.

2. In a teat-cup comprising a body portion and a bowl provided at the upper extremity thereof, the combination of a flexible mouth piece with clamping means to secure the mouth piece in position, said bowl provided with an annular flange to which the clamping means are secured, said mouth piece having a corresponding flange which is gripped by the clamping means, said clamping means consisting of a clamping ring encircling the flange of the bowl and a clamping ring adapted to encircle the flange of the mouth piece, said ring being hingedly secured together and means to lock said clamping rings together while contacting.

973,037. ROTOR FOR HIGH-FREQUENCY ALTERNATING-CURRENT MACHINES. ALBERT E. GUY, Trenton, N. J., assignor to De Laval Steam Turbine Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 10, 1909. Serial No. 489,188.



1. An inductor rotor comprising a disk having projecting teeth of magnetic material, some of which teeth are integral with said disk and have between them other teeth formed separately from such disk but secured thereto, certain of such teeth having projections bridging the spaces between the teeth and abutting against the adjacent teeth.

2. An inductor rotor comprising a disk having projecting teeth of magnetic material, certain of such teeth having projections bridging the spaces between the teeth, and filling pieces between the teeth and held therein by said projections.

3. An inductor rotor comprising a disk having projecting teeth and filling pieces between the teeth, said filling pieces having notches and certain of said teeth having projections fitting within said notches and holding said filling pieces in place, said projections bridging the spaces between the teeth and serving to stiffen the tooth structure.

4. An inductor rotor comprising a disk having radially projecting teeth and filling pieces between the teeth, alternate teeth of said disk integrally formed therewith, the intermediate teeth separably secured to said disk and provided near their outer end with projections bridging the spaces between such separately formed teeth and the integral teeth, and serving both to stiffen the tooth structure and to hold in place said filling pieces.

5. An inductor rotor comprising a disk having radially projecting teeth and filling pieces between the teeth and ending flush with the sides of said teeth, alternate teeth of said disk integrally formed therewith, the intermediate teeth separably secured to the disk and provided with means for holding said filling pieces in place.

[Claims 6 and 7 not printed in the Gazette.]

973,038. IMPRESSION OR IMITATION STITCH MACHINE. JOHN B. HADAWAY, Brockton, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Dec. 9, 1904. Serial No. 236,158.

1. A machine for making impression or imitation stitches, having, in combination, a shaft, a frusto-conical indenting wheel mounted thereon with its larger end extending beyond the outer end of the shaft, and a guard having a surface substantially flush with the larger end of the indenting wheel mounted to bear against the shoe upper at one side of the indenting wheel and guide the shoe while permitting the upper to be brought close to the end of the indenting wheel, substantially as described.

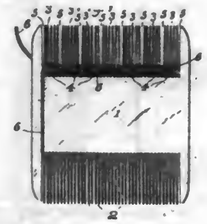
2. A machine for making impression or imitation stitches, having, in combination, a shaft, a frusto-conical indenting wheel mounted thereon with its larger end extending beyond the outer end of the shaft, said indenting wheel being provided at its larger end with a recess to receive the bulging portion of the upper at the toe of the shoe, and a guard arranged to bear against the upper at one side of the indenting wheel, substantially as described.

973,039. SELF-CLEANING COMB. JOSEPH HAELEBJIAN, Bridgeport, Conn. Filed July 19, 1910. Serial No. 572,729.

1. A comb having its teeth bound together in spaced sections, in combination with a cleaning string detachably surrounding said sections.

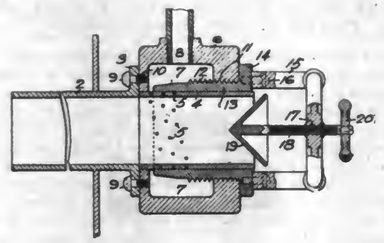
2. A comb having its teeth bound together in spaced sections, in combination with a cleaning string passed in reverse directions between and around said sections.

3. A comb having teeth permanently bound together in spaced sections, and provided with a cleaning string one



end of which is fixed to the comb while the free end is wound around each successive section in serpentine courses and in opposite directions.

973,040. GAS-BURNER. ROSS C. HAWK, Pittsburg, Pa. Filed Nov. 22, 1909. Serial No. 529,460.



1. In a gas-burner, the combination of a suitable shell, or casing, having apertures formed therein arranged spirally, a chamber surrounding said shell or casing, means for supplying gas thereto, a threaded sleeve surrounding said shell or casing, means for turning said sleeve, means for supplying air to said shell or casing, and means for controlling the supply of air to said shell or casing.

2. In a gas-burner, the combination of a suitable shell, or casing, having apertures arranged spirally, a chamber surrounding said shell or casing, means for supplying gas thereto, a threaded sleeve surrounding said shell or casing, the said apertures being arranged at the same pitch as the pitch of the threads of said threaded sleeve, means for supplying air to said shell or casing, and means for controlling the supply of air to said shell or casing.

3. In a gas-burner, the combination of a suitable shell, or casing, having apertures therein, a chamber surrounding said shell, or casing, means for supplying gas thereto, said chamber having a threaded opening, a sleeve engaging said threaded opening and controlling said apertures, means for supplying air to said shell or casing, and means for controlling the supply of air to said shell, or casing.

4. In a gas-burner, the combination of a suitable shell, or casing, having apertures therein, a chamber surrounding said shell, or casing, means for admitting gas thereto, said chamber having a threaded opening, a threaded sleeve engaging said opening and controlling said apertures, a cage connected to said sleeve, means for supplying air to said shell or casing, and a valve supported by said cage controlling the air supplied to said shell, or casing.

5. In a gas-bruner, the combination of a suitable shell, or casing, having apertures therein, a chamber surrounding said shell or casing, means for supplying gas thereto, said chamber having a threaded opening, a threaded sleeve engaging said opening and controlling said apertures, a cage connected to said sleeve, a threaded stem engaging said cage, means for supplying air to said shell or casing and a conical valve on said stem controlling the supply of air to said shell or casing.

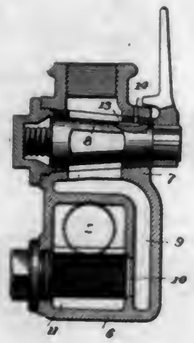
[Claim 6 not printed in the Gazette.]

973,041. BADGE. HUGO HESSELBARTH, Greifswald, Germany. Filed Aug. 9, 1909. Serial No. 512,001.



An improved badge comprising in combination a pin, a horizontal arm at the upper end of said pin, two foils rigidly fixed on said horizontal arm and suitably ornamented on the front surface, and two foils which bear inscriptions, removably mounted upon the ends of said horizontal arm, so that the badge has the shape of a four leafed clover, substantially as described and shown and for the purpose set forth.

973,042. CROSSOVER CONNECTION FOR FLUID-PRESSURE BRAKE SYSTEMS. JAMES A. HICKS, Atlanta, Ga. Filed Dec. 22, 1909. Serial No. 534,535.



1. A cross-over connection for air brake systems having a train line and cross-over tee provided with a valve seat in the cross-over limb of the said tee, a cut-out valve mounted in said seat, and a wall to separate the cut-out valve chamber from the horizontal limb of the tee.

2. A cross-over connection for air brake systems having a train line and cross-over tee formed in a single piece, and provided at either end of its horizontal limb with a train line connection; a valve seat in the vertical limb of said tee; a cut-out valve mounted in said seat and controlling said cross-over passage, and a partition wall separating said tee into two chambers so as to protect said cut-out valve from the direct action of the through air currents in the horizontal limb of the tee.

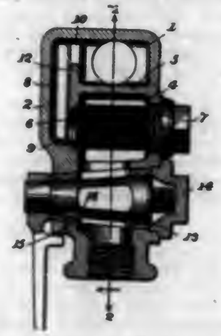
3. A cross-over connection for air-brake systems having a strainer chamber through which train line air passes, a cross-over chamber having a cut-out valve mounted therein, and a wall separating said chambers and protecting the cut-out valve from the direct action of the through currents in the strainer chamber.

4. A cross-over connection for air brake systems comprising a tee joint having provision at either end for train line connection, a chamber communicating with said connection, a strainer in said chamber, a nut closing said chamber, an offset passage leading from said chamber to the cross-over limb of the tee, and a cut-out valve in said cross-over limb controlling said cross-over passage.

5. A cross-over connection for air-brake systems having a cut-out valve, and means for bleeding the triple side of said cross-over when the cut-out is closed.

[Claims 6 and 7 not printed in the Gazette.]

973,043. CROSSOVER CONNECTION FOR FLUID-PRESSURE-BRAKE PIPES. JAMES A. HICKS, Atlanta, Ga. Filed Mar. 16, 1910. Serial No. 549,765.



1. A cross-over connection for fluid-pressure brake pipes, comprising a casing, a train-line passage traversing said casing, a strainer-chamber in said casing, a wall separating said passage and chamber, and a conduit connecting said passage and chamber.

2. A cross-over connection for fluid-pressure brake pipes, comprising a casing, a train-line passage traversing said casing, a strainer-chamber in said casing, a wall separating said passage and chamber, a conduit connecting said passage and chamber, and a valve-chamber to which said strainer-chamber delivers.

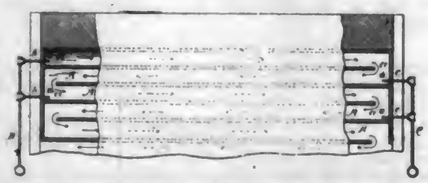
3. A cross-over connection for fluid-pressure brake pipes, comprising a casing, a train-line passage traversing said casing and having a port opening laterally therefrom, a strainer-chamber adjacent said passage and having a port opening laterally therefrom, a wall separating said train-line passage and said strainer-chamber, and a conduit traversing the wall of the casing and connecting the train-line passage and said strainer-chamber.

4. A cross-over connection for fluid-pressure brake pipes, comprising a casing having a substantially horizontal limb which is traversed by a train-line passage, a substantially vertical limb containing a strainer-chamber, a wall between said train-line passage and said strainer-chamber to prevent direct communication therebetween, and a conduit traversing the wall of said casing and forming an indirect connection between said train-line passage and said strainer-chamber.

5. A cross-over connection for fluid-pressure brake pipes, comprising a casing having a train-line passage therethrough, a cross-over passage perpendicular to said train-line passage and separated therefrom by a wall, a strainer-chamber in said cross-over passage, a conduit connecting said strainer-chamber and said train-line passage, and a cut-out valve in said cross-over passage adjacent said strainer-chamber.

[Claims 6 to 12 not printed in the Gazette.]

973,044. ART OF OPERATING RETORT COKE-OVENS. AUGUST F. HILLEKE, Ensley, Ala., assignor to Semet-Solvay Company, Syracuse, N. Y., a Corporation of Pennsylvania. Filed Sept. 13, 1909. Serial No. 517,778.



1. The hereinbefore described improvement in the art of heating retort coke ovens which consists in producing local heat centers in the heating flues by the combustion of tar therein and distributing the heat so produced through the flues by introducing thereto a lean or inert gas.

2. The hereintofore described improvement in the art of operating retort coke ovens which consists in heating the oven by the combustion of tar in the heating flues and distributing the heat so produced by means of an independently introduced gas.

3. The hereinbefore described improvement in the art of operating retort coke ovens which consists in heating the oven by the combustion of tar and an independently introduced gas whereby the heat produced by the combustion of the tar is distributed and equalized.

973,045. MAINSPRING-WINDER. THOMAS W. HOBB and WILLIAM A. GWINN, Middlesboro, Ky. Filed May 24, 1909. Serial No. 497,883.



1. A main spring winder including a barrel, a rotary shaft projecting axially within the barrel, a disk fixed on the shaft and rotatable therewith within the barrel, the shaft being movable longitudinally to slide the disk outwardly in the barrel, and means disposed at the outer face of the disk for engaging with one end of the main spring.

2. A main spring winder including a barrel, a rotary shaft having one end projecting axially into the barrel and formed with an axially disposed socket, a disk rotatable within the barrel and having a shank projecting axially from one face thereof and fixed in the socket in the shaft to cause the disk to rotate therewith, the shaft being movable longitudinally to slide the disk outwardly in the barrel, and means outstanding centrally from the outer face of the disk for engaging with one end of the main spring.

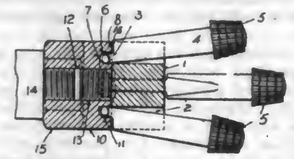
3. A main spring winder comprising a supporting frame, a shaft journaled in the frame with one end projecting therebeyond the projecting end of the shaft having a socket to constitute a stock, a disk having a shank received in the stock, a set screw working in the stock for retaining the shank therein, a barrel within which the disk is accommodated, and a sleeve secured to the frame and encircling the stock and carrying the barrel, the sleeve being cut away to afford access to the set screw.

4. A main spring winder including a support having a bearing, winding shaft journaled in the bearing for both longitudinal movement and rotation, one end of the shaft projecting beyond the bearing and being formed with a longitudinal socket, a disk having a shank received in the socket, a set screw working in the projecting end of the shaft to hold the shank in the socket, a barrel in which the disk is received, and a sleeve supporting the barrel from said support and inclosing the shaft between the barrel and the bearings.

5. A main spring winder comprising a support, a shaft journaled in the support with one end projecting therebeyond, a disk carried by the projecting end of the shaft, a barrel within which the disk is received, a sleeve inclosing the projecting end of the shaft and secured at one end to the barrel, the sleeve being formed at its other end with an outstanding peripheral flange abutting against the support, and means for detachably securing the flange to the support to maintain the sleeve and barrel in place.

[Claims 6 to 13 not printed in the Gazette.]

973,046. ROTARY TUBE-CLEANER. ROBERT G. JAMISON, Pittsburg, Pa., assignor to The Liberty Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Aug. 9, 1909. Serial No. 511,914.



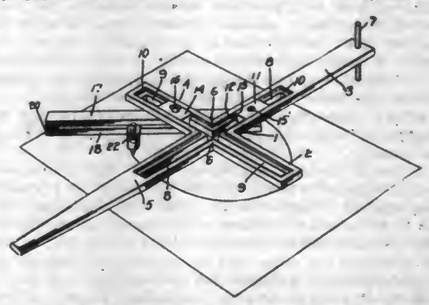
1. A rotary tube cleaner comprising a body provided with longitudinal slots opening on the exterior thereof and extending to its forward end, arms having shanks lying in said slots and provided on their inner ends with integral heads having a bearing on the body, a clamping member having a threaded engagement with the body and engaging the heads on the arms and confining the same to their bearings and provided on its rear end with an axially threaded portion for attachment to a motor spindle, and toothed cutters on the outer free ends of said arms.

2. A rotary tube cleaner comprising a body provided with longitudinal slots opening on the exterior thereof, arms having shanks lying in said slots and provided on their inner ends with integral trunnions bearing against the body, a clamping member having threaded engagement with the body and provided with a groove arranged to receive the arm trunnions and form seats therefor, and provided with means for attachment to a motor spindle, and toothed cutters on the outer ends of the said arms.

3. A rotary tube cleaner comprising a body provided with longitudinal slots opening on the exterior thereof and extending to its forward end, arms having shanks lying in said slots and provided on their inner ends with integral heads having bearing on the body, a clamping member having threaded engagement with the body and engaging the heads on the arms and confining the same to their bearings and provided on its rear end with an axially threaded portion for attachment to a motor spindle, said body and clamping member forming a substantially cylindrical body, and toothed cutters on the outer free ends of said arms.

4. A rotary tube cleaner comprising a body provided with longitudinal slots opening on the exterior thereof arms having shanks lying in said slots and provided on their inner ends with integral trunnions having a bearing against said body, said body being provided with a threaded rearward projection, a clamping member arranged to confine the arm trunnions and provided with an axially threaded opening therethrough for receiving into one end the threaded projection on the body and into the other end a threaded motor spindle, and toothed cutters on the free ends of said arms.

973,047. ELLIPSOGRAPH. THEODORE JETER, Champaign, Ill. Filed Feb. 6, 1909. Serial No. 476,563.



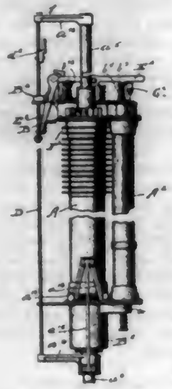
1. In an ellipsograph, the combination of a cruciform supporting-frame provided with slots extending at right

angles to each other, and also provided at but one end with a single relatively-stationary frame-support, slidable blocks traveling in said slots, a marker-supporting-arm pivotally connected to said blocks, one of which blocks is adjustable longitudinally with relation to said arm, and a marker-holder adjustably supported upon said supporting-arm.

2. In an ellipsograph, the combination with a supporting-frame provided with slots extending at right angles to each other, and also provided at but one end with a single relatively-stationary frame-support, slidable blocks traveling in said slots, a marker-supporting-arm movably supported upon said blocks and provided with a longitudinal slot in which one of said blocks is longitudinally adjusted, and a marker-holder carried by said arm.

3. In an ellipsograph, the combination of a cruciform supporting-frame, means for supporting one end thereof, said frame being provided with slots extending at right angles to each other and having incut edges or walls, slidable blocks traveling in said slots and provided with flanges to engage said incuts, posts upstanding from said blocks, a supporting arm engaging said posts and provided with a longitudinal slot in which one of said posts is longitudinally adjusted, a hinged member carried by said supporting-arm and overlying the same for making small ellipses, and constructed to be swung back into horizontal alinement with said arm for making larger ellipses, and the marker-holder carried by said hinged member, the said arm and member being graduated, and with relation to which graduations the said marker-holder is adjusted.

973,048. INTERNAL-COMBUSTION ENGINE. WALTER J. O. JOHNSON, Chicago, Ill. Filed June 9, 1905. Serial No. 264,372.



1. In an internal combustion motor the combination with a cylinder and a piston therein, of a pressure receptacle or tank having valved connection with the power end of the cylinder, automatic means acting to admit the charge under pressure into the cylinder, whereby the piston is moved toward the middle of the cylinder prior to the ignition of the charge, means igniting the charge, spring controlled levers on the cylinder, and means operatively connecting the same with the piston rod and adapted to return the piston after the explosion to charging position.

2. In an internal combustion engine the combination with a cylinder, a piston and the piston rod, of a pressure tank adapted to deliver an explosive charge into the cylinder under pressure, a sparking mechanism, valves controlling the inlet and the exhaust from the cylinder, a lever for actuating the valves and the sparking mechanism, and means carried on the piston rod for actuating said lever.

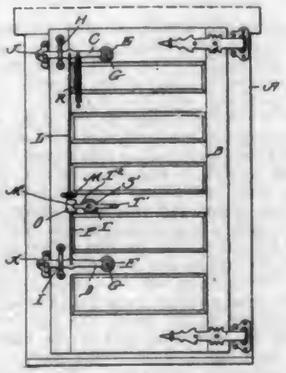
3. In a two cycle internal combustion engine the combination with the cylinder, the piston and the piston rod thereof, of spring controlled levers engaged on the piston rod and acting to return the piston to the power end of the cylinder after each discharge, an inlet and an exhaust valve at the power end of the cylinder, a valve operating lever acting to actuate both said valves and means carried on the piston rod for actuating said lever.

4. In a two cycle internal combustion engine the combination with a cylinder comprising a power and a compression end of a pressure tank, a valved port connecting the compression end of the cylinder with said pressure tank, a valved inlet connecting the power end of said cylinder with the pressure tank, an exhaust valve in the power end of the cylinder, a lever adapted to actuate said inlet and exhaust valves, a detent adapted to hold said lever at each limit of its movement, means carried on the piston rod adapted to operate said lever, and a release valve in the compression tank and adapted to regulate the pressure therein to a predetermined maximum.

5. In an internal combustion engine the combination with the cylinder having a compression and a power end of the piston therein, a piston rod connected therewith and extending beyond both ends of the cylinder, an inlet and an exhaust valve in the power end of the cylinder, a lever pivoted to actuate each of said valves, a valve actuating rod connected with the piston rod at each end of the cylinder and adapted to actuate said lever and a sparking mechanism controlled by said actuating rod adapted to ignite the charge when all the valves are closed.

[Claims 6 to 9 not printed in the Gazette.]

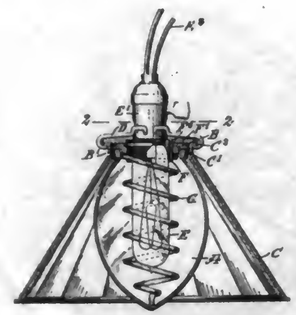
973,049. SELF-TIGHTENING TWIN LATCH FOR DOORS AND THE LIKE. RICHARD E. JONES, Hagerstown, Md. Filed Dec. 9, 1909. Serial No. 532,166.



1. A fastener of the kind described comprising a pair of pivoted latches adapted to be secured to the door, guide members arranged over said latches, a pair of keepers secured to the door frame provided with beveled inner edges adapted to receive said latches, a spring connecting one of said latches to said door, latch rods connected to the respective latches, a block connecting said latch rods provided with a notch and a spindle carrying a lever having a rounded end working in the notch of said block.

2. A self tightening twin fastener for cold storage doors comprising a pair of keepers provided with beveled inner edges adapted to be secured to the door frame, a pair of pivoted latches carried by bearing members secured to the door, guide members secured to said door over said latches, a latch rod connected to the upper latch working through a guide secured to the door, a block carried by the lower end of said latch rod, a latch rod connecting said block to the lower latch, said block being provided with a notch, a spindle mounted in said door in bearings secured to the inner and outer faces of the same, a handle or lever secured on one end of said spindle, and a lever secured upon the other end provided with an outwardly projecting rounded end working in the notch of said block for operating the same.

973,050. LAMP. GOTTLIEB KELLER, New York, N. Y. Filed June 12, 1907, Serial No. 378,489. Renewed Feb. 18, 1910. Serial No. 544,670.



1. A lamp comprising a globe having its open neck provided with a threaded collar, a threaded sleeve screwing in the said collar and having an outwardly extending flange, an electric lamp within the said globe and having its socket extending through the said sleeve, a reflector surrounding the globe and on which the said flange is seated, and a clamp engaging the said deflector and the said socket to support the reflector from the socket.

2. A lamp comprising a globe having its open neck provided with a threaded collar, a threaded sleeve screwing in the said collar and having an outwardly extending flange, an electric lamp within the said globe and having its socket extending through the said sleeve, a reflector surrounding the globe and on which the said flange is seated, a clamp engaging the said reflector and the said socket to support the reflector from the socket, and a glass spiral surrounding the bulb of the said electric lamp.

3. A lamp comprising a globe having its open neck provided with a threaded collar, a threaded sleeve screwing in the said collar and having an outwardly extending flange, an electric lamp within the said globe and having its socket extending through the said sleeve, a reflector surrounding the globe and on which the said flange is seated, a clamp engaging the said reflector and the said socket to support the reflector from the socket, and a glass spiral surrounding the bulb of the said electric lamp, the upper end of the spiral being attached to the said sleeve within the said globe.

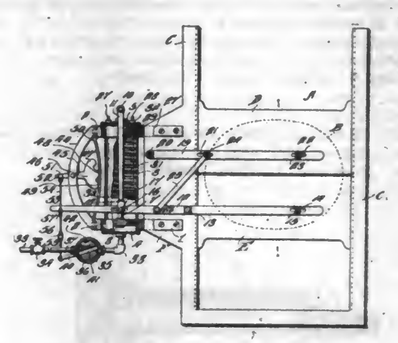
4. A lamp comprising a globe having its open neck provided with a threaded collar, a threaded sleeve screwing in the said collar and having an outwardly extending flange, an electric lamp within the said globe and having its socket extending through the said sleeve, a reflector surrounding the globe and on which the said flange is seated, a clamp engaging the said reflector and the said socket to support the reflector from the socket, and a glass spiral surrounding the bulb of the said electric lamp, the upper end of the spiral being attached to the said sleeve within the said globe and the lower end of the spiral resting on the bottom of the globe.

5. An electric lamp having a transparent tube coiled around its bulb, the coils of the tube being separated and the tube adapted to be filled with a colored liquid.

[Claim 6 not printed in the Gazette.]

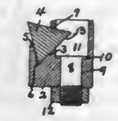
973,051. FIRE-DOOR OPENER. EDWARD C. KING, Charlottesville, Va. Filed Oct. 30, 1908. Serial No. 460,279.

In apparatus of the class described, a pair of sliding door sections, a fluid receiving cylinder, a piston in said cylinder, a sliding head located in the cylinder, means for adjusting the head longitudinally of the cylinder toward and away from the piston, spring means for normally holding the head at one limit of its movement, connections between the sliding door sections and the piston, a fluid conveying pipe, a valve casing supported by the pipe and provided with an exhaust port, connections between the valve casing and the cylinder a rotary valve having an exhaust port and provided with a second port, the latter being adapted for registration with the fluid pipe to establish communication between the pipe and the said cylinder, the exhaust port of the valve being adapted to register with



the said cylinder and with the port of the valve casing, and an automatically controlled spring actuated trip element operatively connected with the valve to actuate the same and operated in unison with the movements of the door sections.

973,052. TOOL-HOLDER. GEORGE B. LANG, Meadville, Pa. Filed June 5, 1909. Serial No. 500,355.



1. A tool holder having a V-shaped slot partly open at the top, the walls of one of the lower sides of the slot forming a lip projecting beyond the side of the tool holder above the slot, and leaving an opening at the top of the slot extending partly across the same, and adapted to hold a tool of triangular shape in cross section, with its edge extending at least flush with the side of the tool holder; and means for clamping a tool in the holder.

2. A tool holder having a V-shaped slot partly open at the top, the walls of one of the lower sides of the slot forming a lip projecting beyond the side of the tool holder above the slot, and leaving an opening at the top of the slot extending partly across the same, and adapted to hold a tool of triangular shape in cross section with its edge overhanging and extending beyond the side of the tool holder; and means for clamping a tool in the holder.

3. A tool holder, having a slot partly open at the top, the walls of one of the lower sides of the slot forming a lip projecting beyond the side of the tool holder above the slot and leaving an opening at the top of the slot extending partly across the same, and adapted to hold a tool of triangular shape in cross section, with its edge extending at least flush with the side of the tool holder, the angle at the bottom of the slot being more acute than that of the tool for the purpose described; and means for clamping the tool in the holder.

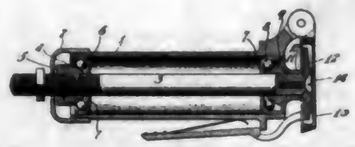
4. A tool holder having a V-shaped slot partly open at the top, the walls of one of the lower sides of the slot forming a lip projecting beyond the side of the tool holder above the slot, and leaving an opening at the top of the

slot extending partly across the same, and adapted to hold a tool of triangular shape in cross section and a projection extending forwardly from the holder with its surface in the same plane as the inner lower surface of the slot.

5. A tool holder having a V-shaped slot partly open at the top, the walls of one of the lower sides of the slot forming a lip projecting beyond the side of the tool holder above the slot, and leaving an opening at the top of the slot extending partly across the same, and adapted to hold a tool of triangular shape in cross section with the cutting edge along the open part of the slot and a bolt for engaging a tool in the slot at its upper inner edge.

[Claims 6 to 8 not printed in the Gazette.]

973,053. HOOF-PARER. EDWIN R. LANGFORD, Reno, Nev., assignor of one-half to James R. Meskimons, Reno, Nev. Filed Jan. 31, 1910. Serial No. 541,179.



1. A hoof parer comprising a barrel, a bearing at each end of the barrel, a shaft extending therethrough and rotatable in said bearings, a rotating cutter on the lower end of said shaft, a guard ring surrounding the cutter and normally protecting the same, and means for retracting the guard ring so that the cutter protrudes from the guard ring.

2. A hoof parer comprising a barrel, a shaft journaled therein, a revolving cutter mounted on the shaft, a guard ring surrounding the cutter, spring means for normally holding the guard extended to cover and protect the cutter, and means for moving the guard ring relatively to the cutter to expose the cutter the desired amount.

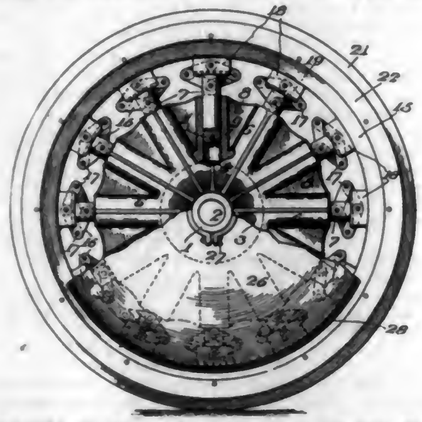
3. A hoof parer comprising a barrel, a shaft journaled therein, a rotating cutter carried by the shaft, a guard ring pivotally mounted on the barrel and surrounding the cutter, and a hand lever extending from the guard ring along the barrel for adjusting the position of the guard ring.

4. A hoof parer comprising a barrel, a shaft journaled therein, a rotating cutter carried by the shaft, a guard ring pivotally mounted on the barrel and surrounding the cutter, and a hand lever extending from the guard ring along the barrel for adjusting the position of the guard ring, said hand lever having a forked connection with the guard ring, the said guard ring having a beveled edge between the members of the fork.

5. A hoof parer comprising a barrel with a flange at one end, a shaft journaled in the barrel and projecting at the upper end of the barrel and adapted for the attachment of a flexible shaft thereto, a rotating cutter detachably connected to the end of the shaft, a bracket extending from the end of the barrel, a guard ring surrounding the cutter and pivoted to the bracket, a hand lever rigidly secured to the bracket and extending along the barrel, spring means for moving the hand lever and guard ring outwardly, the said hand lever having a shoulder formed thereon and coacting with said flange as a stop to limit the outward movement of the hand lever and guard ring.

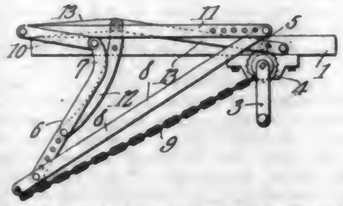
973,054. WHEEL. GEORGE HENRY LANGTON, Los Angeles, Cal. Filed Aug. 10, 1908. Serial No. 447,880.

In a wheel, a hollow hub provided with radially extending hollow cylinders, a piston in each cylinder, a rim around said pistons provided with an inwardly extending projection for registering with each cylinder, the inner face of said projection being provided with two circumferentially arranged recesses, one extending outwardly from the bottom of the other and of less width than the inner recess, and toggles pivotally secured in the outer end of



the spoke and the projection respectively, the outer end of the spoke being adapted to be normally seated against the bottom of the inner recess.

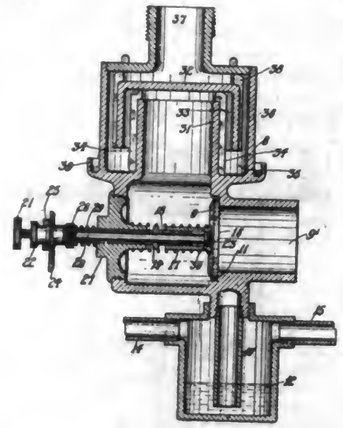
973,055. WAGON-BODY-DUMPING MECHANISM. EARL P. LE GOAR, Philadelphia, Pa. Filed Mar. 14, 1910. Serial No. 549,092.



1. A wagon body dumping mechanism comprising a beam, a winding device located thereon, a link pivoted at its end to the beam, a lever fulcrumed at a point between its ends to the lower end of said link, a flexible member connected with said lever at a point below its pivotal connection with said link and adapted to wind upon said winding device, a link pivotally connected with the beam at the same point as the pivotal point of the first said link, a link pivotally connected at its rear end with the second mentioned link and pivotally connected at its forward end with the upper end of said lever, toggle links pivotally connected together one of said links pivoted at its forward end to the said beam and the other said link pivoted at its rear end with the second and third mentioned links at their points of pivotal connection and a link pivotally connected with the first mentioned link and pivotally connected with the toggle links at their points of pivotal connection.

2. A wagon body dumping mechanism comprising a link curved at its upper portion and pivoted at its upper extremity to a beam, a lever fulcrumed at a point in the vicinity of its lower end to the lower end of the said link, means for swinging said lever attached to the lower end thereof, a second link pivotally connected with the beam at the same point as the first said link, a third link pivotally connected at its rear end with the second link and pivotally connected at its forward end to the upper end of said lever, toggle links pivotally connected together, the forward end of the forward toggle link being pivoted to the beam, the rear end of the rear link being pivotally connected with the second and third mentioned links at their point of pivotal connection, and a link pivotally connected with the first mentioned link and the toggle links at their points of pivotal connection.

973,056. CARBURETER-VALVE. NICHOLAS P. MADER, Sun Prairie, Wis. Filed Mar. 11, 1909. Serial No. 482,652.



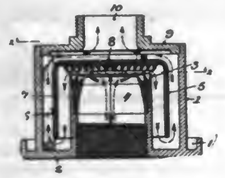
1. A carbureter valve comprising a casing having a discharge and an air-intake opening, a valve-seat in connection with the air-intake opening, the seat being provided with an oil passage, a valve having a stem projecting therefrom, a hollow supporting member carried by the casing with which the valve-stem has slidable engagement, a spring under permanent predetermined tension interposed between the valve and casing, a slidably adjustable stop fitted within the supporting member, the stop being engageable with the valve, a holding member carried by the valve casing, locking means in connection with the slidable adjustable stop exterior of said valve casing, and a spring in connection with the aforesaid stop in opposition to the holding member.

2. A carbureter valve comprising a casing having a discharge and an air-intake opening, a valve-seat in connection with the air-intake opening, the seat being provided with an oil passage, a guide tube slidably mounted in the casing and extending therethrough, the tube being concentric with the valve seat, a tubular stem slidably mounted upon the guide tube, an inwardly opening valve in connection with the stem for engagement with the valve-seat, a spring interposed between said casing and valve, whereby the same is held to its seat, a rod fitted within the guide tube engageable with the valve, means for adjusting the rod within said guide tube relative to said valve, a holding member carried by the casing, and means carried by the slidable guide tube exterior of the casing for engagement with the holding member.

3. A carbureter valve stem comprising a casing having a discharge and an air-intake opening, a valve-seat in connection with the air intake opening, the seat being provided with an oil passage, a guide tube slidably mounted in the casing and extending therethrough, the tube being concentric with the valve-seat, a tubular stem slidably mounted upon the guide tube, a head extending from said guide tube intermediate of the casing and tubular stem, an inwardly opening valve in connection with the opposite end of the stem for engagement with the valve-seat, a spring interposed between said casing and valve, the spring being under a predetermined permanent tension whereby said valve is held to its seat, a rod fitted within the guide tube and in screw-threaded connection therewith, one end of which rod constitutes a permanent stop for the valve, an adjustable holding member carried by the casing, means carried by said guide tube exterior of the casing for locking engagement with the holding member, and a coiled spring interposed between the casing and guide tube in opposition to the holding member.

4. A carbureter valve comprising a casing having a discharge and an air-intake opening, a valve-seat in connection with the air-intake opening, the seat being provided with an oil passage, a cap in screw-threaded engagement with the valve casing, a guide tube slidably mounted within the cap, a valve for the seat, a hollow stem extending from the valve in slidable engagement with the guide tube, a head extending from said guide tube intermediate of the stem and casing, a rod fitted in the hollow tube having a head adapted to engage said valve and thereby limit the opening movement of the same, a threaded end projecting beyond the outer end of the aforesaid tube and in engagement with an internal thread of the same, an arm secured to the outer end of the guide tube, a threaded stud extending from the cap, a holder member in threaded connection with the stud for temporary locking engagement with the arm, and a coiled spring surrounding said tube member interposed between said cap and arm.

973,057. MIXER. NICHOLAS P. MADER, Sun Prairie, Wis. Filed Feb. 7, 1910. Serial No. 542,559.



1. A carbureter mixing chamber having a bottom head, an intake-nozzle extending into the chamber from the head, a cap having a discharge aperture connected to the chamber top, and a dome disposed over and above the mouth of said nozzle, the dome being provided with a primarily flat surface opposite the nozzle mouth, the side-walls of the dome being terminated above the chamber bottom and parallel with the side-walls of said chamber and nozzle, whereby a series of communicating channels are formed between said nozzle mouth and cap aperture, through which the carbureted air is directed in a zigzag course.

2. A carbureter mixing chamber having a bottom head, an intake-nozzle extending into the chamber from the head, a cap having a discharge aperture in connection with the chamber-top, a dome disposed over and above the mouth of said nozzle, and a series of corrugations extending from the dome-head opposite the mouth of said nozzle, the side-walls of the dome being parallel with the side-walls of said chamber and nozzle with the lower edges thereof terminating above the chamber bottom, whereby a series of communicating apertures are formed between said nozzle mouth and cap aperture, through which the oil and air mixture is directed in a zigzag course.

3. A carbureter chamber having a bottom head, an intake-nozzle having its mouth extending into the chamber from the head, a series of corrugations disposed about the mouth of said nozzle, a cap provided with a discharge aperture in connection with the chamber top, a dome comprising a flattened head portion and depending side-walls supported within the chamber, the dome-head being provided with a series of corrugations opposite the corrugated mouth of the aforesaid nozzle, and the side-walls of the dome being disposed parallel with the nozzle and chamber walls with their bottom edges terminating above the bottom of the chamber, whereby a series of communicating channels are formed, through which the oil and air mixture is adapted to pass in a zigzag course through said chamber.

4. A carbureter mixing chamber having a bottom head, an intake-nozzle in connection with the head having its mouth extended into the chamber, a cap for the chamber provided with a discharge aperture, a dome disposed within the chamber having its head portion located above the nozzle mouth, the head and side-walls of the dome being respectively spaced from the mouth and side-walls of said nozzle and chamber walls to form a series of air channels of successively decreasing cross-sectional area.

5. A carbureter mixing chamber having a bottom head, an intake-nozzle having its mouth extending into the chamber from the head, a cap for the chamber provided with a discharge aperture, a dome comprising a flat head portion and depending side-walls supported in the chamber, oppositely disposed corrugations extending from the dome-head and nozzle-mouth, between which a channel is formed of slightly less area than said nozzle, the side-walls of the dome being respectively spaced from the side-walls of the nozzle and chamber to form a series of air channels of successively decreasing cross-sectional area.

973,058. ATTACHMENT FOR TYPE-WRITERS. FRANK MANNING, Philadelphia, Pa. Filed Dec. 11, 1909. Serial No. 532,712.



1. In a device of the character stated, a container adapted to receive paper, a second container adapted to receive paper, each container having a slot whereby the paper can pass from said containers and said slots facing each other, and a rotatable support for a roll of carbon suitably situated whereby the carbon can be passed and seated between the extending portions of the paper from the containers.

2. In a device of the character stated, a container having a slot therein and adapted to receive a roll of paper, an end of which is adapted to pass through said slot, a second container having a slot therein adapted to receive a roll of paper, an end of which is adapted to pass through said slot the slots in said containers facing each other, a rotatable support for a roll of carbon whereby the carbon can be passed and seated between the extending portions of said paper, and said support being adapted to be rotated to remove the carbon from between said extending portions of paper.

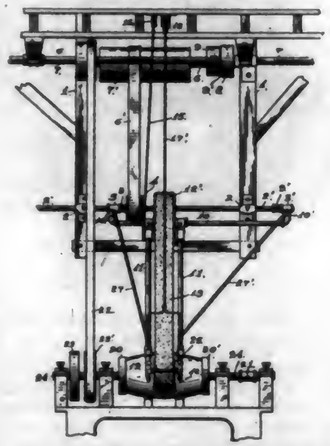
3. In a device of the character stated, a container having a slot therein and adapted to receive a roll of paper, an end of which is adapted to be passed through said slot, adjustable means for holding the paper in said container, a second container having a slot therein adapted to receive a roll of paper, an end of which is adapted to extend from said container through said slot, adjustable means for holding said second roll in proper position within said second container, and a rotatable support for a roll of carbon, a portion of which is adapted to be situated between the extending portions of said paper, and said support being adapted to be rotated to remove the carbon from between the papers.

4. In a device of the character stated, a container having a slot therein and adapted to receive a roll of paper, an end of which is adapted to be passed through said slot, adjustable means for maintaining said roll in position in said container, a second container having a slot therein and adapted to receive a roll of paper, an end of which is adapted to be passed through said slot, an adjustable holder for maintaining the roll in position in said second container, a rotatably mounted support for a roll of carbon whereby the carbon may be extended to a position beneath the extending portions of the paper and can move therewith.

5. In a device of the character stated, a container adapted to receive a roll of paper with an end thereof extending therefrom, a second container adapted to receive a roll of paper with an end extending therefrom, adjustable means for holding said rolls in position in the containers, a rotatably mounted support for a roll of carbon whereby a suitable portion of said carbon can be seated between the extending portions of said paper, and means for connecting said containers and support with the carriage of a typewriter, whereby the same are movable therewith.

[Claims 6 to 15 not printed in the Gazette.]

973,059. BARREL-SANDING APPARATUS. HENRY F. MARTEN and HENRY GRAHN, San Francisco, Cal. Filed Mar. 11, 1910. Serial No. 548,697.



1. In an apparatus for the described purpose, the combination with a rotating barrel holder, of a swinging supporting frame, a rotary slide shaft from which said frame is suspended, a belt pulley secured to the slide shaft and one within the lower end of the swinging frame, an endless sand belt working over said pulleys, and means for transmitting rotation to the slide shaft for actuating the sanding belt.

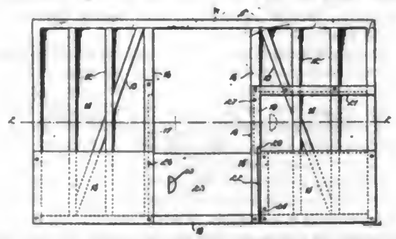
2. In an apparatus for the described purpose, the combination with a rotating barrel holder, of a swinging supporting frame, a rotary slide shaft from which said frame is suspended, a belt pulley secured to the slide shaft and one within the lower end portion of the swinging frame, an endless sand belt working over the said belt pulley, a belt tightener on the swinging frame, a counter-balance weight for the said frame, and means for transmitting rotation to the slide shaft for actuating the sanding belt.

3. In an apparatus for the described purpose, the combination with a rotary barrel holder, a swinging supporting frame arranged above the barrel holder, a shaft from which said swinging frame is suspended, means for holding the said frame in raised position, a belt pulley secured to the shaft of the swinging frame and one within the lower portion of the frame, a sand belt working over said pulleys, a tension roll carried by the swinging frame, a dust collector held adjacent the swinging frame, and means for imparting rotation to the shaft of the said frame for actuating the sand belt.

4. The combination with a rotary slide shaft, a swinging frame suspended therefrom, means for counter-balancing said frame and its sustained parts, an endless traveling sand belt supported by the swinging frame pulleys over which said belt works, and mechanism for imparting rotation to the slide shaft to actuate the sand belt.

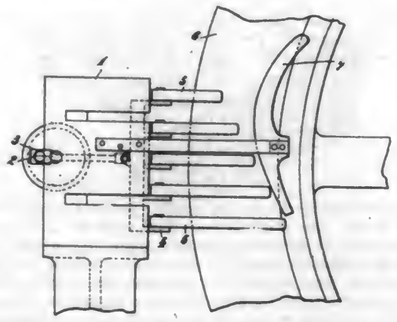
973,060. GRAIN-DOOR FOR CARS. ELISHA E. A. MARTIN, Union City, Tenn., assignor of one-half to H. A. Beck, Union City, Tenn. Filed Apr. 16, 1909. Serial No. 490,329.

A car having a door opening, door posts, a sliding door movable horizontally and vertically across one of the posts, the other post having a guide channel for the reception of the outer end of the door and said door having a lug projecting therethrough near its inner lower corner; a lining, a strip spaced from the door post across which the door moves so that said door operates between said post and said strip, said strip having a vertical recess on its inner edge, opposed to one end of and extending above the lining, the upper end of said recess opening laterally



above said lining and forming a shoulder, the said lug of the door operating in the said recess, coacting with the opposing strip and lining to hold the door in closed position when lowered, and bearing on the upper edge of the lining and supporting the inner end of the door when the latter is in elevated open position, and means to support the outer end of the door when the latter is in such position.

973,061. SMOOTHING APPARATUS FOR THE MANUFACTURE OF PNEUMATIC TIRES. ALPHONSE MATHERN, Berlin, Germany. Filed May 9, 1910. Serial No. 560,856.



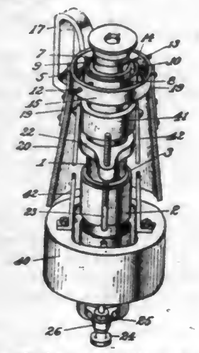
An improved smoothing apparatus for the manufacture of pneumatic tires comprising in combination with the metal core revolubly mounted upon an axle, the frame of the apparatus having longitudinal grooves in its side walls, a crank shaft revolubly mounted in said frame, means for driving said crank shaft, a slide guided in said grooves of the frame and means for communicating a reciprocating motion to said frame from said crank shaft, projections of said slide, fingers of different lengths having inwardly bent ends fixed on the front end of said slide and guide pieces fixed to said frame so that they grip behind said core and hold the sheet to be stuck upon the core and to be smoothed by said fingers away from said core until it is pressed against the same by the advancing fingers, substantially as described and shown and for the purpose set forth.

973,062. OPTICAL INSTRUMENT. BENJAMIN F. MAYO, Salem, Mass. Filed Mar. 9, 1910. Serial No. 548,168.

1. In a device of the class described, sighting means and supporting means therefor arranged to sustain said sighting means normally plumb.

2. In a device of the class described, means for sighting downwardly from the point of observation, and supporting means arranged to sustain said means normally plumb.

3. In a device of the class described, sighting means sustained normally plumb, and means to move said sighting means out of plumb.

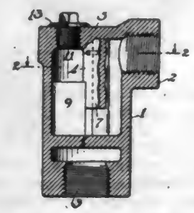


4. In a device of the class described, sighting means sustained normally plumb and means to hold said sighting means out of plumb.

5. In a device of the class described, sighting means sustained normally plumb and means for adjusting said sighting means into a position at a desired angle with the vertical.

[Claims 6 to 28 not printed in the Gazette.]

973,063. RADIATOR-FITTING. THOMAS G. MOUAT, Bratenahl, Ohio. Filed Feb. 14, 1910. Serial No. 543,775.



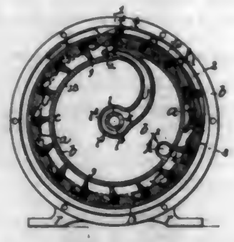
1. A radiator fitting comprising a casing having near its upper end an inlet connection and having an outlet connection below the inlet connection, a transverse partition extending partly across the interior of the casing above the outlet connection, a partition extending downwardly from the upper end of the casing to the transverse partition, a port being formed between the lower end of the latter partition and the former partition, the latter partition forming with the inlet connection a passageway for water of condensation, and a third partition extending upwardly from the first-mentioned partition and forming with the casing and the second partition two vertical passageways or chambers one of which communicates with the said port and the other of which communicates with the outlet, and the second partition having a small vent located above the top of the third partition.

2. A radiator fitting comprising a casing having near its upper end an inlet connection and having near its lower end an outlet connection, a transverse partition extending partly across the interior of the casing above the outlet connection, a substantially V-shaped partition extending downwardly from the upper end of the casing, one branch of the latter partition extending downwardly to the former partition and a port being formed between the lower end of the other branch of the V-shaped partition and the former partition, said V-shaped partition forming with the inlet connection a passageway for water of condensation, and a third partition extending upwardly from

the first-mentioned partition, one branch of the second partition and the last partition forming a vertical passageway or chamber communicating with the outlet and the other branch and the last partition forming a vertical chamber or passageway communicating with the chamber or passageway on the inlet side of the V-shaped partition, the V-shaped partion having a small vent opening above the third partition.

3. A radiator fitting comprising a casing having near its upper end an inlet connection and having near its bottom an outlet connection, a segmental partition extending transversely of the casing above the outlet connection, a vertical partition extending upwardly from the one edge of the segmental partition and a substantially V-shaped partition extending downwardly from the upper end of the casing with its concavity presented toward the inlet opening, one branch of the latter partition extending downwardly to the other edge of the segmental partition and below the top of the second partition, a port being formed between the other branch of said V-shaped partition and the transverse partition and the V-shaped partition having a small vent above the top of the second partition.

973,064. ROTARY ENGINE. CHRISTIAN F. PAUL, Jr., Peekskill, N. Y., assignor of one-tenth to Kenneth Mott, Peekskill, N. Y. Filed Dec. 21, 1908. Serial No. 468,667.

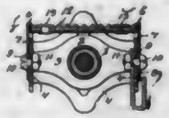


1. The combination in a rotative engine of two principal members, one comprising an outer casing inclosing a steam head forming annular chambers around the periphery of the head and on each side of the head, a hub for a hollow shaft and a steam chamber central of the steam head, a pair of reversing clutches in a part of one of the said side chambers, a hollow shaft secured in the said clutches, the first clutch adapted to engage with the said member, the said steam head having a diametrally enlarged surface, a steam port in said enlargement, and a cam groove in the side of the casing that contains the said reversing clutches; and a second member comprising a revolving element, a main shaft hollow at each end secured to said element, the member filling the space within the first member except the space traversed by the steam blades, steam blades trunnioned in the said member, pockets in the member within which the steam blades are foldable, levers on the steam blade trunnions, friction rollers on said levers to traverse the cam groove in the first member, the member having engagement with the second of the reversing clutches, a channel in the inner side of the member to coincide with the exhaust ports in the steam head, a central chamber connected with said channel, a port from said chamber into and out through the exhaust end of the shaft, the exhaust end of the shaft entering the large hollow shaft that carries the reversing clutches, the two members described united and operating together in the manner set forth.

2. The combination in a rotative engine of two principal members one comprising a stationary outer casing and an internal steam head operating as integral parts and mounted upon a main shaft, and an internal revolving member that embraces the said steam head, the steam head provided with a steam breast, a steam port in said steam breast, the steam breast extended rearward and being a part of the periphery of the head, the said internal revolving part provided with a multiplicity of steam blades, pockets for the steam blades in the internal periphery of the said internal revolving part, the steam blades foldable within said pockets, the steam blades suspended upon trunnions, levers upon one end of the trunnions, friction rollers on the ends of the levers, and a cam groove in the fixed member in which the said rollers move and actuate the steam blades, the steam blades after passing the steam breast retaining steam under pressure between them during the greater part of the revolution of the member before exhausting the steam through the eduction port.

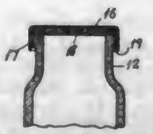
3. The combination in a rotative engine of a duplication of internal steam heads and outer casings forming annular chambers, and a duplication of internal revolving members to occupy the said chambers within the first described members, as described, the internal members constituting steam heads, offsetting steam breasts on said heads, steam ports in said steam heads, a shaft fast in one end of the first members, and a shaft fast in the corresponding end of the second members, extensions of each shaft out of said members for support in bearings, the shaftless end of the first members turning on the shaft of the second members, the shaft in the second members perforated for a steam inlet to steam passages within the first steam head, exhaust passages through the first blade carrier of the second members back to the shaft, through the shaft, and to the steam port in the succeeding steam head, and like passages through the succeeding blade carrier of the second members to and out through the shaft secured in the first members, the said second members provided with steam blades, pockets in said members to receive the steam blades as they pass over the steam breast, levers on the trunnions of the steam blades, rollers on said levers, and cam grooves in the first members within which said rollers travel and actuate the steam blades.

973,065. GRIP ATTACHMENT FOR PEDALS. EWALD F. PAWSAT and HERMANN PAWSAT, Sheboygan, Wis. Filed Sept. 17, 1909. Serial No. 518,149.



In a bicycle pedal having a scroll design apertured stirrup strap; the combination of a gripping attachment comprising a continuous backing plate having its body portion supported upon the stirrup strap edges, a pliable corrugated sheet secured to the upper face of the backing plate, closed flanged terminals projecting above the plane of the corrugated face of the sheet and approximately alined with the stirrup strap edges that form supports for said backing plate, the flanges being formed by folding the aforesaid backing plate upon itself, apertured ear extensions depending from the terminal edges of the flanges, and securing bolts arranged to pass through the ear apertures and one of the scroll apertures of said stirrup strap, the projecting flanges of the backing plate being adapted to resist undue strain upon the corrugated sheet.

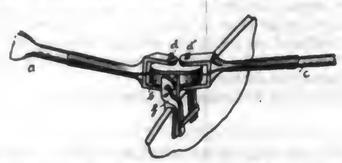
973,066. BOTTLE FOR ADHESIVE LIQUIDS. NATHAN C. PHILLIPS, Gloucester, Mass., assignor to Russia Cement Company, Gloucester, Mass., a Corporation of Massachusetts. Filed May 26, 1909. Serial No. 498,507. Renewed Aug. 31, 1910. Serial No. 579,913.



A bottle having segmental flanges on the outer surface of its neck, said flanges being separated by lug-receiving

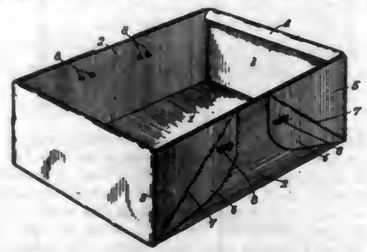
spaces, and provided with inclined faces at both ends of their lower edges, and a closing cap having a flange formed to surround the neck, and provided with inwardly projecting lugs adapted to pass through the spaces between the neck flanges and engage the said inclined faces, the lugs projecting inwardly from the flange to a distance to bear on the bottle neck and hold all portions of the inner wall of the flange out of contact with the outer surfaces of the neck flanges.

973,067. OAR. JOHANNES PERRITZ, Sievertshagen, Germany. Filed Aug. 2, 1909. Serial No. 510,934.



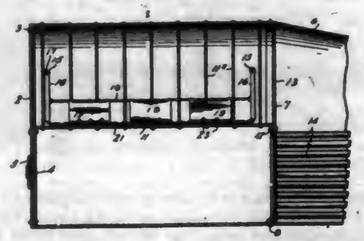
An improved bowfacing oar, comprising in combination, a handle part, a blade part and a box pivotably mounted upon the gunwale of the boat, square bolts projecting through the topplate of said box, two toothed wheels meshing the one with the other and located in said box, the vertical axles of said toothed wheels carrying said square bolts, a forkshaped outer end of the handle part mounted upon the inner square bolt and a forkshaped inner end of the blade part mounted upon the outer square bolt, substantially as described and shown, and for the purpose set forth.

973,068. FOLDING BOX. JOSEPH W. PUTNAM, Grand Rapids, Mich. Filed Mar. 1, 1910. Serial No. 546,592.



A folding box, comprising a bottom portion, sides and ends integral therewith and adapted to fold inward upon the same, upper extensions on the ends folded inward and engaging the sides to hold the same vertical, triangular extensions on the ends folded around the ends of the sides when the box is open, and a portion on the hypotenuse of each extension secured to the side portion.

973,069. DEVICE FOR CLEANING BOILER CROWN-SHEETS. WILLIAM D. RANDALL, Monett, Mo. Filed July 11, 1910. Serial No. 571,333.



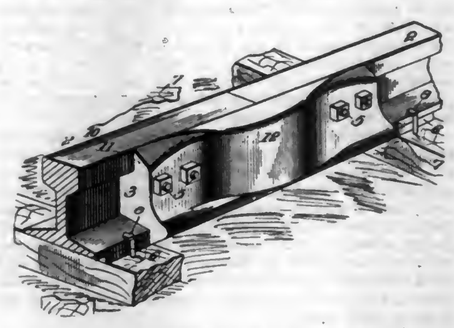
1. In apparatus for removing deposits from a crown sheet of a steam boiler, supports attachable to the boiler shell, members pivotally connected with said supports to swing above said crown sheet, and a flexible member connecting said members and engaging said crown sheet.

2. In apparatus for removing deposits from a crown sheet of a steam boiler, supports attachable to the boiler shell, members pivotally connected with said supports to swing longitudinally of said crown sheet, a flexible member connecting said first named members and engaging said crown sheet, and transversely swinging plates having connection with said flexible member.

3. In apparatus for removing deposits from a crown sheet of a steam boiler, supports attachable to the boiler shell, weights pivotally connected with said supports to swing above said crown sheet, a flexible member connecting said weights and engaging the crown sheet, a second flexible member connecting said weights, and transversely movable plates connected with the first and second named flexible members.

4. In apparatus for removing deposits from a crown sheet, of a steam boiler, supports attachable to the boiler shell, weights pivotally connected with said supports to swing above the crown sheet, a chain connecting said weights, and engaging the crown sheet, a flexible member connecting said weights, and plates pivotally connected with the flexible member and chain, to effect a transverse movement of the latter.

973,070. RAIL-JOINT. NELSON E. RASSICO, Ransom, Kans. Filed Feb. 19, 1910. Serial No. 544,862.

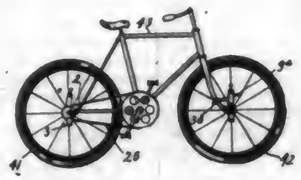


A rail chair comprising an elongated base adapted to support the meeting ends of the rails, opposed splice bars upstanding from opposite sides of the base and conforming to the contour of the rails and fitting under the heads thereof, the splice bars terminating short of the extremities of the base to provide projecting end portions adapted to rest upon adjacent cross ties, the base being increased gradually in thickness at its lower face from said end portions toward the middle and being of greatest thickness beneath the joint, a flange upstanding from one of the splice bars and lying against the sides of the heads of the rails with its upper edge flush therewith to afford a continuous tread, and a vertically disposed brace arranged at the outer face of and formed integrally with the said splice bar and flange and flush with the upper edge of the latter, the brace being in transverse alinement with the joint.

973,071. SHOCK-ABSORBING ATTACHMENT FOR BICYCLES. CHARLES A. REDMOND, Los Angeles, Cal. Filed May 3, 1909. Serial No. 493,744.

1. The combination with the frame and a wheel of the vehicle; of, an approximately vertical spring holder, means for attaching said holder to the frame, said holder having an upper and a lower section separated from each other by an opening, a bearing rod having a head at its upper end in said upper section, a closure for the upper end of said upper section, an adjusting screw extending through said closure, a head at the lower end of said

screw, and a spring interposed between said heads, the lower end of said bearing rod being guided by said lower section.



2. In a device of the character described, an upright tubular spring-holder, a compression spring in said holder, a closure for the upper end of said spring-holder, an adjusting screw extending through said closure and projecting thereabove, a head at the lower end of said screw engaging said spring to regulate the compression thereon, means securing said spring holder to a vehicle, an axle, a wheel mounted thereon, and means connected to said axle and engaging the lower end of said spring to absorb shocks.

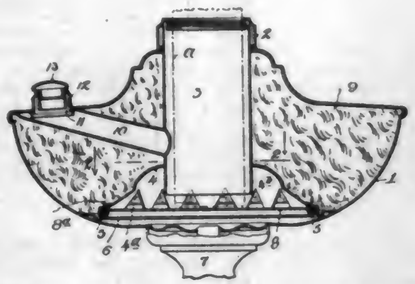
3. In combination, a vehicle frame, a spring holder having a vertical tubular portion consisting of two sections separated by an operating opening, a bearing member non-rotatably engaging one of said sections, said member being non-rotatably movable in said sections, and a shock absorbing spring in the upper section above said bearing member.

4. In combination, a vehicle frame, a spring holder having a vertical tubular portion consisting of two sections separated by an operating opening, a bearing member non-rotatably engaging one of said sections, said member being non-rotatably movable in said sections, a shock absorbing spring in the upper section above said bearing member, and vertically adjustable means against which the upper end of said spring abuts.

5. In combination, with the rear wheel, bearing forks driving sprocket and driving chain of the vehicle, of a shock absorber attached to each of said forks, means to maintain said shock absorbers in fixed relation to each other, and a bearing rod carried by and yieldingly supported in each of said shock absorbers, each of said shock absorbers being curved rearwardly to avoid interference with the operation of the driving chain, the curves of said shock absorbers both being formed as arcs of the same circle and the driving sprocket wheel being located at the center of said circle.

[Claim 6 not printed in the Gazette.]

973,072. LAMP. GEORGE J. SALCH, New York, N. Y. Filed May 12, 1910. Serial No. 560,798.



1. A lamp comprising a font, an imperforate tube projecting therein, an internally threaded ring concentric with said tube to receive a burner, means connected with said tube to prevent oil passing into the tube when the lamp is inverted and a fibrous wick feeder maintained opposite the lower open end of said tube to supply oil to the wick.

2. A lamp comprising a font, an imperforate tube projecting therein, and a cup provided with an imperforate part secured to the tube, the lower end of the tube being below the imperforate part of the cup.

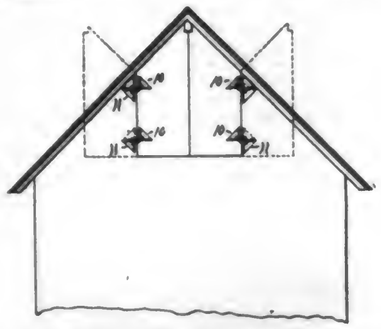
3. A lamp comprising a font, an imperforate tube projecting therein, and a cup provided with an imperforate part secured to the tube, the lower end of the tube being below the imperforate part of the cup, said cup having openings the upper edges of which are above the lower edge of the tube, and fibrous material within the font above said cup and surrounding said tube.

4. A lamp comprising a font, an imperforate tube projecting therein, and a fibrous wick feeder maintained below and at a distance from the open end of said tube providing a wick-space therebetween.

5. A lamp comprising a font, an imperforate tube projecting therein, a cup secured to the tube, and a fibrous wick feeder extended across opposite and at a distance from the open end of the tube.

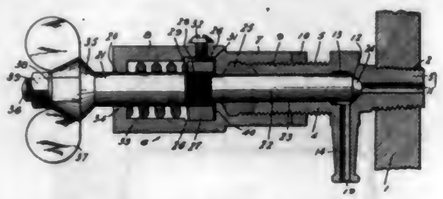
[Claims 6 to 12 not printed in the Gazette.]

973,073. HINGE FOR GABLE-DOORS. EARNEST A. SCHAAL, Ankeny, Iowa, assignor of one-half to Hollа W. Miller, Alleman, Iowa. Filed May 4, 1910. Serial No. 559,845.



In a hinge for gable doors, hinge members composed of triangular plates, said plates adapted to be attached to a wall and door respectively and wholly out of horizontal alinement with each other, outwardly extending marginal flanges on said plates, integral ribs on the outer margins of said flanges, outwardly extending necks on said plates braced by said flanges and ribs, said necks being offset toward each other whereby said plates are spaced from each other and from the hinged edge of the door, outer ends of said necks overlapping and formed with registering apertures, and a pintle in said registering apertures whereby the pivotal point between said members is spaced from the plane of the wall.

973,074. GAGE-COCK. JAMIESON V. SCAIFE, McComb, Miss. Filed May 6, 1910. Serial No. 559,710.

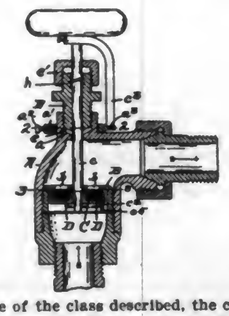


1. In a gage cock, a body portion provided with an opening, an outer casing removably mounted upon said body portion, a valve rod extending through said outer casing for closing the opening of said body portion, an adjusting nut arranged within said outer casing in such a manner that the same is capable of moving longitudinally, means for preventing the rotation of said adjusting nut, said valve rod being provided with a screw threaded portion to coöperate with said adjusting nut, and means for urging said adjusting nut in one direction.

2. In a gage cock, a body portion provided with an axial opening, an outer casing having screw threaded engagement upon said body portion, a valve rod extending through said outer casing and said axial opening, said body portion being further provided with a plurality of ports, said valve rod being adapted to control the communication between said ports, an adjusting nut longitudinally movably mounted within said outer casing, and engaging a screw threaded portion of said valve rod, said adjusting nut being provided with a groove, a screw mounted upon said outer casing and having its free end disposed within said groove, a coil spring disposed within said outer casing and surrounding said valve rod to urge said adjusting nut in one direction, and means whereby said valve rod may be rotated.

3. In a gage cock, a body portion provided with an axial opening, an outer casing having screw threaded engagement with said body portion, a valve rod extending through said outer casing and axial opening, said body portion being further provided with a plurality of ports, said valve rod being adapted to control the communication between said ports, an adjusting nut longitudinally movably mounted within said outer casing and having engagement with a screw threaded portion of said valve rod, said adjusting nut being provided with a groove, a screw mounted through said outer casing and having its free end disposed within said groove, a coil spring disposed within said outer casing and surrounding said valve rod to urge said adjusting nut in one direction, packing arranged within said outer casing to surround a portion of said valve rod, and a clamping nut arranged upon said body portion and adapted to engage said outer casing.

973,075. VALVE. OLIVER SCHLEMMER, Cincinnati, Ohio. Filed Jan. 23, 1908. Serial No. 412,261.



1. In a device of the class described, the combination of a flat valve seat provided with a port, a rotatable disk valve having a port adapted to register with the port in the valve seat, a rotatable valve stem carrying the valve and having a connection with the valve which permits of limited rotary play between the stem and valve, and means for moving the valve toward and away from its seat upon rotation of the valve stem, substantially as specified.

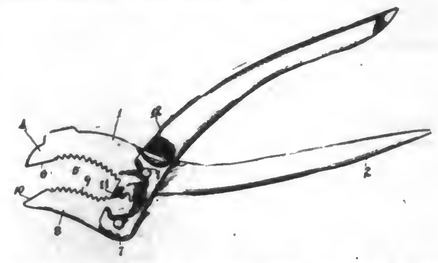
2. In a device of the class described, the combination of a flat valve seat provided with a port, a rotatable disk valve having a port adapted to register with the port in the valve seat, a rotatable valve stem carrying the valve and having a connection with the valve which permits of limited rotary play between the stem and valve, and an adjustable plug having a threaded connection with the valve stem, substantially as specified.

3. In a device of the character described, the combination of a valve casing, having an enlarged portion between its inlet and outlet, a flat valve seat provided with ports, said flat valve located in said enlarged part of casing, a valve disk having a port adapted to register with the ports in the valve seat, and held against the seat by the pressure of the confined fluid, an adjustable threaded support ground at its lower end to fit a seat in the valve casing, and a valve stem mounted in the threaded support and carrying the valve, as set forth.

4. In a device of the class described, the combination of casing A, valve seat B threaded therein, valve disk C carried by valve stem *c* and having limited rotary play therein, and the adjustable threaded plug E having a threaded connection with valve stem *c*, substantially as specified.

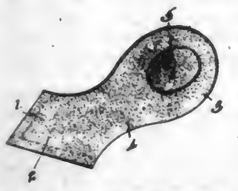
5. In a device of the class described, the combination of a valve seat provided with a port, a valve disk having a port adapted to register with the port in the valve seat, packing blocks having beveled edges, said beveled edges adapted to scrape the valve seat, and means for turning the valve disk, substantially as specified.

973,076. PLIERS. ALBERT P. SCHULTZ, Kenosha, Wis. Filed June 15, 1910. Serial No. 567,017.



A pliers comprising a pair of pivoted arms, one of said arms having a curved jaw portion provided with teeth and the extremity of the jaw being flattened and serrated, the offset arm having an extension, a pivoted jaw connected with the extension, said jaw having its inner face provided with teeth and its outer extremity provided with a flattened serrated portion, the teeth adjacent the connection of the second jaw with the arm adapted to engage with the teeth provided by the jaw of the first arm, and a spring member carried by one of the arms and adapted to engage with the opposite arm to normally spread the jaws away from each other.

973,077. BOOT AND SHOE. HENRY H. SCHWARTZ, Boston, Mass. Filed Sept. 11, 1909. Serial No. 517,329.

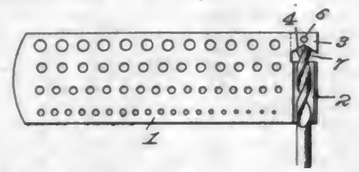


In a boot or shoe, the combination with the sole and the heel, of a rubber shank disposed between the sole and the heel and forming a freely flexible support for the hollow of the foot, said shank being mortised to the top of the sole and extending a substantial distance in front of the rear edge of said sole, and the rear of the shank being supported above the heel of the shoe and provided with a rubber cushioning member molded integrally with said shank, said cushioning member being located directly above the central portion of the heel, substantially as described.

973,078. DRILL GAGE-PLATE. EUGENE SEAVEY, New York, N. Y. Filed Oct. 23, 1909. Serial No. 524,176.

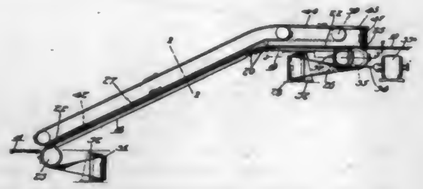
1. A drill gage plate having at one end an extension divided transversely into two portions so as to provide an

angular sight notch; one portion being struck out into the form of a right angle transverse trough for receiving and holding the drill to be gaged and the other portion forming an abutment having an angle adapted to receive the tip of the drill.



2. A drill gage plate having at one end an extension divided transversely into two portions so as to provide an angular sight notch; one portion being struck out into the form of a right angle transverse trough for receiving and holding the drill to be gaged and the other portion forming an abutment having an angle adapted to receive the tip of the drill and a thickening block secured to the underside of the abutment.

973,079. CONVEYER. CHARLES D. SEEBERGER, Yonkers, N. Y. Filed Jan. 11, 1905, Serial No. 240,558. Renewed Mar. 17, 1910. Serial No. 550,036.



1. A conveyer comprising an endless belt providing runs in which the entrance of each run is adjacent the exit of another run, and idlers to present the same surface of the belt on all runs.

2. An endless belt providing parallel ascending and descending runs, and means to change the direction of movement of the belt while presenting the same surface thereof uppermost on the runs.

3. A conveyer comprising an endless belt having a corrugated surface and providing ascending and descending runs whose entrance and exit portions are respectively adjacent, and idlers over which the belt passes at the ends of the runs to present the corrugated surface uppermost on both runs.

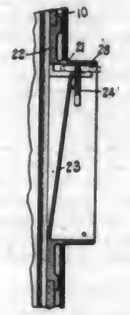
4. A conveyer comprising an endless belt having its tread surface corrugated and providing parallel ascending and descending runs in which the entrance of each run is adjacent the exit of the other, and idlers engaged by the opposite surface of the belt and presenting the corrugated surface uppermost on both runs.

5. In a device of the class described, parallel supports arranged substantially side by side between different levels, a pulley at each end of each support, vertical idlers located adjacent the ends of each support, and an endless belt passing over the pulleys and around the idlers to provide ascending and descending runs.

[Claims 6 to 49 not printed in the Gazette.]

973,080. MAIL-CHUTE. ARTHUR K. SMITH, St. Louis, Mo., assignor to Robert B. Galt and Alfred O. Woerner, trustees, St. Louis, Mo. Filed Jan. 2, 1909. Serial No. 470,391.

1. In a mail chute, walls on said chute forming a chamber located entirely outside said chute, a closure for the mail-receiving aperture, said closure being arranged in the chamber, and means whereby access may be had to said chamber, said means holding said closure in its open or closed position.



2. The combination with a mail chute of a shelf on said chute in which shelf is formed a mail-receiving aperture, a fixed wall beneath the shelf for directing the mail matter deposited through the aperture into the chute and a plate pivotally suspended beneath the shelf and adapted to slide bodily into position to close the mail-receiving aperture.

3. The combination with a mail chute, of a plate on said chute, which plate is provided with a mail-receiving aperture, a closure arranged to slide and swing beneath said plate for closing the mail-receiving aperture, and means whereby the closure is locked in either one of its positions.

4. The combination with a mail chute of a shelf having a mail-receiving aperture, a pivotally suspended sliding plate forming a closure for the mail-receiving aperture, means whereby said plate occupies a vertical position when the aperture is open and a horizontal position when the aperture is closed, and means detachably applied to the shelf for holding said plate in its open or closed position.

5. The combination with a mail chute provided with a shelf having a mail-receiving aperture, a wall beneath the shelf for directing the mail matter deposited through the aperture into the chute, and a closure normally occupying a position outside the wall and adapted to be moved into position between the top of the wall and the aperture for closing the latter.

[Claims 6 to 9 not printed in the Gazette.]

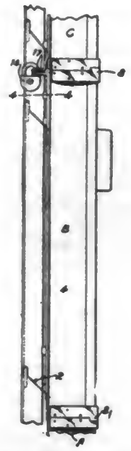
973,081. MAIL-CHUTE. ARTHUR K. SMITH, St. Louis, Mo., assignor to Robert B. Galt and Alfred O. Woerner, trustees, St. Louis, Mo. Original application filed Jan. 2, 1909, Serial No. 470,391. Divided and this application filed July 29, 1909. Serial No. 510,190.

1. In a mail chute, a plurality of chute sections each comprising a back plate, and a front portion hinged thereto, one of which chute sections serves as a key to lock the adjacent sections in their closed position, and sliding means on the back plate of the key section and one of the adjacent sections for locking said sections against movement.

2. In a mail chute, a plurality of hinged sections, one of which serves as a key to lock the others in position, and a sliding bar mounted on the rear side of the fixed portion of each section for engaging a part of the hinged portion to hold and lock the same against movement.

3. In a mail chute, a fixed back plate, a hinged portion, the free edge of which engages against said back plate, studs carried by the hinged portion and projecting through openings formed in the back plate when the hinged portion is closed, and sliding means on the rear side of the back plate for engaging the studs to lock the hinged portion to the back plate.

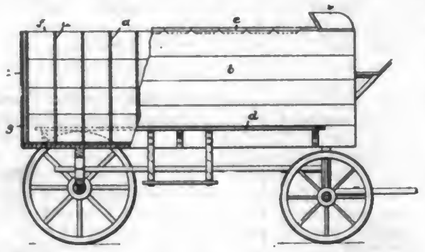
4. In a mail chute, a fixed back plate, a hinged portion, the free edge of which engages against said back plate, studs carried by the hinged portion and projecting through openings formed in the back plate when the hinged portion is closed, and a sliding bar arranged for movement on the rear side of the back plate for engaging the studs when the hinged portion is closed against the back plate and locking said parts to one another.



5. In a mail chute, a chute section comprising a back plate having openings, a hinged portion having headed studs, and a movable locking member provided with keyhole openings, said member being arranged to slide on the back plate so as to coöperate with the headed studs projecting through the openings in the back plate.

[Claims 6 to 8 not printed in the Gazette.]

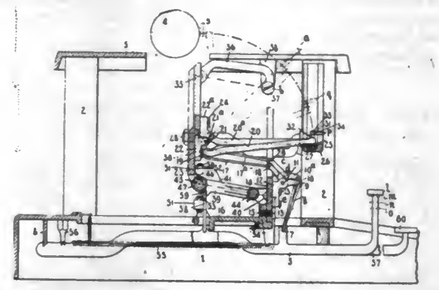
973,082. REFRIGERATOR-WAGON BODY. CURTIS M. SMITH, Washington, D. C., assignor to American Securities Company, a Corporation of West Virginia. Filed Nov. 6, 1909. Serial No. 526,645.



In a wagon body having a series of compartments adapted to receive portable cans containing perishable material and a series of receptacles adapted to contain refrigerating material located around the walls of the wagon and independently removable, substantially as described.

973,083. TYPE-WRITING MACHINE. GEORGE H. SMITH, Nutley, N. J., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed May 22, 1909. Serial No. 497,708.

1. In a front-strike typewriting machine, the combination of a platen, a series of segmentally arranged upwardly and rearwardly striking type bars, a type bar segment on which said type bars are mounted, actuating links connected to said type bars and extending upwardly and rearwardly and having a longitudinal disposition fore and aft of the machine, sub-levers of the first order which extend longitudinally fore and aft of the machine and which are carried by a fixed portion of the machine and are pivotally connected to said links, key levers, links which extend upwardly from said key levers to the sub-levers, and case shifting means for effecting a substantially vertical case shifting movement of the segment.



2. In a front-strike typewriting machine, the combination of a platen, a series of segmentally arranged upwardly and rearwardly striking type bars, a type bar segment on which said type bars are mounted, substantially parallel actuating links connected to said type bars and extending longitudinally fore and aft of the machine, key actuated sub-levers of the first order which extend longitudinally fore and aft of the machine and which are carried by a fixed portion of the machine and are pivotally connected to said substantially parallel links, and case shifting means for effecting a substantially vertical case shifting movement of the segment, said case shifting means comprising parallel shift links which are also parallel with said actuating links and remain parallel therewith during the case shifting movements.

3. In a front-strike typewriting machine, the combination of a platen, a series of segmentally arranged upwardly and rearwardly striking type bars, a type bar segment on which said type bars are mounted, substantially parallel actuating links connected to said type bars and extending longitudinally fore and aft of the machine, key actuated sub-levers which extend longitudinally fore and aft of the machine and which are carried by a fixed portion of the machine and are pivotally connected to said substantially parallel links, and case shifting means for effecting a substantially vertical case shifting movement of the segment, said case shifting means comprising parallel shift links which are also parallel with said actuating links and are mounted to turn on pivots forward of the type bar segment, the rear ends of the actuating links moving with the segment in its case shifting movements and the links turning during such movements on the pivots which connect them with said sub-levers.

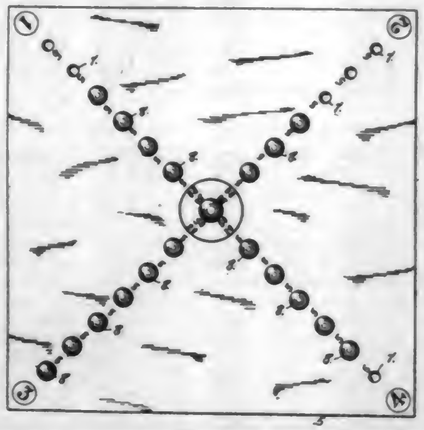
4. In a front-strike typewriting machine, the combination of a platen, a series of segmentally arranged upwardly and rearwardly striking type bars, a type bar segment on which said type bars are mounted, actuating links connected to said type bars and extending longitudinally fore and aft of the machine, key actuated sub-levers which extend longitudinally fore and aft of the machine and which are carried by a fixed portion of the machine and are pivotally attached directly to said links, and case shift links on which said segment is mounted for substantially vertical case shifting movements, said case shift links being of substantially the same length as the said actuating links.

5. In a front-strike typewriting machine, the combination of a platen, a series of segmentally arranged upwardly and rearwardly striking type bars, a type bar segment on which said type bars are mounted, actuating links connected to said type bars and extending upwardly and rearwardly and having a longitudinal disposition

fore and aft of the machine, sub-levers of the first order which extend longitudinally fore and aft of the machine and which are carried by a fixed portion of the machine and are pivotally connected to said links, key levers, links which extend upwardly from said key levers to the sub-levers, and parallel case shift links on which said segment is mounted for substantially vertical case shifting movements, said case shift links being of substantially the same length as the said actuating links, the rear ends of the actuating links moving with the segment in its case shifting movements and the links turning during such movements on the pivots which connect them with said sub-levers.

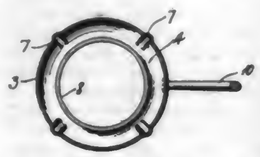
[Claims 6 to 18 not printed in the Gazette.]

973,084. GAME APPARATUS. GEORGE D. SNELL, Denver, Colo. Filed Feb. 24, 1908. Serial No. 417,429.



A game apparatus comprising a board having shallow cup-shaped recesses therein adapted to receive marbles arranged in diagonal rows, each row extending from one corner of the board to the opposite corner, and intersecting at the center of the board, the recess at the center of the board and at the point of intersection of the rows, being larger than the other recesses, said recess at the point of intersection having a concentric circular line around the same, indicating numerals of equal denomination for each of the small recesses, and numerals of greater numerical value for the circle and the larger recess, substantially as described.

973,085. GLASS-HOLDER. EDMUND A. STRAUSE, Los Angeles, Cal., assignor of one-half to Francis D. Ammen, Los Angeles, Cal. Filed May 18, 1910. Serial No. 561,989.

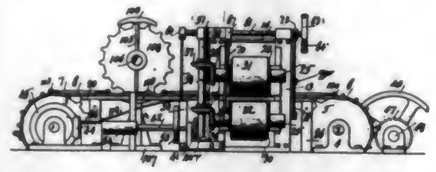


1. A glass holder having a body with a circular bottom opening, said body being adapted to support a glass therein and having an interior lateral annular flange at the base thereof forming the edge of said bottom opening and adapted to catch the drippings from the glass held in said device.

2. A glass holder having a body of sub-conical form with a circular central opening at the lower end thereof, said body having an annular inwardly and upwardly projecting flange forming the edge of said opening and forming a drip groove.

3. A glass holder having a substantially conical body with a lip formed at the upper end thereof adapted to catch drippings descending on the upper surface of the glass, an annular cup formed at the base of said holder adapted to retain drippings, and means for guiding the drippings from said lip into said annular groove.

973,086. SAUSAGE-TWISTING MACHINE. GEORGE J. TROMPETER, Peoria, Ill. Filed Nov. 16, 1906. Serial No. 343,768.



1. In a device of the character described, a support, a carrier mounted on said support, a slacking device for producing slack in material moved by said carrier, and twisting mechanism for subsequently twisting the material.

2. In a device of the character described, a support, an endless carrier mounted on said support, a slacking device for producing slack in material moved by said carrier, and twisting mechanism for subsequently twisting the material.

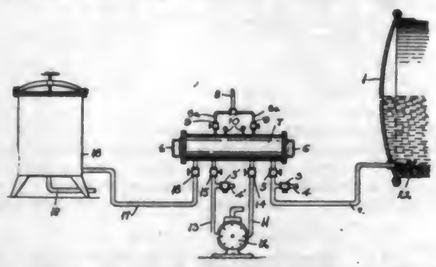
3. In a device of the character described, a support, a carrier mounted on said support, a rotating slacking device for producing slack in material moved by said carrier, and twisting mechanism for subsequently twisting the material.

4. In a device of the character described, a support, an endless carrier mounted on said support, a rotating slacking device for producing slack in material moved by said carrier, and twisting mechanism for subsequently twisting the material.

5. In a device of the character described, a support, a carrier mounted on said support, a slacking device for producing slack in material moved by said carrier, and twisting mechanism carried by a movable support for subsequently twisting the material.

[Claims 6 to 42 not printed in the Gazette.]

973,087. EQUALIZING DEVICE FOR BEER FILTRATION. FERDINAND TUREK, Cleveland, Ohio. Filed Feb. 2, 1910. Serial No. 541,551.



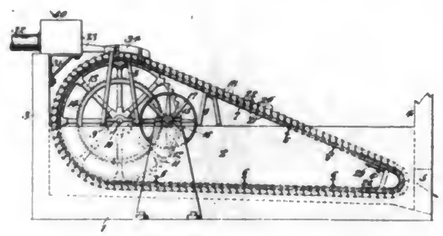
1. In a pressure system for filtering beer or the like, the combination of a chamber under air pressure, to which the beer is supplied, another chamber under air pressure, to which the beer is delivered, a pump having inlet connections from the first mentioned chamber and outlet connections to the last mentioned chamber, a filter, and a supply pipe connecting the latter chamber and the filter.

2. In a pressure system for filtering beer or the like, the combination with a chip cask and filter, of a chamber having an air pressure inlet and a valved connection to the chip cask, a pump with its suction pipe connected to said chamber, an equalizing chamber provided with an inlet for air pressure and an inlet from the delivery pipe of the pump, and a valve pipe connection from the equalizing chamber to the filter.

3. In a pressure system for filtering beer or the like, the combination with a chip cask and filter, of a pump connected therebetween, a chamber between the chip cask and the suction side of the pump, with a valve controlling flow from the chip cask to said chamber, and an equalizing chamber between the delivery side of the pump and the filter.

4. In a pressure system for filtering beer or the like, the combination with a chip cask and filter, of a first chamber having valved pipe connections from the cask and to the suction side of the pump, a second chamber having valved pipe connections from the delivery side of the pump and to the filter, and means to supply compressed air to each of said chambers.

973,088. HYDRAULIC MOTOR. ISAAC C. WALKER, Philadelphia, Pa. Filed Feb. 8, 1909. Serial No. 476,665.



1. In a hydraulic motor, a runway substantially wedge-shaped, a series of chainless connected buckets having means for delivering the excess of water directly from one bucket to the other, said buckets having projecting and reciprocally articulating ears, rods passing transversely through the articulating ears across the entire width of the buckets, supporting pulleys journaled upon the ends of said rods to travel and be guided in said runway, power-transmitting means constructed to be engaged and actuated by the transverse rods, and a conduit for the actuating liquid arranged to discharge the latter at substantially the top or upper end of the inclined side of the runway.

2. In a hydraulic motor, a substantially wedge-shaped runway, a series of chainless buckets, the same having ears directly depending therefrom in alinement, a rod passing through the ears of adjacent buckets from side to side, a power transmitting wheel adapted to be engaged by said rod, and supporting pulleys on said rod freely movable on said runway, said power transmitting wheel occupying the wide end of said runway, and a discharge member on each bucket adapted to overhang the bucket in front thereof.

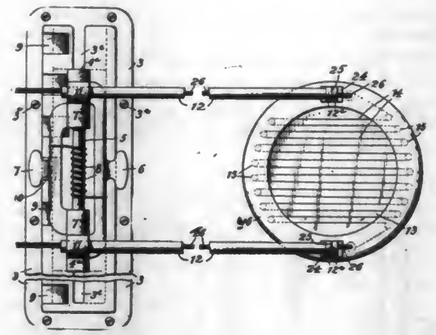
3. In a hydraulic motor, a continuous runway substantially wedge-shaped, a series of chainless connected buckets having means for delivering the excess of water directly from one bucket to the other, said buckets having projecting and reciprocally articulating ears, rods passing transversely through the articulating ears from side to side, supporting pulleys journaled upon the ends of said rods to travel in and be continually guided by the runway, and a power-transmitting wheel journaled at the wide end of the wedge-shaped runway and constructed to be engaged and revolved by the transverse rods.

4. In a hydraulic motor, a runway composed of a continuous frame comparatively wedge-shaped, a series of chainless articulatively-connected buckets, the same having ears depending therefrom, the ears of adjacent buckets being adapted to aline and connecting rods passing through the ears and adapted to articulatively connect the buckets, said runway being provided at opposite ends with means around which the buckets turn, and constructed to support said buckets in their turning motion at the end of the runway, each bucket being provided with a forwardly projecting spout to adapt it to overhang the bucket in front thereof.

5. In a hydraulic motor, buckets adapted to be articulatively-connected, and each provided with a spout projecting forwardly from each bucket adapted to overhang the bucket in front thereof.

[Claims 6 to 15 not printed in the Gazette.]

973,089. ELECTRIC HEATER. HENRY C. WALTER, Wilkinsburg, Pa. Filed Oct. 11, 1909. Serial No. 522,019.



1. In an electric heater for car windows and the like, a body part comprising a sheet of mica and a connected resistance coil, and means for attaching the heater to the window, whereby it will lie against the usual pane thereof.

2. In an electric heater adapted to be applied to a car window of usual construction, a heater with means for supporting the same directly in front of the window pane, the heater comprising a transparent protecting body part and an inclosed electric heating coil.

3. In an electric heater for car windows and the like, a body part formed of mica, an inclosed heating coil, electrical connections for said coil, and means for applying the heater to the front surface of the window pane.

4. In an electric heater for car windows and the like, a body part comprising a sheet of mica and a connected resistance coil, and a support for removably applying the heater to a window frame.

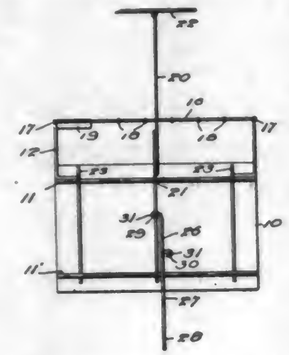
5. In an electric heater, two sheets of mica, a heating coil extending between the sheets, means for securing the sheets together, said means constituting means for retaining the coil in place, and means for supporting the heater in front of a car window or the like.

[Claims 6 to 22 not printed in the Gazette.]

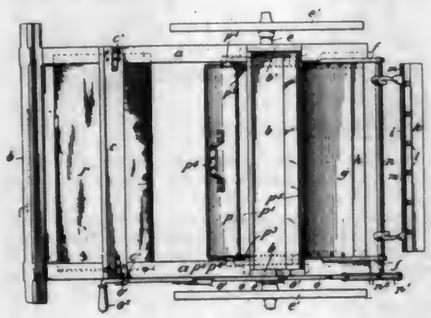
973,090. DRESS-SUIT RACK. SAMUEL B. WEAVER, Sac City, Iowa. Filed July 1, 1910. Serial No. 570,003.

A device of the class described, comprising, a supporting plate, said plate being provided with a plurality of spaced ribs, a shelf arranged upon one of said ribs, said shelf consisting of a substantially U-shaped member, the end portions of which are bent to enter openings formed

in said rib, a rod secured to the end portions of said U-shaped member, a plurality of members extending from said rod, and connected to said member, a receptacle supported by said rod, and said member, said receptacle being provided with flanged edge portions, and a plurality of supporting devices arranged upon said ribs.



973,091. STREET-CLEANING APPARATUS. SAMUEL WHINERY, East Orange, N. J. Filed Mar. 17, 1910. Serial No. 550,047.



1. A street cleaning machine comprising a wheeled frame, a scraper with a curved bottom plate, a dirt receptacle adjacent to the upper edge thereof, a broom mounted to swing about the center of curvature of the bottom plate, and means including an operating handle for oscillating the broom.

2. A street cleaning machine comprising a wheeled frame, cheek pieces mounted at the lower end of the frame, a scraper supported by said cheek pieces, a curved bottom plate supported by said cheek pieces, a dirt receptacle supported by the frame adjacent to the upper edge of the curved bottom plate, a broom supported by said cheek pieces to swing in the arc of a circle, and means including an operating handle for oscillating the broom.

3. A street cleaning machine comprising a wheeled frame, a dirt receptacle supported by the frame, a scraper and a curved bottom plate supported by the frame, a broom mounted to swing about the center of curvature of the curved plate, a rod mounted to reciprocate in guides on the frame and having an operating handle and a link connection whereby the broom may be oscillated by reciprocation of the rod.

4. A street cleaning machine comprising a wheeled frame, cheek pieces mounted at the lower end of the frame, a scraper and a curved guide plate supported by the cheek pieces, a dirt receptacle adjacent to the edge of the curved plate, a shaft mounted in the cheek pieces at the center of curvature of the curved plate, a broom mounted on said shaft, an arm on said shaft, an operating rod mounted to reciprocate in guides on the frame, and a link connection between the rod and the arm on the shaft.

5. A street cleaning machine comprising a wheeled frame, a dirt receptacle supported by the frame, cheek pieces mounted at the lower end of the frame and flanged at their lower edges, a scraper adjustably and removably supported by the flanges of the cheek pieces, a curved bottom plate supported by the cheek pieces, a broom mounted to swing upon the axis of curvature of the curved bottom plate, and means to oscillate the broom.

[Claims 6 to 8 not printed in the Gazette.]

973,092. SHEAVE. MARCELLUS WHITMAN, Vancouver, British Columbia, Canada. Filed Dec. 6, 1909. Serial No. 531,628.



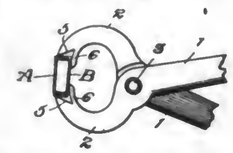
1. A sheave block comprising a pair of sheet metal side plates, a cylindrical hollow pin having portions of reduced diameter at its ends to enter apertures in said side plates, a grooved sheave bored to receive such pin and turn thereon, sheet metal strap plates secured to each side plate over the pin apertures thereof, the upper ends of said strap plates being bent to form eye members and projected downwardly toward said sheave, said downwardly projected portions being cut away to conform to the curvature of the periphery of said sheave and said side plates having outwardly flared portions and a yoke, pin connected with said eye members, substantially as shown and for the purposes described.

2. A wire rope sheave block comprising a pair of side plates having apertures, a cylindrical pin held between said side plates and having end portions of reduced diameter to enter the apertures of said side plates, said cylindrical pin having a bore through the same, sheet metal strap plates secured to said side plates and of a width to close the apertures of said side plates, one of said strap plates having an aperture alining with the bore of said pin, a block threaded into said pin through the aperture of said side plate, said pin having a capillary aperture extending from said bore upwardly to the peripheral surface of said pin, a sheave mounted to turn on said pin, roller bearings interposed between said sheave and said pin, said sheave having a chamber of a depth substantially equal to the diameter of said roller bearings, substantially as shown and for the purposes described.

973,093. METAL-MOLDING CRIMPER. THOMAS J. WILLIAMS, Washington, D. C. Filed Apr. 7, 1910. Serial No. 553,946.

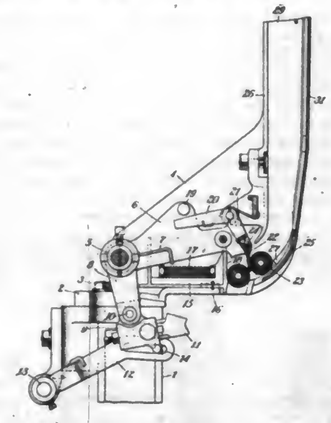
A tool of the plier type having at the free ends of its jaws supporting-flanges substantially in the plane of

movement thereof and being adapted to support the adjacent sides of a hollow molding-section, and beveled ends



arranged at an oblique angle to the flanges whereby the free edges of the section are crimped.

973,094. FILLING-REPLENISHING HOPPER. EVERETT S. WOOD, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Oct. 23, 1909. Serial No. 524,151.



1. In a filling replenishing loom, the combination of filling replenishing mechanism, a filling carrier supplying hopper, a filling carrier positioner for engaging a filling carrier while in the hopper and moving it to transferring position, and means to prevent backward movement of a filling carrier in the hopper as the positioner moves to engage the same.

2. In a filling replenishing loom, the combination of filling replenishing mechanism, a filling carrier supplying hopper, a filling carrier positioner movable from in front of to the rear of a filling carrier in the hopper, and a stop to hold a filling carrier from backward movement in the hopper and for engagement by the positioner.

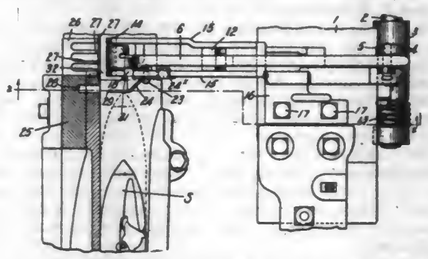
3. In a filling replenishing loom, the combination of filling replenishing mechanism, a filling carrier supplying hopper, a filling carrier positioner having a finger to move over and engage back of a filling carrier, and a stop in said filling carrier supplying hopper to hold a filling carrier for engagement by the positioner.

4. In a filling replenishing loom, a hopper for containing a series of filling carriers, said hopper having a stop therein past which the carriers travel to transferring position, said stop acting to prevent backward movement of a filling carrier in said hopper after said carrier has once passed said stop.

5. In a filling replenishing loom, a hopper for containing a series of filling carriers, means for engaging and moving a filling carrier to transferring position, and stopping means in said hopper past which the carriers travel to transferring position, said stopping means acting to hold a filling carrier for the action of engaging and moving means after said carrier has once passed said stopping means.

[Claims 6 to 21 not printed in the Gazette.]

973,095. FILLING-FORK PROTECTOR. EVERETT S. WOOD and JONAS NORTHROP, Hopedale, Mass., assignors to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Dec. 13, 1909. Serial No. 532,883.



1. In a loom, the combination of a breast beam, a filling fork, filling fork supporting arms, and a filling fork protector sustained by one of the filling fork supporting arms at the side of the filling fork to prevent any part of the shuttle from being moved between the filling fork and breast beam.

2. In a loom, the combination of a filling fork, filling fork supporting arms, and a filling fork protector pivotally connected to one of the filling fork sustaining arms at the side of the filling fork to obstruct movement of the shuttle to a position between the filling fork and breast beam.

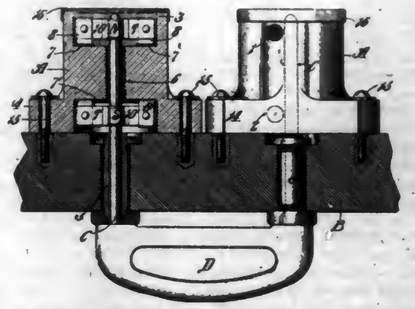
3. In a loom, the combination of the lay and breast beam, filling fork supporting arms projecting from the breast beam, a filling fork sustained by said arms, and a filling fork protector pivotally mounted at a point fixed with relation to and at the side of the filling fork to prevent the attendant from moving the shuttle into position beween the filling fork and breast beam, said protector being freely tiltable on its pivotal mounting.

4. In a loom, the combination of a shuttle box, a filling fork, and breast beam, and means mounted adjacent the side of the filling fork to prevent the attendant from moving the shuttle into position between the filling fork and breast beam when the lay is in forward position, said means being mounted to tilt in case it is struck by the shuttle on forward movement of the lay.

5. In a loom, the combination of a breast beam, a filling fork, fixed supporting arms for sustaining the filling fork, and a filling fork protector mounted on one of the fixed supporting arms adjacent the filling fork.

[Claims 6 to 22 not printed in the Gazette.]

973,096. PLUG-SWITCH. FREDRICK B. ADAM, St. Louis, Mo., assignor to Frank Adam Electric Company, St. Louis, Mo., a Corporation of Missouri. Filed Dec. 20, 1909. Serial No. 534,050.



1. In a plug switch, a supporting member provided with an opening for receiving a metal plug or contact-connect-

ing device, contacts carried by said member and arranged adjacent the opposite ends of said opening in such a position that they will engage said plug when it is inserted in the opening, and corrugations on the wall of said opening for preventing said plug from depositing a continuous film of metal on said wall during the operation of inserting and withdrawing the plug.

2. A plug switch having a contact that comprises a part to which the conductor is connected, and a plurality of movable wings or arms connected to said part and having their free ends lapping over each other, said wings being provided with bent portions that coöperate with each other to form a split sleeve which completely surrounds the plug of the switch.

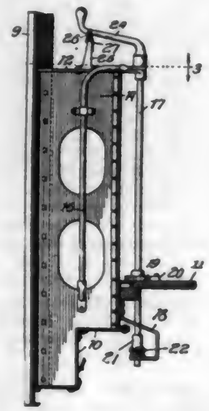
3. A switch having a contact that comprises a pair of movable arms projecting toward each other and provided at their outer ends with semi-circular-shaped portions which coöperate with each other to form a cylindrical sleeve for receiving a cylindrical-shaped contact-connecting device.

4. A switch having a contact that comprises a pair of movable arms projecting toward each other and provided at their outer ends with bent portions which coöperate with each other to form a sleeve for receiving a contact-connecting device, and means for maintaining said sleeve at a certain diameter when the contact-connecting device is not in operative position.

5. A switch having a contact that comprises a pair of movable arms projecting toward each other and provided intermediate their ends with bent portions that coöperate with each other to form a sleeve for receiving the contact-connecting device of the switch.

[Claims 6 to 13 not printed in the Gazette.]

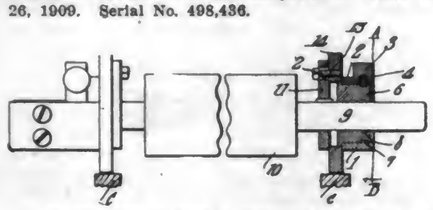
973,097. HAND-BRAKE MECHANISM. CHARLES H. ANDERSON, Seattle, Wash. Filed Apr. 16, 1910. Serial No. 555,797.



1. In a railway passenger-car, the combination of a car-body having its entrance for passengers in one side between the forward and rear trucks of the car, a conductor's platform in the car-body adjacent to said entrance, a vertical brake-operating shaft extending through said platform and an operating handle on said shaft.

2. In a railway passenger-car, the combination of a car-body having a pair of separate closely adjacent door-openings, for entrance and exit of passengers, in one side between the forward and rear trucks of the car, a conductor's platform, parallel, separate passages extending from said openings, respectively, to said platform, a vertical brake-operating shaft extending through said platform in a plane between said passages, a laterally projecting operating handle on the shaft, and means for holding the handle normally in a position to extend parallel with said passages, for the purpose set forth.

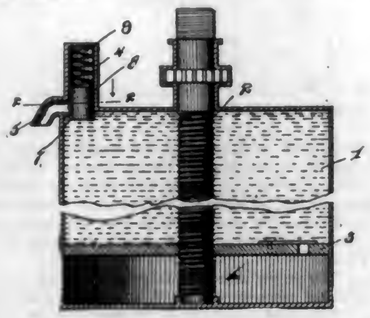
973,098. ROLLER-BEARING FOR PRINTING-PRESSES. HARRY O. ATWOOD, West Philadelphia, Pa. Filed May 26, 1909. Serial No. 498,436.



1. The combination with a supporting structure, of a bearing block mounted for rotary adjustment therein, said block having an eccentric bore therein, a revoluble element bearing upon said block, a gudgeon mounted for rotation within the eccentric bore, and means for transmitting motion from the revoluble element to the gudgeon irrespective of the adjustment of the block within the structure.

2. The combination with a support engaging structure having a ring-like portion, of a bearing block mounted for rotary adjustment within said ring-like portion and having an eccentric bore, means for rotating said block, a gudgeon, journaled within the bore, a revoluble element mounted upon the block, a plate secured to and revoluble with the gudgeon, and a connecting device extending from the revoluble element and movably engaged by the plate, said revoluble device and the plate and gudgeon being revoluble together irrespective of the adjustment of the bearing block.

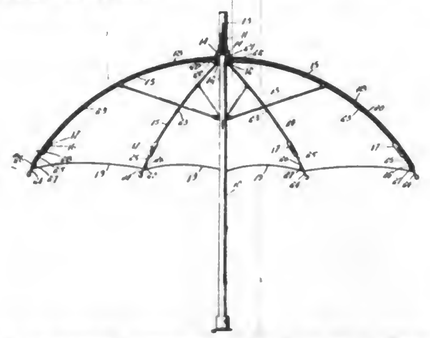
973,099. NON-REFILLABLE BOTTLE. ERNEST B. BARNES, Elkhorn, Oreg. Filed Mar. 16, 1910. Serial No. 549,595.



1. A receptacle of the class described comprising a body, provided with a casing, formed upon the top thereof, said casing provided with a discharge nozzle, said body provided with an aperture formed in the top thereof and communicating with said casing, a downwardly extending lip formed upon one side of said aperture, a plunger positioned in said casing, and provided with a beveled side, said beveled side adapted to engage said downwardly extending lip and tightly close said aperture or opening, a coil spring positioned in the top of said casing and engaging said plunger for normally holding said plunger in said aperture and preventing the flow of liquid through said aperture and said discharge spout, and means for forcing the liquid through said discharge nozzle.

2. A receptacle of the class described comprising a body, provided with a casing formed thereon, a discharge spout communicating with said casing, said body provided with an aperture, a depending portion formed upon one side of said aperture, a plunger positioned within said casing and provided with means for engaging said top portion, resilient means carried by said casing and body to engage said plunger for holding the same within said aperture and preventing the flow of liquid therethrough, and means for forcing the liquid through said discharge nozzle.

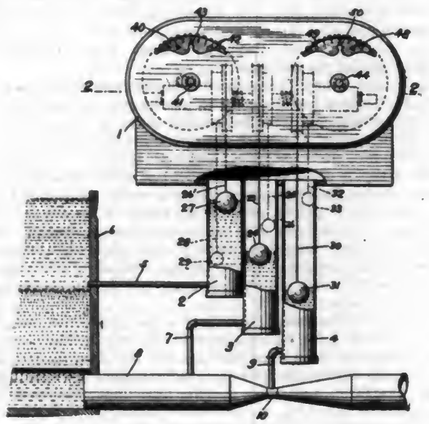
973,100. REMOVABLE UMBRELLA-COVER. LUTHER O. BARR, Mount Andrew, Ala. Filed June 17, 1910. Serial No. 567,520.



1. An umbrella comprising a stick, a series of ribs surrounding said stick and each terminating in an enlarged exteriorly threaded extension, a coupling sleeve threading on each extension, a cover stretched over said ribs and having a plurality of separate tips attached adjacent to its marginal edges, each tip having an enlarged exteriorly threaded extension engaged in said coupling sleeve.

2. An umbrella comprising a stick, a series of ribs surrounding said stick, a removable cover stretched over said ribs including a plurality of juxtapositioned angular blanks of material having their meeting edges joined together and forming seams adjacent to said ribs, a plurality of flexible tabs engaged through said seams and having their terminals looped about said ribs, a plurality of separate tips arranged upon said cover and disposed in abutting contact with the rib ends, and sleeves coupling together said tips and ribs.

973,101. LIQUID-GAGE. MORO M. BORDEN, Collingswood, N. J., assignor to Simplex Valve and Meter Company, Camden, N. J., a Corporation of New Jersey. Filed Dec. 3, 1908. Serial No. 465,777.



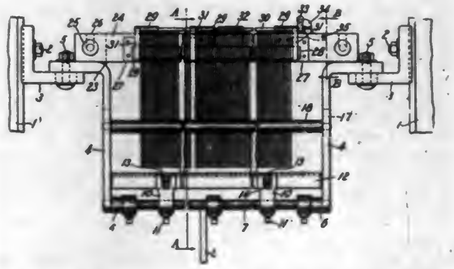
1. In a liquid gage, a revoluble shaft having a screw thereon, a rack engaged by said screw and movable longitudinally on said shaft, a second revoluble shaft, a pinion on said second shaft engaged by said rack, means comprising an indicating device connected with and operated by said second shaft, a sheave connected with and adapted for revolving said shaft first named, a sheave connected with and adapted for revolving said rack, floats, means whereby said floats are connected with and adapted for revolving the respective sheaves, chambers containing the respective floats, a conduit, and means for connecting different sections of said conduit with the respective chambers.

2. In a liquid gage, a revoluble shaft having a screw thereon, a rack engaged by said screw and movable longitudinally on said shaft, a second revoluble shaft, a pinion on said second shaft and engaged by said rack, means comprising an indicating device connected with and operated by said second shaft, a sheave connected with and adapted for revolving said shaft first named, a sheave connected with and adapted for revolving said rack, floats, means whereby said floats are connected with and adapted for revolving the respective sheaves, chambers containing the respective floats, a filter bed, and means whereby liquid pressures are communicated from points above and below said filter bed to the respective chambers.

3. In a liquid gage, in combination with a conduit having a contracted section, a chamber, means whereby said chamber is connected with a normal section of said conduit, a second chamber, means whereby said second chamber is connected with said contracted section of said conduit, floats in said chambers respectively, a revoluble shaft having a screw thereon, a rack sleeved on said shaft in engagement with said screw, a sheave connected with and adapted to revolve said shaft, means whereby one of said floats revolves said sheave, a sheave connected with and adapted to revolve said rack, means whereby the other of said floats revolves said sheave last named, and indicating means connected with and operated by said rack.

4. In a liquid gage, a revoluble shaft having a screw thereon, a wheel engaged and operated by said screw, indicating mechanism operated by said wheel, a revoluble rack movable by said screw, a wheel engaged and operated by said rack, indicating mechanism operated by said wheel last named, and differential mechanism for operating said screw and rack.

973,102. WARP STOP MECHANISM. JOHN W. BOUNDS and JAMES C. ELLENBURG, Kannapolis, N. C., assignors to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Sept. 15, 1909. Serial No. 517,860.



1. In a loom, the combination of a series of drop wires, a drop wire support, seats for sustaining the drop wire support, a rock shaft having fingers to engage the drop wire support, and means acting to hold the fingers against the drop wire support.

2. In a loom, the combination of a series of drop wires having openings, a drop wire support engaging said openings, sustaining means having open faced seats to sustain the drop wire support, yielding locking means to detachably hold the drop wire support in its seats, and hand operated means to trip said locking means to permit ready removal of the support.

3. In a loom, the combination of a series of drop wires, a drop wire support, means for detachably sustaining the drop wire support, yielding means acting normally to hold the drop wire support in supporting relation with its sustaining means, and means to hold said yielding means in inoperative position.

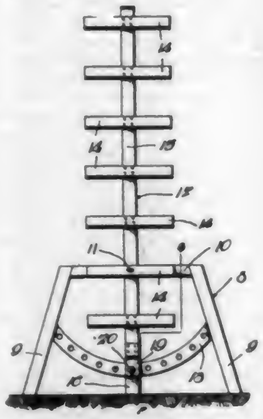
4. In a loom, the combination of a series of drop wires,

a drop wire support, a cross-bar carrying facial recesses to receive said support, a rock shaft having fingers for engaging the face of the support to hold it in said facial recesses, and a spring acting to hold said fingers in operative position.

5. In a loom, the combination of a series of drop wires, a drop wire support, a cross-bar carrying facial recesses to receive said support, a rock shaft having fingers for engaging the face of the support to hold it in said facial recesses, a spring acting to hold said fingers in operative position, and a pawl for holding the fingers in inoperative position.

[Claim 6 not printed in the Gazette.]

973,103. LADDER. EDWARD L. BOYD, Cashmere, Wash. Filed Feb. 4, 1909. Serial No. 476,078.



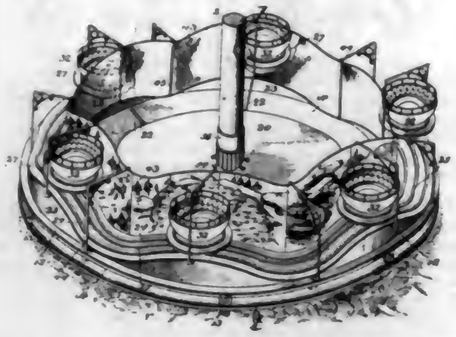
The herein described ladder comprising a base stand having supporting legs and further provided with an element having adjusting openings arranged in an arc, a bar having cross pieces forming steps, a pivot connecting said bar to said stand for angular movement of the bar in a plane parallel with that of the stand, a guide element secured to the lower end of the bar and embracing opposite sides of the said adjusting element, a pin to extend through said guide element and anyone of said adjusting openings, and a longitudinally extensible brace on the rear side of said bar and having its upper end pivotally connected thereto, the axis of the pivot which connects the said brace to said bar being at right angles to that of the pivot which connects the said bar to the said stand.

973,104. EGG-TURNING TRAY FOR INCUBATORS. GEORGE F. BOYER, Spencerville, Ohio. Filed Oct. 4, 1909. Serial No. 520,770.



In a device of the kind described, a frame, a roller adjacent each end of the frame and extending transversely across said frame, an endless apron extending over said rollers and provided with an opening in its under portion, and a guard screen of wire fabric carried on said frame between said rollers and in spaced relation to the upper and lower portions of said apron, whereby an object introduced through the opening is prevented from striking against the upper portion of said apron.

973,105. AMUSEMENT APPARATUS. WILSON P. CHAMBERLAIN, Jr., Kane, Pa., assignor of one-half to Benjamin Franklin McConnell, Kane, Pa. Filed Jan. 7, 1910. Serial No. 536,917.



1. In an amusement structure of the character described, a central mast, a series of radiating beams rotatable around said mast and supporting an undulating track, a series of beams supported above said first named beams and rotatable around the central mast, means for giving to the two series of beams opposite rotative movements about the mast, and a series of cars moving upon the undulating track and connected to the upper series of beams.

2. In an amusement structure of the kind described, a central mast, a lower platform having an undulating upper surface, means for moving said platform in one direction, an upper platform rotatable around said mast, means for moving said upper platform in reverse direction to the lower platform, a series of cars supported on the undulating upper surface of the lower platform, connections between said cars and the upper platform to move the former upon the latter, and scenery supported by said lower platform and disposed between said undulating track and the central mast.

3. In an amusement structure of the kind described, a central mast, a lower platform having an undulating upper surface, means for moving said lower platform in one direction around the mast, an upper platform, means for rotating said upper platform oppositely to the lower platform, a series of cars moving over the undulating surface of the lower platform, connections between said cars and the upper platform for moving the former upon the latter, supports attached to the lower platform extending upward and then over the upper surface thereof, a scenic screen hung from said supports and depending from said lower platform and the central mast and moving with the lower platform.

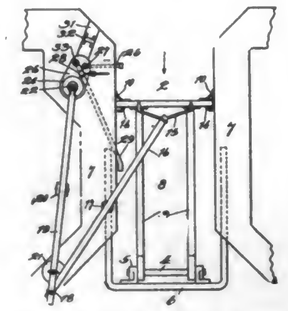
4. In an amusement structure of the kind described, a central mast, a rotatable platform having an undulating upper surface, means for moving said platform in one direction, an upper platform rotatably supported upon the lower platform, means for moving said upper platform in an opposite direction to the lower platform, a series of cars moving over the undulating surface of the lower platform, a vertically movable connection between said cars and the upper platform whereby the cars shall be moved with the upper platform, and means on the lower platform for giving said cars a rotary motion alternately in opposite directions.

5. In an amusement structure, a platform having an undulating upper surface, cars supported on the upper surface of the platform, means for moving the cars in an opposite direction to the movement of the platform, means

engaging with the platform for rotating the cars in alternate opposite directions, and means on the cars for engaging the platform to prevent the cars leaving the platform.

[Claims 6 to 14 not printed in the Gazette.]

973,106. FLOOD AND FEED GATE. ADONIRAM J. COLLAR, Yreka, Cal. Filed Nov. 13, 1909. Serial No. 527,815.



1. The combination with a ditch or canal, of an intermediate rising and falling gate, a counterbalanced fulcrumed lever having one end connected with the gate, a second lever connected with the outer end of the first lever, a float connected with the outer end of the second lever, a well between the walls of which the float operates, and means to admit water from the canal to the well to lift the float and open the gate.

2. The combination with a main canal, and a branch thereof of an intermediate rising and falling gate, a pair of levers having their meeting ends connected and counterbalanced, the opposite end of one lever connected with the gate, and of the other to a float, a containing well for the float, and a controlled inlet from the canal to the well.

3. The combination with a main canal and a branch thereof, of an intermediate rising and falling gate, a pair of levers having their meeting ends connected and counterbalanced, the opposite end of one lever connected with the gate and of the other to a float, a containing well for the float, an inlet passage from the canal, and a valve to admit water to the well, to act through the float and levers to open the main gate.

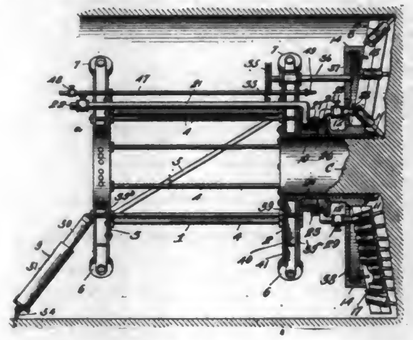
4. The combination with a main canal and a branch thereof, of an intermediate rising and falling gate, a pair of levers having their meeting ends connected and counterbalanced, the opposite end of one lever connected with the gate and of the other to a float, a containing well for the float, an inlet passage from the canal, a valve to admit water to the well to act through the float, and levers to open the main gate, and an adjusting connection between the float and its connected lever.

5. The combination with a main canal and continuation, of an intermediate rising and falling gate, a pair of levers having their meeting ends connected and counterbalanced, the opposite end of one lever connected with the gate and of the other to a float, a containing well for the float, an inlet passage from the canal, a valve to admit water to the well to act through the float, and levers to open the main gate, and a passage from the well to the continuation to maintain the level in the well.

[Claims 6 and 7 not printed in the Gazette.]

973,107. TUNNELING-MACHINE. WILLIAM RUSSELL COLLINS, Georgetown, Colo. Filed Aug. 2, 1909. Serial No. 510,801.

1. In a tunneling machine, the combination of a carriage having front and rear members rigidly connected in spaced relation, a tubular shaft fixed concentrically in the front member and projecting forwardly therefrom, a rotary cutting head mounted on the forward portion of said shaft, power actuated reciprocatory drills mounted on said head and adapted to cut an annular path whereby a core is formed to project through said tubular shaft, a scraper ring mounted on the forward extremity of said tubular shaft and having an annular cutting edge projecting inwardly and forwardly in advance of the front extremity of said shaft, means for rotating said head, and means for advancing the carriage.



2. In a tunneling machine, the combination of a carriage having front and rear members rigidly connected in spaced relation, a tubular shaft fixed concentrically in the front member and projecting forwardly therefrom, a rotary cutting head mounted on said shaft and consisting of an annular hub formed at its rear end with an enlarged annular compressed air box, arms radiating from said hub and each composed of a pair of united channel metal beams, a channeled annular rim united to said arms adjacent their outer ends and having its inner flange formed with a gear ring, a longitudinal shaft mounted in bearings on said front member of the carriage and carrying a pinion to mesh with said gear ring, a motor mounted on the carriage for actuating said longitudinal shaft, pneumatically actuated reciprocatory drills secured on the radial arms of the cutting head, a co-acting annular compressed air box fixed to the rear portion of said tubular shaft and having an air-tight connection with the annular box on said hub, valve controlled connections between said drills and said box on the hub, a valve controlled supply pipe connected to said box on the tubular shaft, and means for advancing the carriage.

3. In a tunneling machine, the combination of a carriage composed of front and rear members united by an annular series of longitudinal connecting rods, said rear member consisting of a central ring, radial arms each composed of spaced channel metal beams having their inner ends bent and united to said ring, and a plate uniting and bracing said arms, said front member of the carriage consisting of a forwardly projecting tubular shaft, arms radiating from said shaft and each composed of channeled metal beams having their inner ends united to said shaft, and plates uniting and bracing the last mentioned arms, said longitudinal connecting rods between the two members of the carriage having their ends secured in the plates of the two members whereby they will be held in spaced relation, radially movable slides mounted in the pairs of channeled beams forming the arms of the two carriage members, rollers journaled on the outer ends of said slides, screw jacks for adjusting said slides, springs for projecting the slides in the upper arms of the two carriage members, a rotary cutting head upon the projecting shaft of the front carriage member, power actuated drills on said head, means for rotating said head, and means for advancing the carriage.

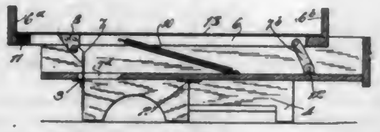
4. In a tunneling machine, the combination of a carriage having a member formed with radially projecting arms each composed of opposing channel metal beams arranged in spaced relation and having their channels turned outwardly, the closed inner sides of said channel beams being formed at their outer extremities with longi-

tudinal slots, I-shaped slides having their cross bars mounted for movement in said slots of the channel beams, their inner ends projecting into and sliding in the channels of said channel beams, stationary nuts on the cross bars of said I-shaped slides, stationary plates uniting the channel beams of each pair, jack screws between said stationary plates and said nuts, and supporting wheels journaled in the spaced outer ends of said I-shaped slide.

5. In a tunneling machine, the combination of a carriage having front and rear members rigidly connected in spaced relation, supporting and guiding wheels carried by said members, a tubular shaft arranged in the front member and projecting forwardly therefrom, a rotary cutting head mounted on said shaft, radially extending rows of reciprocatory, fluid pressure-actuated cutting drills upon said head, the drills of adjacent rows being arranged with their longitudinal axes disposed in converging relation whereby the recoil of the drills will be balanced, said rows of drills being adapted to cut an annular path whereby a core is formed to project through said tubular shaft, a scraper ring mounted on the forward extremity of said tubular shaft and having an annular cutting edge projecting inwardly and forwardly in advance of the front extremity of said shaft, a motor upon the carriage for rotating said head, and means for advancing the carriage.

[Claims 6 and 7 not printed in the Gazette.]

973,108. BED. LEE E. FAYE, San Francisco, Cal. Filed Dec. 16, 1909. Serial No. 533,356.



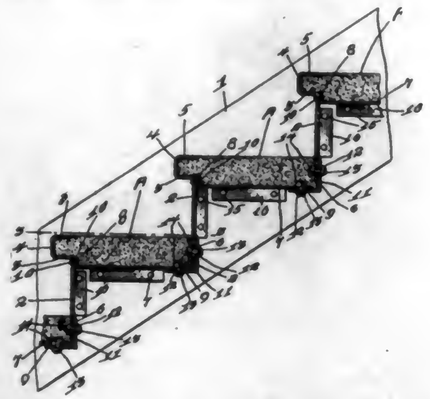
1. The combination in a bed, of a support consisting of superposed members hinged together at one edge and capable of opening outwardly to form an extended support, a main bed frame hinged to lower of said members so as to stand vertically with relation thereto, or to be turned into horizontal position and supported solely by both members of the substructure, a mattress frame fitting within the main frame, standards fixed to the supporting structure contiguous to the hinges of the main frame, and joined connections with one end of the mattress frame, and links connecting the opposite end of said mattress frame with the main frame.

2. The combination in a bed, of a main bed frame, a mattress frame fitting within the main frame, an extendible base to which the main frame is hinged and upon which it is supported in a horizontal position, arms fixed to the base contiguous to the hinges and extending upwardly into the main frame, said arms being pivotally connected with the mattress frame near one end, and links connecting the opposite end of the mattress frame with the main frame, and acting in unison with the standards to raise the mattress frame within the main frame when the latter is lowered to a horizontal position, and to retract the mattress frame within the main frame when the latter is raised into a vertical position.

3. A bed consisting of a main frame, and a base and support to which said frame is hinged near one end, a matress frame loosely fitting within the main frame, standards fixed to the base and contiguous to the hinges, and pivotally connected with the mattress frame, links pivoted to the mattress and to the main frame, and acting in unison with the fixed standards to raise and lower the mattress frame when the bed is tilted downwardly or upwardly, and diagonally disposed springs connecting the mattress frame and the main frame.

4. A bed comprising a hinged main frame, and a support upon which it is tiltable from a vertical to a horizontal position about its hinges, and a mattress-carrying frame, links and fixed standards to which the opposite ends of the mattress-carrying frame are respectively connected, and by which the mattress-carrying frame is raised or depressed with relation to the main frame during the tilting of said main frame.

973,109. STAIR STRUCTURE. ALVAH A. GRINER, Chicago, Ill. Filed Dec. 2, 1909. Serial No. 530,946.



1. A stair structure comprising a series of sections, each section embodying a riser and a tread, and means to adjustably connect the rear edge of the tread of one section to the lower edge of the riser of the next section thereabove.

2. A stair structure, comprising a series of sections, each section comprising a riser and a tread, slots formed in said risers adjacent their lower edges, and in said treads adjacent their rear edges, and means for adjustably connecting the rear edge of the tread of one section to the lower edge of the riser of the next section above having elements to engage in said slots.

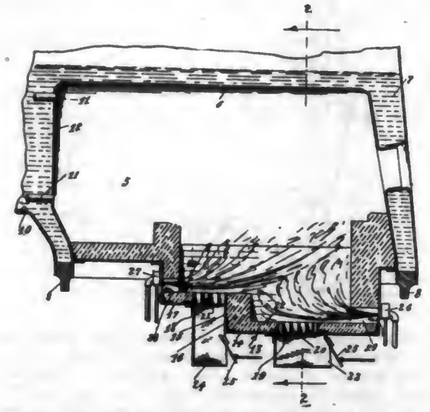
3. A stair structure, comprising a series of sections, each section comprising a riser and a tread, slots formed in said risers adjacent the lower edges, and in said treads adjacent their rear edges, angle bars connecting the tread of one section to the riser of the next section above, and bolts passing through the flanges of said angle bars and working in the aforesaid slots, and provided with clamping nuts, whereby the sections may be adjusted.

973,110. OIL-BURNING STEAM-BOILER. CHARLES A. HAMMEL, Los Angeles, Cal. Filed Aug. 4, 1909. Serial No. 511,079.

1. The combination with a steam boiler having a firebox, of means for delivering hydrocarbon flames from the front and rear of the firebox toward each other into the firebox, means for establishing a draft of air into the firebox adjacent the flame delivery means, a plurality of means for admitting air directly into the firebox below the flames, one of said means for each burner flame, and means located beneath each of said air admission means for controlling the volume of air to said admission means.

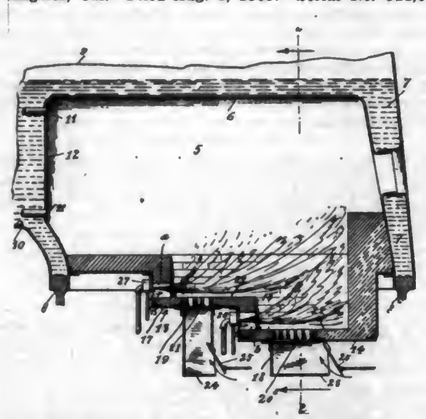
2. The combination with a steam boiler having a firebox provided with a transversely disposed flame deflecting wall, of means for delivering hydrocarbon flames from the front and rear of the firebox toward each other into the firebox, means for establishing a draft of air into the firebox adjacent the flame delivery means, a plurality of means for admitting air directly into the firebox below and directly under the flames, one of said means for each burner flame, and means located beneath each of said air admission means for controlling the volume of air to said admission means.

3. The combination with a steam boiler, of a firebox having a refractory lining on its bottom and sides, the bottom of said firebox being constructed so as to form a transversely disposed flame deflecting wall, of oppositely disposed hydrocarbon burners located at the front and rear end of the firebox, said burners being disposed in different horizontal planes and discharging their flames



toward each other, the flame of one burner impinging against said deflecting wall, means for establishing a draft of air into the firebox adjacent the hydrocarbon burners, a plurality of air inlets in the bottom of said firebox, a metallic casing having an opening therein disposed under each of said air inlets, a closure for the opening in each casing, and means to control the closures.

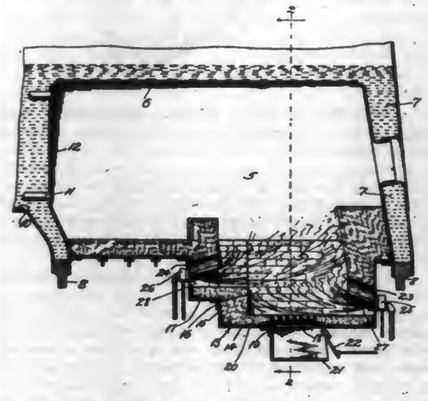
973,111. STEAM-BOILER. CHARLES A. HAMMEL, Los Angeles, Cal. Filed Aug. 4, 1909. Serial No. 511,080.



1. The combination with a steam boiler having a firebox, provided with a transversely disposed bridge-wall, of means for delivering hydrocarbon flames from the front end of the firebox and the bridge-wall toward the rear end of the firebox, means for establishing a draft of air into the firebox adjacent the flame delivery means, a plurality of air admission means for admitting air directly into the firebox under each flame, one of said air admission means for each burner flame, and means located beneath each of said air admission means for controlling the volume of air to said admission means.

2. The combination with a steam boiler, of a firebox having a refractory lining on its bottom and sides, the bottom of said firebox being constructed so as to form a transversely disposed bridge-wall, a plurality of hydrocarbon burners disposed outside of said firebox, one at the forward end of the box and the other at the bridge-wall and both delivering the flames into the firebox toward the rear thereof, means for establishing a draft of air into the firebox adjacent the hydrocarbon burners, a plurality of air inlets in the bottom of said firebox, a metallic casing having an opening therein disposed under each of said air inlets, a closure for the opening in each casing, and means to control the closures.

973,112. OIL-BURNING LOCOMOTIVE-FURNACE. CHARLES A. HAMMEL, Los Angeles, Cal. Filed Nov. 9, 1909. Serial No. 527,027.



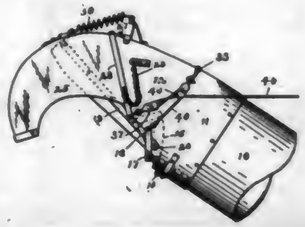
1. The combination with a locomotive furnace, of a fire box provided with a transversely disposed flame deflecting wall, means for delivering hydrocarbon flames from the front and rear of the fire box toward each other into the fire box, means for establishing a draft of air into the fire box adjacent the flame delivering means, an air admission means in the bottom of the fire box adjacent to and under the meeting point of the flames, and means located beneath said air admission means for controlling the volume of air admitted therethrough.

2. The combination with a locomotive furnace, of a fire box having a refractory lining on its bottom and sides, the bottom of said fire box being constructed so as to form a transversely disposed flame deflecting wall, of oppositely disposed hydrocarbon burners located at the front and rear end of the fire box, said burners being disposed in different horizontal planes and discharging their flames toward each other, the flame of one burner impinging against said deflecting wall, means for establishing a draft of air into the fire box adjacent the hydrocarbon burners, an air inlet in the bottom of said fire box adjacent to and under the meeting point of the flames, a metallic casing having an opening therein disposed under said air inlet, and means for controlling the volume of air admitted therethrough.

973,113. PNEUMATIC STACKER. ALBERT M. HARRIS, South Bend, Ind., assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed May 25, 1910. Serial No. 563,287.

1. A hood for stackers comprising a body portion having an opening in its under side, an upwardly adjustable semi-circular deflector hinged at the lower side of said body portion and extending partially across said opening and within the side walls of said hood, a bill adjustably connected to the body portion and constituting a continuation thereof, and flexible means communicating with said bill and deflector for simultaneously adjusting the same.

2. A hood for stackers comprising a body portion having an opening therein, an upwardly adjustable deflector hinged to the lower side of said body portion and extending transversely across a portion thereof, a rocker-arm on said deflector, a bill hinged to the outer portion of said body portion, and a means communicating with said rocker-arm and said bill for adjusting said deflector and bill.

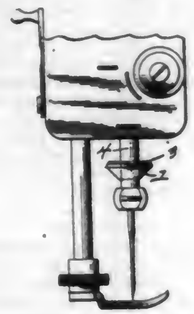


3. A hood for pneumatic stackers comprising a body portion having an opening therein, an upwardly swinging deflector hinged to the lower side of said body portion and extending transversely across said opening, pulleys on said body portion, an adjustable spring-controlled bill connected to said body portion and having pulleys at its lower sides, and means communicating with said deflector and through said pulleys with said bill for adjusting said deflector and bill.

4. The combination, in a hood for pneumatic stackers, of an open-sided body portion, an upwardly adjustable deflector hinged to the lower side of said body portion and extending transversely across a portion of its under side, an adjustable bill at the outer end of said body portion, a rocker-arm attached to said deflector, pulleys on said body portion, pulleys on said bill, and cords connected to said rocker-arm and passing around said pulleys for adjusting said deflector and bill.

5. A hood for pneumatic stackers comprising a body portion having an opening therein, an upwardly adjustable deflector hinged to the lower side of said body portion and extending transversely across the lower portion of said opening, and means on the side of said body portion for limiting the upward movement of said deflector.

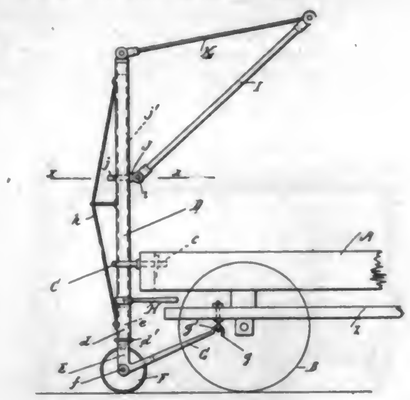
973,114. OIL-SHIELD. HARRY HAUDENSCHILD, Toledo, Ohio, assignor of one-half to George C. Smith, Toledo, Ohio. Filed May 5, 1910. Serial No. 559,496.



1. An elastic oil shield for the needle bar of a sewing machine adapted to surround and be held thereto by its elasticity, and a facing of absorbent material for said shield.

2. An elastic, cup-shaped oil shield for the needle bar of a sewing machine adapted to surround and be held thereto by its elasticity, and a facing of absorbent material for said shield.

973,115. DERRICK. VILENTIA J. HILL, Bloomer, Wis. Filed May 11, 1910. Serial No. 560,715.

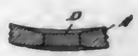


1. The combination, with a vehicle, and a bearing secured thereto; of a supporting bracket provided with a vertical spindle, a ground wheel journaled in the said bracket, means for preventing the said bracket from revolving, and a derrick provided with a post which is journaled in the said bearing, said post having a socket at its lower end which is mounted on the said spindle.

2. The combination, with a vehicle, and a bearing secured thereto; of a supporting bracket provided with a vertical spindle, a ground wheel journaled in the said bracket, means for preventing the said bracket from revolving, and a derrick provided with a tubular post which is revoluble and also slidable longitudinally in its engagement with the said bearing vertical spindle.

3. The combination, with a vehicle, and a bearing secured thereto; of a supporting bracket provided with a vertical spindle, a ground wheel journaled in the said bracket, means for preventing the said bracket from revolving, a revoluble derrick post carried by the said spindle and bearing and provided with a vertically adjustable socket above the said bearing, a jib pivoted to the said socket, and a connection between the upper parts of the said post and jib.

973,116. SIFTER-CONTAINER. HARRY W. JONES, New York, N. Y., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 29, 1909. Serial No. 474,973.

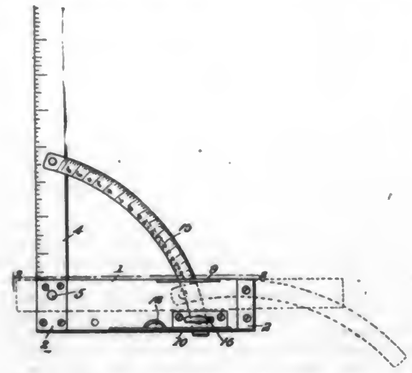


1. A sifter container having a compressible wall with sifter openings cut entirely therethrough, and completely severed compressible plugs cut from said wall to form said openings and fitting in and closing said openings, said plugs being compressed and uniformly reduced in thickness throughout their whole area and enlarged circumferentially to cause them to tightly close and be securely and firmly retained in the openings in the wall from which they are cut, substantially as specified.

2. A sifter container having a compressible wall with sifter openings cut entirely therethrough, and completely severed compressible plugs cut from said wall to form said openings and fitting in and closing said openings, said plugs being compressed and uniformly reduced in thickness throughout their whole area and enlarged circumferentially to cause them to tightly close and be securely and firmly retained in the openings in the wall from which they are cut, and an annular zone of said compressible wall adjacent to and surrounding said openings being also compressed and reduced in thickness to circumferentially contract the openings, substantially as specified.

3. A sifter container having a compressible-material wall provided with a sifter opening therein and a compressible-material plug cut from said wall to form said opening and fitting in and closing said opening, an annular zone of said wall adjacent to and surrounding said opening being compressed and reduced in thickness, and the circumference of the opening thereby lessened to cause said plug to tightly close and be securely and firmly retained in said opening, substantially as specified.

973,117. COMPOUND MEASURING INSTRUMENT. MATTHEW CLARKE, Wilkes-Barre, Pa. Filed May 27, 1910. Serial No. 563,794.



1. An instrument of the character described including a pair of pivotally united members, and a segment extending between the members and connected to one of the same, the segment being foldable against the said member, the other member being formed with an elongated opening adapted to receive both the last-named member and the segment when the parts are folded.

2. An instrument of the character described including a member, a second member pivotally united with the first member, and a segment connected to the second member and movable transversely through the first member, the segment being pivoted to the second member and being foldable thereagainst, the first member being formed with an elongated opening adapted to receive both the second member and the segment when the parts are folded.

3. An instrument of the character described including a pair of pivotally united members, a segment extending between the members and connected to one of the same, the segment being pivoted to said member and being foldable therengainst, the other member being formed with an elongated opening adapted to receive both the said member and the segment when the parts are folded, the opening being formed with an interior shoulder engaging with the segment to limit the turning movement of the same about its pivot.

4. An instrument of the character described including a member formed with an elongated opening, a second member pivotally connected to the first member and foldable within the opening, and a segment extending between the members and pivotally connected to the second member on one side thereof, the segment being foldable against said side of the second member, and one wall of the elongated opening being cut away to form a seating recess for the reception of the segment when the parts are folded.

5. An instrument of the character described including a member formed with a longitudinal slot cutaway in one longitudinal wall to provide a seating recess, the member being also formed with a transverse opening intersecting the seating recess, a second member pivotally connected to the first member and foldable into the slot, and a segment connected to the second member and received in the transverse opening, the segment being adapted to be folded against the second member and being received in the seating recess when the parts of the instrument are folded.

973,118. GAS-ENGINE. JOHN M. KROYER, Stockton, Cal., assignor to Samson Iron Works, Stockton, Cal., a Corporation. Filed June 2, 1909. Serial No. 499,703.

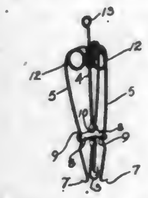


1. A gas motor comprising an engine having an inclosed crank case, an open air inlet into said crank case, an open outlet pipe projecting from said crank case to the cylinders of the engine, and an open flanged cap on said pipe.

2. A gas engine comprising an engine having an inclosed crank case, an air inlet into such crank case, a vertical pipe disposed from the top to the bottom of said crank case, the upper end of said pipe being open, and means communicating from the bottom of said pipe with the cylinders of said engine.

3. A gas engine comprising an engine having an inclosed crank case, an air inlet into said crank case, a vertical pipe within said crank case extending from the top to the bottom thereof, an open flanged cap on the top of said pipe, and means communicating from the bottom of said pipe with the cylinders of said engine.

973,119. AUTOMATIC FISH-HOOK. JACOB J. LISCH, Bellevue, Ky., assignor of one-half to Frank J. Geverts, Bellevue, Ky. Filed Jan. 8, 1910. Serial No. 536,977.



1. A fish hook comprising a bait hook, spring arms which project beyond the bait hook when set, and a swivel latch independent, in operation, to the pull of the line, for holding said arms in the set position adjacent to the bait hook.

2. A fish hook comprising a bait hook, spring arms adapted to project beyond the bait hook when set, and means independent of the pull of the fish line for holding the spring arms in a set position adjacent to the bait hook.

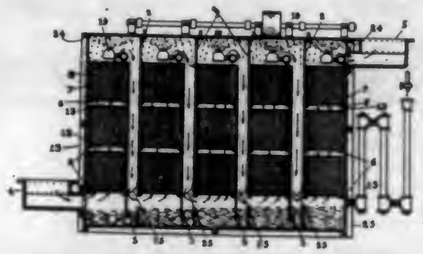
3. A fish hook comprising a bait hook, spring arms secured to the shank of the bait hook and provided at their free ends with upwardly projecting prongs, and a swivel latch provided with notches adapted to receive said arms and to hold them in a set position, adjacent to the bait hook.

4. A fish hook comprising means for securing bait, a plurality of spring arms secured thereto, an outwardly projecting prong provided on each arm, an eyelet provided on the hook for securing the fish line, and means, independent of the pull of the fish line, for holding said arms in a set position.

5. A fish hook comprising means for securing bait, a plurality of spring arms mounted on said means and provided at their free ends with outwardly projecting prongs, and swivel latch, rotatively mounted on said means for securing bait, for holding the free ends of said spring arms in a set position.

[Claim 6 not printed in the Gazette.]

973,120. GAS-SCRUBBER. ERNEST F. LLOYD, Detroit, Mich. Filed Apr. 24, 1909. Serial No. 491,952.



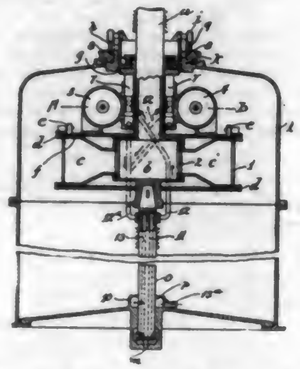
1. In a gas scrubber, a closed casing provided with closing doors, transverse partitions therein whose upper and lower margins are separated from the casing, a division wall in spaced, parallel relation to each partition extending to the casing top and bottom and having a transverse opening near its lower end above the depending margin of its companion partition, horizontal continuous ledges on the proximate faces of the partition walls in the tray compartments, a gas inlet at one end of the casing near the bottom, a gas outlet at the other end, a water circulating system adapted to introduce water at the outlet end of the casing and withdraw it from the other end, means for raising the water in the bottom of each chamber between the pairs of partitions to the top of the chamber and spraying it down, and tiers of removable single scrubbing trays, each tray consisting of a stack of upright spaced sheets filling the interval between the chamber sides and supported by the ledges in each chamber, and removable endwise through the doors in the casing.

2. In a rectangular gas scrubber a closed casing with a gas inlet at one end and a gas outlet at the other, divided into chambers by pairs of transversely disposed partitions, in spaced relation and constituting a gas passage, the upper and lower margins of one of the partitions of each pair toward the inlet being separated by an interval from the top and bottom of the casing, and the other partition having a transverse opening above the lower margin of the companion wall, posts interposed between the lateral margins of each pair of partitions and forming the marginal support and spacing therefor, doors forming the casing sides detachably secured against the outer faces of the posts between the plane of the partitions separated by the posts, horizontal tiers of single scrubbing trays removably secured in each chamber and removable through the doors, and means for raising water trapped in each chamber between the partitions to the top thereof and spraying over the trays and into the space between the pairs of partitions.

3. In a gas scrubber, a closed casing with a gas inlet at one end and a gas outlet at the other, divided into chambers by pairs of transversely disposed partitions, the upper and lower margins of the partition of each pair toward the inlet, being separated by an interval from the top and bottom of the casing, and the other partition having an opening above the lower margin of the companion wall, a water circulating system adapted to introduce water at the gas outlet end of the casing and withdraw it at the other, means for raising water in the bottom of each chamber to the top thereof and spraying it down, horizontal alined ledges on the chamber walls extending continuously from end to end thereof, and a scrubbing tray consisting of stacks of upright sheets in spaced relation bridging the gap between and resting on each pair of ledges, said trays being removable endwise from the casing.

973,121. CENTRIFUGAL MACHINE. GUSTAV TEN MEER, Hanover, Germany. Filed Mar. 19, 1908. Serial No. 421,981.

1. A centrifugal machine, comprising a rotatable drum, an inner gate and an outer gate controlling admission to and discharge from the drum, and means carried by the drum for actuating said gates.



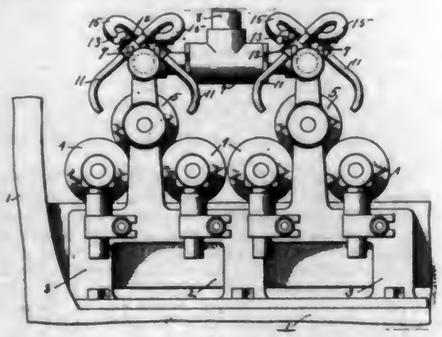
2. A centrifugal machine, comprising a rotatable drum, an inner gate controlling admission to the drum, a cylinder carried by the drum, a piston operatively connected to the gate, and means for feeding a pressure medium to the cylinder.

3. A centrifugal machine, comprising a rotatable drum, an inner gate and an outer gate controlling admission to and discharge from the drum, cylinders carried by the drum, pistons operatively connected to the gates, and means for feeding a pressure medium to the cylinders.

4. A centrifugal machine, comprising a rotatable shaft having pressure medium ducts, a drum carried by the shaft, an inner gate and an outer gate controlling admission to and discharge from the drum, cylinders carried by the drum and communicating with the pressure medium ducts, and pistons operatively connected to the gates.

5. A centrifugal machine, comprising a rotatable shaft having pressure medium ducts, a drum carried by the shaft, an inner gate and an outer gate controlling admission to and discharge from the drum, cylinders carried by the drum and communicating with the pressure medium ducts, pistons operatively connected to the gates, valves controlling the cylinders, and a cam controlling the valves.

973,122. COOLING APPARATUS FOR INKING-ROLLERS. EDWARD R. MELTON, Washington, D. C. Filed June 23, 1910. Serial No. 568,576.



1. In a cooling device for the inking mechanism of printing presses, an air pipe located adjacent the inking mechanism and extending transverse to the press; means through which air under pressure is supplied to said pipe; a plurality of nozzles adapted to direct streams of air against the inking mechanism and each of which is adjustable to thereby vary the direction taken by a stream of air issuing therefrom; and a connection between each nozzle and said pipe and through which air may flow from said pipe to each of said nozzles.

2. In a cooling device for the inking mechanism of printing presses, an air supply pipe located adjacent the inking mechanism and extending transverse to the press; means through which air under pressure is supplied to said pipe; a plurality of nozzles carried by said pipe and adapted to direct streams of air against the inking mechanism and each of which is adjustable relative to said pipe to thereby vary the direction taken by a stream of air issuing therefrom; and a flexible conduit communicating with the interior of said pipe and with each of said nozzles and through which air may flow from said pipe to each of said nozzles.

3. In a cooling device for the inking mechanism of printing presses, an air supply pipe located adjacent the inking mechanism and extending transverse to the press; means through which air under pressure is supplied to said pipe; a plurality of brackets upon said pipe and adjustable longitudinally thereof; a nozzle carried by each of said brackets and adapted to direct a stream of air against the inking mechanism; and a flexible conduit for each nozzle, the same communicating with the interior of said pipe and with its nozzle and through which air may flow from said pipe to each of said nozzles.

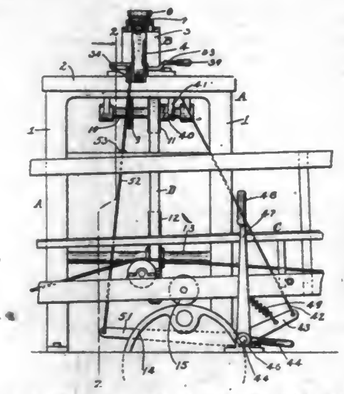
4. In a cooling device for the inking mechanism of printing presses, an air supply pipe located adjacent the inking mechanism and extending transverse to the press; means through which air under pressure is supplied to said pipe; a plurality of brackets upon said pipe and adjustable longitudinally thereof, and adjustable also angularly with reference to said pipe; a nozzle carried by each of said brackets and adapted to direct a stream of air against the inking mechanism; and a flexible conduit for each nozzle, the same communicating with the interior of said pipe and with its nozzle and through which air may flow from said pipe to each of said nozzles.

5. In a cooling device for the inking mechanism of printing presses, an air supply pipe located adjacent the inking mechanism and extending transverse to the press; means through which air under pressure is supplied to said pipe; a plurality of brackets upon said pipe and adjustable longitudinally thereof, and adjustable also angularly with reference to said pipe; a nozzle carried by each of said brackets and adapted to direct a stream of air against the inking mechanism, said nozzles being also adjustable with reference to the brackets which support them; and a flexible conduit for each nozzle, the same communicating with the interior of said pipe and with its nozzle and through which air may flow from said pipe to each of said nozzles.

973,123. SEWING-MACHINE. JESSE E. MILLER, Knoxville, Tenn. Filed Mar. 21, 1908. Serial No. 422,463.

1. In a machine of the nature described, the combination with a sewing head comprising a horizontal needle bar and a horizontal presser foot bar, of a presser foot supported by said presser foot bar and having a lower laterally-directed portion for supporting and guiding the thread, thread-cutting mechanism supported adjacent to and independently of said presser foot, a spring for moving one of the cutting members away from the other, and a stronger spring under continuous stress for normally moving said cutting member in the opposite direction against the action of the first-mentioned spring into engagement with and there holding the other cutting member.

2. In a machine of the nature described, the combination with a sewing head comprising a horizontal needle bar and a horizontal presser foot bar, of a presser foot horizontally slitted at one end and having the portion below the slit extended laterally to form a support and guide for the thread, thread-cutting mechanism supported adjacent to and independently of said presser foot, a spring for moving one of the cutting members away from the other, and a stronger spring under continuous stress for normally moving said cutting member in the opposite direction against the action of the first-mentioned spring into engagement with and there holding the other cutting member.



3. In a machine of the nature described, the combination with a sewing head comprising a horizontal needle bar and a horizontal presser foot bar, of a presser foot supported by said presser foot bar and having a lower laterally-directed portion for supporting and guiding the thread, thread-cutting mechanism supported adjacent to and independently of said presser foot, automatic means for separating the cutting members of said thread-cutting mechanism, a hand lever in operative relation with said cutting members for bringing them together, clutch mechanism for transmitting power to the sewing head, and automatic means for moving said clutch mechanism out of action and moving said cutting members into engagement with each other.

4. In a machine of the nature described, the combination with a sewing head comprising a horizontal needle bar and a horizontal presser foot bar, of a presser foot horizontally slitted at one end and having the portion below the slit extended laterally to form a support and guide for the thread, thread-cutting mechanism supported adjacent to and independently of said presser foot, automatic means for separating the cutting members of said thread-cutting mechanism, a hand lever in operative relation with said cutting members for bringing them together, clutch mechanism for transmitting power to the sewing head, and automatic means for moving said clutch mechanism out of action and moving said cutting members into engagement with each other.

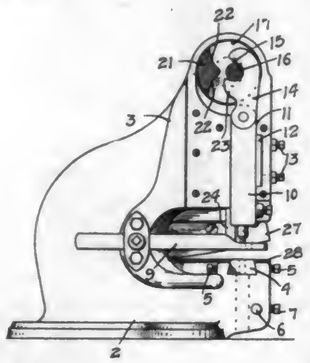
5. In a machine of the nature described, a sewing head, thread-cutting members, a spring for putting said cutting members out of action, and a stronger spring connected with said cutting members so as to by said spring's power move the cutting members into engagement with each other and so hold them, and mechanism combined with said stronger spring and controlled by the operator for overcoming the action of said stronger spring.

[Claims 6 to 11 not printed in the Gazette.]

973,124. COMBINED PUNCH AND SHEAR. JACOB MONSOS, Minneapolis, Minn. Filed Jan. 24, 1910. Serial No. 539,801.

1. A machine of the class described comprising a base, a bracket overhanging said base, a plunger vertically slidable in said bracket, a punch carried thereby, a link pivotally connected with said plunger and having a recess, a crank having bearings in said bracket and rotating therein and adapted to enter said recess, said crank exerting a downward pressure on said link and plunger to perform the initial punching operation, and means inoperative during the initial movement of said link but becoming operative during its subsequent movement to complete the punching operation.

2. An apparatus of the class described comprising a base, a bracket overhanging said base, a plunger vertically slidable in said bracket, a link pivotally connected with said plunger, means arranged to exert a downward pressure on said link and plunger to perform the initial punching operation, and means temporarily inoperative during the initial punching movement but becoming operative during its subsequent movement to complete the punching operation.



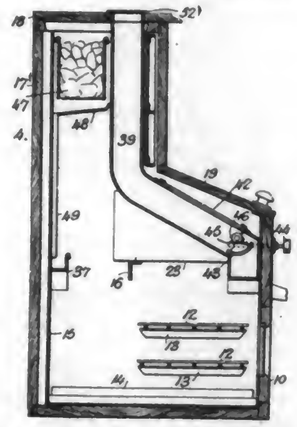
3. A device of the class described, comprising a base, a bracket, a vertically sliding plunger, a link pivotally connected with said plunger, a crank having bearings in said bracket and adapted to enter a recess provided in said link, said crank revolving in its bearing and adapted to exert a downward pressure on said link and plunger, and a bar temporarily inoperative during the initial movement of said link but arranged to engage the same and force said link and plunger downward after their initial movement.

4. In a machine of the class described, an oscillating lever having a shear knife blade, a link having a ball and socket connection with said lever and provided with a recess, a crank having bearings and fitting within the recess in said link and exerting a downward pressure on said link to perform the initial shearing operation, and means engaging said link subsequent to its initial movement to complete the shearing operation.

5. In a machine of the class described, a link having a recess, disks having trunnions and bearings therefor, a crank between said disks adapted to enter said recess, a bar connecting the peripheries of said disks and normally out of engagement with said link but adapted to contact therewith during the last part of the stroke of said link, and a metal working tool operatively connected with said link.

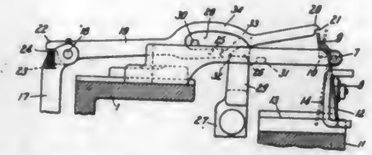
973,125. FRUIT-STAND. CHARLES MÜLLER and HENRY REIS, New York, N. Y. Filed June 25, 1907. Serial No. 380,721.

In a fruit stand, the combination of a suitable cabinet having a centrally-located outlet and inclosed tubes designed to carry the fruit in single files converging toward the same, each tube including a vertical upper portion extending downwardly into its own end of the cabinet from a covered opening in the top thereof adapted to receive the fruit, a middle section disposed laterally with relation to said upper portion and inclined therefrom at an angle somewhat greater than the angle of repose of the fruit to convey the latter at a reduced rate of speed to a lower forward part of the cabinet, a scoop-like valve located in the lower end of said middle section in position to arrest the fruit therein, a pinion operatively connected with the stem of said valve exteriorly of the tube, a rack-bar engaging said pinion, a plunger integral with said rack-bar, a short perpendicular drop below said middle section, and a slightly inclined channel leading away from said drop, the said plunger, rack-bar and pinion operating to invert said valve and thereby let down the fruit from the middle section into the drop and thence into the channel, and the lower ends of the channels in each pair



of tubes being alined and forming opposite inclines by the sides of the central outlet for the fruit rolling out of either tube.

973,126. WEFT-FORK MECHANISM. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Aug. 30, 1909. Serial No. 515,152.



1. In a weft fork mechanism for looms, the combination of a weft fork, fixed supports by which the weft fork is pivotally sustained, an actuator controlled as to its operative or inoperative condition by said fixedly supported weft fork, and means for moving the actuator only when placed in operative position by the weft fork.

2. In a weft fork mechanism for looms, the combination of a weft fork, fixed supports by which the weft fork is pivotally sustained, an actuator independent of and controlled as to its operative or inoperative condition by said weft fork, and means for moving the actuator when placed in operative position by the weft fork, said means acting to relieve the actuator from weft fork control prior to said movement.

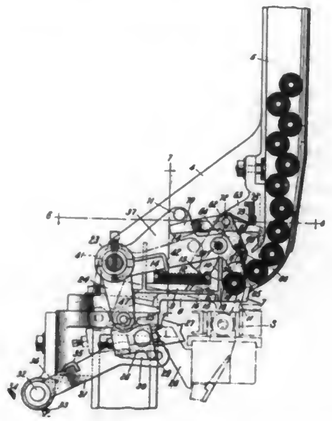
3. In a weft fork mechanism for looms, the combination of a weft fork having an upwardly extending tail piece, fixed supports by which said weft fork is pivotally sustained, an arm, an actuator for operating said arm and adapted to be supported in operative position by the upwardly extending tail piece when the weft fork fails to be tilted, and means for moving the actuator independent of the weft fork to operate said arm.

4. In a weft fork mechanism for looms, the combination of a weft fork, fixed supports by which said weft fork is pivotally sustained, an arm, an actuator movable independent of the weft fork for operating said arm and adapted to be supported in operative position when the weft fork fails to be tilted, and means for lifting the actuator from its supported position and moving the actuator to operate said arm.

5. In a weft fork mechanism, the combination of a pivotally mounted weft fork provided with an upwardly extending tail piece, an actuator adapted to be sustained by said tail piece of the weft fork when the weft fork fails to be tilted and to fall when the weft fork is tilted, and means to move the actuator when the said tail piece sustains the actuator.

[Claims 6 to 14 not printed in the Gazette.]

973,127. FILLING-REPLENISHING MECHANISM FOR LOOMS. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Sept. 4, 1909. Serial No. 516,240.



1. In a filling replenishing loom, the combination of a lay, a filling carrier supply hopper, a transferrer movable with relation to the lay to transfer a carrier from said hopper to the shuttle, a filling carrier positioner disposed to engage a filling carrier, and means operative to cause the positioner to engage a filling carrier in the hopper as the transferrer transfers a carrier to the shuttle and to move said engaged carrier to transferring position as the transferrer returns to initial position after a transferring movement.

2. In a filling replenishing loom, the combination of a filling carrier supply hopper, a transferrer to transfer a carrier from said hopper to the shuttle, a filling carrier positioner disposed to engage a filling carrier between its ends while in the hopper and move it to transferring position, and means under control of the transferrer to operate said positioner.

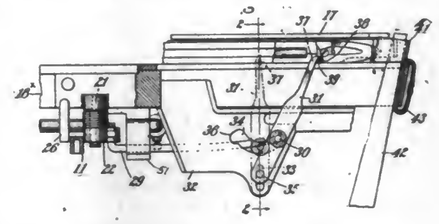
3. In a filling replenishing loom, the combination of a filling carrier supplying means, a transferrer arm having portions to engage and move a carrier from said supplying means, a filling carrier positioner to engage a carrier between its ends and move it to transferring position in said supplying means, and operating means for said positioner acting as the transferrer returns to initial position following a transfer to move a filling carrier to transferring position.

4. In a filling replenishing loom, the combination of a filling carrier supplying means, a transferrer to move a carrier from said supplying means, a filling carrier positioner to engage a carrier between its ends and move it to transferring position in said supplying means, and operating means for said positioner controlled by the transferrer.

5. In a filling replenishing loom, the combination of filling carrier supplying means, a transferrer for transferring a filling carrier from said means to the shuttle, a filling carrier positioner normally engaging a rear portion of a filling carrier when in transferring position, and means acting to cause the positioner to move over and engage a rear portion of another carrier and move it to transferring position following a transferring movement of the transferrer.

[Claims 6 to 40 not printed in the Gazette.]

973,128. SHUTTLE-POSITIONER. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Sept. 7, 1909. Serial No. 516,457.



1. In a filling replenishing loom, the combination of a lay having a shuttle box, filling replenishing mechanism for replenishing the filling, a shuttle positioner, and means for causing the positioner to enter the bobbin chamber of the shuttle and engage a wall thereof to position a shuttle in the shuttle box.

2. In a filling replenishing loom, the combination of a lay having a shuttle box, filling replenishing mechanism for replenishing the filling, a shuttle positioner, and means for causing the shuttle positioner to enter the bobbin chamber of the shuttle and then move in the path of shuttle movement to position a shuttle in the shuttle box.

3. In a filling replenishing loom, the combination of a lay having a shuttle box, filling replenishing mechanism for replenishing the filling, a shuttle positioner disposed below the shuttle box, and means for causing the positioner to enter the bobbin chamber of the shuttle and engage a wall thereof to position a shuttle in the shuttle box.

4. In a loom, the combination of a lay and shuttle box, a shuttle positioner, and means for causing the shuttle positioner to enter the bobbin chamber of the shuttle, as the lay moves forward, and position the shuttle in the shuttle box.

5. In a loom, the combination of a lay, a shuttle box having an opening for the discharge of a filling carrier, shuttle picking means, a shuttle positioner independent of the picking means, and means for causing the shuttle positioner to travel in said opening to position a shuttle in the shuttle box.

[Claims 6 to 21 not printed in the Gazette.]

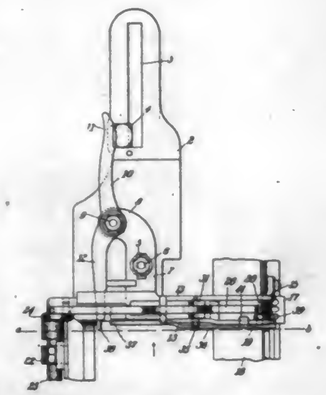
973,129. THIN-PLACE PREVENTER FOR LOOMS. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Sept. 9, 1909. Serial No. 516,849.

1. In a loom, the combination of a lay, loom stopping means, a weft fork, means controlled by the weft fork to actuate the stopping means, and actuating devices for causing said controlled means to stop the loom when the weft fork is tilted on the non-detecting beat of the lay with reference to said weft fork.

2. In a loom, the combination of a lay, stopping means for the loom, a weft fork, means operatively related to the stopping means, and mechanism for moving said operatively related means to cause the loom to stop when the weft fork indicates presence of filling on the non-detecting beat of the lay with respect to said weft fork.

3. In a loom, the combination of a lay, stopping means for the loom, a weft fork, an arm operatively related to the stopping means and controlled as to its position by

the weft fork, and means to cause said arm to actuate the stopping means when the weft fork controlled position of said arm improperly indicates presence of filling on the non-detecting beat of the lay.

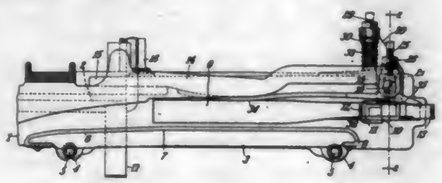


4. In a loom, the combination of a lay, loom stopping means, means to indicate the presence of filling, and means operative on improper indication by said indicating means to actuate the stopping means.

5. In a loom, the combination of a lay, loom stopping means, means to indicate the presence of filling, and a stop arm operative on improper indication by said indicating means during the non-detecting beat of the lay to actuate the stopping means.

[Claims 6 to 24 not printed in the Gazette.]

973,130. SHUTTLE-BOX. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Oct. 1, 1909. Serial No. 520,469.



1. In a loom, the combination of a lay having a shuttle box, a shuttle binder having a shifting fulcrum connection with the lay, said binder being provided with a swell to engage the shuttle as it enters the box and a cam portion extending into the path of the picker to be engaged thereby and projecting toward the outer end of the binder from the shifting fulcrum, and means to positively limit the amplitude of shifting fulcrum movement under the action of the picker.

2. In a loom, the combination of a lay having a shuttle box, a picker, a shuttle binder having a swell to engage the shuttle and a cam portion to engage the picker, and a pin and slot connection between the lay and binder constituting a shifting fulcrum, the inner wall of the said slot acting to determine the amount of outward movement of the binder on its fulcrum as the picker acts upon said cam portion of the binder.

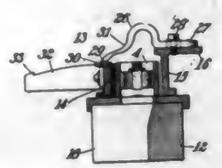
3. In a loom, the combination of a lay having a shuttle box, a picker, a shuttle binder having a swell to engage the shuttle and a cam portion to engage the picker, a pin and slot connection between the lay and binder constituting a shifting fulcrum, the inner wall of the said slot acting to determine the amount of outward movement of the binder on its fulcrum as the picker acts upon said cam portion of the binder, and means for adjusting the inward movement of the binder on its fulcrum.

4. In a loom, the combination of a lay having a shuttle box, means for throwing the shuttle, a binder having a single shifting fulcrum at its outer end, a spring acting on the binder, a swell on said binder to engage the shuttle and turn the binder about its fulcrum, a cam on the outer end of the binder extending into the path of the shuttle throwing means to be engaged thereby and shift the binder fulcrum in opposition to said spring, and means limiting the outward movement of the binder fulcrum under the action of the cam and picker.

5. In a loom, the combination of a lay having a shuttle box, a picker for throwing the shuttle, a binder having a swell and a slotted end, a fixed pivotal support for the binder, a cam on the binder adjacent the head portion thereof, a spring acting on the binder, said cam projecting into the path of the picker to be engaged thereby to move the slotted end of the binder with relation to its fixed support and in opposition to said spring as the picker moves to the outer portion of the shuttle box, and means for limiting the shifting movement of the binder with relation to its fixed pivotal support.

[Claims 6 to 10 not printed in the Gazette.]

973,131. FILLING-REPLENISHING LOOM. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Oct. 1, 1909. Serial No. 520,470.



1. In a filling replenishing loom, the combination of a lay having a shuttle box, filling replenishing means, and a filling end director comprising a member extending over the top of the shuttle box and having its front end free to permit the filling end to pass to the front of the shuttle box after the action of the filling replenishing means, and to support it above the shuttle box on the forward movement of the lay.

2. In a filling replenishing loom, the combination of a lay having a shuttle box, filling replenishing means, and a filling end director comprising an arm secured at the rear of the shuttle box and having its front end free adjacent the front of the shuttle box to direct the filling end above the shuttle box after the action of the filling replenishing means.

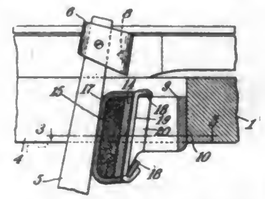
3. In a filling replenishing loom, the combination of a lay having a shuttle box, filling replenishing means, and a filling end director secured to the rear of the shuttle box and extending over the top thereof.

4. In a filling replenishing loom, the combination of a lay having a shuttle box, filling replenishing means, and a filling end director secured to the shuttle box and extending over the top thereof to support the filling end of the active shuttle above the shuttle box as the lay moves with respect thereto.

5. In a filling replenishing loom, the combination of a lay having a shuttle box, filling replenishing mechanism, and a filling director carried by the lay and extending over the top of the shuttle box and having a front portion to engage beneath and to guide the filling end above the same.

[Claims 6 to 15 not printed in the Gazette.]

973,132. CUSHIONING-STOP FOR PICKER-STICKS. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Oct. 1, 1909. Serial No. 520,471.



1. In a loom, the combination of a lay, a picker stick and picker, a block having a cushion, a flexible strip covering said cushion and acting on the picker stick at the conclusion of the picking movement to prevent the picker being thrown therefrom and the picker stick from being broken, and a pin movable in said slot of the block in the direction of picker stick movement and connecting the ends of the flexible strip.

2. In a loom, the combination of a lay, a picker stick and picker, a block having a seating face and secured to the lay at the inner portion thereof, a cushion supported on said face and acting on the picker stick at the conclusion of its picking movement to prevent the picker being thrown therefrom and the picker stick from being broken, and means including a flexible strip and pin movable in the direction of picker stick movement for securing the cushion to the block.

3. In a loom, the combination of a lay having a slot, a picker stick movable in said slot and carrying a picker, a cushion carrier or block secured to the lay and extending into the slot at the inner end thereof, a cushion carried by said carrier or block and extending into said slot to be engaged by the picker stick at the terminal part of its picking movement, a strap passing over the cushion, and a pin connecting the ends of the strap and movable with the strap in the direction of picker stick movement.

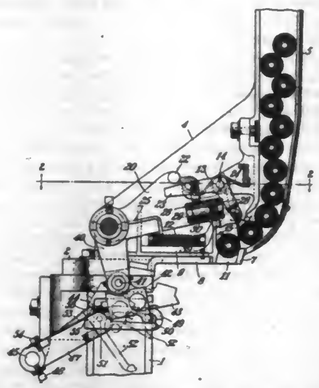
4. In a loom, the combination of a lay having a slot, a picker stick movable in said slot and carrying a picker, a cushion carrier or block secured to the lay and extending into the slot at the inner end thereof, a cushion carried by said carrier or block and extending into said slot to be engaged by the picker stick at the terminal part of its picking movement, means on the block for guiding the cushion, a strap overlying the cushion, and a pin passing through the block and extending between the ends of the strap, said pin being movable in the block in the direction of picker stick movement.

5. In a loom, the combination of a lay having a slotted shuttle box, a picker stick and picker, a cushion carrier or block secured to the lay at the terminal portion of the picking movement having a web extending into the slot of the shuttle box, a cushion carried by said block and seated on one side of said web, a yielding facing covering the cushion, and a pin passing through the block on the opposite side of said web and connected to the yielding facing.

973,133. FILLING-REPLENISHING MECHANISM. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Oct. 23, 1909. Serial No. 524,152.

1. In a filling replenishing loom, the combination of filling carrier supplying means, a transferrer having a member to engage the filling carrier adjacent the base portion and a member to engage the filling carrier adjacent the tip portion, said members being relatively yielding to permit relative movement when the filling carrier movement be obstructed, and means for actuating the transferrer.

2. In a filling replenishing loom, the combination of filling carrier supplying means, a transferrer having a part to engage the filling carrier near one end and a member to engage the filling carrier near the other end, said member being mounted to yield during transferring movement should the filling carrier movement be obstructed, and means for actuating the transferrer.



3. In a filling replenishing loom, means for supplying filling carriers, in combination with a transferrer having a part to engage a filling carrier near one end and a part to engage a filling carrier near the opposite end to effect the transfer, one of said parts being yieldingly mounted with relation to the other part of the transferrer should the filling carrier movement be obstructed.

4. In a filling replenishing loom, a transferrer comprising an arm having a part to engage the filling carrier near the base portion thereof, and a tip engaging member yieldingly mounted with respect to said arm.

5. In a filling replenishing loom, a transferrer comprising an arm having a part to engage the filling carrier near the base portion thereof, a tip engaging member mounted on said arm, and a spring normally acting on the tip engaging member to yieldingly maintain it in operative position with relation to the base engaging part of the transferrer.

[Claims 6 to 15 not printed in the Gazette.]

973,134. CLOTH-BEAM FOR LOOMS. JONAS NORTHROP, Hopedale, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Jan. 13, 1910. Serial No. 537,814.



1. In a loom, the combination of a cloth beam and a cloth roll releaser comprising a flattened rod extending longitudinally along the surface of the beam, and means for locking said rod in position with its larger transverse dimension extending outward from the surface of the beam and permitting the rod to be unlocked and turned to release the cloth roll wound about the rod and beam.

2. In a loom, the combination of a cloth beam, means for turning said beam to wind the cloth thereon and a cloth roll releaser comprising a rod extending longitudinally of the beam and having different transverse dimensions, and means for locking the releaser in position with its greatest transverse dimension extending outward from the beam.

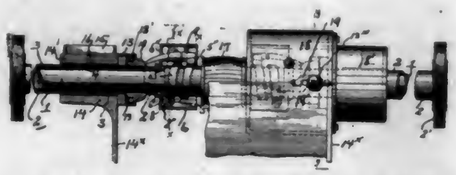
3. In a loom, the combination of a cloth beam, and a cloth roll releaser comprising a rod extending longitudinally of the cloth beam and having a cloth supporting portion, said rod being movable relative to the beam to project the cloth supporting portion outward beyond the surface of the beam and cause it to sustain a part of the cloth convolutions at a distance from the surface of the beam as the cloth is wound thereon and to retract said cloth supporting portion toward the beam to loosen the convolutions of cloth and permit the beam to be withdrawn endwise therefrom.

4. In a loom, the combination of a cloth beam, a cloth roll releaser comprising a rod extending longitudinally of the cloth beam and having a cloth supporting portion, said rod being movable relative to the beam to project the cloth supporting portion outward from the surface of the beam and cause it to sustain a part of the cloth convolutions at a distance from the surface of the beam as the cloth is wound thereon and to retract said cloth supporting portion to loosen the convolutions of cloth and permit the beam to be withdrawn endwise therefrom, and locking means to hold the said rod in its cloth sustaining position.

5. In a loom, the combination of a cloth beam, a cloth roll releaser comprising a rod extending longitudinally of the cloth beam and having a cloth supporting portion, said rod being movable relative to the beam to project the cloth supporting portion and cause it to sustain a part of the cloth convolutions at a distance from the surface of the beam as the cloth is wound thereon and to retract said cloth supporting portion to loosen the convolutions of cloth and permit the beam to be withdrawn endwise therefrom, and locking means to hold the said rod in its cloth sustaining position, said rod being movable longitudinally of the beam to unlock said means.

[Claims 6 to 17 not printed in the Gazette.]

973,135. BUFFING AND POLISHING MACHINE. ALFRED B. NUTTING, Salisbury, Mass. Filed Feb. 15, 1908. Serial No. 416,135. Renewed Apr. 20, 1910. Serial No. 556,619.



1. In a machine of the class described, a main driving-shaft, buffing wheels located one at each end of the main shaft but independent thereof and of each other, said buffing wheels being carried by independent shafts, and clutch mechanism coöperating with said main and independent shafts whereby either of the latter may be thrown into rotatable engagement with the said driving-shaft.

2. In a machine of the class described, a main driving-shaft, buffing-wheel shafts carrying buffing wheels located one at each end of the driving-shaft, the inner ends of said shafts and the recessed outer ends of said driving-shaft at all times having a concentric bearing engagement with each other, and means whereby the said buffing-wheel shafts are adapted to be moved each independent of the other into or out of engagement with the driving-shaft.

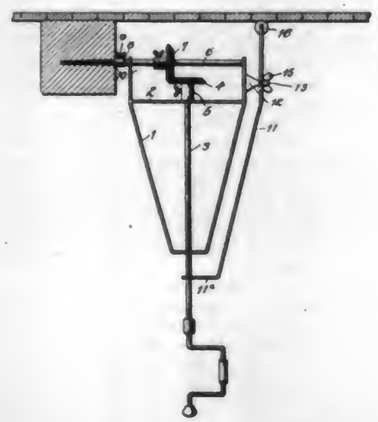
3. In a machine of the class described, a main shaft, work shafts carrying tools and surrounding and located one at each end of the driving-shaft, and clutch mechanism coöperating with said main and tool shafts and adapted to throw either of the tool shafts into or out of engagement with the driving-shaft.

4. In a machine of the class described, a main driving-shaft, buffing wheels located one at each end of the driving-shaft but independent thereof and of each other and each provided with a tubular shaft into which an end of the said driving-shaft enters, and clutch mechanism coöperating with said main and tubular shafts and adapted to throw either of the buffing wheels into engagement with the said driving-shafts.

5. In a machine of the class described, a main driving-shaft, buffing wheels located one at each end of the main shaft and independent thereof and of each other, a tubular shaft on each of the buffing wheels surrounding the end of the main shaft and freely rotatable concentric therewith, and clutch mechanism integral therewith and loosely surrounding the driving-shaft, and a collar surrounding said tubular shafts movable longitudinally thereon and engaging the clutch mechanism to throw either of the buffing wheels into engagement with the driving-shaft.

[Claims 6 to 13 not printed in the Gazette.]

973,136. BORING-MACHINE. JAMES W. OGLE, Madison, Ill. Filed Mar. 5, 1909. Serial No. 481,283.

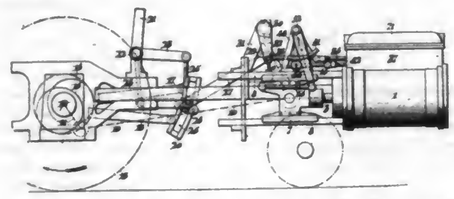


1. A device of the kind described comprising a frame, drill holding means arranged adjacent one end of the frame and transverse thereto, an operating shaft journaled longitudinally in the frame and being provided with a crank portion adjacent the end of the frame opposite the drill holding means, means for transmitting rotary motion of the said shaft to the drill holding means, a gage consisting of an angled bar arranged parallel to and outside of the frame, one end of said bar being loosely mounted upon the said shaft, the other end projecting beyond and at right angles to the drill holding means, and means carried by the frame for supporting the last mentioned end portion of said gage.

2. A device of the kind described comprising a frame, drilling mechanism carried thereby, a drill working at right angles to the frame, a bar parallel to and extending beyond the ends of the frame, said bar being slotted adjacent one end and angled adjacent the other end, the angled portion working loosely upon a shaft of the drilling mechanism, a roller carried by the slotted end, a pin carried by the frame and extending into the slot, and a wing nut working upon said pin, as and for the purpose set forth.

3. A device of the kind described comprising a frame, a drill shaft carried transversely by the frame, a drive shaft carried by the frame at right angles to the drill shaft, intermeshing gears carried by said shafts, a gage arranged parallel to the frame, one end of the gage being slotted, and the other end being angled, a drive shaft passing loosely through the angled portion, a roller carried by the slotted end portion, a pin carried by the frame and extending through the slot, and a nut working upon said pin and clamping the gage against movement relative to the frame.

973,137. VALVE-GEAR FOR ENGINES. CHARLES F. PRESCOTT, Philadelphia, Pa. Filed Sept. 3, 1909. Serial No. 516,044.



1. In an engine, the combination of a piston cylinder provided with movable ports always communicating freely with the cylinder; a reciprocating valve controlling said ports; and means for imparting to the ports a reciprocatory motion whereby the events of the valve are modified in the interest of economy of steam consumption.

2. In an engine, the combination of a piston cylinder provided with ports; reciprocating slide valve for the control of said ports; a ported sliding valve seat interposed between the cylinder ports and the slide valve the ports of said valve seat always communicating freely with the cylinder ports; and means for imparting a reciprocatory motion to said sliding valve seat.

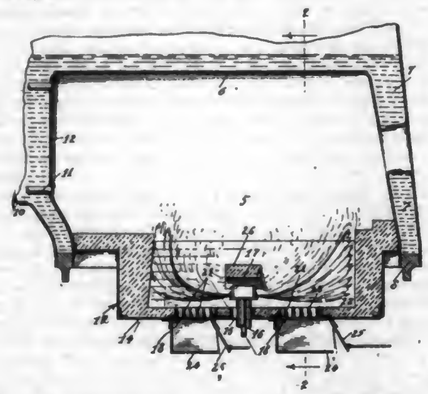
3. In an engine, the combination of a piston cylinder provided with movable ports; a reciprocating valve controlling said ports; and means for imparting to the ports a reciprocatory motion which is completed once for each half-reciprocation of the piston.

4. In an engine, the combination of a piston cylinder provided with movable ports; a reciprocating valve controlling said ports; and means for imparting to the ports an irregular reciprocatory motion so correlated to the piston stroke as to rest four times for each stroke with successive reversal of the direction of motion after rest.

5. In a valve gear for engines having a piston cylinder provided with movable ports; a valve controlling said ports; and means for imparting independent reciprocatory motion to both the valve and ports, the resultant of their differential reciprocation producing quick motions to open and close the admission and exhaust.

[Claims 6 and 7 not printed in the Gazette.]

973,138. OIL-BURNING STEAM-BOILER. WILLIAM A. ROGERS, Los Angeles, Cal., assignor to Charles A. Hammel, Los Angeles, Cal. Filed July 8, 1909. Serial No. 506,491.



1. The combination with a steam boiler having a firebox, of a double hydrocarbon burner centrally disposed in said firebox for delivering independent hydrocarbon flames in opposite directions into the firebox, means for establishing a draft of air into the firebox adjacent the flame delivery means, means for admitting air directly into the firebox adjacent to and under each flame, and a controlling means for each air admission means.

2. The combination with a steam boiler having a firebox, of a double hydrocarbon burner centrally disposed in said firebox for delivering hydrocarbon flames in diametrically opposite directions into the firebox, means for establishing a draft of air into the firebox adjacent the hydrocarbon burner, a heat deflecting arch disposed directly above and over the hydrocarbon burner, a plurality of air inlets in the bottom of said firebox, and means to control the flow of air through said air inlets.

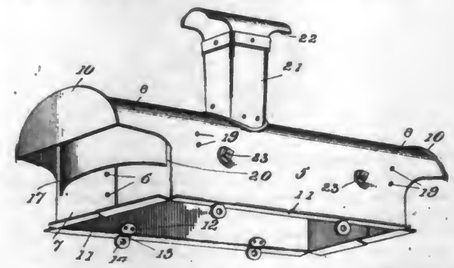
3. The combination with a steam boiler, having a firebox lined with a refractory material, of a hydrocarbon burner having a double flame outlet, centrally disposed in said firebox for delivering hydrocarbon flames in diametrically opposite directions into the firebox, means for establishing a draft of air into the firebox adjacent the burner, a heat deflecting arch transversely disposed in said firebox above the burner, a plurality of air inlets in the bottom of said box, a metallic casing having an opening therein disposed under each air inlet, a closure for the opening in each casing, and means to control said closures.

4. The combination with a steam boiler having a firebox, of a double hydrocarbon burner disposed in said firebox for delivering hydrocarbon flames in opposite directions into the firebox, means for establishing a draft of air into the firebox adjacent the hydrocarbon burner, a heat protective means for said hydrocarbon burner disposed in said firebox, and means for admitting air directly into the firebox adjacent to and under each flame.

5. The combination with a steam boiler having a firebox, of a double hydrocarbon burner capable of delivering independent flames therefrom in diametrically opposite directions into the firebox, means for establishing a draft of air into the firebox adjacent the hydrocarbon burner, a heat protective arch located in said firebox above said burner, means for admitting air directly into the firebox adjacent to and under each flame delivered by the hydrocarbon burner, and means to control the volume of air passing through said air admission means.

[Claim 6 not printed in the Gazette.]

973,139. CHIMNEY-CAP. JOHN C. ROTHBARTH, Buffalo, N. Y. Filed Feb. 19, 1910. Serial No. 544,860.



1. A chimney cap comprising a body portion having the upper portions of its end walls cut-away and provided with inwardly extending flanges spaced from the top of the body portion to form openings, a cover forming a part of the body portion and provided with oppositely disposed hoods overhanging the openings in the ends of said body portion, and guard plates forming partial closures for said openings and housed beneath the hoods.

2. A chimney cap comprising a body portion having the upper portions of its end walls cut-away to form openings, a cover forming a part of the body portion and provided with oppositely disposed hoods overhanging said openings, and guard plates forming partial closures for said openings and spaced from the cover.

3. A chimney cap comprising a body portion having its opposite end walls spaced from the top of said body por-

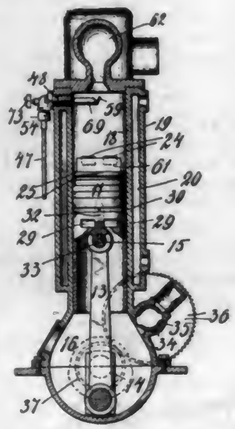
tion to form intermediate openings, laterally curved guard plates forming partial closures for said openings, a reinforcing flange extending laterally from the lower portion of the cap, and attaching lugs secured to the body portion at said flange for engagement with the chimney, the top of said body portion being extended longitudinally beyond the guard plates to form overhanging hoods.

4. A chimney cap comprising a body portion having a curved top terminating in overhanging hoods, the end walls of the body portion being spaced from the top to form openings and provided with inwardly extending flanges, end plates secured to the hoods, and outwardly extended guard plates interposed between the end walls and the end plates and forming partial closures for the openings in the body portion.

5. A chimney cap comprising a body portion having openings in the end walls thereof and provided with a cover extending longitudinally beyond the end walls to form overhanging hoods, a ventilating tube carried by the cover, a reinforcing flange extending laterally from the bottom of the body portion, guard plates forming partial closures for the openings in the body portion, and attaching lugs secured to the body portion and provided with openings for the reception of fastening devices.

[Claims 6 to 9 not printed in the Gazette.]

973,140. INTERNAL-COMBUSTION ENGINE. CHARLES H. SERGEANT, Bridgeport, Conn. Filed Oct. 8, 1907. Serial No. 396,377.



1. In an internal combustion engine, the combination with a cylinder and a fuel pump therefor, of a fitting secured to the upper end of the cylinder and connected with the discharge side of the said pump, said fitting provided with a detachable washer having a reduced hole forming a nozzle, and a dash plate arranged at a point opposite the said nozzle.

2. In an internal combustion engine, the combination with a cylinder and a fuel pump, of a removable fitting secured to the upper end of the cylinder and penetrating one of the side walls thereof, said fitting provided with a discharge opening therethrough, an extension arranged to project within the cylinder, and a dash plate supported by said extension within the cylinder opposite, and in a line with, the said discharge opening, the space between the discharge opening and the dash plate being open to the cylinder, whereby a stream of liquid fuel will be directed upon the said dash plate, and by it sprayed radially.

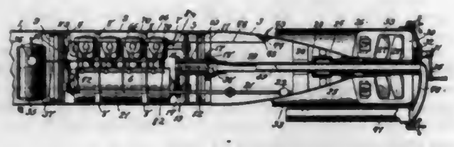
3. In an internal combustion engine, the combination with a cylinder and a fuel pump therefor, of a fitting secured to the upper end thereof and penetrating one wall, said fitting connected to the discharge side of the fuel pump and having a port or passage leading to within the cylinder, and provided with a check valve, a cap piece removably secured to the inner face thereof, a detachable washer with a reduced hole forming a nozzle, located between the said cap piece and the inner face of the said fitting, a stem extending from the fitting radially within the cylinder, and a dash plate supported by the said stem in a line with the said nozzle.

4. In an internal combustion engine, the combination with a cylinder and a fuel pump, of a fitting secured to the cylinder near the upper end and to which the discharge of the pump is connected, said fitting provided with a discharge opening therethrough and having an open trough-shaped extension beneath the said opening arranged to project within the cylinder, and a dash plate supported by said trough-shaped extension within the cylinder opposite to, and in a line with, the said discharge opening, the said dash plate presenting a plane face toward the said opening, and at substantially right angles thereto.

5. In an internal combustion engine, the combination with a cylinder and a fuel pump therefor, of a fitting secured to the upper end of the cylinder and connected with the discharge side of the said pump, and having a discharge opening therethrough, said fitting provided with a dash plate arranged at a point opposite the said discharge opening, and presenting a plane face toward the said opening, at substantially right angles thereto, and with a lateral wind shield between the said discharge opening and the said dash plate.

[Claims 6 to 11 not printed in the Gazette.]

973,141. SELF-PROPELLING TORPEDO. HAROLD W. SHONNARD, East Orange, N. J. Filed Feb. 21, 1908. Serial No. 417,214.



1. In combination with a self-propelled submarine torpedo body, and a propeller therefor, an internal explosion engine operatively connected to said propeller comprising cylinders and means for producing explosions in each cylinder, a reservoir of non-inflammable combustion-supporting gas stored under high pressure independently of the operation of the engine, means for supplying such gas at proper intervals under compression to the engine, and means for separately supplying fuel to said engine, substantially as described.

2. In combination with a self-propelled submarine torpedo body and a propeller therefor, an internal explosion engine operatively connected to said propeller comprising cylinders and means for producing explosions in each cylinder at every revolution thereof, a reservoir of non-inflammable combustion-supporting gas stored under high pressure independently of the operation of the engine, means for supplying such gas at proper intervals under compression to the engine, and means for separately supplying fuel to said engine, substantially as described.

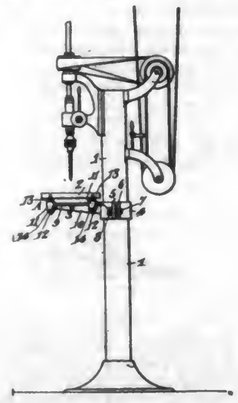
3. In combination with a self-propelled submarine torpedo body and a propeller therefor, an internal explosion engine operatively connected to said propeller comprising cylinders and means for producing explosions in each cylinder, means for supplying a combustion-supporting gas under compression to said engine, means for separately supplying fuel thereto, a mixing valve for combining said gas and fuel, and means for causing said valve to form appropriate quantities of said combined gas and fuel for each explosion in said engine.

4. In combination with a self-propelled submarine torpedo body and a propeller therefor, an internal explosion engine operatively connected to said propeller comprising cylinders and means for producing explosions in each cylinder at every revolution thereof, means for supplying a combustion-supporting gas under compression to said engine, means for separately supplying fuel thereto, a mixing valve for combining said gas and fuel, and means for causing said valve to form appropriate quantities of said combined gas and fuel for each explosion in said engine, substantially as described.

5. In combination with a torpedo body, an internal explosion engine within the same, a propeller, a propeller shaft therefor operatively connected to said engine, a launching tube, a crank having a driven shaft passing through the breech of said tube, and means whereby movement of said crank is imparted to said propeller shaft, substantially as described.

[Claims 6 to 17 not printed in the Gazette.]

973,142. DRILL-PRESS TABLE. LOUIS SMITH, Harrisburg, Pa. Filed July 12, 1909. Serial No. 507,134.



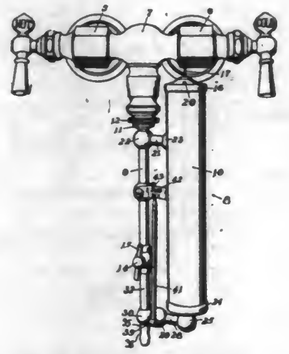
1. The combination with a drill press or like machine having a vertical supporting column and a tool, of a bracket projecting horizontally from the column and secured around the same at one end, a work holder disposed above the bracket beneath the tool, and a plurality of independent adjusting devices mounted in the bracket and engaging the under side of the work holder to constitute a plurality of spaced supports therefor.

2. The combination with a drill press or like machine having a vertical supporting column and a tool, of a bracket projecting horizontally from the column and terminating at one end in a split ring encircling and clamped to the said column, a plurality of spaced tubular bearings on the edges of the bracket, a flat plate-like work holder disposed above the bracket beneath the tool, studs secured in the work holder and depending therefrom through and out of contact with the said tubular bearings, and securing nuts mounted on said studs above and below the said tubular bearings adapted to be turned home against the same.

3. The combination with a drill press or like machine having a vertical column and a tool, of a spider-like bracket having outwardly-extending arms, the said bracket terminating at one end in a split ring secured around the column, a plate-like work holder disposed above the bracket beneath the tool, and adjustable supports in the ends of the outwardly-extending arms engaging the under side of the work holder at spaced points in different longitudinal and transverse planes thereof.

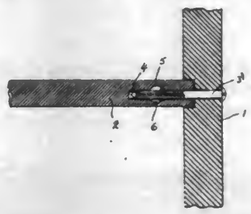
973,143. ATTACHMENT FOR BATH-COCKS. EDMUN D. SNODGRASS, Tillamook, Oreg. Filed July 21, 1909. Serial No. 508,749.

1. A device of the class described comprising a nozzle, a reservoir for medicament, a duct connecting said reservoir to said nozzle and having a valve, means to indicate the position of said valve, a valve in the said nozzle between the in-take end thereof and the said duct and means to indicate the condition of the said reservoir as to its being full or empty.



2. In a device of the class described, a tubular section having a passage and further provided at its outer end with a passage of greater diameter than the first-named passage and disposed at right angles thereto, a nozzle having its lower end threaded into the last-named passage and provided with an elongated hollow nose spaced from the wall of the passage, a tubular nipple threaded into the opposite end of the passage and spaced from the nose and a reservoir connected at one end to the inner end of the said tubular section.

973,144. JOINT FASTENER AND TIGHTENER. JOSEPH W. STAPLES, Dixon, Ill. Filed May 14, 1908. Serial No. 432,856.



1. A joint fastener and tightener comprising a male threaded member, a female threaded member laterally slidable to cause said threaded members to aline, and means on said female threaded member and coacting with said male member to govern and limit the movement of said threaded members into alinement.

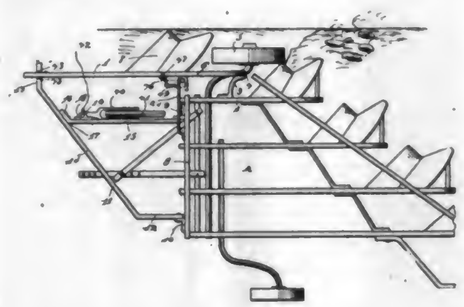
2. A device of the character described comprising a screw and a pin having a transverse threaded perforation, and having a groove extending from said threaded perforation to end of said pin.

3. A device of the character described comprising a screw and a pin, said pin provided with a diametrical threaded perforation, a longitudinal guiding groove extending from said threaded perforation to end of said pin, and a slot in opposite end of said pin parallel to said threaded perforation.

973,145. GANG-PLOW ATTACHMENT. MILTON S. STIMPSON, Roodhouse, Ill. Filed Sept. 10, 1909. Serial No. 517,137.

1. A plowing structure comprising a carriage, a plurality of plow shares mounted thereon, a pair of support-

ing wheels for said carriage, a frame pivotally connected to the front edge of said carriage, a supporting wheel adjustably connected to said frame, and a plow share connected to the side of said frame and in front of the furrow wheel of said carriage.



2. In a plow structure, a pivotally mounted beam, a plowshare carried by said beam, a pivotally mounted support, said beam resting on said pivotally mounted support, means for holding said beam in position on said support, and a wheel on which said pivotally mounted support is adjustably mounted.

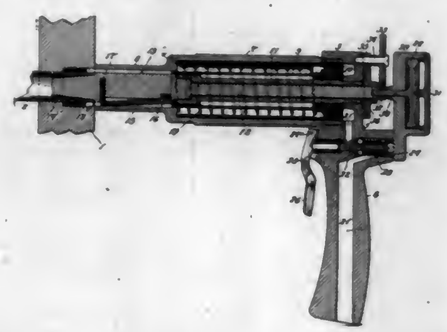
3. In a plow structure, a movably mounted beam, a plowshare carried by said beam, a movably mounted support for said beam, a hook carried by said beam, and a support on which said hook can be secured.

4. In a plow structure, a movably mounted beam, a standard, a plowshare carried by said standard, a support for said beam, an upright secured to said standard and said beam, and a hook adapted to embrace said upright.

5. In a plow structure, a movably mounted beam, a plowshare carried by said beam, a support for said beam, an upright secured to said beam, and means for holding said upright in a substantially vertical position.

[Claim 6 not printed in the Gazette.]

973,146. PACKING-TOOL. EDWARD P. STRODE, New York, N. Y. Filed Mar. 4, 1910. Serial No. 547,324.



1. As an article of manufacture a packing tool provided with means for supporting a packing cord; means for winding the same around the support; a motor for rotating said winding means, and additional means for driving the cord into its final packed position.

2. As an article of manufacture a packing tool embracing a cylindrical barrel and a tubular cord support located therein, said barrel being provided with a slot and the cord support with means for holding one end of the cord; together with additional means for winding the cord around the support and drawing it through the slot, and a motive device for driving said winding means.

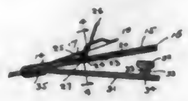
3. As an article of manufacture a packing tool embracing a cylindrical barrel and a tubular cord support located therein, said barrel being provided with a slot and the cord support with means for holding one end of the cord; together with power impelled means for winding the cord around the support and drawing it through the slot, and power impelled means for driving the cord into its final packed position.

4. As an article of manufacture a packing tool provided with a tubular packing cord support; power impelled mechanism for winding the cord around the support, and independent power impelled mechanism for forcing the cord off of the support and into position when it is designed to be used; together with independent controlling means for utilizing the same source of power to drive either the winding mechanism or the packing mechanism.

5. As an article of manufacture a packing tool provided with a tubular packing cord support; power impelled mechanism for winding the cord around the support, and power impelled mechanism for forcing the cord off of the support and into position when it is desired to be used; together with manually controlled means for regulating the application of power to the same.

[Claim 6 not printed in the Gazette.]

973,147. CLASP. ALBERT T. VAN ALSTYN, Stamford, Conn. Filed July 8, 1908. Serial No. 442,595.



1. A clasp comprising a member provided with an opening, a second member having a block to enter said opening, a slide constructed to engage said block and provided with a socket, a spring plate normally locking said slide against movement, said plate being provided with a housing having an opening therein, and a lever passing through the last mentioned opening and engaging the socket in said slide, whereby said lever will operate said spring plate and said slide successively.

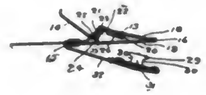
2. A clasp member comprising a body having ways, an opening and a spring, said spring having a housing provided with an opening, a slide moving in the ways and normally locked by said spring, and a lever passing through the opening in the housing and engaging both the housing and the slide, whereby oscillation of the lever successively moves said spring and reciprocates said slide.

3. A clasp member comprising a body having ways, an opening and a spring, said spring having a housing provided with an opening, a slide moving in the ways and normally locked by said spring, said slide having a transverse socket and lugs, and a lever passing through the opening in the housing and having shoulders engaging the latter, the inner end of the lever having a cross bar engaging the socket in the slide and above the cross bar engaging an opening to receive the lugs which retain the lever in engagement with the slide, whereby said lever will successively move said spring and operate said slide.

4. A clasp member comprising a body having ways, a double thick cross piece at the forward end, a spring formed integral with the body and an opening between the cross piece and the spring, a slide moving in the ways and made double thick at the forward end forming a stop engaged by the spring, and a lever engaging the spring and the slide, to operate them successively.

5. A clasp consisting of a member comprising a body having ways, an opening, and a spring, a slide moving in the ways, and normally locked by said spring, a lever engaging both the spring and the slide to operate them successively, and a member having a transverse holding block adapted to enter the opening.

973,148. CLASP. ALBERT T. VAN ALSTYN, Stamford, Conn. Filed May 27, 1909. Serial No. 498,604.

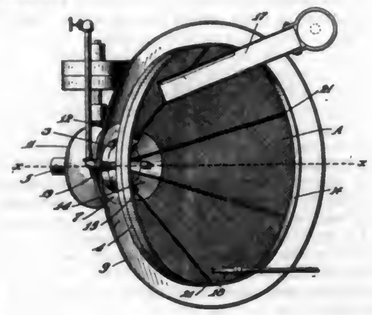


1. A clasp consisting of a member comprising a frame having flanges, a swinging plate hinged to the frame, a holding plate, an operating lever having an arm engaging the flanges and a hinge connection between said arm, the swinging plate and the holding plate, and a member having a holding block adapted to receive a fold of garment and to pass through the frame.

2. A clasp member comprising a frame having flanges, a swinging plate hinged to the frame, a holding plate, an operating lever having an arm engaging the flanges and a hinge connection between said arm, the swinging plate and the holding plate.

3. A clasp member comprising a frame having end pieces, and side pieces with upper and lower inwardly-turned flanges, a swinging plate hinged to the side pieces, a holding plate, a spring formed integral therewith whose ends engage the lower flanges, an operating lever having an angle arm provided with lugs engaging the upper flanges and a hinge connection between said arm, the swinging plate and the holding plate, the spring acting to retain the operating lever in the engaging position.

973,149. REVOLUBLE SIZING-SCREEN. LEWIS E. WARNER, Kellogg, Idaho. Filed Apr. 11, 1910. Serial No. 554,804.



1. A sizing apparatus consisting of a revoluble funnel-shaped screen mounted at an incline and with walls converging downwardly, the lower wall of the screen having a small inclination with relation to the horizontal line, and the smaller end of the screen having a tubular extension of substantial length forming a discharge for oversize material and also an axis about which the screen is revoluble, the upper and lower ends of the screen being arranged at an angle to the vertical.

2. A sizing apparatus consisting of a funnel-shaped screen, a support or spider by which said screen is carried, a revoluble hollow shaft forming a continuation and discharge from the smaller end of the screen, and serving as the axis about which the screen is revoluble, said shaft being journaled at such angle to the horizontal and vertical that the lower surface of the screen will have a downward inclination from the periphery to the point of discharge.

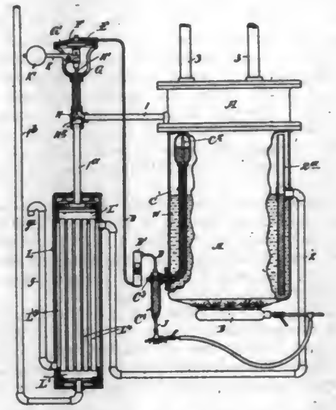
3. In a sizing apparatus, a conical screen, a funnel-shaped support by which said screen is carried, said support having an annular exterior ring, means for securing the screen to said support, said means including a central wedge-shaped clamp on the inner surface of the screen between which and the funnel-shaped support the inner edge of said screen is secured, and a ring-shaped clamp adapted to compress the exterior periphery of the screen about the annular exterior ring of the support.

4. The combination in an ore-sizing apparatus, of a frame consisting of a central funnel-shaped member having tubular central discharge, radiating arms secured to said member, a ring to which the outer ends of said arms are bolted, a conical screen and a wedge-shaped clamp on the inner surface thereof by which the inner end of the screen is secured to the central member, and a ring by which the outer periphery is clamped to the peripheral frame ring, said screen having its intermediate portion unsupported and spaced from said arms.

5. The combination in an ore sizing apparatus of a conical frame having a tubular, central discharge shaft, divergent supporting arms and exterior peripheral rim, bearings in which said shaft is turnable at an angle between the horizontal and vertical, a conical screen and means whereby the opposite portions of the screen are secured to the corresponding portions of the frame, said means including a wedge-shaped clamp on the inner surface of the smaller end of the screen between which and the supporting arms the inner edge of the screen is secured, the intermediate portion of the screen being out of contact with the frame.

[Claims 6 to 10 not printed in the Gazette.]

973,150. METHOD OF AND APPARATUS FOR THERMAL REGULATION. ADDISON G. WATERHOUSE, New York, N. Y., assignor to Theodore F. Bourne, trustee, Montclair, N. J. Filed Nov. 29, 1909. Serial No. 530,295.



1. The method of treating fluid consisting in heating such fluid, confining separate fluid in thermal relation to and heating it by the first named fluid, changing the temperature of said confined fluid by means indepdent of the temperature imparted to it by the first named fluid, and maintaining said fluids at different temperatures and thereby causing said confined fluid to effect regulation of the first named fluid.

2. The method of treating fluid consisting in heating such fluid, confining separate fluid in thermal relation to the first named fluid, applying auxiliary heat to the confined fluid, and causing said confined fluid to effect regulation of the first named fluid.

3. The method of treating fluid consisting in heating said fluid, confining separate fluid in thermal relation to the first named fluid, applying independent heat to and raising the temperature of said confined fluid above the temperature of the first named fluid, and causing the confined fluid to effect regulation of the first named fluid.

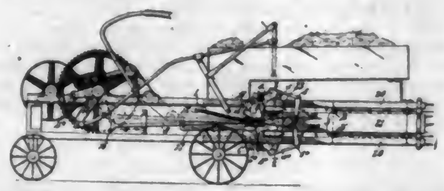
4. The method of controlling the flow of fluid consisting in heating such fluid to a substantially predetermined range, confining separate fluid in thermal relation to the first named fluid applying auxiliary heat to said confined

fluid, and causing the pressure of such confined fluid to regulate the flow of the first named fluid.

5. The method of controlling the flow of fluid consisting in heating such fluid to a substantially predetermined range, confining separate fluid in thermal relation to the first named fluid, raising the temperature of said confined fluid higher than the temperature of the first named fluid, and causing the pressure of said confined fluid to regulate the flow of the first named fluid.

[Claims 6 to 23 not printed in the Gazette.]

973,151. BALING-PRESS. CHARLES E. WEHRENBERG, Belleville, Ill., assignor to Belleville Baler Company, Belleville, Ill., a Corporation of Illinois. Filed Jan. 3, 1910. Serial No. 536,070.



1. In a baling press, wire guides adapted to be arranged above and below the baling chamber, and means for bodily moving said guides into the path of the plunger or compressing device which operates in said chamber.

2. In a baling press, wire guides adapted to be arranged transversely of the baling chamber above and below the top and bottom walls thereof, and means for simultaneously moving said guides into the path of the plunger or compressing device which operates in said chamber.

3. In a baling press, wire guides arranged adjacent transversely extending slots or openings formed in the top and bottom walls of the baling chamber, and means for bodily moving said guides through said slots into the path of the plunger or compressing device which operates in said chamber.

4. A baling press provided with a baling chamber that has slots or openings formed in the top and bottom walls thereof, and means for moving a pair of wire-receiving members through said openings and arranging them transversely across one end of a mass of material that has been compressed into the form of a bale.

5. A baling press provided with a baling chamber which has slots or openings formed in the top and bottom walls thereof, and means for introducing wire-receiving devices or guides through said openings into the baling chamber between successive strokes of the plunger or compressing device.

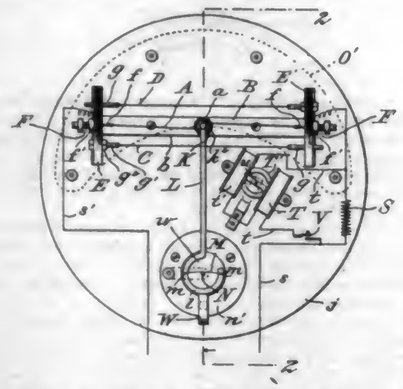
[Claims 6 to 22 not printed in the Gazette.]

973,152. ELECTRICAL MEASURING INSTRUMENT. MAURICE J. WOHL, New York, and HARRY HERTZBERG, Brooklyn, N. Y., assignors to Abbot A. Low, Horseshoe, N. Y., Maurice J. Wohl, New York, N. Y., and Harry Hertzberg, Brooklyn, N. Y., trustees. Filed Nov. 26, 1907. Serial No. 403,870.

1. In an instrument of the class described, a current-carrying member provided with an offset, and an automatic slack take up comprising a torsion spring coöperating with said member and supporting it mechanically from sagging.

2. In an instrument of the class described, a current-carrying member having an offset, means for varying the normal tension thereof, a block engaging the offset, an indicator member actuated by the block, and a take up spring coöperating with the block, said spring supporting said block.

3. In an instrument of the class described, a current-carrying member having an offset, a block engaging the offset, an indicator member actuated by the block, and a take up spring coöperating with the block, said spring also acting to support the member against sagging under the weight of the block and the indicator member.



4. In an instrument of the class described, a case, a flexible member therein adapted to be placed under tension, means including a screw, for exerting a rectilinear pull on the said member without torsion, a finger on said screw, a rotating element carried by the case and having an operating part externally thereof, and a finger on said rotating element adapted to engage said first-named finger.

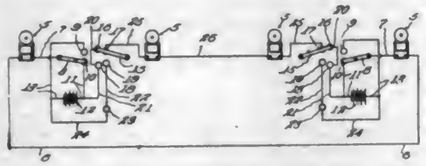
973,153. PROCESS FOR MAKING PINS. HENRY WOLCOTT, Providence, R. I. Filed Feb. 17, 1910. Serial No. 544,433.



1. A process for making pins of the type set forth, consisting in first compressing at intervals the wall of a metallic tube to form a series of units, next severing the units at their points of compression, and then flattening a side of a unit longitudinally by compression.

2. A process for making pins of the type set forth consisting in bending the ends of a metallic tube into a unit having conoidal ends, and longitudinally flattening a portion of the unit.

973,154. SIGNAL SYSTEM. ROBERT S. WOODS, Los Angeles, Cal. Filed July 19, 1909. Serial No. 508,461.



1. A signal system, comprising a plurality of station sets; each set comprising a pair of switches and a source of electrical energy, one of the switches comprising a switch arm and a pair of contact points arranged for alternate engagement with the said arm and the other comprising a switch arm and a pair of contact points each of which is engaged by said arm in one position thereof, an electrical connection between one of the contact points of the first mentioned switch and one side of the source of electrical energy, an electrical connection between one contact point of the second mentioned switch and the other side of the source of electrical energy, an electrical connection also between said contact point and the other contact point of the first mentioned switch, mechanical connective means between the two switch arms, a signal, and a line conductor connecting the station sets and the signal in series, the conductor connecting to the switch arm of the first mentioned switch and to the other contact point of the second mentioned switch of each station set.

2. A signal system, comprising a plurality of station sets; each set comprising a pair of switches and a source of electrical energy, one of the switches comprising a switch arm and a pair of contact points arranged for alternate engagement with the said arm and the other comprising a switch arm and a pair of contact points each of which is engaged by said arm in one position thereof, an electrical connection between one of the contact points of the first mentioned switch and one side of the source of electrical energy, an electrical connection between one contact point of the second mentioned switch and the other side of the source of electrical energy, an electrical connection also between said contact point and the other contact point of the first mentioned switch, mechanical connective means between the two switch arms, a signal, and a line conductor connecting the station sets and the signal in series, the conductor connecting to the switch arm of the first mentioned switch and to the other contact point of the second mentioned switch of each station set.

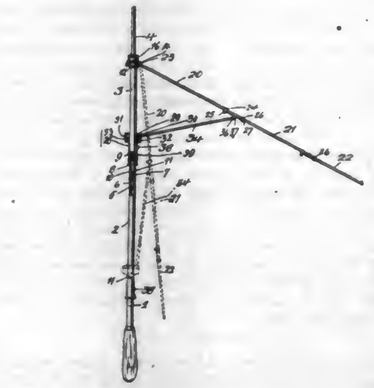
3. A signal system, comprising a plurality of station sets; each set comprising a pair of switches and a source of electrical energy, one of the switches comprising a switch arm and a pair of contact points arranged for alternate engagement with the said arm and the other comprising a switch arm and two pairs of contact points the points of each pair arranged for simultaneous engagement by said arm and each pair of points for alternate engagement by said arm, an electrical connection between one of the contact points of the first mentioned switch and one side of the source of electrical energy, an electrical connection between one contact point of one pair of contacts of the second mentioned switch and the other side of the source of electrical energy, an electrical connection also between said contact point and the other contact point of the first mentioned switch, an electrical connection also between said contact point and one of the contact points of the other pair of the second named switch, a station signal, an electrical connection between the station signal and the first named side of the source of electrical energy, an electrical connection between the station signal and the other contact of the first mentioned pair of the second mentioned switch, mechanical connective means between the two switch arms; a signal, and a line conductor connecting the station sets and the signal in series, the conductor connecting to the switch arm of the first mentioned contact switch and the other contact point of the other pair of the second named switch.

4. A signal system, comprising a plurality of station sets; each set comprising a pair of switches and a source of electrical energy, one of the switches comprising a switch arm and a pair of contact points arranged for alternate engagement with the said arm and the other comprising a switch arm and two pairs of contact points the points of each pair arranged for simultaneous engagement by said arm and each pair of said points for alternate engagement by said arm, an electrical connection between one of the contact points of the first mentioned switch and one side of the source of electrical energy, an electrical connection between one contact point of one pair of contacts of the second mentioned switch and the other side of the source of electrical energy, an electrical connection also between said contact point and the other contact point of the first mentioned switch, an electrical connection also between said contact point and one of the contact points of the other pair of the second named switch, a station signal, an electrical connection between the station signal and the first named side of the source of electrical energy, an electrical connection between the station signal and the other contact of the first mentioned pair of the second mentioned switch, mechanical connective means between the two switch arms; a signal, and a line conductor connecting the station sets and the signal in series, the conductor connecting to the switch arm of the first mentioned contact switch and the other contact point of the other pair of the second named switch.

5. A signal system, comprising a plurality of station sets; each comprising a pair of switches and a source of electrical energy, one of the switches comprising a switch arm and a pair of contact points arranged for alternate engagement with the said arm and the other comprising a switch arm and a pair of contact points each of which is engaged by said arm in one position thereof, an electrical connection between one of the contact points of the first mentioned switch and one side of the source of electrical energy, an electrical connection between one contact point of the second mentioned switch and the other side of the source of electrical energy, an electrical connection also between said contact point and the other contact point of the first mentioned switch, mechanical connective means between the two switch arms whereby the second mentioned switch arm is thrown into engagement with its contacts when the first mentioned switch arm is thrown into engagement with its first mentioned contact point; a signal, and a line conductor connecting the station sets and the signal in series, the conductor connecting to the switch arm of the first mentioned switch and to the other contact point of the second mentioned switch of each station set.

[Claims 6 to 8 not printed in the Gazette.]

973,155. FOLDING UMBRELLA. GEORGE W. WOOLLETT, Pittsburg, Pa. Filed Feb. 3, 1910. Serial No. 541,858.

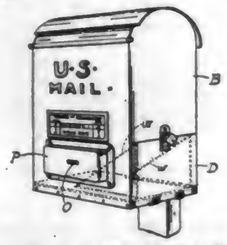


An umbrella comprising a stick, a spreader having one end pivotally connected therewith, a rib comprising an inner and an outer section, means for pivotally connecting the inner end of the inner section of the rib with the stick, a strap surrounding the inner rib section at a point removed from its outer end and having its ends projecting inwardly from said inner section and apertured, said outer rib section having an angularly disposed inner end pivotally connected to the apertured ends of said strap, said rib section further provided with an inwardly-extending pair of apertured lugs in proximity to the inner end of said outer section, means for pivotally connecting the spreader to said apertured lugs, and a retaining member carried by the outer rib section and adapted to be shifted upon the outer end of the inner rib section for coupling the outer end of the inner rib section to the outer rib section at a point removed from the inner end of the latter.

973,156. MAIL-BOX REGISTER. JOSEPH BAUMGARTNER, St. Louis, Mo. Filed Dec. 10, 1909. Serial No. 532,336.

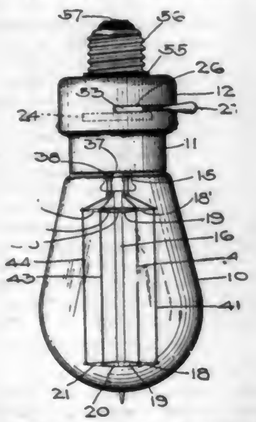
1. A mail-box having a hinged drop-door operating in a vertical plane, a link pivoted to the door a suitable distance from the hinge axis thereof and disposed on the

inside of the box adjacent the box wall at one end of the door, a rock-shaft mounted in said box-wall, an oscillating arm at the inner end of the shaft pivotally coupled to the adjacent end of the link, an oscillating arm on the rock-shaft on the outside of the box-wall, an advancing pawl pivotally coupled to the last-named arm, a ratchet disk mounted on the box-wall and engaged by the pawl, said disk being provided with an outer circular row of figures exposed through the box-wall, indicating the number of collections per day, a coöperating disk-pinion mounted between the ratchet-disk and the rock-shaft and provided with a circular row of figures exposed through the box-wall indicating the days of the month, said pinion being advanced one number with an advance of the ratchet disk corresponding to the total number of collections for the day, the parts operating substantially as, and for the purpose set forth.



2. A mail-box having a hinged drop door operating in a vertical plane, a link pivoted to the door a suitable distance from the hinge axis thereof, and disposed on the inside of the box adjacent the box wall at one end of the door, a rock-shaft mounted in said box-wall, an oscillating arm at the inner end of the shaft pivotally coupled to the adjacent end of the link, an oscillating arm on the rock-shaft on the outside of the box-wall, an advancing pawl pivotally coupled to the last-named arm, a ratchet disk mounted on the box-wall and engaged by the pawl, a boss on the disk provided with a circular row of figures indicating the number of collections per day, a disk-pinion mounted between the ratchet disk and the rock shaft and provided with a circular row of figures indicating the days of the month, teeth on the periphery of the boss of the ratchet disk engaging the teeth of the pinion and serving to advance the latter one number for an advance of the ratchet disk corresponding to the total number of collections for the day, the parts operating substantially as and for the purpose set forth.

973,157. INCANDESCENT LAMP. DELO HOKE BEHING, Pittsburg, Pa. Filed Nov. 13, 1909. Serial No. 527,829.



1. An electric incandescent lamp comprising a head, a post projecting from said head having a plurality of radially extending upper and lower arms disposed in sets of two, a switch carried by said head, a filament suspended between one set of said arms, a conductor extending from one end of said filament into the path of said switch, a feeder contacting with said switch, a return feeder within said post in circuit with said filament, a second filament held between a set of arms, a third filament held between a set of arms, a conductor connecting said second and third filaments, a feeder extending from one of said last mentioned filaments into the path of said switch and a conductor extending from said second and third filament to said return feeder.

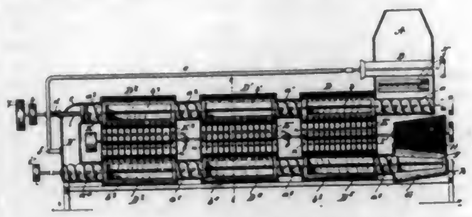
2. An electric incandescent lamp having in combination a non-conducting head, a glass post projecting from said head having a plurality of radially extending upper and lower arms disposed in sets of two, a switch bed carried by said head, a switch carried by said bed, a filament suspended between one set of said arms, a conductor extending from one end of said filament into the path of said switch, a feeder contacting with said switch, a return feeder within said post in circuit with said filament, a second filament held between the set of arms, a third filament held between a set of arms, a conductor connecting said second and third filaments, a feeder extending from one of said last mentioned filaments into the path of said switch, and a conductor extending from said second and third filament to said return feeder.

973,158. EAR-BANDAGE. KATHERINE BERTHEL, New York, N. Y. Filed June 10, 1910. Serial No. 566,178.



An ear-bandage comprising a web extending over the ear and provided with slits forming loops at the upper end, a forehead-band one end of which is attached to the lower end of the web while the other end is passed through the upper loops of the same, the intermediate part being formed into a looped end, and a short brace for connecting the lower end of the forehead-band with the front-part of the web, and a second looped band attached to the lower end of the web at one end, extending through the looped end of the forehead-band and around the back of the head, and a buckle for attaching the upper end of the second head-band to the upper end of the forehead-band.

973,159. APPARATUS FOR REMOVING FIBER FROM COTTON-SEED. GEORGE L. BLANCHARD, Montgomery, Ala. Filed Mar. 6, 1905. Serial No. 248,590.



1. In a machine for removing fiber from cotton seed, a closed cylindrical seed box, having an inlet opening at one end and an outlet opening at the other end, means external to the box for feeding the seed into the inlet opening thereof, a series of defibrating saws projecting through circumferential slots for only a short distance into said box, and a rotatable float board extending axially of the interior of said box; substantially as described.

2. In a machine for removing fiber from cotton seed, a closed cylindrical seed box, having its inlet opening in one end and an outlet opening at the other end, a conduit registering with the inlet opening, a driven shaft extending axially of the conduit and box, a feed screw on the shaft within the conduit, a float board on the shaft within the box, and a series of defibrating saws projecting through circumferential slots for only a short distance into said box; substantially as described.

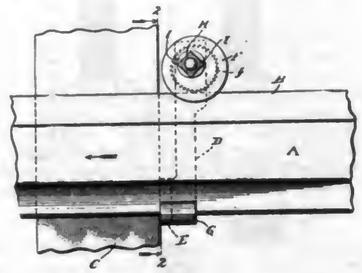
3. In a machine for removing fiber from cotton seed, a series of defibrating saws, and means for rotating them, in combination with seed boxes located at opposite sides of said saws and into which the peripheries of said saws project into the path of the seed to strip the fiber therefrom, means for feeding the seed longitudinally through the two boxes in succession, and means located in the space between the boxes to strip from the saws the fiber collected in each box, whereby fiber of different grades may be separately removed by the same saws; substantially as described.

4. In a machine for removing fiber from cotton seed, a series of defibrating saws, and means for rotating them, in combination with seed boxes located at opposite sides of said saws and into which the peripheries of said saws project into the path of the seed to strip the fiber therefrom, means for feeding the seed longitudinally through said boxes, and means located in the space between the boxes to strip from the saws the fiber collected in each box, whereby fiber of different grades may be separately removed by the same saws; substantially as described.

5. In a machine for removing fiber from cotton seed, seed boxes having each an inlet opening at one end and an outlet opening at the other end, defibrating saws projecting within said boxes into the path of the seed to strip the fiber therefrom, means for feeding the seed into the inlet openings thereof and longitudinally through the boxes past the defibrating saws, and means for separately removing from the saws and collecting the fiber at different stages in the progress of the seed past the saws, whereby the different grades of fiber are separately removed and collected; substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

973,160. RAIL-ANCHOR. JOHN A. BODKIN, New York, N. Y., assignor to Otto R. Barnett, Glencoe, Ill. Filed July 6, 1909. Serial No. 506,083.



1. A rail stay comprising means which extends under the rail, engages one edge of the flange thereof and abuts against a tie upon which the rail is supported, in combination with a cam which engages the other side of the rail flange in such way that the tendency of the rail to move longitudinally in one direction increases the lateral pressure of the cam upon the rail and means for preventing reverse movement of the cam.

2. A rail stay comprising means which extends under the rail, engages one edge of the flange thereof and abuts against a tie upon which the rail is supported, in combination with a rotatable cam which engages the other side of the rail flange, so that the tendency of the rail to move longitudinally in one direction increases the lateral pressure of the cam upon the rail and means for preventing reverse movement of the cam.

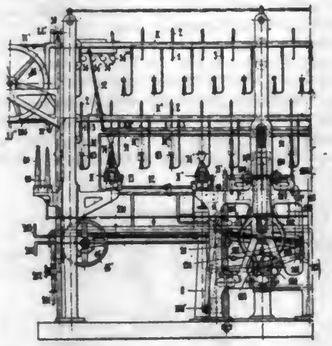
3. A rail stay comprising means which extends under the rail, engages one edge of the flange thereof and abuts against a tie upon which the rail is supported, in combination with a cam which engages the other side of the rail flange in such way that the tendency of the rail to move longitudinally in one direction increases the lateral pressure of the cam upon the rail and means for preventing reverse movement of the cam, said cam having a substantially vertical edge which is serrated.

4. A rail stay comprising means which extends under the rail, engages one edge of the flange thereof and abuts against a tie upon which the rail is supported, in combination with a cam which engages the other side of the rail flange in such way that the tendency of the rail to move longitudinally in one direction increases the lateral pressure of the cam upon the rail and means for preventing reverse movement of the cam, said cam having a part which overhangs the edge of the rail flange.

5. A rail stay comprising means which extends under the rail, engages one edge of the flange thereof and abuts against a tie upon which the rail is supported, in combination with a cam which engages the other side of the rail flange in such way that the tendency of the rail to move longitudinally in one direction tends to shift the cam with respect to the stay and so increases the lateral pressure of the cam upon the rail, and means for locking the cam against reverse movement.

[Claims 6 to 15 not printed in the Gazette.]

973,161. MACHINE FOR CALCINING MANTLES. JOSEPH BONNET, Paris, and JEAN LEON MULLER, Sannois, France. Filed Mar. 16, 1909. Serial No. 483,825.



1. In a machine for making incandescent mantles, the combination of a frame having upper and lower guides, mantle carrying rods and guide-carrying rods movable in said guides, movable chains adapted to engage said rods and move them in said guides, means adapted to engage said chains to move them from the front to the rear of the machine, stopping-time mechanisms adapted to render the chain moving means intermittently operative or inoperative, front-elevators for moving said rods from the upper to the lower guides and central and rear elevators for raising said guide carrying rods and said mantle carrying rods respectively from the lower to the upper guides.

2. In a machine for making incandescent mantles, the combination of a frame, a chain carried thereon, carrying rods moved by said chain, continuously movable pawls adapted to engage and move said chain, means for moving said pawl to cause the same to move said chain, a reciprocating cam-bar, means operated by the movement of the cam-bar for moving said pawl into operative or in-

operative position, an oscillating beam, a piece pivoted to said bar and adapted to engage said beam but normally out of engagement therewith, a vertically movable rack-bar, a movable pawl adapted to be operated by the oscillating beam to move said rack-bar upwardly with a step by step motion, means carried by said rack-bar for causing the pivoted piece to move into engagement with said beam when the upward limit of movement of the rack-bar is reached, and means for lowering said bar and disengaging said pivoted piece.

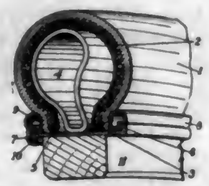
3. In a machine for making incandescent mantles, the combination of a heating chamber, lower guides passing through the heating chamber and having two different levels, mantle-carrying rods in said guides, a cam-bar having a slotted cam thereon, a vertically movable rod engaging the slot of the cam-bar, grips carried at the upper end of said vertically movable rods and adapted to engage the ends of the mantle-carrying rods and move them from the lower level to the upper level, and movable pawls for advancing the mantle carrying rods in the upper level.

4. In a machine for making incandescent mantles, the combination of a frame provided with guides, endless chains movable in said guides, a rotating spindle provided with an eccentric-pin, an eccentric rod on said pin, a pair of rotating drums, a chain bridge adapted to move parallel to said endless chain, a chain secured to said eccentric rod and wound about one of said drums, chains secured to said chain bridge and wound about the other drum, a spring-pressed pawl carried by the bridge and adapted to engage said endless chain, holding means adapted to hold the pawl out of engagement with the endless chain, a cam-bar and means operated by the cam-bar for causing said holding means to permit the pawl to move into engagement with the endless chain.

5. In a machine for making incandescent mantles, the combination of a frame provided with a guide, carrying bars in said guide, a reciprocating pawl bar, a balance beam fulcrumed at an intermediate point and pivoted at its lower end to said pawl bar, a slide or carriage pivoted to the upper end of said fulcrumed bar and movable parallel to said guide, and pawls carried by said carriage for moving said carrrying-bars.

[Claims 6 to 12 not printed in the Gazette.]

973,162. TIRE-RETAINING FLANGE FOR WHEEL-RIMS. RICHARD S. BRYANT, Columbus, Ohio, assignor, by mesne assignments, to The United Rim Company, Akron, Ohio, a Corporation of Ohio. Filed Apr. 6, 1907. Serial No. 366,747.

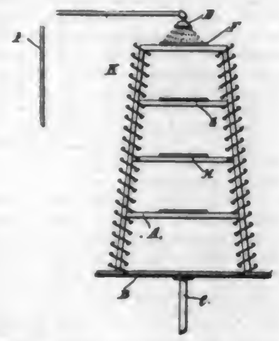


1. A hollow tire-retaining ring formed with a base for engaging and seating the same upon the face of the rim body of a wheel and having a recess formed in its periphery adjacent to the base, and being constructed to have overlapping parts for reinforcing the walls thereof.

2. A hollow tire-retaining ring having its lower portion substantially rectangular in cross section, and its upper portion substantially curved in cross section and overhanging said lower portion of said ring, said rectangular portion adjacent to said overhanging portion being formed of overlapping reinforcing members.

973,163. COOLING-TOWER. EDWIN BURHORN, Hoboken, N. J. Filed Apr. 30, 1910. Serial No. 558,506.

1. In a cooling tower, the combination of the framework with means to pass the liquid to be cooled from the upper to the lower portion, and a series of superposed and inwardly inclined louvers each having a channel along its upper edge.

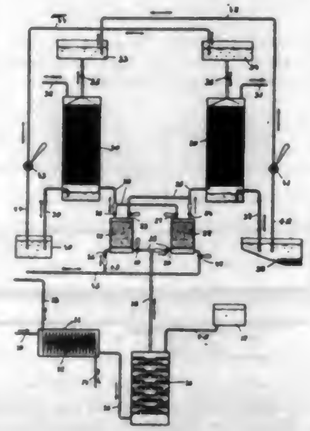


2. In a cooling tower, the combination of the framework with means to pass the liquid to be cooled from the upper to the lower portion, and a series of superposed and inwardly inclined louvers each having a channel along its upper edge; and a groove running along the louver's lower edge.

3. In a cooling tower, the combination of the framework with means to pass the liquid to be cooled from the upper to the lower portion, and a series of superposed and inwardly inclined louvers each having a channel along its upper edge; and a groove running along the louver's lower edge, said groove formed entirely beneath the upper surface of the louver.

4. In a cooling tower, the combination of the framework with means to pass the liquid to be cooled from the upper to the lower portion, and a series of superposed and inwardly inclined louvers, each having a groove running along its lower edge from end to end.

973,164. PROCESS OF OBTAINING AMMONIUM SALTS FROM GAS. KARL BURKHEISER, Aix-la-Chapelle, Germany. Filed Oct. 7, 1908. Serial No. 456,668.



1. Process of obtaining ammonium salts from gas containing sulfureted hydrogen and ammonia, which consists in converting the sulfureted hydrogen into sulfur oxygen compounds by contact with an oxidising agent, causing said compounds to react with the ammonia contained in the gas, and regenerating the oxidising agent by passing an air current thereover.

2. Process of obtaining ammonium salts from gas containing sulfureted hydrogen and ammonia, which consists in passing the gas over an oxidizing agent to retain the sulfureted hydrogen in the form of sulfur compounds, regenerating the agent and converting the sulfur compounds into acid anhydrid by passing an air current over said agent, and separately washing the gas carrying the ammonia and the air carrying the acid with the same liquid, to retain the ammonia and the acid anhydrid and cause a reaction between these gases.

3. Process of obtaining ammonium salts from gas containing sulfureted hydrogen and ammonia, which consists in passing the gas over an oxidizing agent in a plurality of alternately traversed contact chambers, to retain the sulfureted hydrogen in the form of sulfur compounds, passing a current of air through those chambers which were previously traversed by the gas, to regenerate the oxidizing agent and to convert the sulfur compounds into acid anyhdrid, washing the gas carrying the ammonia and the air carrying the acid in different washers with the same liquid to retain the ammonia and the sulfurous acid and cause a reaction between these gases, said washing liquid flowing in a continuous cycle through all the washers.

4. Process of obtaining ammonium salts from gas containing sulfureted hydrogen and ammonia, which consists in cooling said mixture to precipitate ammoniacal liquor, heating said liquor in the presence of a current of air adapted to absorb the ammonia therefrom, converting the sulfureted hydrogen of the residual gas into acid anhydrid by contact with an oxidizing agent, whereby the sulfureted hydrogen is retained in the form of sulfur compounds, passing the air carrying the ammonia over said agent to regenerate the same and to convert the sulfur compounds into acid anhydrid, separately washing the gas carrying the ammonia and the air carrying the acid with the same liquid to retain the ammonia and the sulfurous acid and cause a reaction between these gases.

973,165. CONCRETE-SLAB CONSTRUCTION. JOHN R. CAHILL, San Francisco, Cal. Filed Feb. 2, 1910. Serial No. 541,579.

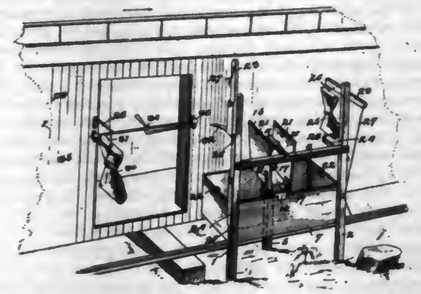


A floor structure consisting of slabs each having a plurality of parallel ribs extending downwardly therefrom, the upper portion of the slab receiving compressure stress and the lower portion tensional stress when in position in the floor, rods extending through the slab crosswise of the ribs and having extended ends, the edges of the slabs being beveled to expose said ends of the rods, said slabs each having a plurality of pieces of metal projecting above their top surfaces, and said floor structure having a surface coating embedding the metal projections and filling the channels between the beveled edges of adjacent slabs and embedding the projecting ends of said rods.

973,166. MAIL-RECEIVING DEVICE. MELVEN A. CANDLE, Dawson, N. Mex. Filed May 19, 1910. Serial No. 562,240.

1. A mail catcher comprising a frame, a receptacle carried by said frame, a cover for said receptacle, a false bottom pivotally mounted at one end within said receptacle, and means connecting said cover and false bottom whereby a pressure upon said bottom will cause said cover to close.

2. A mail catcher comprising a frame, a receptacle mounted within said frame, a cover for said receptacle, means carried by said frame for supporting a bag, means connected with said frame adapted to sever a bag from a train, and deposit the same within said receptacle, and means within said receptacle to automatically close said cover when a bag is deposited within said receptacle.



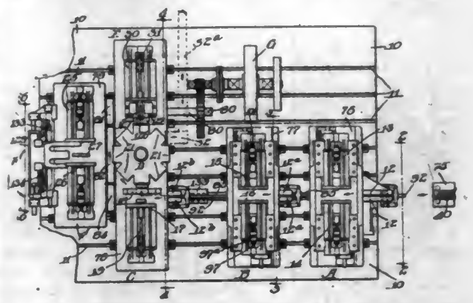
3. A device of the character described comprising a frame, a receptacle, a cover for said receptacle, arms mounted upon said frame for supporting a bag, a knife attached to said frame for severing a bag from a moving train and depositing it within said receptacle, and automatic means within said receptacle for closing the cover thereof.

4. A mail bag receiving device comprising a frame, a receptacle carried by said frame, a cover for said receptacle, means carried by said frame to deliver a bag to said receptacle, a false bottom pivotally mounted within said receptacle, a trigger attached to the side of said receptacle, a latch carried by said cover adapted for engagement with said trigger to retain said cover open, and means connecting said trigger and bottom to operate said trigger when a bag is deposited upon said bottom.

5. A mail bag receiving and delivering device comprising a frame, said frame comprising two standards, a connecting bar, an abutment mounted midway of said bar and at right angles thereto, a standard supporting the forward end of said abutment, said standards provided with seats, a receptacle mounted upon said seats, a cover for said receptacle, means carried by said first-mentioned standards for suspending a bag, means for severing a bag from a train and depositing it within said receptacle, and means within said receptacle to automatically close the cover when the sack is deposited within said receptacle.

[Claims 6 to 12 not printed in the Gazette.]

973,167. AUTOMATIC BRAKE-SHOE MACHINE. FREDERICK K. CASWELL, Los Angeles, Cal., assignor to Paul Dickinson (Incorporated), Chicago, Ill., a Corporation of Wyoming. Filed Dec. 17, 1906. Serial No. 348,172.



1. In a machine for making brake shoes in combination, a bed plate embodying a plurality of punching and forming presses, conveyer mechanism adjacent said punching and forming presses and adapted to receive cut and formed brake shoe shells therefrom, means in the path of said conveyer means adapted to insert filling material in the

brake shoe shells carried thereby, means for producing a synchronous movement throughout said punching, forming, conveyer and body inserting mechanisms, and means for adjusting said mechanism on said bed plate.

2. In a device of the character described, the combination of a plurality of mechanisms adapted to perform a series of cutting and forming operations on sheet metal, means for adjusting said mechanisms in relation to each other, and means adapted to feed material to said mechanisms, said feeding means embodying a series of movable jaws arranged in pairs and adapted to seize material being acted upon by said mechanisms and to advance the same synchronously throughout the series of mechanisms.

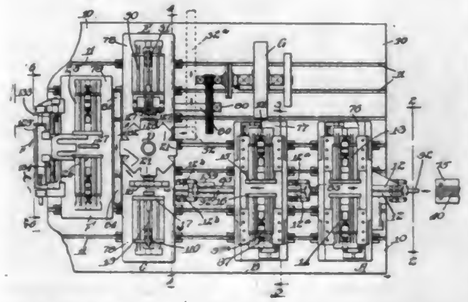
3. In a device of the character described, the combination of a plurality of mechanisms adapted to perform a successive series of punching and forming operations on sheet metal, means for adjusting said mechanisms in relation to each other, and feeding means adapted to seize sheet metal material and to advance the same with a synchronous movement throughout the several mechanisms.

4. In a device of the character described, the combination of a plurality of mechanisms adapted to perform a successive series of operations on sheet metal for the purpose of forming brake-shoe holders or shells, means for adjusting said mechanisms in relation to each other, feeding means adapted to present sheet metal material to said mechanisms and to advance the same synchronously throughout the said series of mechanisms, a movable carrier adjacent to said holder or shell forming mechanisms adapted to receive completed shells or holders, means in the path of said carrier adapted to insert a block or body of filling material into said shells or holders, means in the path of the carrier adapted to fold the sides and ends of the holders or shells into contact with said block or body of filling material, and means for discharging the completed brake-shoes from the carrier.

5. In a device of the character described, the combination of mechanism adapted to form a shell or holder for brake shoes, said shell being provided with a back member and having side members and end members formed integral therewith and folded at an angle thereto, conveying means adapted to receive said shell or holder from said forming mechanism, means for actuating said conveying means, means adjacent to the path of said conveying means adapted to insert a prepared block or body of frictional material into said shell or holder, and means in the path of said conveyer adapted to fold the sides and ends of said shell into contact with said block or body of frictional material.

[Claims 6 to 10 not printed in the Gazette.]

973,168. PROCESS FOR MAKING BRAKE-SHOES. FREDERICK K. CASWELL, Los Angeles, Cal., assignor to Paul Dickinson (Incorporated), Chicago, Ill., a Corporation of Wyoming. Filed Dec. 17, 1906. Serial No. 348,173.

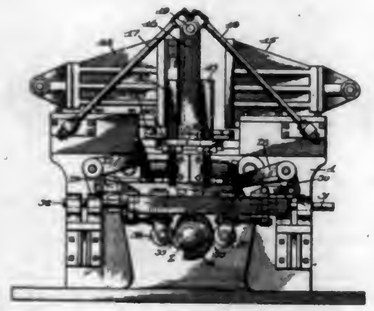


1. The herein described art or method of making brake shoes having a filling or body of frictional material incased in a shell or holder formed of sheet metal, which consists in providing a shell blank with integral back, side, and end members, folding said side and end members at an angle to the plane of said back member, inserting within the shell or holder thus formed while held within the matrix a filling block of frictional material, under sufficient pressure to give said shell the curvature necessary to correspond with the braking surface of a car wheel, and closing the side and end members by folding them inwardly on said filling.

2. The herein described art or method of making a brakeshoe, which consists in inserting a body of filling material of high frictional qualities, formed with two of its opposite faces curved concentrically to correspond to the braking surface of a car wheel, in a holder or shell of sheet metal embodying a back member, side members and end members folded at an angle thereto, and auxiliary end members integral with said side members, and causing the shell or holder to conform to the surface of the filling material by using the same as a die block or former to impart its curvature to the back of the shell and afterward securing the side members, end members and auxiliary end members, by folding and compressing them inwardly to contact with sides and ends of the filling material.

3. The herein described art or method of making brake shoes having a filling or body of frictional material incased in a shell or holder of ductile material, which consists in providing a body or block of filling material of the form desired in a completed shoe having a curvilinear frictional surface and a back surface approximately concentric with the said curvilinear frictional surface, and afterward using said filling material as a die block or former to produce a corresponding curvilinear shape to the back member of the shell or holder by inserting the filling into the shell under pressure while the shell is held in a matrix or form.

973,169. BRAKE-SHOE MACHINE. FREDERICK K. CASWELL, Los Angeles, Cal., assignor to Paul Dickinson (Incorporated), Chicago, Ill., a Corporation of Wyoming. Filed Dec. 17, 1906. Serial No. 348,177.



1. The combination, in a brake-shoe machine, of a main frame, a stationary abutting member, a horizontally moving compressor head, a reciprocating carrier, means on said carrier adapted to receive a block or body of filling material, a shell holder or matrix, and means for controlling the movement of said carrier whereby it is adapted to present material to said stationary abutting member and to the said matrix or holder.

2. The combination, in a brake-shoe machine, of a main frame, an upwardly extending stationary abutting member secured to the main frame, a pair of horizontally moving compressor heads adapted to coöperate with the opposite sides of the stationary abutting member, means for alternately moving said compressor heads, and feed mechanisms adapted to enter between said compressor heads and the stationary abutting member.

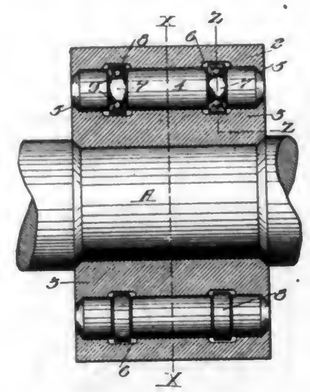
3. The combination, in a brake-shoe machine, of a main frame, a stationary abutting member carried thereby, and a pair of feed mechanisms embodying filler block carriers and carrier controlling means adapted to cause the paths of movement of said carriers to converge at predetermined points.

4. The combination, in a brake-shoe machine, of a pair of alternately reciprocating feed mechanisms, embodying approximately parallel reciprocating supporting members and adjustably mounted carriers, a shell holder or matrix adapted to be supported in definite relation to said main frame, and means for deflecting the path of movement of said carriers whereby each is adapted to be moved into cooperative relation with said shell holder or matrix.

5. The combination, in a brake-shoe machine, of a main frame, a reciprocating member carried thereby, a filler block carrier pivotally connected to said reciprocating member, and means, carried by said main frame, adapted to deflect the movement of said carrier from the path of movement of said reciprocating member.

[Claims 6 and 7 not printed in the Gazette.]

973,170. ANTIFRICTION-BEARING. EDWIN C. CHATHAM, Oakland, Cal. Filed Mar. 26, 1910. Serial No. 551,781.



1. The combination in a bearing of an exterior box or case, a sleeve fitting and turnable about the shaft, rollers interposed between the periphery of the sleeve and the interior of the box, said rollers having cone-shaped ends and having peripheral grooves or channels removed from the ends, and the ends of the box and sleeve having beveled walls corresponding to the ends of the rollers, balls fitting said grooves or channels, and rings surrounding the balls and confining the latter in the grooves or channels.

2. An antifrictional shaft bearing consisting of an exterior box or case, and an interior sleeve loosely turnable about the shaft, rollers interposed between the sleeve and the interior of the box, said rollers having cone-shaped ends, and alternate rollers having grooves or channels, and the box and sleeve having corresponding grooves, rings fitting said grooves and forming with the rollers ball races, and balls fitting said races and surrounding the rollers, said rollers having cone-shaped ends and said box or case and sleeve having internal end walls fashioned to fit the ends of the rollers.

3. The combination in an antifrictional bearing, of an exterior box, a sleeve fitting and turnable about the journaled portion of the shaft, rollers fitting and turnable between the box and the sleeve, said rollers having cone-shaped ends, and a corresponding formation of the interior of the box and the exterior of the sleeve, grooves formed in the rollers, and corresponding grooves in the case and sleeve, balls fitting said grooves and forming independent bearings for the rollers, and rings surrounding the balls and confining them in place.

4. The combination in an antifrictional bearing, of a sleeve fitting and turnable about the journal portion of a shaft, an exterior box, said sleeve and box having corresponding annular grooves, rollers having grooves which register with those of the box and sleeve, balls fitting said rollers, rings forming with the grooves of the rollers ball races, said rings being fitted to alternate rollers and projecting to form bearing contacts with intermediate plain rollers of the bearing.

5. In a combined ball and roller bearing, a sleeve loosely fitting the journaled portion of a shaft, an exterior box, alternate plain and grooved rollers interposed between the box and the sleeve, rings fitting the grooves, and forming exterior races for the balls, and contacts with the intermediate plain rollers, said rings being made in sections with uniting tongues and grooves, and spring-pressed blocks whereby said meeting ends are locked together.

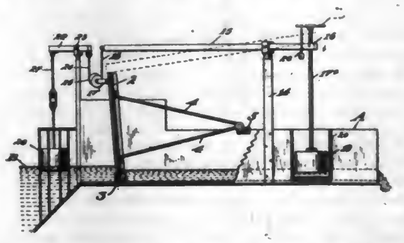
973,171. PROCESS OF TREATING BARIUM CHLORID AND STRONTIUM CHLORID FOR PRODUCING CHLORIN AND HYDROXID OF THE SAID METALS. ADOLF CLEMM, Mannheim, Germany. Filed Mar. 11, 1910. Serial No. 548,672.

1. The herein described process of producing chlorin and an hydroxid of an alkaline earth metal which comprises subjecting a solution of a chlorid of an alkaline earth metal to electrolysis until the chlorid solution is nearly saturated with the hydroxid.

2. The herein described process of producing chlorin and an hydroxid of an alkaline earth metal which comprises subjecting a solution of a chlorid of an alkaline earth metal to electrolysis until the chlorid solution is nearly saturated with the hydroxid, and gradually withdrawing the solution which is saturated with the hydroxid.

3. The herein described process of treating an alkaline earth metal chlorid for producing chlorin and the corresponding hydroxid by electrolysis, which comprises subjecting the solution of such chlorid to a partial electrolysis until the solution of the chlorid is nearly saturated with the corresponding hydroxid, withdrawing the solution, and cooling the withdrawn solution and thereby crystallizing the hydroxid.

973,172. DITCH-GATE. ADONIRAM J. COLLAR, Yreka, Cal. Filed Nov. 13, 1909. Serial No. 527,816.



1. The combination with a flume or slice, of a gate interposed across the head of the flume, a center of oscillation located behind the gate within the flume, radius connecting and brace rods, opposed fulcrumed levers each having one end connected with the gate, and floats with which the opposite ends of the levers are connected, one of said floats being raised and lowered by the rise and fall within the flume, and the other by the level of the water supplied to the flume.

2. The combination with a flume or sluice, of a gate interposed across the head of the flume, a center of oscillation located behind the gate within the flume, radius connecting and brace rods, opposed fulcrumed levers one having one arm connected with the gate and the other arm with a float within the influence of the flow in the flume, and the other having one arm connected with the gate and the other arm with a float within the influence of the water admitted to the flume.

3. The combination with a flume or sluice, of a gate interposed across the head of the flume, a center of oscilla-

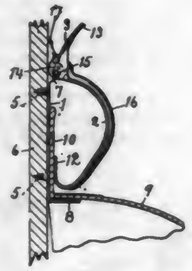
tion located behind the gate within the flume, radius connecting and brace rods, opposed fulcrumed levers each having one end connected with the gate, one of which levers is adjustably connected with a float within the influence of the flow in the flume, and the other similarly connected with a float influenced by the level of the water supplied to the flume.

4. The combination with a flume or sluice, of a gate interposed across the head of the flume, a center of oscillation located behind the gate within the flume, radius connecting and brace rods, opposed fulcrumed levers having their outer ends connected with floats located respectively within the influence of the flow in the flume and the water supplied, a drum or sheave upon the gate with which the first named lever is flexibly connected, and a coacting eccentric or differential drum with which the second lever is similarly connected.

5. The combination with a flume or sluice, of a gate interposed across the head of the flume, a center of oscillation located behind the gate within the flume, radius connecting and brace rods, opposed fulcrumed levers having their outer ends connected with floats located respectively within the influence of the flow in the flume and that of the water supply, a circular drum carried by the gate, a flexible connection with the flume lever adapted to wind upon said drum, an eccentric drum turnable with the circular drum, and having a similar connection with the other lever whereby the movement of the floats is differentiated.

[Claims 6 to 16 not printed in the Gazette.]

973,173. HAT-HOLDER. MOSES P. COMEAU and JAMES F. WALSH, Chicopee Falls, Mass. Filed Aug. 11, 1909. Serial No. 512,302.



The combination, in a hat-holder, of a substantially straight strip adapted to be fastened to a suitable support and provided at the top with lugs spaced apart and slotted in their lower edges, and provided at the bottom with a forwardly-extending lip, an outwardly-bowed arm provided with lugs and with a thumb-piece above such lugs, a pivot pin carried by the said arm lugs and seated in the slots in said strip lugs, and a spring mounted on said pin and arranged to bear against said strip and said thumb-piece to force said arm at its base toward said strip, such arm falling short of said lip and having its base bent upwardly into substantially parallel relation with said strip against which such bent portion is adapted to bear, and said spring being provided with a rearwardly-projecting end extension to snap over the top of said strip for the purpose of retaining said pin and said spring in place and of preventing said pin from becoming disengaged from said slotted lugs, substantially as shown and described.

973,174. BROODER. JOSEPH A. CONNOLLY, Everett, Mass. Filed Feb. 1, 1910. Serial No. 541,296.

1. The brooder above described, made up of an inner and an outer member, telescoped one within the other, in combination with a strip adjustable to form a part of the walls of the brooder or the walls of a runway.

2. The brooder above described, made up of an inner and an outer tubular member, telescoped one within the other, in combination with a strip adjustable to form a part of the walls of the brooder or the walls of a runway.



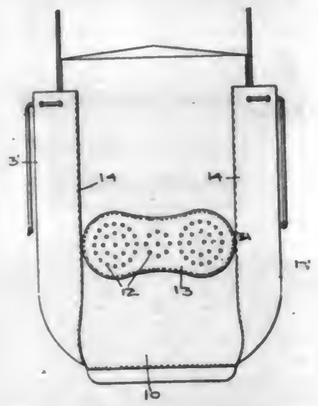
3. The brooder above described, made up of an inner and an outer member, telescoped one within the other, in combination with a strip inserted between the inner and outer members and slidable in and out to form a part of the walls of the brooder or the walls of a runway.

4. In a brooder, an inner member of four-sided tubular construction, having hover strips secured upon one side, within the member.

5. In a brooder, an inner member of four-sided tubular construction, having hover strips secured upon one side, within the inner member, in combination with an outer member of four-sided tubular construction, within which the inner member is telescoped.

[Claim 6 not printed in the Gazette.]

973,175. NOSE-BAG. HARRY W. CURRY, Hudson Heights, N. J. Filed May 21, 1908. Serial No. 434,130.

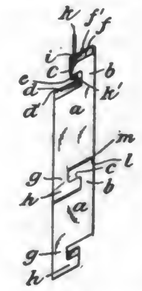


A nose bag comprising a flexible reservoir having an air inlet adjacent to its base, a receiver carried by said reservoir and composed of flexible material, said reservoir having openings therein adjacent to its bottom and communicating with said receiver, the upper portion of the reservoir extending above the open upper end of the receiver, whereby a curved trough may be provided for properly directing the feed to the receiver in filling the same by compressing said bag above where the reservoir and receiver are connected.

973,176. SASH-WEIGHT. EDGAR A. CUSTER, Philadelphia, Pa., assignor to Custer Sandless Casting Company, Philadelphia, Pa., a Corporation of Delaware. Filed Dec. 17, 1909. Serial No. 533,617.

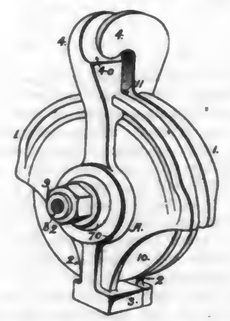
1. A sectional sashweight having at each end a straight, slanting knuckle with parallel surfaces, the knuckle at one end being the complement of the knuckle at the other end, such sectional sashweight being adapted to be engaged with and disengaged from the next by bodily oblique movement with its axis parallel with that of the next.

2. A sectional sash weight having at each end a straight, slanting interlocking knuckle with parallel surfaces, the knuckle at one end having a transverse key and the knuckle at the other end having a complementary keyway, such sectional sashweight being adapted to be engaged with and disengaged from the next by bodily oblique movement with its axis parallel with that of the next.



3. Sectional sashweights having straight, slanting interlocking knuckles with a low rib across the end of one section to engage the adjacent end of the next section to prevent disengagement of the knuckles when the lower section is held from movement downward.

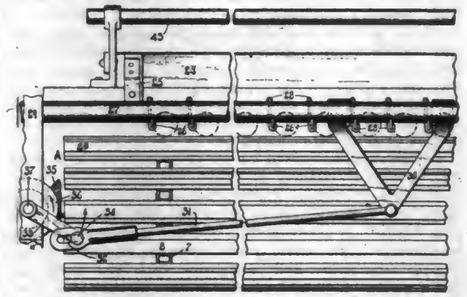
973,177. PULLEY-BLOCK. SPURGEON J. DAVIS, PARLEY W. DAVIS, and CLIFFORD MCCREADY, Eureka, Cal. Filed Jan. 7, 1910. Serial No. 536,798.



1. A pulley block comprising two opposing half sections each of which includes a body having an axial socket and aperture and a segmental portion, each of the segmental portions including an inwardly projecting flange, a radial projection extending from each segmental portion that is flattened and forms a hook portion, said hook portion being projected in the plane of the axial line of the journal for the block, the axial journal having reduced and non circular portions for engaging the sockets and the apertures in the pulley block body sections, a lug projected inwardly from each half section at a point below the hook extensions, the lower ends of each of the body sections terminating in a socket and a lug for interlocking with each other, a sheave mounted on the journal and means for clamping the two sections on the journal over the sheave.

2. In a pulley block, a sheave having laterally extended hub portions, an axial journal therefor having reduced and threaded end extensions, opposite side plates having reduced bearing apertures for the threaded journal extensions annular seats for the ends of the large diameter portion of the journals and other annular seats for the laterally extended portions of the sheave hubs, and clamp nuts for engaging the threaded journal end, the said side plates having hook extensions at one end that lap each other and interlocking lug portions at the other end.

973,178. BOTTLE-BRUSHING MACHINE. JOSEPH W. DAWSON, St. Louis, Mo., assignor to Barry-Wehmiller Machinery Company, St. Louis, Mo., a Corporation. Filed Apr. 12, 1910. Serial No. 554,931.



1. A bottle brushing machine, comprising a carrier, a brushing device above said carrier, and bottle moving means shiftable transversely of said carrier and whereby the bottles resting upon the carrier are moved transversely thereof while being operated upon by said brushing device.

2. A bottle brushing machine, comprising a carrier, a brushing device above said carrier, bottle moving means shiftable transversely of said carrier and whereby the bottles resting upon the carrier are moved transversely thereof while being operated upon by said brushing device, and means for imparting reciprocatory movement to said bottle moving means.

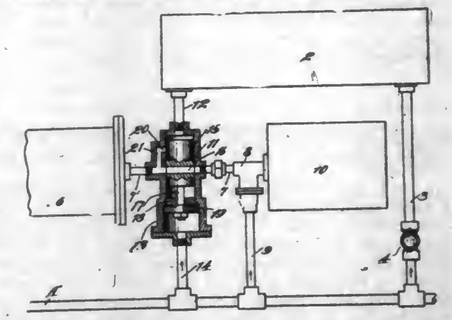
3. A bottle brushing machine, comprising a carrier, a brushing device, and bottle moving means operable transversely of said carrier, the bottle moving means being provided with arms extending over said carrier and between which the bottles are adapted to lie while resting upon the carrier to be moved thereon.

4. A bottle brushing machine, comprising a carrier, a brushing device operable above said carrier, a frame movable transversely of said carrier and having bottle shifting members by which the bottles are separated and moved transversely of the carrier while being operated upon by said brushing device, and means for moving said frame independently of the carrier and brushing device.

5. A bottle brushing machine, comprising a carrier, a brushing device operable above said carrier, a frame movable transversely of said carrier and having bottle shifting members by which the bottles are separated and moved transversely of the carrier while being operated upon by said brushing device, and means for reciprocating said frame.

[Claim 6 not printed in the Gazette.]

973,179. AIR-BRAKE SYSTEM. ARTHUR DOAN, Elmhurst, Cal. Filed Nov. 18, 1909. Serial No. 528,645.



1. The combination in an air brake system, of a trainline, a brake cylinder, a high pressure reservoir connected

with the train-line and also having a fluid connection with the brake cylinder, a valve cylinder in the connection between the brake cylinder and the high pressure reservoir, a piston valve in said valve cylinder, one end of said piston valve subject constantly to the pressure in the high pressure reservoir, means by which a difference in pressure between the high pressure reservoir and train-line results in the movement of said piston valve to admit fluid from the high pressure reservoir to the brake cylinder, and a triple valve having fluid connections with the train-line and with the brake cylinder, said connections between the triple valve and brake cylinder being controlled by said piston valve.

2. The combination in an air brake system, of a train-line, a brake cylinder, auxiliary reservoir, triple valve, connections between the train-line through the triple valve and auxiliary reservoir to the brake-cylinder, a by-pass connection between the train-line and brake cylinder around the triple valve, a high pressure reservoir in said by-pass connection and chargeable from the train line, and a piston valve interposable in said by-pass and in the connections between the train-line and triple valve, said piston valve permitting flow from the train-line through the triple valve to the brake cylinder simultaneously cutting off communication through the by-pass between the high pressure reservoir and brake-cylinder, and means for operating the piston valve by the differential action of the train-line and high pressure cylinder pressures.

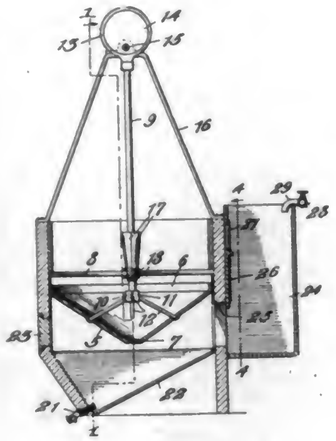
3. The combination in an air brake system, of a train-line, a brake cylinder, a high pressure reservoir connected with the train-line and also having a connection with the brake cylinder, another connection between the train line and brake cylinder, and a valve common to said last named connection and to the connection between the high pressure reservoir and brake cylinder by which one of said connections will be open when the other is closed, and vice versa, and means by which said valve is operated through the differential action of pressures in the train line and high pressure reservoir.

4. In an air brake system, the combination of a train-line, a brake cylinder, a high pressure reservoir connected with the train line, a valve cylinder, a differential piston in the cylinder, a connection between one end of the cylinder and the train line, and a connection between the other end of the cylinder and the high pressure reservoir, said valve being operable by the differential action of the pressures in the train line and high pressure reservoir, a connection between the brake cylinder and the end of the valve cylinder which is connected with the high pressure reservoir, said connection between the brake cylinder and valve cylinder being normally closed by said valve and a connection between the train line and brake cylinder.

5. An automatic air-brake system comprising, in combination, a train-line, a brake-cylinder, a brake-reservoir, a connection between said cylinder and reservoir, a high pressure reservoir connected with said train-line, and means directly interposed in the connection between the brake-cylinder and the brake reservoir through which communication may be established between the high pressure reservoir and the brake cylinder, said means including a piston operable by the difference in pressure in the train-line and in the high pressure reservoir.

973,180. ORE-CONCENTRATING JIG. MELVIN DOUBLEDEE, Joplin, Mo. Filed Jan. 22, 1910. Serial No. 539,480.

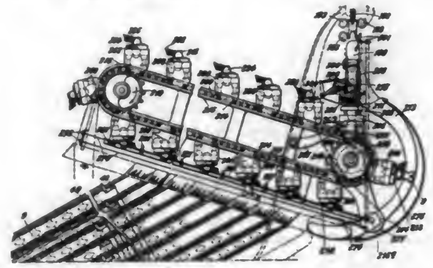
1. In a jig, the combination of a plunger compartment, a water supply compartment adjacent the latter, the two compartments being in communication adjacent their lower ends, an adjustable valve to control the opening which affords communication between the two compartments, a stationary grate in the plunger compartment above said inlet opening, a concave plunger mounted for reciprocation in the plunger compartment immediately beneath the grate and having its edges slidably engaged with the inner walls of said plunger compartment, said plunger being adapted to reciprocate across the upper portion of said inlet opening and having at its central lowermost point a single outlet opening for the concentrates, an upright tubular guide in the central portion of the grate, an elevated drive shaft disposed above the plunger compartment, a vertically disposed pitman rod operated from said shaft and extending downwardly through said tubular guide, and a spider uniting the lower end of said pitman rod to said plunger.



2. In a jig, the combination of a plunger compartment having a downwardly inclined bottom portion provided at its lower end with a valve controlled outlet, one wall of said plunger compartment being formed adjacent its bottom with an inlet opening, a water supply compartment communicating with said inlet opening, an adjustable valve to control said inlet opening, a stationary grate arranged horizontally in the plunger compartment above said inlet opening and composed of removable sections, adjacent sections being formed in the central portions of their opposing edges with semicircular recesses, a guide tube divided longitudinally in two sections, the latter having adjacent their lower ends spaced flanges to receive the recessed edges of said grate sections between them whereby the guide will be detachably secured in and supported by the grate, a concave plunger mounted for reciprocation in the plunger compartment immediately beneath the grate and having flanged edges slidably engaged with the walls of said compartment, one edge of said plunger being adapted to reciprocate across the upper portion of said inlet opening, and said plunger having in its central and lowermost portion an outlet opening for the concentrates, an elevated drive shaft, a plunger rod actuated from said shaft and extending through said guide, and a spider uniting the lower end of said plunger rod to the plunger.

3. In a jig, the combination of a plunger compartment having an inlet adjacent its bottom, a water supply compartment communicating with said inlet, a horizontal stationary grate in the plunger compartment above the inlet and composed of removable sections, two of said sections having in their opposing edges semicircular recesses, a tubular guide divided longitudinally in two separable sections having adjacent their lower ends spaced flanges to receive the recessed edges of the said grate sections between them, whereby the guide will be removably secured in said grate, a plunger to reciprocate in the plunger compartment beneath the grate and across the upper portion of said inlet opening, an elevated drive shaft, and a plunger rod actuated from said shaft and extending through said tubular guide and connected to the plunger.

973,181. LINOTYPE-MACHINE. WILLIAM EBENEZER ELLIOTT, Liverpool, England, assignor, by mesne assignments, to Mergenthaler Linotype Company, New York, N. Y., a Corporation of New York. Filed June 1, 1908. Serial No. 436,158.



1. In a line casting machine, a plurality of matrix magazines, a like number of movable devices, one for each magazine, to prevent the discharge of matrices therefrom, in combination with power-driven mechanism and intermediate connections adapted to render any one preventive device inactive and the others active at will.

2. In a line casting machine, three or more inclined magazines to contain matrices, movable devices, one for each magazine, adapted in one position to obstruct the outlet of its magazine, a power driven mechanism adapted to render one of said devices at a time unobstructive and the others obstructive, and manual devices for controlling the operation of said mechanism; whereby the operation of a manual device will cause the mechanism to automatically lock the matrices in all but one magazine, while leaving its matrices free for the ordinary devices.

3. In a line casting machine having a plurality of magazines, movable obstructive devices, one for each magazine, adapted to prevent the delivery of matrices therefrom; a selective mechanism, manually controlled, to remove the obstruction from any particular magazine; and a common closing mechanism, operative on all the obstructive devices in precedence to said selective mechanism; whereby the machine may be adjusted to permit the delivery of matrices from any one magazine, and at the same time prevent the delivery of matrices from all the other magazines.

4. In a line casting machine, plural magazines to contain matrices, and power actuated devices for locking all the matrices in the individual magazines; a series of fingerkeys corresponding to the respective magazines; and power actuated devices controlled by the fingerkeys, and serving to unlock the matrices of one magazine at a time; whereby each key is enabled to unlock the matrices of one magazine while the matrices of all the other magazines are locked therein.

5. In a line casting machine, a series of magazines provided with escapements to release the matrices, a series of devices in addition to the escapements, for locking all the matrices in the respective magazines, fingerkeys corresponding to the respective magazines, and power driven connections through which the finger-keys control the locking devices of the respective magazines, to lock the matrices in one magazine at a time.

[Claims 6 to 62 not printed in the Gazette.]

973,182. FORM FOR SHOE-TURNING MACHINES. ANDREW EPPLER, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed July 31, 1905. Serial No. 271,945.

1. A forepart form for shoe turning machines comprising a rigid tapered body substantially flat transversely and of a width sufficient to distend and substantially fill the forepart of a shoe and hold the portions of the shoe above and below the form in substantially parallel flat planes during the turning operation, substantially as described.

2. A forepart form for shoe turning machines, comprising a rigid tapered body substantially flat transversely on both its upper and lower surfaces and provided with a central aperture, substantially as described.

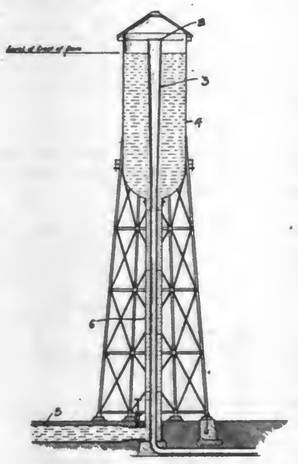


3. A forepart form for shoe turning machines, comprising a straight rigid tapering body substantially flat transversely and of a width sufficient to distend and substantially fill the forepart of a shoe and hold the portions of the shoe above and below the form in substantially parallel flat planes during the turning operation, substantially as described.

4. A forepart form for shoe-turning machines comprising a tapering body substantially flat transversely and of a length greater in proportion to its width than the length of the forepart of the shoe to be turned so that the widest part of the form extends into and distends the shank of the shoe, substantially as described.

5. A forepart form for shoe-turning machines comprising a substantially flat and straight tapering body of a length greater than the length of the forepart of the shoe to be turned so that the widest part of the form extends into and distends the shank of the shoe, substantially as described.

973,183. PRESSURE-REGULATING SURGE-TANK. JOHN T. FANNING, Minneapolis, Minn. Filed Nov. 22, 1909. Serial No. 529,266.



1. A surge tank and a waste-weir therein, in combination with a waste pipe submerged in said tank and leading therefrom.

2. A surge tank, a circular waste-weir, and a waste pipe attached to said waste-weir and leading therefrom.

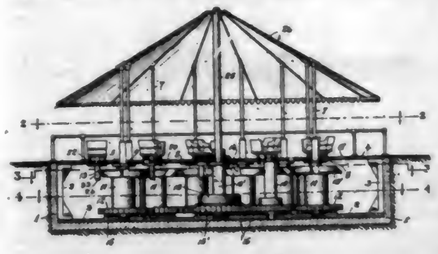
3. A surge tank and waste-weir therein, a double-walled waste-pipe within said tank and communicating with said waste-weir, substantially as described.

4. A waste overflow weir having a double-walled submerged waste-pipe in combination with a surge tank, as and for the purpose described.

5. A waste overflow weir in combination with a regulating surge tank within which it is placed and in combination with a submerged waste-pipe adapted to conduct waste water out of the tank through the lower portion thereof.

[Claims 6 to 10 not printed in the Gazette.]

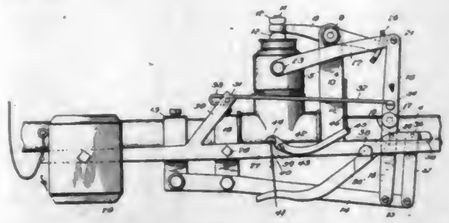
973,184. CAROUSEL. CONRAD FIGGE, Jersey City Heights, N. J., and ALOIS ZERBO, West New York, N. Y. Filed June 21, 1910. Serial No. 568,069.



1. In a carousel in combination, a series of rotary actuators adapted to be simultaneously operated, a closed track crossing and recrossing itself regularly and passing alternately on opposite sides of adjacent actuators throughout the entire series, said track completely inclosing the two terminal actuators of the series, and a car engaged with said track adapted to repeatedly engage successively each actuator of the series in forward and reverse order so long as the actuators are operated, substantially as and for the purpose described.

2. In a carousel in combination, a series of rotary actuators adapted to be simultaneously operated, a pair of tracks passing on opposite sides of the same actuator and each alternately on opposite sides of adjacent actuators throughout the entire series, said tracks being joined in a smooth curve outside the two terminal actuators of the series so as to constitute a continuous, closed system of curves, a plurality of cars each engaged with a track and adapted to be engaged successively by said actuators so as to traverse one track while moving one way of the actuator series and the other track when moving the other way, and means for automatically preventing collisions between said cars, substantially as and for the purpose described.

973,185. AUTOMATIC FIRE-EXTINGUISHER. NOAH FINICAL, Galion, Ohio. Filed Apr. 28, 1909. Serial No. 492,638.



1. In a fire extinguishing apparatus, the combination with a supply pipe having a discharge, of a valve controlling said discharge, a lever connected with said valve, an actuating lever operatively connected with said first mentioned lever, a pivotally supported holding latch having a holding and supporting engagement with said actuating lever, a holding strand engaging said latch, and a severing device for said strand.

2. In a fire extinguishing apparatus, the combination with a supply pipe having a discharge; of a valve controlling the discharge, a pivotally mounted lever connected with said valve, a second lever operatively connected with said first mentioned lever, pivotally connected links, one of which is pivoted to the second lever and means for swinging the links into and out of substantial alinement.

3. In fire extinguishing apparatus, the combination with a supply pipe having a discharge, of a valve controlling the discharge, a lever fulcrumed between its ends and engaged at one end with the valve, a yoke carried by the other end of the lever, a second lever fulcrumed at one end and passing through the yoke, pivotally connected links, one of which is pivoted to the second lever, and means for swinging the links into and out of substantial alinement.

4. In fire extinguishing apparatus, the combination with a supply pipe having a discharge, of a valve controlling the discharge, a lever fulcrumed between its ends and engaged at one end with the valve, a yoke carried by the other end of the lever, a second lever fulcrumed at one end and passing through the yoke, pivotally connected links, one of which is pivoted to the second lever, a weighted actuating lever having an arm, and a rod connected to the arm and to the links.

5. In fire extinguishing apparatus, the combination with a supply pipe having a discharge, of a valve controlling the discharge, a lever fulcrumed between its ends and engaged at one end with the valve, a yoke carried by the other end of the lever, a second lever fulcrumed at one end and passing through the yoke, pivotally connected links, one of which is pivoted to the second lever, a weighted actuating lever having an arm, a rod connected to the arm and to the links, a pivotally mounted latch having hook lugs that engage over opposite sides of the weighted lever, a fusible strand connected to the free end of the latch and engaged with the weighted lever, and a strand severing device mounted on said actuating lever.

973,186. EDUCATIONAL AND AMUSEMENT DEVICE. CHARLES E. FISHER, San Francisco, Cal., assignor of one-half to George W. Davis, Haywards, Cal. Filed Dec. 3, 1909. Serial No. 531,239.



1. A device of the character described comprising a stationary disk having printed or inscribed on it a circle containing radial divisions on both of its faces, each of said divisions provided with a scale and with pictorial representations, there being apertures arranged in concentric circles near the border of said disk, said apertures lying in unequal radial planes, said disk including supporting means on both its faces, and also including a centrally disposed hub which constitutes a bearing, and a smaller disk having a centrally disposed stub-axle projecting from each of its faces and revolubly mountable in said bearing, the last recited disk concentric to and of smaller diameter than the stationary one, whereby the aforesaid spaces, representations and apertures are visible and accessible, and whereby pegs may be inserted in said apertures without interfering with the revolution of the smaller disk, the latter having imprinted on each of its faces an arrow to indicate some one of said pegs.

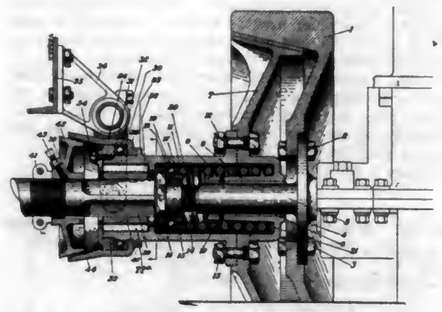
2. A device of the character described comprising a reversible, stationary, embellished disk provided with a centrally disposed hub having an aperture extending entirely therethrough to form a bearing, and with an annular flange projecting both upwardly and downwardly to form a walled tray, and a disk having a centrally disposed stub-axle projecting in both directions and revolubly mountable in said bearing, the last recited disk being concentric to and of smaller diameter than the stationary disk, whereby objects positioned between the perimeter of the smaller disk and the uppermost one of the aforesaid flanges will not interfere with the rotation of said smaller disk, said revoluble disk lying in a higher horizontal plane than the stationary disk.

3. A device of the character described comprising a reversible stationary disk provided on one of its faces with an annular series of numerals arranged in proper sequence, and provided on its reverse face with the letters of the alphabet and a sequence of numerals, there being apertures in concentric circles near the border of said disk, said apertures lying in unequal radial planes, said disk including supporting means on both its faces and provided with a centrally disposed hub constituting a bearing, and a disk having a centrally disposed stub-axle projecting from each of its faces, said axle revolubly mounted in said bearing, the last recited disk being concentric to and of smaller diameter than the stationary disk whereby the aforesaid spaces, representations and apertures are visible, and whereby pegs may be inserted in said apertures without interfering with the revolution of the smaller disk, the latter having imprinted on each of its faces an arrow to indicate some one of said pegs, in combination with a book of questions and answers, each of said questions and answers being indicated by an index number coinciding with one of the numerals on the stationary disk.

4. A device of the character described comprising a reversible stationary disk provided with suitable embellishments on both of its faces, a centrally disposed reinforce plate or hub projecting both upwardly and downwardly and provided with a bearing in both of its ends, and a disk provided with a centrally disposed stub-axle extending in both directions and revolubly seated in said bearing, the last recited disk being of smaller diameter than the one first recited and being supported thereabove by said hub.

5. A device of the character described comprising a reversible stationary disk provided with suitable embellishments on both its faces, and with concentric series of peg-receiving apertures near its border, said apertures lying in non-equal radial planes, a centrally disposed hub projecting both upwardly and downwardly from said disk and provided with a bearing in both its ends, and a disk provided with a centrally disposed stub-axle extending in both directions and revolubly seatable in said bearing, the revoluble disk being imprinted on both of its faces with an arrow whereby one of said peg-receiving apertures is indicated, and of less diameter than the one first recited, and supported thereabove by said hub.

973,187. CLUTCH-BRAKE. CLARENCE M. FOSS, Columbus, Ohio, assignor to The Seagrave Company, Columbus, Ohio, a Corporation of Ohio. Filed Oct. 4, 1909. Serial No. 520,918.



1. In a transmission mechanism, a motor shaft and a transmission shaft, a clutch spider mounted on said motor shaft, a sleeve secured thereto surrounding said shafts, a shifter collar on said sleeve, a brake drum on said transmission shaft, and means for manipulating said sleeve in one direction to engage the said sleeve with said brake drum and to release the clutch spider, and for moving said sleeve in the opposite direction to release said brake and engage said clutch spider.

2. In a clutch brake construction, a motor shaft and a transmission shaft, a clutch spider mounted on said motor shaft, a sleeve secured thereto surrounding said shafts, a connection between said sleeve and said transmission shaft, a shifter collar on said sleeve, a brake drum on said transmission shaft, and means for actuating said sleeve in one direction to engage said collar and brake drum and to release the engagement of said clutch spider, and for actuating said sleeve in the opposite direction to engage said clutch spider and to release said collar from said brake drum.

973,188. STALK-PULLER. DUDLEY M. FRANCISCO, Kalamazoo, Mich. Filed Apr. 25, 1910. Serial No. 557,380.

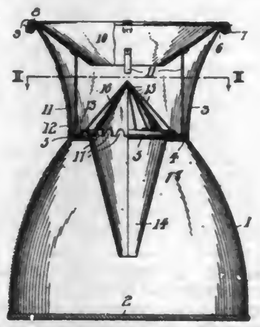


1. A tool of the class described, comprising a pair of handles, a pair of opposed reversible jaws formed of sheet metal, said jaws being curved in cross section and tapered toward each end and provided with centrally-disposed pivot ears on their edges, and a pivot for said ears, the said handles being fitted into and secured to the upper ends of said jaws with their lower ends extending below and in bearing contact with said pivot.

2. A tool of the class described, comprising a pair of handles, a pair of opposed jaws, said jaws being curved in cross section and provided with centrally-disposed pivot ears on their edges; and a pivot for said ears, the said handles being fitted into and secured to the upper ends of said jaws with their lower ends extending below and in bearing contact with said pivot.

3. A tool of the class described, comprising a pair of handles, a pair of opposed reversible jaws formed of sheet metal, said jaws being curved in cross section and tapered toward each end and provided with centrally-disposed pivot ears on their edges, and a pivot for said ears, the said handles being detachably secured to the upper ends of said jaws.

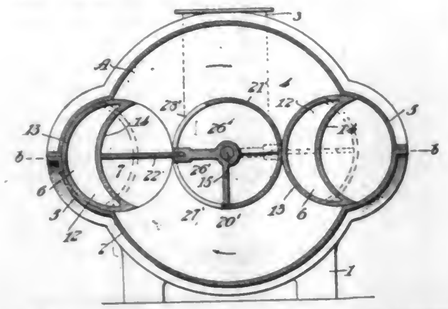
973,189. CUSPIDOR. CHARLES GERENCIER, Northampton, Pa. Filed July 16, 1910. Serial No. 572,268.



A cuspidor embodying a receptacle, a funnel-shaped mouth-piece carried thereby and provided with an inwardly projecting annular flange, a gasket mounted upon

said flange, an upper funnel detachably connected to the upper edges of said funnel-shaped mouth-piece, a lower funnel extending into said receptacle and having the upper edges thereof provided with an annular flange adapted to rest upon said gasket, uprights connecting said flange with said upper funnel, a conical-shaped grate carried by the flange of said lower funnel, and a conical-shaped deflector arranged in said grate and having the upper end connected thereto and the lower edges thereof scalloped, substantially as described.

973,190. ROTARY BLOWER AND EXHAUSTER. THOMAS W. GREEN, Philadelphia, Pa. Filed July 7, 1909. Serial No. 506,372.



1. A rotary pump or blower having therein two crescent shape side locking members and an impeller located between said crescent shape side locking members and co-acting therewith; both of said crescent shape side locking members and also the impeller being divided cross-wise into sections and the parts connected together in such position, that the heavy portion of one section will lie in a direct line with and adjacent to the lighter portion of the other section of the same member.

2. A rotary pump or blower having therein two compound side locking members and an impeller located between said side locking members and co-acting therewith; the impeller being provided with a suitable port or channel that forms a communication between the intake and discharge of the blower, the crescent shape locking members and the impeller being divided cross-wise and the parts connected in reversed positions, so that the weight of each member will be evenly distributed on opposite sides of the respective driving shafts.

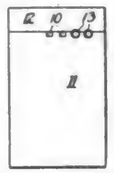
3. In a rotary blower, the combination of the two compound rotary side locking members 6, the impeller 20 located between said side locking members, and co-acting therewith, and having wings on opposite sides and at opposite ends thereof and the casing 2, surrounding the impeller and side locking members, and having therein the separate chambers, A and B.

4. In a rotary blower, the combination of two compound side-locking members and a co-acting impeller located between said side-locking members, the central portion of said impeller having therein a passage-way, the forward part of which communicates with the intake and the rear portion with the discharge of the blower.

5. In a rotary blower, the combination of two compound rotary side locking members and a co-acting impeller located between said side locking members, the central portion of said impeller having therein two channels, both of which communicate with the inlet side of the blower.

973,191. METHOD OF PROVIDING NICK PROJECTIONS ON TYPE-MOLD BODY-BLOCKS. HENRY H. HARDINGE, Chicago, Ill., assignor to Wiebking, Hardinge & Co., Chicago, Ill., a Corporation of Illinois. Filed July 31, 1909. Serial No. 510,505.

1. The herein described method of providing a type mold body block with projections for forming nicks in the type which consists in cutting a rectangular groove across the face of the type block with a milling tool, then counter-boring the walls of said rectangular groove to form a circular groove thereof which is open at the surface of the body block, and then fitting snugly in said groove a rod which projects above the surface of the block.



2. The herein described method of providing a type mold body block with projections for forming nicks in the type which consists in cutting a rectangular groove of equal depth and width across the face of the body block with a milling tool, then clamping a block on the face of the body block of the same quality and density, then counter-boring the walls of said rectangular groove to form a circular groove partly in the clamping block but the major portion of which is in the body block and then removing the block and fitting snugly in the groove in the body block a rod which projects partly above the surface thereof.

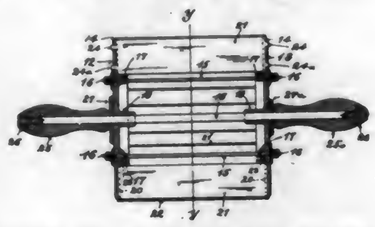
3. The herein described method of providing a type mold body block with projections for forming nicks in the type which consists in cutting a rectangular groove across the face of the body block with a milling tool, then counter-boring the walls of said rectangular groove to form a circular groove opening through the surface of the block, then cutting with a milling tool a rectangular groove transversely across the face of the body block and intersecting said circular groove, then fitting a strip snugly in said transverse groove and then fitting snugly in the circular groove and abutting against said transverse strip a circular rod which projects above the surface of the body block.

4. The method of providing a type mold body block with projections for forming nicks in the type, which consists in cutting a rectangular groove across the face of the type block, under-cutting the walls of said groove to produce a groove of arcuate cross-section for the reception of a nick pin, and fitting snugly in said groove, a rod which projects above the surface of the block.

5. The method of making a type mold body block which consists in cutting a rectangular groove across the face of the type block, and under-cutting the walls of said groove to produce an undercut groove open at one side, for the reception of a nick pin.

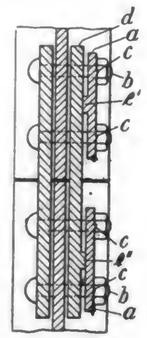
[Claim 6 not printed in the Gazette.]

973,192. BISCUIT-CUTTER. JOSEPH HARTMANN, Chicago, Ill. Filed June 22, 1910. Serial No. 568,281.



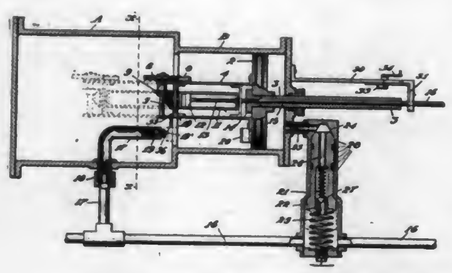
A rotating biscuit cutter comprising, in combination, two circular end-plates the peripheries of said end-plates being beveled to a knife-edge, said end-plates being spaced apart, there being in the opposing sides of said end-plates a series of tapering grooves the wider part of which is at the periphery of each plate, there being in each groove two apertures one of which is elongated, a series of knives located with their ends in said grooves, said knives having tenons at both of their ends adapted to engage the apertures in said grooves, a central bearing on each of said end-plates, an axle around which said end-plates are adapted to revolve, and a handle at each end of said axle.

973,193. RAIL-JOINT. OLOF HELSING, Sandhem, Sweden. Filed Aug. 11, 1908. Serial No. 448,069.



In combination with alined rails having heads and bases and connecting web portions, a rail joint comprising fish-plates wedged at their upper and lower edges between the under sides of the heads and the upper sides of the bases of the rails, said fish-plates overlapping the ends of both rails and having their inner sides spaced from the webs of the rails, bolts passing transversely through the webs of the rails and fish-plates, a device for compensating for the longitudinal elongation and contraction of the bolts and comprising inelastic renitent bars located upon the fish-plate at the opposite sides of the meeting ends of the rails, said bars having their end portions spaced from the adjacent fish-plate and bearing at points intermediate their ends against the adjacent fish-plate, said bolts also passing through the unsupported end portions of the bars and exerting stress against the outer sides of the end portions of the bars and the outer side of the fish-plate the more remote from said bars.

973,194. AIR-BRAKE. JOHN E. HENRIS, San Francisco, Cal. Filed May 11, 1910. Serial No. 560,597.



1. An air-brake having a reciprocal piston to actuate a brake rod, and slack-adjusting means on said piston for regulating the stroke of the brake rod.

2. An air-brake having a reciprocal piston for actuating a brake rod, and automatic slack-adjusting means on said piston for regulating the stroke of the brake rod.

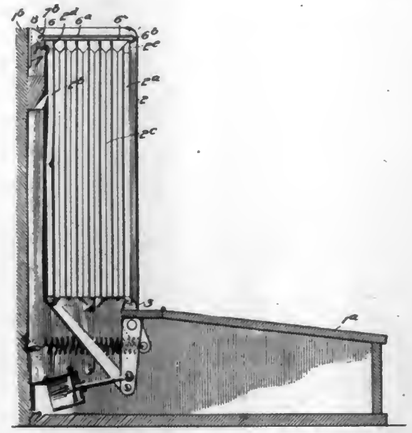
3. An air-brake having a reciprocal piston for actuating a brake rod, a slack-adjuster on said piston whereby the stroke of the brake rod is regulated, and means for operating said slack-adjuster.

4. An air-brake having a reciprocal piston for actuating a brake rod, a slack adjuster on said piston whereby the stroke of the brake rod is regulated, and means for automatically actuating said slack-adjuster.

5. An air-brake comprising a brake cylinder, a piston reciprocal in said cylinder, means for subjecting a brake rod to the action of said piston, and means mounted on said piston in the brake cylinder by which the stroke of said brake rod is regulated.

[Claims 6 to 17 not printed in the Gazette.]

973,195. FILING APPLIANCE. HARRY J. HICK, Alliance, Ohio, assignor to The McCaskey Register Company, Alliance, Ohio, a Corporation of Ohio. Filed Apr. 30, 1909. Serial No. 493,127.



1. A filing appliance comprising a series of pivotally mounted leaves, and devices connecting the leaves together and operating when one or more of the leaves are reclined to move the lower edges of the remaining upright leaves forwardly, in combination with a combined guide and lock device for locking the leaves in normal upright position and, when one or more of the leaves are reclined, for guiding the upper edges of the remaining upright leaves forwardly.

2. In a filing appliance, the combination of a series of leaves having means operating, when one or more of them are reclined, to move the lower edges of the remaining leaves forwardly, and a pivoted guide for the upper edges of the leaves provided with means for engaging the front leaf of the series of leaves to lock all of the leaves in normal upright position.

3. In a filing appliance, the combination of a series of leaves, means for connecting the leaves together relatively to each other and operating to move the lower edges of the remaining upright leaves forwardly when one or more of them are reclined, a guide for the upper edge of the rear leaf of the series, and means carried by the guide for locking all of the leaves in normal upright position.

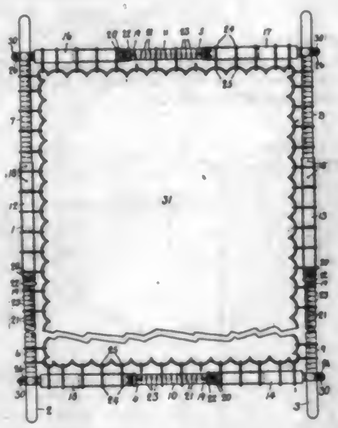
4. In a filing appliance, the combination of a series of leaves, means for connecting the leaves together relatively to each other and operating to move the lower edges of the remaining upright leaves forwardly when one or more of them are reclined, a guide for the upper edge of the rear leaf of the series, and means carried by the guide for locking all of the leaves in normal upright position and for locking the rear leaf upright when all of the leaves forward of the said rear leaf are reclined.

5. In a filing appliance, the combination of a series of leaves, means for connecting the leaves together relatively

to each other and operating to move the lower edges of the remaining upright leaves forwardly when one or more of them are reclined, and a combined guiding and locking device for guiding the upper edge of the rear leaf of the series and for locking all of the leaves in normal upright position.

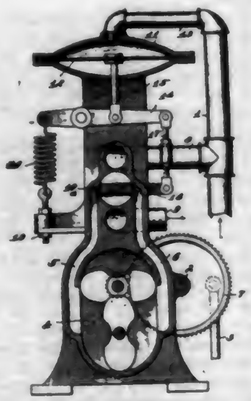
[Claims 6 to 12 not printed in the Gazette.]

973,196. CURTAIN-STRETCHER. CLARA K. HICKS, Louisville, Ky. Filed Oct. 30, 1909. Serial No. 525,422.



In a curtain stretcher, a rectangular frame comprising a pair of side poles and a pair of end poles, each end pole being made up of a solid round middle section and tubular end sections, said solid round section sliding into said tubular sections and being adjustable therein, and each tubular section being provided with a hinged clip whereby said end poles are slidably and adjustably mounted on said side poles in such a manner that all said poles lie in the same plane.

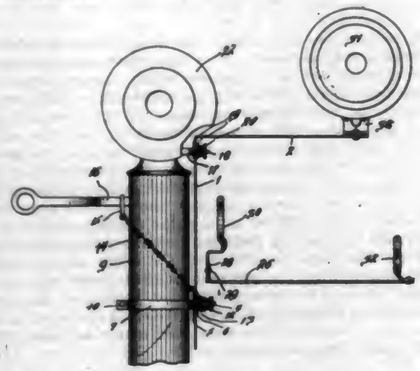
973,197. FLUID-PRESSURE GOVERNOR. GEORGE C. HICKS, Jr., and RALPH C. ENYART, Connersville, Ind., assignors to The P. H. & F. M. Roots Company, Connersville, Ind. Filed June 15, 1910. Serial No. 566,913.



1. A fluid-pressure governor comprising, a reversible rotary governor-motor adapted for the adjustment of the speed-controlling part of a pressure-producing motor, a reversing valve for said governor-motor, a chamber, a movable wall to said chamber, an adjustable resistance connected with said wall, a connection between said wall and valve, a conduit to supply said chamber with fluid at working pressure of the system, and a supply conduit to convey fluid to the reversing valve, combined substantially as set forth.

2. A fluid pressure governor comprising, a rotary governor-motor adapted for rotation in either direction, a part driven thereby and adapted for connection with a pressure-producing motor, a pipe charged with the pressure-fluid whose pressure is to be governed, passages connected with the governor-motor, an exhaust outlet for the governor-motor, a supply-conduit from said pipe to the motor, a valve coöperating with said supply conduit and passages and exhaust outlet to bring about the turning of the governor-motor in one direction or the other, a diaphragm chamber connected with the first-mentioned pipe, a diaphragm forming a wall of said chamber and held under distention by the working pressure of the system, an adjustable spring resisting the distention of the diaphragm, and connections from the diaphragm to the valve to cause abnormal distentions of the diaphragm to bring about the turning of the governor-motor in one direction or the other, combined substantially as set forth.

973,198. TELEPHONE-RECEIVER HOLDER. JOHN F. HINES, Pittsburg, Pa. Filed Nov. 18, 1909. Serial No. 528,792.

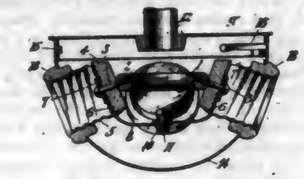


A telephone receiver holder comprising the combination with a pair of clamps adapted to be connected to a telephone pedestal each having an offset portion, of a one piece bracket having a vertically-disposed portion arranged in parallelism with respect to the pedestal and further embodying a right-angularly disposed portion, bolts extending through the vertical portion of the bracket and the offset portions of the clamps for supporting the bracket from the clamps, means carried upon the inner end of the bolt within the offset portions and upon the outer end exteriorly of the off-set portions for connecting the bracket to the clamps, a horizontally-disposed support adjustably-mounted upon the free end of said right-angularly disposed portion of the bracket, and rest-pieces secured to the ends of said horizontally-disposed support.

973,199. CLUSTER-SOCKET. DELOS HOLDEN, Upper Montclair, N. J., assignor to John H. Dale, New York, N. Y. Filed Mar. 16, 1908. Serial No. 421,563.

1. In a cluster socket, the combination of a rigid metallic base, and a plurality of insulating blocks, threaded shells and center contacts carried thereby, the center contact for each shell being in electrical connection with said base.

2. In a cluster socket, the combination with a horizontal, rigid, metallic base, of a plurality of insulating blocks having inclined outer faces, threaded shells upon said inclined surfaces, and center contacts, all carried by said base, the center contacts for each shell being in electrical connection with said base.

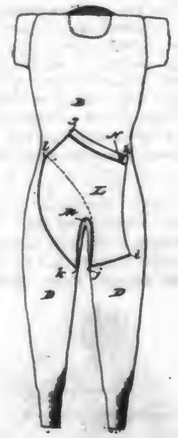


3. In a cluster socket, the combination of a rigid metallic base, a plurality of insulating blocks and threaded shells, and center bolts for clamping said members together, said bolts being electrically connected to the base and forming the center contacts of the lamp sockets.

4. In a cluster socket, the combination of a rigid metallic ring, and a plurality of insulating blocks, threaded shells and center contacts carried thereby, the center contact for each shell being in electrical connection with said ring.

5. In a cluster socket, the combination of a rigid metallic ring, a plurality of insulating blocks and threaded shells, and center bolts for clamping said members together, said bolts being electrically connected to the ring and forming the center contacts of the lamp sockets.

973,200. GARMENT. HORACE G. JOHNSON, Kenosha, Wis., assignor of one-half to Henry S. Cooper, Kenosha, Wis. Filed Sept. 25, 1909. Serial No. 519,569.

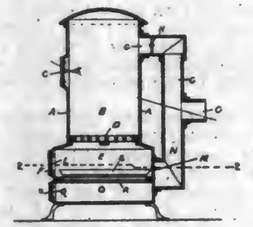


1. An undergarment having a permanently closed crotch and a posterior opening extending from a point near the waist-line to a point below the crotch in one leg only, substantially as described.

2. An undergarment having a permanently closed crotch and a posterior opening extending from substantially the waist-line at one side of the center to a point in the opposite leg below the crotch, the inner wall of said opening being formed by part of the body and leg portions of the garment and the outer wall being formed by a sewed-in flap having a free portion adapted to button over and close said opening on its outer side, substantially as described.

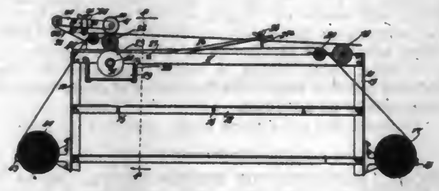
3. An undergarment having the body and leg portions thereof cut to form an oblique posterior opening extending from substantially the waist-line across the seat to a point in the opposite leg below the crotch and an inner flap coextensive with said opening, and an outer flap, said inner and outer flaps and body portion being sewed together at the top of the posterior opening and said inner and outer flaps and leg portion being sewed together at the bottom of said posterior opening and said outer flap having a free portion adapted to button over and close said opening on its outer side, substantially as described.

973,201. HEATING-STOVE. GEORGE H. JORDAN, Bridgewater, Mass., assignor of one-third to George J. Alcott, Bridgewater, Mass. Filed Aug. 4, 1909. Serial No. 511,239.



In a heating-stove, having a fire-pot, a fire-grate, an ash-pit below said grate, and an escape-flue which leads from the fire-pot and has an opening and closing damper, the combination therewith of an air-chamber or box below the ash-pit, an open grating-floor to said ash-pit, forming a communication between the ash-pit and air-chamber, an ash-pan in the ash-pit resting on said open grating-floor, a flue-pipe leading downward from said escape-flue and at its lower end in communication with said ash-pit and said air-chamber, an opening and closing damper in said communication between said ash-pit and said downward extending escape-flue, and opening and closing doors severally having opening and closing slides, to said fire pot, ash-pit and air-chamber.

973,202. MACHINE FOR MAKING PAPER WRAPPERS. FRANK KAUFMAN, Chicago, Ill., assignor to William Goodrow, Chicago, Ill. Filed Feb. 23, 1909. Serial No. 479,617.



1. In a machine for making paper wrappers, the combination of a supporting frame, a compression roller mounted on said frame, a set of pasting disks adapted to have their peripheries contact the periphery of the compression roller, means for applying paste to the pasting disks, a set of rollers carrying perforating knives, the knife-edges adapted to contact the periphery of the compression roller, means for feeding a strip of paper between the pasting disks and the compression roller, and means for feeding a second strip of paper to unite with the strip of paper having the paste thereon, the two strips of paper uniting at the point where the perforating knives contact the periphery of the compression roller, substantially as described.

2. In a machine for making paper wrappers, the combination of a supporting frame, a set of pasting disks, a shaft upon which the disks are mounted, levers supporting said shaft, a compression roller in engagement with said disks, a receptacle for paste, in which the disks revolve, a set of rollers carrying perforating knives, the knives contacting the periphery of the compression roller, means for feeding a strip of paper between the pasting

disks and the compression roller, and means for feeding a second strip of paper to unite with the strip of paper having the paste thereon, the two strips of paper uniting at the point where the perforating knives contact the periphery of the compression roller, substantially as described.
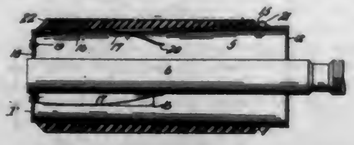
3. In a machine for making paper wrappers, the combination of a supporting frame, a compression roller mounted in said frame, a set of pasting disks located beneath the compression roller, a shaft upon which said disks are mounted, the peripheries of the pasting disks contacting the periphery of the compression roller, means for applying paste to the pasting disks, a series of rollers located above the compression roller and carrying perforating knives, the compression roller serving to keep a strip of paper in firm engagement with the pasting disks and serving as a backing for the perforating knives, substantially as described.

4. In a machine for making paper wrappers, the combination of a supporting frame, a compression roller mounted upon said frame, a power driven shaft upon which said roller is mounted, a set of pasting disks located beneath the compression roller and adapted to have their peripheries contact the periphery of the compression roller, means for applying paste to the pasting disks, a series of rollers carrying perforating knives carried by an arm attached to a rod fixed to the supporting frame, the edges of the knives contacting the periphery of the compression roller, means for feeding a strip of paper between the pasting disks and the compression roller, and means for feeding a strip of paper between the compression roller and the roller carrying the perforating knives, the two strips of paper joining at the point where the perforating knives contact the compression roller, substantially as described.

5. In a machine for making paper wrappers, the combination of a supporting frame, a compression roller mounted upon said frame, a power driven shaft upon which said roller is mounted, a set of pasting disks adapted to contact the compression roller, means for applying paste to the pasting disks, a series of rollers carrying perforating knives, arms attached to a rod fixed to the main frame, upon which said rollers are mounted, the compression roller serving as a backing for the knives, means for adjusting longitudinally the pasting disks and the rollers carrying the perforating knives, means for feeding a strip of paper between the pasting disks and the compression roller, and means for feeding a strip of paper between the compression roller and the rollers carrying the perforating knives, the peripheries of the rollers carrying the perforating knives acting in conjunction with the compression roller to adhere the two strips of paper together, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

973,203. MANDREL FOR PHONOGRAPHS. HENRY N. KISTNER, Zion City, Ill., assignor to Robert F. Mueller, Chicago, Ill. Filed Feb. 25, 1910. Serial No. 546,024.

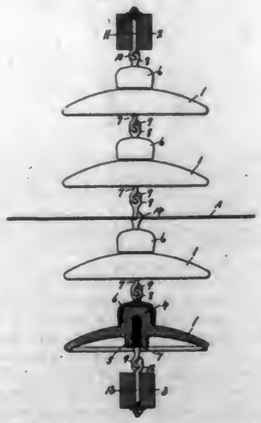


1. In a device of the class described, the combination of a mandrel body and a resilient member attached to said body, said resilient member impinging against a record mounted upon the mandrel and preventing rotation of the record upon the surface of the mandrel, a hollow outwardly flaring collar upon the mandrel forming an abutment to prevent the record from being forced upon the mandrel beyond a predetermined distance, and an outwardly flaring strip of cushioning substance lying within said collar and presenting a substantially broad, flat, outer surface, said collar forming a retainer for said cushioning substance holding it in position upon the mandrel body, the end of the record striking against the outer surface of said cushioning substance when the record is slipped onto the mandrel, substantially as described.

2. In a device of the class described, the combination of a tapered mandrel body having an elongated slot therein, a flat spring having one end attached to the interior of said mandrel, said spring curving upwardly through said slot and having its free end resting against the wall of the mandrel body upon the interior thereof, said spring presenting an elongated curved surface for impinging against the inner surface of a record mounted upon the mandrel to prevent rotation of the record upon the mandrel, the curved contacting surface of the spring being forced into the interior of the mandrel body by the insertion of a record upon the mandrel, whereby a small engaging surface is presented by the spring when a record of substantially tight fit is placed on the mandrel, and a large engaging surface is presented by the spring when a loose fitting record is inserted on the mandrel, substantially as described.

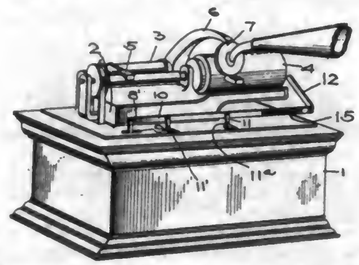
3. In a device of the class described, the combination of a tapered mandrel body having an elongated slot therein, a flat spring having one end attached to the interior of said mandrel, said spring curving upwardly through said slot and having its free end resting against the wall of the mandrel body upon the interior thereof, said spring presenting an elongated curved surface for impinging against the inner surface of a record mounted upon the mandrel to prevent rotation of the record upon the mandrel, the curved contacting surface of the spring being forced into the interior of the mandrel body by the insertion of a record upon the mandrel, whereby a small engaging surface is presented by the spring when a record of substantially tight fit is placed on the mandrel, and a large engaging surface is presented by the spring when a loose fitting record is inserted on the mandrel, a hollow outwardly flaring collar upon the mandrel forming an abutment to prevent the record from being forced upon the mandrel beyond a predetermined distance, and an outwardly flaring strip of cushioning substance lying within said collar and presenting a substantially broad, flat, outer surface, said collar forming a retainer for said cushioning substance and holding it in position upon the mandrel body, the end of the record striking against the outer surface of the cushioning substance when the record is inserted upon the mandrel, substantially as described.

973,204. INSULATING SYSTEM FOR HIGH-POTENTIAL ELECTRIC CONDUCTORS. FRED M. LOCKE, Victor, N. Y., assignor to The Locke Insulator Manufacturing Company, Victor, N. Y., a Corporation of New York. Filed Aug. 27, 1908. Serial No. 450,527.



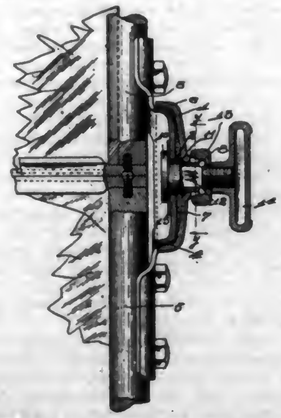
A system of insulation for high potential electric conductors comprising a series of insulators arranged in superposed sequence some distance apart, supports at opposite ends of the series, connections between the supports and adjacent insulators whereby the insulators may turn with respect to the supports, separate connections between adjacent ends of the insulators whereby each insulator is free to turn, and a seat for a conductor on one of the last named connections and between the supports.

973,205. AUTOMATIC CHECK FOR PHONOGRAPHS. JOHN J. MORRISSEY, White Bear Lake, Minn. Filed July 26, 1909. Serial No. 509,475.



An automatic stop for phonographs or the like, comprising a combination with a frame, a longitudinally movable reproducer and an oscillating starting lever projecting upwardly through the frame, of a controlling lever secured at one end to the upper end of the starting lever, said controlling lever having a longitudinal recess formed in one side thereof and opening on the opposite end to that secured to the starting lever, a bracket plate secured on the frame below said controlling lever, said plate having an upwardly extending perforated ear, a pintle therethrough, a link pivotally mounted upon said pintle and pivotally connected to said controlling lever intermediate of its length, a rearwardly and upwardly extended arm having a horizontal extension, said horizontal extension being reduced in width and thickness for a greater portion of its length, said reduced portion being provided with a longitudinal slot throughout its length, said reduced portion being slidably mounted in the recess, a set screw extending through said slot and engaged in the extremity of said controlling lever, said arm being adjustably disposed in the path of the reproducer and adapted to actuate said starting lever upon engagement therewith.

973,206. WIND-SHIELD. FRANK PARIZEK, Chicago, Ill., assignor to Universal Wind Shield Company, Chicago, Ill. Filed May 13, 1910. Serial No. 561,212.



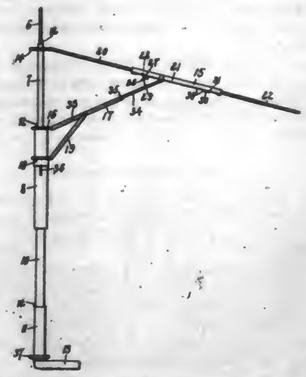
1. The combination with the foldable members of a wind shield, of a conical projection secured to one of said members and provided with peripheral lubricating notches; a conical cup secured to the other of said members and embracing said projection, the said projection and cup being so formed as to leave a lubricant space between the end of said projection and the bottom of said cup communicating with said notches; and means for drawing said projection and cup together, substantially as described.

2. The combination with the foldable members of a wind shield, of a conical projection secured to one of said members and provided with peripheral lubricating notches, the said projection having a central aperture; a conical cup secured to the other of said members and embracing said projection, the said cup being provided with a central outwardly tapering slitted hub having a square aperture; a bolt having an inner head and rounded shank passing through the aperture in said projection and a squared portion passing through said hub; a tapering cup-like washer fitting over said hub; and a hand member threaded on the outer end of said bolt and contacting with said washer, substantially as described.

3. The combination with the foldable members of a wind shield, of a conical projection secured to one of said members and provided with peripheral lubricating notches, the said projection having a central aperture; a conical cup secured to the other of said members and embracing said projection, the said projection and cup being so formed as to leave a lubricant space between the end of said projection and the bottom of said cup communicating with said notches, and the said cup being provided with a central outwardly tapering slitted hub having a squared aperture; a bolt having an inner head and rounded shank passing through the aperture in said projection and a squared portion passing through said hub; a tapering cup-like washer fitting over said hub; and a hand member threaded on the outer end of said bolt and contacting with said washer, substantially as described.

4. The combination with the foldable members of a wind shield, of a conical projection secured to one of said members and having a central aperture; a conical cup secured to the other of said members and embracing said projection, the said cup being provided with a central outwardly tapering slitted hub having a squared aperture; a bolt having an inner head and rounded shank passing through the aperture in said projection and a squared portion passing through said hub; a tapering cup-like washer fitting over said cup; and a hand member threaded on the outer end of said bolt and contacting with said washer, substantially as described.

973,207. FOLDING UMBRELLA. FRANK POKORNY, New York, N. Y. Filed Aug. 2, 1910. Serial No. 575,170.



1. In a folding umbrella, the combination with an umbrella stick made of a plurality of sections, of telescoping ribs each composed of an inner section pivotally con-

nected to said stick, a middle section and an outer section, said inner and outer sections being slidably arranged lengthwise upon the middle sections, a notch disk secured to one of said stick sections, main stretchers pivotally connected to said notch disk and to the middle sections of said ribs, a runner slidably arranged upon said stick, and auxiliary stretchers connected to said runner and said main stretchers.

2. In a folding umbrella, the combination with an umbrella stick made of a plurality of sections, of telescoping ribs each composed of an inner section pivotally connected to said stick, a middle section and an outer section, said inner and outer sections being slidably arranged lengthwise upon the middle sections, a notch disk secured to one of said stick sections, main stretchers made of a plurality of sections pivotally connected to said notch disk and to the middle sections of said ribs, a runner slidably arranged upon said stick, and auxiliary stretchers connected to said runner and said main stretchers.

3. In a folding umbrella, the combination with an umbrella stick made of a plurality of sections, of telescoping ribs each composed of an inner section pivotally connected to said stick, a middle section and an outer section, said inner and outer sections being slidably arranged lengthwise upon the middle section, a notch disk secured to one of said stick sections, main stretchers pivotally connected to said notch disk and to the middle sections of said ribs, a runner slidably arranged upon said stick, auxiliary stretchers connected to said runner and main stretchers, means upon the middle sections of said ribs for holding the inner sections thereof in their extended positions, and means also upon the middle sections of said ribs for holding the outer sections of said ribs in their extended positions, said first named means being disengaged from said inner sections as said umbrella is being closed and said second named means being disengaged from said outer sections when said inner sections are telescoped into said middle sections.

4. In a folding umbrella, the combination with an umbrella stick made of a plurality of sections, of telescoping ribs each composed of an inner section pivotally connected to said stick, a middle section and an outer section, said inner and outer sections being slidably arranged lengthwise upon the middle section, a notch disk secured to one of said stick sections, main stretchers pivotally connected to said notch disk and to the middle sections of said ribs, a runner slidably arranged upon said stick, auxiliary stretchers connected to said runner and said main stretchers, locking levers upon the middle sections of said ribs for holding the inner sections thereof in their extended positions, and spring stops also upon the middle sections of said ribs for holding the outer sections of said ribs in their extended positions, said locking levers being disengaged from said inner sections by said main stretchers as the umbrella is being closed, and said spring stops being disengaged from said outer sections by said inner sections as said inner sections are telescoped into said middle sections.

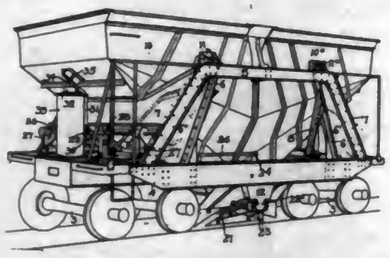
5. In a folding umbrella, a rib composed of a middle section, and two outer sections slidably arranged upon said middle section and adapted to telescope into said middle section so as to lie side by side of each other.

[Claim 6 not printed in the Gazette.]

973,208. DUMP-CAR. GUSTAV A. RAKOWSKY, Duluth, Minn., assignor to Automatic Unloading Car Company, Duluth, Minn., a Corporation of Minnesota. Filed July 19, 1909. Serial No. 508,493.

1. The combination, with a car frame and body bolsters, of arched side sills provided on each side of the car and secured thereto near the body bolsters, knee braces interposed between the upper horizontal portions of said truss sills and the car frame, and buckets provided between said sills and having trunnions journaled on said sills above and near said knee braces whereby the load will be transmitted through said braces and sills to said bolsters.

2. The combination, with a car frame having lower side sills and body bolsters, of upper side sills having downwardly turned ends secured to said lower sills, knee braces interposed between said lower sills and the upper horizontal portion of said upper sills, and said upper sills forming a truss frame, gusset plates secured to the downwardly turned ends of said upper sills and to said knee braces, and buckets having trunnions journaled on said upper side sills between the downwardly turned ends thereof and said braces, substantially as described and for the purpose specified.



3. The combination, with a car having lower side sills and body bolsters, of upper side sills composed of channel bars placed back to back and secured together and having downwardly turned ends secured to said lower sills and forming a truss effect, bracing means interposed between the horizontal upper portion of said side sills and said lower sills, and buckets having trunnions journaled on said upper side sills near the downwardly turned ends thereof, whereby the load will be transmitted through said truss frames to said bolsters.

4. The combination, with a car frame having lower side sills and a body bolster, of upper side sills composed of channel bars having downwardly turned ends secured to said lower sills, said channel bars being placed back to back and secured thereto, knee braces composed of angle bars having their flanges secured together and interposed between the horizontal portion of said upper side sills and said lower sills, gusset plates interposed between the bars comprising the downwardly turned ends of said upper side sills and between the flanges of said angle bars and secured to said channel bars, and said angle bars, and buckets having trunnions journaled on said upper side sills above said downwardly turned ends and said braces, whereby the load on said trunnions will be transmitted to said body bolsters.

5. The combination, with a car frame, of upper side sills having downwardly turned ends secured to said frame, cross plates having their ends secured to the downwardly turned ends of said upper side sills and provided with flanged edges and extending transversely of the car, and buckets having trunnions journaled on said upper side sills above said transverse plates, substantially as described.

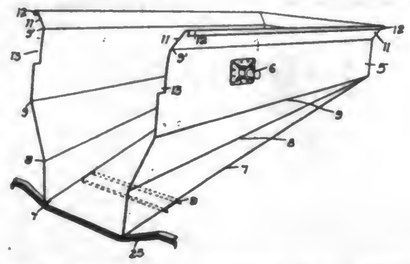
[Claims 6 to 19 not printed in the Gazette.]

973,209. DUMP-CAR. GUSTAV A. RAKOWSKY, Duluth, Minn., assignor to Automatic Unloading Car Company, Duluth, Minn., a Corporation of Minnesota. Filed July 19, 1909. Serial No. 508,494.

1. In a dumping car, a bucket having an open end, a bottom downwardly inclined toward said end and side walls flaring outwardly and upwardly from said bottom, there being a series of longitudinal bends formed in said side walls, all of which bends or angles run lengthwise of the bucket in the direction of the moving material therein, for the purpose specified.

2. In a dumping car, a bucket having an open end, a downwardly inclined bottom and side walls, and trunnions mounted on said side walls, said buckets being composed of sheet metal, and its side walls flaring outwardly from said bottom and having longitudinal bends formed therein, which stiffen said side walls and prevent lodging of the material thereon.

3. In a dumping car, a bucket having an open dumping end and side walls and trunnions mounted thereon, the upper edges of said side walls having outwardly projecting flanges thereon terminating in outwardly rolled edges, for the purpose specified.

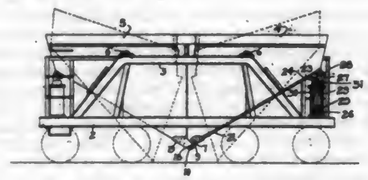


4. In a dumping car, the combination, with a frame and the carrying wheels and axles therefor, of a bucket open at its inner end journaled on said frame and having a downwardly inclined bottom, and a buffer bar secured transversely to said bottom and arranged to contact with the car axle.

5. The combination, with a car having upperside sills, of buckets journaled thereon and arranged to tilt toward one another to discharge their contents, guide plates secured to said upper side sills and having outwardly turned upper ends and arranged to contact with the upper portions of the inner ends of the side walls of said buckets and close the joint between them, and said buckets having flanged upper edges arranged to contact with the outwardly turned ends of said plates.

[Claims 6 to 14 not printed in the Gazette.]

973,210. DUMP-CAR. GUSTAV A. RAKOWSKY, Duluth, Minn., assignor to Automatic Unloading Car Co., Duluth, Minn., a Corporation of Minnesota. Filed Dec. 13, 1909. Serial No. 532,749.



1. The combination, with a car frame, of tilting buckets journaled therein and arranged to tilt inwardly to discharge their load, a locking mechanism provided at the inner ends of said buckets, said locking mechanism including transversely slidable bolts and sockets therefor, and a fluid pressure controlled mechanism for tripping during its initial movement said locking mechanism.

2. The combination with a car frame, of tilting buckets journaled therein and arranged to tilt inwardly to discharge their load, a locking mechanism provided at the inner ends of said buckets and including transversely slidable spring pressed bolts and sockets therefor mounted on said buckets, pivoted levers arranged to engage said bolts and draw them inwardly against the tension of their springs and a fluid pressure controlled mechanism for actuating said levers, substantially as described.

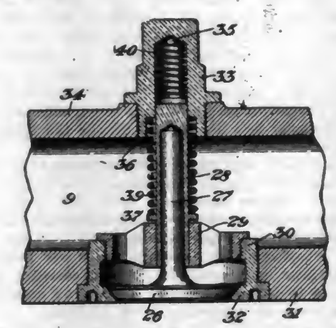
3. The combination, with a car frame, of tilting buckets journaled therein and arranged to tilt inwardly to discharge their load, a locking mechanism secured to the bottom of one of said buckets and including transversely slidable bolts arranged to enter sockets provided in the outer walls of the other bucket, and a fluid pressure controlled mechanism for retracting said bolts and releasing said buckets one from the other, substantially as described.

4. The combination, with a car frame, of tilting buckets journaled therein and arranged to tilt inwardly to discharge their load, a locking mechanism secured to the bottom of one of said buckets near its open end, said mechanism including transversely slidable spring bolts adapted to enter sockets provided in the walls of the other bucket and thereby lock the buckets together, oscillating levers arranged to engage said bolts and draw them inwardly, and a fluid pressure controlled mechanism operatively connected with said levers, for the purpose specified.

5. The combination, with a car frame, of tilting buckets mounted therein, a locking mechanism provided at the abutting inner ends of said buckets, said locking mechanism including transversely sliding bolts, a rod operatively connected with said bolts for drawing them inwardly when said rod is actuated, a fluid pressure cylinder and piston therefor, and a trip lever connected with said actuating rod and in the path of said piston and adapted to be operated by said piston during its initial movement.

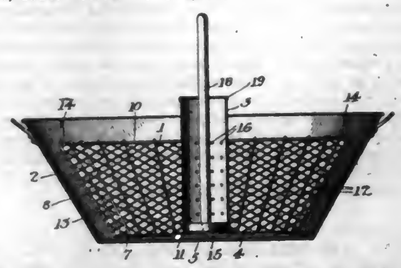
[Claims 6 to 13 not printed in the Gazette.]

973,211. VALVE MECHANISM FOR AIR-COMPRESSORS. GEORGE H. REYNOLDS, Mansfield Depot, Conn., assignor to The Reynolds Ice Machine Company, New York, N. Y., a Corporation of New York. Original application filed Oct. 31, 1906, Serial No. 341,391. Divided and this application filed Mar. 25, 1907. Serial No. 364,516.



A valve mechanism comprising a frame; a valve seat secured thereto; a valve coöperating with the seat, said valve carrying a stem; a socketed sleeve for receiving said stem; oppositely disposed journals for supporting said sleeve; a socket in one of said journals; a spring located in said socket and coöperating with one end of the sleeve; a collar on said sleeve; a spring surrounding the sleeve and engaging one end of the collar; and at its opposite end engaging a stationary part.

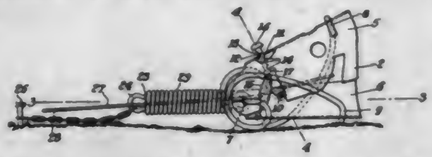
973,212. COMBINED DISH WASHER AND HOLDER. NANCY M. RICHARDSON, Los Angeles, Cal. Filed July 27, 1910. Serial No. 574,178.



The combination of a holder having openings in its side and bottom portions, a cylinder provided with a bottom plate resting on the bottom of said holder and

having an opening at the bottom of the cylinder, the side wall of said cylinder being perforated, and a plunger movably mounted in the cylinder to act as a piston therein and provided with a handle.

973,213. ANIMAL-TRAP. ROBERT E. RIDAY, Darby, Pa. Filed Apr. 20, 1909. Serial No. 491,086.



1. In an animal trap, the combination of a pair of jaws movable toward and from each other; a spring tending to move said jaws toward each other; a tripping device for holding said jaws open against the action of said spring, said tripping device including a bait-receiving member; and a bar located between said jaws in advance of the bait-receiving member and adapted to engage the front teeth of an animal, said jaws being movable independently of said bar.

2. In an animal trap, the combination of a pair of jaws movable toward and from each other; a spring tending to move said jaws toward each other; a latch arm pivoted to one jaw and provided with means for holding said jaws open against the action of said spring, and provided also with means to prevent movement of said jaws away from each other when the first named means is inactive; a bait receiving member connected to said latch arm; and a bar located between said jaws in advance of the bait receiving member and adapted to engage the front teeth of an animal.

3. In an animal trap, the combination of a pair of jaws pivotally connected together and movable toward and from each other; a spring tending to move said jaws toward each other; a tripping device for holding said jaws open against the action of said spring, said tripping device including a bait-receiving member; and a bar located between said jaws in advance of the bait-receiving member and adapted to engage the front teeth of an animal, said jaws being movable independently of said bar.

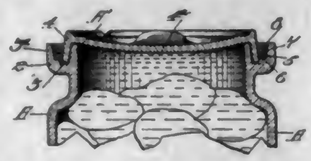
4. In an animal trap, the combination of a pair of jaws movable toward and from each other and comprising an upper jaw having a top and side walls and a lower jaw having a bottom and side walls, the inner faces of the walls of said jaws being sufficiently smooth and unobstructed to prevent injury to an animal when closed upon the same; a spring tending to move said jaws toward each other; a tripping device for holding the jaws against the action of said spring, said tripping device including a bait receiving member; and a bar located between said jaws in advance of the bait receiving member and adapted to engage the front teeth of an animal.

5. In an animal trap, the combination of a pair of jaws movable toward and from each other and comprising an upper jaw having a top and side walls and a lower jaw having a bottom and side walls overlapping the side walls of the upper jaw, the inner faces of the walls of said jaws being sufficiently smooth and unobstructed to prevent injury to an animal when closed upon the same; a spring tending to move said jaws toward each other; a tripping device for holding the jaws against the action of said spring, said tripping device including a bait receiving member; and a bar located between said jaws in advance of the bait receiving member and adapted to engage the front teeth of an animal.

[Claim 6 not printed in the Gazette.]

973,214. JAR-SEALING DEVICE. JARROT L. ROLLINS, Colfax, Cal. Filed Jan. 24, 1910. Serial No. 539,732.

1. A jar having an exterior annular groove around the top, and trapezoidal in cross section, a cap or cover having a downwardly turned flange substantially fitting the interior inclined surface of the channel, a sealing medium consisting of a plurality of layers of material, the uppermost of said layers being capable of softening by heat of the jar contents, and the lower ones having successively increasing heat resisting qualities.



2. The combination in a jar closure, of a jar having an annular upwardly divergent channel around the periphery, a cap having an inwardly convex interior surface, and a downwardly turned flange substantially fitting the interior of the channel, and forming with the exterior a downwardly convergent channel, a sealing medium consisting of superposed layers of material formed into a ring fitting said channel, and having successively greater heat-resisting qualities from the upper to the lower one.

3. The combination in a jar closure, of a jar having an annular downwardly convergent channel around its periphery, a cover having a downwardly turned flange fitting the interior of the channel, a closure consisting of a downwardly convergent ring, said ring being formed of successive layers of material, the lowermost of which forms a heat-resistant joint with the lower part of the channel, and the uppermost being capable of softening by the heat of the jar contents so as to hermetically close the upper part of the channel, said lower sections having wires extending through them.

4. The combination with a jar having an annular downwardly convergent channel surrounding its top, and a cap having a downwardly turned flange fitting the inner surface of said channel, of a sealing ring, said ring being composed of superposed sections, the lowermost of which is heat-resistant, and has an annular reinforcing wire, and the uppermost section being capable of softening by the heat of the jar contents to form a joint between the sides of the channel, and the lower sections of the ring.

5. A jar having an annular downwardly convergent channel around the top, the inner portion of said channel having a greater depth than the outer portion, and a step or shoulder between the two, a cap having a downwardly turned flange extending substantially to the bottom of the inner portion of the channel, a sealing medium consisting of a ring tapered in cross section to fit the surrounding annular channel, said ring being composed of a plurality of layers, the lowermost of which is heat-resistant and capable of seating upon the shoulder of the channel, and the uppermost rings filling the upper part of the channel and capable of softening by heat to form a hermetical joint therewith.

973,215. LENS-FASTENING FOR NOSE-GLASSES. GEORGE S. ROW, Indianapolis, Ind. Filed Oct. 1, 1909. Serial No. 520,510.



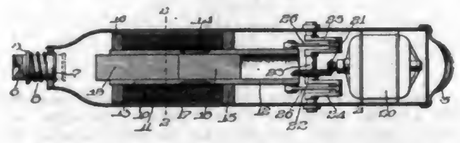
1. A rimless lens fitting comprising a main post, a projecting lens-receiving ear, means for fastening a lens to said ear, and a transversely adjustable projecting finger carried by the main post and adapted to enter a notch formed in the adjacent edge of the lens, the free end of said finger being transversely shiftable in the line of the adjacent edge of the lens.

2. A rimless lens fitting comprising a main post, a projecting lens-receiving ear, means for fastening a lens to said ear, and a transversely adjustable projecting portion carried by the main post and adapted to enter a notch formed in the adjacent edge of the lens, said adjustable projecting portion being in the form of a bendable arm extending transversely across the edge of the lens and transversely shiftable in the line of the adjacent edge of the lens.

3. A rimless lens fitting comprising a main post having a projecting lens-receiving ear having a threaded opening, a clamping screw threaded through said threaded opening and having an ensmalled portion immediately beneath its head adapted to rotate loosely within the threaded opening of the lens receiving ear, and a nut carried upon the threaded end of said screw.

4. A rimless lens fitting comprising a main post having a projecting lens-receiving ear having a threaded opening, a clamping screw threaded through said threaded opening and having an ensmalled portion immediately beneath its head adapted to rotate loosely within the threaded opening of the lens-receiving ear, a nut carried upon the threaded end of said screw, and a bendable finger carried by the post and having its free end lying substantially parallel with said screw and adapted to lie within a notch formed in the edge of the lens, said free end being transversely shiftable in the line of the adjacent edge of the lens.

973,216. ELECTROMECHANICAL DEVICE. GEORGE H. ROWE, Berwyn, Ill., assignor to Electro-Magnetic Tool Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 17, 1908. Serial No. 458,305.



1. The combination with a stationary magnetising coil and a field core adapted to be reciprocated within said coil, of an armature arranged to be actuated by the movement of said core, and means for reciprocating said field core.

2. The combination with a coil, of a field core slidable within the coil, an armature slidable within the field core, and means for reciprocating one of said two last-mentioned members.

3. In an electro-magnet, the combination with a magnetizing coil, of pole pieces slidable within the coil, an armature slidable within the pole pieces, and means for reciprocating the pole pieces.

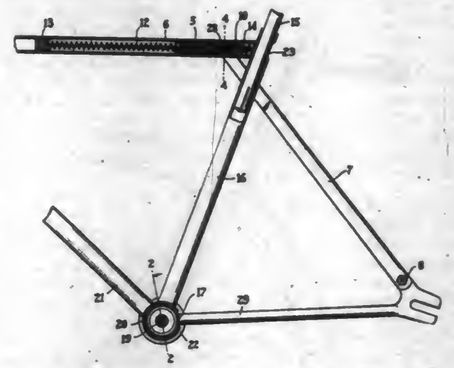
4. The combination with a coil, of an iron yoke surrounding the coil, a field core slidable within the coil and in contact with parts of the iron yoke, an armature within said field core, and means for reciprocating the field core.

5. The combination with a coil, of an iron yoke surrounding said coil, said iron yoke comprising a cylinder surrounding the coil and connecting with iron rings at the ends of the coil; a field core mounted within said coil, said field core comprising a cylinder, the ends of which are iron pole pieces in slidable contact with said iron rings, an iron plunger within said field core and constituting an armature therefor, and means for reciprocating the field core within the coil.

[Claims 6 to 25 not printed in the Gazette.]

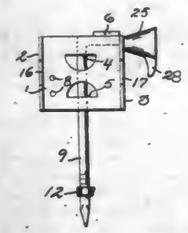
973,217. SHOCK-ABSORBER. JAMES H. SAGER, Rochester, N. Y. Filed May 2, 1910. Serial No. 559,238.

1. In a cushion-frame for bicycles, a pivotal connection between the rear fork and the forward portion of the frame comprising, in combination with the crank-shaft, the crank-hanger and the rear fork, a sleeve in which the crank-shaft is journaled, said sleeve being journaled in the crank-hanger and rigidly connected with the rear fork, and the crank-hanger being slotted at the rear to permit the rear fork and the sleeve to be inserted through the end of the crank-hanger, and means for preventing endwise movement of the sleeve in the crank-hanger.



2. In a cushion-frame for bicycles, the combination of an upper tube, a mast-tube having a rearward opening in line with the upper tube, a saddle-post removably secured in the mast-tube, a slide in the upper tube, rear stays connected at their upper ends with the slide, a spring in the upper tube for controlling forward movement of the slide, and a second spring in the upper tube between the slide and the saddle-post for controlling the rearward movement of the slide, the saddle-post serving normally as an abutment for the latter spring and being removable to permit the insertion of the spring and the slide through said rearward opening in the mast tube.

973,218. WRENCH. HENRY H. SCHLUETER, Canastota, S. D. Filed July 10, 1909. Serial No. 506,880.

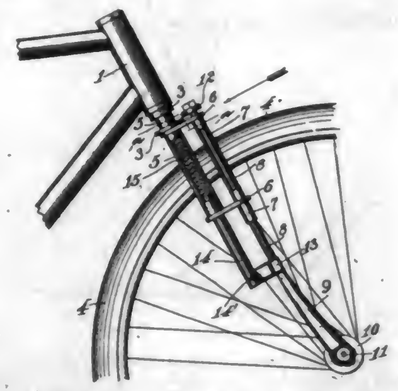


In combination, a sheet metal wrench head comprising a flat base having two of its opposite edges bent in like direction at right angles to said base and held in parallel spaced relation, each of said edges having a square wrench seat entering from the edge of said seat of different sizes, said base having two semicircular ear portions bent outwardly in a direction opposite to said bent edges, said ears being held in parallel spaced relation at right angles to said bent edges each having a round opening, said base along one of its unbent edges having a wing portion bent to form a sleeve and being positioned adjacent to one of said bent edges, and a bar having one end bent at right angles and held upon said base within said ear openings, the bent bar portion being held within said sleeve, as and for the purpose set forth.

973,219. BICYCLE-FORK. JOHN SCHMIDT, Dayton, Ohio. Filed May 23, 1910. Serial No. 562,804.

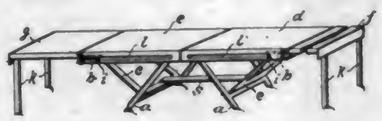
The combination with the head, stem and crown-piece of a bicycle, of tubular members 5 secured to said crown-piece below the head and lying on opposite sides of the

front wheel of the bicycle, springs 15 within said tubular member and adapted to receive the strain from the frame of the bicycle in direct lines from the head, tubular guides 7 in front of and parallel with said tubular members 5, brackets 6 securing said tubular members and tubular guides rigidly, a fork 9 inclosing the front wheel of the



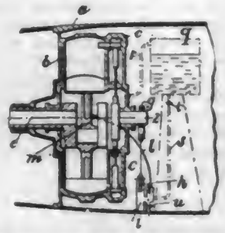
bicycle and having extensions 8 passing through the tubular guides 7, a tie-plate 12 secured to the upper end of said extensions 8, brackets 13 secured to the fork 9 below the extensions 8, and plungers 14 loosely connected to the brackets 13 and extending into the tubular members 5 and engaging the springs therein, substantially as and for the purposes specified.

973,220. FOLDING TABLE. FRITZ SCHMIDTMANN, Duesseldorf, Germany. Filed Sept. 9, 1909. Serial No. 516,944.



A table provided with a pair of hinged top plates having ways, a pair of leaves having inner reduced ends and slidable in said ways, legs hinged to the inner ends of the plates, an articulated strut connecting the legs, and braces hinged to the lower ends of the legs and to the inner ends of the leaves.

973,221. MEANS FOR IMPROVING THE EFFICIENCY OF HOT-AIR OR EXTERNAL-COMBUSTION MOTORS. EUGÈNE SCHNEIDER, Le Creuzot, France. Filed Sept. 30, 1908. Serial No. 455,456.

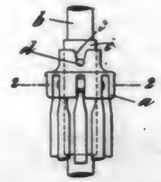


1. In combination, an automobile torpedo casing, one or more external combustion motors for propelling the same and having a single crank casing for receiving the exhaust gases, said crank casing being provided with an under-water exhaust outlet and means for spraying water into the hot gases exhausted into the under-water outlet, thereby reducing pressure on the atmosphere side of the piston during both strokes.

2. In combination, an automobile torpedo casing, an external combustion motor therein for propelling the same and having a crank casing for receiving the exhaust gases from the motor, said crank casing being provided with an under-water exhaust outlet, a spraying device opening into said crank casing and a pump operated by said motor for delivering water to said device, thereby reducing pressure on the atmosphere side of the piston on both strokes.

3. In combination, an automobile torpedo, an external combustion motor therein for propelling the same and having a crank casing for receiving the exhaust gases from the motor, said crank casing being provided with an under-water exhaust outlet, a fresh water supply carried by said torpedo, a spraying device opening into said crank casing, and a pump operated by said motor for delivering water from said supply to said spraying device, thereby reducing pressure on the atmosphere side of the piston during both strokes.

973,222. UMBRELLA. FREDERICK WILLIAM SCHROEDER, London, England, assignor of one-half to Alfred Cuzner, London, England. Filed May 28, 1907. Serial No. 375,249.



1. In an umbrella, the combination of a stick provided with a cavity in the upper part thereof, a fixed pin projecting transversely through and extending beyond the stick between the upper end thereof and the cavity, a top notch having a rib receiving socket, a slot in the upper end of the notch adapted to engage a projecting end of the pin, a rib removably associated with the socket, and removable means interposed between the cavity and the notch to retain the notch in a normal position above the cavity and in engagement with the pin, the notch being slidable upon the stick from the normal position toward the lower part of the stick to bring the socket into registration with the cavity, to permit the removal of the rib; substantially as described.

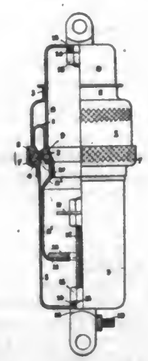
2. In an umbrella, the combination of a stick provided with a series of cavities wound about the upper part thereof, a top notch having a series of rib receiving sockets, and a series of ribs removably associated with the sockets, the notch being slidable upon the stick toward the lower part of the stick, to bring its sockets successively into registration with the cavities in the stick to permit removal of the ribs; substantially as described.

3. In an umbrella, the combination of a stick provided with a spiral series of cavities in the upper part thereof, a top notch having a series of rib receiving sockets, and a series of ribs removably associated with the sockets, the notch being slidable upon the stick toward the lower part of the stick to bring its sockets successively into registration with the cavities in the stick to permit removal of the ribs; substantially as described.

4. In an umbrella, the combination of a stick provided with a series of cavities wound about the upper part thereof, a fixed pin projecting transversely through and extending beyond the stick between the upper end thereof and the series of cavities, a top notch having a series of rib receiving sockets, a slot in the upper end of the notch adapted to engage the projecting end of the pin, a series of ribs removably associated with the sockets, and removable means interposed between the cavities and the notch to retain the notch in a normal position above the cavity and in engagement with the pin, the notch being slidable upon the stick from the normal position toward the lower part of the stick to bring the sockets successively into registration with the cavities in the stick to permit removal of the ribs; substantially as described.

5. In an umbrella, the combination of a stick provided with a cavity in the upper part thereof, a fixed pin projecting transversely through and extending beyond the stick between the upper end thereof and the cavity, a top notch having a rib receiving socket, a slot in the upper end of the notch adapted to engage the projecting end of the pin, a rib removably associated with the socket, and a second pin removably and transversely fixed in the stick above the cavity and below the notch to retain the notch in a normal position engaging the ends of the first pin, the notch being slidable upon the stick from the normal position toward the lower part of the stick to bring the socket into registration with the cavity to permit removal of the rib; substantially as described.

973,223. AIR-SPRING. ARCHIBALD SHARP, Westminster, London, England. Filed Oct. 9, 1908. Serial No. 456,961.



1. An air spring comprising in combination, a two part cylinder provided with an open end, a two part piston partially disposed in said cylinder, a rolling packing mitten, means disposed at the juncture of the parts of said cylinder for securing one end of said mitten thereto, means at the juncture of parts of said piston for securing the other end of the mitten thereto, means for admitting air to said cylinder below said mitten, attachment means at the projecting end of said piston for connection with one of the members of the parts to be separated by the spring, and attaching means for said cylinder for connection with another of the parts of the members to be separated by said spring.

2. An air spring comprising in combination, a two part cylinder having one end open, one of the parts having one end closed and the other open and a shoulder formed adjacent the open end, the other part of said cylinder having both ends open, a rolling packing mitten, means for connecting said cylinder parts and securing one end of the packing mitten therebetween, a two part piston oppositely disposed in said cylinder with the projecting end closed and the opposite end open, the adjoining parts of said piston having threaded connection, means disposed at the juncture of said piston parts for frictionally connecting the other ends of said packing mitten theerto, attaching means for the projecting end of said piston for connecting the same with one of the parts to be separated by the spring, attaching means for said cylinders for connecting the same to the other of the parts separated by said spring, and means for admitting air to said cylinders below said mitten.

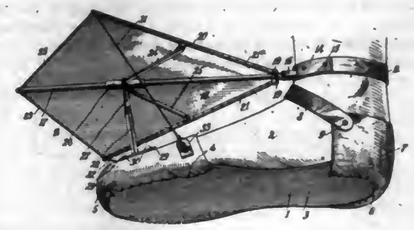
3. An air spring comprising in combination, a two part cylinder, one part having a closed and an open end and a shoulder adjacent said open end, the other part of said cylinder having both ends open and one end threaded, a packing mitten, one end of the packing mitten being interposed between two parts of said cylinder at the juncture thereof, a rack having threaded engagement with threaded part of said cylinder and frictional engagement with the other part of said cylinder for joining the two parts and securing one end of the mitten therebetween, a two part piston partially disposed in said cylinder and having threaded connection with each other, a ring at the juncture of said threaded connection for connecting said piston with the other end of said mitten, attaching means at the projecting end of said piston for connection with one of the parts to be separated by said spring, attaching means for the cylinder for connection with the other parts to be separated by said spring, and means for admitting air to said cylinder below said mitten.

4. An air spring comprising in combination, a cylinder open at one end and provided on its opposite end with attaching means for connection with one member of the parts separated by the spring, a hollow piston disposed partially in said cylinder and having attaching means on its projecting end for connection with another member of the parts to be separated by the spring, the opposite end of said piston being open and said piston comprising two cylindrical parts disposed in end to end relation, means for securing said piston parts together, a roller packing mitten connected with the interior of the cylinder below the open end thereof and with the exterior of the piston, and means for admitting air to the interior of said cylinder below said mitten.

5. An air spring comprising in combination, a cylinder open at one end and provided on its opposite end with attaching means for connection with one member of the parts separated by the spring, a hollow two part piston disposed partially in said cylinder and having attaching means on its projecting end for connection with another member of the parts to be separated by the spring, the opposite end of said piston being open, a roller packing mitten connected with the interior of the cylinder below the open end thereof, means for securing the packing mitten to said piston and also securing the parts of said piston together, and means for admitting air to the interior of said cylinder below said mitten.

[Claim 6 not printed in the Gazette.]

973,224. SWIMMING APPLIANCE. DANIEL SMITH, Griffin Corners, N. Y. Filed Nov. 5, 1909. Serial No. 526,892.



1. In a device of the class described, the combination with a foot support, of an ankle support, a plurality of ribs pivotally connected to said ankle support, a membrane connected to and operated by said ribs, and means for folding and unfolding said ribs, connected to said foot support.

2. In a device of the class described, the combination with an ankle support, of a foot support, a main rib pivotally connected to said ankle support, a plurality of auxiliary ribs pivotally connected to said main rib, a membrane connected to said ribs, and means connected to said foot support adapted to manipulate said auxiliary ribs relative to said main rib.

3. In a device of the class described, the combination with a plurality of pivotally connected members, of a

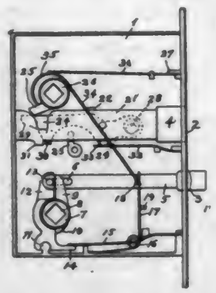
membrane interconnected with said members, and means operated at will for manipulating said members to extend and collapse said membrane.

4. In a device of the class described, the combination with a sandal, of an ankle support, a plurality of ribs pivotally connected to said ankle support, a membrane connected to said ribs, means connecting said ribs with said sandal, and additional means for taking up the strain on said ribs.

5. In a device of the class described, the combination with a sandal, of an ankle support, a main rib pivotally connected to said ankle support, an auxiliary rib pivotally connected to said main rib, a membrane connected to said ribs, a sleeve slidingly supported on said main rib, links connecting said auxiliary rib with said sleeve, and means for connecting said sleeve with said sandal.

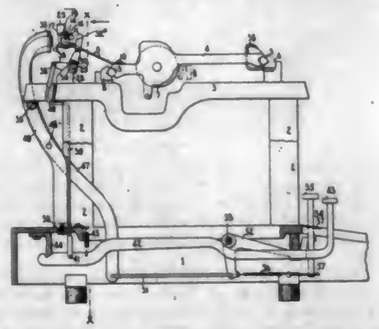
[Claims 6 to 8 not printed in the Gazette.]

973,225. DOOR-LOCK. FRANK J. SMITH, Highland, Ind. Filed Dec. 6, 1906. Serial No. 346,662.



In door locks, a slidable lock bolt formed with a recess, a slidable latch bolt, a rotatable hub having a projection engaging in the recess to move the lock bolt in either direction corresponding to the direction of rotation of the hub, a fulcrumed lever 34 having an end engaged with the latch bolt to effect movement thereof and an end formed to lie in the path of said projection and to be engaged thereby, said projection in such engagement moving said lever on its fulcrum.

973,226. TYPE-WRITING MACHINE. GEORGE H. SMITH, Nutley, N. J., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Dec. 17, 1909. Serial No. 533,717.



1. In a typewriting machine and tabulating mechanism, the combination of a carriage, a stop bar provided with teeth which project therefrom, stops mounted on said bar to slide in the spaces between said projecting teeth and to slide into and out of operative position, hand actuated selecting means coöperative with said stops to move any desired one of said stops to operative position, and a cooperative tabulating stop, the stop bar and selecting means being carried one by the carriage and the other by the frame of the machine.

2. In a typewriting machine and tabulating mechanism, the combination of a carriage, a stop bar provided with teeth which project therefrom, stops mounted on said bar to slide in the spaces between said projecting teeth and to slide into and out of operative position, hand actuated selecting means coöperative with said stops to move any desired one of them to operative position, a coöperative tabulating stop, the stop bar and selecting means being carried one by the carriage and the other by the frame of the machine, and means for restoring all of the operative stops on the stop bar to inoperative position.

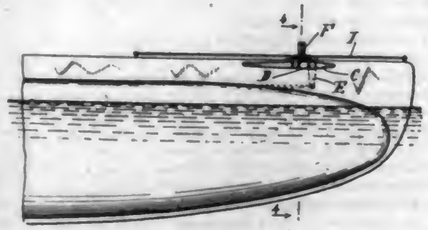
3. In a typewriting machine and tabulating mechanism, the combination of a carriage, a stop bar provided with teeth which project therefrom, stops mounted on said bar to slide in the space between said projecting teeth and to slide into and out of operative position, hand actuated selecting means coöperative with said stops to move any desired one of them to operative position, a cooperative tabulating stop, the stop bar and selecting means being carried one by the carriage and the other by the frame of the machine, and means for restoring all of the operative stops on said bar to inoperative position, said last mentioned means comprising a bar mounted to receive a bodily movement parallel with said stop bar and to contact with the stops carried thereby.

4. In a typewriting machine and tabulating mechanism, the combination of a carriage, a stop bar having teeth, bifurcated tabulator stops which straddle said bar and move transversely of the bar in spaces between the teeth on the bar, a coöperative tabulator stop, and key actuated means for moving the bifurcated stops on the stop bar to operative position, the key actuated moving means and the stop bar being carried one by the carriage and the other by the frame of the machine.

5. In a typewriting machine and tabulating mechanism, the combination of a carriage, a stop bar having teeth, bifurcated tabulator stops which straddle said bar and move transversely of the bar in spaces between the teeth on the bar, a coöperative tabulator stop, and a key actuated projecting device coöperative with said bifurcated stops to project them to operative position, the bifurcated stop with which the projecting device coöperates depending on the letter space position of the carriage.

[Claims 6 to 17 not printed in the Gazette.]

973,227. SUBMARINE BOAT EQUIPPED WITH SUBMERGING-PLANES. LAWRENCE Y. SPEAR, Quincy, Mass., assignor to Electric Boat Company, New York, N. Y., a Corporation of New Jersey. Filed May 10, 1910. Serial No. 560,442.



1. A submarine or submersible boat having submerging planes, in combination with mechanism for supporting the planes against the blows of waves on their under surfaces when they are out of water, said mechanism comprising a transversely extending structure lying closely above the planes so that it will receive the thrust of blows directed against their under surfaces.

2. A submarine or submersible boat having submerging planes, in combination with mechanism for guarding said planes and for supporting them against the blows of waves on their under surfaces when they are out of water, said mechanism comprising a transversely extending structure which projects beyond the outer edges of the planes to guard them from collision and which lies closely above the planes so that it will receive the thrust of blows directed against their under surfaces.

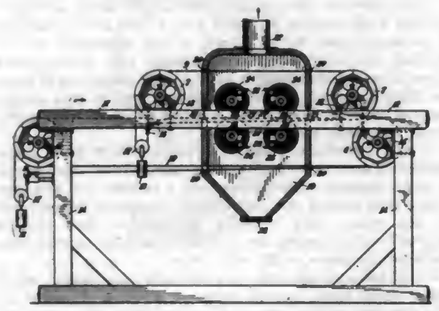
3. A submarine or submersible boat having submerging planes, in combination with mechanism for guarding said planes and for supporting them against the blows of waves when they are out of water, said mechanism comprising a transversely extending structure which projects beyond the outer edges of the planes to guard them from collision and which lies closely above the planes so that it will receive the thrust of blows directed against their under surfaces and additional supporting means associated with the said structure to receive the thrust of blows directed against the upper surfaces of the planes.

4. A guard for submerging planes of submarine or submersible boats comprising a boom pivoted on the superstructure so that it may be swung into a transverse position to guard the planes, or shipped in position along the superstructure where it offers little resistance to the water.

5. A guard for submerging planes of submarine or submersible boats comprising a boom pivoted on the superstructure so that it may be swung into a transverse position to guard the planes or shipped in position along the superstructure where it offers little resistance to the water, and guy-wires extending from the vessel to the boom to stay the boom and serve as fenders for the planes.

[Claims 6 and 7 not printed in the Gazette.]

973,228. TOBACCO-CLEANING MACHINE. CHARLES MOSES SPIERER, Cairo, Egypt. Filed Nov. 24, 1909. Serial No. 529,713.

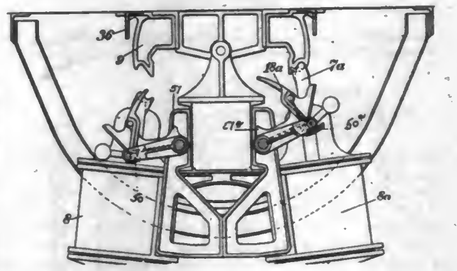


1. A tobacco cleaning machine, comprising a plurality of belts adapted to travel together in contact to hold the leaves between the same and having elongated openings in said belt; and a plurality of rotary brushes operating on both sides of the joined belt to extend the bristles of said brushes through said openings to contact with the held leaves.

2. A tobacco cleaning machine, comprising a plurality of belts having elongated openings and adapted to travel in contact to hold the leaves between the same; cleaning brushes mounted across the said belts where the same travel together and operated to extend their bristles through the openings to operate upon the held leaves; and adjustable bearings for said brushes adapted to increase the impingement of said bristles on said leaves.

3. A tobacco cleaning machine, comprising a plurality of grooved drums suitably mounted so that their peripheries aline; a plurality of belts composed of endless strings reeved upon said drums, the strands whereof are adapted to commingle from the operation of the travel of said belts; and a plurality of rotary brushes mounted to extend across the said belts and the section thereof where the strands commingle.

973,229. DUMP-CAR LOCK. ADGER C. STANSILL, CHARLES H. DOTY, and FRED WHITON HUBBARD, Columbus, Ohio, assignors to The Kilbourne and Jacobs Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed Aug. 6, 1909. Serial No. 511,662.



1. In a dump car, a band secured thereto and depending therefrom, dumping means, a shaft mounted on said car, a rocker arm on said shaft, a lock adapted to engage said band carried by said rocker arm, and a controlling member for said shaft adapted to be operated by said dumping means to release said lock when the car is dumped.

2. In a dump car, a band secured thereto and depending therefrom, dumping means, a shaft mounted on said car, a rocker arm on said shaft, a lock adapted to engage said band carried by said rocker arm, a cam member loosely mounted on said shaft, a latch rigidly borne on said shaft to engage said cam member, said dumping means being adapted to engage said cam member to release said lock when the car is dumped.

3. In a dump car, a band secured thereto and depending therefrom, a lug on said band, a lock adapted to engage said lug, controlling means for said lock, and dumping means for said car connected with said controlling means and adapted to actuate said controlling means to release said lock when the car is dumped.

4. In a dump car, a band secured thereto and depending therefrom, a lug on said band, a lock on one side of said car adapted to engage said lug, controlling means for said lock, dumping means for said car adapted to actuate said controlling means to release said lock when the car is dumped, a similar lock, lug, and controlling means on the opposite side of said car, and a member carried by said car adapted to render said controlling means on said opposite side of the car inoperative when the car is in its dumped position.

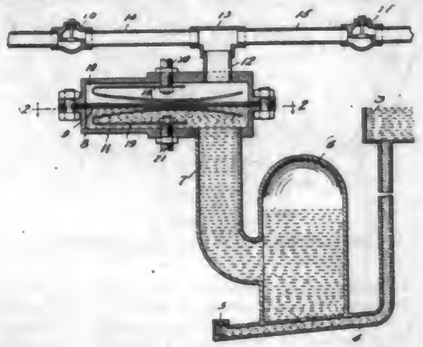
5. In a dump car, a locking band secured thereto having a lug thereon, a lock on one side of said car adapted to engage said lug, a shaft adapted to operate said lock, a cam member loosely mounted on said shaft, a latch member carried by said shaft for said cam member, dumping means adapted to engage said cam member to release said lock when the car is dumped, a similar lug, lock, shaft, cam, and latch means arranged on the opposite side of the car, and a member carried by said car to disengage said latch on the side of the car toward which the dumping operation takes place.

973,230. APPARATUS FOR PUMPING WATER. SIDNEY M. STEVENS, Prince George, Va., assignor of one-half to Grant Chase, Prince George, Va. Filed Apr. 27, 1910. Serial No. 557,983.

1. The apparatus for pumping water consisting of a water holding casing, a flexible diaphragm dividing said casing into two compartments, a water supplying and discharging pipe communicating with one of said compartments, a hydraulic ram communicating with the other of said compartments and serving to actuate said diaphragm, and assisting springs at each side of said diaphragm.

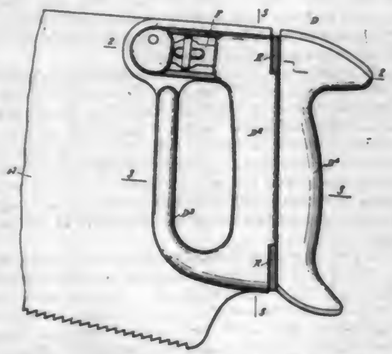
2. The apparatus for pumping water consisting of a water holding casing, a flexible diaphragm dividing said

casing into two compartments, a water supplying and discharging pipe communicating with one of said compartments, a hydraulic ram communicating with the other of said compartments and serving to actuate said diaphragm, and assisting springs at each side of said diaphragm, said assisting springs being adjustable.



3. The apparatus for pumping water consisting of a water holding casing, a flexible diaphragm dividing the casing into two compartments, a water supply pipe opening into one of said compartments, a hydraulic ram communicating with the other compartment and supplying power to operate the diaphragm, and adjusting springs at each side of said diaphragm, said springs being independently adjustable in both directions.

973,231. SAW. CHARLES W. STITES, New York, N. Y. Filed Feb. 4, 1910. Serial No. 542,132.

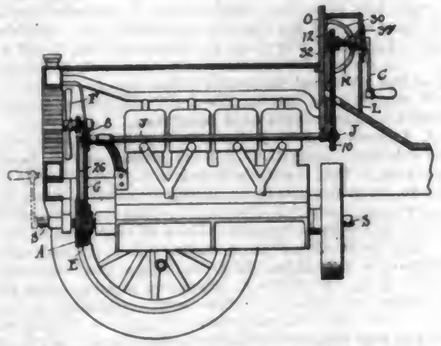


1. A saw, comprising a saw blade having a hand hold and keyholes adjacent the said hand hold, and a detachable handle made in parts hinged together and having hand holds adapted to register with the said saw blade hand hold, one of the handle parts having studs adapted to engage the said keyholes, the other handle part having a spring-pressed locking bolt adapted to engage one of the said studs to lock the parts together.

2. A saw, comprising a saw blade having a hand hold and keyholes adjacent the said hand hold, and a detachable handle for the said saw blade and made in parts hinged together, the parts having a hand hold adapted to register with the said saw blade, one of the sections being provided with a wooden handle back and with studs adapted to engage the said keyholes and the other handle part having a spring-pressed locking bolt adapted to engage one of the said studs.

3. A saw comprising a blade having a hand hold, a detachable handle made in parts, hinged together and having hand holds adapted to register with the blade hand hold, the blade having openings and one of the handle parts having studs adapted to engage the openings, the other handle part having a spring pressed locking bolt for engaging one of the studs to lock the parts together.

973,232. STARTING DEVICE FOR AUTOMOBILES AND LIKE MACHINES. ROBERT D. STRYKER, Huron, Ohio, assignor of forty-nine one-hundredths to N. E. Woessner, Huron, Ohio. Filed July 29, 1909. Serial No. 510,324.



1. In engine starting devices, an engine shaft and ratchet mechanism mounted thereon, and comprising a wheel fixed on the shaft and having a side rim with pockets at intervals, a ratchet ring mounted on the side of said wheel and having teeth on its periphery, and balls in said pockets adapted to come into locking relations with said teeth.

2. In starting devices for engines, a shaft having a member fixed thereon provided with a hub and a plurality of pockets within its periphery, a ring supported on ball bearings on the hub of said member and having teeth opposite said pockets and a ball in each pocket, said member having a short shouldered groove next to each pocket adapted to receive said ball for locking said ring operatively with said member.

3. The combination with an engine shaft of a wheel secured thereto, provided with a flanged rim having one or more inwardly opening pockets, a ratchet rim mounted within said flanged rim and having movement independent of said wheel, and wedging elements in said pockets adapted to be engaged by the teeth on said ratchet ring and bind the same to the said wheel.

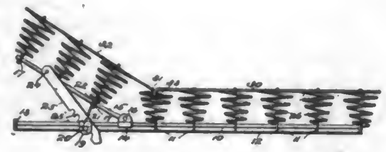
4. In automobiles and like vehicles, an engine shaft and a wheel fixed thereon having a circular recess in its side provided with a plurality of cavities in its periphery, a ratchet ring rotatably mounted within said recess and a gravity ball adapted to operatively lock said ring with said wheel and to be automatically released through power rotation of said shaft, said wheel having depressions next to said cavities adapted to receive said balls when locking occurs.

5. In engine starting devices, the combination of a shaft and a wheel fixed thereon having a laterally extending hub fixed on said shaft and provided with a recess in its inner side and cavities at intervals in the periphery of said recess, a ratchet member loosely mounted on said hub in said recess and having teeth about its periphery opposite said cavities, and gravity balls adapted to engage said member with said wheel at said cavities and to be automatically disengaged when the engine is started.

[Claims 6 to 8 not printed in the Gazette.]

973,233. BED-BOTTOM. HERMAN D. SWEINHAGEN and FRANK A. THEOBALD, Napoleon, Ohio. Filed Apr. 27, 1910. Serial No. 557,991.

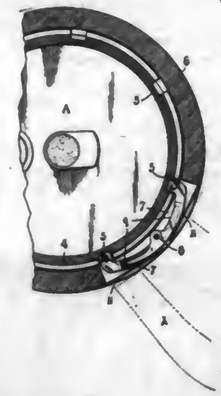
1. In a bed bottom, a main frame, an auxiliary frame slidably hinged to the main frame, a spring fabric erected upon the frames, a rod forming a frame about the spring fabric and a sliding joint in the last-mentioned frame.



2. In a bed bottom, a main frame, a tilting frame hinged to the main frame, a spring fabric erected upon the frames, a rod partially surrounding the fabric and provided with eyes and a rod surrounding the remainder of said fabric and provided with extremities inserted through the eyes.

3. In a bed bottom, a frame, a spring fabric carried thereby, a rod arranged substantially parallel with the frame, a sliding member carried by the rod, a member rigidly carried thereby, a tiltable section including a spring fabric pivoted to the sliding member, an adjustable supporting device connected with the tiltable section, means secured to the rigidly mounted member and arranged to be engaged by the adjustable device, a rod connected with one portion of the spring fabric, a rod connected with the fabric carried by the tiltable section, and means for forming a sliding connection between the two rods carried by the fabric.

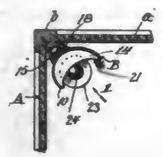
973,234. MINER'S SAFETY-LAMP. JOSEF SZOMBATHY, St. Louis, Mo. Filed July 11, 1910. Serial No. 571,316.



1. A miner's lamp, comprising an oil pot provided with a threaded neck having a plurality of recesses therein, a frame above said oil pot having a threaded ring for engagement with the neck of said oil pot, the ring of said frame being provided with a slot, and a pair of latch dogs pivotally mounted in said slot and having arms extending in opposite directions terminating in fingers for entrance into recesses in the neck of the oil pot.

2. A miner's lamp, comprising an oil pot provided with a threaded neck having a plurality of recesses therein, a frame above said oil pot having a threaded ring for engagement with the neck of said oil pot, the ring of said frame being provided with a slot, a pivot pin vertically arranged at the center of said slot, a pair of latch dogs fitted to said pivot pin and having arms extending in opposite directions from the pivot pin terminating in fingers for entrance into recesses in the neck of said oil pot, and springs carried by said ring extending into said slot and bearing against the arms of the latch dogs to hold their fingers in the recesses into which they enter.

973,235. ILLUMINATING DEVICE AND REFLECTOR. JOSEPH TAUSSIG, Chicago, Ill. Filed Nov. 6, 1909. Serial No. 526,483.



1. In an illuminator and reflector for show cases and the like, the combination with a main reflector body and an open sided conduit on the outside of said reflector body forming a receiving member for the reception of electric light wires, of a suitably supported base for supporting said reflector body and arranged to close the open side of the conduit and means for securing said reflector body to the base.

2. In an illuminator and reflector for show cases, the combination with a main reflector body, a conduit secured to the rear outer side of said body and forming a receiving member for the reception of electric light wires and an electric lamp secured to said reflector body, of a suitably supported base for said reflector body and having flanges overhanging said conduit and a spring clip for coupling the reflector body to the base.

3. In an illuminator and reflector, the combination with a main reflector body and an open sided conduit secured wholly on the outside of said reflector body and forming a receiving member for the reception of electric light wires and an electric lamp secured to said body, of a suitably supported base piece adapted to form a cover for said open sided conduit and a spring clip for securing said reflector body to the base piece.

4. In an illuminator and reflector, the combination with a main reflector body, a channel shaped conduit secured to the outer side of said reflector body and adapted to form a receiving member for the reception of electric light wires and an electric lamp secured to said reflector body, of a channel shaped base piece the flanges of which are arranged to overlap the flanges of the conduit and a spring clip secured to said base piece and having means for engagement with the reflector body adapted to hold the same upon said base piece.

5. In an illuminator and reflector, the combination with a main reflector of substantially semi-circular cross section, and having an unbroken reflecting surface, a channel shaped conduit secured wholly upon the exterior of said main reflector body and forming a receiving member for the reception of electric light wires and an electric lamp secured to said reflector body, of a channel shaped base piece adapted to fit over the conduit and means for securing said main reflector body upon the base.

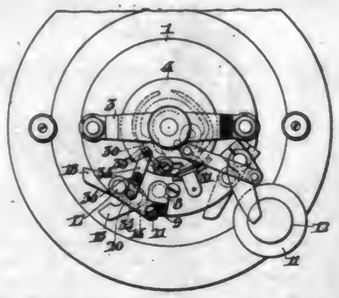
[Claims 6 to 9 not printed in the Gazette.]

973,236. AUTOMATIC RIB-KNITTING MACHINE. HERBERT B. TAYLOR, Philadelphia, Pa., assignor of one-half to James Taylor, Philadelphia, Pa. Filed July 14, 1908. Serial No. 443,418.

1. In a rib knitter, the combination of the cam cylinder and dial plate each provided with stitch cams; means for altering the position of one of the stitch cams of the cylinder for the production of a loose course; means for altering the position of one of the stitch cams of the dial to cooperate for the same purpose; and connections whereby the operation of one of said cams simultaneously controls the operation of the other.

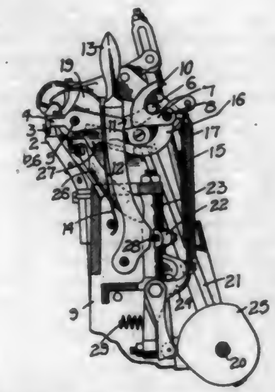
2. In a rib knitter the combination of the cam cylinder, provided with a stitch cam, and automatically operated means for normally depressing the stitch cam for the production of a loose course; and a dial plate, provided with a movable draw cam, with connections to the means which operate the stitch cam of the cam cylinder by which the depression of the stitch cam of the cam cylinder occasions

simultaneous movement of the draw cam of dial plate, whereby both cams coöperate in the formation of a loose course.



3. In a rib knitter the combination of a cam cylinder; means for depressing its stitch cam comprising a rod with a bevel head, a rocking arm which contacts with said bevel-head, and means for rocking said arm under the automatic operation of the machine; a dial plate provided with a movable draw cam; and a link connecting said draw cam with the rocking arm, whereby the rocking of the arm to abnormally depress the stitch cam to lengthen the stitch formed by the cylinder needles simultaneously operates the draw cam, so that both said cams simultaneously coöperate in the production of a loose course.

973,237. PRESSER-FOOT MECHANISM FOR STITCHING-MACHINES. BRUNO H. THEISEN and GEORGE S. KELLER, Minneapolis, Minn. Filed May 13, 1909. Serial No. 495,741.



1. In a stitching machine, the combination, with a work support, a needle jaw and an awl jaw, of a pivoted lever, a presser foot mounted thereon, a spring pressed arm arranged to engage said lever and having a series of ratchet teeth, a trip lever having a tooth to engage said ratchet teeth and normally locking said arm in engagement with said lever, means for operating said awl jaw to feed the goods and adjustable means carried by said operating means and arranged to engage said trip lever and release said arm, substantially as described.

2. In a stitching machine, the combination, with a work support, a needle jaw and an awl jaw, of a pivoted lever, a presser foot mounted thereon, said lever having a laterally extending end, a pivoted spring-pressed arm having a U-shaped recess to receive and loosely support said laterally extending end and hold said presser foot toward said work support with a yielding pressure, said arm having a series of ratchet teeth thereon, and a trip lever having a tooth to engage said teeth, said arm slipping automatically over said tooth to increase the pressure of said foot on said plate but being normally locked by said tooth against movement in the other direction.

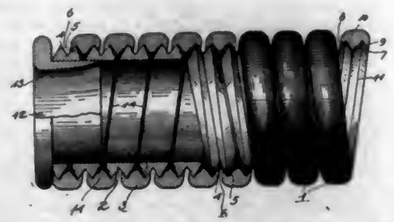
3. The combination, with a work support, a needle jaw and an awl jaw, of a presser foot lever, a presser foot carried thereby, a spring-pressed arm having a series of teeth, and a part to engage said presser foot lever, a trip lever having a tooth to engage said ratchet teeth and normally lock said arm in engagement with said presser foot lever, said arm slipping automatically over the tooth of said trip lever and permitting the presser foot to accommodate itself to the varying thickness of the material, and means actuated by said needle jaw for releasing the pressure of said presser foot lever at a predetermined point, substantially as described.

4. In a stitching machine, the combination, with a reciprocating needle jaw and an awl jaw, and means for operating the same, of a work support, a presser foot lever, a presser foot mounted thereon, a spring-pressed ratchet arm arranged to engage said presser foot lever and having a series of ratchet teeth, a spring-pressed tripping lever having a tooth to engage the teeth of said ratchet arm, a spring-pressed lever arranged to engage said presser foot lever and having a lug projecting into the path of said needle jaw, and a feed mechanism arranged to advance the material and actuate said tripping lever to disengage it from the teeth of said ratchet arm whereby said presser foot will be released during the feeding operation, substantially as described.

5. In a stitching machine, the combination, with a work support, a needle jaw and an awl jaw, of a presser foot lever, a presser foot mounted thereon, an arm arranged to engage said lever and having a series of ratchet teeth, a trip lever having a tooth to engage said teeth and permit said arm to move automatically in one direction, but locking it against movement in the other direction, an actuating means for said awl jaw, and means adjustably mounted in said actuating means and arranged to engage and trip said trip lever at a predetermined point, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

973,238. FLEXIBLE METALLIC TUBING. HENRY TIDEMAN, Menominee, Mich., assignor of one-half to James Wolff, Chicago, Ill. Filed June 24, 1910. Serial No. 568,677.



1. In flexible tubing, the combination of an elastic metallic band having an exterior triangular ridge adjacent each longitudinal edge and wound into spiral form to form the interior member of the tubing, and a metallic band of elastic material having triangular grooves on its inner surface adjacent its longitudinal edges and wound spirally about the inner member and spanning adjacent coils of the inner member with its grooves receiving the triangular ridges of adjacent coils of the inner member to flexibly lock said inner coils together.

2. In flexible tubing, the combination of an elastic metallic band having an exterior triangular ridge adjacent each longitudinal edge and wound into spiral form to form the interior member of the tubing, and a metallic band of elastic material having triangular grooves on its inner surface adjacent its longitudinal edges and wound spirally about the inner member and spanning adjacent coils of the inner member with its grooves receiving the triangular ridges of adjacent coils of the inner member to flexibly lock said inner coils together, the inner surface of the band for the inner member being planar whereby when said band is wound into spiral form to form a substantially cylindrical interior surface for the tubing.

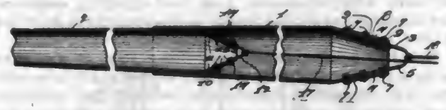
3. In flexible metallic tubing, the combination of an inner spiral member having exterior triangular longitudinal ridges, and an outer spiral member having interior longitudinal triangular grooves for receiving said triangular ridges to flexibly lock the coils of the inner member together.

4. In flexible metallic tubing, the combination of an inner spiral member having exterior triangular longitudinal ridges, and an outer spiral member having interior longitudinal triangular grooves for receiving said triangular ridges to flexibly lock the coils of the inner member together, the inner surfaces of the coils of the inner member forming a substantially continuous cylindrical inner surface for the tubing.

5. In flexible tubing, the combination of an inner spiral member formed of an elastic metallic band having two triangular longitudinal ridges on its outer side, and an exterior spiral member formed of an elastic metallic band having two longitudinal triangular grooves on its inner side intimately receiving triangular ridges of adjacent coils of the inner spiral member.

[Claims 6 and 7 not printed in the Gazette.]

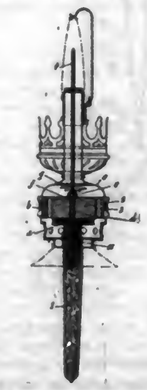
973,239. TELESCOPING CORE FOR FORMING PLASTIC POLES OR POSTS. FREDERICK H. TIDNAM and JOHN N. GRAVES, Oklahoma, Okla. Filed Jan. 25, 1910. Serial No. 540,047.



1. A mold comprising a plurality of telescopic sections, the rear end of each of said sections being tapered, a handle secured to the rear end of each of said sections, and a cable connected to each of said handles for removing said mold from a post.

2. A mold comprising a plurality of telescopic sections, the rear end of each of said sections being tapered, substantially V-shaped handles, means for detachably securing one of said handles within each of said tapered portions, and a cable secured to each of said handles for drawing one of said sections within the other.

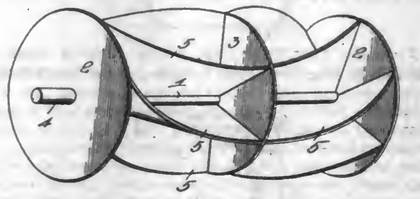
973,240. CARBURETING-LAMP. CHARLES TORCHEBEUF and EDGARD DE LANNEAU, Paris, France. Filed Mar. 29, 1910. Serial No. 552,228.



1. In a device of the character described, the combination with a mass of absorbent material provided with air passages therethrough, of a wick pressed against said mass, a rod having one end protruding into the mass and its opposite end extending into the flame zone, and a resilient medium adapted to engage the rod and designed to hold the rod, the mass and the wick in releasable engagement.

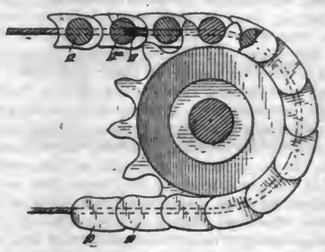
2. In a device of the character described, the combination with the lamp casing, of a mass of perforated absorbent material therein, a wick pressed against said mass, a rod having one end protruding into the flame zone, a collar on said rod, and a spring having one end bearing against said collar and its opposite end bearing against the casing.

973,241. CURRENT-MOTOR. ALBERT VESTAL and DELBERT F. BENNETT, Redding, Cal. Filed Feb. 24, 1910. Serial No. 545,659.



A current-motor comprising a central hub-member, a series of blades standing radially to said hub-member, end disk-members and an intermediate disk-member, said blades being secured to said hub-member and said end and intermediate disk-members and curved longitudinally of the motor, said intermediate disk-member intersecting said blades about centrally of their longitudinal curvatures.

973,242. DRIVE-CHAIN. JAMES THOMAS WATSON, Jr., Honolulu, Hawaii. Filed Nov. 13, 1909. Serial No. 527,854.



1. A chain, comprising a continuous flexible cable, and a plurality of sections loosely mounted thereon and having sliding engagement with each other.

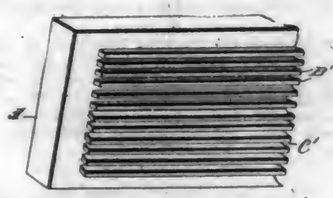
2. A chain link or section having two side plates and a transverse connecting member, each of said side plates having a convex end and a concave end, and said connecting member being substantially cylindrical in cross section and of less diameter than the width or length of the side plates.

3. A chain link or section having two side plates and a transverse connecting member, each of said side plates having a convex and a concave end, said connecting member being substantially cylindrical in cross section and of less diameter than the width or length of the side plates, and each side plate having a passage extending longitudinally therethrough.

973,243. WALL-TILE. FRANK X. WILLE, Spokane, Wash. Filed Mar. 5, 1909. Serial No. 481,332.

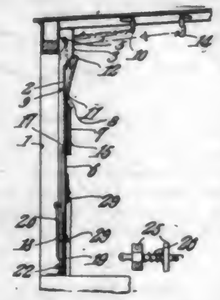
As an article of manufacture a wall tile comprising a main body portion having two sets of strips projecting

from one side integral therewith one set of said strips being inclined at an angle in one direction and the other strips being inclined at an angle in the opposite direction,



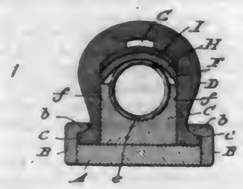
said strips being of uniform width in cross section, and adjacent strips in the set being separated by a space the same width as the strips themselves.

973,244. FREIGHT-CAR DOOR. JULIUS WIRKUS, Minto, N. D. Filed June 8, 1909. Serial No. 500,807.



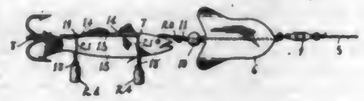
The combination with a car structure having a door opening and rails secured to the structure at opposite sides of the opening, each of said rails having a longitudinal recess in that face thereof farthest removed from the opening, the upper end portion of each recess being enlarged, of a door consisting of upper and lower sections, angle irons thereon and slidably mounted on the rails and lapping the recessed faces thereof, upstanding arms upon the upper section of the door, rollers carried thereby and movable within the recesses, upwardly curved guide rods secured to the car structure and adjacent the rails, means attached to the angle irons of the lower door section and slidably mounted upon said curved guide rods, there being intermediate shoulders formed by the guide rods, and said means being movable onto the shoulders of the rods, and means upon the car structure for engaging the lower section of the door to support it in elevated position when said engaging means are located above the shoulders on the rods.

973,245. RESILIENT TIRE. DAVID A. YORK, Northgrove, Ind. Filed Aug. 2, 1910. Serial No. 575,118.



In a resilient tire, the combination of a wheel felly having transverse grooves at intervals in its periphery, a circular holder, of less width than the felly, snugly surrounding the vertical-central portion of the felly and having straight sides extending from its inner side to its periphery and also having a seat in its periphery and further having transverse grooves in its inner side registered with those of the felly, cushioning means arranged in the seat of said holder, a cover having side portions arranged at opposite sides of and braced by the holder and also having edge portions bearing against the periphery of the felly, at opposite sides of the holder, cover-retaining plates arranged at opposite sides of the felly and having means for coöperating with the edge portions of the cover to confine said edge portions against the felly and the holder, and transverse connecting bolts extending through the said plates and occupying the registered grooves in the felly and holder.

973,246. FISH-HOOK. AUGUST AAGAARD, Elgin, Ill. Filed May 16, 1908. Serial No. 433,159.



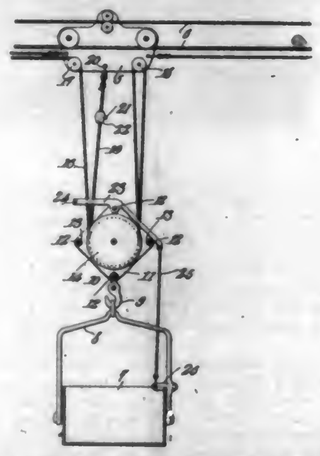
1. A bait holding device, comprising a clasp constructed of wire bent to form parallel clamping members connected by resilient loops, retaining lugs on the members, means for attaching a line to one end of the clasp, and means for attaching a hook to the opposite end of said clasp.

2. A bait holding device, including a clasp of wire bent to form parallel separable spaced clamping members, connections between said members, retaining lugs on the members, weights pendent from said clamping members, and means for attaching tackle to the opposite ends of the device.

3. A bait holding device, including a clasp of wire bent to form parallel clamping members spaced apart to receive the bait, expansible connections between the members, eyes formed in said members, and weights pendent from said eyes.

4. A bait holding device, including a clasp constructed of wire bent to form clamping members connected by loops, retaining lugs formed on the said members, and eyes formed at the extremities of the loops.

973,247. AUTOMATIC DUMPING DEVICE FOR ELEVATED CARRIERS. JOHN D. AUSTIN, Tampa, Fla. Filed July 10, 1909. Serial No. 506,982.

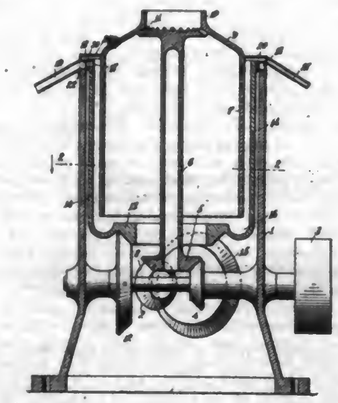


1. The combination with an elevated carrier and its fall block, and fall rope having its standing end fastened to the carrier; of a tiltable bucket carried by the fall block, a means for locking the bucket against tilting, a lever pivotally mounted on the fall block above the latter, and operatively connected to the locking means, and a stop on the standing end of the fall rope above the fall block and the lever, said lever being arranged to engage with said stop to release the bucket on the upward movement of the latter.

2. The combination with an elevated carrier, and its fall block, and fall rope having its standing end fastened to the carrier; of a tiltable bucket carried by the fall block, a means for locking the bucket against tilting, a forked lever pivotally mounted on the fall block, and straddling the standing end of the fall rope, a stop on that portion of the fall rope which is straddled by the lever, and a connection between the lever and the locking means of the bucket.

3. The combination with an elevated carrier, and a pair of sheaves mounted thereon; of a fall block having a pair of sheaves, a fall rope passing over one of the sheaves of the carrier and the block, and thence over the other sheave of the carrier, and back to the other sheave of the block, and thence back to the carrier, and fastened thereto, a stop on the last mentioned portion of the rope, a forked lever pivotally mounted on the fall block and straddling the last mentioned portion of the rope, a tiltable bucket carried by the fall block, a means for locking the bucket against tilting, and a connection between the aforesaid lever and the locking means.

973,248. CENTRIFUGAL SEPARATOR. FALES J. BABCOCK, Syracuse, N. Y. Filed Nov. 22, 1909. Serial No. 529,225.



1. In a separator, the combination with a plurality of concentric imperforated bowls, of means for rotating said bowls in different directions.

2. In a separator the combination with a plurality of telescopically arranged imperforated bowls of means for rotating said bowls relative to each other.

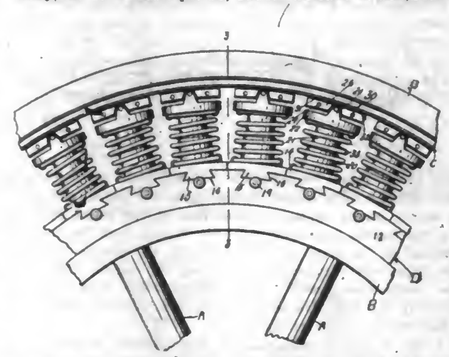
3. In a separator, the combination with an inner cylindrical bowl, of means for rotating said bowl, an outer imperforated bowl, and means for rotating said outer bowl relative to said inner bowl.

4. In a separator, the combination with a plurality of concentrically-arranged imperforated bowls, each having openings at the top and bottom thereof, of means for driving said bowls in opposite directions.

5. In a separator, the combination with a plurality of juxtaposed rotatable separating bowls, of means for feeding the material to be separated at the top of one of said bowls, means for drawing off the separated fluids from said bowls, and means for rotating said bowls in different directions.

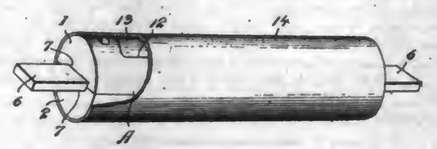
[Claims 6 to 15 not printed in the Gazette.]

973,249. VEHICLE-WHEEL. CARROLL H. BAILEY, North Troy, N. Y. Filed Apr. 18, 1910. Serial No. 556,211.



In a wheel, spokes, a felly carried by said spokes, an inner rim mounted upon said felly, said inner rim comprising a base provided with parallel outwardly extending flanges, a tire disposed in spaced relation to the inner rim, a plurality of radially compressible resilient members disposed between the inner rim and the tire, each of said members having guides comprising telescoping inner and outer sections provided at their inner and outer ends respectively with enlarged heads, the heads of the inner sections being in interlocking engagement with the free edges of the flanges of the rim, a pair of spaced outwardly extending ears on the enlarged heads of the outer section, a plurality of plates carried by the tire disposed respectively between and pivotally connected to the ears of the enlarged head of the adjacent outer section, and a rib on each enlarged head between the ears thereof upon which the adjacent plate carried by the tire rocks.

973,250. ELECTRIC FUSE. IRVIN E. BARRICKLOW, Antioch, Cal. Filed Feb. 10, 1910. Serial No. 543,075.



1. In an electric fuse including a casing provided with an opening, a cover for the opening, a fusible element in the casing, and a retainer for the cover slidable longitudinally on the casing and covering the joint between the said cover and casing.

2. In an electric fuse including a casing provided with an opening, a cover for the opening, a fusible element in the casing, and a tubular retainer for the cover removable from the casing.

3. In an electric fuse, comprising a casing having a longitudinal opening, a cover for the opening, a fusible element in the casing, and a retainer surrounding the casing to form the sole means for holding the cover in place and closing the joint between the said cover and casing.

4. A device of the class described, comprising a casing having an opening, a cover set into the opening, a current conducting means in the casing, and a tubular retainer surrounding the casing and removable therefrom to hold the cover in place.

5. A device of the class described, comprising a casing provided with an opening, a cover for the opening, and a cover retainer slidably mounted on the casing and extending over the cover and removable from either end of the casing.

[Claims 6 and 7 not printed in the Gazette.]

973,251. AUTOMOBILE. JOHN B. BARTHOLOMEW, Peoria, Ill. Filed June 30, 1903. Serial No. 163,758.



1. In a motor vehicle, the combination of front and rear axles, a body frame resting upon the axles, an engine or motor frame, means independent of the axles connecting the engine frame to the body frame, and means independent of the body frame connecting the engine frame to the axles, said connections between the engine frame and the body frame and axles respectively being flexible, whereby the body frame and axles may rock or vibrate independently of the engine frame.

2. In a motor vehicle, the combination of the front and rear axles, a body frame resting upon the axles, an engine or motor frame flexibly connected to the body frame at a point between the axles, flexible devices connecting said engine frame to one of the axles so as to permit it to yield vertically relatively to said axle, and flexible devices connecting the engine frame to the other axle so as to permit it to rock around an axis longitudinal of the vehicle.

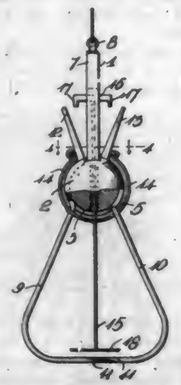
3. In a vehicle of the class described, the combination of the axles, the engine frame, springs interposed between the engine frame and one of the axles, the connecting bars connecting the engine frame to the other axle, and the body frame connected to the axles independently of the engine frame, and also connected to the engine frame, substantially as set forth.

4. In a vehicle of the class described, the combination with the axles, the engine frame, the springs interposed between one end of the engine frame and one of the axles, a bar or rod connecting the other end of the engine frame to the other axle and adapted to rock at one end upon a tranverse axis and to rock at the other end about the axis of the axle, substantially as set forth.

5. In a vehicle of the class described, the combination of the axles, the body frame supported on said axles, the engine frame, the springs interposed between the engine frame and one of the axles, and a bar or rod transversely hinged at one end to the engine frame and secured at its other end to the other axle, substantially as set forth.

[Claims 6 to 34 not printed in the Gazette.]

973,252. GRAPPLING-HOOK. FRANCIS M. BELL, Morrilton, Ark. Filed Jan. 27, 1910. Serial No. 540,443.



1. A grappling hook comprising a longitudinally slotted bar having an enlarged lower end with an aperture extending therethrough in alinement with the slot in the body of the bar and communicating therewith, a piston rod slidably mounted in said slot and aperture and provided at its upper end with a head having hooks on its lower face, a piston mounted on the lower end of said rod, gripping jaws pivotally mounted on opposite sides of the enlarged portion and having diverging arms at their upper ends adapted to be engaged by the hooks on the head carried by the piston rod and a spring arranged to force said jaws normally into closed position.

2. A grappling hook comprising a longitudinally slotted body member having an enlarged portion at its lower end with an aperture extending through said enlarged portion and communicating with the slot in the body member, segmental grooves formed in the outer faces of said enlarged portions at diametrically opposite points, gripping jaws pivotally mounted in said grooves and having diverging arms at their upper ends, a piston rod slidably mounted in the slot of said body member and provided at its upper end with a head having spaced hooks on its lower face for engaging said diverging arms to hold the jaws in open position, a piston arranged at the lower end of said rod opposite the hooked ends of the jaws and an expansion spring connected with said diverging arms for forcing the jaws into closed position.

973,253. METHOD OF PRODUCING INCANDESCENT MANTLES. CONRAD RICHARD BÖHM, Berlin, Germany, assignor to Cerofirm-Gesellschaft M. B. H., Berlin, Germany. Filed Feb. 8, 1908. Serial No. 414,914.

1. The method of producing incandescent mantles, which consists in impregnating the tubes of fabric with solutions of salts of thorium and cerium, then drying them, next passing them several times through a bath consisting of a solution of hydrogen peroxid and of a substance containing the radical of an organic acid, whereby the salts of thorium and cerium are simultaneously and independently turned into combinations of thorium and cerium both insoluble in water, thereupon drying, burning, and calcining them.

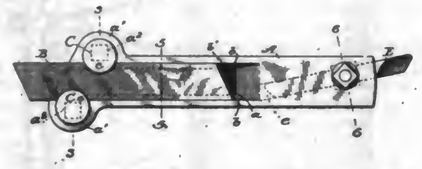
2. The method of producing incandescent mantles, which consists in impregnating the tubes made from fabric of artificial silk with solutions of salts of thorium and cerium, then drying them, next passing them several times through a bath consisting of a solution of hydrogen peroxid and of a substance containing the radical of an organic acid, whereby the salts of thorium and cerium are simultaneously and independently turned into combinations of thorium and cerium both insoluble in water, thereupon drying, burning, and calcining them.

3. The method of producing incandescent mantles, which consists in impregnating the tubes made from fabric of artificial silk with solutions of salts of thorium and cerium, then drying them, next passing them several times through a bath consisting of a solution of hydrogen peroxid and of a substance containing the radical of an organic acid, whereby the salts of thorium and cerium are simultaneously and independently turned into combinations of thorium and cerium both insoluble in water, thereupon washing, drying, burning, and calcining them.

4. The method of producing incandescent mantles, which consists in impregnating the tubes made from fabric of artificial silk with solutions of salts of thorium and cerium, then drying them, next passing them several times through a bath consisting of a solution of hydrogen peroxid and of a substance containing the radical of an organic acid, whereby the salts of thorium and cerium are simultaneously and independently turned into combination of thorium and cerium both insoluble in water, thereupon washing, drying, burning, and calcining them.

973,254. TOOL-HOLDER. CHARLES S. BONNEY, Irvington, N. J. Filed Dec. 17, 1909. Serial No. 533,719.

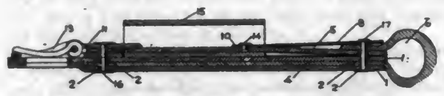
1. A tool holder of the character described comprising a stock having a longitudinal channel designed to receive a flat tool or bit, the side walls of said channel being stepped to form clamping surfaces removed from the rear or bottom wall of the channel, said bearing surfaces at each side of the channel being adapted to coöperate with the other or with the bottom wall of the channel for positioning a flat bit or tool in a plane substantially parallel with the stock or at an angle thereto, and means for clamping the tool or bit in said channel.



2. A tool holder comprising a stock adapted to enter the tool post socket of a lathe, said stock being provided in one side with a longitudinal channel extending to one end of the stock, the side walls of said channel being stepped to form tool bearing surfaces removed from the bottom wall of the channel, the stepped bearing surfaces on each side of the channel being adapted to coöperate with each other or with the rear or bottom wall of the channel for properly positioning a cutting-off tool or a right or left hand facing tool, and means for clamping the tool in said channel.

3. A tool holder comprising a stock adapted to enter the tool post socket of a lathe, said stock being provided in one side with a longitudinal channel extending to the end of the stock, the side walls of said channel being stepped to form tool bearing surfaces removed from the bottom wall of the channel, the stepped bearing surfaces on each side of the channel being adapted to coöperate with each other or with the bottom or rear wall of the channel for properly positioning a cutting-off tool or a right or left hand facing tool, said stock being also provided with a second tool receiving channel on its opposite side extending to the other end of the stock, and means for clamping the tools in said channels.

973,255. TRACE-TUG. THOMAS M. BRADY, Clifton Forge, Va. Filed Sept. 10, 1909. Serial No. 517,054.



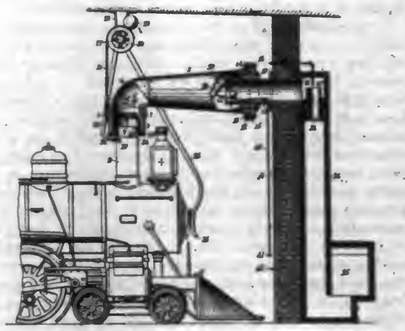
1. A trace tug comprising a base piece; a box loop located in contact with the base piece; a metallic eye; a perforated metallic shank extending from the eye through the loop and ending adjacent the buckle; a separate, detachable U-shaped perforated and slotted chape passed over the end of the shank and one end extended into the loop; a buckle connected with the chape; and rivets passed through the several parts adjacent the ends of the tug; the shank being of the width of the opening through the loop whereby the loop will be held firmly in position.

2. A trace tug comprising a base piece; a box loop located in contact with the base piece; a metallic eye; a perforated metallic shank extending from the eye through the loop; a U-shaped perforated and slotted chape passed over the end of the shank; a buckle connected with the chape; a cover plate located exterior of the shank and cut away at 9, 9 to form an end which is located within the loop and riveted to the shank; and rivets passed through the several parts adjacent the ends of the tug; one end of the chape abutting the lower part of the loop whereby the same is held against longitudinal movement.

3. The combination with a trace tug having a leather base piece, an eye at one end, a buckle at the other end, a box loop intermediate the ends, and a metallic shank, of a separate detachable concavo-convex cover plate with one end located within the loop, riveted to the shank, and of the same width as the base piece.

4. The combination in a trace tug, of a base piece; metallic draft means comprising an eye, a shank, a chape, and a buckle; a box loop; and a cover plate; and rivets which pass through and firmly secure the parts in their relative positions, said cover plate being of the same width as the base piece and having one end located within the loop and riveted to a shank.

973,256. SMOKE-CONVEYER FOR LOCOMOTIVES. ARTHUR LESTER BRIDGHAM, Boston, Mass. Filed June 4, 1910. Serial No. 564,911.



1. A smoke conveyer for locomotives, comprising a horizontally extended pipe fixedly mounted on the wall of the building structure; a smoke conductor slidably mounted thereon in supported relation therewith; a pivotal joint for said conductor disposed between the supported and free ends thereof to permit the elevation and depression of said free end; a hood pivotally mounted on said conductor at the free end thereof, arranged to assume a vertical position irrespective of said conductor; and means attached to the free end of said conductor for elevating the same.

2. A smoke conveyer for locomotives, comprising a horizontally extended pipe fixedly mounted on the wall of the building structure; a smoke conductor slidably mounted thereon in supported relation therewith; a pivotal joint for said conductor disposed between the supported and free ends thereof to permit the elevation and depression of said free end; a hood pivotally mounted on said conductor at the free end thereof, arranged to assume a vertical position irrespective of said conductor; a cone shaped section fixedly mounted within said hood to accommodate the smoke stacks of different locomotives; and means attached to the free end of said conductor for elevating the same.

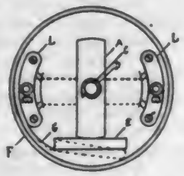
3. A smoke conveyer for locomotives, comprising a horizontally extended pipe fixedly mounted on the wall of the building structure; a smoke conductor slidably mounted thereon in supported relation therewith; a pivotal joint for said conductor disposed between the supported and free ends thereof to permit the elevation and depression of said free end; a hood pivotally mounted on said conductor at the free end thereof, arranged to assume a vertical position irrespective of said conductor; a cone-shaped lining section for said hood mounted within the same, said section formed from flexible material to accommodate the variation in shape and size of different smoke stacks, and forming rings clamped upon said lining to form a smoke passage therethrough; and means attached to the free end of said conductor for elevating the same.

4. A smoke conveyer for locomotives, comprising a horizontally extended pipe fixedly mounted on the wall of the

building structure; a smoke conductor slidably mounted thereon in supported relation therewith; a pivotal joint for said conductor disposed between the supported and free ends thereof to permit the elevation and depression of said free end; a hood pivotally mounted on said conductor at the free end thereof, arranged to assume a vertical position irrespective of said conductor; a rotary shaft mounted above the free end of said conductor; a grooved pulley fixedly attached to said shaft; a cable connecting said pulley and said conductor; a lever fixedly attached to said shaft and extended in the path of a locomotive arranged to be deflected by said locomotive to rotate said shaft and pulley mounted thereon to depress the free end of said conductor upon the delivery end of the smoke stack of said locomotive; and a weighted lever connected with said shaft for rotating the same to lift the said free end of said conductor when and as the said locomotive is withdrawn from under said conductor.

5. A smoke conveyer for locomotives, comprising a horizontally extended pipe fixedly mounted on the wall of the building structure; a smoke conductor slidably mounted thereon in supported relation therewith; a pivotal joint for said conductor, disposed between the supported and free ends thereof to permit the elevation and depression of said free end; a hood pivotally mounted on said conductor at the free end thereof, arranged to assume a vertical position irrespective of said conductor; a rotary shaft mounted above the free end of said conductor; a grooved pulley fixedly attached to said shaft; a cable connecting said pulley and said conductor; a lever fixedly attached to said shaft and extended in the path of a locomotive arranged to be deflected by said locomotive to rotate said shaft and pulley mounted thereon to depress the free end of said conductor upon the delivery end of the smoke stack of said locomotive; and a second lever fixedly connected with the said shaft, arranged to be disposed in the retreating path of said smoke stack, and to contact therewith when the said hood infolds the said smoke stack.

973,257. INDICATING-SWITCH. RALPH C. BROWNE, Salem, Mass., assignor to Browne Apparatus Company, Salem, Mass., a Corporation of Massachusetts. Filed Nov. 19, 1906. Serial No. 343,959.



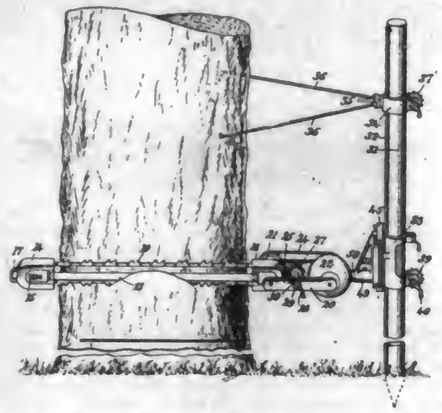
1. The combination with a rotary snap switch having means whereby the rotary member may be left in either one of a plurality of positions, of an audible signal, and mechanical connections whereby said signal will be sounded only on alternate actuations of said rotary member.

2. An indicating snap switch, comprising a rotary arbor, terminals, a sonorous body, and means carried by said arbor to both connect the terminals and cause the sonorous body to emit an audible signal.

3. An indicating snap switch comprising a base, a bell shaped cover therefor, a hammer and terminals mounted within said cover, and a rotary arbor projecting through said cover and having its inner end provided with means for both connecting the terminals and actuating the hammer.

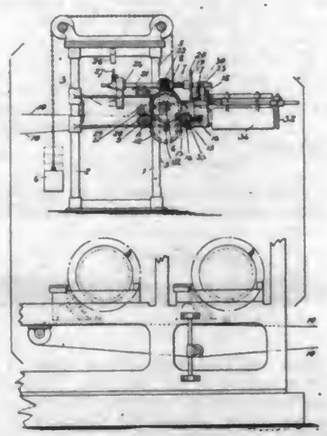
973,258. TREE-FELLING SAW. EDWARD F. CANNON, Portland, Oreg. Filed May 21, 1908. Serial No. 434,008.

In combination, a frame, a sprocket wheel mounted therein, a chain saw extending over said sprocket-wheel, a hood inclosing said sprocket wheel and the portion of the chain extending thereover, means carried by said hood for supporting the outer end of said chain, and means in engagement with said hood for swinging the saw in the



plane of the saw, said means including a segment gear on said hood and a pinion mounted in said frame.

973,259. SHEET-DELIVERING APPARATUS. ALFRED COLLIS, London, England. Filed Nov. 18, 1909. Serial No. 528,798.



1. In a sheet delivering apparatus, the combination of a vertically movable delivery frame, and a support therefor; elevating mechanism carried by said frame and associated operatively with said support; a conveyer having its discharge end mounted in said frame; and connections between said end and said elevating mechanism for automatically actuating the latter when said conveyer is actuated.

2. In a sheet delivering apparatus, the combination of a vertically movable delivery frame, and a support therefor; elevating mechanism carried by said frame and movable therewith; means for actuating said mechanism, to elevate said frame and movable therewith; and means for automatically terminating such actuation when said frame reaches a predetermined height.

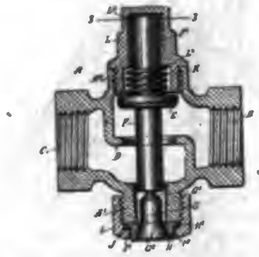
3. In a sheet delivering apparatus, the combination of a vertically movable delivery frame, and a support therefor; elevating mechanism carried by said frame; means for actuating said mechanism, to elevate said frame; and means carried by said support and adapted to coöperate with one element of said mechanism for automatically terminating such actuation when said frame reaches a predetermined height.

4. In a sheet delivering apparatus, the combination of a vertically movable delivery frame, and a support therefor; elevating mechanism carried by said frame and movable therewith; said mechanism including a movable operating element; means for actuating said element, to elevate said frame; and means for shifting said element into inoperative position, to terminate such actuation.

5. In a sheet delivering apparatus, the combination of a vertically movable delivery frame, and a support therefor; elevating mechanism carried by said frame and including a movable operating element; means for actuating said element, to elevate said frame; and means carried by said support for automatically shifting said element into inoperative position when the frame reaches a predetermined height, to terminate such actuation.

[Claims 6 to 17 not printed in the Gazette.]

973,260. FUSE-VALVE. NELSON B. CREIGHTON, New York, N. Y. Filed Dec. 30, 1909. Serial No. 535,582.



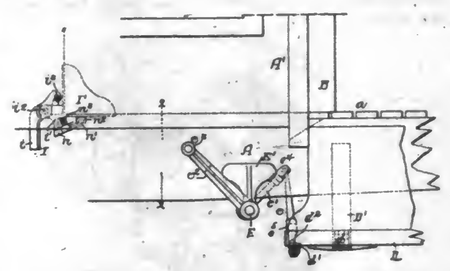
1. A fuse valve, comprising a valve body having a valve seat, a spring-pressed valve adapted to be seated on the said seat and having its valve stem engaging an apertured boss on the said valve body, a retaining pin extending in the said boss and engaging the stem of the said valve to normally hold the said valve off its seat and to keep the valve spring under tension, the said pin having a tapering head, a fusible cap for closing the opening of the said boss and for engaging and supporting the said head of the said pin, and a nut screwing on the said boss and fastening the said cap in position on the boss.

2. A fuse valve, comprising a valve body having a seat, a spring-pressed valve adapted to be seated on the said seat, a retaining pin engaging the stem of the said valve to normally hold the same off its seat and to keep the valve spring under tension, the said pin having an enlargement, a fusible cap held on and inclosing the said enlargement and provided with an exterior flange, and a nut screwing on the said valve body and having an internal flange engaging the said cap flange to support the latter.

3. A fuse valve, comprising a valve body having a seat, a spring-pressed valve adapted to be seated on the said seat, a retaining pin engaging the stem of the said valve to normally hold the same off its seat and to keep the valve spring under tension, the said pin having an enlargement, a fusible cap held on and inclosing the said enlargement and provided with an exterior flange, and a nut screwing on the said valve body and having an internal flange engaging the said cap flange to support the latter, the cap extending through the opening of the flange.

973,261. MEANS FOR OPERATING THE STEPS OF PASSENGER-CARS. SAMUEL M. CURWEN, Haverford, Pa., assignor to The J. G. Brill Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 1, 1909. Serial No. 475,401.

1. The combination of a movable step in front of a doorway, a sliding door for closing said doorway, lever mechanism entirely independent of the door and connected to the step for shifting the step into and out of position, with means fixed to the door for engaging the lever mechanism so as to move the step out of position as the door is closed.



2. The combination in a car having a doorway at the side of the platform, a pivoted step mounted at the doorway, a sliding door for closing said doorway, lever mechanism connected to the step, an operating device secured to the rear of the sliding door and so arranged as to come in contact with the lever mechanism as the door is closed to turn the step out of position and to actuate the lever mechanism to throw the step into position as the door is opened.

3. The combination of a car having a doorway at the side of the platform, a step pivotally mounted below the doorway, a rock shaft mounted in bearings on the car, said rock shaft having two arms, a lever connecting one of said arms with a projection at the rear of the step, a sliding door, an operating device, the other arm of the rock shaft extending into the path of the operating device so that as the door is opened or closed the step will be moved into and out of position.

4. The combination of a pivoted step mounted below a doorway, a sliding door adapted to close said doorway, a rock shaft connected to the step and having an arm, an operating device on the door adapted to move said arm, said actuating device having two arms forming a pocket between them into which the arm of the rock shaft extends when the door is in the position to actuate the step.

5. The combination of a movable step mounted under a doorway, a sliding door adapted to close said doorway and having an operating device attached thereto, a rock shaft connected to the step and having an arm projecting in the path of the operating device on the door, said operating device having two arms, one of said arms being yieldingly connected to the arm of the operating device.

[Claims 6 and 7 not printed in the Gazette.]

973,262. CARBURETER. PAUL DANIEL, Perth Amboy, N. J., assignor to Adam C. King, New York, N. Y. Filed Apr. 22, 1910. Serial No. 556,963.

1. A carbureter having a passage therethrough, a piston valve controlling said passage, a plurality of spray nozzles within said passage, and a plurality of needle valves for controlling said nozzles, one of said needle valves being rigidly secured to said piston valve and the other of said valves being controlled thereby.

2. A carbureter having a passage therethrough, a piston valve controlling said passage, a plurality of spray nozzles within said passage, a plurality of needle valves for controlling said nozzles, one of said needle valves being rigidly secured to said piston valve, and means for opening the remainder of said needle valves in succession upon successive movements of said piston valve.

3. A carbureter having a passage therethrough, a valve normally closing said passage, a liquid fuel controlling valve secured to said valve, and a second liquid fuel controlling valve controlled by the movement of the first-mentioned liquid fuel controlling valve.

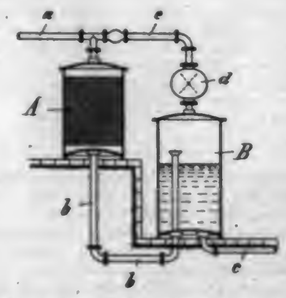
4. A carbureter having a passage therethrough, a valve controlling said passage, a liquid fuel controlling valve connected to said first-mentioned valve, a plurality of additional liquid fuel controlling valves, and means for opening said last-mentioned valves in succession upon successive movements of the first-mentioned liquid fuel controlling valve.



5. A carbureter having a plurality of spray nozzles, needle valves for controlling said nozzles, means for opening one of said valves, and means carried by one of said valves, for engaging with and successively opening the remainder of said valves.

[Claims 6 to 14 not printed in the Gazette.]

973,263. APPARATUS FOR FREEING WATER FROM ITS CONTAINED IRON IN A CONTINUOUS CIRCUIT. LUDWIG HEINRICH DARAPSKY, Hamburg, Germany, assignor to The Firm of Desenissa & Jacobi Aktiengesellschaft, Hamburg, Germany. Filed June 9, 1909. Serial No. 501,182.



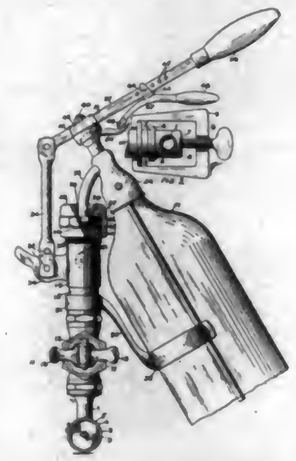
1. In an apparatus for purifying water, a closed filter, a closed separator for air and water separate from the filter and into which the filter discharges, means to pump air from the separator to the filter and means to supply water to the filter with the air.

2. In an apparatus for removing iron from water, a closed filter, a closed separator for air and water at a lower level than the filter and into which the filter discharges, means to supply water to the filter and a pump to deliver the separated air from the separator to the filter simultaneously with the water supplied to said filter.

3. In an apparatus for purifying water, a closed filter, a closed separator for air and water into which the filter discharges, means to supply water under pressure to the filter and a pump to pump the air from the separator to the filter simultaneously with the water under pressure.

4. The combination with a service water main, of a closed filter into which said main discharges, a closed separator into which the filter discharges, a pump to pump the air separated from the filtered water in the separator to the inlet of the filter, and a continuation of the service water main extending from the separator.

973,264. SIPHON-FILLER. GEORGE A. DIXON, San Francisco, Cal. Filed Apr. 7, 1910. Serial No. 554,062.



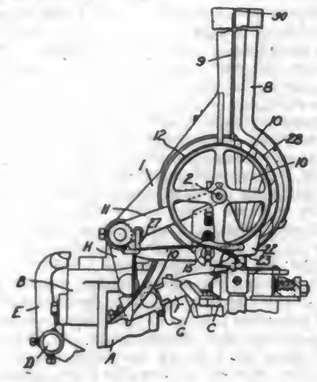
1. The combination of a tube, a sleeve around said tube, an apertured cap over the upper end of the tube and connected to said sleeve, said sleeve being rotatable about the tube until clamped by said cap, a standard secured at its lower end to said sleeve, a lever pivoted at the upper end of said standard, and means carried by said lever and adapted to engage the top of a siphon head to depress the end of its spout through said apertured cap, substantially as described.

2. The combination of a tube, a sleeve around said tube, an apertured cap over the upper end of the tube and connected to said sleeve, said sleeve being rotatable about the tube until clamped by said cap, a collar around said tube and rotatable thereon, a device depending from said collar and adapted to support a siphon body, a standard secured at its lower end to said sleeve, a lever pivoted at the upper end of said standard, and means carried by said lever and adapted to engage the top of a siphon head to depress the end of its spout through said apertured cap, substantially as described.

3. The combination of a conduit, the upper end of which is adapted to be engaged by a spout of a siphon bottle, a normally closed spring-pressed valve in said conduit, a handle for operating said valve, means for supporting the body of the siphon bottle upon said conduit, a standard supported by the conduit, a lever fulcrumed on said standard, a device carried by said lever adapted to engage the head of a siphon bottle so supported, and a second lever fulcrumed, upon the first named lever and adapted to engage the siphon valve handle, both of said levers adapted to be grasped by the hand of the operator, substantially as described.

4. The combination of a conduit, the upper end of which is adapted to be engaged by a spout of a siphon bottle, a normally closed spring-pressed valve in said conduit, a handle for operating said valve, means for supporting the body of the siphon bottle upon said conduit, a standard adjustably supported by the conduit, a lever fulcrumed on said standard, a device adjustably carried by said lever adapted to engage the head of a siphon bottle so supported, and a second lever adjustably fulcrumed upon the first named lever and adapted to engage the siphon valve handle, both of said levers adapted to be grasped by the hand of the operator, substantially as described.

973,265. FILLING-REPLENISHING LOOM. WILLIAM F. DRAPER, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Mar. 24, 1909. Serial No. 485,378.



1. In a filling replenishing loom, the combination of a lay, a shuttle box, filling carrier transferring mechanism, rotary means to direct a series of filling carriers to transferring position, and means actuated from said rotary means to draw the filling longitudinally and take up the slack of the filling ends as the carriers move to transferring position.

2. In a filling replenishing loom, the combination of filling carrier transferring mechanism, means for supplying a series of filling carriers to be transferred, means for taking up the slack in the filling by drawing it longitudinally as the carriers move toward the transferring position, and actuating devices for said means.

3. In a filling replenishing loom, the combination of transferring mechanism, means for supplying a series of filling carriers to be transferred, means to take up the slack filling as the carriers move toward transferring position, and devices effective as the carriers move to operate said means.

4. In a filling replenishing loom, the combination of transferring mechanism, a hopper for supplying filling carriers to said mechanism, means operative on movement of the filling carriers to take up the slack filling as the filling carriers move to transferring position, and operating devices therefor.

5. In a filling replenishing loom, a source of filling carrier supply, a transferrer to transfer a filling carrier to a shuttle, a surface over which the filling ends leading from the carriers in the supply pass, and means for moving said surface to cause it to take up the slack occurring in the filling ends.

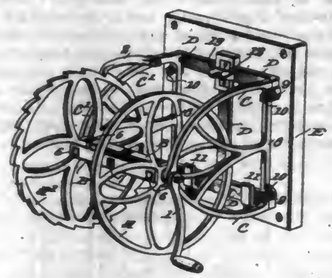
[Claims 6 to 23 not printed in the Gazette.]

973,266. CLOTHES-LINE REEL. FREDERICK EICHE, Lincoln, Nebr. Filed Feb. 26, 1910. Serial No. 546,055.

1. A reel for the purpose specified, comprising parallel side portions and a shaft composed of separable parts whose ends are adapted for detachable engagement with portions of said sides, and means for securing the parts of the shaft together, substantially as described.

2. The improved reel for the purpose specified, comprising parallel side portions provided with hub projections, and a shaft composed of a series of bars whose ends are adapted for engagement with said projections, and means for securing said bars together, substantially as described.

3. The improved reel for the purpose specified, comprising parallel side portions having radial hub projections, a shaft formed of a series of bars having end openings



adapted to receive and fit upon said projections, and bolts passing through the plates intermediately of their ends and securing opposite plates detachably together, substantially as described.

973,267. FAN ATTACHMENT FOR CHAIRS. DAVID JAMES ETLY, Ross township, Allegheny county, Pa. Filed Jan. 7, 1910. Serial No. 536,943.



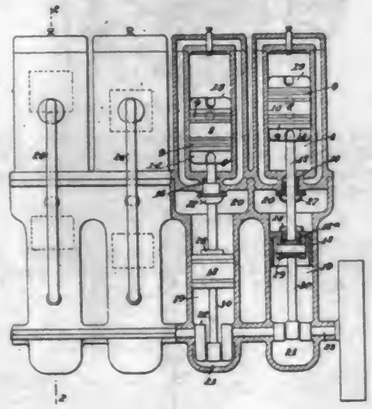
1. In a fan attachment for chairs, an anchoring device, a rod connected to said device, a revoluble shaft supported by the upper end of said rod, a fan carried by said shaft, a grooved pulley revolubly supported by said rod, a sleeve slidably mounted upon said rod and adapted to be reciprocated to revolve said pulley, a pitman connecting the sleeve and pulley and means adapted to transmit a revoluble movement to said shaft from said pulley.

2. In a fan attachment for chairs, the combination with a rocking chair, of an anchoring device, a rod connected to said anchoring device, a shaft revolubly supported at the upper end of said rod, fans carried by said shaft, a sleeve slidably mounted upon said rod and adapted to be fixed relative to said rocking chair and reciprocated by a movement of said rocking chair, and means supported by said rod and connecting with said sleeve and adapted to impart a rotary movement to said shaft by an oscillatory movement of said chair.

973,268. INTERNAL-COMBUSTION ENGINE. CHARLES ELISHA FOGG, Kennett Square, Pa. Filed June 11, 1909. Serial No. 501,465.

1. An internal combustion engine comprising a power cylinder; a piston adapted to be reciprocated in said

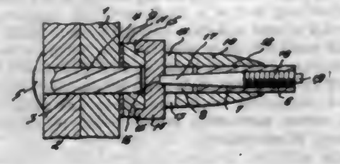
power cylinder; a compression chamber formed in line with the said power cylinder and divided therefrom by a dividing wall; a compressing plunger adapted to be reciprocated in said compression chamber; a piston rod fixedly attached to said piston and to said plunger and extended through said dividing wall; a pitman pivotally connected to said plunger and to the crank shaft of the engine; an oil cup surrounding said piston rod and supported on the said dividing wall; a cup in said plunger arranged to receive the oil from said piston rod; and percolating passages to convey the oil from said cup to the pivotal mounting of said pitman in said plunger.



2. In an internal combustion engine embodying vertically disposed rod connected pistons and a pitman pivotally connected with the lowermost of said pistons; an oiling mechanism comprising a plurality of oil receptacles disposed in superposed relation and having open communication with the side of said rod; and percolating passages leading from the lower of said receptacles to said pivotal connection between said lower piston and pitman.

3. In an internal combustion engine embodying a plurality of vertically disposed rod connected pistons and a pitman pivotally connected with the lowermost of said pistons; an oiling mechanism comprising a stationary oiling receptacle surrounding and in open communication with the sides of the rod connecting said pistons to hold the oil contained in said receptacle in direct contact with said rod; a second oil receptacle disposed below said stationary receptacle and fixedly mounted on said rod in open communication therewith to receive the oil from the sides of said rod; and percolating passages connecting said second receptacle and the pivotal connection between said lower piston and said pitman.

973,269. HOLDFAST DEVICE. OKEY FONNER, Terra Alta, W. Va. Filed June 7, 1910. Serial No. 565,571.

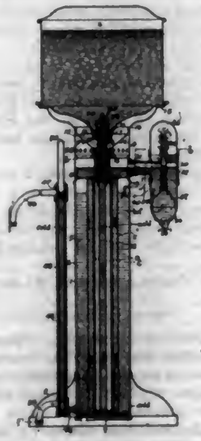


1. A hold fast device comprising a headed bolt formed with a smooth shank and having its shank formed with an interiorly threaded bore and with a transversely-extending slot into which the bore opens, a clamping plate mounted upon the shank of the bolt, an elongated sleeve formed integral with and projecting from the outer face of the clamping plate and provided with a bore through which extends the shank of the bolt, said sleeve constituting a bearing for the shank and provided with transversely-extending slots, a key extending through the slots of the sleeve and the slot of the bolt and provided with rearwardly-extending lugs engaging the outer face of the clamping plate, said key provided with a socket, and a clamping screw mounted in and engaging the wall of the bore of the bolt and having its inner end extending in said socket for maintaining the key in position to prevent rotative movement of the clamping plate and sleeve.

2. A hold fast device comprising a headed bolt having its shank provided throughout with a smooth periphery, said bolt further having its shank provided with a longitudinally-extending bore and a transversely extending slot with which the bore communicates, a clamping plate mounted upon the bolt, an elongated sleeve projecting from the outer face of the clamping plate and surrounding the shank of the bolt, said sleeve provided with transversely-extending slots registering with the slot of the bolt, a key extending through the slots of the sleeve and the slot of the bolt and provided with rearwardly-extending lugs engaging the outer face of said clamping plate, and means mounted in the bore of the bolt and engaging the key for maintaining it in position to prevent rotative movement of the clamping plate and sleeve upon the bolt.

3. A hold fast device comprising a headed bolt having its shank provided throughout with a smooth periphery, said bolt further having its shank provided with a longitudinally-extending bore and a transversely extending slot with which the bore communicates, a clamping plate mounted upon the bolt, an elongated sleeve projecting from the outer face of the clamping plate and surrounding the shank of the bolt, said sleeve provided with transversely-extending slots registering with the slot of the bolt, a key extending through the slots of the sleeve and the slot of the bolt and provided with rearwardly-extending lugs engaging the outer face of said clamping plate, and an adjustable clamping screw mounted in and engaging the walls of the bore in the bolt and further engaging said key for maintaining it in position to prevent rotative movement of the clamping plate and sleeve upon the bolt.

973,270. APPARATUS FOR HEATING WATER, MILK, AND OTHER LIQUIDS FOR STERILIZING OR OTHER PURPOSES. JOHN S. FORBES, Philadelphia, Pa. Filed Aug. 10, 1908. Serial No. 447,903.



1. In a liquid heater or sterilizer, a liquid containing casing having a weir placed to normally prevent the flow of liquid through the apparatus, means for applying heat to the apparatus to cause liquid to be sterilized and pass over said weir, a heat exchange having a portion removable from the casing, a liquid supply pipe passing through said removable portion, and means for insulating said supply pipe from the heated liquid within the heat exchange.

2. The combination of a casing, a body of tubes forming a heat exchange fitting within said casing and removable therefrom, means for supplying cold liquid to said tubes, means for heating the liquid, the parts being connected to cause said liquid to descend in one of said tubes and ascend in the others, means for introducing the heated liquid around the tubes, and a casing for insulating the descending column of cold water from the liquid in the remainder of the heat exchange.

3. The combination in a sterilizer of a casing, a weir placed to normally prevent passage of liquid through the apparatus, and including liquid containing structures on the two sides of the weir, a heat exchange in connection with said liquid containing structures, a funnel shaped structure removably carried by the casing, a container for raw liquid supported by said funnel shaped structure above the weir and in connection with the raw liquid side of the heat exchange; and a barometric feed govering device for regulating the supply of liquid from said container; with means for heating the liquid to cause it to pass over the weir.

4. In an apparatus of the character described, the combination of a casing, a series of tubes therein for the ascension of raw water, a central delivery tube for raw water, a shell carrying said tubes, a raw water receptacle, a barometric feeding device delivering the water therefrom to said central tube, a support for the raw water receptacle fitting the shell carrying the raw water tubes, and means providing for a circulation of air around said water feeding device.

5. In an apparatus of the character described, the combination of a casing for the sterile water, a removable shell fitting the upper end of said casing and carrying a series of raw water tubes, an insulated delivery tube for raw water centrally disposed with respect to said tubes and also carried by said shell, a dished cover fitting the upper end of said shell, said cover having a bottom which forms with the upper tube sheet a chamber for the raw water delivered by said tubes, a water receptacle delivering water to said central tube, a heating device to which the raw water is delivered, means for passing the heated and sterilized water to the casing to surround the raw water tubes, and a discharge pipe for the sterile water.

[Claims 6 to 15 not printed in the Gazette.]

973,271. MILK-CAN LOCK. FRANK FÜLÖP and STIVEN NAGY, Hooversville, Pa. Filed May 28, 1910. Serial No. 563,875.

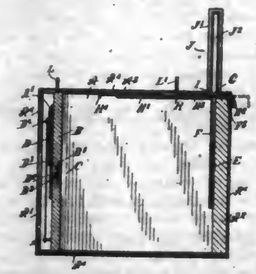


1. The combination with a milk can having a lid adapted to fit thereon, of diametrically disposed brackets carried by said can, keepers supported by said brackets, a yoke trunnioned upon said lid and adapted to have the ends of the trunnions thereof engage under said keepers, a tooth carried by said yoke, an apertured lug carried by said yoke, and a spring-pressed keeper supported by said can and adapted to be swung into engagement with the tooth of said yoke and locked in engagement with said apertured lug.

2. In a milk can lock, the combination with a can having a neck, and a lid mounted upon said neck, of diametrically disposed brackets carried by said can, hook-shaped keepers supported by said brackets, a band mounted upon the neck of said can, a spring-pressed keeper pivotally supported by said band, a yoke trunnioned upon said lid and adapted to have the ends of the trunnions thereof engage under said hook-shaped keepers, a tooth carried by said yoke and adapted to be engaged by said keeper, and means adapted to lock said keeper in engagement with said yoke.

3. In a milk can lock, the combination with a can having a neck, and a lid adapted to fit upon said neck, of diametrically disposed brackets carried by said can, a band clamped upon said neck, lugs connecting said brackets with said band, hook-shaped keepers supported by said lugs, a yoke trunnioned upon said lid and adapted to have the ends of the trunnions thereof engage under said hook-shaped keepers, a beveled tooth carried by said yoke intermediate the ends thereof, an apertured lug adjacent to said tooth, a spring-pressed keeper carried by said band and adapted to be swung upwardly to engage said tooth, and means for locking said keeper in engagement with said apertured lug, substantially as described.

973,272. PHOTOGRAPHIC CAMERA. ROBERT GOLDSTEIN, New York, N. Y. Filed July 30, 1909. Serial No. 510,394.



1. A photographic camera, comprising a camera casing provided at the top with a slot, a guideway on the top and between which extends the said slot, the guideway being adapted to receive a magazine plate holder, a rack within the said casing and in register with the said slot to allow a sensitive plate to drop from the magazine plate holder by way of the said slot into the said rack, and a slide mounted on the said camera casing for opening and closing the said slot.

2. A photographic camera, comprising a camera casing having a slot in its top at the rear end, a guideway on the said top and between which extends the said slot, a slide controlling the said guideway, a rack on the inner face of the rear end of the camera casing and in register with the said slot, a magazine having a shell open at one end, and a plate holder slidable in the said shell and having spaced separate chambers each for containing a sensitive plate, the said holder fitting the said guideway and each chamber being open at the bottom to register with the said slot for dropping a sensitive plate from the holder into the said rack.

3. A photographic camera having a sheet metal body provided at the top with outwardly struck up guideways forming a slot between them for the passage of the photographic plate from a magazine adapted to be held by said guideways.

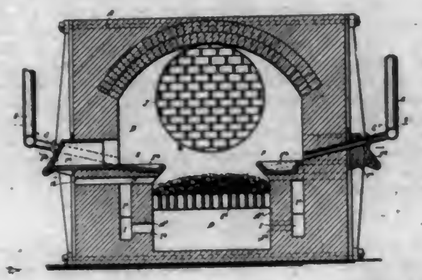
4. A photographic camera having a sheet metal body provided at the under side of its top with inwardly struck up guideways, the said top also having a slot for the passage of the plate, and a metal slide movable in the said guideways and having a slot adapted to register with

the said top slot, the said slide having an integral angular handle at the rear end and integral stop lugs at the front end, the stop lugs being adapted to abut against the said guideways.

5. A photographic camera having a body and a rack for receiving a photographic plate, the rack being formed from a single piece of sheet metal bent to form a back, front retaining flanges for holding the plate in place, and a hook at the upper end of the said back to hook onto the rear end of the casing.

[Claims 6 and 7 not printed in the Gazette.]

973,273. FURNACE. HANNA HAAS, New York, N. Y. Filed Mar. 22, 1910. Serial No. 550,840.



1. A furnace for burning semi-fluid fuels, comprising a combustion chamber, a tray in the said combustion chamber, charging means for charging the said tray with semi-liquid fuel, means for directing a blast on the said semi-liquid fuel to atomize the same within the combustion chamber, and air admission channels in the wall of the furnace and discharging into the combustion chamber underneath the said tray.

2. A furnace for burning semi-liquid fuels, comprising a combustion chamber, oppositely-disposed trays within the said combustion chamber and ranging lengthwise on the sides of the furnace, the said furnace being provided with normally closed inlets extending through the sides thereof for charging the trays with the semi-fluid fuel, pipes in the sides of the furnace for directing a blast into the fuel in each tray in a downward and inward direction to atomize the fuel and to form a mixture passing into the combustion chamber to be burned therein.

3. A furnace for burning semi-liquid fuels, comprising a combustion chamber having a grate at its bottom, an ash pit below the grate, trays ranging lengthwise on the sides of the combustion chamber, means for delivering the fuel through the sides of the furnace to the said trays, and pipes in the sides of the furnace and inclined downwardly and inwardly to discharge blasts onto the surface of the fuel in the trays to atomize the fuel and form a mixture to be burned in the said combustion chamber.

4. A furnace for burning semi-fluid fuels, comprising a combustion chamber having a grate at its bottom, an ash pit below the said grate, doors leading to the said combustion chamber and ash pit, trays ranging lengthwise on the sides of the furnace within the said combustion chamber and having pockets for the semi-fluid fuel to flow in, blast pipes arranged in the sides of the furnace and extending downwardly and inwardly in the direction of the said pockets to force blasts onto the fuel in the pockets, and air admission channels in the sides of the furnace and discharging into the combustion chamber underneath the said trays.

5. A furnace for burning semi-fluid fuels, comprising a combustion chamber having a grate at its bottom, an ash pit below the said grate, doors leading to the said combustion chamber and ash pit, trays ranging lengthwise on the sides of the furnace within the said combustion chamber and having pockets for the semi-fluid fuel to flow in, blast pipes arranged in the sides of the furnace and extending downwardly and inwardly in the direction of the said pockets to force blasts onto the fuel in the pockets, air admission channels in the sides of the furnace and discharging into the combustion chamber underneath the said trays, and branch channels leading from the outer faces of the furnace sides into the said air admission channels.

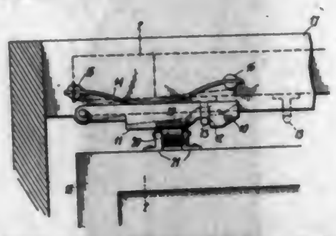
[Claims 6 to 9 not printed in the Gazette.]

973,274. UNION SUIT. STEWART LAKE HEACOCK, Springfield, Nebr. Filed Dec. 29, 1909. Serial No. 535,495.



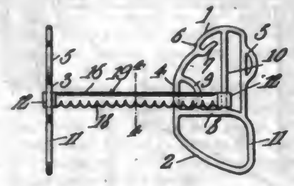
A union suit having inner and outer lapping flaps closing the seat, the flaps being stitched together at the top and each flap widening out toward the center, a fastening device for detachably securing the edge of the outer flat at its central widened portion to the outside of the garment, the side of said garment toward which the inner flap extends being provided with a longitudinal slit forming an opening for the insertion of the hand, a flap secured to the outer edge of the said slit or opening and extending to the inside of the garment, and an elastic strap secured to the edge of the inner one of said first mentioned flaps about midway of its length, the said strap extending at the inside of the garment at the back portion thereof and adapted to be grasped and drawn through the hand opening or slit in the garment to stretch the said inner flap smooth to the body, and a fastening device for detachably securing said elastic strap to the outer side of the flap at said slit or opening.

973,275. LOCK FOR ELEVATOR-DOORS. ALBERT W. HUBERS, Baltimore, Md. Filed Sept. 1, 1909. Serial No. 515,631.



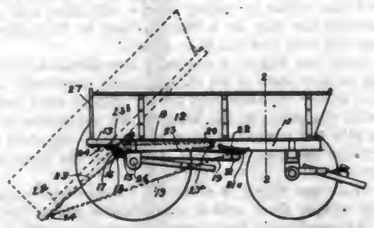
In a device of the kind described, a door frame, a rigid latch having one end carried on a vertical pivot connected to the door frame whereby the latch moves in a horizontal plane, a door, means on said door engageable with said latch, a shoe formed on said latch member and provided with incurved ends, an elevator car, means on said car to engage the shoe as the car comes opposite the door, a pair of posts carried on said frame behind the ends of said latch, said posts being provided with slots extending therethrough, and a spring fixed to one of said posts at one end and having its other end slidably received in the slot of the other post, said spring being bowed in the center to rest against said latch.

973,276. BRIDLE-BIT. LYELL Y. JANES, Tularosa, N. Mex. Filed Apr. 1, 1910. Serial No. 552,774.



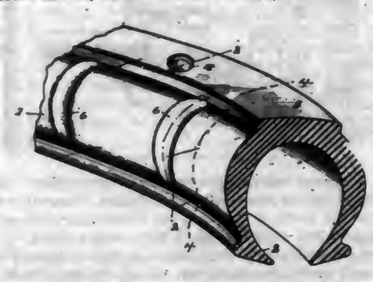
In a bit, a mouth bar having flat diverging side faces connected by curved upper and lower edge faces, the lower of which edge faces is serrated; and cheek pieces slidably mounted in the mouth bar; the cheek pieces having downwardly and forwardly curved rein receiving elements, along which the reins, when pulled upon, are adapted to slide.

973,277. DUMPING-WAGON. EVERETT R. JONES and WALTER A. YOCKEY, Spokane, Wash. Filed Feb. 23, 1910. Serial No. 545,511.



A dumping wagon comprising a truck, a wagon box mounted for longitudinal movement thereon, a winding device mounted on the truck intermediate the ends thereof, a sheave mounted on the rear end of the truck, a hauling line connected at one of its ends to the winding device, and passing rearwardly to the sheave and over the same, and devices on the wagon box in front and to the rear of the sheave for connection of the other end of the line to the wagon box.

973,278. TIRE. IVA BELLE KEMPSHALL, Boston, Mass. Filed June 18, 1910. Serial No. 567,678.

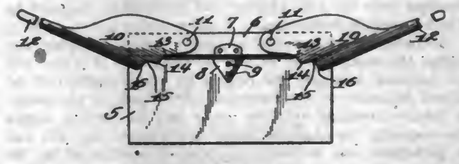


1. A tire provided on its tread surface with an annular tread rim, the tread face of the annular tread rim being convex, and ribs on the sides of the tire, the ends of said ribs terminating each at the level of the base of the tread rim and extending outwardly beyond the latter and toward the inner edge of the tire, whereby when load pressure is applied the tread rim will in being compressed, expand laterally beyond the normal plane of the side of the tread rim, and the outer surfaces of said ribs will receive the lateral expanded ends of the annular tread rim, and serve to resist said load pressure, and brace the sides of the body of the tire.

2. A tire provided on its tread surface with an annular tread rim, whose opposite outer walls are substantially flat, and ribs on the sides of the tire, the ends of said ribs terminating each at the level of the base of the annular tread, rim and extend outwardly beyond the latter and toward the inner edge of the tire, whereby, when load pressure is applied, the tread rim will in being compressed expand laterally beyond the normal plane of the side faces of the tread rim; and the outer surfaces of said ribs will receive the lateral expanded ends of the tread rim, and serve to resist said load pressure, and brace the sides of the body of the tire.

3. A tire provided on its tread surface with an annular tread rim and ribs on the sides of the tire, the ends of said ribs terminating each at a point some distance from the outer edges of the tread rim and extend outwardly beyond the latter whereby when load pressure is applied the tread rim will, in being compressed expand laterally beyond the normal plane of the side faces of said tread rim, and the outer surfaces of said ribs will receive the lateral expanded ends of the tread rim, and serve to resist said load pressure, and brace the sides of the body of the tire.

973,279. BENDING-MACHINE. JOHN HARRISS KIMBELL, Whitesburg, Ga. Filed Mar. 22, 1910. Serial No. 550,938.



1. In a machine of the class described, the combination of a support, an anvil secured on the support and consisting of a single flat member having an upper horizontally straight edge and unbroken side edges, a guard disposed over the anvil and spaced from the latter, the lower edge of the guard being parallel with the upper edge of the anvil, and inwardly movable bending members fulcrumed on the support above the guard and anvil and having their upper extremities increased in width and their inner edge portions at a short distance from the fulcrumed extremities alternately formed with recesses and projections to adapt them for bending stock into different shapes, the stock prior to the bending being supported at an intermediate point on the anvil and the ends thereof engaged by a portion of the recesses of the bending members.

2. In a machine of the class described, the combination of a support having a strip secured along one edge thereof, an anvil secured on the support below the strip and having an upper edge parallel with the lower edge of said strip, a guard over the anvil and spaced from the latter, the guard being secured on the strip directly over the anvil and having its lower edge parallel with the upper edge of the said anvil, the anvil having unbroken side edge portions, and bending members fulcrumed on the strip above the anvil and guard and provided with alternately arranged recesses and projections in a portion of the inner edges adjacent to the fulcrumed extremities, the said bending members being also disposed at equal distances on opposite sides of the center of the support and of the anvil and held elevated during the bending operation by the ends of the stock engaging a portion of the recesses thereof and also intermediately bearing on the upper edge of the anvil, the anvil being freely removable and replaceable.

973,280. APPARATUS FOR FELTING FIBROUS MATERIALS. EDWARD M. KNIGHT, New York, N. Y. Filed Oct. 22, 1909. Serial No. 523,950.



1. In an apparatus for making a felt or filtering medium, the combination with a lower die having a reduced upwardly projecting central portion with a horizontal shoulder at the base thereof, of a vertical rim surrounding the reduced portion of the die and extending thereabove, said rim having a lower edge removably supported on the die and said rim forming a holder for a mass of fibrous material, and a fibrous covering extending over the upper surface of the projecting central portion of the die and over the vertical side thereof and fixed to said vertical side, and frictionally engaged by the vertical inner wall of the rim.

2. In an apparatus for making a felt or filtering medium, the combination with a lower die having a reduced upwardly projecting central portion forming a shoulder at an intermediate portion of the die, of a vertical rim inclosing the reduced portion of the die having its inner wall frictionally engaging and inclosing the outer wall of said reduced portion, and having its lower edge supported on said shoulder, said rim inclosing a chamber adapted to contain a mass of fibrous material, and said die having an absorbent fabric closely applied to its surface and extending over the edge thereof and frictionally engaged by the inner wall of the rim.

3. In an apparatus for making a felt or filtering medium, the combination with a die composed of metal and an inclosed core said die having an upper portion of reduced diameter with a shoulder at the base of the same; a fabric extending over the upper face of the die, means for securing the edge portion of the fabric to the die, and a detachable rim inclosing the reduced portion of the die and extending thereabove and forming a container for a mass of fibrous material.

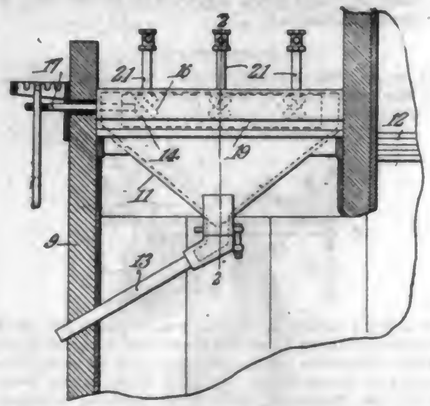
4. In an apparatus for making a felt or filtering medium, the combination with a die having a shoulder and a detachable rim resting upon said shoulder and extending vertically above the die, and forming a container for a mass of fibrous material, of a fabric extending over the upper face of the die and over the edge thereof, said die having annular grooves in its side and cords encircling the die and adapted to draw portions of the fabric into the grooves to secure the fabric to the die and to stretch said fabric evenly over the face of said die.

5. In an apparatus for making a felt or filtering medium, the combination with a lower die and a rim surrounding the same and extending thereabove and adapted as a container for a mass of fibrous material, of an upper die having a central projection on its underside fitting within and frictionally engaging the inner wall of the rim, and adapted to compress the central portion only of said mass of material and form a recess therein while leaving the greater portion of the mass of material uncompressed.

[Claims 6 to 17 not printed in the Gazette.]

973,281. ORE-JIGGER. CAMDEN E. KNOWLES, Webb City, Mo., assignor to Webb City & Carterville Foundry & Machine Works, Webb City, Mo. Filed July 26, 1909. Serial No. 509,609.

1. In an ore jigger, a screen, a concentrates receptacle having a plurality of inclined slots in its wall facing the screen, and an adjustable sliding gate having inclined slots which extend at an angle to and cross the first-mentioned slots, the registering portions of the slots of the concentrates receptacle wall and the sliding gate forming inlets into said concentrates receptacle, and the level of said inlets being varied by the adjustment of the gate.

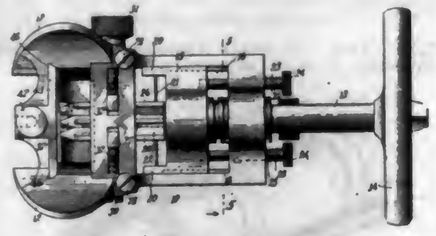


2. In an ore jigger, a screen, a concentrates receptacle having a plurality of elongated slots in its wall facing the screen, an adjustable sliding gate having elongated slots which extend at an angle to, and cross the first-mentioned slots, the registering portions of the slots of the concentrates receptacle wall and the sliding gate forming inlets into said receptacle, and the level of said inlets being varied by adjustment of the gate, and means for moving the gate on a line inclined to the major axis of both the wall and the gate slots.

3. In an ore jigger, a screen, a concentrates receptacle having oblique slots in its wall opposite the screen, a gate slidable across the slots, and having oblique slots coöperating with the slots in the wall of the receptacle to form inlets into the receptacle from the screen, the slots of the gate being disposed at right angles to the slots of the receptacle wall.

4. In an ore jigger, a screen, a concentrates receptacle having oblique slots, and a gate slidable across the slots, and having oblique slots coöperating therewith to form inlets into the receptacle from the screen, the slots of the gate having the same area as the slots of the receptacle wall, and disposed at right angles thereto.

973,282. SAW-SET. ALEXANDER LINK, Phoenix, Ariz. Filed Mar. 31, 1910. Serial No. 552,622.



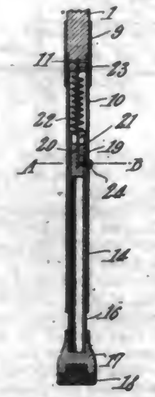
1. A saw set, comprising a frame for engagement with a saw, spaced heads mounted in the frame to move toward and from the teeth of the saw, an adjusting screw on the said frame for moving the heads transversely of the frame and relatively to each other, a right-handed thread on the said screw and engaging one of the said heads, for moving the same in one direction, a left-handed thread on the said screw, engaging one of the said heads, for moving the same in an opposite direction, and screw-threaded means engaging the said heads, to operate the same to move toward or from the teeth of the saw.

2. A saw set, comprising a frame for engagement with a saw, spaced heads mounted in the frame, to move toward and from the teeth of the saw with the outer heads adapted to move transversely of the frame and the center head adapted to remain stationary with respect to the transversely movable heads, means for moving the said outer heads transversely, means for moving the said heads toward and from the teeth of the saw, and an anvil mounted on the said frame and adapted to be adjusted.

3. A saw set comprising a frame, a guide thereon, auxiliary guides mounted to move transversely on the said guide, heads mounted to move on the auxiliary guides, means for moving the auxiliary guides transversely of the frame, and means for moving the heads longitudinally of the frame.

4. A saw set comprising a frame, an adjustable anvil on the frame, a guide on the frame, auxiliary guides mounted to move transversely on the guide, heads mounted to move on the auxiliary guides, a screw for operating the heads toward or from the anvil, and a screw for moving the guides transversely of the frame.

973,283. ADJUSTABLE CRUTCH. WILLIAM HARVEY LOFTIN, Jacksonville, Fla., assignor of one-half to William H. Taylor, Jacksonville, Fla. Filed Feb. 7, 1910. Serial No. 542,553.



1. In a crutch, the combination of telescopic parts; a spring connected at one end with one of said parts; and an adjustable finger mounted in the other part to engage the first named part at predetermined steps, the finger constituting a means for connecting the other end of the spring with said other part.

2. In a crutch, the combination of telescopic parts; a spring connected at one end with the outer of said parts; the inner of said parts having a terminal opening to receive the other end of the spring; a screw radially inserted into the inner part and arranged to engage the outer part at predetermined steps, the screw being movable into the opening to bind upon the last named end of the spring.

973,284. CULTIVATOR ATTACHMENT. WILLIAM JACKSON LUTTRELL, Honey Grove, Tex. Filed June 8, 1910. Serial No. 565,691.

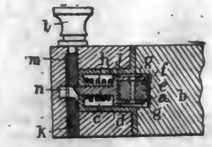
1. In combination with a draft beam, two companion clamp members having circular openings respectively, means for securing one of the clamp members relatively to the draft beam, means for securing the other clamp member to the clamp member secured to the draft beam, and two clamp blocks, each having an opening with angularly-disposed walls and an annular outer surface, the clamp blocks being normally disposed between the clamp members and being adapted to be disposed around the shank of a shovel member.

2. In combination with a draft beam, two companion clamp members having circular openings respectively, means for securing one of the clamp members relatively to the draft beam, means for securing the other clamp member to the clamp member secured to the draft beam,



two clamp blocks, each having an opening with angularly-disposed walls and an annular outer surface, projections on the clamp blocks for resting on the top of the clamp members when the clamp members are disposed around the clamp blocks, and a shank of a shovel member disposed between the clamp blocks, to be held thereby.

973,285. SASH-FASTENER. JOHN HENRY MARSH, London, England. Filed June 25, 1910. Serial No. 568,866.



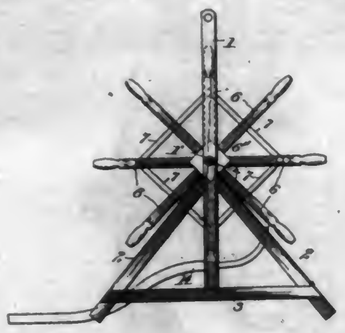
A sash fastener, comprising a corrugated strip adapted to be secured to a sash, a casing adapted to be secured to a window frame, a spring pressed plunger in the casing and having its outer end beveled and projecting through an aperture in the casing, a roller mounted on the inner end of the plunger, a keeper frame secured to the outer end of the casing, and a bar mounted entirely within the window frame to slide transversely to the plunger and having an aperture through which the beveled end of the plunger is adapted to project, said bar being provided on its inner face with an inclined surface leading to the aperture thereof.

973,286. WATER-HOSE REEL AND SPRAY. WILLIAM H. MERITHEW, Carterville, Mo. Filed Nov. 4, 1909. Serial No. 526,305.

1. In a device of the character described, a hose reel, standards in which said reel is loosely mounted, said standards being supported by braces and transverse connecting arms, a T pipe loosely attached to one of the connecting arms by means of a hook and staple, an elbow at each end of the said T pipe, and inwardly inclined pipe arms extending upwardly from said elbows, substantially as set forth.

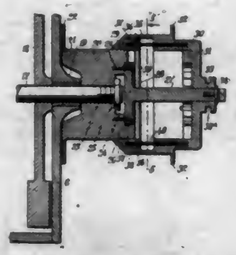
2. In a device for spraying and distributing liquid, the combination with a source of water supply, of a pipe communicating with the water supply, a T pipe provided with an elbow at each end and inwardly inclined pipe arms extending upwardly from said elbows, into which the pipe

discharges; and a hose reel and standards in which said reel is loosely mounted, said standards being supported by braces and transverse connecting arms to one of which



connecting arms the said T pipe is loosely attached by means of a hook and staple, substantially as and for the purposes described.

973,287. CHANGEABLE-SPEED GEARING. WALTER L. MILLER, Santa Fe, N. Mex. Filed May 25, 1910. Serial No. 563,358.



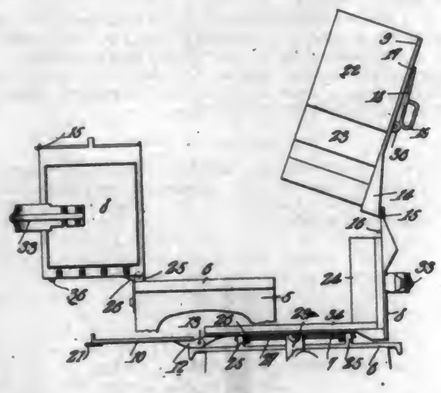
1. A device of the character described, comprising a driving pulley of small diameter and a driving pulley of large diameter, said pulley of large diameter being hollow and loosely fitted over said pulley of small diameter, and a collar carried by said pulley of large diameter and encircling said pulley of small diameter, said collar being movable relatively to said pulley of large diameter and provided with a beveled edge for picking up a belt.

2. The combination of a pulley of small diameter, a disk secured thereto and having a stub shaft integral with said disk, a pulley of large diameter partially encircling said pulley of small diameter, said pulley of large diameter having an annular head encircling said stub shaft, and means for moving said pulley of large diameter relatively to said stub shaft and to said pulley of small diameter.

3. The combination of a pulley of small diameter, a pulley of large diameter fitted over said pulley of small diameter, a collar carried by said pulley of large diameter and partially encircling said pulley of small diameter, said pulley of large diameter having a beveled edge and said collar also having a beveled edge, said collar being free to move relatively to said pulley of large diameter, so as to carry said beveled edge of said collar into said pulley of large diameter, springs engaging said collar and also engaging said pulley of large diameter for the purpose of pressing said collar into a predetermined position relatively to said pulley of large diameter, and means controllable at will for shifting the position of said pulley of large diameter relatively to said pulley of small diameter.

4. The combination of a pulley of small diameter, a pulley of large diameter movable relatively to the same in the general direction of a common axis, said pulley of large diameter being provided with a barrel, a collar mounted within said barrel and movable relatively to said pulley of large diameter and also movable relatively to said pulley of small diameter, springs engaging said pulley of large diameter and also engaging said collar, spline mechanism connecting said pulley of large diameter with said collar in order to enable the turning movement of said pulley of large diameter to carry said collar, and means for moving said pulley of large diameter in the general direction of the axis of said pulley of small diameter.

973,288. CONCRETE-BLOCK MACHINE. JOHN S. MINTON, Kearney, Nebr., assignor of one-half to D. Wort, Kearney, Nebr. Filed Feb. 1, 1909. Serial No. 475,398.



1. A machine of the class described comprising a supporting frame including a table, a mold pivotally mounted for swinging movement on the table and having stationary and movable walls, an overhanging hook secured to one of the stationary walls, and a die plate forming a closure for the top of the mold and having a removable pivotal engagement with said hook.

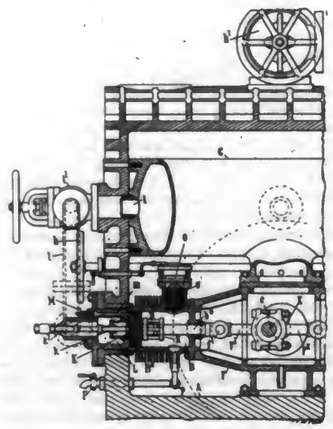
2. A machine of the class described comprising a supporting frame including a table, a mold having one wall thereof pivotally connected with one longitudinal edge of the table, perforated lugs carried by the side walls of the mold, a hook secured to one of the end walls thereof, a die plate forming a closure for the top of the mold and provided with an enlargement for pivotal connection with the hook, perforated lugs extending laterally from the die plate, fastening devices extending through the lugs of the die plate and side walls of the mold for clamping the die plate in position on said mold and a partition disposed within the mold and provided with an angular extension for forming the block with a rearwardly extending hook.

3. A machine of the class described comprising a supporting frame including a table, a mold supported on the table and provided with rigidly connected walls, one of which is pivotally connected with the table, independently movable walls pivotally connected with the rigidly united walls, means for locking the walls in engagement with each other, a partition disposed within the mold and provided with an angular portion, an overhanging hook carried by one of the stationary walls, and engaging the angular portion of the partition, a die plate having a pivotal engagement with said hook, and means for locking the die plate in engagement with the side walls of the mold.

4. A machine of the class described comprising a supporting frame including a table, a mold pivotally mounted on the table and comprising rigidly united side and end walls, said end wall being formed with an extension provided with a recess, co-acting independently movable side and end walls, one of which is pivotally connected with the extension of the first mentioned end wall and is seated in the recess in said end wall, the other movable wall being pivotally connected with the first mentioned side wall, means for locking the movable walls in engagement with each other, a die plate forming the top of the mold, said mold being movable laterally on its pivotal connection with the table and one of the independently movable walls thereof being adapted to be swung laterally on its pivotal connection to permit the discharge of the molded product, and means for supporting the mold in discharging position.

5. A machine of the class described comprising a supporting frame including a table, a mold pivotally mounted on the table and including parallel side and end walls, a partition disposed within the mold and secured to one of the end walls thereof, an angularly disposed plate carried by the partition, and an angularly disposed plate carried by the opposite end wall and arranged to over-lap the angularly disposed plate of the partition, said mold being movable laterally on its pivotal axis to permit the discharge of the molded product, and means for supporting the mold in discharging position.

973,289. FLUID-PRESSURE HEAT-ENGINE. JUAN MOLAS, London, England. Filed Jan. 29, 1909. Serial No. 475,037.



1. Liquid fuel burning apparatus for the production of heat for generating steam, comprising the combination of a reservoir, an internal combustion motor, means driven by said internal combustion motor, for compressing atmospheric air, a container adapted to receive air compressed by said air compressing means, said internal combustion motor, said air compressing means, and said container being immersed in said reservoir, and means whereby the air compressed by said means is subsequently used as the atmospheric constituent of the combustible mixture for said internal combustion engine, said means comprising an inlet to said internal combustion engine and a pipe connecting said container to said inlet, substantially as described.

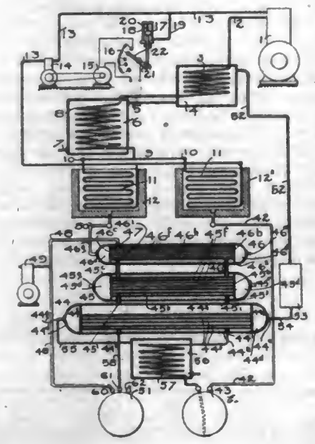
2. Liquid fuel burning apparatus for the production of heat for generating steam, comprising the combination of a reservoir, an internal combustion motor having a combustion chamber immersed in said reservoir, and means whereby the exhaust gases of said internal combustion motor are passed through and in contact with the water in said reservoir, said means consisting in a pipe connecting the combustion chamber of said internal combustion motor to said reservoir, substantially as described.

3. Liquid fuel burning apparatus for the production of heat for generating steam, comprising the combination of a reservoir, an internal combustion motor having a combustion chamber immersed in said reservoir, and means whereby the exhaust gases of said internal combustion motor are passed through and in contact with the water in said reservoir, said means consisting in a pipe connecting the combustion chamber of said internal combustion motor to said reservoir, and means for preventing the water in said reservoir from escaping into said internal combustion motor, said means consisting in a non-return valve in said pipe, substantially as described.

4. Liquid fuel burning apparatus for the production of heat for generating steam, comprising the combination of a reservoir, an internal combustion motor, means driven by said internal combustion motor for compressing atmospheric air, a container adapted to receive air compressed by said air-compressing means, said internal combustion motor, said air-compressing means, and said container being immersed in said reservoir, an inlet to said internal combustion engine and a pipe connecting said container to said inlet, and a pipe connecting the combustion chamber of said internal combustion motor to said reservoir, substantially as described.

5. Liquid fuel burning apparatus for the production of heat for generating steam, comprising the combination of a reservoir, an internal combustion motor, means driven by said internal combustion motor for compressing atmospheric air, a container adapted to receive air compressed by said air-compressing means, said internal combustion motor, said air-compressing means, and said container being immersed in said reservoir, an inlet to said internal combustion engine; a pipe connecting said container to said inlet; a pipe connecting the combustion chamber of said internal combustion motor to said reservoir, and means for preventing the water in said reservoir from escaping into said internal combustion motor, said means consisting in a non-return valve in said pipe, substantially as described.

973,290. APPARATUS FOR CONCENTRATING SOLUTIONS IN GENERAL. EUDO MONTI, Turin, Italy. Filed Apr. 20, 1909. Serial No. 491,120.



1. In an apparatus for concentrating solutions, the combination of means for partially freezing the solution, an evaporator, condensers connected with said evaporator, a pump connected with said evaporator and condensers for exhausting same, a plurality of tubes in said evaporator through which warm water may be circulated, pipes in one of said condensers, and pipe connections between said freezing means and the pipes in said condenser whereby ice water from said freezing means may be made to pass through said condenser.

2. In an apparatus for concentrating solutions, the combination of a refrigerating device consisting of a compressor, a refrigerant gas condenser and a freezing element, an evaporator, heating pipes in said evaporator, condensers for said evaporator, a pump for exhausting the evaporator and the condensers, a pipe connection leading

from said freezing element to said evaporator, and pipe connections between the refrigerant gas condenser and the heating pipes in the evaporator whereby liquid which has become heated in passing through said refrigerant gas condenser is passed through said evaporator to evaporate the solution therein.

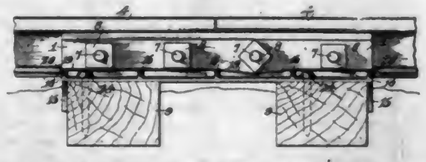
3. In an apparatus for concentrating liquid solutions, the combination of a compressor, condensing means, tanks for holding the solution to be concentrated, freezing pipes located in said tanks, an evaporator, heating pipes in said evaporator, condensers connected with said evaporator, a pump for exhausting said evaporator and the condensers, a pipe connection for conducting warm liquid from the said condensing means through the heating pipes in the evaporator, means for conducting the partially concentrated solution from one of the freezing tanks to said evaporator, and a pipe connection between one of said freezing tanks and one of the condensers whereby ice-water from said freezing tank may flow through such condenser.

4. In an apparatus for concentrating liquid solutions, the combination of a compressor, condensers, tanks for holding the solution to be concentrated, freezing pipes located in said tanks, means for automatically regulating the flow of the refrigerant through said freezing tanks, an evaporator, heating pipes in the evaporator, communicating condensers connected with said evaporator, tubes in said condensers adapted to receive a refrigerant fluid, a pump for exhausting said evaporator and the condensers, a pipe connection for conducting warm liquid from the said condensing means through the heating pipes in the evaporator, means for conducting the partially concentrated solution from one of the freezing tanks to said evaporator, and a pipe connection between one of said freezing tanks and one of the condensers whereby ice-water from said freezing tank may flow through the pipes in the condensers.

5. In an apparatus for concentrating liquid solutions, the combination of a compressor, condensers in communication with each other and with the compressor, tanks for holding the solutions to be concentrated, freezing pipes located in said tanks, fluid pressure controlling means for keeping constant the flow of the refrigerant through said freezing pipes, an evaporator and condensers connected in series, heating pipes in the evaporator and freezing pipes in said condensers, a pipe for conducting warm liquid from said condensers to the heating pipes in the evaporator, means for conducting the partially concentrated solution from one of the freezing tanks to the evaporator, a pipe connection between the other of the freezing tanks and one of the condensers, and a pump for exhausting the evaporator and the condensers.

[Claims 6 and 7 not printed in the Gazette.]

973,291. RAIL-JOINT. SANTA E. NELSON, Kennett, Cal. Filed June 16, 1909. Serial No. 502,566.



1. A rail joint including a base plate having integral depending tie-engaging anchoring flanges and provided at one of its side edges near its ends with spike-receiving openings and having a continuous longitudinal slot extending from one end of the base plate to the other to within a short distance of the spike-receiving openings and arranged in alinement with the same, a removable fish plate provided at the bottom with a continuous depending longitudinal flange fitted in the longitudinal slot and interlocking the base plate with the fish plate and terminating short of the ends of the removable fish plate, the latter being provided with spike-receiving recesses located at the ends of the depending longitudinal flange and exposing the spike-receiving openings of the base plate, and spikes arranged in the recesses of the removable fish plate and extending through the openings of the base plate and having their heads extending over the bottom flange of the removable fish plate and engaging the same above the bottom flange of the rail.

2. A rail joint including a base plate, a relatively fixed fish plate formed integral with the base plate and located at one side thereof, a removable fish plate located at the opposite side of the fish plate, bolts connecting the fish plates and provided with nuts, one of the fish plates being provided with a plurality of spaced supports, and a resilient key arranged on the supports and presenting resilient portions to the nuts to lock the same against rotation, said resilient portions being arranged to be engaged and forced away from the nuts by a wrench or other tool.

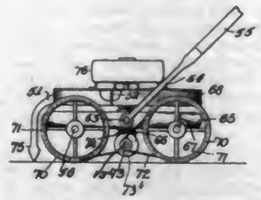
3. A rail joint including a base plate, a relatively fixed fish plate formed integral with the base plate and located at one side thereof, a removable fish plate located at the opposite side of the fish plate, bolts connecting the fish plates and provided with nuts, one of the said fish plates being provided with spaced lugs having recesses or seats, and a resilient key fitting in the recesses or seats and supported by the lugs and presenting resilient portions to the nuts, whereby the latter are locked against rotation.

4. A rail joint including a base plate, a relatively fixed fish plate formed integral with the base plate and located at one side thereof, a removable fish plate located at the opposite side of the fish plate, bolts connecting the fish plates and provided with nuts, one of the fish plates being provided at intervals with lugs located at the terminals of such fish plate and at points midway between the bolts, and a resilient locking key supported by the said lugs and presenting resilient portions to the nuts and having means for engaging the terminal lugs for holding them against longitudinal movement.

5. A rail joint including a base plate, a relatively fixed fish plate formed integral with the base plate and located at one side thereof, a removable fish plate located at the opposite side of the fish plate, bolts connecting the fish plates and provided with nuts, one of the fish plates being provided at intervals with lugs located at the terminals of such fish plate and at points midway between the bolts, and a resilient locking key supported by the said lugs and presenting resilient portions to the nuts and having its terminals split longitudinally, the split portions being bent vertically in opposite directions, whereby the key is reversible and is held against longitudinal movement.

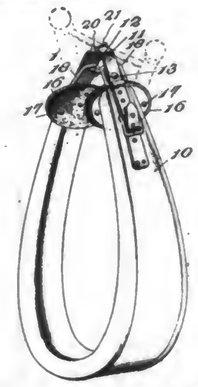
[Claim 6 not printed in the Gazette.]

973,292. VACUUM-CLEANER. IVER NIELSEN, New Rochelle, N. Y. Filed May 4, 1909. Serial No. 493,763.



In a device of the character described, a horizontally disposed flat cylindrical pump casing, a pump operating shaft extending vertically therethrough and having a beveled pinion at its lower end, a strainer containing casing supported above the pump casing and having an outlet connected with the inlet of the pump casing, an inlet connected with the pump casing and having a surface engaging mouth piece, axles supporting the pump casing and having carrying wheels, shafts supported adjacent to the underside of the pump casing and provided at their inner ends with beveled pinions meshing with the pinion upon the pump operating shaft, and means for transmitting motion to said shafts from the carrying wheels to drive the pump operating shaft continuously in one direction when the machine is moved forwardly and rearwardly.

973,293. COLLAR ATTACHMENT FOR HARNESS. NIKOLAUS A. NISSEN, Omaha, Nebr. Filed Jan. 31, 1910. Serial No. 541,104.

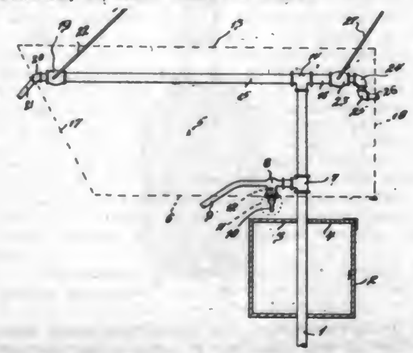


1. In combination with a collar, a yoke arranged within the upper open end of said collar and spaced upwardly from the neck of the animal, an adjusting bolt transversely disposed through said yoke to regulate the distance between the free ends of the yoke, plates carried upon the free ends of the yoke to engage against the opposite sides of the neck of an animal, pads carried by said plates against the inner faces, and straps arranged between the upper end of said yoke and the opposite sides of said collars.

2. A support including a yoke, a brace carried by the yoke to strengthen the same and to regulate the distance between the free ends thereof, pads carried upon the free ends of said yoke for engagement against the opposite sides of the neck of the animal, and straps depending from the yoke to support a collar, said straps being connected to the ends of said brace.

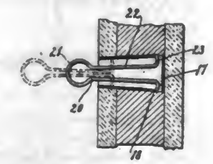
3. A support including a yoke, a bolt transversely and adjustably positioned through the arms of the yoke to arch the same upwardly above the neck of the animal, pads secured to the free ends of the yoke for engagement against the sides of the neck of the animal, links passed through the upper end of the yoke and resting upon said brace, and straps depending from said links for supporting a collar.

973,294. FAUCET. FREDRICK PARKER, Wilmerding, Pa. Filed May 21, 1910. Serial No. 562,764.



The combination with a structure, of a vertically-disposed supply pipe extending through the bottom of the structure and terminating at a point removed from the top of the structure, a T-coupling secured to said pipe intermediate the ends thereof and arranged in proximity to the bottom of the structure, a self-closing faucet connected to said T-coupling and having its spout projecting from the bottom of the structure, a plurality of operating handles connected to said faucet and depending through the bottom of the structure, a flexible member carried by the faucet and inclosing said handles, a T-coupling mounted upon the upper end of said supply pipe, two laterally-extending pipe sections projecting in opposite directions with respect to each other and connected respectively to the lateral sections of said last-mentioned T-coupling, each of said pipe sections terminating at a point removed from a wall of said structure, a faucet connected to the free end of each of said pipe sections and having its spout projecting through the end wall of the structure, and elongated operating handles carried respectively by said last-mentioned faucets and extending through the top of said structure.

973,295. FENCE-POST. WALTER PARKER, Neola, Iowa. Filed Sept. 14, 1909. Serial No. 517,604.

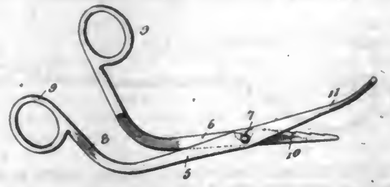


1. In combination, a socket adapted to be carried by a fence post, and a wire holder removably associated with said socket, said socket being formed from a blank of sheet material, said blank having at one end an extension, folded to form an arched closure for one end of said socket and leaving lateral openings.

2. In combination, a socket adapted to be carried by a fence post, and a wire holder removably associated with said socket, said socket being formed from a trapezoidal blank folded to form a hollow body and having an integral extension folded upon itself to form a closed end of said body, said body at the extremity adjacent to said extension having edges constituting stops, for engaging said wire holder.

3. A socket for a fence wire fastener, formed from a metal blank folded upon itself to form two parallel sides, said sides having their opposite edges overlapped, and one of said sides having an extension forming a partially closed end for said socket.

973,296. SURGEON'S SCISSORS. GEORGE H. PEDDLE, Perry, N. Y. Filed Jan. 25, 1910. Serial No. 540,100.

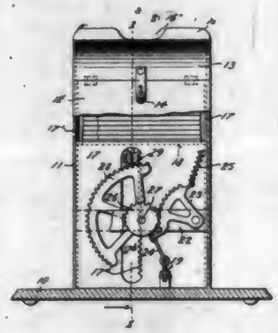


1. A pair of scissors including pivotally connected blades, one of which is provided with a serrated cutting edge, the mating blade being projected longitudinally beyond the serrated cutting edge of the first mentioned blade and curved laterally to form an extension constituting a guide, upper and lower longitudinal edges of the guide being curved and the terminal thereof blunt and rounded.

2. A pair of scissors including pivotally connected blades, one of which is provided with a serrated cutting

edge and the other with a straight cutting edge, the end of the blade having the straight cutting edge being projected longitudinally beyond the serrated cutting edge of the mating blade to form an extension constituting a guide, the walls of which are curved and the terminal thereof blunt and rounded.

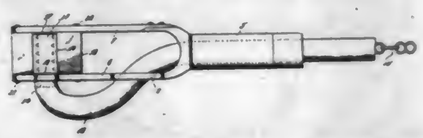
973,297. MATCH-BOX. EMIL POEPPEL, Chicago, Ill. Filed Nov. 15, 1909. Serial No. 528,133.



1. In a match box of the character set forth, the combination of a reservoir having a slot at its upper side, a plunger movable upwardly through said reservoir and having a groove along its upper edge adapted to be brought into said slot, said plunger having a vertical slot having a smooth edge and a series of rack teeth along the other edge, a pinion meshing with said rack teeth mounted within said slot closely adjacent said smooth edge, and devices for rotating said pinion to cause the plunger to be elevated, substantially as set forth.

2. In a device of the character set forth, the combination of a substantially closed casing, a reservoir at the top of the casing, a plunger slidable vertically within the casing and reservoir, said plunger being provided with a vertical slot having rack teeth along one of its edges, a pinion mounted within said slot and meshing at one end with said rack teeth, a gear segment meshing with the other end of said pinion, a gear connected to said gear segment, another gear segment meshing with the said gear, a spring connected at one end to the casing and at its other end to the latter mentioned gear segment, a lever pivoted at one end within the casing and having its other end extending through the casing, and connecting means between said latter mentioned gear segment and said lever, substantially as set forth.

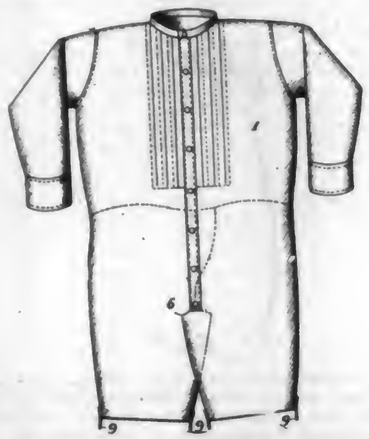
973,298. HOOF-TRIMMER. NEAL R. POLK, Greenville, Tex. Filed May 20, 1910. Serial No. 562,468.



1. A hoof trimmer comprising a tubular handle portion provided at one end with a U-shaped frame, a cylindrical rasp rotatably mounted in the free end portions of the sides of said frame, and a flexible shaft passing through the tubular handle and one side of said frame and connected to said rasp.

2. A hoof trimmer comprising a tubular handle terminating at one end in a U-shaped frame, a shaft journaled in the free end portions of the sides of said frame, a cylindrical rasp keyed to said shaft, a flexible shaft passing through said tubular handle and one side of said frame and connected to one end of the first-named shaft, a gage adjustably secured to the sides of said frame and provided with an opening overlying said rasp, for the purposes described.

973,299. COMBINATION-GARMENT. ORLYSTIS M. POTTERF, Larned, Kans. Filed Oct. 19, 1909. Serial No. 523,436.



As a new article of manufacture, a combination garment comprising an outside or dress shirt and a bifurcated nether garment, the front portion being integral throughout the entire length and being united to the rear portion at the crotch by means of interlapping flaps integral with the rear portion, the rear pieces of said bifurcated nether garment having substantially the same amount of cloth as the corresponding front portions above the waist line, but greater amount of cloth below the waist line by being made longer than the corresponding front portions but made to correspond in length with said front portions where they are united thereto at the side seams, thus leaving said greater amount of cloth as a fullness through the seat portion.

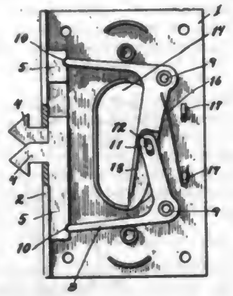
973,300. TAG. JOHN PRAETZ, New York, N. Y. Filed Apr. 20, 1910. Serial No. 556,479.



1. A tag comprising a back and a front section secured together at their sides and at points along the bottom thereof to form a pocket adapted for the reception of a card, the front section being slit along two lines to form a flap, an extremity of said flap extending downwardly beyond the bottom of said pocket and covering a portion of the edge of the card when the latter is in its bottommost position in the pocket, the flap when raised exposing said portion of the edge of the card to permit engagement thereof by the finger so that the card may be pushed up out of the pocket.

2. A tag comprising a back and a front section secured together to form a pocket adapted for the reception of a card, the front section being slit downwardly along two lines to form a flap with an integral tab at the lower end thereof, the end of said tab being free and projecting downwardly below the bottom edge of the back section, to facilitate raising the flap.

973,301. LOCK. FOUNTAIN T. PURDHAM, Battle Creek, Mich. Filed Nov. 20, 1909. Serial No. 529,100.



1. The combination with a casing plate, having a finger opening therein and a slotted flange at its forward edge, of a pair of bolts having oppositely-facing, laterally-projecting engaging members arranged through said slot in said casing plate flange, said bolts slidably arranged upon each other, each being cut away to receive the other; a pair of oppositely disposed bent operating levers for said bolts, said levers being connected with a pin and slot connection, each lever being cut away to receive the other, one of said levers being provided with a finger piece adapted to be engaged through said finger opening in said casing plate; an actuating spring for said bolts arranged to act on one of said levers; and a casing plate having plate spacing members thereon arranged to coact with the casing plates and flange in retaining said bolts and forming a way therefor, said last-named casing plate having key openings therein arranged to permit the engaging of either of said levers with a key.

2. The combination with a casing plate, having a finger opening therein and a slotted flange at its forward edge, of a pair of bolts having oppositely-facing, laterally-projecting engaging members arranged through said slot in said casing plate flange, said bolts slidably arranged upon each other, a pair of oppositely disposed bent operating levers for said bolts, said levers being connected with a pin and slot connection, one of said levers being provided with a finger piece adapted to be engaged through said finger opening in said casing plate; an actuating spring for said bolts arranged to act on one of said levers; and a casing plate having plate spacing members thereon arranged to coact with the casing plates and flange in retaining said bolts and forming a way therefor, said last-named casing plate having key openings therein arranged to permit the engaging of either said levers with a key.

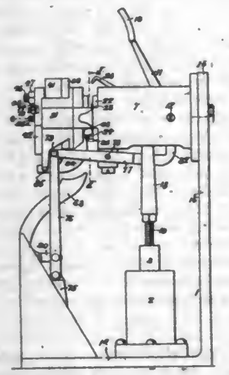
3. The combination with a casing plate, having a finger opening therein and a slotted flange at its forward edge, of a pair of bolts having oppositely-facing, laterally-projecting engaging members arranged through said slot in said casing plate flange, said bolts being slidably arranged upon each other, each being cut away to receive the other; a pair of oppositely disposed bent operating levers for said bolts, said levers being connected with a pin and slot connection, each lever being cut away to receive the other, one of said levers being provided with a finger piece adapted to be engaged through said finger opening in said casing plate; an actuating spring for said bolts.

4. The combination with a casing plate, having a finger opening therein and a slotted flange at its forward edge, of a pair of bolts having oppositely-facing, laterally-projecting engaging members arranged through said slot in said casing plate flange, said bolts being slidably arranged upon each other, a pair of oppositely disposed bent operating levers for said bolts, the opposed ends of said levers being connected with a slidable connection, one of said levers being provided with a finger piece adapted to be engaged through said finger opening in said casing plate; an actuating spring for said bolts.

5. The combination with the casing of a pair of bolts having oppositely-facing, laterally-projecting engaging members projecting from said casing; and a pair of oppositely-disposed bent actuating levers for said bolts, the opposed ends of said levers being connected with a slidable connection, one of said levers being provided with a finger piece.

[Claims 6 and 7 not printed in the Gazette.]

973,302. COIN-SELECTOR. GEORGE C. REITH and GEORGE F. FLADE, Philadelphia, Pa. Filed Nov. 12, 1909. Serial No. 527,639.



1. The combination in a coin selector; of a coin directing means; selective controlling mechanism therefor; means, including an operating member, for presenting a coin to and then releasing it from said mechanism; and a device for causing a single movement of said operating lever to result in a complete actuation of said coin presenting and releasing means.

2. The combination, in a coin selector, of a coin directing valve; selective controlling mechanism therefor; means for presenting a coin to said mechanism; an operating member for said means; and means for causing a movement of said member in one direction to present a coin to and then release it from said valve controlling means.

3. The combination, in a coin selector, of a coin directing valve; selective controlling mechanism therefor; yielding means for presenting a coin to said mechanism; an operating member for said means; and means for causing a movement of said member in one direction to present a coin to and then release it from said valve controlling means.

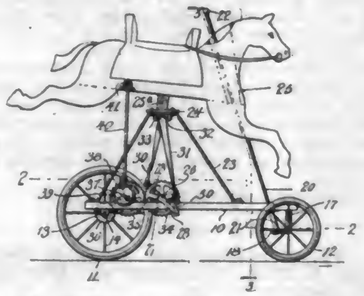
4. The combination, in a coin selector, of a coin directing valve; selective controlling mechanism therefor; a device for presenting a coin to and subsequently releasing it from said mechanism; said device including an operating member; a coin engaging member; and a connecting device for transforming a movement of the op-

erating member in one direction into two movements in opposite directions of the coin engaging member.

5. The combination, in a coin selector, of a coin directing valve; selective controlling mechanism therefor; and a device for presenting a coin to and then releasing it from said mechanism; said device including an operating member, a coin engaging member, and a toggle connecting said members.

[Claims 6 to 38 not printed in the Gazette.]

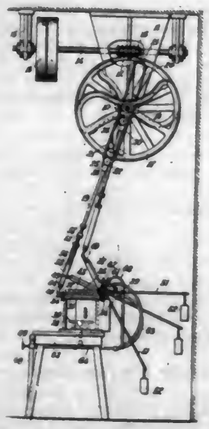
973,303. TOY. LEW WALLACE REPLOGLE, Chicago, Ill. Filed Oct. 11, 1909. Serial No. 522,168.



1. A toy, comprising a wheeled base having a driving wheel, a rotary crank shaft, a pair of cranks thereon, gearing between said shaft and the driving wheel, stirrups carried by said cranks, a suitably supported roller and a flexible band connecting said stirrups and running over the roller to hold the stirrups upright.

2. A toy, comprising a base, steering wheels pivotally connected thereto, a driving wheel, an axle secured to said driving wheel, a crank shaft, a gear wheel carried thereby, a pinion upon the driving axle, a gear wheel meshing with said first named gear wheel and with the pinion, cranks upon the crank shaft, stirrups carried by said cranks, a roller, a flexible band connecting said stirrups and running over said roller to hold the stirrups upright, an eccentric connected to the intermediate gear, a pair of standards, a hobby horse figure pivotally connected to said standards and a connecting rod between said hobby horse figure and the eccentric.

973,304. WAFER-MACHINE. JOSÉ MARTI RIBÉ, Barcelona, Spain. Filed Oct. 30, 1909. Serial No. 525,454.



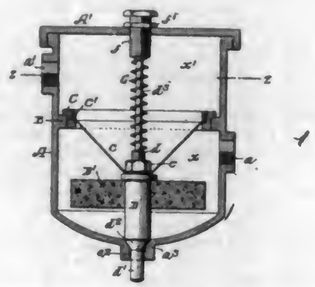
1. In a machine of the class described, a stationary mold plate, a movable mold plate hinged thereto, a connecting-rod hinged to said movable mold plate, a frame hinged to said movable mold plate and having an arm, a counterweight carried by said arm, means for reciprocating said connecting-rod, and a burner arranged within said frame upon said movable mold plate.

2. In a machine of the class described, a stationary mold plate, a movable mold plate hinged thereto, a connecting-rod hinged to said movable mold plate, a frame hinged to said movable mold plate and having an arm, a counterweight carried by said arm, means for reciprocating said connecting rod, a burner arranged within said frame upon said movable mold plate, said stationary mold plate having recesses, said movable mold plate having a plurality of adjustable dies, each adapted to coöperate with one of said recesses to form a wafer, and a burner under said stationary mold plate.

3. In a machine of the class described, a mold having a movable member, a connecting-rod controlling said member, a cam, and means for driving said cam, said connecting-rod having a bifurcated end receiving between the sides thereof, said cam, the sides of said bifurcated end of said connecting-rod being slotted, said cam having a hub guidingly engaging said slotted sides, said connecting-rod having a roller in peripheral engagement with said cam.

4. In a machine of the class described, a mold having a stationary mold plate, a second mold plate pivoted thereto, a frame pivoted to said second mold plate and normally in position thereon, and a burner arranged within said frame and comprising hollow members having flame outlets, and having a flexible connection for the introduction of gaseous or other fuel.

973,305. GASOLENE-STRAINER. JOSHUA B. RICKARDS and WALTER H. GEIGER, Philadelphia, Pa. Filed June 15, 1910. Serial No. 567,077.



1. The combination in a strainer for gasolene or other liquids, of a casing, a partition dividing the casing into two compartments, said partition having an opening, a filtering diaphragm within the opening, a valve connected to the diaphragm, an inlet for the gasolene or other liquid on one side of the diaphragm, and an outlet on the other side of the diaphragm.

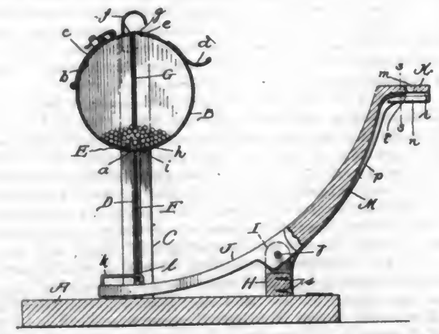
2. The combination in a strainer for gasolene and other liquids, of a casing, a partition dividing the casing into two compartments, said partition having an opening, a chamois diaphragm mounted in the opening, said casing having an opening in the bottom, a valve arranged to close said opening, said valve being attached to the chamois diaphragm, the casing having an inlet opening below the partition and outlet opening above the partition.

3. The combination in a casing, of a transverse partition, said partition having an opening therein, a diaphragm mounted within said opening, the casing having an outlet opening at the bottom, a valve secured to the diaphragm and arranged to close the opening in the bottom of the casing, a float carried by the valve, the casing having an inlet opening communicating with the compartment under the partition and an outlet opening communicating with the compartment above the partition.

4. The combination in a casing, a partition dividing the casing into two compartments, a cap closing the upper compartment, said casing having an opening in the bottom for the escape of water, a ring secured within an opening in the partition, a diaphragm secured to the ring, a valve arranged to close the opening in the bottom of the casing and secured to the diaphragm, an extension on the valve, a threaded bearing in the cap for the said extension, a spring mounted between the bearing and the valve, the casing having an inlet opening below the diaphragm and an outlet opening above the diaphragm.

5. The combination in a casing, of a partition dividing the casing into two compartments, a cap closing the upper compartment, said casing having an opening in the bottom for the escape of water, a ring, secured within an opening in the partition, a diaphragm secured to the ring, a valve arranged to close the opening in the bottom of the casing and secured to the diaphragm, an extension on the valve, a threaded bearing in the cap for the said extension, a spring mounted between the bearing and the valve, a float on the valve, the casing having an inlet opening below the diaphragm and an outlet opening above the diaphragm.

973,306. COMBINED MATCH-SAFE AND CIGAR-CUTTER. ARNOLD N. ROTH, McCall, La. Filed July 14, 1910. Serial No. 571,950.

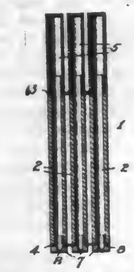


In a match safe, the combination of a match holder having a slot in its bottom and an opening in its top and also having a receiver on its upper portion at one side of the latter opening, a guard connected to the holder and overhanging the latter opening, resilient fingers connected to the top of the holder and having free ends disposed adjacent said latter opening, a suitably guided delivery slide movable in the holder and having a longitudinal groove and also having notches intersecting said groove and adapted to receive the resilient fingers when the slide is raised, and a vertically movable lever fulcrumed at an intermediate point of its length and having its forward arm connected with the said slide.

973,307. THERMOMETER-CASE. FRANCIS L. RUDDY, Watertown, N. Y. Filed Dec. 30, 1909. Serial No. 535,624.

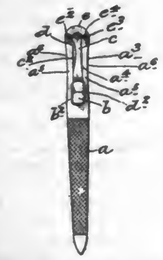
1. A thermometer case of the character described comprising a plurality of receptacles having reduced threaded upper ends, closing caps adapted to be screwed onto said threaded upper ends, an upper connecting plate having formed therein a series of threaded apertures adapted to receive the reduced threaded upper ends of the receptacles whereby the latter are firmly held together at their upper ends, and a connecting plate secured to the lower ends of said receptacle.

2. A thermometer case of the character described comprising a plurality of receptacles having reduced threaded upper ends, closing caps adapted to be screwed onto said threaded upper ends, an upper connecting plate having formed therein a series of threaded apertures adapted to receive the reduced threaded upper ends of the receptacles whereby the latter are firmly held together at their upper ends, a lower connecting plate having formed therein a



series of apertures, means adapted to be engaged with said apertures to removably secure said lower plate in place, said plate thereby fastening the lower ends of the receptacles together, and means connected to the upper fastening plate whereby said case may be attached to the clothing.

973,308. MANICURE INSTRUMENT. ERNST RUNTZMAS, Brooklyn, N. Y. Filed Mar. 28, 1910. Serial No. 552,036.



1. A manicure instrument, comprising a nail file, one end of which is provided with an extension which is slotted longitudinally to form spring arms, a slide mounted between said arms and provided with a cuticle blade, said blade and said arms being provided with means for locking said slide at the limit of its outward movement and said arms being provided at their outer ends with transverse jaws between which said blade is movable.

2. A manicure instrument, comprising a nail file, one end of which is provided with an extension which is slotted longitudinally to form parallel arms, a slide mounted between said arms and provided with a cuticle blade, said blade and said arms being provided with means for locking said slide at the limit of its outward movement, and said arms being provided at their outer ends with transverse jaws between which said blade is movable.

973,309. VENTILATOR AND EXHAUST. ALBERT F. SCHWANNECKE, New York, N. Y. Filed Jan. 11, 1910. Serial No. 537,457.



1. A ventilator having a tubular sheet metal open-ended body portion adapted to be disposed outside of a window and having ports adjacent opposite ends in the side thereof, adapted to communicate with the interior of the building, and having a port in the lower side thereof intermediate the ends and outside of the building.

2. A device of the class described, having a tubular sheet metal body portion provided with an extension disposed lengthwise thereof, said extension having parallel end walls and parallel top and bottom walls, the wall of the body portion opposite said extension having gauze-covered ports adjacent opposite ends, said end walls having sheet metal brackets adapted to be secured within a window casing to hold the device in position.

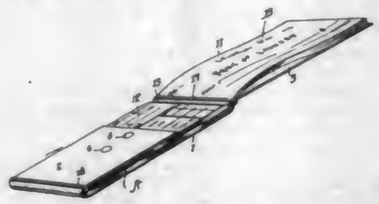
3. A ventilator having a tubular open-ended body portion and an extension leading from the side thereof, adapted to extend through a window, and having the interior thereof in communication with the interior of the body, said extension having a top wall, a bottom wall and an inner side wall, said side wall and said top wall being spaced apart to leave a port extending approximately the full width of the window, and said side wall serving to deflect upwardly the air entering the room through said body portion and said extension.

4. A ventilator having a body portion adapted to be disposed outside of a window, an extension leading from the side thereof and adapted to extend through the window, to communicate with the interior of the building, a port in the lower side of said body portion intermediate the ends and outside of the building, and means for controlling said port.

5. A ventilator having a tubular open-ended body portion adapted to be disposed outside of the window, and ports in a circumferential wall thereof adjacent opposite ends, and extension having one side thereof substantially tangential to the circumferential wall of said body and having a second side substantially parallel to the first-mentioned side, said sides adapted to engage with the edge of the window, and the window casing, and means at the ends of said extension for securing the ventilator in position.

[Claims 6 and 7 not printed in the Gazette.]

973,310. CHECK-BOOK. CHARLES W. SIMPSON, London, Tenn. Filed May 19, 1910. Serial No. 562,133.



1. A book of the character specified, comprising a cover consisting of a back having a cover flap at one end and a stub flap at the other, a plate arranged transversely of the inner face of the stub flap near its free end, rivets passing through the stub flap and the plate at its transverse center and extending above the face of the plate, said plate having a pair of upwardly offset tongues at each side of the rivets extending transversely of the plate, the members of each pair of tongues facing each other, and pads of checks, each check consisting of a stub and a check proper, partially separated from each other, staples binding the checks at the stub end, said staples extending transversely of the pad and engaging the tongues, each pad having an opening between the staples for engagement by the extended end of a rivet, said stubs being of a length to extend from the innermost tongues to the junction of the stub flap and back, and the check proper being of the same length as the cover flap, said pads being arranged with their stub ends adjacent to each other and extending in opposite directions, and elastic bands encircling each pad and the cover at the junction of the stub and check.

2. A book of the character specified, comprising a cover consisting of a back having a cover flap at one end and a stub flap at the other, a plate arranged transversely of the inner face of the stub flap near its free end, rivets passing through the stub flap and the plate at its transverse center and extending above the face of the plate, said plate having a pair of upwardly offset tongues at each side of the rivets extending transversely of the plate, the members of each pair of tongues facing each other, and pads of checks, each check consisting of a stub and a check proper, partially separated from each other, staples binding the checks at the stub end, said staples extending transversely of the pad and engaging the tongues, each pad having an opening between the staples for engagement by the extended end of a rivet, said stubs being of a length to extend from the innermost tongues to the junction of the stub flap and back, and the check proper being of the same length as the cover flap, said pads being arranged with their stub ends adjacent to each other and extending in opposite directions, and elastic bands encircling each pad and the cover at the junction of the stub and check.

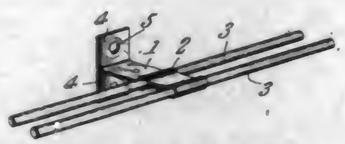
3. A book of the character specified, comprising a cover consisting of a back having a cover flap at one end and a stub flap at the other, a plate arranged transversely of the inner face of the stub flap near its free end, rivets passing through the stub flap and the plate at its transverse center and extending above the face of the plate, said plate having a pair of upwardly offset tongues at each side of the rivets extending transversely of the plate, the members of each pair of tongues facing each other, and pads of checks, each check consisting of a stub and a check proper, partially separated from each other, staples binding the checks at the stub end, said staples extending transversely of the pad and engaging the tongues, each pad having an opening between the staples for engagement by the extended end of a rivet, said stubs being of a length to extend from the innermost tongues to the junction of the stub flap and back, and the check proper being of the same length as the cover flap.

4. A book of the character specified, comprising a cover consisting of a back having a cover flap at one end and a stub flap at the other, a plate arranged transversely of the inner face of the stub flap near its free end, rivets passing through the stub flap and the plate at its transverse center and extending above the face of the plate, said plate having a pair of upwardly offset tongues at each side of the rivets extending transversely of the plate, the members of each pair of tongues facing each other, and pads of checks, each check consisting of a stub and a check proper, partially separated from each other, staples binding the checks at the stub end, said staples extending transversely of the pad and engaging the tongues, each pad having an opening between the staples for engagement by the extended end of a rivet.

5. A book of the character specified, comprising a cover consisting of a back having a cover flap at one end and a stub flap at the other, a plate arranged transversely of the inner face of the stub flap near its free end, and secured thereto, said plate having a pair of upwardly offset tongues at each side extending transversely of the plate, the members of each pair of tongues facing each other, and pads of checks, each check consisting of a stub and a check proper, partially separated from each other, and staples for engaging the tongues, said staples binding the checks at the stub end.

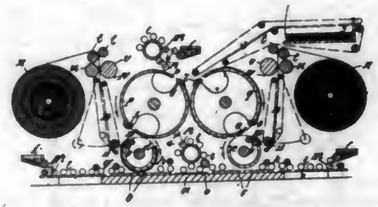
[Claims 6 to 10 not printed in the Gazette.]

973,311. TOOTH-BRUSH HOLDER. ERNEST L. SMITH, Bradford, Pa., assignor to The Clark Sales Company, Buffalo, N. Y. Filed July 27, 1909. Serial No. 509,785.



A device of the class described including a bracket fashioned from a horizontally disposed, flat strip of metal, bent upon itself to form arms, the ends of the arms being bent into a vertical plane and adapted for connection with a support, the arms being spaced apart and concaved toward each other at the outer bend and at a point suitably spaced therefrom, to define parallel sockets, and secured together intermediate the sockets and the bent ends, and straight rods secured in said sockets.

973,312. PERFECTING-MACHINE. HENRY STAMM, Rentzschmühle, near Greiz, Germany. Filed Apr. 19, 1907. Serial No. 369,187.



1. In a perfecting machine, the combination with the printing forms of two constantly rotating impression cylinders separated from each other and two transmission cylinders of double the size of the impression cylinders.

2. In a perfecting machine, the combination with the printing forms of two constantly rotating impression cylinders separated from each other, two transmission cylinders of double the size of the impression cylinders, means for operating said cylinders, and means for holding every unprinted sheet upon such impression cylinder during two impressions.

3. In a perfecting machine, the combination with the printing forms, of two constantly rotating impression cylinders, separated from each other, two transmission cylinders of double the size of the impression cylinders, means for operating said cylinders, means for holding every unprinted sheet upon such impression cylinder during two revolutions and means, whereby each sheet serves first as an offset paper to the sheet which has received its first impression and then receives the impression.

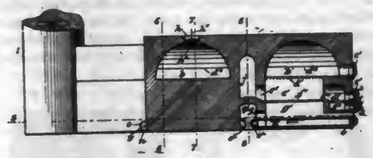
4. In a perfecting machine, the combination with the printing forms and right and left color boxes of two constantly rotating impression cylinders, means for actuating the same, means insuring the crossing of the two sheets running opposite to each other, and means whereby said constantly rotating impression cylinders always coöperate with the printing forms, one of which is inked by the left and the other by the right color box of each of both impression cylinders.

5. In a perfecting machine, the combination with the printing forms and right and left color boxes of two constantly rotating impression cylinders, two transmission cylinders, means for actuating the same, means insuring the crossing of the two sheets running opposite to each other, and means whereby said constantly rotating impression cylinders always coöperate with the printing forms, one of which is inked by the left and the other by the right color box of each of both impression cylinders, combined with a system of grippers with two point-needle systems to simultaneously hold both sheets on the cylinder and to deliver them at different times.

[Claims 6 and 7 not printed in the Gazette.]

973,313. INCINERATING-FURNACE. FREDERICK L. STEARNS, New York, N. Y. Filed Mar. 7, 1905. Serial No. 249,145.

1. The combination of a main combustion-chamber and its grate, a supplemental combustion-chamber and its grate, over which the main combustion-chamber is located, said chambers extending transversely to each other, a combustion-supporting fire-chamber located at one end of the supplemental combustion-chamber and under a side portion only of the main combustion-chamber, and suitable flues, one of said flues leading from the other end of the supplemental combustion-chamber laterally to one side of the main combustion-chamber, for substantially the purposes set forth.



2. The combination of a main combustion-chamber and its grate, a supplemental combustion-chamber and its grate extending transversely of the main combustion-chamber, said main chamber being located above the supplemental combustion-chamber, combustion-supporting annex fire-chambers located at the outer portions of the said combustion-chambers, the annex fire-chamber for the supplemental combustion-chamber being located under a side portion only of the main combustion-chamber, a flue leading laterally from said main combustion-chamber, and a flue leading from said supplemental combustion-chamber at the end opposite its annex fire-chamber, for substantially the purposes set forth.

3. The combination with an incinerating or refuse furnace and its chimney, of a steam boiler furnace associated therewith and containing a boiler, flues leading from the furnaces to the chimney, and dampers in said flues, the flue from the incinerating furnace having side openings r, r' leading into the steam boiler furnace under the opposite ends of the boiler, and the steam boiler furnace being provided with a series of separate fire-places disposed longitudinally thereof under the boiler and arranged opposite said openings, for substantially the purposes set forth.

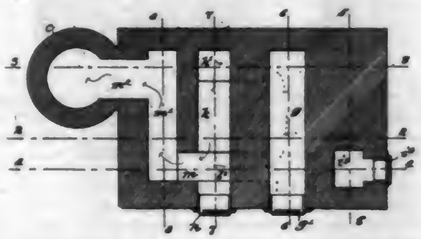
4. The combination of a main combustion-chamber and its grate, a plurality of narrow supplemental chambers and their grates, over which the main combustion-chamber is located, said chambers extending transversely of the main combustion-chamber, the ash-discharge openings in said main chamber grate constituting the sole means of direct or draft communication between the said main chamber and the lower chambers, a combustion-supporting fire-chamber located at one end of each of said narrow supplemental combustion-chambers and under a side portion only of the main combustion-chamber, and suitable flues, one of said flues leading from the other end of each of the supplemental combustion-chambers laterally to one side of the main combustion-chamber, for substantially the purposes set forth.

5. The combination of a main combustion-chamber and its grate, narrow supplemental combustion-chambers and their grates, extending transversely of the main combustion-chamber, said main chamber being located above the supplemental combustion-chambers, combustion-supporting annex fire-chambers located at the outer portions of the said combustion-chambers, the annex fire-chamber for the supplemental combustion-chambers being located under a side portion only of the main combustion-chamber as opposed to the end where the annex fire-chamber thereof is located, a flue leading laterally from said main combustion-chamber, and a flue leading from the said supplemental combustion-chambers at the end opposite its annex fire-chamber, for substantially the purposes set forth.

973,314. INCINERATING-FURNACE. FREDERICK L. STEARNS, New York, N. Y. Filed July 29, 1905. Serial No. 271,765.

1. The combination of a main combustion-chamber having a grate, a supplemental combustion-chamber, located under the said grate and extending crosswise of the main combustion-chamber and also having a grate, and two combustion-supporting or coal-burning chambers, one for each of said combustion-chambers located near one end and laterally to one side only of its given combustion-chamber, and having an opening into the side wall of its

given combustion-chamber; said combustion-supporting or coal-burning chambers being arranged in a vertical plane, transversely of the main combustion-chamber, at the outer side of the supplemental combustion-chamber, and said openings being located in the forward lower corners of the main combustion-chamber and the supplemental combustion-chamber, substantially as and for the purposes set forth.



2. The combination of a main combustion-chamber, a supplemental combustion-chamber, a drying-table for the main combustion-chamber, an outlet flue leading from the said main chamber, and a system of flues connected with said outlet flue and arranged to extend in part under the supplemental combustion-chamber and in part under the drying-table to compel portions of the hot products of combustion to separately pass under the supplemental combustion-chamber and from the main combustion-chamber, to re-unite, and to pass at least once under the drying-table, substantially as and for the purposes set forth.

3. The combination of a main combustion-chamber and its grate, a supplemental combustion-chamber under said grate and into which some of the material on said grate is directly discharged, an outlet flue leading from the main combustion-chamber, two flues branching from said outlet flue and re-united at their outer ends, one of the same passing under and parallel with the supplemental combustion-chamber, and a single flue leading from the re-united ends of the branch flues, for substantially the purposes set forth.

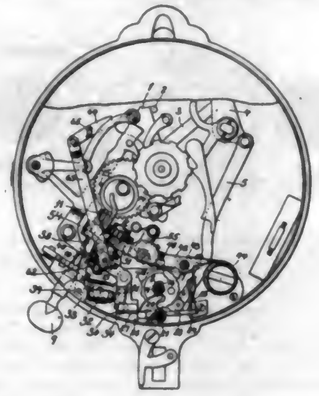
4. The combination of a main combustion-chamber having a grate, an outlet flue leading therefrom, two branch flues from said outlet flue, both of which extend under the main combustion-chamber and are re-united at their outer end, a second outlet flue leading from the re-united ends of the branch flues, and a supplemental combustion-chamber and its ash-pit arranged under the main combustion-chamber and communicating therewith, through the grate openings and also communicating with said branch flues, one of which branch flues extends under the supplemental combustion-chamber, for substantially the purposes set forth.

5. The combination of a main and a supplemental combustion-chamber and a suitable system of flues leading therefrom, one of said flues leading directly from the main combustion-chamber, another from the supplemental combustion-chamber, said flues communicating with each other, two other of the aforesaid system of flues branching from the point of communication of the said flues of the main and supplemental combustion-chambers, one of said branch flues extending under the main combustion-chamber, and the other of said branch flues extending under the supplemental combustion-chamber, said branch flues re-uniting, another of the first said system of flues extending from the point of communication of the outer ends of the branch flues under the main combustion-chamber and parallel with the branch flues, and the last of first said system of flues extending to the chimney, for substantially the purposes set forth.

973,315. RECORDING FARE-REGISTER. ARTHUR E. STONE and FRANCIS L. O'BRYAN, Framingham, Mass. Filed May 18, 1907. Serial No. 374,429.

1. A recording register comprising, in combination with totalizing mechanism and counters; key-controlled identification members having printing types, and means automatically operative upon insertion of a key for moving selected indentification members into position for printing.

2. A recording register comprising, in combination with totalizing mechanism and printing types arranged to be placed successively in printing position by said mechanism; key-controlled identification members having printing types, and means rendered operative by insertion of a key for moving the key to throw certain of the identification members into position to print selected characters.



3. A recording register comprising, in combination with totalizing mechanism and printing counters operated thereby, identification devices having printing types adapted to be actuated by movement of a separable key to place selected types in position for printing, an actuator rendered operative by insertion of a key for so moving the key and locking it, a paper holder, and manually-operated mechanism for releasing the key to permit its removal and effecting a relative approaching movement between the paper holder and types to produce a printed impression on the paper, said mechanism being arranged to cause the impression to be taken before release of the key.

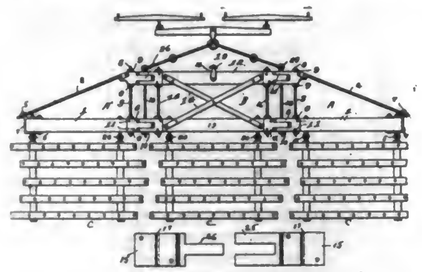
4. A recording register comprising, in combination with totalizing mechanism and printing counters operated thereby, identification devices having printing types adapted to be actuated by movement of a separable key to place selected types in position for printing, a spring-impelled actuator for so moving the key, a latch for restraining the actuator arranged to be released by insertion of the key, and an impression member.

5. A recording register comprising, in combination with totalizing mechanism and printing counters operated thereby, identification devices having printing types adapted to be actuated by movement of a separable key to place selected types in position for printing, an actuator rendered operative by the insertion of a key for automatically so moving the same, a lock for preventing return movement of the actuator and withdrawal of the key, an impression member, and manually-moved mechanism having connections for moving the impression member against the types, releasing the actuator lock, and retracting the actuator, in the order named.

[Claims 6 to 14 not printed in the Gazette.]

973,316. HINGED HARROW DRAW-BAR. PETER A. STUERMAN, Rock Rapids, Iowa. Filed May 13, 1910. Serial No. 561,092.

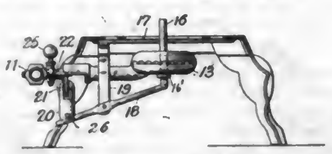
1. A device of the character described comprising two end sections each consisting of an approximately triangular frame including a body bar, a diagonal bar and a connecting bar, the latter being disposed approximately at right angles to the body bar, hinge members connected with the body bar and with the diagonal bar adjacent to the connecting bar, the latter being extended across and connected with the hinge members, and a clamp secured upon the body bar and having an extending flange apertured for the passage of the diagonal bar which is connected with said bar.



2. In a device of the character described, the combination with two end sections each equipped with hinge members adjacent to the inner end thereof, of an intermediate section comprising front and rear bars disposed in parallel relation, diagonal brace bars connecting the same, hinge members secured upon the ends of the front and rear bars, said hinge members and front and rear members having opposite grooves forming apertures, and cross bars extending through said apertures and having nuts abutting upon the front and rear sides of the front and rear bars and of the hinge members connected therewith.

3. In a device of the character described, two end sections each consisting of right angle triangle frames having hinge members adjacent to their inner ends, an intermediate section consisting of a rectangular frame having hinge members adjacent both ends, said end sections and intermediate sections being each equipped with eye bolts for the attachment of harrow sections, and hinge bolts serving to connect the hinge members of proximate sections, said hinge bolts being provided with eyes at their front ends.

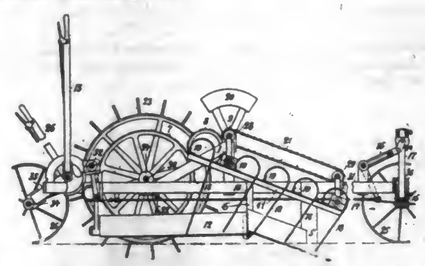
973,317. HEAT-REGULATOR. JOHN H. SURRIDGE, New York, N. Y. Filed Aug. 27, 1907, Serial No. 390,361. Renewed July 9, 1910. Serial No. 571,223.



In combination a frame, a burner supported beneath the top of said frame, a vertically movable rod projecting above the top of said frame and adapted to be depressed by a vessel or other article placed upon the frame over the burner, a lever pivotally supported between its ends by the said frame and having its inner end connected with said vertically movable rod, a valve for controlling the supply of fuel to the burner, an arm extending laterally from the stem of said fuel controlling valve, and a weight pivoted to and pendent from said arm and having its lower end notched to receive and sit astraddle of the outer end of said lever and movable thereon and adapted to centralize the application of the weight upon the lever, the parts being arranged to operate substantially as and for the purpose specified.

973,318. POTATO-HARVEST MACHINE. JENS OLAF THORSEN, Aalborg, Denmark. Filed May 26, 1910. Serial No. 563,655.

1. In a potato digger, the combination with a frame, of supporting wheels carried at each terminal thereof, a main driving shaft located on said frame adjacent to one terminal thereof, driving wheels rigidly mounted on said shaft adapted to engage the ground and rotate said shaft when said device is in use, a pair of crank shafts located adjacent to said wheel, a frame adapted to be moved alternately rearwardly and downwardly and forwardly and upwardly, a series of downwardly extending fingers carried by said frame, means whereby said shafts may be rotated from said driving wheel, a screen located adjacent to said fingers, and means whereby the potatoes may be removed from the ground.



2. In a potato digger, the combination with a frame, of an oscillating screen carried thereby, means for removing the potatoes from the ground carried adjacent to said screen, a main driving shaft carried by said frame, a driving wheel carried at each extremity of said shaft adapted to bite into the ground and rotate said shaft, a pair of crank shafts disposed above said plow, means whereby said crank shafts may be rotated by said driving shaft, a frame carried by said crank shafts adapted to alternately move downwardly and rearwardly and forwardly and upwardly thereby conveying potatoes from the plow to the screen, and a series of downwardly extending fingers carried by said frame.

3. In a potato digger, the combination with a frame, of an oscillating screen carried thereby, means for removing the potatoes from the ground carried adjacent to said screen, a main driving shaft carried by said frame, a driving wheel carried at each extremity of said shaft adapted to bite into the ground and rotate said shaft, a pair of crank shafts disposed above said plow, means whereby said crank shafts may be rotated by said driving shaft, a frame carried by said crank shafts adapted to alternately move downwardly and rearwardly and forwardly and upwardly thereby conveying potatoes from the plow to the screen, and a counterweight carried at each terminal of one of said crank shafts adapted to regulate the motion of said frame.

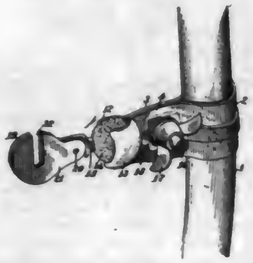
4. In a potato digger, the combination with a main supporting frame, of an oscillating screen carried thereby, a plow carried adjacent to said screen adapted to project into the ground, a driving shaft carried by said frame adjacent to said screen, a driving wheel carried at each extremity of said shaft adapted to bite into the ground and rotate said shaft, a gear located on said shaft adjacent to each driving wheel, a plurality of bearing brackets mounted on said frame adjacent to said plow and crank shafts mounted in each bearing pair of said brackets, a train of gears adapted to rotate said crank shafts, a frame carried by said crank shafts adapted to move alternately downwardly and rearwardly and upwardly and forwardly upon rotation of said crank shafts, and a series of downwardly extending resilient fingers carried by said oscillating frame adapted to force the potatoes from the plow into the screen.

5. In a potato digger, the combination with a main supporting frame, of an oscillating screen carried thereby, a plow carried adjacent to said screen adapted to project into the ground, a driving shaft carried by said frame adjacent to said screen, a driving wheel carried at each extremity of said shaft adapted to bite into the ground and rotate said shaft, a gear located on said shaft adjacent to each driving wheel, a plurality of bearing brackets mounted on said frame adjacent to said plow and crank

shafts mounted in each bearing pair of said brackets, a train of gears adapted to rotate said crank shafts, a frame carried by said crank shafts adapted to move alternately downwardly and rearwardly and upwardly and forwardly upon rotation of said crank shafts, a crank shaft located on the opposite side of said driving shaft to said oscillated frame, means whereby said crank shaft may be driven by the gears carried by said main driving shaft, and a link connection between said crank shaft and said screen.

[Claims 6 to 9 not printed in the Gazette.]

973,319. LAMP-BRACKET. CHARLES G. THUNEN, Oroville, and GEORGE A. MORRILL, Oakland, Cal. Filed July 16, 1909. Serial No. 507,899.



1. In a bracket, the combination with a lamp-attaching member, of a supporting member, means for adjusting said supporting member relative to said attaching member, means for locking said members in any adjusted relation, and means for adjusting the thickness of said attaching member to fit different lamps.

2. In a bracket, the combination with a lamp-attaching member having a slotted lamp-engaging portion, an auxiliary slotted lamp-engaging portion pivoted to said first-mentioned portion, a roughened ball-end on said lamp-attaching member, a supporting member for said attaching member, said supporting member comprising two parts, each of which have facing concave portions on one end which are adapted to form a socket to receive said ball-end, said parts of said supporting member having at their opposite ends concave support-engaging portions, cushions for said support-engaging portions, means for adjusting said parts relative to each other, and screw-threaded means for locking said parts together.

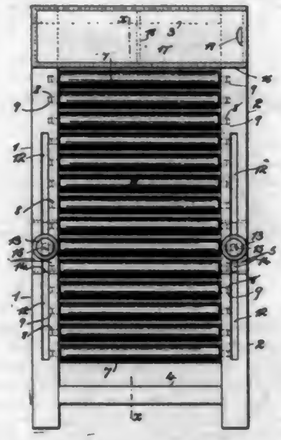
3. In a bracket, the combination with a lamp-attaching member, of a supporting member comprising separable parts, one of said parts having an extension with a plurality of perforations, the other of said parts having a hook adapted to engage any one of said perforations to form an adjustable hinge joint, and means for adjustably securing said parts together.

4. In a bracket, the combination with a supporting member, of a lamp-attaching member comprising a roughened ball end, a lamp engaging portion rigidly secured to said ball end and having a slot therein, and a lamp engaging portion pivotally secured to said first-mentioned lamp engaging portion and having a slot therein adapted to be brought into alinement with said first-mentioned slot.

973,320. WASHBOARD. CAROLINE BARD TOMPKINS, Jersey City, N. J., assignor of one-fourth to Leon Myles, Bayonne, N. J. Filed Sept. 10, 1909. Serial No. 517,007.

1. A wash-board divided transversely through the rubbing board and side-bars of the frame, thus forming two sections, and provided with means performing the double function of holding the two sections together in an operative position, and for holding said sections together in a compact form for economizing space when the wash-board is not in use.

2. A wash-board composed of two sections, the meeting ends of which are rabbeted, and means for securing such sections together.

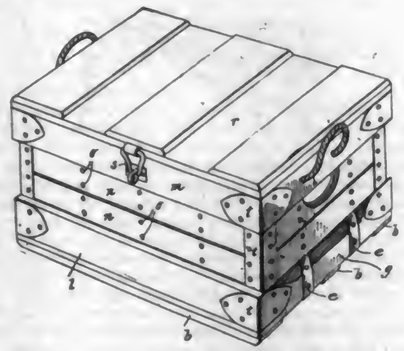


3. In a wash-board composed of two sections, the meeting ends of which are rabbeted, the combination of thumb-screws and clamping-plates by which means the two sections are secured together.

4. A wash-board comprising two sections, each having slotted side bars which are divisible and constructed with meeting ends that are similar and fit for the continuity of the side bars, and clamping means operative through the slots in the side bars and by which means the two sections of the board are held together.

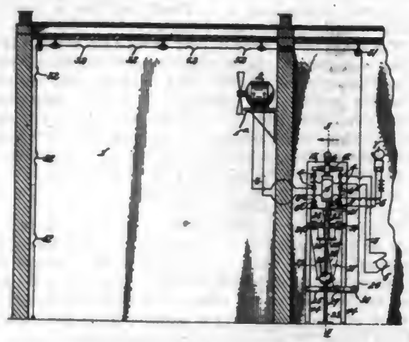
5. In a wash-board composed of two sections, the combination of slotted side-bars and clamping means operative through the slots in the side-bars and by means of which the two sections of the board are held together.

973,321. BOX. JOSEPH TORANGO, Portland, Oreg. Filed Oct. 2, 1909. Serial No. 520,720.



A box structure consisting of inner corner posts, a bottom attached thereto, end walls attached to the bottom and to the corner posts, side walls attached to the bottom and corner posts and each consisting of a top rail rabbeted along its inner face, a bottom rail similarly rabbeted, intermediate slats arranged in pairs, vertical metallic straps lying between the pairs of slats and having extremities lying in said rabbets, rivets passing through the pairs of slats and the intermediate metallic straps, and filling pieces or slats fastened in said rabbets and inclosing and sealing the extremities of the metallic straps.

973,322. THROW-OUT SWITCH. WILSON H. TUCKER and WILLIAM F. WADDELL, New York, N. Y. Filed Mar. 10, 1909. Serial No. 482,456.



1. In an automatic cut-out switch in combination, a switch bar, contact terminals of an electric circuit, and tension means tending to normally separate said switch bar from said terminals, a latch for retaining said switch bar in contact with said terminals, and thermally controlled means independent of said circuit for unlatching said switch bar comprising latch-disengaging means, a fuse wire or cable anchored at one end and at the other end maintaining said latch-disengaging means inactive, and a latch-engaging member, separate from said switch bar, latch-disengaging means and wire, and adapted to be actuated by said latch-disengaging means to unlatch said latch.

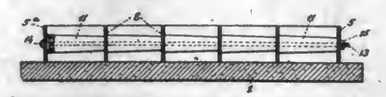
2. In an automatic cut-out switch in combination, a switch bar, contact terminals of an electric circuit and tension means tending to normally separate said switch bar from said terminals, a latch for retaining said switch bar in contact with said terminals, and thermally-controlled means for unlatching said switch bar comprising a latch-engaging member, a movable member adapted to strike against said latch-engaging member for giving movement thereto, a gravity member connected to said movable member for operating the same, and a fuse wire or cable anchored at one end and at the other end tending to pull said movable member downwardly against the action of said gravity member, said wire or cable being separate and distinct from said gravity member.

3. In an automatic cut-out switch in combination, a switch bar, contact terminals of an electric circuit and tension means tending to normally separate said switch bar from said terminals, a latch for retaining said switch bar in contact with said terminals, and thermally-controlled means for unlatching said switch bar comprising an impinging core having a base portion, a stationary guiding sleeve for said core and an adjustable abutment against which said base portion normally rests, a slidable member adapted to strike against said base portion for giving movement to said core, a gravity-member connected to said movable member operating the same, said gravity member being held in suspension by cables, said cables and connections having dispersed throughout their length one or more fuses.

4. In an automatic cut-out switch in combination, a switch bar, contact terminals of an electric circuit and tension means tending to normally separate said switch bar from said terminals, a latch for retaining said switch bar in contact with said terminals, and thermally-controlled means for unlatching said switch bar comprising a vertical guide sleeve arranged below said latch, and an impinging core slidable therein, provided with a button at its lower end and an adjustable abutment for supporting said button and core, a stationary guide rod arranged vertically in line with said core, and a striker slidably mounted thereon adapted to strike against said core button, a weighted member also slidably mounted in said rod below said sleeve and connected by cables and overhead pulleys to said sleeve operating the same upwardly, said cables and connections having dispersed throughout their length one or more heat fuses.

5. In an automatic cut-out switch in combination, a switch bar, contact terminals of an electric circuit and tension means tending to normally separate said switch bar from said terminals, a latch for retaining said switch bar in contact with said terminals, and thermally controlled means for unlatching said switch bar comprising an impinging core having a base portion, a stationary guiding sleeve for said core, a movable member adapted to strike against said base portion for giving movement to said core, and a gravity-member connected to said movable member operating the same, said cables and connections having dispersed throughout their length one or more fuses.

973,323. MOLD FOR MAKING HOLLOW BUILDING-BLOCKS. JACOB C. VREELAND, New York, N. Y. Filed Jan. 22, 1910. Serial No. 539,574.



1. A mold for making hollow blocks comprising walls, removable lateral partitions arranged to divide said mold into compartments and provided with an aperture, and a core having a recessed end located in each compartment and having its one end extending through the apertures in one of said partitions into the recessed end of the core in the next adjacent compartment.

2. A mold for making hollow blocks comprising walls, removable lateral partitions arranged to divide said mold into compartments and provided with an aperture, and a core having a recessed end located in each compartment and having its one end extending through the apertures in one of said partitions into the recessed end of the core in the next adjacent compartment, said cores being tapered toward one end.

3. A mold for making hollow blocks comprising walls, removable lateral partitions arranged to divide said mold into compartments and provided with an aperture and a core located in each compartment and having a recessed end and a reduced end portion, the reduced end of the core in one compartment extending through the aperture in one of said partitions into the recessed end of the core in the next adjacent compartment.

4. A mold for making hollow building blocks comprising walls, removable lateral partitions arranged to divide said mold into compartments and provided with an aperture, and a core located in each compartment and having a recessed end and a reduced end portion, the reduced end of the core in one compartment extending through the aperture in the one of said partitions into the recessed end of the core in the next adjacent compartment, said cores being tapered toward said reduced end portion.

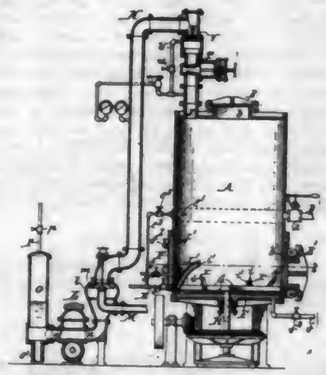
5. A mold for making hollow building blocks comprising walls, removable lateral partitions dividing said mold into compartments and provided with apertures, and a series of recessed cores in each compartment having a portion extending through the apertures in said partitions into the cores of the next adjacent compartment.

[Claims 6 to 10 not printed in the Gazette.]

973,324. RENDERING APPARATUS. CHARLES H. A. WANNENWETSCH, Buffalo, N. Y., assignor of one-half to Albert C. Lembke, Buffalo, N. Y. Filed Mar. 4, 1907. Serial No. 360,325.

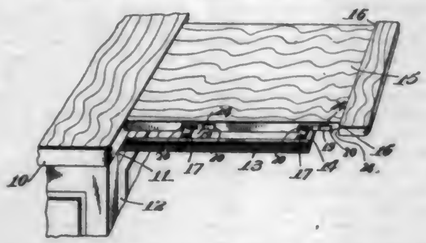
1. A rendering apparatus comprising a tank provided at its top with an inlet for the material to be treated and an outlet for the vapor, on its bottom with an outlet for the solid residue, and at its side with an outlet for the

grease, a stirrer arranged in the lower part of the tank, and a steam inlet nozzle arranged in the tank horizontally opposite the grease outlet.



2. A rendering apparatus comprising a tank, an agitator arranged in the lower part of the tank, a main vapor delivery pipe connected with the top of the tank, an exhausting device connected with the outlet of the main vapor pipe, a main valve arranged in the main vapor pipe, a check valve arranged in the main vapor pipe in rear of the main valve and adapted to close toward the tank and open away from the tank, a by-pass pipe connected at its front end with the main pipe in front of the main valve while its rear end is connected with the main pipe on that side of the check valve opposite to the main valve, and an auxiliary valve arranged in said by-pass pipe, substantially as set forth.

973,325. DESK. FREDERICK E. WARING, Worcester, Mass. Filed July 10, 1907, Serial No. 383,025. Renewed Apr. 21, 1910. Serial No. 556,810.



1. The combination with a desk having a drawer case provided with a space between it and the top of the desk, a slide or frame adapted to move horizontally along said space, an arm rest of substantially the same height as said frame and foldable within the same to occupy a position in the same plane, and a parallel motion connection between the slide and the arm-rest, whereby said arm-rest may be elevated to a horizontal position flush with the top of the desk when the slide is withdrawn.

2. The combination with a desk, of an open-centered frame horizontally slidable within the desk and having vertical side pieces, and an arm-rest of substantially the same height as said frame connected with said frame and adapted to be folded into the center thereof and entirely within the boundaries of said side pieces.

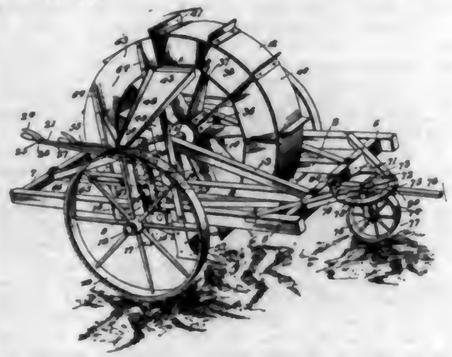
3. The combination with a desk having an opening, of an open-centered frame adapted to slide into said desk through the opening, an arm-rest of a height not greater than that of the frame, a plate at the rear of said frame connecting its opposite sides and extending upwardly therefrom so as to bear on the underside of the desk top and hold the frame in horizontal position when drawn out, and parallel motion connections between the frame and arm-rest by which the arm-rest is adapted to be folded into the open center of the frame to occupy a position entirely within and to be drawn out into a position parallel with the frame and above it.

4. The combination with a desk having an opening in a vertical wall thereof, of an open-centered frame adapted to slide horizontally into the desk through said opening and having vertical side pieces, an arm-rest, connections between the frame and arm-rest for folding the arm-rest entirely within the boundaries of the said side pieces and in said open center, and means for limiting the motion of said arm-rest when swung upwardly from the frame to such position as to bring the top of said arm-rest into the plane of the top of the desk.

5. The combination with a desk having an opening, of a slide or frame adapted to slide into the desk below the top through said opening, an arm-rest of substantially the same height as the slide and foldable within the slide, and means for connecting the arm-rest and slide to cause the elevation of the arm-rest to a position flush and parallel with the top of the desk when the frame is drawn out.

[Claims 6 and 7 not printed in the Gazette.]

973,326. ROTARY EXCAVATOR. EDWARD M. WARRENFELTZ, Funkstown, Md. Filed Jan. 10, 1910. Serial No. 537,282.



1. In a machine of the class described, a truck, an elevating device mounted for rotation in a vertical plane on the truck, a digging element for delivering earth to the elevating device, and means for raising and lowering said elevating device.

2. In a machine of the class described, a truck, an elevating device mounted for rotation in a vertical plane on the truck, a digging element for delivering earth to the elevating device, means for simultaneously raising and lowering the elevating device and digging element, and means for adjusting the digging element independently of said elevating device.

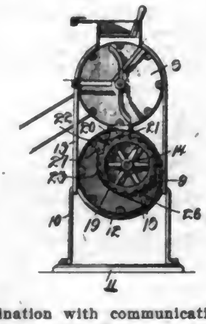
3. In a machine of the class described, a truck, a digging element, a chute, an elevating wheel for conveying the earth from the digging element to the chute, and means for raising and lowering the elevating wheel.

4. In a machine of the class described, a truck, a digging element, a chute, an elevating device mounted for rotation on the truck for conveying the earth from the digging element to the chute, means for simultaneously raising and lowering the digging element and elevating device, and means for adjusting the digging element vertically of the truck and independently of the elevating device.

5. In a machine of the class described, a truck, an elevating device having a series of load receiving compartments, a digging element for directing earth into the load receiving compartments, and means adapted to receive the load from said compartments and direct the same to a suitable point of discharge.

[Claims 6 to 20 not printed in the Gazette.]

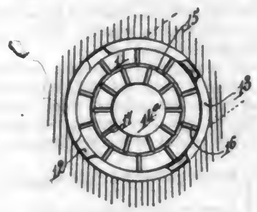
973,327. CRUSHER-MILL. JOHN WILLIAMS, Colt, Ark. Original application filed June 9, 1909, Serial No. 501,068. Divided and this application filed Dec. 4, 1909. Serial No. 531,326.



1. The combination with communicating cylinders, of a crusher roller eccentrically mounted in one cylinder, spring pressed means acting upon said crusher roller, a flexible foraminous plate partly surrounding and contacting with the crusher roller, said plates being fixed within the last mentioned cylinder to separate fluid and solid matter from each other, and means detachably supporting the cylinders within working relation to each other.

2. In a machine of the class described, a cylinder, a flexible concaved foraminous plate within the cylinder for dividing the same into independent compartments, the said cylinder being provided with side and end outlets communicating with said compartments respectively, a rotatable crusher roller eccentrically mounted in one compartment contiguous the foraminous plate whereby solid and juicy substances may be acted upon for their separation and delivery independently of each other to the compartments, and presser means disposed within the cylinder adjacent to said crusher roller to force the material against the crusher roller.

973,328. EMULSIFIER. JOSEPH WILLMANN, Derby, Conn. Filed Apr. 2, 1910. Serial No. 553,113.

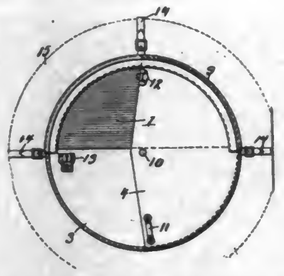


1. An emulsifying or homogenizing device comprising a casing having a passage for conducting a flowing body of liquid and also having a bore communicating therewith, a set of centrally apertured disks assembled in said bore, each disk having a face formed with a circumferentially extending groove, and sets of inner and outer radially extending grooves arranged in alternating relation, the radial grooves of one set communicating with said circumferential groove at points equidistantly between the points where the other set of radial grooves communicate with said circumferential groove, and means for maintaining a positive compression upon the assembled disks to cause the liquid to flow solely through said grooves in the faces of the disks.

2. An emulsifying or homogenizing device embodying a casing provided with a passage for conducting a flowing body of liquid and also having a cylindrical bore communicating with said passage, a set of disks assembled in superposed relation in said bore, each disk having an inner aperture for the passage of liquid and also having intimately engaging faces, a face of each disk being formed with a circumferentially extending groove and sets of inner and outer radially extending grooves arranged in alternating relation, the radial grooves of one set communicating with said circumferential groove at points equidistantly between the points where the other set of radial grooves communicate with said circumferential groove, said grooves constituting the sole means of communication for the liquid between said bore of the casing and the inner apertures of the disks, the major portion of each disk being smaller in diameter than said bore in the casing and having a plurality of circumferentially spaced bosses which coöperate with the wall of said bore and thereby center and position the disks in proper relation to one another within the bore, and means for maintaining a positive compression upon the assembled disks to cause a flow of liquid solely through the grooves in their faces.

3. An emulsifying or homogenizing device comprising a casing provided with a passage for conducting a flowing body of liquid and also having a cylindrical bore communicating with said passage, a bushing formed separately from the casing and removably threaded therein at one end of said bore and in axial alinement therewith, a set of disks assembled in said bore, each disk having an inner aperture for the passage of the liquid and also having inter-communicating radial and circumferential passages formed in its face for conducting liquid between said bore and said inner aperture, the major portion of each disk being less in diameter than that of the bore, each disk having a set of circumferentially spaced bosses which fit closely within and coöperate with the walls of said bore to center and maintain the assembled disks in proper operative relation, and means acting upon the assembled disks to positively maintain their faces in intimate relation to cause the liquid to flow solely through said passages.

973,329. AUTOMOBILE-TIRE TRUNK. SAMUEL WOHLFELD, Philadelphia, Pa. Filed Oct. 1, 1909. Serial No. 520,451.

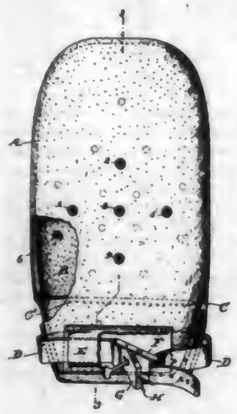


1. A tire trunk comprising a circular rim, a back secured to the rear edge of the rim and closing the same, a front of approximately semicircular form secured to the lower front edge of the rim, an arch in the plane of the front secured to the inner wall of the upper front portion of the rim a short distance from the forward edge thereof, an arch-shaped flap secured to the front edge of the rim opposite the said arch and spaced from the latter, and a closure pivoted to the outer side of the said front and adapted to operate in the space formed between the said arch and flap, the lower portion of the closure overlapping the upper edge portion of the front when said closure occupies a position to cover the opening in the upper front portion of the trunk.

2. A tire trunk comprising a circular rim of flexible material, a back of stiff material secured to the rear edge of the rim and closing the latter, a binder secured to the adjacent edge portions of the back and rim and overlapping the joint formed between them, a front of stiff material of approximately semicircular form secured to the lower front edge of the rim, a binder attached to the ad-

jacent edge portions of the front and rim and covering the joint formed between them, an arch in the plane of the front secured to the inner wall of the upper front portion of the rim a short distance from the forward edge thereof, an arch-shaped flap secured to the front edge of the rim opposite said arch and spaced from the latter, a binder secured to the edge portions of said flap and rim and extending over the joint formed between them, and a closure pivoted to the outer side of said front and adapted to operate in the space formed between the said arch and flap, the lower portion of the closure overlapping the upper edge portion of the front when said closure occupies a position to cover the opening in the upper front portion of the trunk.

973,330. MITTEN. HENRY A. WOOD, Port Dickinson, N. Y., assignor of one-half to Ira A. Hix, Binghamton, N. Y. Filed Aug. 23, 1909. Serial No. 514,329.



1. In a mitten of the character described, the combination with a stiff casing, of a flexible casing secured therein, both of said casings having suitably reinforced ventilating openings formed therein, supplemental stiff casings secured to the wrist portion of the mitten and projecting therefrom to provide a loop, a strap passing around the wrist of the device, a buckle carried by one end of the strap and having a tongue adapted to engage the other end of the strap, and locking lugs adapted to be forced out from the tongue to engage the sides of the buckle to lock the tongue in position, the strap being adapted to slide on the wrist to bring the buckle when locked beneath one of the supplemental casings to protect said buckle.

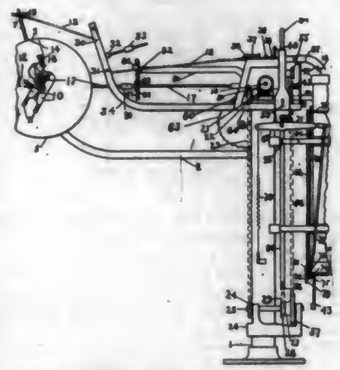
2. In a mitten a palm piece and secured thereto a backing both composed of stiff material, the palm piece and back having eyelet holes or openings through the same and mounted within said mitten a loose inner mitten secured at its lower edge to the inner side of the outer mitten, said loose inner mitten having apertures therein; a strap mounted about the wrist of the outer mitten by passing through loops attached to the outer mitten wrist, a buckle carried by one end of the strap, and a locking device carried by the buckle for securing the tongue thereof in engagement with the free end of the strap.

3. In combination with a flexible hand receiving pouch, a stiff casing therefor, and means for locking the device in position on the wearer and a second casing secured to the main casing and projecting therefrom and adapted to receive the lock therein to conceal and protect the same.

4. In a device of the character described, the combination with a flexible hand receiving pouch, of a stiff casing therefor, and means for locking the device in position on the wearer, there being a series of ventilating openings formed in the pouch and casing.

5. In a device of the character described, the combination with a flexible hand receiving pouch, of a stiff casing therefor, means providing for the ventilation of the device, means for locking the device in position upon the wearer, and means for concealing and protecting the lock.

973,331. MATERIAL-HANDLING MECHANISM. HARRY ZIMMERMAN, Fremont, Ohio, assignor to The Fremont Mitten and Glove Company, Fremont, Ohio, a Corporation of Ohio. Filed Mar. 10, 1909. Serial No. 482,584.



1. A material handling mechanism embodying a supply carrier, a pay out device therefrom, a tension regulator, a reverse travel lock, a feed device, a cutter, a material holder for the cutter, a receiver for the cut material, and a counting device for dumping the receiver.

2. A material handling mechanism embodying a rotary intermittently effective feed device, there being a fixed bearing for the device limiting its movement to rotation, a holder locking the material during the intermissions of the feeding, and a cutter for severing the material while held by the holder.

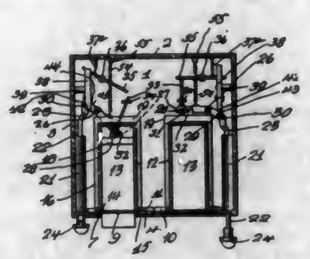
3. A material handling mechanism embodying a freely movable supply carrier, a cutter for acting upon the material supplied from the carrier, and a pay out device intermittently removing material from the carrier for the cutter.

4. A material handling mechanism embodying a reciprocable pay out device and a tension device regulating the feeding of the material paid out.

5. A material handling mechanism embodying a way for receiving material to be severed, an intermittent feed device effecting travel of material along the way, a holding element for the material during the intermissions of the feeding, and a rotary cutter reciprocable to sever the held material.

[Claims 6 to 16 not printed in the Gazette.]

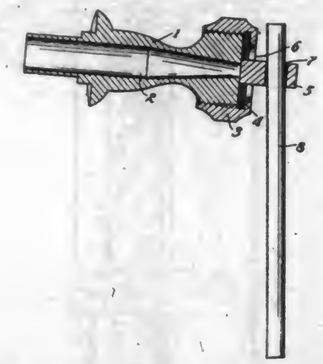
973,332. VENDING-MACHINE. WILLIAM F. ABLETT, Pittsburg, Pa. Filed Apr. 14, 1910. Serial No. 555,344.



1. In a vending machine, the combination with a casing having the front wall thereof provided with a slot, a hinged lid carried by said casing, a shell arranged within said casing and providing a compartment for articles adapted to be ejected through the slot of said casing, a cross-head movably mounted in said shell and adapted to move articles into the slot of said casing, an angle lever slidingly pivoted adjacent one end thereof to said cross head, a plunger extending into said casing and slidingly pivoted to said lever at the opposite end of the lever, a vertically fulcrumed arm arranged within said casing and adapted to lock said lever against movement by said plunger, and a horizontally fulcrumed arm arranged within said casing and adapted to move the last mentioned arm into locking position.

2. In a vending machine, the combination with a casing having the front wall thereof provided with a slot, a hinged lid carried by said casing, a shell arranged within said casing and providing a compartment for articles adapted to be ejected through the slot of said casing, a cross-head movably mounted in said shell and adapted to move articles into the slot of said casing, an angle lever slidingly pivoted adjacent one end thereof to said cross head, a plunger extending into said casing and slidingly pivoted to said lever at the opposite end of the lever, a vertically fulcrumed arm arranged within said casing and adapted to lock said lever against movement by said plunger, a horizontally fulcrumed arm arranged within said casing and adapted to move the last mentioned arm into locking position, a rod pivoted to the lever at a point adjacent one end thereof and the point of pivotal connection of the lever with the cross-head, a bearing bracket carried by the casing, said rod slidable through said bearing and an end thereof adapted to slidably contact the side of the horizontal arm, a means for releasing said locking arm, and means within said casing adapted to restore said lever, plunger, horizontal arm and cross-head to their normal positions.

973,333. NOZZLE FOR FIRE-EXTINGUISHERS. ABELINA C. ASZMAN, Chicago, Ill. Filed Jan. 17, 1910. Serial No. 538,487.



1. A seal of the class described, comprising a thin disk of relatively weak material and a stem of relatively strong material extending through said disk and adapted to be withdrawn for perforating the disk.

2. A seal of the class described, comprising a thin disk of relatively weak material and a stem formed integrally with the disk of relatively strong material extending through said disk and adapted to be withdrawn for perforating the disk.

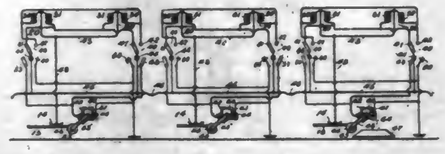
3. A seal of the class described, comprising a thin disk of relatively weak material and a stem of relatively strong material extending through said disk and adapted to be withdrawn for perforating the disk, said stem having an eye at its free end to facilitate its withdrawal.

4. A seal of the class described, comprising a disk, a core extending through said disk and secured thereto so as to prevent the separation of said core and disk without distortion of the disk, said core projecting beyond the face of the disk to provide means for pulling said core away from said disk.

5. A device of the class described, comprising a nozzle, a seal adapted to serve as a closure therefor, an end member removably engaging said nozzle for securing said seal in position to obstruct the outlet of said nozzle, said member having therein an aperture, and a stem on said seal protruding outwardly through said aperture and adapted to distort said seal and open the nozzle when said stem is pulled through said aperture.

[Claims 6 to 10 not printed in the Gazette.]

973,334. INDICATOR FOR CARS. WILLIAM D. BALDWIN, New York, and AUGUST SUNDH, Yonkers, N. Y. Filed Jan. 16, 1905. Serial No. 241,327.



1. The combination with a plurality of cars, of one or more movable indicators for each car, each indicator bearing the names or numbers of the stations in successive order, a normally open circuit, electro-mechanical means in multiple in said circuit for actuating the said indicators, the said circuit comprising a single conductor extending through the cars and constituting a common return for the said circuit, a circuit-closer arranged to be automatically operated in advance of the cars reaching the station which is to be indicated, and one or more switches carried by each car to determine the direction of movement of the indicators.

2. The combination with a plurality of cars, of a movable station indicator carried on each car, two magnets for each indicator, an electric circuit, a reversing switch on each car for alternately connecting together in multiple in said circuit one set of electro-magnets including one electro-magnet for each indicator to actuate the latter in one direction, a plurality of devices, one connected with each of the remaining magnets to operate the respective indicators in the other direction, automatic means for closing the circuit to actuate whichever set of magnets is connected in the circuit, and additional manual means for closing said circuit.

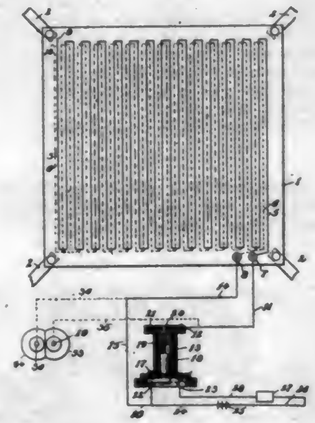
3. The combination with a plurality of cars, of an indicator for each car, electro-mechanical devices for actuating such indicators in one direction, additional electro-mechanical devices for actuating the indicators in the reverse direction, an electric circuit in which said devices are included, a reversing switch on each car, and an automatic circuit-closer for each car.

4. The combination with a plurality of cars, of one or more indicators for each car, electro-mechanical devices arranged in pairs to actuate each indicator, an electric circuit running through the cars and connecting one of the actuating devices of each pair in multiple, the said circuit comprising a common return for all the actuating devices, and means for opening and closing the said circuit to cause the indicators to be actuated from a selected point.

5. The combination with a plurality of cars, of indicators for each car, electro-mechanical devices to actuate each indicator in opposite directions, an electric circuit including the electro-mechanical devices, a train wire for completing such circuit through the train of cars, and a circuit-closer for each car for effecting the simultaneous operation of all of the indicators in one direction.

[Claims 6 to 9 not printed in the Gazette.]

973,335. AUTOMATIC STOP MECHANISM. CHARLES S. BATDORF, Brooklyn, N. Y., assignor to Automatic Coin-Wrapping Machine Company, New York, N. Y., a Corporation of New York. Filed Oct. 19, 1908. Serial No. 458,563.



1. An automatic stop mechanism for electric power driven machines, comprising a power circuit and electrical connections controlling said power circuit, said connections being so arranged adjacent the machine that displacement of an article or articles of conductive character being operated upon thereby and the lodging thereof across said connections will serve to close said connections and open the power circuit.

2. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a make-and-break device in said circuit, a normally open auxiliary circuit controlling said make-and-break device, and a plurality of terminals in said auxiliary circuit so arranged adjacent said machine that displacement of an article or articles of conductive character being operated upon by said machine and lodgment thereof across said terminals will serve to close said auxiliary circuit and open the power circuit.

3. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a make-and-break device in said circuit, a plurality of normally open auxiliary circuits controlling said make-and-break device, the terminals of each of said auxiliary circuits being arranged in pairs and adjacent different parts of said machine respectively, whereby the displacement of an article or articles of conductive character being operated upon by said machine and lodgment thereof across a pair of said terminals will serve to close one or more of said auxiliary circuits and open the power circuit.

4. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a switch in said circuit, a solenoid controlling said switch, a normally open auxiliary circuit for said solenoid, the terminals of said auxiliary circuit being so arranged adjacent said machine that the displacement of an article or articles of conductive character being operated upon thereby and lodgment thereof across said terminals will serve to close said auxiliary circuit and operate the switch.

5. An automatic stop mechanism for electric power driven machines, comprising a power circuit, a make-and-break device in said circuit, a normally open auxiliary circuit controlling said make-and-break device, said auxiliary circuit comprising a pair of wires traversing adjacent paths throughout the area beneath said machine whereby the displacement of an article or articles of conductive character being operated upon by said machine and lodgment thereof across said pair of wires will serve to close said auxiliary circuit and operate said make-and-break device.

[Claims 6 to 16 not printed in the Gazette.]

973,336. METHOD OF PRODUCING METAL SALTS AND METALS. JOHN WOODS BECKMAN, Niagara Falls, Ontario, Canada. Filed May 7, 1910. Serial No. 559,969.

1. The herein described method of obtaining a metal from a compound thereof, which consists in forming a calcium salt of the metal and electrolyzing such salt in a fused condition, with a compound of the metal present in the fused bath, substantially as described.

2. The herein described method of obtaining a metal from a compound thereof, which consists in heating an oxid of the metal with calcium oxid in an electric furnace to thereby form a calcium salt of the metal, adding oxid of metal to the fused bath, and electrolyzing the bath in a state of fusion, substantially as described.

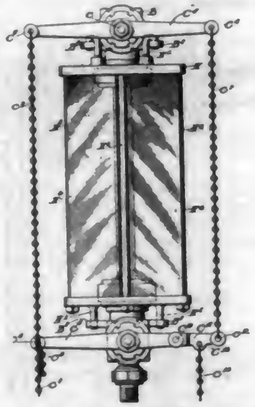
3. The herein described method of obtaining a metal from a compound thereof, which consists in heating an oxid of the metal with a calcium compound in an electric furnace to thereby produce a calcium salt of the metal, maintaining such salt in a state of fusion in the furnace, supplying additional compound of the metal, and electrolyzing the fused salt, substantially as described.

4. The herein described method of obtaining a metal from an impure oxid thereof, which consists in forming a calcium salt of the metal and electrolyzing such salt in a fused condition, with oxid of the metal added to the fused bath, substantially as described.

5. The herein described method of obtaining a metal from an oxid thereof, which consists in heating an oxid of the metal with calcium oxid in an electric furnace to thereby form a calcium salt of the metal, adding oxid of metal to the fused bath, and electrolyzing the bath in a state of fusion, substantially as described.

[Claim 6 not printed in the Gazette.]

973,337. BOILER WATER-GLASS. LAMBERT J. BORDO, Philadelphia, Pa. Filed July 6, 1907. Serial No. 382,471.



1. A water level indicator for boilers, comprising a glass barrel, valve casings for connecting the top and bottom ends of the glass barrel to the boiler, a valve in each valve casing having a spindle projecting through the casing, an arm secured to said spindle without the casing whereby the valve may be rotated to open and close it, means for preventing the rotation of each valve in the valve closing direction after the valve is closed, a link having one end pivoted to one of said arms, a member pivotally connected to the other end of the link and pivotally connected to the other arm, and an operating connection engaging the link between its two ends.
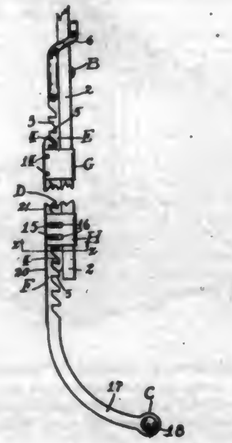
2. A water level indicator for boilers comprising a glass barrel, valve casings for connecting the top and bottom ends of the glass barrel to the boiler, a valve in each valve casing having a spindle or stem in threaded engagement with the valve casing, and an arm secured to the outer end of each spindle, a link having one end pivoted to one of said arms, a member pivotally connected to the other end of the link and pivotally connected to the arm of the other valve, and an operating connection engaging the link between its two ends.

3. A water level indicator for boilers comprising a glass barrel, valve casings for connecting the top and bottom ends of the glass barrel to the boiler, a valve in each casing having a stem or spindle in threaded engagement with the valve casing, arms extending in opposite directions from each spindle, one arm from one spindle having a link pivoted to it, a member pivotally connected to the other end of the link and the corresponding arm of the other valve, a pull connection for closing the valves engaging the link between its two ends, and a pull connection for opening the two valves having a flexible connection to the other arm of each of the two valves.

4. A water level indicator for boilers comprising a glass barrel, valve casings for connecting the top and bottom ends of the glass barrel to the boiler, a manually controlled valve in each valve casing, a transparent shield for the glass barrel comprising a framework and plates of glass supported by said framework and meeting at an angle to inclose the glass barrel in front and at its sides, and perforated parts carried by the valve casings, and projections extending from the shield framework by which the shield may be detachably secured in place.

5. A water level indicator for boilers comprising a glass barrel, valve casings for connecting the top and bottom ends of the glass barrel to the boiler, each valve casing being provided with a perforated ear B^3 and a transparent shield for the glass barrel comprising top and bottom frames H provided with slots H^2 and rod H^3 connecting the frames H, glass plates having their top and bottom edges received in said slots H^2 and meeting at an angle, corrugated resilient strips in the slots extending between the edges of the glass plates and the bottom wall of the slots and projections H^1 secured to the frame and arranged to be detachably received by the perforations in the ears B^3.

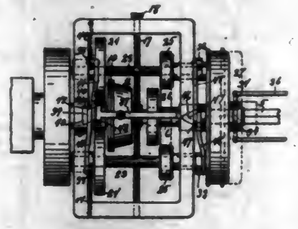
973,338. HAME DRAFT-LINK. JULIUS D. BRAINARD, St. Paul, Minn., assignor of one-half to Frederick E. Stivers, St. Paul, Minn.; Frederick G. Bradbury administrator of said Julius D. Brainard, deceased. Filed Dec. 30, 1907. Serial No. 408,509.



1. A device of the class set forth, comprising, a buckle provided with a rack, a hame attachment also provided with a rack the teeth of which are adapted to engage with the teeth on said buckle and a pair of clips passing closely over a tug one of said clips being rigidly secured to the hame rack and the other loosely secured to the buckle rack.

2. A device of the class set forth, comprising a buckle, having a rack, a hame attachment also having a rack, said racks having intermeshing teeth, and a clip loosely attached to said buckle rack, for the purposes specified.

973,339. TRANSMISSION MECHANISM. JOHN W. BREYFOGLE, Rochester, N. Y., assignor to Gearless Transmission Co., Rochester, N. Y., a Corporation of New York. Filed June 8, 1906. Serial No. 320,701.



1. In a transmission mechanism, the combination with the motor shaft, of the driven shaft, means for coupling said shafts to drive them in unison and for disconnecting said shafts to enable them to rotate independently, a friction wheel on the driven shaft having opposed friction surfaces, a counter shaft receiving power from the motor shaft, lying parallel therewith and movable transversely, a wheel on said transversely movable shaft and means for moving said shaft to carry said wheel into engagement with either of the friction surfaces of the wheel on the driven shaft to drive said wheel and shaft in opposite directions at variable speeds.

2. In a transmission mechanism, the combination of the motor and driven shafts, in axial alinement, means for directly connecting said shafts, a counter shaft receiving power from the motor shaft, a friction wheel on the driven shaft having friction surfaces of different diameters, a friction wheel on the counter shaft adapted to engage either of said surfaces and means for moving the counter shaft to carry the friction wheel thereon into frictional contact with either of the friction surfaces of the wheel on the driven shaft.

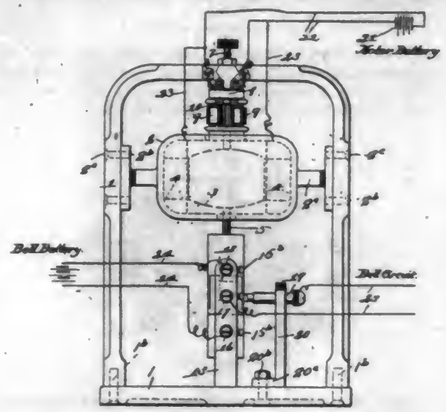
3. In a transmission mechanism, the combination of the motor and driven shafts, a counter shaft receiving power from the motor shaft, a friction wheel on the driven shaft having friction surfaces of different diameters, a friction wheel on the counter shaft adapted to engage either of said surfaces, means for moving the countershaft to carry the friction wheel thereon into frictional contact with either of the friction surfaces of the wheel on the driven shaft, and means for coupling said motor and driven shafts to cause them to turn in unison.

4. In a transmission mechanism, the combination of the motor and driven shafts, a counter shaft receiving power from the motor shaft, a friction wheel on the driven shaft, means for imparting power from the counter shaft directly to said friction wheel to turn said wheel in opposite directions at variable speeds, means for disconnecting the counter shaft from the friction wheel on the driven shaft, and means for coupling the driven and motor shafts to cause them to turn in unison.

5. In a transmission mechanism, the combination with the motor and driven shafts, of a counter shaft receiving power from the motor shaft, two friction wheels on the driven shaft slidable in unison thereon, one having opposed friction surfaces, a friction wheel on the counter shaft engageable with either of said friction surfaces, a second friction wheel on the counter shaft adapted to engage the periphery of the other of said slidable wheels on the driven shaft, means for sliding said friction wheels in unison, and means for effecting frictional contact between the wheels on the counter shaft and the friction surfaces of the slidable wheels on the driven shaft.

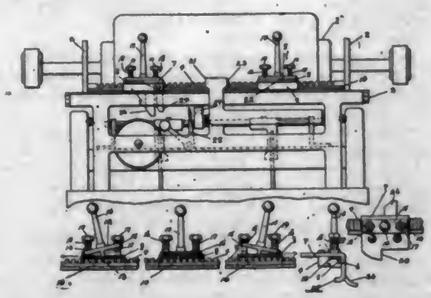
[Claims 6 to 10 not printed in the Gazette.]

973,340. RINGING-MACHINE. JAMES E. BURGE, Lincoln, Nebr Filed Dec. 6, 1907. Serial No. 405,398.



A frame structure for pole changers, comprising a horizontal base, an inverted U-shaped member secured at its ends to the base, a bearing member threadedly secured to the base, a bolt secured to the cross piece of the U-shaped member in vertical alinement with the bearing, a motor casing, arms secured to the ends of the motor casing and extending in opposite directions therefrom, attaching flanges secured to the ends of the arms and secured to the sides of the U-shaped member, and vertically disposed brush supporting standards, each standard being provided with a horizontally disposed attaching flange secured to the base.

973,341. TYPE-WRITING MACHINE. LEE S. BURRIDGE, New York, N. Y. Filed Feb. 15, 1908. Serial No. 416,000.



1. The combination with a rack, of a member to be adjusted along the rack, studs mounted upon said member, a bar loosely mounted upon said studs to move endwise thereof and having a rack-engaging dog between said studs, a handle connected to the bar to rock either end thereof away from the rack to disengage the dog, and yielding means to restore the bar and dog, said yielding means including compression springs coiled around the studs and bearing upon the ends of the bar.

2. The combination with a rack, of a member to be adjusted along the rack, tapering studs upon said member and having caps, a bar loosely mounted upon said studs to move endwise thereof and having a rack-engaging dog between said studs, a handle projecting from the bar to rock either end thereof away from the rack to disengage the dog, and springs compressed between the caps and the ends of the bar.

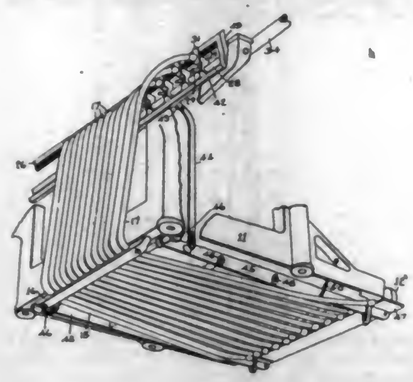
3. The combination with a rack, of a member adjustable along the rack, a T-lever movable in either direction from normal position, and comprising a bar and a handle projecting therefrom, said bar connected to the adjustable member to move therewith along said rack and having a dog normally engaging the rack, supports for the ends of the bar, constituting fulcrums toward either of which the handle may press the bar to lift its other end away from the rack, to withdraw the dog from the rack, and a spring at each end of the bar to press the same toward the rack.

4. The combination with a rack, of a member adjustable along the rack, a T-lever movable in either direction from normal position, and comprising a bar and a handle projecting therefrom, said bar connected to the adjustable member to move therewith along said rack and having a dog normally engaging the rack, supports for the ends of the bar, constituting fulcrums toward either of which the handle may press the bar to lift its other end away from the rack, to withdraw the dog from the rack, said adjustable member comprising a plate-portion which covers the teeth of the rack, and a spring normally pressing said bar upon said plate portion.

5. The combination with a rack, of a member adjustable along the rack, a T-lever movable in either direction from normal position, and comprising a bar and a handle projecting therefrom, said bar connected to the adjustable member to move therewith along said rack and having a dog normally engaging the rack, supports for the ends of the bar, constituting fulcrums toward either of which the handle may press the bar to lift its other end away from the rack, to withdraw the dog from the rack, said adjustable member comprising a plate-portion which covers the teeth of the rack, and a spring normally pressing said bar upon said plate portion, said dog extending through a perforation in said plate portion to engage the teeth of the rack.

[Claims 6 to 8 not printed in the Gazette.]

973,342. TYPE-WRITING MACHINE. THOMAS J. COO, Toronto, Ontario, Canada, assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 10, 1909. Serial No. 477,118.



1. In a typewriting machine, a tabulating mechanism comprising a series of adjustable stops and pneumatic keys or means connected by flexible connections to said stops to enable the operator to set any stop independently of the others.

2. In a typewriting machine, a tabulating mechanism comprising a pneumatically operable adjustable stop, a pneumatic key, and a tube or conduit extending from the key to the stop and having a portion flexible to accommodate the adjustment of the stop.

3. In a typewriting machine, a tabulating mechanism comprising a series of adjustable pneumatically operable stops, a series of pneumatic keys arranged at the keyboard of the typewriter, and tubes extending from the keys to the stops to enable any key to set its stop independently of the others, said tubes having flexible construction to accommodate the adjustment of the stops.

4. In a typewriting machine, the combination with a carriage and a set of column stops, each adjustable independently of the others, of a set of column-stop keys, individual pneumatic connections between the keys and the stops, to enable any key to set its stop independently of the others, and a stop to coöperate with any of said column stops to arrest the carriage; said pneumatic connections being flexible to accommodate the adjustment of the stops.

5. In a typewriting machine, the combination with a carriage, of a tabulating mechanism comprising a pneumatically operable stop, a carrier on which said stop is mounted, a pneumatic key, and a tube or conduit extending from the key to the carrier, to enable the key to set the stop, said carrier movable in the direction of travel of the carriage, and said tube or conduit flexible to permit such movement.

[Claims 6 to 19 not printed in the Gazette.]

973,343. DENTURE. JOHN C. CORCORAN, St. Paul, Minn. Filed June 29, 1909. Serial No. 505,051.



1. In a denture of the class described, an anchor root, a cap inclosing the outer end of said root and formed with a central outwardly extending abutment, a crown having a bottom inset shaped to receive said abutment, and securing means extending through the inset portion of said crown and into said abutment.

2. In a denture of the class described, an anchor root, a cap inclosing the outer end of said root and an abutment exteriorly carried by said cap, a crown having a bottom inset shaped to receive said abutment, means forming a structural part of said abutment and crown for preventing rotation of one upon the other and securing means extending through the inset portion of said crown and into said abutment.

3. In a denture of the class described, an anchor root, a cap inclosing the outer end of said root, a rectangular abutment exteriorly carried by said cap, said abutment being formed with a threaded opening, a crown having a bottom inset shaped to receive said abutment, and securing means extending through the inset portion of said crown and into said abutment.

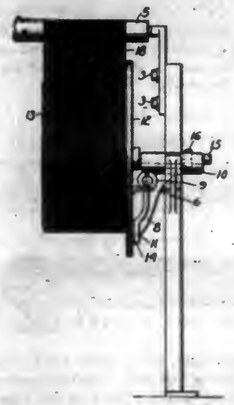
973,344. LET-OFF MECHANISM FOR LOOMS. JOHN V. CUNNIFF, Fall River, Mass., assignor to William F. Draper, Hopedale, Mass.; Clare H. Draper and Oliver H. Lane executors of said William F. Draper, deceased. Filed Sept. 7, 1909. Serial No. 516,507.

1. In a friction let-off mechanism for looms, the combination of a warp beam, and a frictional retarding device to automatically govern the rotative movement of the warp beam in proportion to the weight thereof and comprising a lever pivoted between its ends to form two arms, one having a bearing portion to sustain the warp beam and the other arm of said lever having a portion to engage the beam.

2. In a friction let-off mechanism for looms, the combination of a warp beam, a lever pivoted between its ends and having one arm extending from its fulcrum to sustain the warp beam, and another arm extending from the fulcrum in another direction and carrying a member bearing directly upon the warp beam to control the rotative movement of the warp beam according to the weight thereof sustained by the first mentioned arm.

3. In a friction let-off mechanism for looms, the combination of a warp beam, and a lever fulcrumed between its ends on the loom frame and having two arms, one to support the warp beam and the other extending from the fulcrum in a different direction and provided with a friction pad to engage the head of the warp beam and govern the rotative movement of the beam in proportion to its weight.

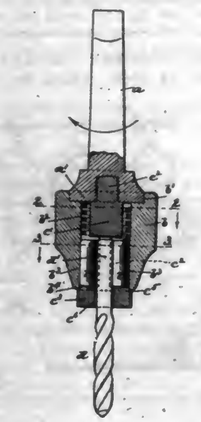
4. In a friction let-off mechanism for looms, the combination of a warp beam, a lever fulcrumed on the loom frame and having one arm for sustaining the warp beam, means for adjusting the point of support of the warp beam on said arm, and another arm acting directly upon the head of the warp beam to govern its rotation in proportion to the effective weight of the warp beam.



5. In a friction let-off mechanism for looms, the combination of a warp beam having journals, a lever fulcrumed between its ends on the loom frame and having a bearing arm to sustain a journal of the warp beam, and another arm acting on the warp beam to govern the rotative movement of the warp beam in proportion to the effective weight sustained by the bearing arm, and means for adjusting the point of support of said journal on the bearing arm.

[Claims 6 to 9 not printed in the Gazette.]

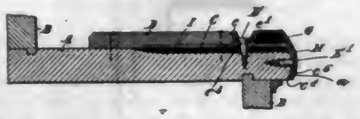
973,345. DRILL-CHUCK. JOSEPH A. DALTON, Pawtucket, R. I., assignor of one-half to Peter J. Quinn, Pawtucket, R. I. Filed Jan. 6, 1910. Serial No. 536,670.



In a tool of the class described, the combination of a stock having an integral collar which is provided with a

screw-threaded aperture; a body having a circular recess to receive the stock-collar and said body having an opening extending from its recess, the upper part of said opening in the form of a circular chamber, and the lower part of said opening arranged to dispose three cam bearing surfaces; a cylindrical roller mounted on each cam surface; a cylindrical supporting member having a shank which is reduced to form a screw-threaded portion to engage in the threaded aperture of the stock-collar, said member having three legs depending from its shank and which legs terminate with a circular head having a reduced portion to fit a bore formed in the front face of the tool-body, and said member provided with an opening formed in its head to receive the drill-shank; and a coil spring in the chamber of the tool-body and surrounding the shank of the supporting member, and said spring having one end attached to the latter and its other end attached to said tool-body.

973,346. SAFETY-TREAD FOR STAIRS AND STEPS. AUGUSTIN I. DAVIS, Lowell, Mass., assignor to American Mason Safety Tread Company, Saco, Me., a Corporation of Maine. Filed Nov. 3, 1908. Serial No. 460,927.

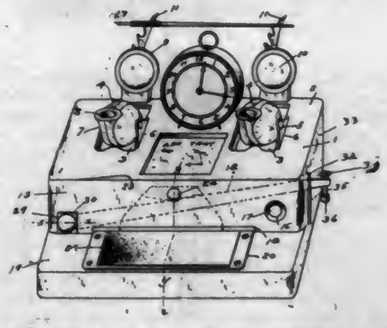


1. The combination of a sheet-metal base having an upwardly extending fold and a nosing secured to said base and extening downward in front of the tread of a step or stair and upward as high as the top of said fold, to form with said fold and the intervening portion of said base a continuous dovetail groove for the reception of anti-slipping material.

2. The combination of a sheet-metal base having an upwardly extending fold and a nosing-piece of different material secured thereto and arranged and adapted to form with said fold and the intervening portion of the base, a continuous dovetail groove for the reception of non-slipping material.

3. The combination of a sheet-metal base having an upwardly extending fold, a nosing secured to said base and extending upward as high as the top of said fold, to form with said fold and the intervening portion of said base, a continuous dovetail groove for the reception of anti-slipping material and a mat arranged on said base, said base being provided with holes through which tacks may be driven to secure said mat in place.

973,347. ENVELOP-OPENER. HENRY J. EVON, Chicago, Ill. Filed Sept. 14, 1908. Serial No. 452,918.

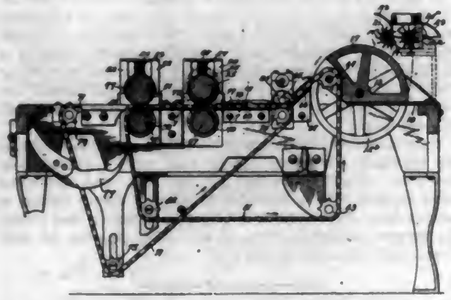


1. In a device of the character described, a frame adapted to rest on a desk comprising top, bottom, front and end walls forming a chamber open at the rear for the reception of clippings, a lever having a shearing edge pivoted to the front wall within the chamber, the front wall having a slot adapted for the insertion of letters to be opened, a shelf adapted to support a letter projecting forwardly from the front wall below the slot, a member secured to the frame provided with a shearing edge adapted to coöperate with the shearing edge of the lever to open a letter, a stop secured to the frame behind the lever and adapted to limit the distance which a letter can be inserted, the end wall having a slot, the free end of the lever projecting through and working in the slot, and a cushioned stop secured to the free end of the lever adapted to limit its downward movement by coming in contact with the desk, substantially as described.

2. In a device of the character described, a frame, a lever pivoted to said frame, said lever having a shearing edge, a member having a shearing edge adapted to coöperate with the shearing edge of the lever to open a letter, the pivoted end of the lever being bent to form a housing having upper and side walls, the upper wall being provided with a slot and a U-shaped spring contained within the housing adapted to maintain the lever in a raised position, one end of the spring being bent and inserted through the slot in the housing, substantially as described.

3. In a device of the character described, a frame adapted to rest on a desk, a lever pivoted to said frame, said lever having a shearing edge, a member having a shearing edge adapted to coöperate with the shearing edge of the lever to open a letter, the free end of said lever being provided with a cushioned stop adapted to limit the downward movement of the lever by coming in contact with the desk, substantially as described.

973,348. MACHINE FOR CLEANING INTESTINES. ERWIN O. FREUND, Chicago, Ill., assignor to Gustav Freund, Chicago, Ill. Filed June 3, 1910. Serial No. 564,845.



1. An intestine cleaning machine, having in combination, a rotary drum, coöperating scrapers, a carrier, and an engaging device on said carrier adapted automatically to be brought into position to engage the intestine on said drum and forward the same away from said drum.

2. An intestine cleaning machine, including in combination, a drum consisting of two separate portions spaced apart, scrapers adapted to coöperate with said drum, a traveling chain passing between said members of said drum, and an engaging member carried by said traveling chain and adapted as it emerges from said drum to automatically be brought into engaging position and adapted to engage the intestine on said drum and forward the same away from said drum.

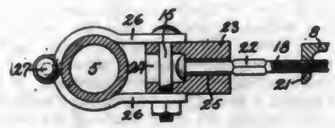
3. An intestine cleaning machine, including in combination, a rotary drum, coöperating scrapers, coöperating forwarding rollers, a traveling carrier, an engaging device on said traveling carrier, means for causing said engaging device as it passes from said drum to automatically assume an engaging position to engage said intestine and forward the same away from said drum to said forwarding rollers, and means for temporarily separating said rollers as said engaging device passes between them.

4. In an intestine cleaning machine, in combination, a rotary drum consisting of two separate rotary members, a stationary member interposed between said drum members and having a cut away portion, scrapers adapted to coöperate with said drum, coöperating pressing rollers, a traveling chain passing through the cut away portion of said stationary member, an engaging device on said traveling chain, means for causing said engaging device to automatically assume an engaging position as it emerges from the opening between said drum members and adapted to engage an intestine on said drum and forward the same through said pressing rollers, and means for automatically separating said rollers as said engaging device passes between them.

5. An intestine cleaning machine, having in combination, a rotary drum consisting of two separated members, a stationary device having an exterior surface flush with the surface of said rotary members and having a cut away portion, pressing rollers, a traveling chain passing through the cut away portion of said stationary member between said drum members, an engaging device carried by said chain and adapted to automatically assume an engaging position as it emerges from said drum and adapted to engage the intestine and forward the same from said drum, guides adapted to engage said engaging member and hold the same in engaging position during its forwarding movement, pressing rollers adapted to squeeze the intestine as it is forwarded between them by said engaging device, and means for automatically separating said pressing rollers as said engaging device passes between them.

[Claims 6 to 10 not printed in the Gazette.]

973,349. BED-FRAME CONSTRUCTION. FRANK I. GOULD, Hailebury, Ontario, Canada. Filed Mar. 4, 1910. Serial No. 547,321.



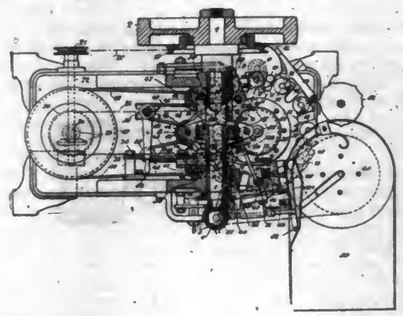
A device of the character described, comprising the combination with a bed frame of a spring having end bars secured thereto, and a plurality of adjusting members connecting the spring and the head rail of the bed frame, said adjusting members consisting of mooring members of channel section secured to the end bars of the spring, and hinged brackets connected to the end rail of the bed frame, and a threaded bolt adapted to turn freely within the hinged bracket and threaded into the mooring member, substantially as described.

973,350. POLISHING-MACHINE. HOWARD DOUGLAS HODGE, Waltham Abbey, England, assignor to Nobel's Explosives Company, Limited, Glasgow, Scotland. Filed Mar. 14, 1910. Serial No. 549,291.

1. In a machine for polishing or buffing cylindrical articles, the combination of rotating buffing wheels, a step by step rotating table carrying the articles past such wheels, means for simultaneously rotating the articles about their axes and means for bringing buffing fingers down upon the ends of the articles while they are rotating during the stoppages of the table.

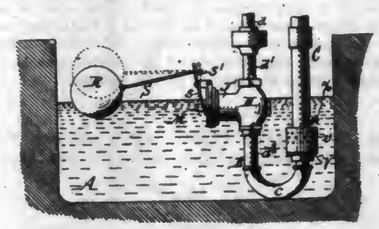
2. In a machine for polishing or buffing cylindrical articles, the combination of rotating buffing wheels, a step by step rotating table, pins carried thereby, pulleys on the pins, driving pulleys adapted to engage and rotate the pulleys on the pins and means for rotating such driving pulleys.

3. In a machine for polishing or buffing cylindrical articles, the combination of rotating buffing wheels, a step by step rotating table, pins carried thereby, pulleys on the pins, driving pulleys adapted to engage and rotate the



pulleys on the pins, means for rotating such driving pulleys, and means for bringing buffing fingers down upon the ends of the articles while they are rotating.

973,351. AUTOMATIC DRAINER FOR CELLARS, &c. GEORGE HOFFMAN, Buffalo, N. Y. Original application filed Sept. 27, 1909, Serial No. 519,756. Divided and this application filed June 18, 1910. Serial No. 567,603.



A draining device comprising an upright discharge pipe, an enlarged straining chamber connected with the lower end of said discharge pipe and provided in its walls with perforations, a tubular bushing of wood having a comparatively narrow upper part arranged in said discharge pipe and an enlarged lower part arranged in said chamber and having the lower part of its passage flared downwardly, and an ejector nozzle arranged centrally in said chamber below the lower end of said bushing and having an external annular flange which is connected by a screw joint with the lower end of said chamber.

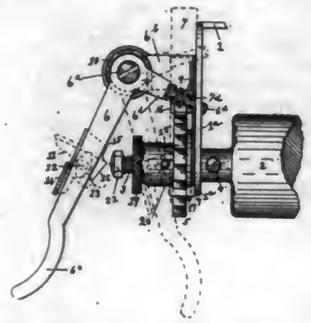
973,352. TYPE-WRITING MACHINE. CHARLES W. HOWELL, Newark, N. J. Filed Jan. 13, 1905. Serial No. 240,938.

1. In a typewriting machine, the combination of a platen, a line-space ratchet-wheel, a line-space elbow-lever pivoted in rear of the platen axis, one arm of said lever extending forwardly from its pivot, and a pawl loosely mounted upon the other arm of said lever and extending forwardly to said wheel, and provided with means to straddle the latter.

2. In a line-spacing mechanism, the combination of a platen, an axle to which it is secured, a platen-rotating hand-wheel connected to said axle, a ratchet-wheel, means for connecting or disconnecting said ratchet-wheel with the axle, a lever, a pawl loosely mounted on the lever, and a fender provided on said pawl, for preventing the pawl tooth from interfering with the free rotation of said ratchet-wheel.

3. In a line-spacing mechanism, the combination of a ratchet-wheel, a pawl engaging therewith, a horizontally

swinging elbow-lever operatively connected to said pawl and having a forwardly extending arm, and an adjustable stop mounted on said elbow-lever, to engage the face of the ratchet-wheel.

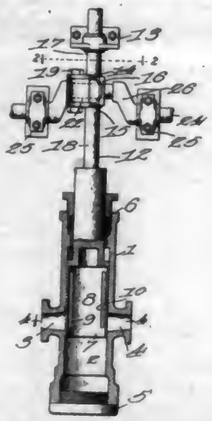


4. In a line-spacing mechanism, the combination of a platen, an axle therefor, a line-space ratchet-wheel, means for connecting and disconnecting said ratchet-wheel with the axle, a line-space lever, a pawl connected to the lever, and an adjustable stop coöperating with said ratchet-wheel to regulate the line-spacing movement.

5. In a line-spacing mechanism, the combination of a platen, a line-space ratchet-wheel, a line-spacing lever, and a pawl loosely connected to the lever; said pawl being constructed of a single piece of sheet metal bent so as to bestride the ratchet-wheel, and having a tooth bent downwardly to engage the ratchet-wheel, and having a fender to hold its tooth normally out of the ratchet-wheel.

[Claims 6 to 13 not printed in the Gazette.]

973,353. VALVELESS PUMP. ARIYA INOKUTY, Tokyo, Japan. Filed Feb. 26, 1910. Serial No. 546,153.



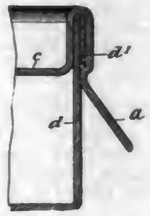
1. In a valveless pump, the combination with a cylinder and a plunger-piston, said cylinder and piston being provided with inlet discharge ports, an arcuate member connected with said plunger-piston, a crank for operating said plunger-piston, and means slidably connecting said crank with said arcuate member.

2. In a valveless pump, the combination with a cylinder and plunger-piston provided with inlet and discharge ports, of an arcuate member connected with said plunger-piston and disposed at right angles with respect to the longitudinal axis thereof, and a crank for reciprocating said plunger-piston and connected with said arcuate member to oscillate said plunger-piston.

3. In a valveless pump, the combination with a cylinder and a piston provided with inlet and discharge ports, an arcuate member connected with said piston and disposed at right angles with respect to the longitudinal axis thereof, a crank disposed at right angles to the longitudinal axis of said piston, and means operatively connecting said arcuate member with said crank for reciprocating and oscillating said piston.

4. In a valveless pump, the combination with a cylinder and a plunger-piston each provided with inlet and discharge ports, of an arcuate member rigidly connected with said piston, a cross head slidably supported on said arcuate member, and a crank connected with said cross head.

973,354. CLOSING DEVICE FOR PRESERVE-TINS. ANDREAS JOHNSEN, Stavanger, Norway, assignor to Aktieselkabet Stavanger Bliktrykkeri og Maskinværksted, Stavanger, Norway. Filed Mar. 11, 1910. Serial No. 548,630.



1. In combination with a preserving vessel, of a closure therefor having a projecting tongue and a weakening line adjacent the tongue, the outer ends of the walls of the receptacle and the edges of the closure being interlocked up to and terminating at each side of the tongue, the edge of the wall of the receptacle adjacent the tongue being bent to engage the outer surface of said wall, and the tongue being bent to engage the said bent portion of the wall of the receptacle whereby when the tongue is pulled to rip the closure, the interlocking joint between the closure and the vessel will remain intact.

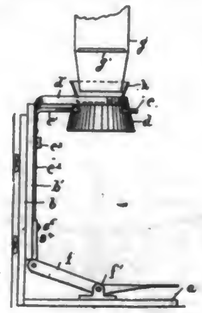
2. In combination with a preserving vessel, of a closure therefor, having a projecting tongue and a weakening line adjacent the tongue, the outer edges of the walls of the receptacle and the edges of the closure being interlocked up to and terminating at each side of the tongue, the edge of the wall of the receptacle adjacent the tongue being bent to engage the outer surface of said wall, and the tongue being bent downwardly past the bent portion of the wall of the receptacle and engaging the latter, whereby when the tongue is pulled to rip the closure the interlocking joint between the vessel and closure will remain intact, the tongue being transversely bent below the bent portion of the wall to snugly engage the outer surface of the receptacle below the bent portion thereof, to form a seal.

3. In combination with a preserving vessel, of a closure therefor, having a projecting tongue and weakening line adjacent the tongue, the outer edges of the walls of the receptacle and the edges of the closure being interlocked up to and terminating at each side of the tongue, the tongue being bent down over and engaging the upper edge of the vessel between the tow points where the interlocking of the edges of the vessel and closure terminate, whereby when the tongue is pulled to rip the closure, the interlocking joint between the closure and vessel will remain intact.

973,355. BAG-HOLDER. EDWARD P. KENDALL, Bowdoinham, Me. Filed May 29, 1909. Serial No. 499,119.

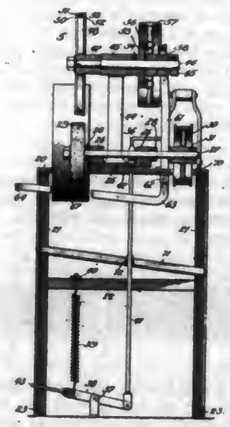
1. In a bag filling device, the combination of a fixed hollow conical holder, a supporting arm secured to the upper part, an incomplete clamping ring beneath said arm partially surrounding said holder, a horizontal supporting arm for said clamping ring, a vertically movable guide rod to which said arm is secured and a foot lever for vertically moving said guide rod.

2. A bag holder comprising a stationary annular holder, a support for said holder, a perpendicularly movable clamping means complemental to said holder and slidable thereon, and mechanism for lifting said means to an inoperative position.



3. A bag holder comprising a stationary annular holder, a support for said holder, a concentrically formed and perpendicularly movable gravity clamping ring complemental to said holder and slidable thereon and having an interrupted portion, and mechanism for lifting said ring to an inoperative position.

973,356. PAINTING APPLIANCE. ROBERT D. KINYON, Chicago, Ill. Filed Feb. 2, 1910. Serial No. 541,567.



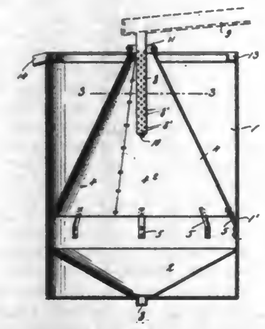
1. In a painting appliance of the character described, the combination of a rotary support for the article to be painted having means to hold the article concentrically with the support, means to rotate said support, a rotary paint brush, a pulley to rotate said paint brush, said brush and pulley being bodily movable toward the article to be painted on said support, a belt coöperating with said pulley to rotate said brush, a swinging arm, an idler pulley on said arm coöperating with said belt, and means to simultaneously shift said brush to bring it against the article to be painted on said support and to rock said swinging arm whereby to move said idler to maintain the belt taut, substantially as described.

2. In a painting appliance of the character described, the combination with a frame, of a paint receptacle supported thereon, a horizontal shaft upon the frame provided with a drive pulley and a brush, the latter working in the paint receptacle, a horizontal shaft above the drive shaft and provided with a drive pulley and a circular radially expansible work holder working in coöperative relation with the rotary brush, a clutch for the pulley on the upper shaft, a rocking bearing for the brush shaft, a belt tightener for the pulley of the brush shaft, means to rock the bearing to move the brush bodily toward and away from the work holder, and an operative connection between said means and the belt tightener, substantially as described.

3. In a painting appliance of the character described, the combination of a rotary work holder, a brush shaft having a brush and a pulley, a belt to drive the pulley, a belt tightener, a shiftable bearing for the brush shaft to permit the brush to be moved toward and away from the work holder, means for shifting the bearing, and an operative connection between the bearing and the belt tightener, substantially as described.

4. In a painting appliance of the character described, the combination with a table having an opening in the top thereof, a plate extending across the opening and hinged to the table, a brush shaft mounted upon the plate and provided with a brush, a pulley upon the brush shaft, a rotary work holder, a belt for the pulley, a swinging belt tightener having a trip projection in the path of the swinging plate, and means to elevate the plate, substantially as described.

973,357. SETTLING-TANK. ROBERT S. LEWIS and JOHN HENRY MOORE, McGill, Nev. Filed July 23, 1910. Serial No. 573,582.



1. In combination, a settling tank, a deflector arranged at the bottom of said tank adapted to receive slimes settling therein, a distributer disposed centrally in the upper portion of the tank and consisting of a frusto-conical body extending from the top of the tank downwardly to a point a short distance from the deflector, said distributer having its lower end portion spaced from the tank to form a clearance space, an inflow pipe passing through the upper end of the distributer and extending downwardly therein and having apertures throughout its length, and a launder at the upper end of the tank.

2. In combination, a settling tank, a deflector of inverted cone shape provided at its lower end with a draw off outlet and having its sides terminating at its upper end in contact with the sides of the tank, a distributer arranged in the tank of hollow frusto-conical form, the upper end of the distributer being provided with an opening, a plurality of brackets connecting the lower end of the distributer with the sides of the tank and holding said lower end of the distributer slightly spaced from the tank and a short distance above the upper end of the deflector, an inflow pipe passing downwardly through the opening at the top of the distributer and terminating intermediate the ends of the latter, said pipe being provided with apertures throughout its length, and a removable plug at its lower end, a launder at the upper end of the tank, and means for supplying slimes water to the inflow pipe.

3. In combination, a settling tank, a deflector arranged at the bottom of said tank and consisting of a hollow body of inverted cone shape provided at its lower end with a draw off outlet, a hollow distributer arranged in the tank above the deflector and consisting of a hollow frusto-conical shaped body composed of a plurality of sections,

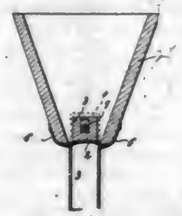
angle irons secured to the longitudinal edges of the sections, packing strips interposed between said angle irons and fastenings connecting the angle irons to unite the sections of the distributer, the upper end of the distributer being provided with an opening, a collar secured to and reinforcing the upper end portion of the distributer, the lower end of the distributer being of less diameter than that of the deflector beneath the same and spaced from the latter, brackets attached to the distributer and the sides of the tank supporting the distributer in a position in which its lower end is spaced from the tank, an inflow pipe extending from a point above the distributer passing downwardly through the upper open end of the latter and terminating about central of the ends of said distributer, said pipe being apertured throughout its length, a removable plug at the lower end of said pipe, and a launder at the upper end of the tank.

973,358. LOCK-STRIKE. FRITZ LIEBS, Rummelsburg, near Berlin, Germany. Filed Apr. 5, 1910. Serial No. 553,654.



In a lock-strike the combination with a rotary bolt-nab, of a stationary casing, a notched disk on the bolt-nab inclosed within said casing, the notches of said disk having a substantially radial side face and a side face which is at an angle to the periphery of the said disk, and balls inclosed in said notches.

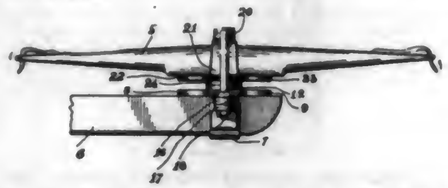
973,359. DEVICE FOR DESTROYING BUGS. ARNE LIMA, Hannaford, N. D. Filed July 18, 1910. Serial No. 572,530.



1. In an insect destroyer, the combination with a hopper having an opening in its bottom, of foraminous material covering said opening, a spout having flanged edges to receive said hopper, elongated bearings formed in said spout and having integral spring members, and an agitator journaled in said bearings and adapted to move away from and toward said foraminous material, said agitator being retained in normal position by said spring members, as set forth.

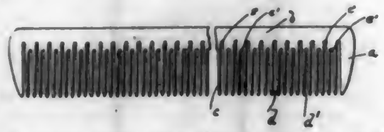
2. In an insect destroyer, the combination with a hopper having an opening in the bottom, of foraminous material secured thereto and covering said opening, a spout having flanged edges to receive said hopper, said spout being provided with bearings having integral spring members, and an agitator, square in cross section, journaled in said bearings and adapted to move away from and toward said foraminous material to vibrate the latter, said agitator being retained in normal position by said spring members, as set forth.

973,360. ATTACHMENT FOR VEHICLES. WILLIAM H. LONG, Harvel, Ill., assignor of one-half to Heye E. Fahrenholtz, Harvel, Ill. Filed Oct. 25, 1909. Serial No. 524,592.



In combination with a swingletree and a doubletree; of a band fixedly secured to the doubletree and provided on that portion overlying the upper face of the doubletree with a socket, a collar secured to the swingletree, oppositely extending studs arranged on the collar and located over the upper and lower faces of the swingletree, the lower of said studs being loosely received by the said socket, a U-shaped yoke having one terminal pivoted to that portion of the band overlying the rear side of the doubletree, a bearing lug on that portion of the band overlying the front side of the doubletree and forming a bearing surface for the free end of said yoke, said yoke being further provided with a central opening to receive the upper of said studs, and means passable through the free terminal of the yoke and lug and serving to detachably secure the yoke as described.

973,361. COMB. JAMES F. LYNCH, Swampscott, Mass., assignor of one-half to Thomas F. Hurley, Lynn, Mass. Filed Apr. 18, 1910. Serial No. 556,002.



1. A barber's comb having teeth, the points of which are in alinement and having between the teeth, slots or kerfs of different depths, substantially as described.

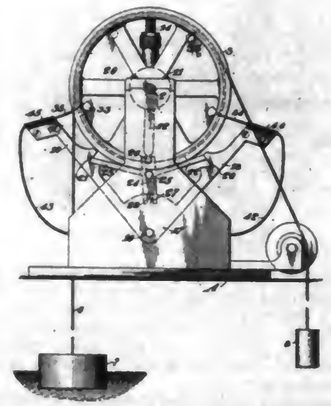
2. A barber's comb in which the alternate slots or kerfs between the teeth are of different depths, substantially as described.

973,362. ELECTRIC SWITCH. ERNEST K. MACKINTOSH and EZEKIEL A. SMITH, Washington, D. C. Filed Dec. 16, 1909. Serial No. 533,317.

1. In an electric switch, the combination with a shaft, of a contact wheel mounted thereon, switch arms, means for causing the arms to be actuated, and means for operating the shaft for causing the operation of the arms and wheel, whereby one arm will be moved to engage the wheel as the shaft rotates in one direction, and the other arm will be moved to engage the wheel upon the rotation of the shaft in the opposite direction.

2. In an electric switch, the combination with a shaft, of a float for controlling the movement of the shaft, a contact wheel mounted upon the shaft, switch arms, and means on the shaft for actuating the arms, causing one of them to be moved to engage the contact wheel upon the rotation of the shaft.

3. In an electric switch, the combination with a shaft, means for controlling the movement of the shaft, of a contact wheel mounted upon the shaft, switch arms, and an arm frictionally mounted upon the shaft in engagement with the switch arms for causing one of the arms to be moved to engage the contact wheel upon the rotation of the shaft in one direction, and the other arm to be moved to engage the contact wheel upon the rotation of the shaft in a reverse direction.

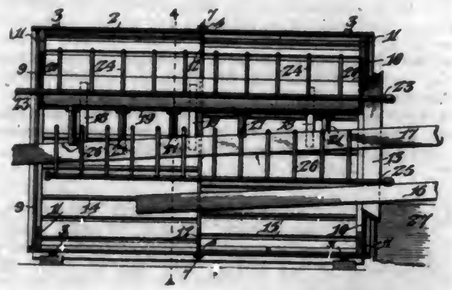


4. In an electric switch, the combination with a shaft, means for controlling the movement of the shaft, of an insulated contact wheel mounted upon the shaft, a brush in engagement with the wheel for transmitting an electric current thereto and acting as a brake, switch arms, and means on the shaft for actuating the switch arms for causing one of the arms to be moved to engage the contact wheel upon the movement of the shaft.

5. In an electric switch, the combination with a shaft, of a wheel loosely mounted on the shaft, means on the shaft engaging the wheel for allowing the wheel a partial rotation upon the shaft, a float for controlling the movement of the wheel for transmitting movement to the shaft, a contact wheel mounted upon the shaft, a switch arm, and means on the shaft for operating the switch arm, whereby it is caused to be moved to engage the contact wheel upon the movement of the shaft.

[Claims 6 to 10 not printed in the Gazette.]

973,363. SEPARATOR AND CLASSIFIER. EDMUND MAJOR, Maitland, S. D. Filed Jan. 5, 1909. Serial No. 470,774.



1. In an ore separator, the combination of a rotary drum, longitudinally-extending blades thereon forming material-carrying pockets shaped to deposit the material adjacent the top of the drum, a horizontal tray closed at its ends and mounted in the drum to receive the material deposited by the blades, a liquid-discharging device directing jets against the blades when the point of deposit is reached, said tray being arranged to catch the said liquid together with the material from the blades, and a sloping discharge trough extending longitudinally of the tray under the same and connected at spaced points therewith for conducting away the material.

2. In an ore separator, a rotatable drum divided by annular partitions into a plurality of compartments, the inner surface of the drum in each compartment being provided with inwardly projecting blades, one of the compartments having a greater area of blade surface than the other, means for continuously discharging pulped material into one of said compartments, a tray supported in the upper portion of the drum, separate sets of washing nozzles located in the interior of the drum and adapted to wash the sides thereof at points above and below the tray, and means for continuously carrying off the materials deposited in the tray upon the rotation of the drum.

3. In an ore separator and classifier a rotatable drum, an annular partition dividing the drum into two communicating compartments, the inner surface of the drum in each compartment being provided with inwardly projecting angular blades, one of said compartments having a greater extent of blade surface than the other, means for discharging pulped material into one of said compartments and for discharging liquid matter from the other of said compartments, a tray supported within the upper portion of the drum, said tray having a transverse partition in alinement with the annular partition dividing the drum; means for discharging the contents of the tray, and means for spraying the sides of the drum.

4. In an ore separator and classifier, a rotatable drum, an annular partition dividing the said drum into two compartments and having an opening through which the compartments communicate, the inner surface of the drum in each of these compartments being provided with inwardly projecting angular blades, said blades being larger in one compartment than in the other, a trough extending into the drum and into that compartment thereof provided with the larger blades, means for continuously discharging liquid matter from the other of said compartments, a tray supported within the drum at the upper portion thereof, a discharge trough with which said tray is connected, and means for spraying the sides of the drum.

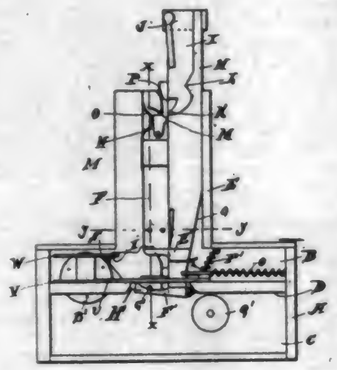
5. In an ore separator and classifier, a rotatable drum provided with annular end walls of unequal heights, the lowest of said end walls being provided with an outwardly flaring mouth, an annular partition dividing the drum into two communicating compartments, one of the compartments discharging into the other, the inner surface of the drum in both compartments being provided with inwardly projecting angular blades, the blades in that compartment adjacent to the mouth being lower than the blades in the other compartment, means for discharging pulped material into the compartment having the highest blades, a tray mounted in the upper portion of the drum, a trough into which said tray discharges, and means for spraying the interior face of the drum.

[Claims 6 to 12 not printed in the Gazette.]

973,364. COIN-CONTROLLED APPARATUS. JOSEPH H. MCBRIDE, Philadelphia, Pa. Filed July 14, 1910. Serial No. 571,930.

1. In a coin controlled apparatus, a casing, an upright leading therefrom, said upright being provided with a coin channel, a glass for covering said channel, a plunger having a coin slot in the upper end thereof and provided with a notch, and having its lower end beveled, said plunger being slidably mounted in the upright beside the coin channel, a spring actuated dog normally held in engagement with the edge of the plunger, a spring for normally holding the plunger upward, a ratchet wheel, a registering disk connected therewith, a sliding finger adapted to engage the teeth of said ratchet wheel, a pivoted lever, one end connected with the sliding finger, the opposite end engaging the beveled edge of the plunger, a spring for normally holding the finger out of engagement with the ratchet teeth, a pin projecting downward from the under

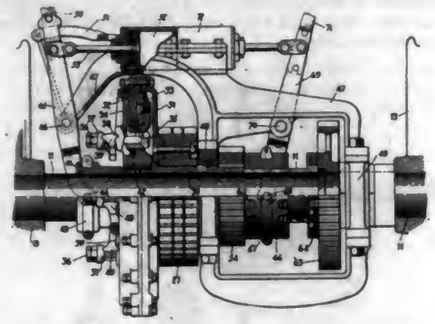
side of the registering disk, a second registering disk mounted at right angles to the first named disk, pins carried thereby, the first named pin adapted to contact with said pins, and means for holding a coin in the coin channel.



2. In a coin controlled apparatus, a casing, an upright leading therefrom, said upright being provided with a coin channel, a glass for covering said channel, a plunger having a coin slot in the upper end thereof and provided with a notch, and having its lower end beveled, said plunger being slidably mounted in the upright beside the coin channel, a spring actuated dog normally held in engagement with the edge of the plunger, a spring for normally holding the plunger upward, a ratchet wheel, a registering disk connected therewith, a sliding finger adapted to engage the teeth of said ratchet wheel, a pivoted lever, one end connected with the sliding finger, the opposite end engaging the beveled edge of the plunger, a spring for normally holding the finger out of engagement with the ratchet teeth, a pin projecting downward from the under side of the registering disk, a second registering disk mounted at right angles to the first named disk, pins carried thereby, the first named pin adapted to contact with said pins, a pivoted holding member having a forwardly projecting pin, arms mounted upon the plunger adapted to engage therewith, and means for holding a coin in the channel when the holding member is down.

3. In a coin controlled apparatus, a casing, an upright leading therefrom, said upright being provided with a coin channel, a glass for covering said channel, a plunger having a coin slot in the upper end thereof and provided with a notch, and having its lower end beveled, said plunger being slidably mounted in the upright beside the coin channel, a spring actuated dog normally held in engagement with the edge of the plunger, a spring for normally holding the plunger upward, a ratchet wheel, a registering disk connected therewith, a sliding finger adapted to engage the teeth of said ratchet wheel, a pivoted lever, one end connected with the sliding finger, the opposite end engaging the beveled edge of the plunger, a spring for normally holding the finger out of engagement with the ratchet teeth, a pin projecting downward from the under side of the registering disk, a second registering disk mounted at right angles to the first named disk, pins carried thereby, the first named pin adapted to contact with said pins, a pivoted holding member disposed across the coin channel, a forwardly projecting pin mounted upon said holding member, two parallel arms spaced apart and secured to the plunger for engaging said pin to operate the holding member, a member having a beveled face hinged to the upright, pins carried thereby adapted to project into the coin channel, and a spring for normally causing said pins to enter the coin channel and the projection on the rear of the holding member adapted to engage the beveled face of the member L' to withdraw the pins.

973,365. POWER-TRANSMITTING APPARATUS. WILLIAM R. MCKEEN, Jr., Omaha, Nebr., assignor, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr., a Corporation of New Jersey. Filed Dec. 19, 1905. Serial No. 292,447.



1. In apparatus of the class described, in combination, a car truck having a car body mounted thereon, an internal combustion engine mounted on said truck, power transmitting means leading from said engine to drive said truck, a clutch interposed in said power transmitting means, and fluid controlled means mounted on said truck and controlling said clutch.

2. In apparatus of the class described, in combination, a car truck having a car body mounted thereon, an internal combustion engine mounted on said truck, power transmitting means leading from said engine to drive said truck, a speed changing device interposed in said power transmitting means, and fluid controlled means mounted on said truck and controlling said speed changing means.

3. In apparatus of the class described, in combination, a car truck having a car body mounted thereon, an internal combustion engine mounted on said truck, power transmitting means leading from said engine to drive said truck, a clutch and a speed changing device interposed in said power transmitting means, and separate fluid controlled means mounted on said truck and respectively controlling said clutch and said speed changing device.

4. In apparatus of the class described, in combination, a truck comprising side-bars and two pairs of wheels, the wheels of one of said pairs being of greater diameter than those of the other of said pairs, an internal combustion engine mounted upon said side-bars and positioned nearer said wheels of greater diameter than said wheels of lesser diameter, and means adapted to drive said wheels of greater diameter from said engine, said means comprising a sprocket chain and a clutch mounted upon the axle of said wheels of greater diameter.

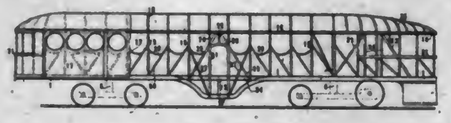
5. In an apparatus of the class described, in combination, a truck comprising side bars and wheels, cushioning means interposed between said side bars and said wheels, a rigid engine support bridged across and secured to said side bars and bracing said side bars, an internal combustion engine mounted upon said support, a car body mounted upon said truck and into which said engine projects, and means adapted to drive said wheels from said engine.

[Claims 6 to 56 not printed in the Gazette.]

973,366. CAR-BODY CONSTRUCTION. WILLIAM R. MCKEEN, Jr., Omaha, Nebr., assignor, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr., a Corporation of New Jersey. Filed Jan. 17, 1907. Serial No. 352,724.

1. In car construction, in combination, a pair of side sills, a center sill, means connecting said side sills at the end of the car, and a pair of members secured to said last-mentioned means intermediate said side sills and inclined inwardly therefrom toward and abutting against and secured to said center sill.

2. In car construction, in combination, a pair of side sills, a center sill, means connecting said side sills at the end of the car, a pair of members secured to said last-mentioned means intermediate said side sills and inclined inwardly therefrom toward and abutting against opposite sides of said center sill, and a pair of members respectively secured to said last-mentioned members and inclined outwardly therefrom toward and secured to said side sills.



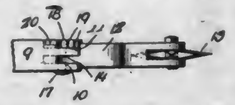
3. In car construction, in combination, a pair of side sills, a center sill, an end sill curved about the end of the car and joined to said side sills, and a pair of members secured to said end sill at points intermediate said center and side sills and inclined inwardly therefrom toward and connected to said center sill.

4. In car construction, in combination, a pair of side sills, a center sill, an end sill curved about the end of the car and joined to said side sills, a pair of members secured to said end sill and inclined inwardly therefrom toward and connected to said center sill, and a pair of members respectively secured to said last-mentioned members and inclined outwardly therefrom toward and secured to said side sills.

5. In car construction, in combination, a pair of side sills, a center sill, means connecting said side sills at the end of the car, a pair of members secured to said last-mentioned means and inclined inwardly therefrom toward and secured to said center sill, and a cross member stretched between and secured to said side sills and passing beneath said center sill.

[Claims 6 to 48 not printed in the Gazette.]

973,367. SPUR. WILLIAM M. MCKINNEY, Crows Landing, Cal. Filed Nov. 6, 1909. Serial No. 526,557.



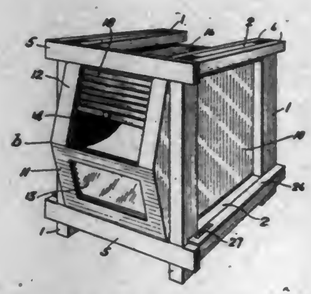
A spur comprising a heel engaging clip having a rearwardly extending shank provided with vertical recesses, a rowel-carrying arm hingedly mounted in one of said recesses, a connecting bolt, and means including a lock nut seated in the other recess for preventing the rowel-carrying arm from turning about the axis of the connecting bolt.

973,368. BIN. FRANCIS J. MCMENAMIN, Philadelphia, Pa. Filed Jan. 17, 1910. Serial No. 538,881.

1. The combination, with an open-front casing, of a bin slidable forwardly and rearwardly in the casing and provided in its front with an open-top upper sash and a lower sash, a glass inserted on the lower sash, and a flexible curtain slidable in the upper sash and slidable over the top of the bin.

2. The combination with an open front casing, of a bin slidable forwardly and rearwardly in the casing and provided at its front with an opening and guideways along the sides of the opening, a removable top slidably engaging the upper ends of the sides of the bin, and a flexible curtain slidable in said guideways to close said opening and slidable rearwardly along the top of the bin.

3. The combination with an opne-front casing, of a bin slidable forwardly and rearwardly in the casing and having an opening in the upper part of its front and closed in the lower part of its front, upright guides at the sides of said opening, a roller at the top of said guides and in front of the top of the bin, and a flexible curtain slidable over said roller, within said guides and along the top of the bin and of greater length than the height of said opening.

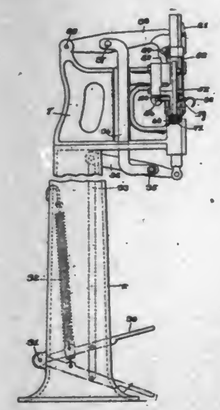


4. The combination with an open front casing, of a bin having a floor, side walls and rear wall, rearwardly extending guides near the upper edges of the side walls, a bin top slidable in said guides, front bin members comprising a lower sash and an open-top upper sash, a glass within the lower sash, upright guides in the side members of the upper sash, a curtain composed of a series of connected slats the ends of which are slidable in said guides, and a roller extending cross-wise of the bin at the upper ends of the last-named guides and at the forward end of said bin top, said curtain being adapted to slide over said roller and along the bin top.

5. The combination with a multiple bin casing comprising an open frame-work dividing the casing into a plurality of bin receptacles, of bins comprising side walls, a rear wall, a bottom and a top, said bins adapted to enter said receptacles, each bin having an open front portion and provided with guideways, and a curtain slidable in said guideways to close the front of the bin and slidable along the top of the bin.

[Claim 6 not printed in the Gazette.]

973,369. MACHINE FOR FORMING AND ATTACHING TAGS. ELWOOD HARRIS MICHENER, Camden, N. J., assignor to Acme Staple Company, Limited, Philadelphia, Pa., a Limited Partnership. Filed Mar. 31, 1910. Serial No. 552,539.



1. In a machine for forming and attaching tags by staples the combination with a suitable frame, a duplex grooved staple-guide, a duplex reciprocating stapling plunger, means to feed a pair of staples to the opposite grooves of the staple guide, a vertically-movable clenching anvil

mounted in said frame; means to feed and cut off a section of tape and deliver it over the anvil; a pivoted lever actuating the plunger, a connected lever actuating the anvil, means to impart actuating movement to said levers, and means operated thereby to actuate the tape delivering and cutting mechanism.

2. In a machine of the class recited comprising in combination a staple-feeding and staple-inserting mechanism adapted to feed and successively insert a pair of staples in underlying stock, at each alternate reciprocating movement of the staple-inserting devices, said mechanism including a vertically-movable clenching anvil, actuating devices for said recited elements, a tape-feeding mechanism, means to guide the tape therefrom to the anvil, and cutting mechanism, actuated by the anvil, adapted to cut off a section of tape, delivered over the anvil, to form a tag to be stapled thereby.

3. In a machine of the class recited the combination of a frame; a staple guide; a stapling anvil; means operative to move said anvil into operative position; a stapling plunger movable into said guide to effect the stapling operation; a fixed tape cutting knife; a movable tape cutting knife suspended from the upper portion of the fixed knife and having a cutting edge on the lower portion thereof adapted to coact with the cutting edge of the fixed knife, said movable knife being operated by said anvil; and a spring pressing the movable knife into engagement with the fixed knife.

4. In a machine of the class recited the combination of a frame; a staple guide; a stapling anvil; means operative to move said anvil into operative position; a stapling plunger movable into said guide to effect the stapling operation; a fixed tape cutting knife; a movable tape cutting knife suspended from the upper portion of the fixed knife and having a cutting edge on the lower portion thereof adapted to coact with the cutting edge of the fixed knife, said movable knife being operated by said anvil; an arm projecting from said movable knife; and a spring acting on said arm and pressing said movable knife into engagement with the fixed knife and forming a tape guide arranged to direct tape between said knives.

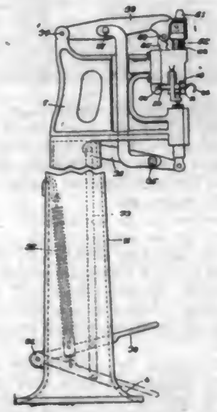
5. In a machine of the class recited, the combination with duplex staple feeding and staple inserting mechanism adapted to feed and insert a pair of staples in underlying stock, a supporting frame, a vertically-movable clenching anvil mounted in said frame, an operating lever for the staple inserting elements, an operating lever for the movable anvil, means operatively connecting said elements, other means to impart actuating movement to said connecting means, devices to feed a strip of tape to and over the anvil, a bell crank lever actuating said tape-feeding devices, said lever being mounted to receive actuating movement from the means directly actuating the staple-inserting mechanism, and means forming part of the tape-feeding devices to feed the tape intermittently in consonance with the alternate inoperative positions of said staple-inserting and staple-clenching elements.

[Claims 6 to 9 not printed in the Gazette.]

973,370. STAPLING-MACHINE. ELWOOD HARRIS MICHENER, Camden, N. J., assignor to Acme Staple Company, Limited, a Limited Partnership, Philadelphia, Pa. Original application filed Mar. 31, 1910, Serial No. 552,539. Divided and this application filed May 31, 1910. Serial No. 564,037.

1. In a stapling machine, the combination with a suitable frame, a duplex grooved guide-block, a duplex stapling plunger having driver blades reciprocating in the grooves of said guide-block; means, governed by said blades, to automatically feed a staple to each of the grooves of the guide-block, a vertically-movable clenching anvil mounted in said frame, a pivoted lever actuating the stapling plunger, another pivoted lever actuating the movable anvil, and a vertically-disposed bar pivotally connecting said actuating levers, with means to impart operative movement to said connected levers as a unitary actuating mechanism.

2. In a stapling machine, the combination with a suitable frame, a duplex grooved guide-block, means to mount it detachably on said frame, said means comprising a spring-plate and a circularly-grooved threaded pin engaging a horizontal opening in said guide-block, a duplex stapling plunger having driver blades, means governed by said blades to automatically feed staples successively to each of the grooves of the guide-block, a pivoted lever actuating said plunger, a movable anvil, a pivoted lever actuating said anvil, a bar connecting said levers, and devices to impart operative movement to said connected actuating elements.



3. In a stapling machine the combination with a suitable frame, a grooved guide block, a stapling plunger, devices governed thereby to feed staples to the groove of the guide-block, a movable anvil, a pair of horizontally-disposed pivoted levers each independently actuating the plunger and anvil respectively, connecting actuating means between said levers, means comprising a spring-controlled cam normally engaging the plunger-actuating lever during the initial movement of the anvil-actuating lever to raise the anvil and during the reverse movement of said lever to lower the anvil.

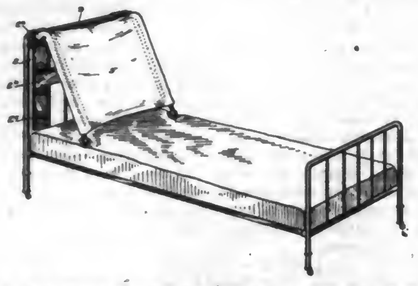
4. In a stapling machine the combination with a suitable frame, a grooved staple-guide, a stapling plunger, a staple-feed governed thereby, an anvil vertically slidable in a recess in said frame, means to limit its downward movement therein, a lever actuating it in both directions, a pivoted lever actuating the stapling plunger, a connecting bar between said levers, and means co-acting with the plunger-actuating lever to restrain the movement of the latter during the initial movement of the anvil-actuating lever.

5. In a stapling machine the combination with a suitable frame, a grooved staple guide, a stapling plunger, a staple-feed governed thereby, an anvil vertically slidable in a guiding recess in said frame, a pivoted lever adapted to impart positive motion thereto in both directions, a pivoted lever actuating the stapling plunger, a connecting bar adapted to impart movement to the stapling plunger from the anvil-actuating lever, and means to restrain downward movement of the stapling plunger during the downward movement of the anvil after completion of the staple-inserting and clenching movements.

[Claims 6 to 11 not printed in the Gazette.]

973,371. ADJUSTABLE HEAD AND BACK REST. ANNIE C. MILEY, Philadelphia, Pa., assignor of one-half to Edward P. McCabe, Philadelphia, Pa. Filed May 31, 1910. Serial No. 564,193.

1. A head and back rest comprising a standard adapted to be dependingly and detachably supported from the horizontal head rail of a bedstead, and consisting of a metal bar which is bent to form a pair of parallel legs curved rearwardly at their upper ends and integrally connected thereat by a transverse portion of the bar, a sheet-holding frame comprising a pair of connected rods, and means between the standard and the frame adapted to detachably support said standard on said frame in varying degrees of inclination.

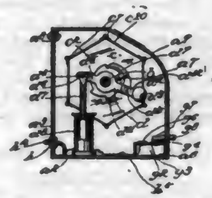


2. In a device of the class recited the combination with a supporting standard comprising a pair of parallel bars having their upper termini connected by a transverse bar and curved rearwardly thereat to form means adapted to detachably support said standard dependingly from the horizontal head rail of a bedstead, a series of open hooks on each of said parallel bars arranged thereon to form pairs of hooks in the same horizontal planes, a sheet-holding frame adapted to be detachably supported on any oppositely-disposed pair of said open hooks, and a flexible sheet stretched on said frame.

3. A device of the class recited comprising a standard, means thereon to adapt it to be detachably supported from the rail of a bedstead, and means thereon adapted to detachably connect a frame thereto, in combination with a frame consisting of a pair of rods, disconnected at the lower ends and having their upper ends bent rearwardly and connected at their termini by a cross rod; and a flexible sheet provided with means to adapt it to be operatively applied to and removed from said frame.

4. A device of the class recited, comprising a standard adapted to be detachably supported dependingly from the rail of a bedstead and consisting of a pair of parallel upright bars curved rearwardly at their upper ends, and a connecting cross-bar; in combination with a sheet-holding frame comprising a pair of rods having terminal knobs at their lower ends and connected only at their upper ends; a flexible sheet stretched on said frame; and devices on said standard coacting with detachable connecting means on said frame whereby the latter may be supported thereon at varying degrees of inclination.

973,372. CIGAR ADVERTISING AND LIGHTING DEVICE. HENRY MILLER, Brooklyn, N. Y. Filed June 30, 1909. Serial No. 505,137.



An apparatus of the class described, comprising a main frame or casing provided at one end with a pivot block and at the other end with a pivot shaft, a rotatable drum mounted between said block and shaft, an electric lamp placed in said drum and connected with the inner end of said block, a ratchet arm mounted loosely on the pivot shaft and having a short end and a longer end provided with a weight, a solenoid in the lamp circuit and mounted adjacent to the pivot shaft and provided with a plunger having a slot, a pin connected with the shorter end of said arm and passing through said slot, a ratchet connected with the adjacent end of the drum, a pawl connected with the longer end of said arm and operating in connection with said ratchet, a spring for moving said pawl in one direction, and a pusher passing through the front of the frame or casing and by means of which the solenoid and lamp circuit may be closed and opened.

973,373. PIGMENT. ANSIL MOFFATT, Indianapolis, Ind. Filed Dec. 29, 1909. Serial No. 535,426.

1. A pigment body consisting of barium sulfate precipitated from an alloy of natural barium sulfate and an alkaline sulfate.

2. A pigment body consisting of barium sulfate precipitated from an alloy of natural barium sulfate and sodium sulfate.

973,374. PROCESS OF MAKING PIGMENTS. ANSIL MOFFATT, Indianapolis, Ind. Filed Dec. 29, 1909. Serial No. 535,427.

1. A process of producing barium sulfate in a state of extremely fine subdivision which consists in fusing natural barium sulfate with an alkaline sulfate, and precipitating the barium sulfate from the alkaline sulfate.

2. A process of producing barium sulfate in an extremely fine state of subdivision, which consists in fusing natural barium sulfate with an alkaline sulfate, cooling the fused mass, and dissolving the alkaline sulfate from the barium sulfate in water.

3. A process of producing barium sulfate in a state of extremely fine subdivision which consists in fusing natural barium sulfate with sodium sulfate, and dissolving the sodium sulfate from the barium sulfate in water.

973,375. MOISTENER. JOSEPH M. MOLLOY, Lewiston, Idaho. Filed Aug. 6, 1909. Serial No. 511,564.

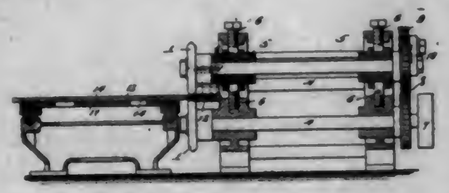


1. A moistener comprising a receptacle having a rigid bottom, a neck, and a flexible expansible and contractible body, said body being provided with an annularly contracted central portion, a slotted plug secured within the neck, and a flat wick extending through the slot in the plug.

2. A moistener comprising a receptacle having a rigid base, a neck and a resilient body, said receptacle being adapted to contain a moistening fluid, a closure for the neck having a narrow rectangular slot extending therethrough, and a flat wick of absorbent material extending into the receptacle and outward through the slot in said closure.

3. A moistener comprising a receptacle having a flat rigid base, an internally threaded neck provided with a shoulder at the base thereof, and a resilient body inwardly offset or contracted at its center, a plug having a threaded portion engaging the threaded neck, and having a narrow rectangular slot extending therethrough, a gasket clamped between the plug and shoulder, and a flat wick depending into the receptacle and extending exteriorly through the slot in said plug.

973,376. PROCESS OF AND APPARATUS FOR CUTTING COMPOUND METAL ARTICLES. JOHN FERDOL MONNOT, New York, N. Y., assignor to Duplex Metals Company, New York, N. Y., a Corporation of New York. Filed Mar. 2, 1906. Serial No. 303,916.



1. Apparatus for cutting compound metal and for covering over the cut edges, comprising an obtunding rotary cutter having a blunt cutting edge in the plane of rotation, means for driving the same and means for holding the work against such cutter.

2. Apparatus for cutting compound metals and for covering over the cut edges, comprising a pair of obtunding rotary cutters, each such cutter having a blunt cutting edge in the plane of rotation, such edges of each pair of cutters arranged in coöperative juxtaposition, and means for driving the cutters.

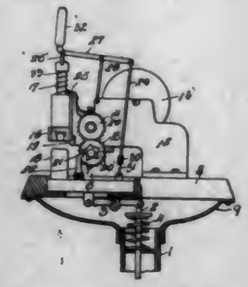
3. Apparatus for cutting compound metals and for covering over the compound edges, comprising a plurality of rotary obtunding cutters arranged in succession and set to cut deeper depths progressively, each such cutter having a blunt cutting edge in the plane of rotation, means for holding the work against such cutters and means for driving said cutters.

4. Apparatus for cutting compound metals and covering over the cut edges comprising a movable support for the work, a rotary obtunding cutter having a blunt cutting edge in the plane of rotation arranged in coöperative juxtaposition to said support and means for driving the cutter.

5. The process of cutting hard metal bodies covered with softer metals and of covering the cut edges of the hard metal with the softer metal which consists in cutting said bodies by a rupturing pressure exerted by a rounded or obtunding edge tool.

[Claims 6 to 10 not printed in the Gazette.]

973,377. TAG FORMING AND AFFIXING MACHINE. DAVID PELTON MOORE, Washington, D. C. Filed May 28, 1910. Serial No. 563,952.



1. In a tag forming and affixing machine, the combination with a base, of a casing rigidly carried thereby, tape feeding mechanism carried by the casing, tape cutting mechanism also carried by the casing, mechanism for securing the cut tape to an article at a plurality of places and also carried by the casing, actuating mechanism carried by the base and movable toward and away from the casing for operating the tape feeding mechanism as said actuating mechanism moves away from the casing, and for operating the tape cutting mechanism as said actuating mechanism moves toward the casing, an anvil carried bodily by said actuating mechanism and opposed to the tape securing mechanism of the casing, and means for moving the actuating mechanism and anvil toward and away from the casing.

2. In a tag forming and affixing machine, the combination with a base, of a casing rigidly carried thereby, tape feeding mechanism carried in the casing, tape-cutting mechanism also carried by the casing, mechanism for securing the cut tape to an article at a plurality of places, actuating mechanism carried by the base and movable therein toward and away from the casing for operating the tape feeding mechanism as it moves away from the casing and for operating the cutting and securing mechanisms as it moves toward the casing, an anvil carried bodily by said actuating mechanism and opposed to the mechanism for securing the cut tape to an article, and means for moving the actuating mechanism and anvil toward and away from the casing.

3. In a tag forming and affixing machine, the combination with a base, of a casing rigidly carried thereby, tape feeding mechanism carried by the casing, tape cutting mechanism also carried by the casing, mechanism for securing the cut tape to an article at a plurality of points, actuating mechanism carried by the base and movable therein toward and away from the casing for operating the tape feeding mechanism as it moves away from the casing and for operating the tape cutting mechanism as it moves toward the casing, an anvil carried by and movable with said actuating mechanism and opposed to the mechanism for securing the cut tape to an article, and means for moving the actuating mechanism and the anvil toward and away from the casing.

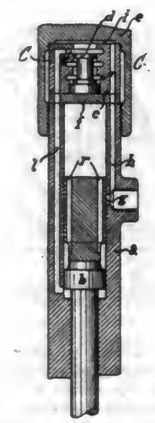
4. In a tag forming and affixing machine, the combination with a base, of a casing rigidly carried thereby, tape feeding mechanism carried by the casing, tape cutting mechanism also carried by the casing, mechanism for securing the cut tape to an article at a plurality of points also carried by the casing, a block mounted in the base and adapted to have movements toward and away from the casing, an anvil carried thereby and adapted to coact with the casing to hold the article and cut tape during affixing of the tape, mechanism for operating the tape feeding mechanism carried by the block, mechanism for operating the cutting mechanism also carried by the block, and means for moving the block toward and away from the casing.

5. In a tag forming and affixing machine, the combination with a support, and a base carried thereby, of a casing rigidly carried by the base, tape feeding mechanism carried by the casing, tape cutting mechanism also carried by the casing, mechanism for securing the cut tape to an article at a plurality of points also carried by the casing, a block slidably mounted in the base and capable of movements toward and away from the casing, an anvil carried by said block and adapted to coact with the casing to hold the article and cut tape during the securing of the cut tape to the article, mechanism for operating said tape feeding mechanism carried by the block, mechanism for operating the cutting mechanism also carried by the block, means for moving the block and anvil toward the casing and operating the cutting mechanism, and means for moving the block and anvil away from the casing and simultaneously operating the tape feeding mechanism.

[Claims 6 to 10 not printed in the Gazette.]

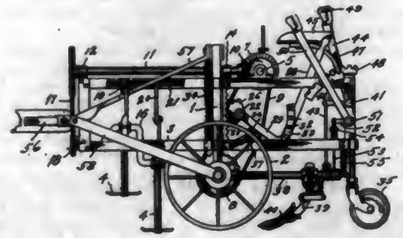
973,378. PNEUMATIC HAMMER. FRIEDRICH ADOLF OTTO, Remscheid, Germany, assignor to Company Alexanderwerk A. Vonder Nahmer Aktien-Gesellschaft, Remscheid, Germany. Filed Jan. 3, 1910. Serial No. 536,217.

In a pneumatic hammer or the like, the combination with the working cylinder having a fluid-pressure inlet at an intermediate point and an exhausting port at an intermediate point, of a separate valve casing having an exhaust port and a recessed part, the latter being in open and constant communication with the fluid-pressure supply for the cylinder, a chambered valve seat member in open communication with the said recessed part of the casing and also having spaces respectively in communication with the lower end of the cylinder and with the cylinder exhaust port, said valve seat member also being in communication with the exhaust port of the casing and having an enlarged end chamber in communication with



the cylinder through spaced ports in the latter, a ported piston operating within the cylinder, and a stepped valve mounted within the valve seat member and having end surfaces of different areas, the end surface of greater area working in said enlarged end chamber of the valve seat member, and the end surface of smaller area being exposed to the pressure within the recessed part of the casing.

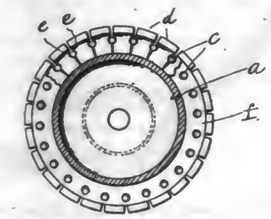
973,379. COTTON-CHOPPER. HENRY M. PARIS, Kingston, Tex. Filed Oct. 4, 1909. Serial No. 520,922.



1. In an agricultural implement, the combination with a frame supported on an arched axle, of racks fixed to the frame at its junction with the arched axle, a lever supported from the axle having connection with segmental gears adapted to engage with the racks to bodily raise the frame with relation to the axle, and springs fastened on the axle having connection with the frame and arranged to assist in raising the frame.

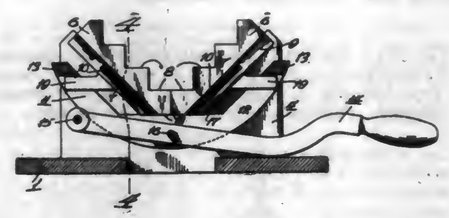
2. In an agricultural implement, the combination with a frame supported on an arched axle, of vertical racks fixed to the frame, a shaft extending transversely through the frame and supported from the arched axle and carrying segmental gears arranged to engage with the racks carried by the frame, a hand lever fixed on the shaft and arranged to rock the shaft and the segmental gears and to raise the frame vertically, and springs arranged to assist in raising the frame vertically with relation to the axle.

973,380. METHOD OF MAKING PRESS-ROLLS. HOWARD PARKER, Nashua, N. H., assignor to Improved Paper Machinery Company, Nashua, N. H., a Corporation of Maine. Filed Jan. 20, 1910. Serial No. 539,054.



The herein described method of providing a covering for a roll having a rigid core which consists in locating upon said core, and adjacent to one another, members of expansible material; fixing said members in relative radial and lengthwise position; and subjecting them to conditions tending to produce expansion, whereby said members are put under a compression strain of both circumferential and lengthwise character.

973,381. VISE. DENNIS PARKS, St. Louis, Mo. Filed July 6, 1909. Serial No. 506,037.



1. A vise comprising a base, a frame thereon affording oppositely-disposed inclined ways converging toward said base, and a jaw mounted to slide on each of said ways, said jaws, when raised, being free to slide down said ways under the action of gravity, and being provided with corresponding stepped recesses affording horizontal supporting, and vertical gripping surfaces.

2. A vise comprising a base, a frame thereon affording oppositely-inclined ways converging toward said base, a jaw mounted to slide on each of said ways, means for simultaneously raising said jaws, the latter, when raised, being free to slide down said ways under the action of gravity.

3. A vise comprising a base, a frame thereon affording oppositely-inclined ways converging toward said base, a jaw mounted to slide on each of said ways, said jaws, when raised, being free to slide down said ways under the action of gravity, and means for simultaneously raising or lowering said jaws.

4. A vise comprising a base, a frame thereon affording oppositely-inclined ways converging toward said base, a jaw mounted to slide on each of said ways, guides for each of said jaws, said jaws, when raised, being free to slide down said ways under the action of gravity, and means for simultaneously raising said jaws.

5. A vise comprising a base, a frame thereon affording oppositely-inclined ways, a jaw mounted to slide on each of said ways, guides for each of said jaws, said jaws, when raised, being free to slide down said ways under the action of gravity, and means pivotally mounted on the vise and associated, but unconnected, with said jaws, for simultaneously raising the same.

[Claims 6 to 9 not printed in the Gazette.]

973,382. SUSPENSION-COUCH. JAMES B. PATTERSON, Philadelphia, Pa. Filed Apr. 11, 1908. Serial No. 426,459.

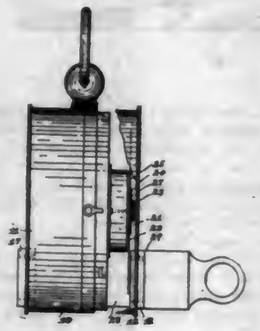


1. A suspension couch comprising a frame having at its ends hooks of which the bills are arranged toward the bottom of the frame, a pole in the bills of the hooks, and end suspension pieces arranged under the pole and provided with a spreader by which they are held to the frame, substantially as described.

2. In a suspension couch the combination with the end suspension piece and couch side of a triangular corner piece consisting of a doubled fabric and open along one edge and adapted for attachment to the couch side and to the end piece to form a pillow holder and to hang down from the couch side and form a pocket, substantially as described.

3. A suspension couch comprising a frame having poles at its ends and end suspension pieces arranged under the poles and provided with spreaders by which they are held to the frame, substantially as described.

973,383. WATCHMAN'S TIME-DETECTOR. GEORGE LEWIS PRENTISS, New York, N. Y., and ELIZA B. PRENTISS, Elisabeth, N. J., executors of Henry S. Prentiss, deceased. Filed July 9, 1907. Serial No. 382,950.



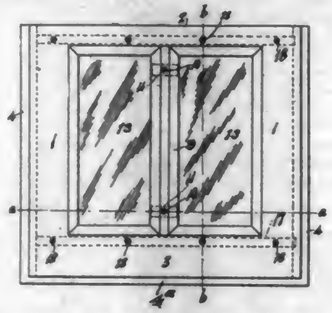
1. In combination with a watchman's time detector: a pedometer; an arbor actuated thereby; and a recording sheet or dial rotated by said arbor; and means adapted to indicate and record the distance said detector has been carried.

2. In combination with a watchman's time detector: a pedometer; an arbor actuated thereby; a recording sheet or dial rotated by said arbor; and means to mark said recording sheet.

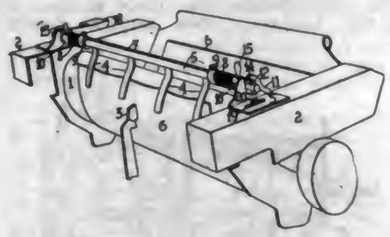
3. In a watchman's time detector: a pedometer; an arbor actuated thereby; a recording sheet or dial rotated by said arbor; a platen beneath said sheet or dial; and a key adapted to mark said sheet when pressed against said platen.

973,384. METALLIC WINDOW-SASH. EDWIN R. PROBERT, Norwood, Ohio. Filed July 14, 1909. Serial No. 507,469.

A metallic window-sash having hollow walls and comprising vertical side-stiles, horizontal top and bottom rails, a vertical hollow munnion made of sheet metal and having its vertical inner bar removable, guide-ways lying between the rigid and removable bars of said munnion, inwardly-facing recesses or grooves made along said side-stiles and said top and bottom rails, lock-seams in the bottoms of each of said grooves in the side-stiles and top and bottom rails, a removable reducer and reinforcing filler-bar of constant width and thickness and fitting within but of lesser depth and of greater length than the respective depths and lengths of either of said grooves in the said horizontal top and bottom rails, transverse screws for securing said reinforcing filler-bars in the hollow frame walls and glass lights or panes suitably inserted and fitting within all said grooves in the sash and duly contacting along their upper and lower edges and full horizontal length with said reinforcing filler-bars.



973,385. TYPE-WRITING MACHINE. HENRY RESCH, Bayonne, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 26, 1909. Serial No. 524,631.



1. In a typewriting machine, the combination with a platen and platen frame, of a paper-holding device including a finger-carrying bar, pressure fingers pendent therefrom to hold the paper against the platen, bearings in which the bar is journaled, brackets on the platen frame in which the bearings are non-rotatably seated, a spring secured at one end to a bearing, and adjustable means on the bar, to which the opposite end of the spring is secured, for regulating the tension thereof.

2. In a typewriting machine, the combination with a platen and platen frame, of a paper-holding device including a rock-shaft having pendent fingers to hold the paper against the platen, journal boxes in which the rock-shaft is journaled, a pair of springs, one end of each of which is fixed on the rock-shaft, the remaining ends being secured to the respective journal boxes, and brackets on the platen frame in which the journal boxes are detachably and non-rotatably seated to cause the springs to re-act upon the rock-shaft and press the fingers against the platen.

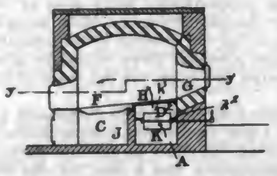
3. In a typewriting machine, the combination with a platen and platen-frame, of a paper-holding device including a finger-carrying bar, pressure fingers pendent therefrom to hold the paper against the platen, bearings in which the bar is journaled, tongues on the bearings, seats on the platen frame into which the tongues are slipped, and by which the tongues are held against rotation, and means connected to a bearing and to the bar, and placed under tension for urging the pressure fingers toward the platen.

4. In a typewriting machine, the combination with a platen and platen frame, of a paper-holding device, including a finger-carrying bar, presser fingers pendent therefrom to hold the paper against the platen, spring-actuated bearings rotatably and longitudinally shiftable on the bar, seats on the platen frame in which the bearings are non-rotatably held, to cause the spring to re-act upon the bar and press the fingers against the platen, and a pin carried by a spring-actuated bearing and projecting into a groove in the bar to limit the rotary and longitudinal travel of the bearing.

5. In a typewriting machine, the combination with a platen and platen frame, of a paper-holding device, including a finger-carrying bar, pressure fingers pendent therefrom to hold the paper against the platen, spring-actuated bearings rotatably and longitudinally shiftable on the bar, seats on the frame in which the bearings are non-rotatably held, to cause the spring to re-act on the bar for pressing the fingers against the paper, and a stop for limiting the rotary and longitudinal travel of the bearing, relative to the bar.

[Claims 6 to 18 not printed in the Gazette.]

973,386. FURNACE FOR REFUSE-DESTRUCTORS. FRANK PERCY RUDDER, Derby, England. Filed July 29, 1907. Serial No. 386,098.



1. A refuse burner having a chamber for the drying and incineration of refuse, means for receiving a portion of the products of combustion passing from said chamber, and means for forcing said products of combustion through the mass in said chamber to dry the same.

2. A refuse burner having a chamber the bottom of which has openings through it, said bottom being adapted to support a mass of refuse for drying and incineration, means for receiving products of combustion passing from said chamber, and means for forcing said products of combustion through the openings in said bottom and through the refuse supported thereby.

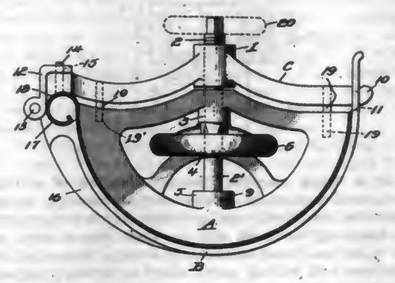
3. A refuse burner having a chamber provided with a refuse drying part having an opening and also provided with a refuse combustion part, said parts being adapted to successively receive the refuse, means for receiving products of combustion from said chamber, and means for forcing said products of combustion through said opening and through the mass in said refuse drying part.

4. A refuse burner having a chamber provided with a refuse drying part and a refuse combustion part to successively receive the refuse, the refuse drying part having openings for passage therethrough of the refuse drying agent, a duct in communication with and adapted to receive the products of combustion which constitute the drying agent from said combustion chamber, and means for causing the refuse drying agent to pass through said openings under pressure to act as a drying means upon the mass of refuse while in said drying part and for subsequently liberating the said agent.

5. A refuse burner having a combustion chamber provided with several distinct portions each to receive a body of refuse for incineration, each portion serving as an incinerating chamber or as a drying chamber, means for receiving a part of the products of combustion from said combustion chamber, and means for forcing said products of combustion through the several portions of the combustion chamber whereby as the operation of drying is taking place in some of the distinct portions through the instrumentality of the products of combustion returned from the combustion chamber and passed through the wet refuse, incineration of the dried refuse is taking place in the other distinct portions of the combustion chamber.

[Claims 6 and 7 not printed in the Gazette.]

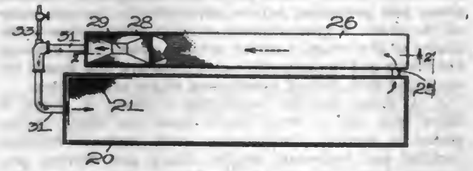
973,387. TROUGH-CLAMP. AUSTIN J. RUPPERT, Forreston, Ill. Filed Mar. 9, 1909. Serial No. 482,388.



1. A soldering clamp comprising a convex member, a yoke, a concave member detachably connected to the yoke, said convex member having spaced journal bearings therein and a recessed boss, an adjusting screw secured in the journal bearings and recessed boss, and a hand wheel on the adjusting screw having a hub seated between and engaging the journal bearings.

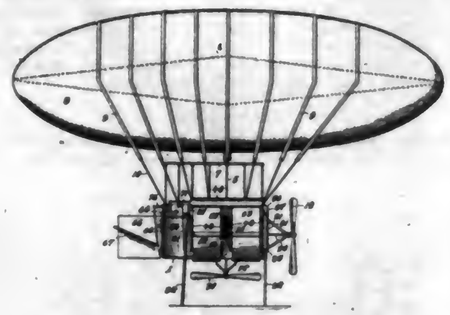
2. A soldering clamp comprising a convex and a concave clamping member, a yoke having a pin at one end, an L-shaped latch pivoted at one end of the concave member for engagement with the said pin, an adjusting screw provided with a hand wheel having a hub, vertically spaced journal bearings in the convex clamping member, the hub of said hand wheel disposed between and engaging said spaced bearings, and a threaded enlargement on said yoke adapted to receive said adjusting screw.

973,388. WOOL-WASHER. FREDERICK G. SARGENT, Westford, Mass., assignor to C. G. Sargent's Sons Corporation, Graniteville, Mass., a Corporation of Massachusetts. Filed Jan. 20, 1910. Serial No. 539,170.



In a wool washer, the combination of a washing bowl having means for supporting wool therein and adapted to receive settlings from the water in the bottom thereof, an outlet-pipe at one end, an inlet pipe at the other, a settling tank arranged longitudinally with respect to said bowl and at the rear side thereof and extending from one end thereof to the other, said outlet pipe discharging directly into one end of said settling tank, and means for drawing the water from the other end of the settling tank, heating it, and introducing it directly into the washing bowl.

973,389. FLYING-MACHINE. ROCCO T. SAVINO, New York, N. Y. Filed Feb. 5, 1910. Serial No. 542,251.



1. In a flying machine, the combination of a frame, steering and propelling means carried thereby, uprights rising from the frame and provided at their lower ends with engaging members and at their upper ends with stops, a balloon, and suspension devices depending from the balloon and having guide members slidably engaging the uprights and devices to interlock with said engaging members.

2. In a flying machine, the combination of a frame, steering and propelling means carried thereby, uprights rising from the frame, a balloon, and suspension devices depending from the balloon and slidably engaging the uprights, said devices being adapted for connection with the uprights at different elevations for supporting the frame closer to or farther from the balloon.

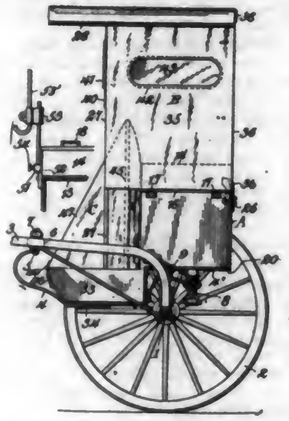
3. In a flying machine, the combination of a frame, propelling and steering means carried thereby, a canopy supported upon the frame and including uprights having locking members at their lower ends and stops at their upper ends, a balloon, flexible suspension devices depending from the balloon, rings carried by said devices and slidably engaging the uprights, and locking members also carried by said devices to engage said locking members at the lower ends of the uprights.

4. A flying machine embodying a frame, means for propelling the same forward, suitable steering means, brackets extending outwardly at the opposite sides of the frame, hood-shaped wings at the sides of the frame above said brackets, bracing connections between the frame, wings, and brackets, longitudinally extending shafts journaled on the brackets, beaters upon the shafts, each comprising a pair of flat blades spaced apart and extending in the same plane and projecting beyond diametrically opposite sides of the shaft, a gear element on each shaft between the blades of the wings, a motor, driving connections between the motor and the respective gear elements, and means for operating said driving connections singly or in unison.

5. A flying machine embodying a frame, a motor, a drive gear and a drive pinion upon the shaft of the motor, a vertical transmission shaft, endwise movable vertical and horizontal shafts, lifting and driving propellers carried by said shaft, clutch members upon the respective shafts, for throwing the vertical and horizontal shafts into and out of engagement with the transmission motor shafts through endwise movements of said vertical and horizontal shafts, counter-shafts, gears thereon meshing with the pinion of the motor shaft, a gear on the transmission shaft meshing with the gear on the motor shaft, sprocket gears on the counter-shafts, clutches for throwing the same into and out of operation, rotary beaters at the sides of the frame, a gearing for driving the same including the sprocket chains passing over said sprocket wheels on the counter-shafts.

[Claim 6 not printed in the Gazette.]

973,390. POSTMAN'S DELIVERY-WAGON. GUSTAV F. SCHULZE, Vandalia, Mo. Filed May 12, 1909. Serial No. 495,492.



1. A postman's delivery wagon comprising an axle, thills connected therewith, wheels on the axle, and a body supported on the axle and thills, said body comprising a box-like structure, partitions dividing the structure into separate end and intermediate compartments arranged side by side, the end compartments being open at the top and back, and the intermediate compartment being open at the front, and doors for the openings of the compartments, the top of the said structure being formed to provide a seat disposed between and below the top doors of the end compartments.

2. A postman's delivery vehicle comprising a wheel-supported body, a seat on the body, compartments at opposite sides of the seat, top doors at opposite sides of the seat for the compartments, and a door for the rear of each compartment, the rear doors being arranged side by side and mounted to independently swing rearwardly and downwardly to open position.

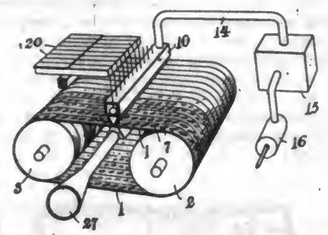
3. A postman's delivery wagon comprising a wheel-supported body, a seat on the top of the body, partitions in the body for dividing the same into central and end compartments, the end compartments extending upwardly above the central compartment to form sides for the seat, a front door for the central compartment, said end compartments being open both at the top and rear, and a pair of doors for each end compartment, one for the top and the other for the rear thereof.

4. A postman's delivery vehicle comprising a wheel-supported body, said body being in the form of a box, partitions dividing the body into central and end compartments, a seat on the central compartment, the end compartments projecting upwardly above the central compartment to form the sides of the seat, a plate forming the rear of the seat, upwardly and outwardly swinging doors for the end compartments, rearwardly and downwardly swinging doors for the rear sides of the end compartments, a forwardly and downwardly swinging door for the front of the central compartment, and means for holding the doors in closed position.

5. A postman's delivery vehicle comprising an axle, wheels on the axle, a body disposed over the axle, thills having their ends secured to the axle, resilient brackets secured to the under side of the body and extending forward therefrom and having their front ends secured to the thills, brackets on the thills extending rearwardly therefrom beyond the axle, a spring connecting the last-mentioned brackets and secured to the body, and a top for the vehicle.

[Claims 6 to 15 not printed in the Gazette.]

973,391. MUSICAL INSTRUMENT. MELVIN L. SEVERY, Arlington Heights, Mass. Filed Apr. 9, 1907. Serial No. 367,216.

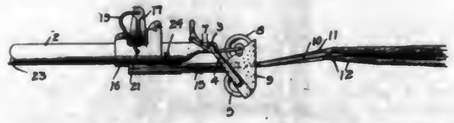


1. A musical instrument comprising a thin laterally extended member having means for continuous motion in its own plane and formed with openings through it, and means for directing a fluid current against the face of said member, said current being transversely extended with respect to the direction of motion of said member at the place where said current strikes it, and said openings being in the form of so-called sine-waves, each opening being longer than the distance from its center to the center of the next opening, and the extremities of adjacent openings being laterally shifted to avoid each other.

2. The combination of a series of endless belts composed of flexible material, means for supporting and moving them, the moving means for said belts being rotated in unison, said belts being each formed with a longitudinally-arranged series of operating areas, and means actuated by the passage of said operating areas for producing musical tones, each belt's area coacting with said means for producing a note of the musical scale different from that of its neighbors, and said belts being made of proper lengths to avoid forming fractional operating areas.

3. The combination of a series of endless belts composed of flexible material, means for supporting and moving them, and means operated by the passage of definitely located areas on said belts for producing acoustic vibrations; said belts being of proper lengths to avoid fractional parts of said areas, and said supporting and moving means consisting of a cylinder common to all the belts, a shaft, and rolls equal in number to said belts located on said shaft, said cylinder and rolls being of proper diameters to support the belts suitably taut.

973,392. MOP-STICK. WILLIAM P. SHATTUCK, Minneapolis, Minn., assignor, by direct and mesne assignments, of two-thirds to John Burmeister, Minneapolis, Minn. Filed Nov. 19, 1909. Serial No. 528,954.



1. A mop stick having upper and lower rollers mounted thereon and a mop holder, a shank connected to said holder and slidable on said stick to draw said holder between said rollers, the lower rollers being spaced apart and said mop holder being adapted to swing outwardly below said lower rollers after the wringing operation and allow said shank to return to its normal position between said upper and lower rollers.

2. A mop stick having upper and lower rollers, the latter being spaced apart, a mop holder, a shank connected to said holder, a slide connected to said shank and adapted to move back and forth on said stick, said slide being adapted to move away from said upper and lower rollers to draw said holder between them, and said slide being adapted to swing below said lower rollers and allow said shank to pass between said lower rollers to return said shank to its normal position between said upper and lower rollers.

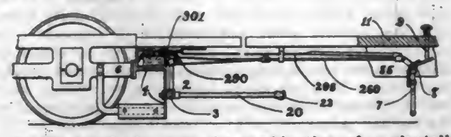
3. A mop stick having rollers mounted thereon, a mop holder, a shank connected to said holder and slidable on said stick, said shank having a rocking movement on said stick to allow said holder to swing outwardly and clear said rollers, said rollers permitting said shank to swing inwardly between them to return said holder to its normal operative position in front of said rollers.

4. The combination, with a mop stick, of lower rollers mounted thereon and arranged in line with one another with a space between them, an upper roller bridging said space and extending lengthwise of said lower rollers and yieldingly held toward the same, a slide slidably mounted on said stick, a mop holder carried thereby having a shank adapted to enter the space between said lower rollers and adapted to move back and forth on said stick, said slide having a hand grip thereon, and a locking device carried by said slide and adapted to be released by pressure of the finger, said slide being of greater diameter at its forward end than at its rear end and adapted to rock on said stick, said stem having a socket and a transverse recess to receive said locking device and permit said slide to be rocked on said stem to allow said holder, when moved forwardly, to pass beside the lower rollers.

5. A device of the class described, comprising a mop stick, lower rollers carried thereby and arranged in line with one another and spaced apart, an upper continuous roller yieldingly held toward said lower rollers, a mop holder, and a shank connected to said holder and adapted to enter the space between said lower rollers, and a slide mounted on said stick and connected with said shank, said slide being capable of rocking on said stick to allow said holder when moved forwardly to pass outside the lower rollers, whereby said shank may be moved through the space between said lower rollers and said mop holder drawn in between the upper and lower rollers, substantially as described.

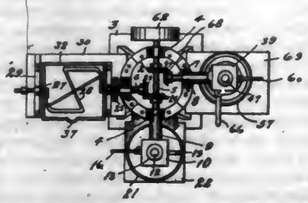
[Claims 6 to 8 not printed in the Gazette.]

973,393. LIFE-GUARD FOR RAILWAY-CARS. WILLIAM TORRENS, New York, N. Y. Filed Aug. 4, 1909. Serial No. 511,212.



In life-guards for cars the combination of a pivotally mounted cradle, a pivotally mounted gate, means for locking the cradle in its upper position, means pivoted coaxially with the gate and operable by the swinging of the gate for releasing the cradle, foot operable means, pivoted coaxially with the gate for releasing the cradle independent of the gate, means for locking the cradle in its lower position, foot operable means pivoted coaxially with the gate and successively efficient for unlocking the cradle from its lower position and for raising it to its upper position.

973,394. MIXING-MACHINE. NICKOLAS P. VLAHOYANES, Fort Worth, Tex. Filed Apr. 11, 1910. Serial No. 554,736.



1. In a confectionery machine, the combination with a central stand, of a horizontal shaft supported by the stand, of a housing supported from the stand, a miter gear

engaging on the shaft within the housing, a vertical shaft carrying a miter gear engaging with the miter gear carried by the horizontal shaft having a sleeve adapted to support mixing paddles, means for disengaging the gears, a shelf adapted to hold a vessel in the path of the paddles, means for raising and lowering the shelf, a spur shaft driven by the first named shaft extending at right angles thereto and carrying a miter gear at its end, a housing supported from the stand arranged over the latter, a vertical shaft mounted in the housing adapted to be driven by the gear on the spur shaft, a sleeve arranged to revolve around said shaft, means for revolving the sleeve in the direction to which the shaft is rotated, means for connecting the shaft and the sleeve to a vertical mixer, means for stopping the rotation of the shaft and sleeve, means for raising the same, a horizontal vat supported from the stand, a beater arranged in the vat adapted to be driven from the horizontal shaft, and means for tilting the vat to empty the contents.

2. In a confectionery machine, the combination with a central stand, of a horizontal shaft supported by the stand, a plurality of counter shafts extending at right angles to the horizontal shaft supported by sleeves carried on the central stand, a horizontal vat carried by the central stand, beaters arranged to operate in the vat driven by one of the counter shafts, a vertical shaft driven by the horizontal shaft adapted to carry adjustable paddles, a shelf arranged below the vertical shaft adapted to hold a vessel, means for raising the shelf, and means for severing the connection between the vertical shaft and the horizontal shaft.

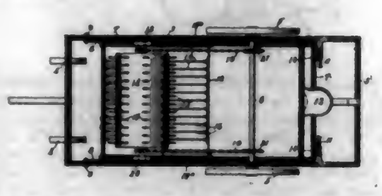
3. In a confectionery machine, the combination with a central stand, of a horizontal shaft supported by the stand, a plurality of counter shafts extending at right angles to the horizontal shaft supported by sleeves carried on the central stand, a horizontal semi-cylindrical vat supported by the central stand, beaters arranged to operate in the vat driven by one of the counter shafts, a rack fixed on the bottom of the vat arranged to engage with a pinion and to rock the vat to empty its contents, a vertical shaft supported from the stand arranged to be driven by the other counter shaft to operate a spindle in a vertical mixer, a sleeve surrounding the vertical shaft driven from the counter shaft and arranged to transmit a reversed rotary motion to the vertical mixer in which the spindle turns, means for allowing the last named counter shaft to run free, and means for raising the vertical shaft and the sleeve which surrounds it to disengage them from the vertical mixer.

4. In a confectionery machine, the combination with a central stand, of a horizontal shaft supported by the stand, a plurality of counter shafts extending at right angles to the horizontal shaft supported by sleeves carried on the central stand, a horizontal semi-cylindrical vat driven by one of the counter shafts, a rack fixed on the bottom of the vat arranged to engage with a pinion and to rock the vat to empty its contents, a vertical shaft supported from the stand arranged to be driven by the other counter shaft to operate a spindle in a vertical mixer, a sleeve surrounding the vertical shaft driven from the counter shaft and arranged to transmit a reversed rotary motion to the vertical mixer in which the spindle turns, means for allowing the last named counter shaft to run free, means for raising the vertical shaft and the sleeve which surrounds it to disengage them from the vertical mixer, a vertical shaft driven by the horizontal shaft adapted to carry adjustable paddles, a shelf arranged below the vertical shaft adapted to hold a vessel, means for raising the shelf, and means for severing the connection between the vertical shaft and the horizontal shaft.

5. In a confectionery machine, the combination with a central stand, of a horizontal shaft supported by the stand, a plurality of counter shafts supported by sleeves carried on the central stand, a horizontal vat supported from the central stand, beaters arranged to operate in the vat driven by one of the counter shafts, a vertical shaft driven from the horizontal shaft having its lower end arranged to receive adjustable paddles, a shelf arranged below the vertical shaft adapted to hold a vessel, a vertical mixer supported from the central stand, means for transmitting power from a counter shaft to a vertical spindle supported within the vertical mixer, and means for turning a receptacle about the spindle supported within the vertical mixer.

[Claim 6 not printed in the Gazette.]

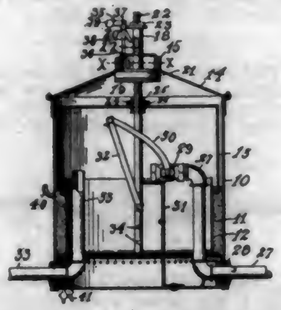
973,395. STALK-CUTTER AND HARROW. MICHAEL W. WALLACE, Moline, Ill. Filed Oct. 1, 1909. Serial No. 520,441.



1. In a stalk cutter and harrow, the combination of a frame, a cylinder or drum journaled transversely therein, radially extending knives carried by the cylinder and sharpened along their front edges, and a plurality of horizontal forwardly and rearwardly extending ground knives carried by the frame and extending beneath the cylinder and between the cylinder knives, said cylinder knives being arranged to cut into the soil more deeply than the ground knives.

2. In a stalk cutter and harrow, a frame, a cylinder or drum journaled transversely therein and carrying a plurality of knives, and a plurality of rigid ground knives carried by the frame and disposed beneath the cylinder and between the cylinder knives, said ground knives being sharpened at their lower edges and arranged to cut into the soil to a less extent than the cylinder knives.

973,396. GAS-REGULATOR. ARTHUR E. WESTBURG, Jamestown, N. Y. Filed May 26, 1909. Serial No. 498,476.



1. In a device of the character described, a receptacle having an opening in the top thereof, a domo inverted within said receptacle having a liquid seal for the lower edge, ingress and egress pipes beneath said dome, a seal attached to the top of said dome to close said opening under high pressure, a guide for said seal, a valve on the ingress pipe, and means for attaching said valve to said dome to control said valve by the upward and downward movement of said dome.

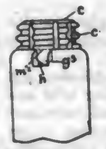
2. In a device of the character described, a receptacle having an opening in the top thereof, a dome inverted within said receptacle having a liquid seal for its lower edge, ingress and egress pipes extending into said receptacle beneath said dome, a rod attached to said dome and extending above and beneath the same, a ferrule adjustably placed on said rod, said ferrule having a projecting flange on its lower end, a seal on said ferrule flange for said opening in the top of said receptacle, substantially as and for the purpose specified.

3. In a device of the character described, a receptacle having an opening in the top thereof, a dome inverted within said receptacle having a liquid seal for its lower edge, ingress and egress pipes extending into said receptacle beneath said dome, a rod attached to said dome and extending above and beneath the same, a ferrule adjustably placed on said rod, a seal on said ferrule for said opening in the top of said receptacle, a valve on said ingress pipes, said valve having an arm and link attachment to said rod to open and close said valve by the movement of said dome.

4. In a device of the character described, a receptacle having an opening in the top thereof, a dome inverted within said receptacle having a liquid seal for its lower edge, ingress and egress pipes extending into said receptacle beneath said dome, a rod attached to said dome and extending above and beneath the same, a ferrule adjustably placed on said rod, a seal on said ferrule for said opening in the top of said receptacle, a valve on said ingress pipes, said valve having an arm and link attachment to said rod to open and close said valve by the movement of said dome, and a latch to automatically lock said dome.

5. In a device of the character described, a cylindrical receptacle 10 having a cover 14 with an opening 16 therein, a cylindrical partition 12 within said receptacle to form a liquid seal, a dome 13 inverted within said receptacle with its lower edge in said liquid seal, a rod 22 attached to said dome and extending above and within the same, a ferrule 18 adjustably mounted on the upper end of said rod, a seal 21 on said ferrule for said opening in said cover, an inlet pipe 27 and an outlet pipe 33 for said receptacle beneath said dome, a valve 29 on said inlet pipe having an arm 30 to open and close the same, and link connection between said arm and said rod to control said valve by the movement of said dome, substantially as and for the purpose specified.

973,397. SCREW-CLOSURE FOR BOTTLES AND OTHER RECEPTACLES. ARTHUR WILZIN, Paris, France. Original application filed Feb. 6, 1907, Serial No. 355,986. Divided and this application filed Oct. 11, 1907. Serial No. 397,006.



1. The combination of a receptacle having a screw thread and a locking surface at a different level, with a cap provided with a threaded flange in engagement with said screw thread, said flange having longitudinal ribs on its entire height extending across its threads, and a tongue projecting from the edge of said flange and in locking engagement with said locking surface to keep the cap from turning relatively to the receptacle, the attached end of the tongue being connected with the flange along a weakened line.

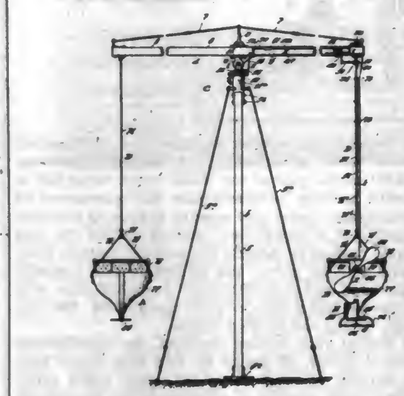
2. The combination of a receptacle having a screw thread and a locking surface at a different level, with a cap provided with a threaded flange in engagement with said screw thread, a tongue projecting from the edge of said flange and in locking engagement with said locking surface to keep the cap from turning relatively to the receptacle, and longitudinal ribs concaved toward the axis of the receptacle and extending across all the threads of the cap.

3. The combination of a receptacle having a screw thread and a locking surface at a different level, with a cap provided with a threaded flange in engagement with said screw thread and a tongue projecting from the edge of said flange and in locking engagement with said locking surface to keep the cap from turning relatively to the receptacle, the attached end of said tongue being connected with the flange along a weakened line.

4. A closure cap provided with a threaded flange which has longitudinal ribs extending across its threads, and also a tongue adapted for locking engagement with the receptacle, the attached end of said tongue being connected with the flange along a weakened line.

5. A bottle cap provided with a flange the upper part of which, at least, is circumferentially continuous, said flange having a screw thread opening out at the bottom thereof, inwardly concaved longitudinal ribs intersecting all the screw threads and extending the whole height of the flange, and a locking element attached to said flange and adapted to be readily detached therefrom.

973,398. CAPTIVE AIRSHIP MECHANISM. VINCENT C. DE YBARRONDO, Los Angeles, Cal. Filed June 14, 1909. Serial No. 502,166.



1. A plurality of jointly movably mounted air-ship bodies, propulsion means for the same mounted upon one of the same, means confining the air-ship bodies to a normal course of travel, and means acting directly upon one of the air-ship bodies for varying the course of travel of both of the same.

2. A plurality of jointly movably mounted air-ship bodies, propulsion means for the same mounted upon one of the same, means confining the air-ship bodies to a normal course of travel, and means acting directly upon one of the air-ship bodies for varying the course of travel of both of the same; said means comprising an aeroplane, and controlling means for adjusting the same.

3. An upright support, a transverse member rotatably mounted thereupon and capable of oscillation in a plane at an angle with the plane of rotation thereof, means for locking said transverse member against oscillation, an airship body connected with said transverse member, and propulsion means for said air-ship body.

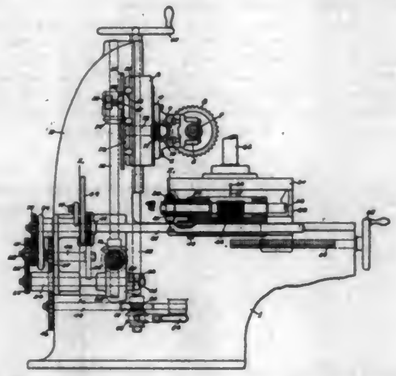
4. An upright support, a transverse member rotatably mounted thereupon and capable of oscillation in a plane at an angle with the plane of rotation thereof, means locking the transverse member against oscillation, an air-ship body connected with the transverse member, means for propelling the air-ship body, and means extending to the air-ship body controlling said means for locking said transverse member against oscillation.

5. An upright support, a transverse member rotatably mounted thereupon and capable of oscillation in a plane at an angle to the plane of rotation thereof, a plurality of air-ship bodies connected with said transverse member, propulsion means for one of said air-ship bodies, means

for locking said transverse member against oscillation, and controlling means for said locking means extending to an air-ship body.

[Claims 6 to 11 not printed in the Gazette.]

973,399. GEAR-CUTTING MACHINE. WILLIAM F. ZIMMERMANN, Newark, N. J., assignor to Gould & Eberhardt, Newark, N. J., a Corporation of New Jersey. Filed Jan. 16, 1909. Serial No. 472,592.



1. In a helical gear cutting machine, the combination with a helical cutter, of means to feed said cutter substantially parallel to the axis of the wheel blank being cut, a blank spindle, gearing to synchronize the movements of said feeding means, cutter and spindle, producing substantially a motion in a helical line, passing around the axis of said blank, devices to indicate the original relative positions of said spindle, cutter and feeding means, comprising a coöperating series of stationary and adjustable zero marks, arranged upon intermediate mechanism between said spindle, cutter and feeding means.

2. In a helical gear cutting machine, the combination with a helical cutter, of means to feed said cutter substantially parallel to the axis of the wheel blank being cut, a blank spindle, gearing to synchronize the movements of said feeding means, cutter and spindle, producing substantially a motion in a helical line passing around the axis of said blank, devices to indicate the original relative positions of said spindle, cutter and feeding means, comprising a coöperating series of stationary and adjustable zero marks, arranged upon intermediate mechanism between said spindle, cutter and feeding means, with means to adjust said spindle, cutter or feeding means relatively to each other, without destroying the synchronism.

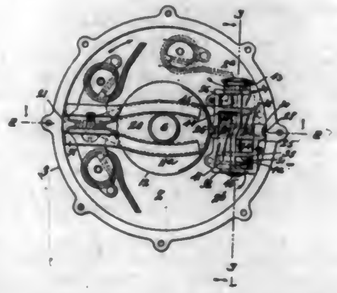
3. In a helical gear cutting machine, the combination with a helical cutter, of means to feed said cutter substantially parallel to the axis of the wheel blank being cut, a blank spindle, gearing to synchronize the movements of said feeding means, cutter and spindle, producing substantially a motion in a helical line, passing around the axis of the wheel blank, devices to indicate the original relative positions of said spindle, cutter and feeding means, comprising a coöperating series of stationary and adjustable zero marks, arranged upon intermediate mechanism between said spindle, cutter and feeding means, with means to adjust said spindle, relatively to said cutter and feeding means, without destroying the synchronism.

4. A helical gear cutting machine, comprising a helical cutter, with feeding means therefor, a work spindle, devices to indicate the original relative positions of said spindle, cutter and feeding means, with means to adjust said spindle, cutter and feeding means, relatively to each other, without destroying the synchronism.

5. A helical gear cutting machine comprising a helical cutter, with feeding means therefor, a work spindle, gearing to synchronize the movements of said spindle, cutter and feeding means, devices to indicate the original positions of said spindle, cutter and feeding means comprising a coöperating series of stationary and adjustable zero marks, arranged upon intermediate mechanism between said spindle, cutter and feeding means, with means to adjust said spindle, relatively to said cutter and feeding means without destroying the synchronism.

[Claims 6 to 9 not printed in the Gazette.]

973,400. OSCILLATING MOTOR. HARRY A. ADAMS, Reading, Pa., assignor, by mesne assignments, to Edwin E. Pryor, Reading, Pa. Filed Oct. 21, 1909. Serial No. 523,740.



1. An oscillating-piston motor having a cylinder provided with separate inlet and outlet chambers each having alined valve-seat openings communicating with the respective ends of the piston chamber, and a single valve-stem having four rigidly spaced valves adapted to seat in pairs in said seats, said valved stem being shifted by the oscillating piston at each extreme of its movement to reverse the inlet and outlet flows substantially as set forth.

2. An oscillating-piston motor having a cylinder provided with fluid-controlling means comprising a valve stem adapted to be reversely moved by the oscillating piston, said cylinder being provided with inlet and outlet openings and valve-seated passages extending from each of said openings to each end of the piston chamber and said valve stem carrying a series of spaced valves whereby communication between said piston chamber ends and said inlet and outlet openings is automatically reversed by the oscillating piston at each end of its movement substantially as set forth.

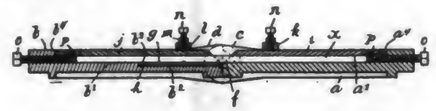
3. In an oscillating-piston motor having a cylinder with an annular piston chamber provided with inlet and outlet openings, a separately formed valve-casing rigidly secured in said annular chamber and provided with separate chambers communicating with said inlet and outlet openings respectively, alined valve-seat openings from each of said valve-casing chambers to the opposite ends of said piston chamber and a piston-operated valve-stem having four rigidly spaced valves adapted to seat in pairs in said seats.

4. In an oscillating-piston motor having a cylinder with an annular piston chamber provided with inlet and outlet openings, a separately formed parted valve-casing rigidly secured in said annular chamber and provided with separate chambers communicating with said inlet and outlet openings respectively, alined valve-seat openings from each of said valve-casing chambers to the opposite ends of said piston chamber and a piston-operated valve-stem having four rigidly spaced valves adapted to seat in pairs in said seats.

5. An oscillating-piston motor having a cylinder provided with separate inlet and outlet chambers each having alined valve-seat openings communicating with the respective ends of the piston chamber, a single valve-stem having four rigidly spaced valves adapted to seat in pairs in said seats, and an oscillating piston carrying oppositely arranged spring-arms adapted to contact with and reversely operate said valve-stem substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

973,401. WOOD-BENDING MACHINE. SAMUEL R. BAILEY, Amesbury, Mass. Filed Sept. 8, 1908. Serial No. 451,476.



1. A bending machine comprising means for holding opposite portions of a continuous strip of fibrous material to be bent and for bending an intermediate portion thereof and simultaneously compressing said intermediate portion longitudinally of its fibers throughout its entire thickness, without compressing the adjacent portion thereof to a corresponding extent.

2. A bending machine comprising work-holding devices for engaging a continuous strip of fibrous material at opposite ends of an intermediate portion thereof to be bent, said devices being constructed for relative movement simultaneously to bend said intermediate portion and to compress said portion longitudinally of its fibers throughout its thickness without compressing the adjacent portions of the strip to a corresponding extent.

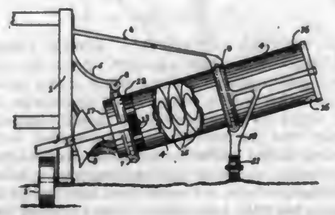
3. A bending machine comprising two pairs of oppositely disposed clamps arranged to engage opposite sides of a strip of fibrous material adjacent the middle portion of the strip to be bent and constructed for relative movement simultaneously to bend and compress longitudinally, throughout its entire thickness, the portion of the strip between said clamps.

4. A machine for bending a strip of material having longitudinal fibers, comprising a substantially continuous support for holding the fibers against bulging movement at the outer side of the portion to be bent, and means for simultaneously bending said portion and longitudinally compressing the same throughout its entire thickness while held on said support, and forcing the fibers from the inner side of said portion toward the outer side thereof.

5. A machine for bending a strip of material having longitudinal fibers, comprising a pair of holders having abutting portions provided with substantially continuously-disposed supporting faces for holding the fibers against bulging movement at the outer side of the portion to be bent, means permitting relative movement of said holders to bend the strip and longitudinally compress the fibers at the outer side thereof, and means, engaging the inner side of said portion, for forcing the inner fibers toward the outer sides thereof as the bending operation is performed.

[Claims 6 to 21 not printed in the Gazette.]

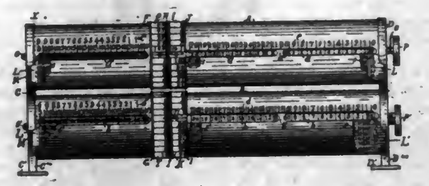
973,402. SIDE-DELIVERY EXCAVATOR. GEORGE W. BARNETT, Louise, Tex. Filed Aug. 25, 1908. Serial No. 450,246.



1. In a device of the character described, the combination with a supporting frame and a plow carried thereby, of a conveyer comprising a cylinder and a supporting frame composed of supports 5 and 6 and their respective collars 7 and 9 embracing the cylinder; an under support 10 taken in connection with its lateral brace, as shown and described; said cylinder being supported by said frame and disposed to rotate in said collars, the inner wall of said cylinder being provided with a helical flange spiraled around said wall longitudinally.

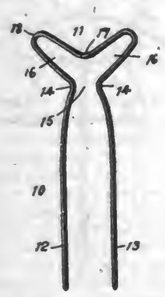
2. A side delivery excavator comprising a supporting frame and a plow carried thereby; a conveyer disposed to receive the earth from said plow, said conveyer including a conveying cylinder and supports 5 and 6 and their respective collars 7 and 9 embracing said cylinder and also including an under support 10 taken in connection with its lateral brace as shown and described; the said cylinder being disposed to rotate in said collars and carrying upon its inner wall a helical flange longitudinally spiraled there around and a rim carried by the inner wall of the lower end of said cylinder, adjacent to the plow from which said conveyer receives, for retaining the contents of the cylinder until taken up by the said flange.

973,403. COMPUTING DEVICE. SAMUEL M. BOLING, Chandler, Okla., assignor to Standard Computing Wagon Scales Company, Chandler, Okla. Filed Nov. 2, 1908, Serial No. 460,602. Renewed Feb. 18, 1910. Serial No. 544,127.



In a computing-device, supporting means, outer, stationary, cylindrical tubes positioned in said supporting means and carrying longitudinally-extending series of numbers, and having longitudinally-extending slots cut therethrough, movable, cylindrical tubes disposed within said outer tubes and carrying, circumferentially, columns of numbers, and a spring disk carried by the end of each movable tube and having two opposite edges thereof bent away from said end of the movable tube and bearing against the inner surface of said supporting means, for preventing accidental movement of the movable tubes.

973,404. HAIR-PIN. CHARLES C. CLARK, East Orange, N. J. Filed Nov. 16, 1909. Serial No. 528,322.



As an article of manufacture, a hair pin having leg members, loops extending upwardly and outwardly at the closed end of the pin at an oblique angle to the body of the pin, said loops projecting beyond the leg portions and forming a substantially flat head to the pin, greater in width than the body of the pin, that portion of the pin forming the upper walls of the loops being connected together at a point directly over the center of the pin and being depressed or bent inwardly to form a hair-receiving channel at the top of the pin head.

973,405. VACUUM-PRODUCING DEVICE. SAWYER D. CLARK and CHARLES F. BARTELL, Boulder, Colo. Filed Oct. 25, 1909. Serial No. 524,587.



As an article of manufacture for domestic use, a vacuum producing device adapted to be attached to a water spigot and to receive water under pressure, said device comprising an ejector having a discharge pipe whose upper end is adapted to be connected with the spigot, and has a branch pipe for connection with an air tube, and whose lower end is equipped with an enlarged closure which curves outwardly from the pipe, the upper portion of the closure being perforated for the escape of water discharged from the pipe thereinto, and the dome shaped hood or shield open to the atmosphere at its lower end for the free escape of the water, the hood being applied to the pipe and surrounding the closure in such proximity thereto that the water issuing from the perforations of the closure is controlled so as to produce a suction effect, in the space between the hood and closure substantially as described.

973,406. FOLDING UMBRELLA. STUART J. CLARK, Auburn, Ill. Filed Apr. 12, 1910. Serial No. 555,036.



The combination of a staff, a tube slidable on the staff, a latch mounted on the staff and controlling upward sliding of said tube, an upper sleeve and a lower sleve slidable on said tube, a latch mounted on said tube and supporting said lower and upper sleeves, and a lever mounted on one of said sleeves and acting on the free end of the latch to depress the latch mounted on said staff to permit upward movement of the tube and the upper sleeve mounted thereon.

973,407. ROCK-DRILLING BIT. TERRENCE CONNELL, Haverford, Pa. Filed July 21, 1909. Serial No. 508,811.



1. A drill bit having its working end formed with a series of radially disposed teeth arranged and proportioned to continuously produce a pinnacle on the material in which the cut is being made, and also with a centrally arranged flat-sided recess having sharpened edge portions and having a degree of inward taper sufficient to produce the crushing and grinding of the pinnacle continuously with the original formation thereof throughout the cutting operation.

2. A drill bit having its working face formed with a series of facets, the apices of which are sharpened to constitute radial cutting teeth, and also with a centrally arranged inwardly tapering recess, the edges of which are also the inner edges of the facets and are sharpened to constitute cutting teeth, the radial teeth producing a pinnacle on the material in which the cut is being made, continuously throughout the cutting operation and the recess having a sufficient degree of inward taper to produce the grinding down and crushing of the pinnacle continuously with the original formation thereof.

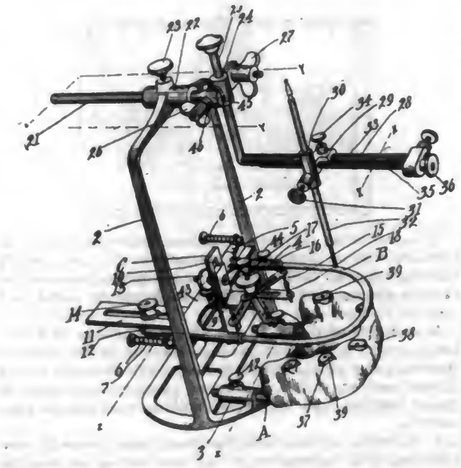
3. A drill bit having the working end of its shank formed with outwardly divergent facets and with grooves alternating with the facets and terminating in outwardly converging facets, the apices of which are sharpened to constitute radial cutting teeth which extend to the longitudinal centers of the several divergent facets, the bit also having at its working end a centrally arranged inwardly tapering recess, the bounding edges of which are also the inner edges of the convergent facets, the radial teeth producing a pinnacle on the material in which the cut is being made continuously throughout the cutting operation and the recess having a sufficient degree of inward taper to produce the grinding down and crushing of the pinnacle continuously with the original formation thereof.

973,408. DENTAL APPARATUS. JOHN C. CORCORAN, St. Paul, Minn. Filed Nov. 15, 1909. Serial No. 527,991.

1. In dental apparatus for making crown attachments, the combination with a frame, of an articulator supported thereon, and a transfer instrument slidably supported upon the frame over the articulator and provided with adjustable leaves having means for engaging crown attachments.

2. In dental apparatus for making crown attachments, the combination with a frame, of an articulator supported thereon, a transfer instrument having sliding support on the frame in position to be moved over the articulator and into engagement with a model held thereon, and a parallelel also movably supported in the frame in position to be moved over the articulator, and adjustable at any desired angle.

3. In dental apparatus for making crown attachments, the combination, with an articulator, of a transfer instrument having sliding support at the rear of the articulator in two perpendicular planes and provided with a pin and a plurality of slotted leaves working upon the pin.

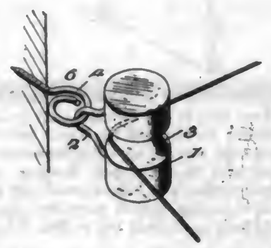


4. In dental apparatus of the class described, the combination, with a frame, of an articulator carried thereby, a parallelel also carried by the frame and having sliding and rotative support thereon, said parallelel having a horizontally swaying arm, a chuck holder longitudinally slidable upon said arm, and an adjusting screw carried by the arm and threaded through the chuck-holder for adjusting the same back and forth.

5. In dental apparatus for making crown attachments, the combination, with a frame, of an articulator carried thereby, a parallelel also carried by the frame and having sliding and rotative support thereon, and adjustable at any desired angle, and a transfer instrument supported upon the frame between the parallelel and articulator and slidable in two perpendicular planes.

[Claim 6 not printed in the Gazette.]

973,409. INSULATED HANGER. EDWARD CRABBE, Seattle, Wash. Filed Feb. 19, 1910. Serial No. 544,792.



1. A hanger or support for electric wires comprising a block having a circumferential groove, a yoke projecting from said block and spanning said groove, and a support having an involute spiral with which said yoke is designed to engage.

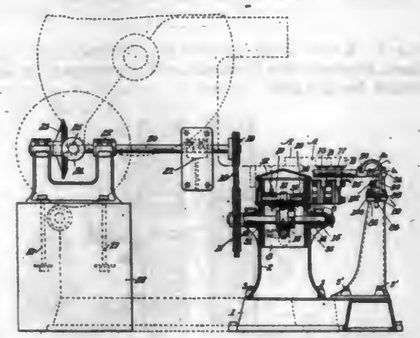
2. A hanger or support for electric wires comprising a block, circular in cross section, having a circumferential groove, a yoke projecting from said block and spanning said groove, and a screw eye in the form of an involute spiral with which said yoke is designed to engage.

973,410. SAFETY-STIRRUP. NESSA CROUSE, Moab, Utah. Filed Apr. 24, 1909. Serial No. 491,962.



A stirrup having recesses in the front portions of the sides thereof and sockets communicating with said recesses, lugs upon said recessed sides, pivoted arms occupying said recesses for closing said sockets, said arms being provided with recesses to receive the lugs, leaf springs secured at their lower ends to the sides below the recesses in the latter and bearing at their free ends upon the arms above their pivotal connections for holding said arms closed, and a suspending bar having cam shaped ends detachably held in said sockets by the arms.

973,411. OFF-BEARING ATTACHMENT FOR BRICK-PRESSES. WILLIAM R. CUNNINGHAM, Bucyrus, Ohio, assignor to The American Clay Machinery Co., Bucyrus, Ohio, a Corporation. Filed Apr. 18, 1908, Serial No. 427,885. Renewed Aug. 30, 1910. Serial No. 579,746.



1. An attachment for a press, said attachment comprising a conveyer having a movement in a direction crosswise of the press, said conveyer comprising parallel spaced rollers, a support upon which the pressed brick is delivered from the press, said support being introduced between the ends of the conveyer and arranged in the vertical plane of the conveyer and normally above the same, and means for lowering the support through the interspace between adjacent rollers to cause its supported brick to be deposited onto the conveyer, with its major axis substantially parallel with the line of travel of the conveyer.

2. An attachment for a press said attachment comprising a conveyer adapted for movement crosswise of the press, said conveyer comprising parallel spaced rollers, a support located at an intermediate portion of the conveyer and normally superposed above the conveyer and adapted to receive the output of the press, and means for moving the support through the interspace between adjacent rollers from a higher to a lower level to deposit the supported brick onto the rollers, with its major axis substantially parallel with the line of travel of the conveyer.

3. An attachment for a press, said attachment compris-

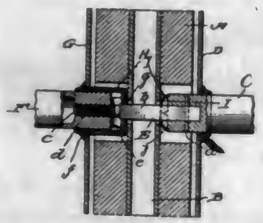
ing a conveyer formed of a series of parallel spaced rollers, and a transfer-mechanism between the same and the press, said mechanism having a supporting member located between opposite ends of the conveyer, and normally positioned in the vertical plane of and above the conveyer and adapted to receive the brick delivered from the press, and means for lowering the support through the space between adjacent rollers until its upper surface is below the plane of the upper surface of the rollers, whereby said brick is transferred from the support to the rollers, with its major axis substantially parallel with the line of travel of the conveyer.

4. An attachment for a press said attachment comprising a horizontally operable conveyer, formed of parallel spaced rollers, and a transfer-mechanism between the same and the press, said mechanism having a supporting member located between opposite ends of the conveyer and normally maintained vertically in line above the rollers and in a position to directly receive the output of the press, and means for lowering said supporting member through the space between adjacent rollers to transfer the supported brick to said rollers, with its major axis substantially parallel with the line of travel of the conveyer.

5. An attachment for a press, said attachment comprising a conveyer formed of parallel spaced rollers and a transfer-mechanism between the same and the press, said mechanism and the conveyer being operable in planes one substantially at right-angles with the other and said transfer mechanism having a supporting member located between opposite ends of the conveyer and normally superimposed directly above the rollers, and means permitting the operation of the support in the vertical plane of the rollers and through the space between adjacent rollers, whereby the supported brick may be lowered onto the rollers, with its major axis substantially parallel with the line of travel of the conveyer.

[Claims 6 to 29 not printed in the Gazette.]

973,412. KNOB AND SPINDLE CONNECTION. WILLIAM CURLETT, San Francisco, Cal. Filed Sept. 2, 1909. Serial No. 515,878.

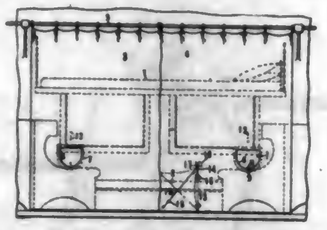


In a knob and spindle connection, the combination of a spindle threaded at one end and having a portion of angular form in cross-section, a knob connected with said spindle and adapted to be arranged at one side of a door, a knob adapted to be arranged at the opposite side of the door and having a threaded bore to receive the threaded end of the spindle and also having a bifurcation in its inner end, an escutcheon, and a coupling member loosely receiving and movable inward and outward on the last named knob and having a diametrical portion disposed in the bifurcation of the knob and an angular aperture in said diametrical portion adapted to receive the angular portion of the spindle; said coupling member being retained in its working position by the escutcheon.

973,413. VENTILATING DEVICE FOR SLEEPING-CARS. EMRY DAVIS, Brooklyn, N. Y. Filed Dec. 18, 1909. Serial No. 533,893.

1. A device of the class described, comprising in combination with a curtain, having an opening therein, a hinged flap, and means for securing said flap in a position adapted to either open or close the opening as desired.

2. A device of the class described, comprising in combination with a sleeping car curtain having an opening therein, a flap adapted to close said opening, and means for securing said flap in either opened or closed position as desired.



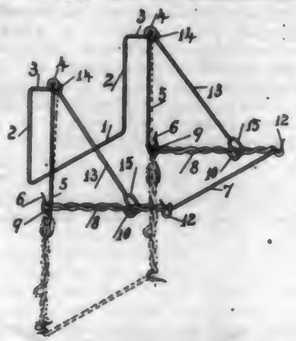
3. A device of the class described, comprising in combination with a sleeping car curtain having an opening therein, a flap on said curtain, a separable fastener on the curtain and on said flap adapted to secure the same in a position to close said opening.

4. A device of the class described, comprising in combination, with a sleeping car curtain having an opening therein, a flap on said curtain, a separable fastener on the curtain and on said flap adapted to secure the same in closed position, and means for holding said flap in open position.

5. A device of the class described, comprising in combination, with a sleeping car curtain having an opening therein, a flap on said curtain, a separable fastener on the curtain and on said flap adapted to secure the same in closed position, and means for holding said flap in open position, operable from within the compartment.

[Claims 6 to 11 not printed in the Gazette.]

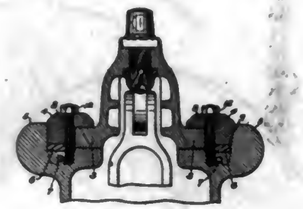
973,414. BAG-HOLDER. CHARLES L. EARTHAM, Medora, Ill. Filed Aug. 11, 1910. Serial No. 576,728.



1. The combination of a supporting frame having arms turned to form eyes at the forward ends of said arms and having hangers terminated by hooks serving as sack-supports and also serving as hinge-connections for a bail supported on said hooks; a bail mounted on said hooks having angular stops, and braces connected in the eyes of said bars and having looped members engaging on the stops of said bars to support the bail in a horizontal position.

2. The combination of a supporting frame having arms turned to form eyes at the ends of said arms and having hangers terminated by hooks serving as sack supports and also serving as hinge-connections for a bail mounted on said hooks; a bail mounted on said hooks and having angular stops and sack-supporting hooks; and braces connected in the eyes of said arms and having looped members adapted to engage the stops on said side bars to support the bail when the braces are extended, and adapted to permit said loops to pass said stops to retract the braces.

973,415. SHAPING-MACHINE. FREDERICK L. EBERHARDT, Newark, N. J., assignor to Gould & Eberhardt, Newark, N. J., a Corporation of New Jersey. Filed Aug. 26, 1909. Serial No. 514,835.



1. The combination with a frame of a tool-slide mounted to reciprocate thereon and provided with rectangular guides, guide blocks for said tool-slide, means to adjust said blocks to compensate for the lateral and vertical wear and means to rigidly secure said blocks to said frame, substantially as described.

2. The combination with a frame of a tool-slide mounted to reciprocate thereon and provided with rectangular guides, guide blocks for said tool-slide, and means to rigidly secure said blocks to said frame, thereby forming a rigid guideway for said tool-slide, substantially as described.

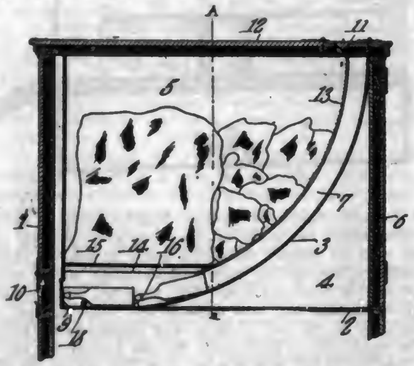
3. The combination with a frame of a tool-slide mounted to reciprocate thereon and provided with rectangular guides, guide blocks for said tool-slide, means to rigidly secure said blocks to said frame, and adjusting means to compensate for the lateral and vertical wear, substantially as described.

4. The combination with a frame of a tool-slide mounted to reciprocate thereon and provided with rectangular guides, guide blocks in said frame, taper gibs to adjust said guide blocks vertically, and means to rigidly secure said blocks and taper gibs to said frame thereby forming a rigid and adjustable guideway for said tool-slide, substantially as described.

5. The combination with a frame of a tool-slide mounted to reciprocate thereon and provided with rectangular guides, guide blocks in said frame, taper gibs to adjust said guide blocks to compensate for the vertical wear, means to adjust one of said guide blocks laterally to compensate for the lateral wear, and means to rigidly secure said blocks and taper gibs to said frame thereby forming a rigid and adjustable guideway for said tool-slide, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

973,416. ICE-BOX. THOMAS J. ELDER, Pilot Point, Tex. Filed Dec. 23, 1909. Serial No. 534,621.



1. A device of the class described including a housing, an arcuate partition therein, parallel strips upon said partition and forming longitudinal arcuate guide channels, each channel having an inlet at its upper end and an outlet at its lower end, a foraminous cover extending over the channels and constituting an ice support, closures at the ends of the channels.

2. A device of the class described including a housing, a downwardly and forwardly extending partition within the housing, parallel strips upon said partition and forming channels therebetween, said channels having inlets at their upper ends and outlets at their lower ends, and a cover extending over the channels and constituting an ice support.

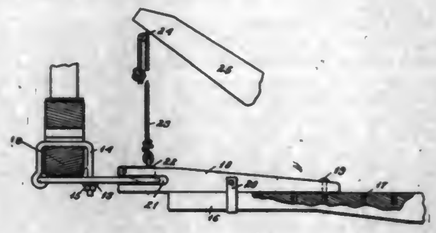
3. A device of the class described including a housing, a downwardly and forwardly extending partition within the housing, upstanding strips upon said partition and forming channels therebetween, said channels having inlets at their upper ends and outlets at their lower ends, closures for the inlets and outlets, a cover extending over the channels and constituting an ice support, and means within each channel for limiting the downward movement of bottles within the channel.

4. The combination with a casing, of a housing therein, a downwardly and forwardly inclined partition within the housing, parallel upstanding strips upon said partition and forming channels therebetween, said channels having inlets at their upper ends and outlets at their lower ends, a closure upon the casing and normally closing the inlets of the channels, separate closures at the lower ends of the channels, a closure upon the casing and in front of said separate closures, and a cover extending over the strips and channels and constituting an ice support.

5. A device of the class described including a housing having an inlet and an outlet, separate closures for the inlet and outlet, parallel channels for directing bottles by gravity from the inlet to the outlet, separate closures for the outlet ends of the channels, and a foraminous cover extending over the channels and constituting an ice support.

[Claims 6 to 8 not printed in the Gazette.]

973,417. COUPLING FOR HAY RAKES AND LOADERS. WILLIAM R. EVERITT, Muscatine, Iowa. Filed Feb. 14, 1910. Serial No. 543,854.

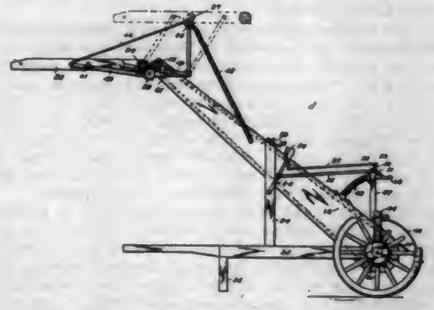


1. In a coupler of the class described, the combination of a coupler member designed to be attached to a wagon and having a rod in the rear of the wagon extending substantially parallel with the wagon axle, a coupler member designed to be attached to a hay rake and loader or the like comprising a bar extended forwardly and having a flat top provided with a series of vertically arranged openings, a block slidingly mounted thereon, a loop fixed to the block and extended around the sides and underneath the said bar, a pin detachably mounted in the rear of the block to enter said openings in the bar, the forward end of the block being provided with a slot to receive the coupler member on the wagon and a coupling jaw mounted in the block above the slot, for the purposes stated.

2. A device of the class described, comprising a coupler memoer designed to be connected to a wagon axle and comprising a rod formed in a substantially oblong shape, a cross piece at the center of said rod, two substantially U-shaped bolts pivoted to the forward portion of the rod and designed to encircle the top and sides of a vehicle

axle and having their rear ends designed to extend through said cross piece, nuts applied to said rear ends beneath the cross piece, a coupler member designed to be attached to a hay rake and loader or the like comprising a flat topped bar having openings in its top, a block slidingly mounted thereon, a loop fixed to the sides of the block and extended downwardly along the sides of the bar and across the bottom of it, a pin detachably mounted in the rear of the block to enter the openings in the bar, the forward end of the block being designed with a slot to receive the coupling member on the wagon, a pivoted coupling jaw mounted in the block above the slot, a rope attached to the rear end of the pivoted jaw and an elevated support for said rope, substantially as, and for the purposes stated.

973,418. CONVEYER DEVICE FOR HAY RAKES AND LOADERS. WILLIAM R. EVERITT, Muscatine, Iowa. Filed Feb. 14, 1910. Serial No. 543,855.

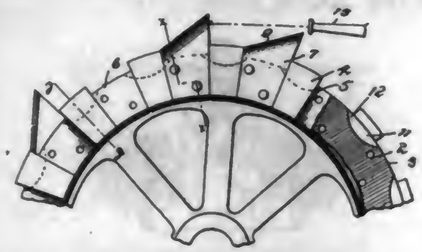


1. In a device of the class described, the combination of a main frame, an auxiliary conveyer frame, parallel arms pivoted to each side of the main frame and also pivoted to each side of the auxiliary frame, a rope or cable fixed to the auxiliary conveyer frame, an elevated support for same and a contractible spring connected to the rope or cable and also the main frame, and means for limiting the rearward movement of the auxiliary conveyer frame, for the purposes stated.

2. In a device of the class described, the combination of a main frame, an auxiliary conveyer frame, parallel arms pivoted to each side of the main frame and also pivoted to each side of the auxiliary frame, a rope or cable fixed to the auxiliary conveyer frame, an elevated support for same, a contractible spring connected to the rope or cable and also to the main frame, means for limiting the rearward movement of the auxiliary conveyer frame, a conveyer in the main frame, a conveyer in the auxiliary frame, a pinion operatively connected with each of said conveyers, and a third pinion normally in mesh with the pinion of the main conveyer and in position to mesh with the pinion of the auxiliary conveyer when the latter is in its position adjacent to the delivery end of the main conveyer, for the purposes stated.

3. In a device of the class described, the combination of a main conveyer frame, two independent conveyers arranged therein side by side and provided with toothed cross slats, independent means for operating said conveyers, an auxiliary conveyer frame, parallel arms pivoted to each side of the main frame and also pivoted to each side of the auxiliary frame, a rope or cable fixed to the auxiliary conveyer frame, an elevated support for it on the main conveyer frame, a spring connected to the rope or cable and also to the main conveyer frame, means for limiting the rearward movement of the auxiliary conveyer frame, two independent conveyers in the auxiliary conveyer frame arranged side by side, and gearing devices on each side of the main and auxiliary conveyer frames for driving the auxiliary conveyers by power from the conveyers on the main frame, said gearing devices being thrown out of gear when the auxiliary conveyer frame is elevated, for the purposes stated.

973,419. WATER-WHEEL. ZACHARIAH C. FERRIS, Caldor, Cal. Filed Nov. 23, 1909. Serial No. 529,596.



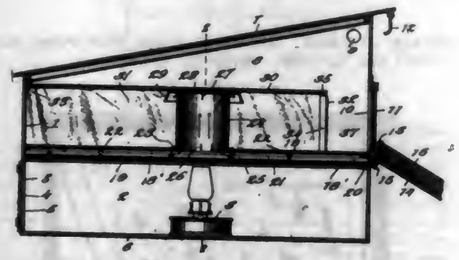
1. A water wheel having a suitable rim, pockets secured to the same and arranged at predetermined distances apart, said pockets having inclined tops, said rim having depressions formed in the rim of the wheel between said pockets, said pockets being open at their rear ends and in communication with said depressions.

2. A water wheel comprising a suitable wheel, the rim of which is provided with depressions along its periphery, and hoods upon said rim and located between said depressions and in communication therewith, as and for the purpose described.

3. A water wheel comprising hoods arranged along the rim of the wheel at predetermined distances apart, and having upper inclined tops out of contact with the rim of the wheel, and means for securing said hoods in their proper position to the rim of the wheel, said rim having depressions formed in the periphery of the wheel and located between the hoods but in communication therewith, as and for the purpose described.

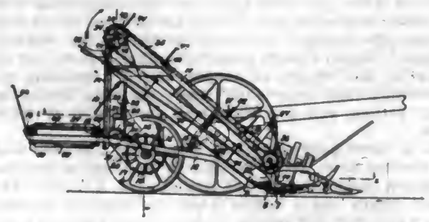
4. A water wheel having a suitable rim, oppositely located projections forming a part of said rim and extending above the periphery of the latter, depressions formed in the rim and located between said projections, U-shaped hoods each having an inclined upper portion forming pockets open at both ends and in communication with the depressions between which they are placed, and means for holding the said U-shaped hoods in their proper position to the rim and between the projections, as and for the purpose described.

973,420. BROODER. NORMAN DWIGHT FORD, Ansley, Nebr. Filed May 21, 1909. Serial No. 497,516.



A brooder having a heating compartment, a chicks' chamber above the same, an intervening air passage provided with an opening therein, a hover within the chicks' chamber, a distributing tube longitudinally slitted at its lower end to form ports and free portions, said free portions extending into said opening and bend against the under side of the wall thereof, and longitudinally slitted at its upper end to form ports for the flow of the heated air into the hover, and a cover upon the top of the tube provided with a depending flange surrounding the upper ports.

973,421. MOWER ATTACHMENT. LOUIS FRANZMEIER, Newton, Wis. Filed Nov. 1, 1909. Serial No. 525,603.



1. The combination of a frame, an inclined trough supported on the same, means for detachably connecting the assemblage aforesaid with the finger-bar of a mower, a bull-wheel having an axle for which the frame is provided with bearings, this bull-wheel being independent of the bull-wheel of the mower; an endless elevator operative in the trough, an endless horizontal side-delivery conveyer arranged to receive material discharged from the elevator, and clutch-controlled elevator and conveyer drive-gear in train with the bull-wheel axle.

2. The combination of a frame, an inclined trough supported on the same, clevis-clips and bolts for detachably connecting the trough with the finger-bar of a mower, a bull-wheel having an axle for which the frame is provided with bearings, this bull-wheel being independent of the bull-wheel of the mower; an endless elevator operative in the trough, an endless horizontal side-delivery conveyer arranged to receive material discharged from the elevator, and clutch-controlled elevator and conveyer drive-gear in train with the bull-wheel axle.

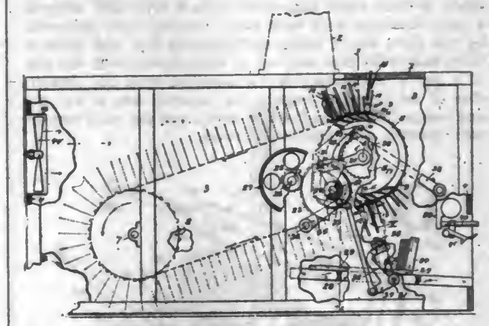
3. The combination of a frame having spring-controlled pivotal side-bar extensions, an inclined trough supported on the frame, means for detachably connecting the assemblage aforesaid with the finger-bar of a mower, a bull-wheel having an axle for which the frame is provided with bearings, this bull-wheel being independent of the bull-wheel of the mower; an endless elevator arranged to operate in the trough and which is connected at its lower end to said side bar extensions of said frame, an endless horizontal side-delivery conveyer arranged to receive material discharged from the elevator, and clutch-controlled elevator and conveyer drive-gear in train with the bull-wheel axle.

4. The combination of a frame, an inclined trough supported on the same, means for detachably connecting the assemblage aforesaid with the finger-bar of a mower, a bull-wheel having an axle for which the frame is provided with bearings, an endless toothed elevator operative in the trough; stripper-rods arranged longitudinally of said trough on a plane at an acute angle to the bottom of the same, their greatest divergence being at the lower end; an endless horizontal side-delivery conveyer arranged to receive material discharged from the elevator, and clutch-controlled elevator and conveyer drive-gear in train with the bull-wheel axle.

5. The combination of a frame, an inclined trough supported on the same, means for detachably connecting the assemblage aforesaid with the finger-bar of a mower, a bull-wheel having an axle for which the frame is provided with bearings, this bull-wheel being independent of the bull-wheel of the mower, an endless elevator operative in the trough, an endless horizontal side-delivery conveyer arranged to receive material discharged from the elevator, clutch-controlled elevator and conveyer drive-gear in train with the bull-wheel axle, and means by which to start and stop the conveyer without interference with the running of the elevator and to stop both at will.

[Claims 6 and 7 not printed in the Gazette.]

973,422. SHOE-SOLE-DRYING MACHINE. JOHN H. GIFFORD, Milwaukee, Wis. Filed Nov. 15, 1909. Serial No. 528,012.



1. A shoe-sole drying machine comprising an apertured casing having an inclosed chamber, an endless conveyer mounted within the chamber, a series of shoe-sole gripping members carried by the conveyer, intermittently actuated feed mechanism for said conveyer, means for releasing the shoe-soles from the gripping members, and mechanism under the control of the released shoe-soles for stopping the conveyer at predetermined intervals.

2. A shoe-sole drying machine comprising an apertured casing having an inclosed chamber, an endless conveyer mounted within the chamber, a series of racks carried by the conveyer, an intermittently actuated feed mechanism for said conveyer, a slidable tray disposed adjacent to the conveyer, a fixed backing-strip carried by the tray, a reciprocative guiding and feeding bar disposed opposite the backing-strip, between which backing-strip and feed-bar shoe-soles are adapted to be deposited, and means in operative connection with the tray and actuating mechanism of the conveyer for disengaging said actuating feed mechanism from said conveyer.

3. A shoe-sole drying machine comprising an apertured table having an inclosed chamber, an endless conveyer mounted within the chamber, a series of racks carried by the conveyer, actuating mechanism for said conveyer, a slidable tray disposed adjacent to the lower stretch of the conveyer, a backing-strip extending from the tray, and a reciprocative feed-bar disposed opposite the backing-strip, between which bar and backing-strip the dried shoe-soles are deposited.

4. A shoe-sole drying machine comprising an apertured table having an inclosed chamber thereunder, an endless conveyer mounted within the chamber, a series of spring-controlled gripping-members carried by the conveyer, releasing means for the gripping members, an intermittently actuated feed mechanism for said conveyer, a slidable tray disposed adjacent to the lower stretch of the aforesaid conveyer having a fixed backing-strip, a reciprocative guiding feed-bar disposed opposite the backing-strip, between which bar and backing-strip dried shoe-soles are adapted to be deposited, means for successively releasing the dried shoe-soles from the conveyer rack, and means controlled by the slidable tray for stopping the conveyer at predetermined intervals.

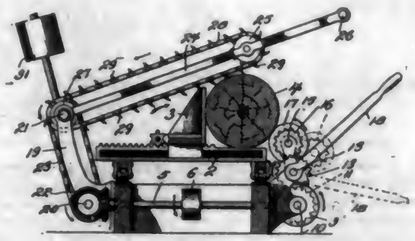
5. A shoe-sole drying machine comprising an apertured feed table having an inclosed chamber thereunder, wheel-carrying transverse-shafts supported within the chamber, an endless conveyer mounted upon the shaft-wheels, a series of bows carried by the conveyer, spring-controlled gripping devices in communication with the bows, and a disk carried by one of the transverse wheel-shafts for effecting release of the gripping devices.

[Claim 6 not printed in the Gazette.]

973,423. LOG-TURNING DEVICE. VIRGIL T. GRABS, King, N. C. Filed Apr. 15, 1910. Serial No. 555,641.

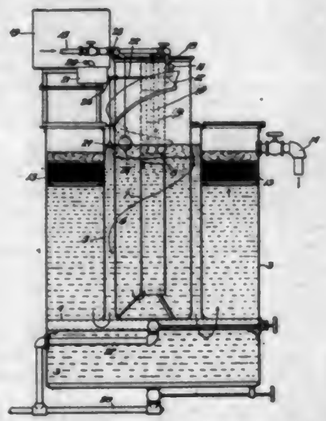
1. In a log turning device, the combination, with a saw-mill frame and carriage, of a drive shaft mounted upon

one side of the frame and carrying a driving gear, a rock shaft arranged above said driving shaft and carrying an idler meshing with said gear, arms carried by the rock shaft, a third shaft supported by said arms and carrying a gear meshing with said idler, turning rolls supported by the third shaft, means for swinging the rock shaft to force said rolls into and ont of engagement with one side of a log, a coöperating device mounted upon the opposite side of the frame to engage the opposite side of the log, and means for driving the said device and the rolls through said gearing in opposite directions.



2. In a log turning device, the combination, with a sawmill frame and carriage, of turning rolls mounted upon one side of the carriage, gearing for driving said rolls, a transverse shaft for driving said gearing, a bracket pivotally mounted for movement in a vertical plane at the opposite side of the frame, a turning device carried by said bracket, and gearing driven by the transverse shaft for operating said turning device.

973,424. WATER-PURIFYING APPARATUS. JOHN C. W. GARTH, Pittsburg, Pa., assignor to Wm. B. Scaife & Sons Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 26, 1908. Serial No. 435,059.



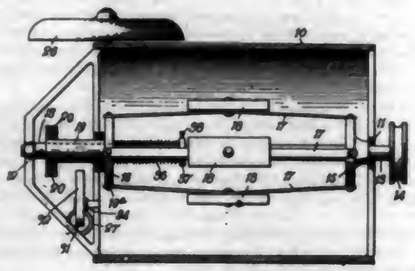
1. In water purifying apparatus, the combination of a settling tank, an open ended shell therein, a saturating vessel inside of said shell and forming between it and the shell a reaction chamber, re-agent feeding means in said vessel, means providing for a reverse vertical flow in the feeding means and also through the saturating vessel, an overflow outlet therefrom into the annular re-action chamber, and means for discharging said overflow into the reaction chamber and simultaneously mixing water therewith, substantially as described.

2. In water purifying apparatus, the combination of a saturating vessel, a shell surrounding the same and forming a reaction compartment and a single vessel inclosing the whole and forming a settling compartment, means to feed the re-action compartment with a re-agent and with water in definite quantities, and a helical trough to receive the same and introduce it after mixing into the re-action compartment.

3. In water purifying apparatus, the combination with a central saturating tank having an overflow, of a helical trough surrrounding said tank to receive the overflow, means to supply definite proportions of raw water and re-agent in said trough, an annular vessel surrounding the saturating tank below said trough, the same having an open bottom, and a settling tank communicating therewith.

4. A water purifying device, comprising a settling tank of annular form, means forming an open bottom annular re-action chamber within the settling tank, a re-agent and water supply and a helical trough carrying the re-agent and water into said annular re-action chamber with a circular motion, substantially as described.

973,425. AUTOMATIC ALARM. EMANUEL GEORGE HALVORSEN, Brooklyn, N. Y. Filed June 8, 1909. Serial No. 500,871.



1. A device of the character described, comprising a casing, a rotary shaft mounted to rotate within the same, a movable engaging device carried by said shaft, means for moving said device on the shaft, means adjustable on said shaft whereby the position of said engaging device is determined by the speed of said shaft, a pumping element adapted to operate a signal, and a lever for operating said pumping element, said lever being operated by said movable engaging device.

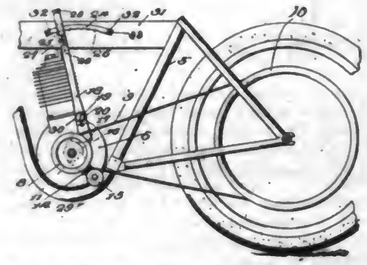
2. A device of the character described, comprising a casing, a rotary shaft mounted to rotate within the same, a movable engaging device carried by said shaft and having its position determined by the speed of said shaft, means for moving said device on the shaft, a pumping element, and means operated by said movable engaging device for operating said pumping element.

3. A device of the character described, comprising a casing, a rotary shaft mounted to rotate within the same, a movable engaging device carried by said shaft and having its position determined by the speed of said shaft, means for moving said device on the shaft, a bell, and a hammer operated by said device, a pumping element and means also operated by said device for operating said pumping element.

973,426. BELT-TIGHTENER FOR MOTOR-CYCLES. WILLIAM S. HARLEY, Milwaukee, Wis., assignor to Harley-Davidson Motor Company, Milwaukee, Wis. Filed Nov. 27, 1909. Serial No. 530,202.

1. In a motorcycle, the combination with a bearing, of a motor shaft journaled in said bearing and provided with a driving pulley, a flexible driving element engaging said pulley, an oscillating member journaled on said bearing, means mounted on one end of the oscillating member for engagement with the flexible driving element, a lever operatively connected with the other end of said oscillating member for actuating the latter, and means for holding the lever in different positions of adjustment.

2. In a motorcycle, the combination with a casing having a bearing, of a motor shaft journaled in said bearing, a driving pulley secured to the motor shaft, a flexible driving element engaging said pulley, an oscillating member having an intermediate sleeve journaled on said bearing and provided with an angularly disposed arm at one end thereof, a pulley journaled on said arm, a gear sector formed on the other end of the oscillating member, an operating lever having a segmental rack meshing with the gear sector, and means for holding the operating lever in different positions of adjustment.



3. In a motorcycle, the combination with a casing having a bearing, of a motor shaft journaled in said bearing, a hollow driving pulley mounted on the motor shaft, a flexible driving element engaging said pulley, an oscillating member having a laterally extending sleeve journaled on the bearing and housed within the pulley, one end of said oscillating member being provided with a gear sector, a pulley mounted on the other end of the oscillating member and movable into engagement with the flexible driving element, and an operating lever pivotally mounted above the oscillating member and provided with a segmental rack adapted to mesh with the gear sector.

4. In a motorcycle, the combination with a casing having a bearing and provided with a perforated lug, of a motor shaft journaled in said bearing, a driving pulley secured thereto, a flexible driving element engaging said pulley, an oscillating member having a sleeve journaled on the bearing, an idle pulley mounted on the oscillating member and movable into engagement with the flexible driving element, said oscillating member being provided with a gear sector, an operating lever having a laterally extending sleeve and provided with a segmental rack adapted to mesh with the gear sector, a pivot pin extending through the sleeve of the operating lever and the perforated lug of the motor casing, a rack, and a spring actuated plunger adapted to engage the rack for locking the operating lever in adjusted position.

5. In a motor cycle, the combination with a motor shaft and flexible driving element, of an oscillating member disposed concentric with the motor shaft and having one end thereof provided with a gear sector, a pulley mounted on the other end of the oscillating member and movable into engagement with the flexible driving element, a toothed rack, an operating lever pivotally mounted above the oscillating member and provided with a segmental rack adapted to engage the gear sector, a plunger operating within the lever, there being registering openings formed in the plunger and lever to permit the passage of the toothed rack, the lower wall of the opening in the plunger being formed with a tooth, a spring interposed between the lower end of the plunger, and a spacing block carried by the lever for normally and yieldably supporting the tooth in engagement with the teeth on the rack.

[Claims 6 and 7 not printed in the Gazette.]

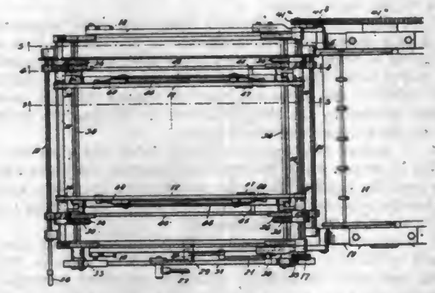
973,427. COMBINED PENCIL-HOLDER AND INHALER. JESSE W. HAYES, Baltimore, Md., assignor of one-half to Louis Steppacher, Baltimore, Md. Filed Aug. 17, 1909. Serial No. 513,279.

An article of the character described, comprising a barrel having an opening at one end coextensive in diameter with the interior diameter of said barrel, having a reduced opening at its other end, and having an opening in its side intermediate its length, a cylinder secured within said barrel between said reduced and side openings, a rod reciprocable with said cylinder, disks on the ends of said rod one of which is adapted to close said reduced opening



in said barrel from the interior, and means removably inserted in the other end of said barrel and adapted to shift said rod by contact with its disk at that end to cause its other disk to close said reduced opening, said means also adapted to cover and uncover the side opening in said barrel.

973,428. SHEET-DELIVERY APPARATUS. CARL HENDERSON, Oak Park, Ill., assignor to Miehle Printing Press and Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed May 13, 1909. Serial No. 495,599.



1. The combination with the printing mechanism of a printing press, of a sheet delivery apparatus having feeding devices and slowing devices the feeding devices whereof consists of directly opposing tapes touching the sheet only at its side edges, and the devices whereof for slowing the sheet also touching only the side edges thereof, whereby danger of smearing the printed surface is obviated.

2. The combination with the printing mechanism, of sheet delivery apparatus consisting of pairs of directly opposing tapes, one pair at each side of the sheet, and gripping the proximate edges thereof, such tapes traveling in the direction of the feed, means for engaging the tail of the sheet to arrest its forward movement by the tapes at the dropping point, and means for causing the tapes to release the sheet simultaneously with the arrest thereof to drop the sheet.

3. In a sheet delivery mechanism for printing presses, the combination of two opposite parallel series of rollers, and endless tapes co-acting with each series of rollers

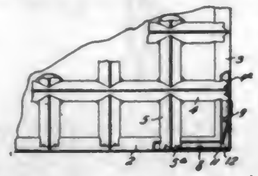
adapted to engage the outermost margins of a sheet to forward the sheets from one pair of rollers to the next; with means for engaging the tail of the sheet to arrest it when released and means for causing the rollers to release the sheet at the point of dropping.

4. Sheet delivery mechanism for printing presses, comprising pairs of endless carriers adapted to grip the outermost margins of the sheets between them, means engaging the tail of the sheet to arrest it at the point of deposit, and means for causing the carriers to release the sheets at such point.

5. In sheet delivery mechanism for printing presses, the combination of pairs of endless tapes arranged at opposite sides of the path of the sheet and adapted to engage the outermost margins of the sheet between them, means for separating the tapes to allow the sheet to drop therefrom, and means adapted to engage the tail of the sheet, and arrest the sheet at the dropping point.

[Claims 6 to 23 not printed in the Gazette.]

973,429. FRUIT-CASE. JOHN A. HILLIKER, Evanston, Ill. Filed Jan. 20, 1910. Serial No. 539,093.



1. A fruit carrier comprising sides and ends composed of integral double walls, and a filler within said carrier so connected with the sides and ends as to hold the walls of the latter in spaced relation.

2. A fruit carrier comprising sides and ends composed of integral double walls, partitions separating the carrier into cells or pockets, and means connecting the partitions with the sides and ends in such a manner as to hold the inner walls of the sides and ends in yielding spaced relation to the outer walls.

3. A fruit carrier comprising sides and ends composed of double walls, partitions separating the carrier into a plurality of cells or pockets, each partition being composed of double walls, means carried by the partition for holding the walls of the sides and ends in spaced relation, and means carried by the sides and ends for holding the walls of the partitions in spaced relation.

4. A carrier for fruit comprising sides and ends composed of double walls, a connection between the sides and the ends for holding the same in operative positions, said connection also constituting positive means for holding the walls of each side and end spaced.

5. A fruit carrier comprising sides and ends, each composed of double walls, interlocking means between the sides and ends for holding them in operative positions, said interlocking means also holding the walls of each side and end in spaced relation.

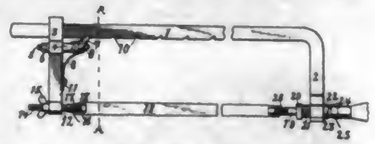
[Claims 6 to 9 not printed in the Gazette.]

973,430. SEPARABLE FASTENER. LEONARD K. HIRSHBERG, Baltimore, Md. Filed Mar. 11, 1910. Serial No. 548,565.



A separable fastener comprising a keeper pivoted to one of the parts to be joined and having an oblong opening, a tongue pivoted to the opposite part to be joined and terminating in an enlarged flattened head the width of which is greater than the width and less than the length of said opening in the keeper, said tongue being movable in a plane at right angles to the movement of the keeper, whereby the said head may be inserted through the opening of the keeper, for the purposes described.

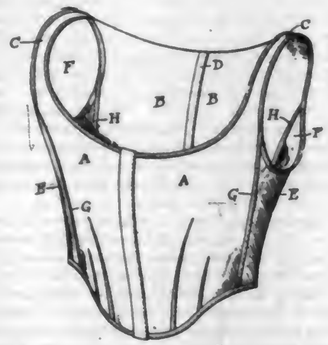
973,431. HACKSAW. ALBERT H. HOFFMANN, Fitchburg, Mass. Filed Sept. 16, 1909. Serial No. 518,060.



1. In a saw, a frame having a downwardly turned end, an arm slidable on said frame, said arm carrying a stud having means for holding one end of a saw blade, said downwardly turned end carrying a shank, a collar screw-threaded on said shank, a spring on said shank between said downwardly turned end and said collar, means on said shank engaging the other side of said downwardly turned end to hold said shank in various angular positions, and means on said shank for holding the other end of the saw blade.

2. In a saw, a frame having a downwardly turned end, an arm slidable on said frame, a stud in said arm having means for holding one end of a saw blade, a shank in said downwardly turned end having means for holding the other end of the saw blade, a collar on the inner end of said shank, said collar being removable whereby said shank may be drawn from said downwardly turned end, a spring interposed between said collar and said end, and means in the shank engaging the other side of said downwardly turned end whereby said shank is held in a desired position.

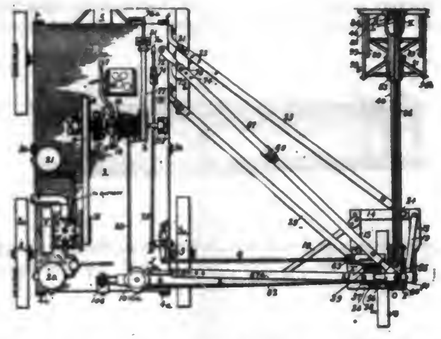
973,432. GARMENT. CHARLES S. HORWOOD, Hoboken, N. J. Filed Jan. 10, 1910. Serial No. 537,227.



A garment of the kind specified comprising single-ply back pieces B B, secured together by a seam D; single-ply front pieces A A; single-ply shoulder straps C C, connecting said front pieces to said back pieces on each side respectively and being integral therewith; and double-ply side pieces E E located beneath the arm-hole and connected to the said front pieces by seams G G and to said back pieces by seams H H.

973,433. SUGAR-CANE LOADER. THOMAS J. HOWARD, New Orleans, La. Filed Apr. 15, 1909. Serial No. 490,058.

1. A cane loader which comprises a portable platform, a beam pivotally connected at the inner end to the platform, and projected laterally therefrom, a wheeled support for the outer end of the beam, hoisting means including cane grappling devices mounted on the outer end of the beam and mechanisms that coöperate with the hoisting means for actuating the said means, said mechanisms being mounted on and controlled by the operator on the platform.



2. A cane loader, comprising a portable platform, a subframe that projects laterally therefrom, a mast mounted on the subframe, a boom mounted to swing vertically and laterally to coöperate with the mast, flexible connections that join the upper boom and mast ends, grappling devices suspended from the boom, including a trip for releasing the grapples, means mounted on the platform, the mast and boom for lifting the grapples and other means for actuating the trip to release the grapples.

3. In a cane loading machine of the character described, the combination with the portable main supporting body, a beam pivotally connected with said body, and horizontally extended from said body to move laterally, a mast and a boom on said beam, said boom being mounted for vertical and lateral movement, a grapple mounted on said boom, means operable from said main supporting body and mounted on said mast and boom for lifting and simultaneously closing said grapple on the cane as such grapple is lifted, and means operable from the main platform for tripping said grapple to release the load.

4. In a cane loader of the character described, the combination with a main platform, the masts, the beam that supports the masts, and the boom pivotally mounted on the mast to swing laterally and vertically; of a loading grapple comprising opposing toggle members, a lift rope connected thereto to close the said members over the load when the lift rope is pulled, means for holding the lift rope locked to its desired adjusted position, and means for tripping the toggle members to release the load.

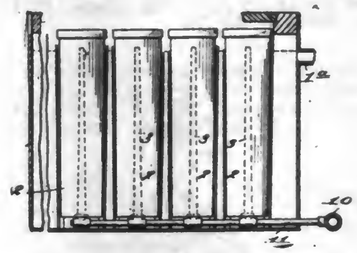
5. In a cane loader of the character described, the combination with a wheeled platform, a horizontally projected beam whose inner end is pivotally mounted on the platform to permit the outer end to swing vertically, and a ground support for the said outer end; of pick up grapple devices, comprising toggle members that automatically open when lowered to straddle the cane pile, a lifting means operable from the platform that closes the grapples over the cane load when they are raised, a device for spreading the toggles operable from the platform, and means for locking the lifting means to hold the grapples to the elevated position during the operation of tripping or spreading them to discharge the load.

[Claims 6 to 8 not printed in the Gazette.]

973,434. ICE-MAKING APPARATUS. JOHN B. HOWE, Nashville, Tenn. Filed Dec. 4, 1909. Serial No. 531,481.

1. In an ice making apparatus, a tank, a plurality of water containing cans disposed therein, refrigerant conducting means within each can and provided with an inlet and an outlet, both opening through the bottom of the can and a refrigerant header in communication with the inlet of the conducting means, the outlet of the conducting means discharging into the tank.

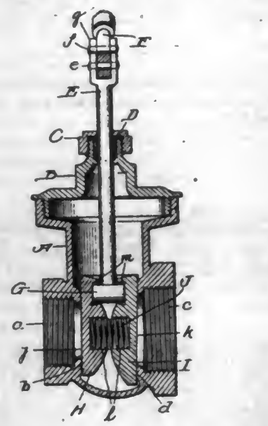
2. In an ice making apparatus, a tank, a brine circulating header extending across the bottom thereof, a plurality of freezing cans arranged in the tank, each can having a closed bottom and having an interior brine conducting means, the inlet and outlet of which extends through said bottom, the inlets of the brine conducting means having operative association with the header but being without positive attachment thereto.



3. In an ice making apparatus, a freezing can comprising vertical sheet metal walls, a cast iron bottom fitted within the walls at their lower ends and positively attached thereto, and a brine conducting means disposed within the walls, carried by said bottom and having an inlet which extends through said bottom.

4. In an ice making apparatus, a tank, a brine conducting header extending across the bottom of the tank, a plurality of freezing cans removably supported in the tank, and a brine circulating means within each can and provided with an inlet connection which is detachably and operatively associated with the header.

973,435. SLIDING GATE-VALVE. EUGENE W. HOYT, Decorah, Iowa. Filed May 31, 1910. Serial No. 564,156.



1. In a sliding gate valve, the combination of a casing having an inlet port and an outlet port, of comparatively large size in cross-section, alined with the inlet port, and also having seats at the inner ends of said ports, one of said seats being inclined, a rectilinearly movable stem having a T-head, of circular form in cross-section, at its inner end, body sections having registered sockets and registered recesses in their inner sides, the side walls of which recesses are undercut or beveled and which recesses receive the ends of said T-head, and a coiled spring interposed between said sections and arranged in the sockets thereof.

2. In a sliding gate valve, the combination of a casing having an inlet port and an outlet port, of comparativ

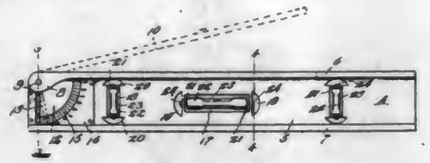
large size in cross-section, alined with the inlet port, and also having seats at the inner ends of said ports, one of said seats being inclined, a stem movable in the casing, body sections carried by the stem and movable with respect to each other; and a spring interposed between said body sections.

973,436. VEHICLE-WHEEL. CHARLES HUMBERT and JULES CLAUDE BRUGNOT, Paris, France. Filed Nov. 7, 1907. Serial No. 401,175.



A wheel for vehicles comprising a hub, a rigid rim, spokes rigidly secured at one side to the hub and rigid rim, a spider rigidly secured to the other side of the hub and rigid rim, sheaths comprising male and female members slidable in the rim, a flange in the hub, spokes secured at one end to the flange and at the other end engaging the female portion of the sheaths, a spring in the sheath and a floating rim, two rings secured to the rim, said floating rim comprising rings formed of angle irons sliding in said rings on the rim and a ring inside the angle irons adapted to bear on the sheaths in the rim.

973,437. LEVEL. ALLAN D. HUNSICKER and WILLIAM A. DENTON, Shawnee, Okla. Filed Dec. 21, 1909. Serial No. 534,326.



In a device of the character described, a stock consisting of a bar of I-shaped cross section having a top flange thickened at one end and provided with a longitudinal recess, a pin extending through the thickened portion, a rule pivoted upon said pin and accommodated within the recess, the web of the stock being provided adjacent to one end with a sector-shaped recess and the rule being equipped with a pointer terminally forked and straddling the web adjacent to the sector-shaped opening, and spirit levels suitably supported upon the stock.

973,438. ATTACHMENT FOR OPTICAL INSTRUMENTS. THOMAS JOHN JANDA, Pittsburg, Pa. Filed June 25, 1910. Serial No. 568,910.

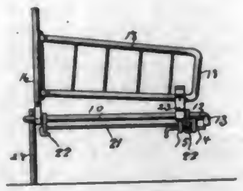
1. An attachment of the character set forth comprising attaching and socket tubes having a fine screw-threaded engagement for focusing purposes, a stop on the attaching tube for limiting its movement into an instrument, an objective lens holding means removably arranged on the front end of the attaching tube, and an eye piece removably arranged in the rear end of the socket tube, and carrying a lens.

2. An attachment of the character set forth comprising adjustably engaged tubes, one being adapted for insertion in an instrument, an eye piece removably mounted in one



of said tubes, and a two part objective removably mounted in the other tube, the two parts of said objective being detachably engaged and carrying lenses.

973,439. FOLDING CRIB ATTACHMENT FOR BEDS. TRELLIS R. KEMPER, Weldon, Iowa. Filed June 25, 1909, Serial No. 504,934. Renewed July 14, 1910. Serial No. 572,019.

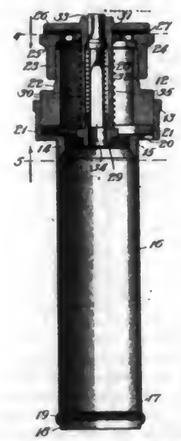


1. In a crib attachment for beds comprising a U-shaped piece having hooks on the ends of its legs, collapsible legs on the base of said U-shaped piece, an upright frame hinged to the base of said U-shaped piece, end-gates hinged to the upright rods of said frame, the legs of said U-shaped piece being adapted to hook on the side rails of a bed, and spring clasps on the legs of said U-shaped piece for the reception of a horizontal rail of the end-gates and maintenance of the same in position, said clasps being formed from a single piece of resilient metal looped upon the legs of the U-shaped piece one end having an upward and an inward trend and the other leg having an upward and inward concaved trend.

2. A crib attachment for beds comprising a U-shaped piece, hooks on the legs of said U-shaped piece, collapsible legs on the base of said U-shaped piece, a frame hinged to the base of said U-shaped piece, end gates hinged to said frame, clasps for maintaining said end-gates in operative position, said hooks being adapted to clutch the side rail of a bed, and a retractile catch for preventing upward lift of hooks, said catch comprising spaced depending members integrally formed on the legs of said U-shaped piece and having registering perforations therein, a rod slidable in said rod and a coiled spring surrounding said rod and located between the rear one of said depending members and said pin.

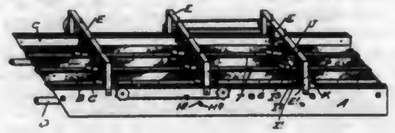
973,440. STORAGE-TANK FOR EXPLOSIVE LIQUIDS. LOUIS KESSLER, Chicago, Ill., assignor to J. S. Beaudry, Chicago, Ill. Filed June 1, 1909, Serial No. 499,577. Renewed June 4, 1910. Serial No. 565,076.

In combination with a tank of the character described, a safety-device having a head provided with a plurality of holes and seating in said tank, a metal screen covering said holes, a tube extending from said head, a metal screen interposed in the passage through said tube, a cap provided with a plurality of openings and a central orifice and removably secured on said head, a spring-seated ex-



haust-valve closing said openings and provided with a hollow stem working in said orifice, a spring about said stem for closing the valve, a valve-seat and a spring-seated air-inlet valve within the stem, for the purpose set forth.

973,441. CLAY-SCREEN. JAMES ALEXANDER LAWLOR, Prince Albert, Saskatchewan, Canada. Filed Mar. 10, 1910. Serial No. 548,422.



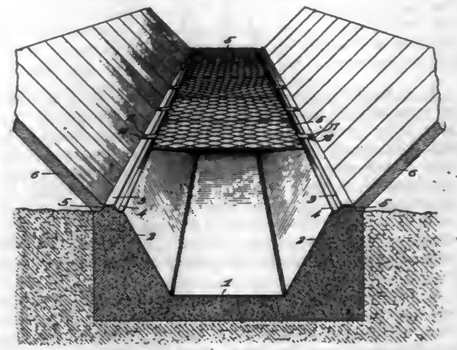
1. A frame comprising side boards suitably connected together, a screen extending between the side boards, longitudinal bars extending along the screen and suitably secured thereto, rods extending from side board to side board below the screen and provided with spiral springs encircling the ends thereof and nuts on the ends of the rods said rods forming a support for the screen, and means for imparting a vibratory movement to the bars as and for the purpose specified.

2. A frame comprising side boards suitably connected together, a screen extending between the side boards, longitudinal bars extending along the screen and suitably secured thereto, resilient means for supporting the bars, blocks located on the top of the bars, cross bars suitably supported on the side boards, plungers extending into the blocks and through the cross bars, collars located on the plungers and spiral springs extending between the collars and the cross bars, and means for imparting a vibratory movement to the plungers as and for the purpose specified.

3. A frame comprising side boards suitably connected together, a screen extending between the side boards, longitudinal bars extending along the screen and suitably secured thereto, resilient means for supporting the bars, blocks located on the top of the bars, cross bars suitably supported on the side boards, plungers extending into the blocks and through the cross bars, collars located on the plungers and spiral springs extending between the collars and the cross bars, and means for raising the plungers and allowing them to drop as and for the purpose specified.

4. A frame comprising side boards suitably connected together, a screen extending between the side boards, longitudinal bars extending along the screen and suitably secured thereto, resilient means for supporting the bars, blocks located on the top of the bars, cross bars suitably supported on the side boards, plungers extending into the blocks and through the cross bars, collars located on the plungers and spiral springs extending between the collars and the cross bars, a cross shaft journaled in suitable bearings and suitably driven, and toothed cams located in the cross shaft and designed to co-act with the collars on the plungers as and for the purpose specified.

973,442. COVER FOR BEET-FLUMES. JAMES R. LEES, Denver, Colo., assignor to The Colorado Pressed Steel Company, Denver, Colo., a Corporation of Colorado. Filed Feb. 8, 1910. Serial No. 542,763.



1. A trussed cover for beet sugar flumes, comprising a thin plate of any suitable material provided with integral projecting ribs arranged to truss said cover against transverse, longitudinal and oblique weight strains, and provided with a handle portion for lifting the same.

2. A trussed cover for beet sugar flumes, comprising a thin sheet of metal provided with downwardly curved end portions arranged to form naturally curved trussed end portions and provided with a plurality of short independent overlapping truss ribs formed integrally with the sheet of metal to project from its surface, said truss ribs being arranged transversely and longitudinally in alternate overlapping order, said cover being provided with ventilating apertures.

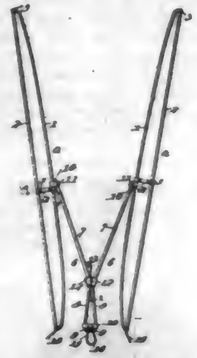
3. A trussed cover for beet sugar flumes, comprising a thin sheet of any suitable material provided with curved end portions adapted to form truss portions and provided with projecting truss ribs extending in transverse, oblique and longitudinal directions across its surface and arranged to intersect each other, said cover being provided with ventilating apertures.

4. The combination of the side walls of a beet flume provided with stepped abutment shoulders on its opposite sides, clamping bolts secured to the top surface portions of said side walls, a clamping strap loosely mounted on said bolts, with a truss curve ended and trussed surface cover of any suitable material arranged to extend across said flume and fit against the abutment shoulders of said flume's side walls, said clamping straps being arranged to extend over and onto the opposite end portions of said cover and to be clamped against said cover by said bolts to secure said cover to said side walls, said cover being provided with ventilating apertures that extend through it, and with suitable lifting or handle portions.

5. In a cover for beet flumes, plates provided with corrugations arranged to prevent their being bent along longitudinal, transverse or oblique lines, and with recesses in their edges which register when said plates are laid side by side.

[Claims 6 and 7 not printed in the Gazette.]

973,443. TROUSERS-STRETCHER. ISAAC B. MACOMBER, Portsmouth, R. I. Filed Dec. 23, 1909. Serial No. 534,707.



1. A trousers stretcher comprising side members, a pair of arms having long legs and short legs, the legs of each arm being arranged at an angle and being disposed so that the points of juncture between the long and short legs of each arm are opposite each other, a U-shaped member secured to each arm at said points of juncture between the long and short legs thereof, the free ends of each U member being disposed in engagement with each other, a pivot pin passing through said contacting free ends of said U members, and means to operate the short legs.

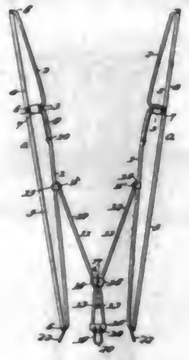
2. A trousers stretcher comprising two side members and means for expanding and contracting said side members, said means comprising a pair of arms having long legs and short legs, the latter being arranged at an obtuse angle to the long legs, means for pivoting the outer ends of the long legs to the side members substantially central of the length thereof, means for pivoting said arms together at the point of juncture between the long legs and the short legs, and a guide member slidably embracing the short legs and adapted to expand and contract said arms.

3. A trousers stretcher comprising side members, each member consisting of a supporting bar of bow shape and a thin flexible metal creasing bar secured to the ends of the supporting bar, means for rigidly bracing the creasing bar at a central point consisting of a strip of metal bent centrally of its length to embrace the supporting bar on all four sides of the latter, and having its free ends in abutting relation, the extremities of said free ends being offset so as to form a space in which the creasing bar engages, and means for securing the ends of the said strip of metal together.

4. A trousers stretcher comprising side members, a pair of arms having long legs and short legs, the legs of each arm being arranged at an angle, means for pivotally relating said arms, means for pivoting the free ends of the long legs to the side members, the free ends of the short legs being curved inwardly toward each other, a guide member slidably embracing the short legs, and means carried by the guide member to engage said curved end of the short legs to restrict the outward movement of the guide member.

5. A trousers stretcher comprising two side members, means for expanding and contracting the side members comprising a pair of pivotally related arms having their inner ends pivoted to the side members and having their outer ends divergently related, a guide member slidably embracing said divergent outer ends of said pair of arms, the free extremities of the divergent outer ends of said pairs of arms extending inwardly toward each other, and a hand engaging loop for operating the guide member having its ends turned at right angles thereto and passed through the guide members so as to engage the inwardly extending free extremities of the divergent outer ends of said pair of arms to prevent the guide member from leaving the arms.

973,444. TROUSERS-STRETCHER. ISAAC B. MACOMBER, Portsmouth, R. I. Filed Dec. 23, 1909. Serial No. 534,708.



1. A trousers stretcher comprising two side members each consisting of two supporting bars having their adjacent ends turned at right angles and in engagement with each other, a housing loosely embracing said right angular ends, a spring in the housing for holding said right angular ends in close engagement with each other and with one wall of the housing, said bars being foldable against the tension of the spring, a creasing bar carried by each supporting bar, and means for expanding and contracting said side members.

2. A trousers stretcher comprising two side members, each side member being composed of two parts, said parts having their inner ends arranged adjacent each other, a housing loosely engaging said ends of the parts, means in the housing for holding said ends of the parts in engagement with each other and with one wall of the housing, and means for expanding and contracting said side members.

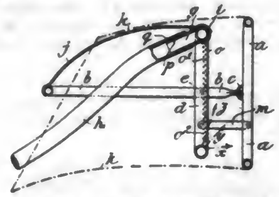
3. A trousers stretcher comprising two side members, each consisting of two supporting bars having their adjacent ends turned at right angles and in engagement with each other, a housing loosely embracing said right angular ends, a flat spring secured to one of said bars and having its opposite ends curved and disposed in said housing to engage one of said right angle ends to hold said right angular ends in engagement with each other and with one wall of the housing, said bars being foldable against the tension of the spring, a creasing bar carried by each supporting bar, and means for expanding and contracting said side members.

4. A trousers stretcher comprising two side members, each side member being composed of two parts, each of the parts including a bow-shaped bar, and a creasing bar secured between the ends of each bow-shaped bar, the bow-shaped bars of each part having their inner ends arranged in juxtaposition to each other, and means to embrace said inner ends of said parts.

5. A trousers stretcher comprising two side members, each composed of two bars having their adjacent ends turned at right angles and in engagement with each other, means loosely embracing said right angular ends, a spring for holding said right angular ends in intimate contact with each other and with one wall of said means, and means for connecting the side members.

973,445. BREAST DOUCHE APPARATUS., ALEXIS MANTELET, Fils, Paris, France. Filed June 30, 1910. Serial No. 569,669.

1. An apparatus serving particularly for applying a douche to the breast, and comprising a supporting frame and a tubular douche ring mounted therein and provided with a plurality of rings of orifices, one ring of said orifices being adapted to direct jets of liquid approximately perpendicularly to the chest near the base of the breast, another of said rings of orifices being adapted to direct jets of liquid obliquely upon the breast, substantially as described.



2. An apparatus serving particularly for applying a douche to the breast, and comprising a tubular douche ring formed with a plurality of rings of orifices, one ring of orifices being adapted to direct jets approximately perpendicularly to the chest and another or others of said rings of orifices being adapted to direct jets obliquely upon the breast, a coupling piece on said ring for connection to a water supply, a frame comprising a looped member and a base ring adapted to be applied upon the chest, an impervious container attached to the base ring and adapted to permit the douche water to run off, a metal stay attached to the front of the looped member and adapted to support the douche ring in the position of use, a connecting stay between the douche ring and the base ring, or the douche ring being capable of inclination between the limbs of the looped member, the various parts of the apparatus being capable of folding upon each other into a reduced compass when not in use.

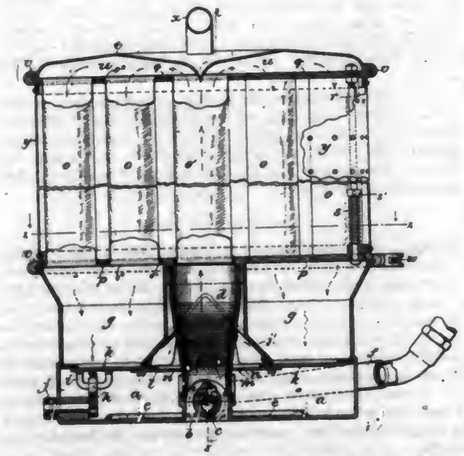
3. In a breast douche, a supporting frame, and a tubular douche device connected therewith, said frame and device having a foldable connection.

4. In a breast douche, a supporting frame, and a tubular douche ring having a plurality of series of orifices, said frame and device having a foldable connection.

5. In a breast douche, a supporting frame, and a tubular douche ring having a plurality of series of orifices, and an impervious container adapted to collect the water from said ring.

[Claims 6 and 7 not printed in the Gazette.]

973,446. PNEUMATIC CLEANING APPARATUS. FRANK J. MATCHETTE, CHARLES GORDON, and CHARLES MOUKOS, Milwaukee, Wis., assignors to American Air Cleaning Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Mar. 6, 1905. Serial No. 248,536.



1. In a pneumatic cleaning apparatus, the combination of a portable base having an opening in the bottom, walls extending upwardly from opposite sides of said opening, a blast nozzle adjacent to the walls on opposite sides of said opening, a hood with converging walls extending upward from said opening, and a dust separator and collector into which said hood discharges dust laden air, substantially as described.

2. In a pneumatic cleaning apparatus the combination of a portable base having a transverse opening in the bottom, walls extending upwardly from opposite sides of said opening, a nozzle having a downwardly directed blast orifice arranged lengthwise of said opening between said walls and positioned to permit air discharged therefrom to pass upward around opposite sides of the nozzle, a dust confining hood over said opening, and a dust separator and collector to receive the air passing from said hood, substantially as described.

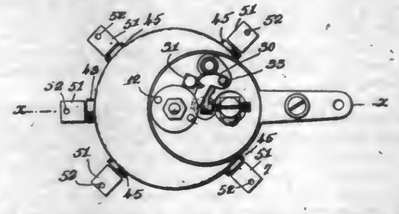
3. In a pneumatic cleaning apparatus, the combination of a portable base having an opening in the bottom, walls extending upwardly from opposite sides of said opening, a pivotally supported air-blast nozzle adjacent to said opening between said walls, and a dust separator and collector comprising a dust receptacle detachably mounted on the base and a strainer detachably mounted on the dust receptacle, substantially as described.

4. In a pneumatic cleaning apparatus, the combination of a portable base having a transverse opening in the bottom, from opposite sides of which walls extend upwardly an air-blast nozzle arranged lengthwise of said opening between and adjacent to said side walls, a dust confining hood over said opening, and a dust separator and collector to receive dust laden air from said hood, substantially as described.

5. In a pneumatic cleaning apparatus, the combination of a portable base having a transverse opening in the bottom, walls extending upwardly from opposite sides of said opening, a pivotally mounted air-blast nozzle arranged lengthwise of said opening between the walls thereof, a dust confining hood over said opening, and a dust collector detachably mounted on said base and connected with the hood, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

973,447. TIMER AND DISTRIBUTER. THOMAS H. McQUOWN, Cambridge, Mass., assignor, by mesne assignments, to Monitor Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed June 21, 1907. Serial No. 380,017.



1. In a circuit breaker, the combination with a fixed contact, of a pivoted holder having side wings connected by a bridge, a post to which said holder is pivoted, a spring encircling the post and having engagement with the bridge, a movable contact carried by said spring, and means for operating the holder.

2. In a circuit breaker, the combination with a fixed contact, of a holder, a post on which said holder is pivoted, a spring encircling the post and having one end in engagement with the holder, a movable contact supported by the other end of the spring, and means to operate said holder.

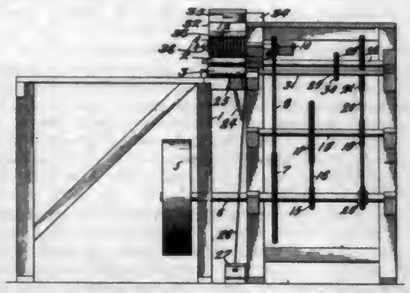
3. In a circuit breaker, the combination with a fixed contact, of a pivoted holder, a spring supported independently of the holder and having one end engaged by the holder, a movable contact engaged by the other end of the spring, and means to operate the holder and thereby give movement to the movable contact through said spring.

4. In a circuit breaker, the combination with a fixed electrical contact, of a pivoted holder, a spring having two resilient arms, one of which bears continuously against the holder, a movable electrical contact supported by the spring and against which the spring bears, and means to move the holder to cause the movable contact to engage the fixed contact.

5. In a circuit breaker, the combination with a fixed contact, of a pivoted holder, a post on which said holder is pivoted, a spring encircling said post and provided with two branches, one of which has engagement with the holder, a movable contact carried by the other branch of said spring, and means for operating the holder.

[Claims 6 to 12 not printed in the Gazette.]

973,448. MACHINE FOR CUTTING LEATHER STRIPS. PAUL MEDVED, Milwaukee, Wis., assignor of one-half to Thomas Medved, Milwaukee, Wis. Filed June 22, 1910. Serial No. 568,264.

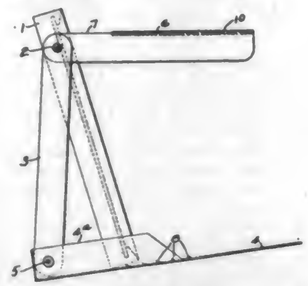


1. In a device of the described class, the combination of a revoluble shaft, a plurality of annular cutting blades secured at short intervals apart on said shaft, an annular disk interposed between each of said blades and adapted to revolve independently of said shaft, a disk supporting shaft, a series of annular disks supported at short intervals apart upon said last named shaft, the cutting edges of said annular blades being adapted as they are revolved to pass between the opposing surfaces of the periphery of said last named disks, a pair of feed rollers supported in close proximity to said annular blades and opposing disks and adapted as they revolve to convey a strip of leather forward until engaged between the cutting edges of said blades and the opposing disks, a driving shaft, and means for simultaneously communicating motion from said driving shaft to said feed rollers, said cutting blades and the opposing disks.

2. In a device of the described class, the combination of a pair of feed rollers, a series of cutting blades and opposing bearings, a driving shaft, means for communicating motion from said driving shaft to said cutting blades and bearings, a treadle, a treadle rod, a spring for communicating motion from said treadle rod to one of said feed rollers, whereby the same is separated from its opposing roller preparatory to inserting a piece of leather between them, said treadle being adapted as it is passed downward to bring said feed rollers together upon the opposite sides of a piece of leather preparatory to forcing the same between the cutting blades and opposing disks.

3. In a device of the described class, the combination of a revoluble shaft, a plurality of annular cutting blades secured at short intervals apart on said shaft, a contact bearing block provided with a series of V-shaped notches for the reception of the cutting edges of said blades, means for supporting said contact bearing block at one side of the cutting blades, an annular disk interposed between each of said blades and adapted to revolve independently of said shaft, a disk supporting shaft, a series of annular disks supported at short intervals apart upon said last named shaft, the cutting edges of said annular blades being adapted as they are revolved to pass between the opposing surfaces of the periphery of said last named disks, a pair of feed rollers supported in close proximity to said annular blades and opposing disks and adapted as they revolve to convey a strip of leather forward until engaged between the cutting edges of said blades and the opposing disks, a driving shaft, and means for simultaneously communicating motion from said driving shaft to said feed rollers, said cutting blades and the opposing disks.

973,449. ILLUSION APPARATUS. CHARLES E. A. MERROW, Hyde Park, Mass. Filed June 27, 1910. Serial No. 568,978.



1. An illusion apparatus, having, in combination, a support, a mirror capable of angular adjustment relatively to the support and a shield mounted adjacent to the mirror above the support and adapted to allow only a reflected view of the support or objects thereon from above, substantially as described.

2. An illusion apparatus, having, in combination, a support, a plurality of links pivotally connected to the support, a mirror and a shield pivotally connected between the free ends of the links whereby the apparatus may be folded into a compact form, substantially as described.

3. An illusion apparatus, having, in combination, a support, a mirror capable of angular adjustment relatively to the support, a plurality of projections upon the support against which the foot of the mirror rests and a shield mounted adjacent the mirror above the support and adapted to allow only a reflected view of the support and objects thereon from above, substantially as described.

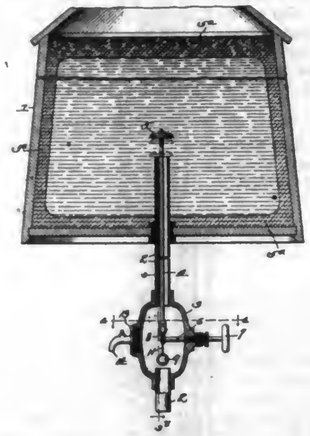
4. An illusion apparatus, having, in combination, a support, a mirror capable of angular adjustment relatively to the support, a plurality of projections upon the support against which the foot of the mirror rests, a shield mounted adjacent to the mirror above the support and adapted to allow only a reflected view of the support and objects thereon from above, the shield being dished inwardly whereby the shield is enabled to lie flat upon the support when the apparatus is not in use, substantially as described.

5. An illusion apparatus, having, in combination, a support, a mirror angularly adjustable relatively to the support and a shield angularly adjustable relatively to the support and mirror and adapted to allow only a reflected view of the support and objects thereon from above, substantially as described.

973,450. NON-FREEZING CONNECTION FOR TANKS. CHARLES HECTOR MILLER and WALTER ALEX BUNNELL, Decatur, Tex. Filed Jan. 15, 1910. Serial No. 538,281.

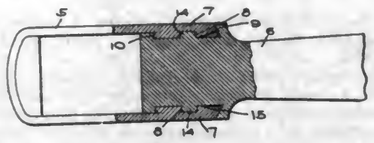
1. In a device of the kind described, a casing having a discharge outlet, a supply pipe leading to said casing, a second pipe leading from said casing, valves respectively controlling flow of liquid through said pipes, and common means for operating said valves, the valve associated with the second mentioned pipe occupying a closed position when the valve associated with the first mentioned pipe is in an intermediate position, as and for the purpose set forth.

2. The combination with an elevated tank, a sectional discharge pipe leading therefrom, a casing interposed between two of said sections and communicating with both, one of said sections extending centrally through the bottom of the tank and upwardly into the central portion of the tank, a rod freely movable in said section and projecting into the tank and into the casing, a disk valve secured upon the upper projecting portion of the rod, a shaft rotatably mounted in the casing, an arm fixed upon said shaft and pivotally connected to the lower end of the rod, and a ball suspended from two points on said arm, said ball closing the outlet from the casing when the rod is in a certain position, as and for the purpose set forth.



3. The combination with an overhead tank, of a discharge pipe leading from the inner central portion of said tank, a casing carried by said pipe, a valve adapted to close the upper inner end of the pipe, means mounted in said casing for operating said valve, means arranged without the casing for operating the valve operating mechanism within the casing, said casing having a discharge outlet in the side and a discharge outlet at its lower end, and a suspended ball carried by the valve operating mechanism, said ball closing the lower outlet of the casing when the valve controlling the upper end of the pipe is in an intermediate position but swinging to one side of said outlet when the first mentioned valve is in closed position, as and for the purpose set forth.

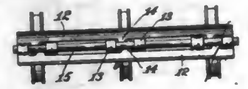
973,451. DRAFT-GEARING. HUBERT L. MILLER, Cumberland, Md. Filed Oct. 13, 1909. Serial No. 522,361.



1. The combination with a draft bar having grooves in its opposite faces, of a yoke, bosses formed upon the ends of said yoke adapted to have locking engagement in said grooves, lugs upon the ends of said draft bar, said bosses having recesses formed therein to receive said lugs, and notches formed in said bosses having engagement with said lugs when the yoke is disposed at right angles to the coupler and adapted to facilitate their insertion into the recesses formed therein.

2. The combination with a coupler having transverse grooves in the top and bottom thereof, the walls of said grooves being inclined in opposite directions, of a yoke, bosses formed on the ends of said yoke, the ends of said bosses being inclined in parallel relation to the walls of said grooves, lugs formed upon said coupler and centrally disposed in said grooves, said bosses having recesses formed therein, notches in the ends of said bosses communicating with said recesses, the bottoms of said notches being inclined and adapted to engage with said lugs when the yoke is disposed at right angles to the coupler, said lugs having sliding contact with the bottoms of said recesses whereby the arms of the yoke will be sprung apart and the lugs engaged in said recesses, the inclined ends of said bosses and the walls of said grooves having locking engagement when the yoke is turned into alinement with the coupler.

973,452. TEMPORARY BINDER. LUCENA M. MORDEN, Waterbury, and LUCIEN R. HITCHCOCK, Watertown, Conn.; said Hitchcock assignor to said Morden. Filed Mar. 15, 1909. Serial No. 483,405.



1. A temporary binder comprising a base, and a plurality of pairs of prongs each formed of a strip integral with the base and bent thereupon at a point between its longitudinal axis and side edge and where said prongs will utilize substantially the whole of the metal cut from the base, so that there will be no appreciable waste of metal at the sides of the prongs.

2. A temporary binder comprising a base member having a prong or prongs each comprising a strip cut lengthwise thereof and bent at its attached end outwardly upon the base and upon itself to form an arch.

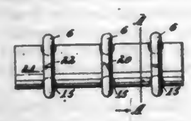
3. A temporary binder comprising a base member having a plurality of pairs of prongs, each prong bent from and outwardly upon the metal of said base to form an arch, the lower ends of said prongs being in juxtaposition whereby said prong strips may form a complete circle.

4. A temporary binder comprising a base member having an integral prong or prongs each formed from a strip cut lengthwise thereof within the outer edges of said base and bent outwardly upon the base and upon itself to form an arch.

5. A temporary binder comprising a base member having an integral prong or prongs each formed from a strip cut lengthwise thereof and bent outwardly upon the base along a diagonal line and inwardly upon itself to form an arch.

[Claims 6 to 16 not printed in the Gazette.]

973,453. TEMPORARY BINDER. LUCENA M. MORDEN, Waterbury, and LUCIEN R. HITCHCOCK, Watertown, Conn.; said Hitchcock assignor to said Morden. Filed Mar. 15, 1909. Serial No. 483,406.



1. A temporary binder having a set of wire-formed and arched prongs comprising end and intermediate prongs, all integral with and bent from one piece of wire without requiring a greater length of stock than would be required for the making of an equal size binder with only a pair of end prongs.

2. A temporary binder having two sets of wire-formed prongs comprising two pairs of arched and mating end prongs and an intermediate pair of prongs each of a single wire and all integral with and bent from one piece of wire.

3. A temporary binder having a wire-formed and arched prong formed by slabbing the wire lengthwise thereof and

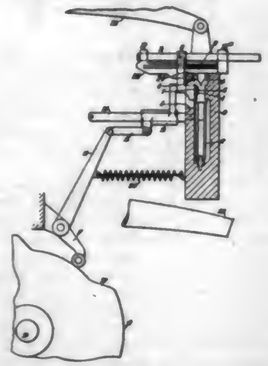
bending such slabbed off portion at right angles to said wire to form the arch.

4. A temporary binder having a pair of mating wire-formed and arched prongs, each formed by slabbing the wire lengthwise thereof and bending the slabbed off portion to form an arch.

5. A temporary binder comprising two sets of mating wire-formed and arched prongs, each set comprising a pair of end prongs and an intermediate partially round prong, each intermediate prong formed by slabbing the wire lengthwise thereof and bending such slabbed off portion to form an arch.

[Claims 6 to 23 not printed in the Gazette.]

973,454. APPARATUS FOR EFFECTING SEPARATION OF MATRICES AND SPACE-BARS IN TYPOGRAPHICAL COMPOSING-MACHINES. CARL MUEHLBEISEN, Berlin, Germany, assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed July 19, 1910. Serial No. 572,664.



1. In a typographical machine adapted to compose lines of matrices and space-bars, and afterward to automatically separate the matrices from the space-bars, the combination with a channel wherein the separation takes place, the said channel being formed with an opening through one of its walls, and means adapted to withdraw the matrices from the composed line, through the said opening in a direction perpendicular to that of the length of the said composed line.

2. In a typographical machine adapted to compose lines of matrices of different fonts and space-bars, and afterward to automatically separate the matrices from the space-bars, the combination with a channel wherein the separation takes place, the said channel being formed with an opening through each of its parallel walls, and means adapted to withdraw the matrices from the composed line, through the said openings in directions perpendicular to that of the length of the said composed line, the matrices of the different fonts passing through respectively different openings.

3. In a typographical machine adapted to compose lines of matrices and space-bars, and afterward to automatically separate the matrices from the space-bars, the combination with a channel wherein the separation takes place, the channel being formed with an opening through one of its walls, a matrix carrier adapted to pass through the said opening, means on the matrix carrier by which the matrices, when moved into the channel, will become attached to the matrix carrier, and means adapted to move the matrix carrier through the said opening.

4. In a typographical machine adapted to compose lines of matrices and space-bars, and afterward to automatically separate the matrices from the space-bars, the combination with a channel wherein the separation takes place, the channel being formed with an opening through one of its walls, an elevator adapted to raise the matrices from the level of the channel to the distributer, a matrix carrier on the elevator adapted to pass through the opening, means on the matrix carrier by which the matrices, when moved into the channel, will become attached to the matrix carrier, and means adapted to move the matrix carrier through the said opening.

5. In a typographical machine adapted to compose lines of matrices and space-bars, and afterward to automatically separate the matrices from the space-bars, the combination with a channel wherein the separation takes place, and with a device adapted to remove the matrices from such channel, of a dovetail rib movably carried by the said device, the said dovetail rib being adapted to engage similarly formed recesses in the matrices, and means adapted to move the rib in a direction perpendicular to the direction of the length of the line.

[Claims 6 to 15 not printed in the Gazette.]

973,455. SAFETY-LOCK. CARL AUGUST MÜLLER, Witzenhausen, Germany. Filed Sept. 6, 1907. Serial No. 391,672. (Model.)



An improved safety lock, i. e. a casing, a roll back situated therein, projections on said roll back, a stop shoulder to limit the movement of said projections, a projection (*t*) on the end of the roll-back, a handle a key serving to couple the handle to said roll-back, a cylindrical casing with a slot on top for the insertion of the key, tumblers in said casing, a slide adapted to force the key into engagement with the tumblers, a spring controlled pin for holding said slide in position, a cylindrical part carried by the handle, noses on said cylindrical part, said noses being adapted to pass through openings in a groove in said cylindrical casing when the handle is pushed in, and a spring controlled pin carried by said cylindrical casing and adapted to engage in a recess in said cylindrical part, substantially as described and shown.

973,456. VAGINAL SYRINGE. FRANK A. NEVEU, Salt Lake City, Utah. Filed Dec. 24, 1900. Serial No. 534,893.

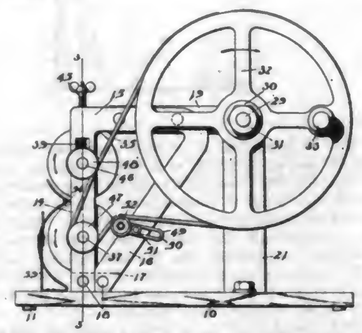
1. A vaginal syringe comprising a cylinder, a piston therein, a nozzle projecting forwardly from one side of the forward extremity of the cylinder, the said nozzle being separated by a suitable partition into two compartments, one of which communicates at its rear extremity with the forward end of the cylinder at one side thereof, while the other extends longitudinally with the first named passage in direct alinement with a passage formed outside of the body of the cylinder and communicating with the forward end of the cylinder by an opening which is of such size as to be partly uncovered forward of the piston when the latter is at its rearward limit of movement.

2. A device of the class described, comprising a cylinder, a piston mounted to reciprocate therein, a nozzle extending forwardly from one side of the forward end of the body of the cylinder and having a partition separating it into two passages both of which are open at the forward extremity of the nozzle, one passage communicating at its rear extremity with the forward extremity of the cylinder on one side thereof while the other extends longitudinally with the first named passage in direct alinement with a passage extending rearwardly outside of the body of the cylinder but communicating with the rear end of the latter by a suitable opening whereby the medicine is caused to be automatically and alternately drawn into the cylinder, forward and backward of the piston, substantially as described.



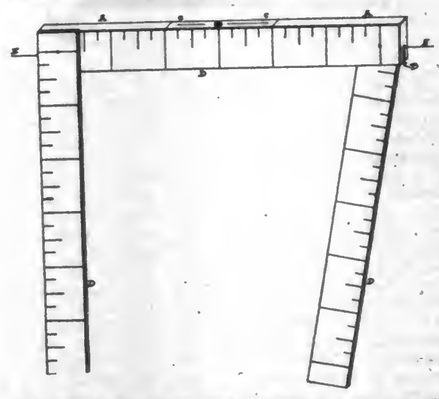
8. A device of the class described, comprising a cylinder, a piston mounted to reciprocate therein and having a stem protruding through an opening formed in the rear extremity of the cylinder, the latter being equipped with a stuffing box to form a liquid-tight joint around the said stem, the device having a nozzle extending forwardly from the forward end of the cylinder and longitudinally divided into two passages, one of which is in communication at its rear extremity with the forward end of the cylinder, while the other is in direct alinement with and merges into a passage extending rearwardly on the outside of the body of the cylinder and communicating with the rear end of the latter through a suitable opening, and a shield applied exteriorly to the nozzle, the latter having circumferential ribs so spaced that the portion of the shield engaging the nozzle, shall fit closely between any two ribs of the nozzle, for the purpose set forth.

973,457. KNIFE GRINDER AND BUFFER. NELS PETERSON, Ostrander, Minn. Filed Aug. 23, 1909. Serial No. 514,161.



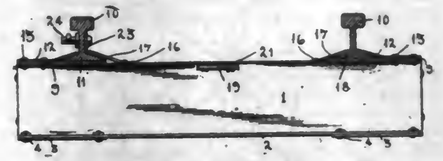
In a device of the kind described, a base platform, and a supporting frame comprising a length of bar metal consisting of an upstanding side portion, a portion bent at right angles thereto to form a base attached to said platform, a portion bent at right angles to the base to form an upstanding side portion, a portion extending rearwardly from the last mentioned side portion, and a terminal extending downwardly and forwardly to the lower end of the second upstanding portion; a strap securing said terminal to said side portion, a bar secured to and projecting rearwardly from the rearward portion of the first bar; and a support secured to the rear end of the last mentioned bar and extending downward to the base platform and secured thereto.

973,458. COMBINATION SPIRIT-LEVEL AND FOLDING RULE. ROBERT G. PIKE, Middletown, Conn. Filed Mar. 22, 1910. Serial No. 551,008.



A combination folding rule and spirit level consisting of a folding rule D, having a thick, graduated section of any desired length, said thick section having embedded therein a spirit level C, and being provided with a longitudinal groove B, whereby the device may be suspended from a taut line E.

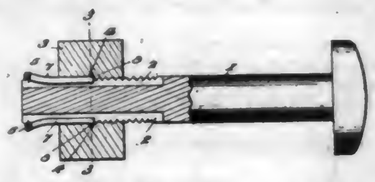
973,459. METALLIC TIE AND RAIL-FASTENER. DAVID B. POSTLETHWAIT, Onondaga, Pa. Filed July 26, 1910. Serial No. 573,941.



1. A metallic tie comprising sets of longitudinal channel beams, flanges carried by the ends thereof and connected together to close the ends of each set of beams, tie plates connected to the under side of the sets of beams at the ends thereof, rail plates connected to the upper sides of said sets of beams at the ends thereof and adapted to support said rails, fastener plates connected to said rail plates and adapted to engage the outer sides of rails, tie plates arranged between the beams of each set of beams and extending under said rail plates, fastener plates connected to said tie plates and adapted to engage the inner sides of rails, and wedges arranged transversely of each set of beams and adapted to hold said tie plates in position, substantially as described.

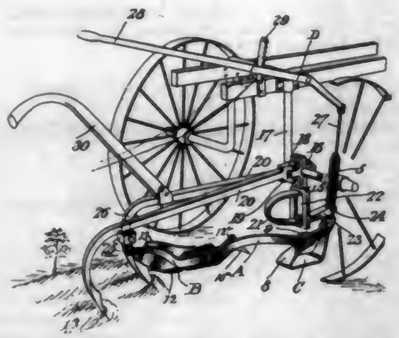
2. A metallic tie comprising sets of channel beams, bed-plates connecting the under sides of said beams at the ends thereof, rail plates connecting the upper sides of said beams at the ends thereof and adapted to support rails, fastener plates connected to said rail plates and adapted to engage the outer sides of rails, tie plates arranged longitudinally between the beams of each set and extending under said rail plates, fastener plates connected to said tie plates and adapted to engage the inner sides of rails, wedges arranged above and below said tie plates and extending through each set of beams, means for connecting the ends of said wedges together, and means for connecting said wedges to said tie plates.

973,460. NUT-LOCK. FREDERICK G. RANK, Hershey, Pa. Filed Oct. 30, 1908. Serial No. 460,284.



In a nut lock, the combination of a threaded element formed in its periphery with substantially diametrically opposite longitudinal keyways, a nut working on the threaded element and formed in its inner surface with substantially diametrically opposite sockets registering with the keyways, and a keeper consisting of a collar independent of the nut and fitting snugly around the periphery of the threaded element and movable longitudinally thereon, and spring keys secured to the annular collar at substantially diametrically opposite points and extending angularly on one side of the plane thereof and received in the respective keyways, the keys projecting within the nut and having their extremities out-turned and arranged to snap into the adjacent sockets to hold the nut against accidental turning movement, the keys being yieldable inwardly in the keyways and the out-turned ends being beveled on opposite sides whereby to be automatically retracted from the sockets by and upon the application of positive turning force to the nut.

973,461. CULTIVATOR ATTACHMENT. FRED A. REESE, Piasa, Ill. Filed Sept. 28, 1909. Serial No. 519,967.



1. A cultivator attachment consisting of two separably connected and end for end interchangeable bars, and means for connecting the same detachably with a cultivator.

2. A cultivator attachment comprising two separably connected and end for end interchangeable bars, an earth engaging implement carried at the junction of said bars, and means for connecting the same detachably with a cultivator.

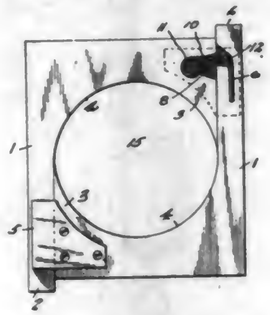
3. A cultivator attachment comprising two separably connected bars, an earth engaging implement supported at the junction of said bars, means for resiliently supporting the forward end of one bar, and means for detachably connecting the rear end of the other bar with a cultivator standard.

4. A cultivator attachment comprising two separably connected and end for end interchangeable bars, an earth engaging shoe detachably connected with one of said bars, and means for connecting the attachment with a cultivator.

5. A cultivator attachment comprising two separably connected bars, an earth engaging implement supported at the junction of the bars, a shoe carried by one of the bars, and means for connecting the attachment with a cultivator.

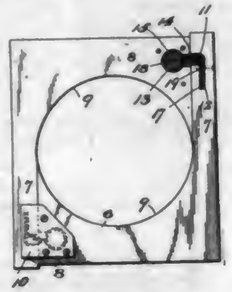
[Claims 6 to 16 not printed in the Gazette.]

973,462. DUST-GUARD. LACEY Y. WILLIAMS, Toledo, Ohio. Filed Mar. 22, 1909. Serial No. 485,058.



A dust guard consisting of two complemental L-shaped sections, each section having a semicircular bearing edge, and said sections being oppositely disposed to each other to form a substantially circular opening, said sections having recesses adjacent their meeting edges, and springs within the recesses and overlapping the said meeting edges and anchored in the complemental parts in such a manner as to hold said parts in engagement.

973,463. DUST-GUARD. LACEY Y. WILLIAMS, Toledo, Ohio. Filed Jan. 24, 1910. Serial No. 539,827.



1. The combination in a dust guard, of two complemental L-shaped sections, each section having a semicircular bearing edge and said sections being oppositely disposed to each other to form a substantially circular opening, said sections having recesses adjacent their meeting edges; and springs each having two coils located within the recesses and overlapping the said meeting edges; the coil of relatively small diameter of each spring being so disposed that when the sections are forced apart the coil will be wound up and under tension.

2. The combination in a dust guard, of two complemental L-shaped sections, each section having a semicircular bearing edge, and said sections being oppositely disposed to each other to form a circular opening, said L-shaped sections each having recesses open to the edge of the section; springs each having a coil within each of the recesses and overlapping the edges of the sections; and means for holding one of the coils so it cannot bodily rotate, the other coil being free to rotate about its axis within the recess.

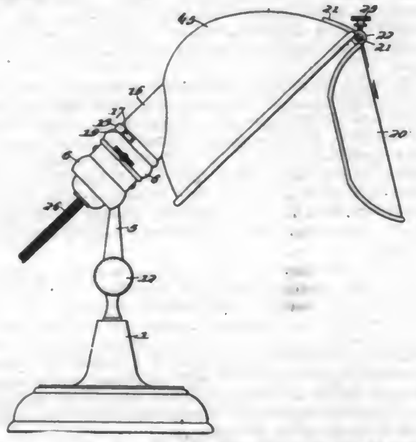
973,464. SPARK-PLUG. VINCENT C. DE YBARRONDO, Los Angeles, Cal. Original application filed May 20, 1907, Serial No. 374,794. Divided and this application filed Feb. 27, 1908. Serial No. 418,088.



In a spark plug, an insulating sleeve, a renewable terminal comprising a disk having a countersunk opening formed therethrough, and a rod removably held in said sleeve and terminal and having a head lying wholly within the countersink, the end of said head being flush with that face of the disk which is exposed to the flame of explosion when the spark plug is in use, removable means on said rod to secure the same in the sleeve, and other means to secure said spark plug to a support.

REISSUES.

13,158. ELECTRIC LAMP. DAVID D. LOCKWOOD, Bridgeport, Conn. Filed Aug. 17, 1910. Serial No. 577,723. Original No. 932,621, dated Aug. 31, 1909, Serial No. 471,121.



1. In an electric lamp, the combination of the standard, the bracket supported by said standard and having horizontal and vertical swinging adjustments, the lamp casing carried by said bracket, the electric light socket contained within said casing, the reflector mounted upon said casing and having an independent rotary adjustment therearound, and the shade adjustably hinged to said reflector.

2. In an electric lamp of the character described, the combination of the standard, the threaded pin pivoted to the top of said standard and capable of a free horizontal swinging movement, the bracket loosely supported around said pin and capable of a vertical swinging movement, the clamping members carried by said pin and bracket, a spring around said pin and acting normally to disengage said clamping members, a nut driven on said pin whereby said clamping members may be operated, the lamp casing carried by said bracket, the electric light socket contained within said casing, the reflector swiveled upon said casing and capable of independent rotary movement concentric with the casing, and the shade hinged to the upper front edge of said reflector and having a vertical adjustment.

3. In an electric lamp, a reflector, a supporting means for the reflector, and a shade movably carried by said reflector, and means for holding the shade in its adjusted position, said means consisting of a hinged connection between said reflector and shade, a head loosely carried by the hinged connection and a screw extending through the head and binding against said hinged connection to hold the shade in any position it may assume with regard to the reflector.

4. In an electric lamp, a standard, a reflector, means for connecting the reflector and standard whereby the reflector may have a horizontal and vertical swinging movement with respect to the standard, a shade having one end thereof located at the free edge of the reflector, means for pivotally connecting the shade to the reflector, and means to hold the shade rigid against movement about its pivotal point including a screw.

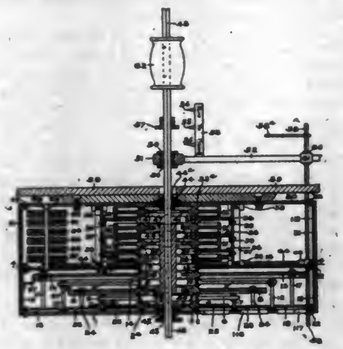
5. In an electric lamp, a reflector, supporting means for the reflector, a shade movably supported from the reflector, and means for holding the shade in adjusted position, said means consisting of a pintle, a head which receives the pintle and a set screw.

6. In an electric lamp, a reflector, supporting means for the reflector, a shade having one end located at the free edge of the reflector, and means to support the shade from the reflector, said means consisting of a pivotal connection having a pair of oppositely disposed parts extending therefrom, one of the parts being secured to the reflector, the other part being secured to the shade.

7. In an electric lamp, a reflector, a shade having one end located at the free edge of the reflector, and means to pivotally and adjustably sustain the shade in position, said means consisting of a member secured to the reflector and having its outer end formed with an eye, a member carried by the shade and having a pintle carried by its outer end which pintle is received in said eye, and means carried by the first member to hold the pintle in any position, to which it may be adjusted.

8. In an electric lamp, a reflector, a shade having one end located at the free edge of the reflector, and means to support the shade consisting of a member having a pair of movably connected and oppositely disposed parts, one of said parts being secured to the reflector and the other of said parts being secured to the shade, and means to hold one of the parts in rigid adjusted position with respect to the other part.

13,159. INDICATING AND RECORDING DEVICE. FREDERICK A. MORGAN, Indianapolis, Ind., assignor to Morgan Fare Register Company, Indianapolis, Ind., a Corporation of Indiana. Filed Mar. 22, 1910. Serial No. 551,026. Original No. 940,888, dated Nov. 23, 1909, Serial No. 484,971.



1. In an indicating and recording device, the combination with a series of indicator disks, a series of disk-carrying wheels by which said indicator disks are carried, and a series of record transferring wheels arranged in a row and situated back of said disk-carrying wheels, of means for engaging one of each of the series of said record trans-

ferring wheels and disk carrying wheels whereby an indicator disk and a companion record transferring wheel may be simultaneously rotated to be set.

2. In an indicating and recording device, the combination with a series of concentric indicator disks, a series of disk-carrying wheels by which said indicator disks are carried and a series of record transferring wheels arranged in a row and situated back of and in a line with said disk-carrying wheels and on the same axial center, of a key adapted to engage one of each of the series of disk-carrying and record transferring wheels, whereby an indicator disk and a companion record transferring wheel may be simultaneously rotated to be set.

3. In an indicating and recording device, the combination with a series of concentric indicator disks situated in one plane, a series of disk-carrying wheels situated on the same axis of said indicator disks and back of the latter, a series of record transferring wheels arranged in a row and situated back of and in a line with said disk-carrying wheels and on the same axial center, of a key adapted to engage one of each of the disk-carrying and record transferring wheels whereby an indicator disk and a companion record transferring wheel may be simultaneously rotated to be set.

4. In an indicating and recording device, the combination with a series of concentric station and fare indicator disks the faces of which are situated in one plane, a series of disk-carrying wheels situated on the same axial center as said disks and back of the latter, means whereby a single indicator disk is connected to and carried by each of said disk-carrying wheels, a series of record transferring wheels arranged in a row and situated back of and on the same axial center as said indicator disks and said disk-carrying wheels, of a setting key adapted to simultaneously engage one of each of said disk-carrying and record transferring wheels whereby an indicator disk and a companion record transferring wheel may be simultaneously rotated to be set.

5. In an indicating and recording device, the combination with a series of concentric station and fare indicator disks the faces of which are situated in one plane, a series of disk-carrying wheels situated on the same axial center as said indicator disks and back of the latter, means whereby a single indicator disk is connected to and carried by each of said disk-carrying wheels, retaining springs engaging said disk-carrying wheels whereby each is yieldingly retained in its set position, a series of record transferring wheels arranged in a row and situated back of and on the same axial center as said indicator disks and said disk-carrying wheels, of a setting key adapted to simultaneously engage one of each of said disk-carrying and said record transferring wheels whereby an indicator disk and a companion record transferring wheel may be simultaneously rotated to be set.

6. In an indicating and recording device, the combination with a series of concentric indicator disks, a series of disk-carrying wheels by which said indicator disks are carried, and rotated, a series of record transferring wheels arranged in a row and situated back of said disk-carrying wheels, and means for simultaneously engaging one of each of the series of said disk-carrying and said record transferring wheels whereby an indicator disk and a companion record transferring wheel may be simultaneously set, of a record paper situated under said record transferring wheels, means for guiding said record paper and feeding it under said record transferring wheels, means for inking said record transferring wheels, and a platen adapted to be moved upwardly to press the record paper against said record transferring wheels.

7. In an indicating and recording device, the combination with a series of concentric indicator disks, a series of disk-carrying wheels whereby said disks are carried and rotated, a series of record transferring wheels arranged in a row and situated back of said disk-carrying wheels, and means for simultaneously engaging one of each of the series of said disk-carrying and said record transferring wheels whereby an indicator disk and a companion record transferring wheel may be simultaneously set, of a pair of record paper carrying and guiding rolls situated under said record transferring wheels and parallel therewith, a record paper carried by said rolls, suitable inking rollers situated under and in contact with said record transferring wheels and parallel therewith, a platen situated to pass between said paper guide rollers to cause said record paper to contact with said record transferring wheels, and a paper feed roller.

8. In an indicating and recording device, the combination with a series of concentric indicator disks, a series of disk-carrying wheels whereby said disks are carried and rotated, a series of record transferring wheels arranged in a row and situated back of said disk-carrying wheels, and means for simultaneously engaging one of each of the series of said disk-carrying and said record transferring wheels whereby an indicator disk and a companion record transferring wheel may be simultaneously set, of a pair of record paper carrying and guiding rolls situated under said record transferring wheels and parallel therewith, a record paper carried by said rolls, suitable inking rollers situated under and in contact with said record transferring wheels and parallel therewith, a platen situated to pass between said paper guide rollers to cause said record paper to contact with said record transferring wheels, a paper feed roller, a fare counting mechanism and suitable mechanism for operating said counting mechanism.

9. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, and a single operative means for simultaneously selecting and arranging an indicator and its companion record transferring feature, to bring the like characters on each into predetermined positions.

10. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, and a single operative means for simultaneously moving an indicator and its companion record transferring feature a uniform distance.

11. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, and a single operative means for simultaneously moving an indicator and its companion record transferring feature a uniform distance in the same direction.

12. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, and a single operative means capable of successive longitudinal movement for connecting in pairs one of said indicators and its companion record transferring feature.

13. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, and a single operative means capable of progressive longitudinal movement for connecting in pairs one of said indicators and its companion record transferring feature.

14. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, and a single operative means capable of successive longitudinal and rotatorial movements for connecting in pairs one of said indicators and its companion record transferring features and for uniformly moving said pairs when connected.

15. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, and a single operative means capable of progressive longitudinal and rotatorial movements for connecting in pairs one of said indicators and its companion record transferring features and for uniformly moving said pairs when connected.

16. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, a single operative means capable of both successive and progressive longitudinal and rotatorial movements for connecting in pairs one of said indicators and its companion record transferring features and for uniformly moving said parts when connected, and means for indicating the longitudinal travel of said operative means.

17. In an indicating and recording device, a group of independent movable indicators provided with suitable characters for displaying the names of the stations from which and to which passage is taken and the amounts of fares collected, a group of independent movable companion record transferring features provided with characters like those carried by said indicators, a single operative means capable of both successive and progressive longitudinal and rotatorial movements for connecting in pairs one of said indicators and its companion record transferring features and for uniformly moving said pairs when connected, and means for yieldably retaining said indicators in the position in which they are set.

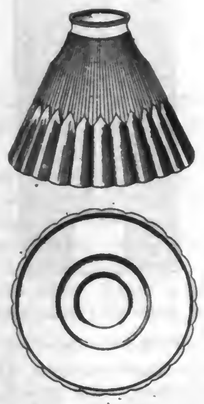
DESIGNS.

40,942. THERMOSTAT-CASING. HENRY A. AMES, Boston, Mass., assignor to Standard Thermometer Company, Boston, Mass., a Corporation of Maine. Filed May 28, 1910. Serial No. 564,010. Term of patent 14 years.



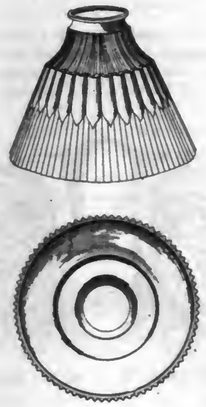
The ornamental design for a thermostat casing, as shown.

40,943. LIGHT-SHADE. ANDREW J. SANFORD, Newark, Ohio, assignor to A. H. Heisey & Co., Inc., Newark, Ohio, a Corporation of West Virginia. Filed Aug. 16, 1910. Serial No. 577,531. Term of patent 14 years.



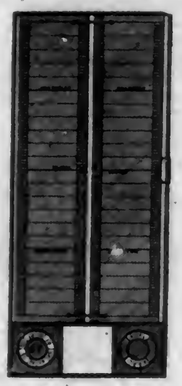
The ornamental design for a light shade, as shown and described.

40,944. LIGHT-SHADE. ANDREW J. SANFORD, Newark, Ohio, assignor to A. H. Heisey & Co., Inc., Newark, Ohio, a Corporation of West Virginia. Filed Aug. 16, 1910. Serial No. 577,532. Term of patent 14 years.



The ornamental design for a light shade, as shown and described.

40,945. GAME-BOARD. HENRY W. ALLEN and GEORGE R. MEEKER, Brooklyn, N. Y. Filed July 23, 1909. Serial No. 509,238. Term of patent 14 years.



The ornamental design for a game-board, as shown.

40,946. BURIAL-CASKET HANDLE. CHARLES BLESCH, Newport, Ky., assignor to The Crane & Breed Manufacturing Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Aug. 11, 1910. Serial No. 576,778. Term of patent 7 years.



The ornamental design for a burial-casket handle as shown and described.

40,947. LUG FOR CASKETS OR COFFINS. PAUL R. ZINSER, Cincinnati, Ohio, assignor to The Cincinnati Coffin Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Aug. 22, 1910. Serial No. 578,488. Term of patent 7 years.



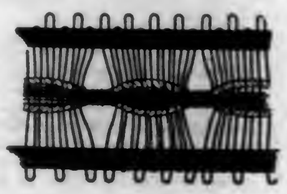
The ornamental design for a lug for caskets or coffins, as shown.

40,948. TRIMMING. FRANK WOOD, Valley Falls, R. I., assignor to Frank Wood Manufacturing Company, a Corporation of Rhode Island. Filed Aug. 13, 1910. Serial No. 577,103. Term of patent 7 years.



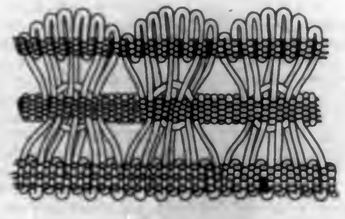
The ornamental design for a trimming as shown.

40,949. TRIMMING. FRANK WOOD, Valley Falls, R. I., assignor to Frank Wood Manufacturing Company, a Corporation of Rhode Island. Filed Aug. 13, 1910. Serial No. 577,104. Term of patent 7 years.



The ornamental design for a trimming, as shown.

40,950. TRIMMING. FRANK WOOD, Valley Falls, R. I., assignor to Frank Wood Manufacturing Company, a Corporation of Rhode Island. Filed Aug. 13, 1910. Serial No. 577,105. Term of patent 7 years.



The ornamental design for a trimming as shown.

TRADE-MARKS

PUBLISHED OCTOBER 18, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 10,047. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) CHICAGO DISTILLING CO., Chicago, Ill. Filed July 11, 1905.

PEACH BLOSSOM

Consisting of the words "Peach Blossom" and a representation of a peach.

Particular description of goods.—Straight Whisky.

Ser. No. 14,493. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) THE WHITE-WARNER CO., Taunton, Mass. Filed Nov. 11, 1905.

Quaker



The picture being fanciful.

Particular description of goods.—Heating Stoves, Ranges, Furnaces, Hot-Air and Hot-Water Heaters.

Ser. No. 37,727. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) ALWIN MANUFACTURING COMPANY, Chicago, Ill. Filed Oct. 1, 1908.

JUNIOR

Particular description of goods.—Children's Carriages, Go-Carts, Sleds, and Perambulators.

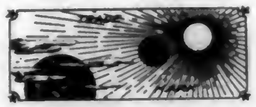
Ser. No. 38,918. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) PETER F. HEERING, Copenhagen, Denmark. Filed Nov. 27, 1908.



Which includes the name of the founder of the firm, "Peter F. Heering," now deceased, as written by Peter Nicolai Heering, senior member of the applicant firm.

Particular description of goods.—Cherry Cordial.

Ser. No. 45,049. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) FRANK P. IANNARONE, Far Rockaway, N. Y. Filed Oct. 1, 1909.



Particular description of goods.—A Preparation for Polishing Brass and other Metals.

Ser. No. 45,329. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) COLUMBIA COTTON OIL & PROVISION CORPORATION, Relee, Va. Filed Oct. 14, 1909.



The word "Relee" is printed in red, and the portrait is that of Robert E. Lee, deceased.

Particular description of goods.—Lard, Sugar-Cured Meats, and Cotton-Seed Oil.

Ser. No. 46,021. (CLASS 1. RAW OR PARTY-PREPARED MATERIALS.) ROBERT DEVILLERS, Brooklyn and New York, N. Y. Filed Nov. 20, 1909.

BOULETS

Particular description of goods.—A Fuel Made of Coal-Screenings.

Ser. No. 46,023. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SCHWARZSCHILD & SULZBERGER COMPANY, Kansas City, Kans.; Chicago, Ill., and New York, N. Y. Filed Nov. 20, 1909. Used ten years.

HARRISON

Particular description of goods.—Cured and Salted Meats.

Ser. No. 46,071. (CLASS 3. BAGGAGE, HORSE-EQUIPMENTS, PORTFOLIOS, AND POCKET-BOOKS.) CHARLES B. SCHLEICHER, Brady, Nebr. Filed Nov. 22, 1909.

CBS

Particular description of goods.—Neck-Yokes, Neck-Yoke and Pole-Strap Connections, and Neck-Yoke Centers.

Ser. No. 46,148. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) COLUMBIA COTTON OIL AND PROVISION CORPORATION, Relee, Va. Filed Nov. 27, 1909.

Velvet

Particular description of goods.—Lard, Sugar-Cured Meats, and Cotton-Seed Oil.

Ser. No. 46,222. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WILLIAM CLUFF COMPANY, San Francisco, Cal. Filed Dec. 1, 1909.



The portrait shown being that of Arthur G. Miller.

Particular description of goods.—A Preparation Made from Cereals, Fruit, Cocoa, and Wild Endive, Used for Making a Beverage.

Ser. No. 46,612. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE GLOBE SOAP COMPANY, Cincinnati, Ohio. Filed Dec. 20, 1909.

Gondola

Particular description of goods.—Soap.

Ser. No. 46,613. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE GLOBE SOAP COMPANY, Cincinnati, Ohio. Filed Dec. 20, 1909.



Particular description of goods.—Soap.

Ser. No. 46,777. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) COLUMBIA COTTON OIL AND PROVISION CORPORATION, Relee, Va. Filed Dec. 29, 1909.



Particular description of goods.—A Compound of Cotton-Seed Oil, Beef-Fat, and Oleo-Stearin.

Ser. No. 46,899. (CLASS 39. CLOTHING.) G. & A. WIEB, New York, N. Y. Filed Jan. 4, 1910.

Climax

Particular description of goods.—Hosiery.

Ser. No. 47,106. (CLASS 50. MERCHANDISE NOT OTHERWISE CLASSIFIED.) PRAIRIE STATE INCUBATOR COMPANY, Homer City, Pa. Filed Jan. 13, 1910.

UNIVERSAL

Particular description of goods.—Hovers.

Ser. No. 48,324. (CLASS 39. CLOTHING.) SAMUEL E. REINHARD, Baltimore, Md. Filed Mar. 10, 1910.

REIN

Particular description of goods.—Men's and Youths' Overcoats, Coats, Vests, and Trousers.

Ser. No. 48,369. (CLASS 15. OILS AND GREASES.) HERMAN WILKENS, Flushing, N. Y. Filed Mar. 12, 1910.

J-H-W

Particular description of goods.—Wood-Refinishing Oils and Greases.

Ser. No. 48,881. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) UNITED STATES VACUUM CLEANER COMPANY, Bradford, Pa. Filed Apr. 6, 1910.



The portrait being that of Marie V. Palmer.

Particular description of goods.—Vacuum Cleaning Apparatus.

Ser. No. 49,007. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) JOHN HENRY SMITH, Detroit, Mich. Filed Apr. 11, 1910.

NERO

Particular description of goods.—Canned Fish, Canned Vegetables, Canned Fruits, Canned Baked Beans, and Blended Roasted Coffee.

Ser. No. 49,041. (CLASS 38. PRINTS AND PUBLICATIONS.) JOSEPH W. JONES, New York, N. Y. Filed Apr. 12, 1910.

LIVE-MAP

Particular description of goods.—Disks Containing Directions for Following a Given Route.

Ser. No. 49,191. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE MCQUEENEY CHEMICAL CO., Akron, Ohio. Filed Apr. 19, 1910.



Particular description of goods.—An Internal Remedy for Sore Throat, Colds, Incipient Croup, Coughs, Catarrh of the Intestines and Stomach, and for an Ointment, Salve, and Massaging Compound.

Ser. No. 49,344. (CLASS 43. THREAD AND YARN.) SUPERIOR THREAD & YARN CO., Wilmington, Del., and New York, N. Y. Filed Apr. 28, 1910.

"Stycos"

Particular description of goods.—Threads and Yarns.

Ser. No. 49,473. (CLASS 39. CLOTHING.) R. KIRSHBAUM & SON, Indianapolis, Ind. Filed May 3, 1910.

"Excelsior"

Particular description of goods.—Shirt-Waists, Dresses, Separate Coats, Coat-Suits, and Ladies' Outer Suits.

Ser. No. 49,799. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MIDDLETOWN FARMS, INC., Middleton, Del. Filed May 18, 1910.

Acadia

Particular description of goods.—Buttermilk.

Ser. No. 49,861. (CLASS 50. MERCHANDISE NOT OTHERWISE CLASSIFIED.) ROBERT R. HAMMER, Roslindale, Mass. Filed May 21, 1910.

Likelass

Particular description of goods.—Advertising-Signs, Transparent Advertising Novelty Signs, and Illuminating Advertising Novelty Signs.

Ser. No. 50,001. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) WILLIAM L. DEMING, Salem, Ohio. Filed May 31, 1910.

BILBOLA

Particular description of goods.—Games of That Class Wherein There is a Surface and Balls Rolled Thereon.

Ser. No. 50,178. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) WILLIAM R. HOLLINGSHEAD, Buffalo, N. Y. Filed June 7, 1910.

KIMO

Particular description of goods.—Metal and Shoe Polishes and Polishing-Mittens.

Ser. No. 50,544. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) CHARLES G. ANDERSON, Chicago, Ill. Filed June 23, 1910.

OTO

Particular description of goods.—Polishing Material.

Ser. No. 50,613. (CLASS 3. BAGGAGE, HORSE EQUIPMENTS, PORTFOLIOS, AND POCKET-BOOKS.) JOHN DEWSBURY & SON, Walsall, England. Filed June 28, 1910.

KANGAROO

Particular description of goods.—Saddlery and Harness Hardware, Comprising Bridle-Bits, Stirrups, Spurs, Buckles, Rings, Terrets, Dees, Swivels, and Chains.

Ser. No. 50,675. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) CARMEL WINE COMPANY, New York, N. Y. Filed July 2, 1910.

PARADISE

Particular description of goods.—Wine-Brandy Imported from Palestine.

Ser. No. 50,683. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CHARLES E. BROWN & Co., Springfield, Mass. Filed July 2, 1910.

Mt. Tom
BRAND

Particular description of goods.—Coffee.

Ser. No. 50,717. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE AULT & WIBORG CO., Cincinnati, Ohio. Filed July 5, 1910.

BITUNAMEL

Particular description of goods.—A Varnish Paint.

Ser. No. 50,752. (CLASS 15. OILS AND GREASES.) THE ATLANTIC REFINING COMPANY, Philadelphia, Pa. Filed July 8, 1910. Used ten years.

Particular description of goods.—Refined Petroleum for Illuminating, Heating, and Power Purposes.

Ser. No. 50,757. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SEYMOUR M. HERMANN, New York, N. Y. Filed July 8, 1910.

CITROLENE

Particular description of goods.—Chemical Compound for Finishing Fabric.

Ser. No. 50,810. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) BURWELL PAINT COMPANY, Oakland, Cal. Filed July 18, 1910.



Particular description of goods.—Mixed Paint, Varnishes, Stains, Colors Ground in Oil, Colors in Japan, Spirits, and Water, Flat Tone Finish, and Wood Dyes.

Ser. No. 50,847. (CLASS 2. RECEPTACLES.) CHARLES D. BROWN & COMPANY, Boston, Mass. Filed July 15, 1910.

FIBREX

Particular description of goods.—Indurated-Fiber Trays, Bottle-Holders, Pails, Barrels, Basins, Pans, Plates, Saucers, Bowls, Boxes, Jars, Chamber Sets, Pitchers, Dishes, Cuspidors, Cups, Buckets, Vases, Jardinières, Kegs, Keelers, Reservoirs, Urns, Umbrella-Stands, and Waste-Paper Holders.

Ser. No. 50,928. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) C. S. PETERS & Co., Cincinnati, Ohio. Filed July 20, 1910.



Consisting of the arbitrary and fanciful representation of a three-fourths view of a woman standing beside a piano, part of which piano is exposed to view and the woman having a cloth in her right hand, said hand and arm to the elbow being bare. A bottle is represented as resting upon the keyboard-casing of the piano.

Particular description of goods.—Veneer-Glose.

Ser. No. 51,020. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) STANLEY CLAGUE, Chicago, Ill. Filed July 23, 1910.

Yours Truly

Particular description of goods.—Natural Mineral Water, Spring-Water, Soda-Water, Artificial Lithia-Water, Carbonated Fruit Beverages, Grape-Juice, Cherry-Juice, Lime-Juice, Root-Beer, Birch-Beer, Cider, Ginger-Ale, Lemonade, Non-Alcoholic Milk-Punch, Sarsaparilla, and Orangeade.

Ser. No. 51,023. (CLASS 39. CLOTHING.) STANLEY CLAGUE, Chicago, Ill. Filed July 23, 1910.

Yours Truly

Particular description of goods.—Rubber, Canvas, Cloth, and Leather Shoes; Hosiery, Gloves, Hats, Corsets, Collars, Cuffs; Men's Knitted and Textile Undershirts and Drawers, Women's Knitted and Textile Undershirts, Drawers, and Undervests, and Children's Knitted and Textile Undershirts, Undervests, and Drawers; Dress and Negligée Shirts and Sweaters.

Ser. No. 51,090. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MILLER BROS. & Co., Baltimore, Md. Filed July 26, 1910.

TURTLE DOVE



Particular description of goods.—Canned Peaches.

Ser. No. 51,114. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) A. CUSIMANO & Co., New Orleans, La. Filed July 28, 1910.



Particular description of goods.—Ragout of Egg-Plant.

Ser. No. 51,147. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) THE AMERICAN PEDAL CO., New York, N. Y. Filed July 29, 1910.

APCO

Particular description of goods.—Automobile Pedal-Covers.

Ser. No. 51,236. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) FERMIN CESTERO, Habana, Cuba, and New York, N. Y. Filed Aug. 2, 1910.

ELECTRA

Particular description of goods.—Coin-Controlled Opera-Glass Holders and Coin-Controlled Vending-Machines for Candy, Chewing-Gum, Peanuts, Cigars, and Matches.

Ser. No. 51,301. (CLASS 39. CLOTHING.) SAMUEL ROSENTHAL, Washington, D. C. Filed Aug. 6, 1910.



Particular description of goods.—Hats, Overcoats, Coats, Waistcoats, and Trousers.

Ser. No. 51,316. (CLASS 48. MALT EXTRACTS AND LIQUORS.) A. SCHREIBER BREWING COMPANY, Buffalo N. Y. Filed Aug. 8, 1910.

MANU

Particular description of goods.—Bottled Beer.

Ser. No. 51,393. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Y. Filed Aug. 13, 1910.

Thigenol

Particular description of goods.—A Remedy for Cutaneous Diseases.

Ser. No. 51,394. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) GEORG PRINTZ & Co., Aachen, Germany, and New York, N. Y. Filed Aug. 13, 1910.

LIGHTNING

Particular description of goods.—Needles and Pins.

Ser. No. 51,406. (CLASS 42. KNITTED, NETTED, AND AND TEXTILE FABRICS.) N. E. BOOMHOWER Co., New York, N. Y. Filed Aug. 15, 1910.



Particular description of goods.—Carpets, Mattings, Rugs, and Curtains.

Ser. No. 51,442. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) STAR EXPANSION BOLT Co., New York, N. Y. Filed Aug. 18, 1910.

SEBCO

Particular description of goods.—Brick and Stone Drills, Pipe-Drills, Extension-Drills, and Screw-Drivers.

Ser. No. 51,447. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE NORTHWESTERN CHEMICAL Co., Marietta, Ohio. Filed Aug. 18, 1910.

THERMITE

Particular description of goods.—Chemical Combination for Preventing Freezing.

Ser. No. 51,454. (CLASS 39. CLOTHING.) SAMUEL BEARMAN, St. Louis, Mo. Filed Aug. 19, 1910.



Particular description of goods.—Leather Shoes.

Ser. No. 51,463. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) L. & E. STIERN, New York, N. Y. Filed Aug. 20, 1910.

MERMAID



Particular description of goods.—Waterproof Tulle Nets and Chiffon.

Ser. No. 51,470. (CLASS 17. TOBACCO PRODUCTS.) MARKT & HAMMACHER COMPANY, New York, N. Y. Filed Aug. 20, 1910.

EL ENCANTO DE FILIPINAS

Particular description of goods.—Cigars, Cigarettes, Smoking and Chewing Tobacco.

Ser. No. 51,575. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) L. & E. STIERN, New York, N. Y. Filed Aug. 26, 1910.

NYMPH

Particular description of goods.—Waterproof Tulle Nets and Chiffon.

Ser. No. 51,584. (CLASS 17. TOBACCO PRODUCTS.) F. LOZANO, SON & Co., New York, N. Y. Filed Aug. 27, 1910.



Particular description of goods.—Cigars.

Ser. No. 51,658. (CLASS 17. TOBACCO PRODUCTS.) ANTONIO DE MARCO, New York, N. Y. Filed Sept. 2, 1910.



Particular description of goods.—Cigars.

Ser. No. 51,683. (CLASS 47. WINES.) GEO. BENZ & SONS, St. Paul, Minn. Filed Sept. 6, 1910.



Particular description of goods.—Angelica Wine and Tokay Wine and Sherry.

Ser. No. 51,754. (CLASS 17. TOBACCO PRODUCTS.) TEOFANI & Co., LIMITED, London, England. Filed Sept. 10, 1910. Used ten years.

TEOFANI

Particular description of goods.—Cigarettes, Cigars, Smoking-Tobacco, and Chewing-Tobacco.

Ser. No. 51,905. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) WITT'S FOOT OINTMENT COMPANY, Saginaw, Mich. Filed Sept. 21, 1910.



Particular description of goods.—An Ointment for Sweaty, Galled, Bad-Odor, or Tired Burning Feet.

TRADE-MARKS

REGISTERED OCTOBER 18, 1910.

79,882. FRESH BLUE-POINT OYSTERS. N. S. Ackerly & Son Company, Northport and Sayville, N. Y.
Filed October 23, 1909. Serial No. 45,565. PUBLISHED AUGUST 16, 1910.

79,883. PENS AND NIBS. Johan Aron Alling, Stockholm, Sweden.
Filed June 1, 1910. Serial No. 50,029. PUBLISHED AUGUST 16, 1910.

79,884. BUTTER. American Butter and Cheese Co., Detroit, Mich.
Filed November 18, 1909. Serial No. 45,961. PUBLISHED AUGUST 16, 1910.

79,885. BURNERS AND TIPS FOR ILLUMINATING-GAS. American Lava Co., Chattanooga, Tenn.
Filed February 10, 1910. Serial No. 47,708. PUBLISHED AUGUST 16, 1910.

79,886. SILK NETTING IN THE PIECE. Bamberg & Risser, New York, N. Y.
Filed July 19, 1910. Serial No. 50,911. PUBLISHED AUGUST 16, 1910.

79,887. ROUGH OR UNMANUFACTURED GRANITE. Brookes Limited, Lightcliffe, England.
Filed February 17, 1910. Serial No. 47,865. PUBLISHED AUGUST 16, 1910.

79,888. BELTS AND GIRDLES FOR USE AS WEARING-APPAREL. Brown Durrell Co., Boston, Mass.
Filed May 28, 1910. Serial No. 49,991. PUBLISHED AUGUST 16, 1910.

79,889. HOOKS AND EYES AND SNAP-FASTENINGS. Brown Durrell Co., Boston, Mass.
Filed May 28, 1910. Serial No. 49,992. PUBLISHED AUGUST 16, 1910.

79,890. COTTON GOODS IN THE PIECE. Wm. H. Brown Son & Co., New York, N. Y.
Filed July 20, 1910. Serial No. 50,931. PUBLISHED AUGUST 16, 1910.

79,891. INSECTICIDES. Thomas M. Bryan, Zanesville, Ohio.
Filed July 1, 1910. Serial No. 50,670. PUBLISHED AUGUST 16, 1910.

79,892. CERTAIN PRECIOUS-METAL ARTICLES. Charles B. Byron Company, New York, N. Y.
Filed November 15, 1909. Serial No. 45,894. PUBLISHED MARCH 15, 1910.

79,893. FRESH AND DRIED FRUITS. California Farmers' Union, Inc., Fresno, Cal.
Filed February 23, 1910. Serial No. 47,972. PUBLISHED AUGUST 16, 1910.

79,894. FERTILIZERS. Central Mfg. Co., Lockland, Ohio.
Filed June 27, 1910. Serial No. 50,599. PUBLISHED AUGUST 16, 1910.

79,895. REMEDY FOR CANCER. Chemical Manufacturing Company, New York, N. Y.
Filed July 9, 1910. Serial No. 50,762. PUBLISHED AUGUST 16, 1910.

79,896. CANNED TOMATOES. The Citizens Canning Company, Spiceland, Ind.
Filed September 1, 1909. Serial No. 44,479. PUBLISHED DECEMBER 7, 1909.

79,897. BOTTLING MACHINERY AND PARTS OF THE SAME. The Crown Cork & Seal Company, Baltimore, Md.
Filed November 29, 1909. Serial No. 46,154. PUBLISHED AUGUST 16, 1910.

79,898. HAY-STACKERS. Dain Manufacturing Company of Iowa, Ottumwa, Iowa.
Filed July 8, 1910. Serial No. 50,751. PUBLISHED AUGUST 16, 1910.

79,899. EARTHENWARE AND PORCELAIN TILES. Charles Davison and Company Limited, Ewloe, near Chester, England.
Filed March 18, 1910. Serial No. 48,528. PUBLISHED AUGUST 16, 1910.

79,900. GLASS SHOW-CASES. The Diamond Show Case Company, Cleveland, Ohio.
Filed May 17, 1909. Serial No. 42,480. PUBLISHED JULY 13, 1909.

79,901. GLASS SHOW-CASES. The Diamond Show Case Company, Cleveland, Ohio.
Filed May 17, 1909. Serial No. 42,481. PUBLISHED JULY 13, 1909.

79,902. CANNED VEGETABLES. Dickinson & Co., Eureka, Ill.
Filed June 27, 1910. Serial No. 50,585. PUBLISHED AUGUST 16, 1910.

79,903. CANNED VEGETABLES. Dickinson & Co., Eureka, Ill.
Filed June 27, 1910. Serial No. 50,587. PUBLISHED AUGUST 16, 1910.

79,904. DRAWING INSTRUMENTS. Eugene Dietzgen Company, Chicago, Ill.
Filed February 2, 1910. Serial No. 47,541. PUBLISHED AUGUST 16, 1910.

79,905. LEATHER BOOTS, SHOES, AND LEGGINGS. Ellet-Kendall Shoe Company, Kansas City, Mo.
Filed November 2, 1907. Serial No. 30,954. PUBLISHED AUGUST 16, 1910.

79,906. CANNED PINEAPPLE. Haiku Fruit and Packing Company, Limited, Haiku, Maui, Territory of Hawaii.
Filed June 27, 1910. Serial No. 50,600. PUBLISHED AUGUST 16, 1910.

79,907. MAINSPRINGS. Hammel, Riglander & Co., New York, N. Y.
Filed July 2, 1910. Serial No. 50,690. PUBLISHED AUGUST 16, 1910.

79,908. TEA AND COCOA. Harden Bros. & Lindsay, Ltd., London, England.
Filed March 8, 1910. Serial No. 48,266. PUBLISHED AUGUST 16, 1910.

79,909. CURRANTS. The Hills Brothers Company, New York, N. Y.
Filed May 13, 1910. Serial No. 49,701. PUBLISHED AUGUST 16, 1910.

79,910. LINIMENT. Fred E. Horton, Chittenden, Vt.
Filed June 20, 1910. Serial No. 50,453. PUBLISHED AUGUST 16, 1910.

79,911. LUBRICATING AND METAL AND WOOD CLEANING OIL. GEORGE A. HOUGHTON, Portland, Me.
Filed May 12, 1910. Serial No. 49,672. PUBLISHED AUGUST 16, 1910.

79,912. PINEAPPLE-JUICE. CLEMENT JULIUS HUELSENKAMP, Habana, Cuba.
Filed February 24, 1910. Serial No. 47,995. PUBLISHED AUGUST 16, 1910.

79,913. GLUE. HERBERT L. HUNTER, Bessemer, Ala.
Filed June 15, 1910. Serial No. 50,330. PUBLISHED AUGUST 16, 1910.

79,914. WHIPS. INDEPENDENT WHIP CO., Westfield, Mass.
Filed June 13, 1910. Serial No. 50,296. PUBLISHED AUGUST 16, 1910.

79,915. LUBRICANTS CONTAINING GRAPHITE. INTERNATIONAL ACHESON GRAPHITE CO., Niagara Falls, N. Y.
Filed July 9, 1910. Serial No. 50,767. PUBLISHED AUGUST 16, 1910.

79,916. CERTAIN EXPLOSIVES, FIREWORKS, AND MATCHES. "JUPITER" GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Hamburg, Germany.
Filed September 9, 1909. Serial No. 44,608. PUBLISHED AUGUST 23, 1910.

79,917. LIQUID VARNISH AND PAINT REMOVER. KANE VARNISH AND PAINT REMOVER CO., New York, N. Y.
Filed July 16, 1910. Serial No. 50,862. PUBLISHED AUGUST 16, 1910.

79,918. TOILET POWDER. ALFRED J. KRANK, St. Paul, Minn.
Filed July 17, 1909. Serial No. 43,586. PUBLISHED AUGUST 16, 1910.

79,919. WRAPPING AND PRINTING PAPER. J. S. LUNESCHLOSS, New York, N. Y.
Filed July 23, 1910. Serial No. 51,008. PUBLISHED AUGUST 16, 1910.

79,920. RUGS AND CARPETS. JOHN W. MASLAND, Philadelphia, Pa.
Filed May 3, 1910. Serial No. 49,482. PUBLISHED AUGUST 16, 1910.

79,921. WOOD-POLISH. BENJAMIN MILLER, Chicago, Ill.
Filed April 28, 1910. Serial No. 49,372. PUBLISHED JULY 12, 1910.

79,922. FLOUR-MILLING MACHINERY AND PARTS THEREOF. MONTPELIER CUP & METAL WORKS, Montpelier, Ind.
Filed May 13, 1910. Serial No. 49,685. PUBLISHED AUGUST 16, 1910.

79,923. CIGARS. EDWIN MYERS, York, Pa.
Filed June 23, 1910. Serial No. 50,534. PUBLISHED AUGUST 16, 1910.

79,924. FERTILIZERS. NATIONAL FERTILIZER CO., Nashville, Tenn.
Filed April 11, 1910. Serial No. 49,003. PUBLISHED AUGUST 16, 1910.

79,925. CERTAIN CLOTHING. THE NEW ERA MANUFACTURING COMPANY, St. Louis, Mo.
Filed April 13, 1910. Serial No. 49,046. PUBLISHED AUGUST 16, 1910.

79,926. CHILDREN'S, MISSES', AND LADIES' WATERPROOF CLOAKS, COATS, AND CAPES. THE NEW YORK MACKINTOSH COMPANY, New York, N. Y.
Filed November 11, 1909. Serial No. 45,826. PUBLISHED AUGUST 16, 1910.

79,927. HATS. NO NAME HAT M'F'G CO., Orange, N. J.
Filed July 18, 1910. Serial No. 50,903. PUBLISHED AUGUST 16, 1910.

79,928. LIME. THE OHIO & WESTERN LIME CO., Marion, Ohio.
Filed June 27, 1910. Serial No. 50,609. PUBLISHED AUGUST 16, 1910.

79,929. PREPARATION CONTAINING MALT AND HOPS. PABST BREWING COMPANY, Milwaukee, Wis.
Filed March 5, 1910. Serial No. 48,221. PUBLISHED AUGUST 16, 1910.

79,930. CANNED CRAB-MEAT. PARROTT & CO., San Francisco, Cal.
Filed June 20, 1910. Serial No. 50,439. PUBLISHED AUGUST 16, 1910.

79,931. READY-MIXED PAINTS. THE PETERS-PITKIN COMPANY, Benton Harbor, Mich.
Filed July 13, 1910. Serial No. 50,825. PUBLISHED AUGUST 16, 1910.

79,932. MONTHLY MAGAZINE. PHILADELPHIA SUBURBAN PUBLISHING CO., Philadelphia, Pa.
Filed May 26, 1910. Serial No. 49,925. PUBLISHED AUGUST 16, 1910.

79,933. CERTAIN CHEMICAL SUBSTANCE. DR. RICKMANN & RAPPE, G. M. B. H., CHEMISCHE FABRIK, Kalk, near Cologne, Germany, assignor to The Roessler & Hasslacher Chemical Company, New York, N. Y.
Filed February 28, 1910. Serial No. 48,070. PUBLISHED AUGUST 16, 1910.

79,934. CERTAIN CLOTHING. THE SALT'S TEXTILE MANUFACTURING COMPANY, Bridgeport, Conn.
Filed March 28, 1910. Serial No. 48,700. PUBLISHED AUGUST 16, 1910.

79,935. CANNED FOODS. THE SEARS & NICHOLS COMPANY, Chillicothe and Frankfort, Ohio.
Filed April 28, 1909. Serial No. 42,079. PUBLISHED SEPTEMBER 21, 1909.

79,936. DOUBLETREES, SWINGLETREES, AND WOOD PARTS FOR THE SAME. SHATTUCK-GEORGE IRON CO., Wichita, Kans.
Filed May 3, 1910. Serial No. 49,475. PUBLISHED AUGUST 16, 1910.

79,937. HAND SEWING-NEEDLES. THE SINGER MANUFACTURING COMPANY, New York, N. Y., and Elizabeth, N. J.
Filed July 22, 1910. Serial No. 50,984. PUBLISHED AUGUST 16, 1910.

79,938. GOLF-BALLS. A. G. SPALDING & BROS., Jersey City, N. J., and New York, N. Y.
Filed June 25, 1910. Serial No. 50,580. PUBLISHED AUGUST 16, 1910.

79,939. NAPHTHA AND GASOLENE. STANDARD OIL COMPANY OF NEW YORK, New York, N. Y.
Filed June 22, 1910. Serial No. 50,512. PUBLISHED AUGUST 16, 1910.

79,940. TYPE-WRITER RIBBONS AND CARBON-PAPER. H. M. STORMS COMPANY, New York, N. Y.
Filed July 13, 1910. Serial No. 50,814. PUBLISHED AUGUST 16, 1910.

79,941. WHEAT-FLOUR. DAVID STOTT, Detroit, Mich.
Filed August 23, 1909. Serial No. 44,312. PUBLISHED DECEMBER 7, 1909.

79,942. VEILINGS. STRAUSS BROS. & COMPANY, New York, N. Y.
Filed July 16, 1910. Serial No. 50,861. PUBLISHED AUGUST 16, 1910.

79,943. SHOVELS, SPADES, AND SCOOPS. SUPPLEE HARDWARE COMPANY, Philadelphia, Pa.
Filed June 23, 1910. Serial No. 50,528. PUBLISHED AUGUST 16, 1910.

79,944. ARTIFICIAL STONE AND COMPOSITION FOR MAKING THE SAME. RONALD TAYLOR, New York, N. Y.
Filed June 1, 1910. Serial No. 50,024. PUBLISHED AUGUST 16, 1910.

79,945. SHOES. TRUITT BROS., Binghamton, N. Y.
Filed April 13, 1910. Serial No. 49,051. PUBLISHED AUGUST 16, 1910.

79,946. VACUUM-CLEANERS. FRED WARDELL, Detroit, Mich.
Filed July 13, 1910. Serial No. 50,809. PUBLISHED AUGUST 16, 1910.

79,947. CANNED VEGETABLES. R. C. WILLIAMS & Co., New York, N. Y.
Filed April 20, 1909. Serial No. 41,887. PUBLISHED AUGUST 16, 1910.

79,948. MEDICINES FOR TUBERCULOSIS. ANTHONY S. ZAJKOWSKI, Chicago, Ill.
Filed March 7, 1910. Serial No. 48,251. PUBLISHED AUGUST 16, 1910.

LABELS

REGISTERED OCTOBER 18, 1910.

15,358.—*Title:* "GRANDMONT." (For Cigars.) AMERICAN LITHOGRAPHIC COMPANY, New York, N. Y. Filed October 10, 1910.

15,359.—*Title:* "FLOR." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed October 5, 1910.

15,360.—*Title:* "SAUCE MIGNONNE." (For Sauces for Foods.) FRITZ REUSSER, New York, N. Y. Filed August 9, 1910.

15,361.—*Title:* "SUNBEAM PURE FOOD." (For Raisins.) AUSTIN NICHOLS & Co., New York, N. Y. Filed October 8, 1910.

15,362.—*Title:* "WEST VIRGINIA APPLES." (For Apples.) JOHN H. RENNARD Co., Wheeling, W. Va. Filed September 24, 1910.

15,363.—*Title:* "DEHYDRO." (For Dehydrated Fruits and Vegetables.) AMERICAN DEHYDRATING COMPANY, Waukesha, Wis. Filed October 7, 1910.

15,364.—*Title:* "ABSORB-O." (For a Remedy for Diseases of Horses.) FRANK C. HOPKINS, Keene, N. H. Filed June 11, 1910.

15,365.—*Title:* "ROYAL PEN & PENCIL TABLET." (For Writing Books or Tablets.) OSBORN PAPER COMPANY, Marion, Ind. Filed October 5, 1910.

15,366.—*Title:* "ROYAL THEME TABLET." (For Writing Books or Tablets.) OSBORN PAPER COMPANY, Marion, Ind. Filed October 5, 1910.

15,367.—*Title:* "ROYAL WRITING BOOK." (For Writing Books or Tablets.) OSBORN PAPER COMPANY, Marion, Ind. Filed October 5, 1910.

15,368.—*Title:* "ROYAL NOTE BOOK." (For Writing Note-Books.) OSBORN PAPER COMPANY, Marion, Ind. Filed October 5, 1910.

15,369.—*Title:* "ROYAL COMPOSITION BOOK." (For Writing Books or Tablets.) OSBORN PAPER COMPANY, Marion, Ind. Filed October 5, 1910.

15,370.—*Title:* "SCHOOL TABLET ROYAL." (For Writing Books or Tablets.) OSBORN PAPER COMPANY, Marion, Ind. Filed October 5, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE LANGHAAR.

Decided October 6, 1910.

AMENDMENT UNDER RULE 78—PRACTICE.

Where the Examiner reports that certain claims contained in an amendment presented under Rule 78 are not patentable, such amendment will not be entered.

ON PETITION.

BALL-BEARING.

Mr. Charles F. Schmelz for the applicant.

MOORE, *Commissioner:*

This is the third petition by the applicant that a certain claim be admitted under the provisions of Rule 78 without withdrawing the case from issue.

The Examiner has reported in the previous petitions of this character that the subject-matter of this claim is not patentable in view of certain stated references. In the present petition it is sought to controvert the statement of the Examiner, and, in fact, it is an endeavor to continue the prosecution of the application. No reason is given why the claim which it is now desired to add was not presented while the case was pending before the Examiner.

I find no sufficient reason for remanding the case to the Examiner for further consideration, and since the Examiner has reported adversely upon the merits of a similar claim the petition must be denied.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Second Circuit.

BOSSERT ELECTRIC CONST. CO. *v.* PRATT CHUCK CO.

SAME *v.* SPRAGUE ELECTRIC CO.

Decided May 23, 1910.

1. PATENTS—RULES OF CONSTRUCTION.

Patents are grants made in consideration of discoveries which "promote the progress of science and the useful arts," (Const., art. 1, sec. 8,) and they are to be construed liberally, so as to effect their real intent, subject to the settled rule that inventors be held to the form of claim which they have accepted under objections from the Patent Office.

2. PATENTABILITY—ELECTRIC WALL-BOXES.

The Bossert patent, No. 571,297, for an improvement in electric wall-boxes which are constructed with holes already made in the bottom and sides, so as to accommodate the entrance of the conduits at any desired point, such holes being closed by plugs when not in use, *Held* not anticipated, valid, and infringed.

J. Edgar Bull for the appellant.

Edmund Wetmore (*Richard R. Martin* of counsel) for the appellee Pratt Chuck Company.

S. O. Edmonds for the appellee Sprague Electric Company.

Before LACOMBE, WARD, and NOYES, Circuit Judges.

PER CURIAM:

This is an appeal from a decree dismissing the bill upon two patents to William F. Bossert, viz., No. 571,297, November 10, 1896, for a new and useful improvement in electric wall-boxes, and No. 682,233, September 10, 1901, for improvement in outlet-boxes for interior conduits upon the ground of non-infringement. The requirements of the trade of wiring interiors for electrical purposes brought about the use of wall outlet-boxes. The wires are carried in tubes or conduits in the walls of the house, and where they issue for the purpose of distribution to different rooms the ends of the conduits are inclosed in a box. The boxes are constructed with holes already made in the sides and bottom so as to accommodate the entrance of the conduits at any desired point; but the holes are covered so that the ordinary workman while on the job can without the use of any special tools open such holes as he desires to use, leaving the rest of the box imperforate. These boxes were known as "universal knock-out boxes," and various forms were gradually developed. In 1889 the predecessor of the defendant, the Sprague Electric Company, installed in the house of William Rockefeller, at Tarrytown, N. Y., a box made of thin galvanized iron in which holes had been punched and then filled by reinserting the part punched out and keeping it in place by tacks of solder. In 1890 a box was put in the Dunshee apartment-house of thin brass out of which disks had been partially cut and were held in place by two uncut connections with the wall of the box. Other boxes, as in the case of the Mezger patent, No. 564,529, were made of iron cast thinner at points where holes could be opened by breaking the wall or with holes closed by plugs like the ordinary stovepipe-hole cover which could be drawn out; or holes covered by sheets of stiff paper or thin metal which could be easily broken through at desired points. Others had holes filled by ordinary plugs of cork or rubber which could be pulled out or caps which could be unscrewed.

Bossert's invention, if any, consists in his apply-

ing in 1896 to the well-known universal knock-out box the old punching process. That is to say, he made a box of ductile metal of sufficient thickness, and then, by the use of dies, punched out disks where holes were wanted and drove the disks back into their original places. This made an integral box in which orifices could be opened by driving out the disks. The punching process has never been applied to a universal knock-out box, and during the seven or more years in which the trade was making these boxes no one thought of making them in this way until Bossert did. The judge of the circuit court has found that in this way Bossert produced a box so superior in all respects as to displace all others.

The first question is whether the improvement is the result of mere mechanical skill or involves the higher quality of invention. This question might be answered differently by persons of equal intelligence, but we think the judge of the circuit court rightly held that invention was involved. The general subject is discussed in decisions very familiar to the profession. (*Western Electric Co.* v. *La Rue*, 139 U. S., 601; 11 Sup. Ct., 670; 35 L. Ed., 294; *Potts* v. *Creager*, 155 U. S., 597; 15 Sup. Ct., 194; 39 L. Ed., 275; *Hobbs* v. *Beach*, 180 U. S., 383, 389. 393; 21 Sup. Ct., 409; 45 L. Ed., 586, and our own decision, *O'Rourke Engineering Co.* v. *McMullen*, 160 Fed., 936; 88 C. C. A., 115.)

We do not think the Rockefeller box or the Dunshee box or the patents cited like the Bartlett patent, No. 100,234, for the lid of a powder-box, or the McGill patent, No. 160,834, for an oyster-can, or the Britain patent, No. 106,911, for a can-cover, illustrate in any way the plugs held in place by wedging. The Holz patent, No. 412,618, for punching wads, is an instance of wedging in a non-analogous art.

We are next to inquire whether the defendants infringe. The claims relied on are for an article of manufacture as follows:

In the first patent:

5. The combination with a wall-box having openings adapted to receive electric conduits, of plug-plates wedging in the openings and adapted to be displaced or removed to clear the opening for the conduit by being forced inwardly or outwardly, substantially as set forth.

6. A wall-box drawn out of the sheet metal having numerous openings formed by punching and adapted to receive electric conduits, plug-plates therefor wedging in the openings and conforming to the exterior and interior surfaces of the walls in which the opening is formed and capable of being removed by forcing the plug-plates outwardly or inwardly, substantially as set forth.

In the second patent:

2. A metal outlet-box, having one or more partially-formed openings in its walls, each opening being circular in configuration, the peripheries of the openings and of their partly-expelled blanks being mutually indented, as set forth.

The judge of the circuit court was of opinion that inventors should be held strictly to the wording of their claims because patents are monopolies given out of the sovereign's generosity and given *ex parte*. We, however, think that patents are grants made in consideration of discoveries which "promote the progress of science and useful arts" (Const., art. 1, sec. 8), and that they are to be construed liberally so as to effect their real intent. (*Grant* v. *Raymond*, 6 Pet., 240; 8 L. Ed., 376; *Blanchard* v. *Sprague*, 3 Sumn., 535; Fed. Cas. No. 1,517.) Still it is the settled rule that inventors be held to the form of claim which they have accepted under objections from the Patent Office.

The elements of claim 5 are:

(1) A wall-box with openings.

(2) Plug-plates for such openings.

These plug-plates must be such as will wedge in the openings and can be displaced by being forced in or out of such opening. The specifications state that the same piece which is punched out to form the hole is driven or forced back therein. The crux of the patentee's invention seems to be that by punching out a disk of metal and thereafter plugging it back into the hole thus formed the metal at the cut edges will be in such condition as to wedge the plug in the hole. As the punching-tool completed its operation, its cutting edge was between the periphery of the cut-out portion and the plate from which it was cut. Manifestly at that time the diameter of the hole exceeded the diameter of the plug by twice the thickness of the cutting edge. It might be expected that if the cut-out part were replaced in the hole it would fall out again, being of smaller diameter; but for some reason, which was not made entirely plain upon the argument, and which the record seems not to disclose, the plug if punched back in place will wedge so tight in the hole as to require quite a heavy blow to dislodge it. Each plug is of the same thickness as the metal in which the hole has been punched, and if it is forced back into its original position its interior and exterior surfaces will conform to the interior and exterior surfaces of the wall in which it is placed. This limitation is found in the sixth claim, but there is no such limitation specified in the fifth claim. Nothing in the specifications or in the record indicates that the plugs will not "wedge in" unless they are driven home; indeed, some of the exhibits indicate that they will wedge even when forced back half-way. We do not find that the prior art is such as to require such a limitation to be read into the claim in order to sustain it.

Defendants contend that the file-wrapper and contents require such a construction. The original application contained four claims, of which 2, 3, and 4 were allowed and retained the same numbers when issued. Claim 1 read:

The herein-described wall-box, having numerous plugged conduit-openings, substantially as set forth.

This was rejected on two patents to Mezger. Thereupon this first claim was amended by adding various limitations, including coincidence of the surfaces of plugs and wall. The applicant also submitted a new claim No. 5, as follows:

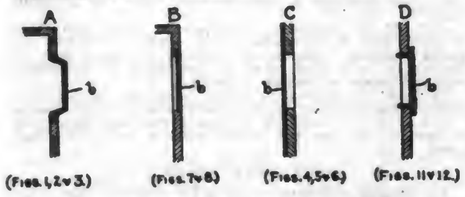
The combination with a wall-box having openings adapted to receive electric conduits, of plug-plates wedging in the openings and adapted to be displaced or removed to clear the opening for the conduit by being forced into the box, substantially as described.

The amended first claim and the new fifth claim were again rejected on Mezger. Applicant amended the fifth claim by stating that the opening could be cleared "by (the plug) being forced inwardly or outwardly." He also submitted a new claim 6, in the language in which it now stands, and resubmitted the first claim without further amendment. He also submitted a letter stating *inter alia:*

The fact that it is an obvious advantage to have the conduit-openings closed by devices which can with equal facility, as circumstances may require or permit, be removed to the exterior or the interior and an advantage to have no external or internal projections at the plug-openings taken in consideration with the results of the efforts of others in this line, as evidenced by the references, seems to quite effectively negative the holding of the Examiner that there is no patentable novelty involved in providing a plug-plate instead of a cover.

Thereupon the patent with six claims was allowed. Defendant contends that because of this letter it must be held that the applicant acquiesced in a ruling that he was not entitled to a patent unless his claims were restricted to plugs whose surfaces were coincident with the wall-surfaces, although claim 5 as issued contains nothing which imports such a limitation. This proposition seems to carry the doctrine of acquiescence far beyond any limits it has yet reached. The applicant was addressing himself to the references cited against him, viz., the two Mezger patents, Nos. 564,527 and 564,443. The earlier of these showed many forms of box. These are well illustrated in one of defendant's exhibits:

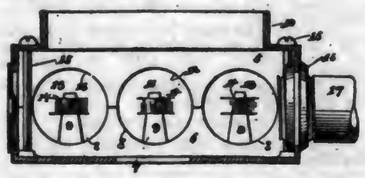
FORMS OF "WEAKENED PORTIONS" DESCRIBED AND ILLUSTRATED IN MEZGER PATENT.



("WEAKENED PORTIONS" INDICATED AT "b")

integral with the walls of the box, but thinner than said walls, so that it can be broken out with a hammer. There is no hole and no plug, and it is inconceivable that the Examiner or the applicant were concerned with any question of differentiation from these forms of Mezger. In C the box is made with all the holes completely formed and is then completely covered, holes and all, with a thin sheet of metal through which holes are to be cut with an appropriate instrument. Here there is a hole but no plug. In D there is a hole, and it is closed by the insertion in it of the flange of a cover like the cover of a stovepipe-hole. It is called the "stovepipe" device in the testimony and briefs. The second Mezger patent shows a different device for keeping the cover in place.

There are circular openings cut in the wall, and the specifications say:



Covering each of these circular openings is a plate, 13, such plate being circular and larger than the openings, 8, so as to engage the sections 5 and 6 at their outer sides to effectively close the openings.

These plates 13 manifestly project beyond the outside of the openings, as does the part *x* of *b* in form D, *ante*.

Formed in each plate, 13, are two parallel cuts producing a loop, 14, such loops respectively receiving the arms, 9, and thereby holding the plates, 13, in position. The arms, 9, being very much weaker than the material forming the sections 5 and 6, it will be seen that upon the application of a sharp blow to the arms they will be broken away carrying with them the attached plate.

Being confronted with these earlier devices for covering holes, the applicant insisted that his "plug-plate" device was nevertheless patentable, and he differentiated it from the Mezger covers, in very plain and simple language, by showing that his plug could be driven out or in, while the Mezger cover was adapted to be driven in one direction only, and that his "plug-plates wedging in the openings" have not the external or internal projections at the openings which are found in *x*, *y*, and 9 of Mezger drawings, *ante*. It is not surprising that this satisfied the Examiner that Mezger did not disclose any anticipation of claim 5 as it was amended, so as to confine it to a plug which could be driven in or out, and we find in the transaction no acquiescence in any construction which would restrict the combination of that claim to plug-plates whose surfaces are coincident with the walls.

Defendants refer to a letter of Bossert to his counsel written nearly five years after the issuance of his first patent, in which he expresses the opinion that the sixth claim of that patent is practically the only one which protects him. We are of the opinion that patents may be more safely construed by studying their language in connection with the prior art than by referring to the subsequent dissertations of the patentees. In this letter the patentee states that at the time the patent was granted the plug was set back in the press:

Which would conform to that part of the claim which states that the plug-plates conform to the exterior and interior surface of the walls.

Presumably the "claim" thus referred to is the "last claim" (the sixth claim), which the writer mentioned in the next preceding sentence, and which does contain the limitation of conformity of surfaces. But it is not material that at the time the patent was applied for the patentee was in the habit of driving the plugs entirely back. If the wedging in would be accomplished by driving them partly back, and neither the claim nor the prior art confines him to the precise method he used when he made application, both methods of driving or forcing back—wholly or partly—will be covered by the patent. The patentee in this letter also states to his counsel that he is then (five years after issue) making boxes, in which the "plugs are not flush with the wall," of which he says:

This method would not practically conform to the exact wording of the patent.

This statement of his might fairly be held to apply only to the sixth claim, which was the one he was discussing, and which he considered was practically the only one which protected him. Applied to that claim, the statement in the letter is strictly accurate. If it be held, however, that the writer's expressions applied to the whole patent, then they merely state his construction of the fifth claim of the patent five years after its issue, and we are satisfied that our own construction of that claim is the more accurate.

It appears that, although defendants' plugs may be knocked out in either direction, they may be driven one way with a single blow of the hammer, while it requires several blows to drive them the other way. It is argued that for this reason they do not infringe, because in the patentee's letter to the Patent Office quoted *supra* he stated that the plugs might be removed either way with equal facility. No such limitation is found in the claim, nor is there anything in the Mezger references (which he was then discussing) nor in the prior art which requires such limitation. The mere statement in the letter implies no more than that the plugs may be knocked either in or out without breaking the box or disorganizing the device, whichever way is selected.

The defendants' plugs are not flush with the walls, but they are punched out of the metal and then forced back. A small tongue or ear integral with the wall remains when a plug is punched, but the plug is thereafter forced back into place and is there retained by wedging in the opening, although the ear contributes in some slight degree to keep it there. Infringement of the fifth claim of the first patent is proved.

The second patent, if valid, must be so narrowly construed that the defendants cannot be held to infringe.

Decree reversed, without costs.

Imperial Urgency Ordinances Relating to Putting into Force in Korea of Laws Bearing on Patents, Trade-Marks, and Copyrights.

OCTOBER 6, 1910.

The following papers, which have been received from the Department of State, are published for the information of those concerned.

EDWARD B. MOORE,
Commissioner.

OCTOBER 4, 1910.

The Acting Secretary of State presents his compliments to the honorable the Secretary of the Interior and has the honor to inclose herewith, for the information of the Commissioner of Patents, copies of certain Imperial urgency ordinances relating to putting into force in Korea of laws bearing on patents, trade-marks and copyrights, which were received through the American Embassy at Tokyo in a despatch dated August 30, 1910.

The Honorable
The SECRETARY OF THE INTERIOR.

Imp. Ord. No. 321.—Imperial ordinance relating to the abolition of the organization of the Patent Bureau of the Residency-General.

The organization of the Patent Bureau of the Residency-General is hereby abolished.

SUPPLEMENTARY PROVISION.

The present ordinance takes effect from the date of its promulgation.

Imp. Ord. No. 334.—Imperial ordinance relating to the wearing of Korean decorations and medals.

Korean decorations and medals hitherto bestowed may be worn for the time being.

SUPPLEMENTARY PROVISION.

The present ordinance takes effect from the date of its promulgation.

Decree of the Governor-General of Korea relating to the administration of foreign settlements.

The administration of the general foreign settlements at Chemulpo, Chinnampo, Mokpo, Kunsan, Masampo and Songchin and of the Chinese settlements at Chemulpo, Fusan and Yuensan shall for the time being be conducted under the same regulations as those hitherto in force, with the exception of matters relating to the police.

SUPPLEMENTARY PROVISION.

The present ordinance takes effect from the date of its promulgation.

Imp. Ord. No. 335.—Imperial ordinance relating to the putting into force in Korea of the law of patents, etc.

The laws specified hereunder shall be put into force in Korea:

1. The law of patents.
2. Law of designs.
3. Law of utility models.
4. Law of trade-marks.
5. Law of copyrights.

SUPPLEMENTARY PROVISION.

The present ordinance takes effect from the date of its promulgation.

Imp. Ord. No. 336.—Imperial urgency ordinance relating to the putting into force in Korea of the laws of patents, designs and utility models.

ARTICLE I. The effects of the right of a patent, design or utility model, created prior to the coming into force of the present ordinance under the laws of patents, designs and utility models shall not extend to Korea, if in respect to an object identical with that for which the said right was created, there is in Korea any person having the right of a patent, design or utility.

ART. II. The right of a patent, design or utility model, created under the Imperial ordinances relating to patents, designs and utility models in Korea, shall be deemed to have been created under the laws of patents, designs and utility models.

The effects of the right of a patent, design or utility model mentioned in the preceding paragraph shall not extend beyond Korea, if in respect of an object identical with that for which the said right was created, there is any person having the right of a patent, design or utility model created prior to the coming into force of the present ordinance, under the laws of patents, designs and utility models.

ART. III. In case patent-rights, created respectively under the laws of patents and under the Imperial ordinance relating to patents in Korea, are held by one and the same person and refer to one and the same invention, the right having the remaining term of existence shorter in duration shall be merged in the other.

ART. IV. A patent created under the law of patents shall not be available in Korea, and a patent-right provided in paragraph 1 of Article II of the present ordinance shall not be available outside of Korea, as against acts or things coming under either of the following heads:

1. Acts of carrying patent inventions into practice by persons who, at the time of the coming into force of the present ordinance, are actually engaged in or have equipments for carrying their inventions into practice, or by the successors of such persons.
2. Things actually existing at the time of the coming into force of the present ordinance, and things which have been produced or manufactured under the preceding head.

ART. V. All measures, processes or other acts taken or performed in accordance with provisions of the Imperial ordinance relating to patents in Korea shall be deemed to have been taken or performed in accordance with provisions of the law of patents.

ART. VI. The provisions of the foregoing three articles shall correspondingly apply to designs and utility models.

ART. VII. The Imperial ordinance relating respectively to patents, designs and utility models are hereby abolished.

SUPPLEMENTARY PROVISION.

The present ordinance takes effect from the date of its promulgation.

Imp. Ord. No. 337.—Imperial urgency ordinance relating to the putting into force in Korea of the law of trade-marks.

ARTICLE I. In case rights of trade-marks, created respectively under the law of trade-marks and the Imperial ordinance relating to trade-marks, in Korea, are held, at the time of the coming into force of the present ordinance, by one and the same person and refer to trade-marks similar to each other to be used for one and the same kind of merchandise, such as trade-marks shall be taken to be associated trade-marks.

ART. II. Within six months from the date of the coming into force of the present ordinance, the right of trade-mark created under the law of trade-marks and such created under the Imperial ordinance relating to trade-marks in Korea cannot be set up, respectively in Korea and outside Korea, as against persons delivering or selling or holding with a view to delivery or sale, merchandise which bears a trade-mark identical or similar to the one protected by the aforesaid law or ordinance.

ART. III. In case of a trade-mark falling under heading 4 or 5 of Article II. of the law of trade-marks the right created under the law of trade-marks and such right created under the Imperial ordinance relating to trade-marks in Korea shall have no effect, respectively in Korea and outside of Korea.

ART. IV. The provisions of Articles I–III and Article V of the Imperial ordinance No. 336 of the 43rd year of Meiji (1910) shall apply correspondingly to trade-marks.

ART. V. The Imperial ordinance relating to trade-marks in Korea is hereby abolished.

SUPPLEMENTARY PROVISION.

The present ordinance takes effect from the date of its promulgation.

Imp. Ord. No. 338.—Imperial urgency ordinance relating to the putting into force in Korea of the law of copyrights.

The registrations made under the Imperial ordinance relating to copyrights in Korea shall be deemed to have been made under the law of copyrights.

The Imperial ordinance relating to copyrights in Korea is hereby abolished.

SUPPLEMENTARY PROVISION.

The present ordinance takes effect from the date of its promulgation.

ADJUDICATED PATENTS.

The Weyer design patent, No. 38,638, for a design for lamps, *Held* not infringed. *Bolte & Weyer Co.* v. *Knight Light Co.*, (C. C. A.,) 180 Fed. Rep., 412.

The Beeman patent, No. 507,875, and the White & Rider patent, No. 645,444, each for a dress or corset stay of wire, construed and both *Held* infringed by the corsets made by defendant. *Spirella Co.* v. *Nubone Corset Co.*, (C. C.,) 180 Fed. Rep., 470.

The Malignani patent, No. 537,693, for a process of evacuating incandescent lamps, *Held* valid and infringed. *Malignani* v. *Jasper Marsh Consol. Electric Lamp Co.*, (C. C.,) 180 Fed. Rep., 442.

The Oehring patent, No. 560,171, for a multiple drill, claim 3 *Held* valid and infringed. The other claims *Held* void for anticipation. *Oehring* v. *William Gardam & Son*, (C. C.,) 180 Fed. Rep., 476.

The Fellows patents, Nos. 586,964, 586,966, 586,967, 595,704, and 595,705, for means for removing surplus solder from sheet-metal cans, *Held* void for lack of invention in view of the prior art. *Fellows* v. *Borden's Condensed Milk Co.*, (C. C.,) 180 Fed. Rep., 421.

The Feuchtwanger patent, No. 662,714, for a skirt, *Held* void for lack of patentable novelty. *Greenwald Bros.* v. *Enochs*, (C. C.,) 180 Fed. Rep., 478.

The Deal patent, No. 772,701, for a cheese-stirring apparatus, *Held* valid and infringed. *Greenwald* v. *Weiss*, (C. C.,) 180 Fed. Rep., 474.

The Strouble patents, Nos. 819,322 and 819,323, for automatic block-signaling systems for electric railways, *Held* valid and infringed. *Union Switch & Signal Co.* v. *General Ry. Signal Co.*, (C. C.,) 180 Fed. Rep., 456.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Edward A. Donaldson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the National Cleanser Mfg. Co., 347 Greenwich street, New York, N. Y., for registration of a trade-mark and trade-mark registration No. 23,634, dated September 19, 1893, to Edward A. Donaldson, of Galesburg, Ill., and the notice of such declaration sent by registered mail to the said Edward A. Donaldson at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Edward A. Donaldson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Union Tubing Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Pennsylvania Flexible Metallic Tubing Company, 1305 Arch street, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 10,115, dated March 13, 1883, to the Union Tubing Company, of New York, N. Y., and the notice of such declaration sent by registered mail to the said Union Tubing Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Union Tubing Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 29, 1910.

George A. Knox, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of The Voegeli Brothers Drug Company, of No. 2 Washington avenue south, Minneapolis, Minn., for registration of a trade-mark and the trade-mark registration to George A. Knox, of Rochester, N. Y., and the notice of such declaration sent by registered mail to the said George A. Knox at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George A. Knox, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Harry W. Russell, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Beall Brothers, of Alton, Ill., for registration of a trade-mark and the trade-mark registration to Harry W. Russell, of Huntsville, Ala., and the notice of such declaration sent by registered mail to the said Harry W. Russell at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Harry W. Russell, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Amman Iron Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Th. Goldschmidt, 16 Salkenberge Weg, Essen a. d. Ruhr, German Empire, for registration of a trade-mark and the trade-mark registration of the Amman Iron Co., of Swansea, county of Glamorgan, Wales, and the notice of such declaration sent by registered mail to the said Amman Iron Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Amman Iron Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Theo. Noel Company, of Chicago, Ill., for registration of a trade-mark and the trade-mark registration of Samuel J. Brinkerhoff and George D. Brinkerhoff, of Minneapolis, Minn., and the notice of such declaration sent by registered mail to the said Samuel J. Brink-

erhoff and George D. Brinkerhoff at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Charles C. Brooks, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Wehrman Medicine Company, 1260 Michigan avenue, Columbus, Ohio, and the application of G. H. Mullen, of Guyandotte, W. Va., for the registration of a trade-mark; the trade-mark registration of the Good Samaritan Ointment Company, 222 Broadway, Camden, N. J.; the trade-mark registrations of Samuel A. Richmond, of Tuscola, Ill.; and the trade-mark registration of Charles C. Brooks, of Waverly, N. Y., and the notice of such declaration sent by registered mail to the said Charles C. Brooks at the address given has been returned by the post-office as undeliverable.

Notice is therefore given to the said Charles C. Brooks, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Newell Coal Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Hokkaido Tanko Risen (Kabushiki) Kaisha, of Mororan, Japan, for registration of a trade-mark and the trade-mark registration of the Newell Coal Company, of Peoria, Ill., and the notice of such declaration sent by registered mail to the said Newell Coal Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Newell Coal Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

James E. Blauvelt, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Edward Wright Dodez, No. 714 Washington Boulevard, Fort Wayne, Ind., for registration of a trade-mark and the trade-mark registration of James E. Blauvelt, No. 6 South Broadway, Nyack, N. Y., and the notice of such declaration sent by registered mail to the said James E. Blauvelt at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said James E. Blauvelt, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 8, 1910.

Luin F. Mangis, his assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of Hitchcock-Hill Company, of 100 Lake street, Chicago, Ill., for registration of a trade-mark and a trade-mark registered to Luin F. Mangis, of 435 Main street, Portland, Oreg., and a communication having been received from the post-office to the effect that it has been unable to deliver the letter to said Mangis, notice is hereby given to the said Mangis, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

Maud Meyberg, her assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of G. R. Springer, of 1332 Grand avenue, Kansas City, Mo., for registration of a trade-mark and a trade-mark registered to Maud Meyberg, of Chicago, Ill., and the notice of said declaration sent by registered mail to the said Maud Meyberg having been returned undelivered, notice is hereby given to the said Maud Meyberg, her assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 9, 1910.

William Johnson Nelson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Lanman & Kemp, of 135–137 Water street, New York, N. Y., for registration of a trade-mark and trade-mark registration to the following named parties: (1) Minard's Liniment Manufacturing Company, Framingham, Mass.; (2) George H. Rundle, Piqua, Ohio; (3) Adelia B. De Grath, 302 West Thirty-fourth street, New York, N. Y.; (4) William Johnson Nelson, Bridgewater, county of Lunenberg, Province of Nova Scotia, Canada, and the notice of such declaration sent by registered mail to the said William Johnson Nelson at the address given above has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said William Johnson Nelson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 6, 1910.

George J. Washburn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of William S. Scull, of Front and Federal streets, Camden, N. J., for registration of a trade-mark and the trade-mark registrations to Wolfe, McMillan and Company, of 11 South Front street, Philadelphia, Pa.; George J. Washburn, of 115 East Second street, Davenport, Iowa; The Brewster Manufacturing Company, of Newark, N. J.; Chase and Sanborn, of Boston, Mass.; Bensdorp and Company, of Amsterdam, Netherlands, and Walter McEwan, of Albany, N. Y., and the notice of such declaration sent by registered mail to the said George J. Washburn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George J. Washburn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

F. A. TENNANT, *Acting Commissioner.*

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.

VOL. 159—NO. 4. TUESDAY, OCTOBER 25, 1910. PRICE—$5 per year.

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Printed copies of patents are furnished by the Patent Office at 5 cents each. For the latter, address the Commissioner of Patents, Washington, D. C.

CONTENTS

	Page.
ISSUE OF OCTOBER 25, 1910	753
PATENT APPEAL DOCKET	753
FULL NAMES OF APPLICANTS	753
APPLICATIONS UNDER EXAMINATION	754
ACCESS TO PENDING APPLICATIONS	754
PATENTS GRANTED	755
REISSUES	977
DESIGNS	979
TRADE-MARKS—REGISTRATION APPLIED FOR	981
TRADE-MARKS—REGISTERED	987
TRADE-MARKS CANCELED	989
LABELS AND PRINTS	990
COMMISSIONER'S DECISIONS—	
Ex parte The Central Brass Mfg. Co.	991
Rolfe v. Leeper	991
Ex parte Johnson	992
Ex parte Inter-State Milling Company	993
Ex parte Newman	993
DECISIONS OF THE U. S. COURTS—	
In re The Safety Remedy Company	994
ADJUDICATED PATENTS	994
CHANGES IN CLASSIFICATION	995
DISCLAIMER	995
INTERFERENCE NOTICES	995

ISSUE OF OCTOBER 25, 1910.

Patents	642	No. 973,465 to No. 974,106, inclusive.
Designs	8	No. 40,951 to No. 40,958, inclusive.
Trade-Marks	66	No. 79,949 to No. 80,014, inclusive.
Labels	5	No. 15,371 to No. 15,375, inclusive.
Prints	2	No. 2,652 to No. 2,653, inclusive.
Reissues	3	No. 13,160 to No. 13,162, inclusive.
Total	726	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	....	Ohio	54	....
Arkansas	1	....	Oklahoma	5	....
California	24	2	Oregon	3	1
Colorado	9	....	Pennsylvania	51	6
Connecticut	11	1	Rhode Island	1	1
Delaware	2	....	South Carolina	2	....
Florida	6	....	South Dakota	4	....
Georgia	1	....	Tennessee	3	1
Idaho	1	....	Texas	10	1
Illinois	63	4	Utah	2	....
Indiana	15	....	Vermont	....	1
Iowa	8	3	Virginia	1	....
Kansas	13	....	Washington	3	1
Kentucky	3	....	West Virginia	6	....
Louisiana	2	1	Wisconsin	17	1
Maine	3	1	Wyoming	1	....
Maryland	7	2			
Massachusetts	30	4	Alaska, District of	1	....
Michigan	23	2	Arizona Territory	3	....
Minnesota	6	....	District of Columbia	2	....
Mississippi	3	....	Hawaii Territory	1	....
Missouri	25	4	New Mexico Ter'y	1	....
Montana	....	....	Panama	....	....
Nebraska	2	1	Philippine Islands	....	....
Nevada	....	....	U. S. Army	1	....
New Hampshire	3	....	U. S. Navy	1	....
New Jersey	28	7			
New York	88	20	Total to citizens of the United States	569	65
North Carolina	3	....			
North Dakota	4	....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	1	....	Netherlands	....	....
Austria-Hungary	3	2	Newfoundland	....	....
Belgium	....	....	New South Wales	1	....
Brazil	....	....	New Zealand	3	....
British West Indies	....	....	Norway	2	....
Canada	13	....	Perak	....	....
Cape Colony	....	....	Queensland	....	....
Chile	....	....	Russia	1	....
China	....	....	Scotland	....	....
Costa Rica	....	....	South Australia	....	....
Cuba	3	....	Spain	....	....
Denmark	....	....	Sweden	4	....
Ecuador	....	....	Switzerland	2	....
England	16	5	Tasmania	....	....
France	6	....	Transvaal, South Africa	1	....
Germany	21	1	Victoria	1	....
Haiti	....	....	Western Australia	....	....
Ireland	....	....			
Italy	....	....	Total to citizens of foreign countries	81	8
Japan	2	....			
Mexico	1	....			

Patent Appeal Docket.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 19, 1910.

The following communication from the clerk of the Court of Appeals of the District of Columbia is published for the information of those concerned.

EDWARD B. MOORE,
Commissioner.

OFFICE OF THE CLERK,
COURT OF APPEALS OF THE DISTRICT OF COLUMBIA,
Washington, D. C., October 19, 1910.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

DEAR SIR: The Court announced yesterday that it would take up the November call of the Patent Appeal Docket on Monday, November 7th, instead of Tuesday, November 8th, as provided by section 4 of Rule 21.

Very respectfully, yours,

HENRY W. HODGES,
Clerk.

Full Names of Applicants.

* * * All applications which disclose the full name of the applicant in the preamble of the specification will be received and considered as a sufficient compliance with Rule 40 of the Rules of Practice. (Order 521.)

When the full first name of the applicant does not appear either in his signature or in the preamble to the specification, the Examiner will, in his first official letter, require an amendment supplying the omission, and he will not pass the application to issue until the omission has been supplied, unless an affidavit shall have been filed setting forth that the full first name of the applicant is the one originally given by him. (Order 600.)

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 18, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Sept. 8	Sept. 7	373
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Aug. 25	Sept. 12	191
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Sept. 19	Oct. 5	200
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Sept. 10	Sept. 2	451
167	5. Bookbinding; Harvesters; Jewelry; Music.	July 18	July 18	552
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Aug. 15	Aug. 20	356
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Aug. 22	Aug. 24	540
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture: Supports.	Sept. 3	Sept. 8	399
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	July 28	Aug. 30	380
235	10. Carriages and Wagons.....	Aug. 11	Aug. 16	728
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Aug. 26	Aug. 23	387
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Aug. 3	Aug. 11	697
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	July 20	Sept. 19	523
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Aug. 23	Aug. 26	322
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Aug. 26	Aug. 26	649
109	16. Telegraphy; Telephony.....	July 11	July 26	231
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Sept. 20	Sept. 19	212
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Sept. 6	Sept. 3	265
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Aug. 26	Sept. 3	352
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Sept. 17	Sept. 12	271
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Aug. 17	Aug. 1	388
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	July 15	July 15	658
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Aug. 23	Aug. 25	404
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	July 23	Aug. 29	505

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Sept. 21	Sept. 26	169
106	26. Electricity, Generation; Motive Power.	Aug. 26	Aug. 22	316
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Sept. 19	Sept. 19	330
65	28. Internal-Combustion Engines..	Aug. 24	Sept. 1	369
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking; Woodworking-Tools.	Aug. 4	Sept. 10	423
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Aug. 13	Sept. 17	356
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Sept. 15	Sept. 19	247
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Aug. 13	Sept. 6	349
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Sept. 7	Sept. 10	326
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Aug. 26	Aug. 23	372
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Sept. 17	Sept. 19	530
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Aug. 20	Aug. 12	687
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Aug. 17	Aug. 19	485
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Aug. 15	Aug. 31	524
321	39. Water Distribution.....	Aug. 11	Aug. 1	427
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Aug. 5	Sept. 19	506
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	July 18	July 12	621
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	July 18	July 20	596
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Aug. 1	Aug. 10	473

Oldest new case, July 11; oldest amended, July 12.
Total number of applications awaiting action..... 18,154

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks.....	Aug. 27	Oct. 4	724
	Designs.....	Sept. 26	Oct. 6	81
	Labels and Prints.....	Oct. 14	Oct. 15	19

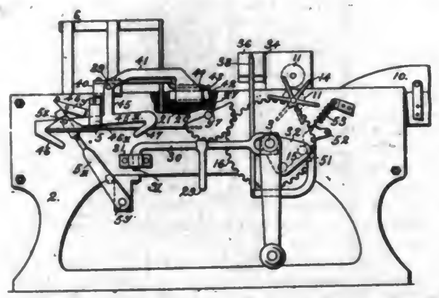
Access to Pending Applications.

Hereafter no person except the applicant, the assignee whose assignment is of record, or the attorney of record will be permitted to have access to the file of any application, except as provided for under the interference rules, unless written authority from the applicant, assignee, or attorney, identifying the application to be inspected, is filed in the case to become a part of the record thereof, or upon the written order of the Commissioner, which will also become a part of the record of the case.

PATENTS

GRANTED OCTOBER 25, 1910.

973,465. STAMP-AFFIXING MECHANISM. EDWARD J. ABBOTT, Mission City, British Columbia, Canada. Filed Feb. 5, 1910. Serial No. 542,190.



1. As a stamp affixing means, the operative mechanism with a machine for sealing envelops, of means for feeding moistening, cutting off and applying a postage stamp to the passing envelop, means for rendering the stamp feeding, cutting and applying means coöperative with the passage of an envelop said means comprising a rocker shaft extending over the path of the passing envelop said rocker having depending from it resilient contact segments that will be engaged by the passage of an envelop whereby the shaft may be rotated, and means for applying such movement to throw into action the stamp feeding and cutting mechanism.

2. As a stamp affixing means, the operative combination with the mechanism that withdraws an envelop from the magazine and seals its flap, of a stamp feeding mechanism operative by a projection rotatable with the envelop sealing mechanism, means for holding said projection normally out of engagement with the stamp feeding mechanism and means coöperative with the passage of an envelop from the magazine for moving said projection into a position where it will actuate the stamp feed.

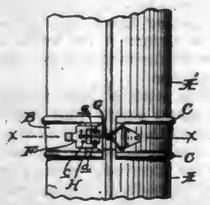
3. In an envelop sealing machine, the operable combination therewith of a stamp affixing means, said means comprising a stamp magazine in which the stamps may be folded in a ribbon, feed rollers between which the stamp is passed, means for rotating said rollers from the mechanism which operates the envelop sealing, a tapered glass passage through which the stamp is delivered to an aperture in the knife plate, means coöperative with the envelop sealing mechanism for moistening the projected stamp, means for severing the stamp from the ribbon and means for pressing the severed stamp upon a passing envelop.

4. As a mean for affixing stamps to envelops, the combination with a mechanism by which envelops are sealed, of a stamp containing magazine, feed rollers through which the ribbon of stamps from the magazine may pass, a star wheel and gears by which the feed rollers may be rotated, means for rotating said star wheel by means of pins projecting from a rotatable part of the envelop sealing mechanism, means for holding said pins normally out of engagement with the star wheel, means for moving said pins into a position of engagement with the star wheel when an envelop is passing through the sealing means said means comprising downwardly depending resilient rockers projecting in the path of a passing envelop and means whereby the movement of said rockers may be communicated to the pins by which the star feed is rotated to place them in a position where they will rotate the star wheel, a passage through which the stamps may be passed from the feed rolls and projected through an aperture in the knife plate, a moistening means comprising a moistened pad beneath the aperture in the knife plate through which the stamp is projected, a plate opposed to said pad above the aperture, means coöperative with the envelop sealing mechanism for closing the moistened pad upon the opposed plate and the interposed stamp and means for drawing the moistened pad and its opposed plate off the projected stamp, means for severing the stamp from the strip and means for applying it to the passing envelop.

5. In a stamp affixing means the combination with a stamp magazine, of feed rollers between which the stamps pass, an apertured plate through which they are delivered, means for moistening the delivered stamp, a knife slidable against the knife plate through which the stamp is projected said knife plate being secured to a pivotally mounted lever, means for normally holding the lever out of action, means for drawing down the knife lever to cut off a stamp, a box-like casing at the back of the knife, a presser block vertically movable in said box-like casing at the back of the knife, and means for projecting the presser block below the knife edge as the knife is drawn down.

[Claim 6 not printed in the Gazette.]

973,466. STOVEPIPE-CLAMP. GEORG R. BERGEN, Detroit, Mich. Filed Feb. 21, 1910. Serial No. 545,007.

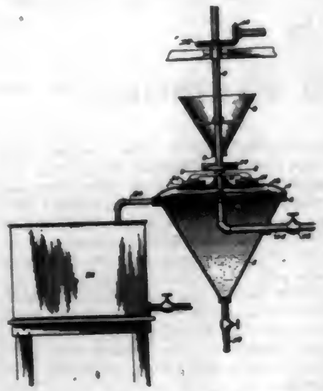


The combination with a stove pipe joint formed of telescoping sections, a sheet metal clamping band around the joint provided with marginal corrugations terminating in inturned and outwardly inclined clamping edges projecting beyond the inner face of the band and holding the same out of contact with the stove pipe, a strap pivotally secured upon one end of the band and adapted to have a limited angular movement on its pivot, a wire hook having a hinge joint connection with the movable end of the strap and a locking lever having hinge connection with the other end of the band and provided with a transverse series of holes for engagement with the free end of the hook.

973,467. APPARATUS FOR SEPARATING MINERALS FROM THEIR ORES. SAMUEL K. BEHREND, Denver, Colo. Filed Dec. 26, 1908. Serial No. 469,382.

1. The combination with a separating tank adapted to contain liquid, and a pipe which discharges radially at the center of the tank and at the surface of the liquid therein, of a barrier located between the water inlet and overflow said barrier having members in the path of material floating thereon, and a screen located above the tank

between said means and the water outlet, for sifting the material to be treated upon the surface of the liquid in the tank.



2. The combination with a tank having an annular overflow trough, a water supply pipe leading to a point at or near the center of the tank and having a nozzle with an annular series of orifices located approximately in the horizontal plane of the upper edge of the tank whereby the water issues therefrom radially approximately coincident with the water level in the tank, of a device located between the water outlet and the overflow and extending into the path of the outwardly floating material for disintegrating the material carried on the surface of the water.

3. The combination with a tank having an annular overflow trough, a water supply pipe leading to a point at or near the center of the tank and having a nozzle with an annular series of orifices located approximately in the horizontal plane of the upper edge of the tank whereby the water issues therefrom radially approximately coincident with the water level in the tank, of means located between the water outlet and the overflow, and in the path of the outwardly floating flakes for separating the material carried on the surface of the water, and means located at the bottom of the tank for the discharge of separated material therefrom.

4. The combination with a tank having an annular overflow trough, a water supply pipe leading to a point at or near the center of the tank and having a nozzle with an annular series of orifices located approximately in the horizontal plane of the upper edge of the tank whereby the water issues therefrom radially approximately coincident with the water level in the tank, of a barrier having members located between the water outlet and the overflow, and in the path of the outwardly floating flakes carried on the surface of the water, and means for sprinkling the material to be separated upon the surface of the water at a point between the water supply and the overflow.

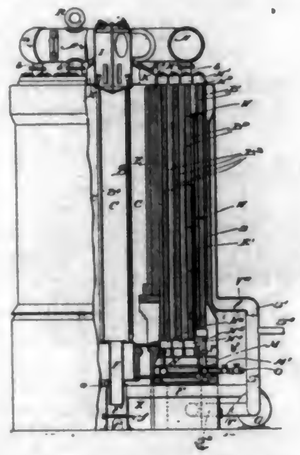
5. The combination with a tank, of a spider having an annular screen thereon located above the tank, a rotary shaft carrying a hopper at a point above the screen, a table upon which the contents of the hopper are discharged upon the screen, and brushes which traverse the screen for sprinkling the material to be separated from the screen upon the surface of the water in the tank.

[Claims 6 to 8 not printed in the Gazette.]

973,468. STEAM-BOILER. CLAUDE A. BETTINGTON, Johannesburg, Transvaal. Filed June 19, 1906. Serial No. 322,484.

1. In a boiler, the combination of steam and water chambers forming with their connections a combustion chamber closed except at or near the bottom, whereby all the products of combustion double back upon themselves before escaping from the combustion chamber.

2. In a boiler, the combination of steam and water chambers forming with their connections a combustion chamber, closed except at or near the bottom whereby all the products of combustion are caused to double back upon themselves, and an inlet for hot gases located near the bottom of the chamber, substantially as described.



3. In a boiler, a combination of steam and water chambers, forming with their connections a combustion chamber, closed except at or near the bottom whereby all the products of combustion are caused to double back upon themselves, and an inlet for fuel and a supporter of combustion located near the open part of the chamber.

4. In a boiler, a combination of steam and water chambers, forming with their connections a combustion chamber, closed except at or near the bottom whereby all the products of combustion are caused to double back upon themselves, a passage for the products of combustion, an escape for the products of combustion, and an inlet for combustibles located at or near the open part of said combustion chamber.

5. In a boiler, steam and water chambers and baffle walls forming a combustion chamber, inclosed except at the bottom whereby all the products of combustion are caused to double back upon themselves before escaping from the combustion chambers, and steam and feed water connections, substantially as described.

[Claims 6 to 20 not printed in the Gazette.]

973,469. CORED QUAD. JULIUS R. BLUMENBERG, Chicago, Ill. Filed Feb. 10, 1909. Serial No. 477,172.



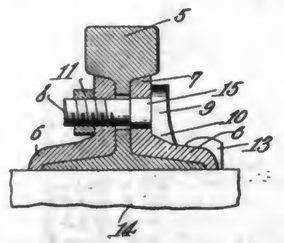
1. The combination with a cored quad of an interior projection adapted to be engaged in handling the quad, and integral finely tapered projections on the face of the quad terminating below type height.

2. A quad having its face cored inwardly, an integral projection in the core, and integral projections on the face of the quad, the last named projections terminating nearly flush with the type faces when the quad is set.

3. A quad having minute longitudinal projections on one end to prevent the face of the quad from ever being flush with the type.

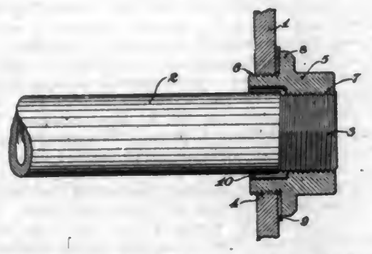
4. A quad cored longitudinally, an interior projection in the core, a plurality of projections on one end of the quad tapered to a point and said quad provided with a transverse groove.

973,470. RAILWAY-TRACK BOLT. WILLIAM L. BOGLE, Columbus, Miss. Filed Oct. 30, 1908. Serial No. 460,362.



The combination with mating rail ends, of fish-plates overlapping the rail ends and having webs flat on their outer faces and downwardly inclined lateral flanges, one of the fish-plates having elliptical openings in its web, bolts inserted through the webs and the rail ends and each having an enlarged head to cover the opening in the adjacent fish-plate, its inner face being flat to fit against the web and its lower edge being straight and beveled to engage against the flange of the fish plate, the bolt being further provided with an elliptical enlargement adjacent the head to engage the opening in the fish-plate, and nuts mounted on the ends of the bolts.

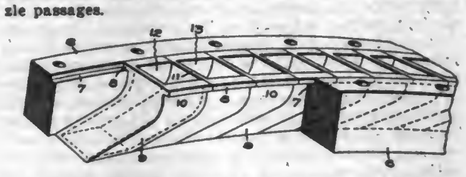
973,471. DETACHABLE BOILER-FLUE. OLE C. BORGEN, Sharon, N. D. Filed June 19, 1909. Serial No. 503,173.



The combination with a flue sheet having a threaded seat, of a flue having a threaded end projecting through said flue sheet, a coupling having a projecting annular clamping flange and internal and external threads permitting said coupling to be screwed into said seat and onto the threaded end of said flue and the bore of said coupling being increased in diameter at its inner end to form a chamber around that portion of the flue which lies in the plane of the flue sheet, and a gasket clamped between said clamping flange and the adjacent face of the flue sheet, substantially as described.

973,472. TURBINE-NOZZLE. THOMAS BROADBENT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 28, 1908. Serial No. 423,809.

1. A turbine nozzle comprising a support, and a group of nested, individual nozzle members mounted on the support, each member having two lateral walls spaced apart and provided with flanges which project outwardly adjacent the upper edges of said walls only and engage the support, the elements of the surface forming the outer face of each wall being straight lines extending downward from the flange, and one transverse wall joining the two lateral walls which is common to two adjacent nozzle passages.

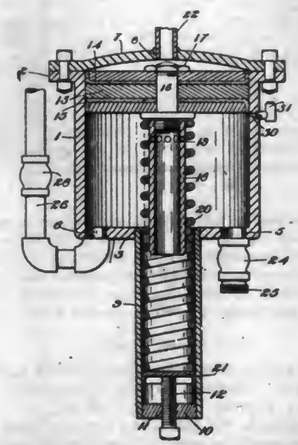


2. A turbine nozzle comprising a support and a group of nozzle members mounted on the support, each member having two lateral walls provided with flanges along their upper edges only which engage said support, there being a clearance space between said walls and the support, and one transverse wall joining two opposite side edges of the lateral walls, the other two opposite side edges of said walls being unconnected and parallel to the outer face of the transverse wall so that the members may be grouped with the unconnected edges of one member in engagement with said face on the next member to form a nozzle passage between said members.

3. A turbine nozzle comprising a group of nested nozzle members, each member having two lateral walls with their upper edges parallel to their lower edges, flanges projecting outwardly at right angles from the upper edges only of said walls, a transverse wall connecting two opposite side edges of the lateral walls, the other two opposite side edges being unconnected, and said transverse wall being common to two adjacent nozzle passages, and a holder for said members having an opening in which the group is located, shoulders at one side of the opening with which said flanges engage, and other shoulders at the opposite side which engage and support the lower edges of the lateral walls.

4. A turbine nozzle comprising a group of nested, individual nozzle members, each member having two parallel side walls provided with flanges which project outwardly along their upper edges only, the elements of the surface forming the outer face of each of said walls being straight lines extending downward from the flange, and a transverse wall connected to the side walls which is common to two adjacent nozzle passages, a support, a holder for said member which engages at least one of its flanges, and means for securing the holder to the support.

973,473. HYDRAULIC PUMP. ROBERT CAIRNS, Toronto, Ontario, Canada. Filed May 25, 1909. Serial No. 498,313.



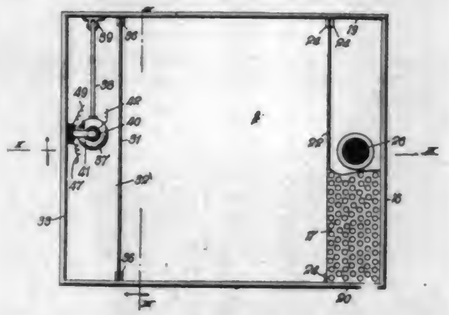
1. In a hydraulic pump, a cylinder arranged within a well and having an inlet and an outlet in one end thereof

and an opening in the opposite end, means for regulating the flow of water through said inlet and outlet, a pipe connected to the opening in the opposite end of the cylinder and leading upwardly to the surface of the ground and containing a fluid column, a piston operating in said cylinder, a spiral compression spring contained within said cylinder and exerting a pressure against said piston to support said fluid column, a threaded member centrally arranged in relation to said spring, a cap bearing against the outer end of said spring and abutting said screw member, and means connected to the upper end of said pipe leading from the opposite end of the cylinder for exerting a pressure against said fluid column.

2. In a hydraulic pump, a cylinder having an inlet and outlet and a central opening in one end thereof, a cylindrical casing secured in said central opening and closed at its outer end, a piston operating in said cylinder, a hollow stem secured to said piston and extending into said cylindrical casing and having a plurality of openings therethrough arranged adjacent to the piston, a spiral spring ensconced within said cylindrical casing and encircling said hollow stem and exerting a pressure against said piston and holding it in its outward position against the pressure of a column of water, means for controlling the flow of water through said inlet and outlet to said cylinder, and means for exerting pressure against said column of water to operate said piston.

3. In a hydraulic pump, a cylinder having an inlet and outlet and a central opening in one end thereof, a cylindrical casing secured in said central opening and closed at its outer end, a piston operating in said cylinder and having a stem extending from the center thereof and projecting into said cylindrical casing, a spiral spring arranged within said cylindrical casing and engaging the inner walls thereof and encircling the stem of said piston and at one end abutting said piston, means for adjusting the pressure of said spring engaging the outer end thereof, means for controlling the flow of water through the inlet and outlet to said cylinder, and means for exerting pressure against the opposite end of said piston to operate said piston against the pressure of said spring.

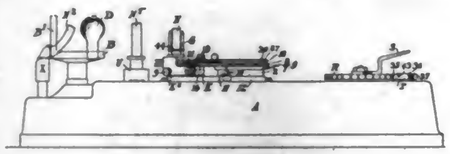
973,474. DRIP-PAN. FRANCIS J. CAMERON, New York, N. Y. Filed July 26, 1909. Serial No. 509,695.



The combination with a drip pan having a rectangular body provided on the inner surfaces of its sides with parallel lugs, of oppositely-disposed perforated angular plates, the vertical portions of which fit between said lugs while their horizontal portions rest upon the edges of the pan, said plates providing end compartments within the pan.

973,475. DEVICE FOR MEASURING FEET, LASTS, AND THE LIKE. WILLIAM CHURCH, Northampton, England. Filed June 3, 1908. Serial No. 436,522.

1. An apparatus for measuring feet and lasts, comprising in combination a base; a support for the heel carried on the base; a gear pivotally mounted on the base; an instep support slidably mounted on the base; a rack attached to said support and meshing with said gear; a second gear pivotally mounted on said base, mechanically connected with said first gear; a ball joint support slidably mounted on the base; a rack mounted on said ball joint support and engaging said second gear; and an indicating device mechanically connected to the said gears.



2. A measuring device for feet and lasts, comprising in combination a base; a heel support mounted on said base; an instep support slidably mounted on said base; a ball joint support slidably mounted on said base; a spline shaft journaled in said base; drums splined on said shaft and swiveled respectively in the instep support and the ball joint support; tapes carried by the respective drums; and mechanical connections between said supports and said shaft to cause the shaft to rotate as the supports are moved.

3. An apparatus for measuring feet and lasts, comprising in combination a base; a heel support mounted on said base; an instep support slidably mounted on said base and having a slot adapted to guide a tape; a ball joint support slidably mounted on said base and having a slot adapted to guide a second tape; a spline shaft mounted in said base; drums splined on said shaft and swiveled in the respective supports; tapes attached to said drums and guided by the slots formed in their respective supports; and mechanical connections between the supports and the spline shaft whereby the latter is caused to rotate as the former are moved for the purpose of winding and unwinding the tapes.

4. A measuring device for feet and lasts comprising in combination a base; a heel support mounted on said base; an instep support slidably mounted on said base; a ball joint support slidably mounted on said base; a spline shaft mounted in said base; drums splined on said shaft and swiveled respectively in the instep support and the ball joint support; tapes carried by the respective drums; mechanical connections between said supports and said shaft to cause the shaft to rotate as the supports are moved; and an indicating device mechanically connected to said supports and adapted to indicate the lengths of shoe corresponding to their successive positions.

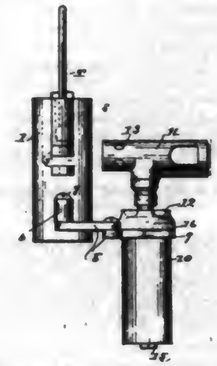
5. An apparatus for measuring feet and lasts, comprising in combination a base; a support for the heel mounted on the base; a support for the instep slidably mounted on the base; a support for the ball joint slidably mounted on the base; a shaft pivotally mounted in said base; a graduated dial rigidly mounted on said shaft; a gear rigidly mounted on said shaft; a second and larger gear also rigidly mounted on said shaft; a rack rigidly attached to the instep support and engaging the first or smaller gear; and a rack rigidly attached to the ball joint support and engaging the second or larger gear.

[Claims 6 to 16 not printed in the Gazette.]

973,476. PORTABLE VULCANIZER. GEORGE W. CLOUGH, Cleveland, Ohio. Filed Nov. 6, 1909. Serial No. 526,634.

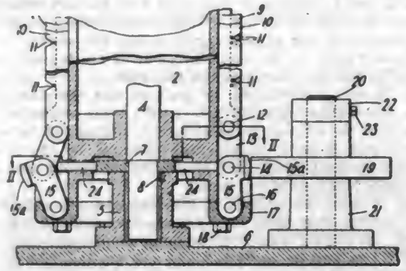
1. In a portable vulcanizer for an automobile tire, in combination, a water receptacle provided with a recessed face adapted to correspond in shape with the surface of the tire, a burner adjacent thereto, adapted to direct the flame upon the vertical walls of the receptacle, a gasolene tank for said burner and a support for said burner and tank, said support secured to said receptacle and adjustable to permit of applying the flame from the burner to the rear and side walls of the receptacle alternately, and to apply the flame at any desired angle thereto.

2. In a portable vulcanizer, for automobile tire repair, in combination, a water receptacle provided with a recessed face adapted to conform to the tire surface, a horizontally directed burner adjacent thereto, and supporting means therefor, attached to said receptacle, said supporting means being extensible, permitting of adjusting the said burner at any horizontal angle relative to the walls of said receptacle.



3. The combination with a water receptacle shaped for direct application to the surface of an automobile tire, of a horizontal burner tube adjacent thereto, an extensible arm secured to said receptacle upon the outer end of which said burner tube is supported, and a gasolene tank secured to said burner tube.

973,477. CRIMPING-MACHINE. JOHN A. COCKER, Joliet, Ill., assignor to The American Steel and Wire Company, Pittsburg, Pa., a Corporation of New Jersey. Filed June 3, 1910. Serial No. 564,798.



1. In a fence machine, a rotary pull-out drum, a plurality of crimping bars mounted to reciprocate therein, toggle levers connected to said drum and crimping bars, and means for positively actuating said toggle levers to move the crimping bars lengthwise in opposite directions; substantially as described.

2. In a fence machine, a rotary pull-out drum having in its outer surface a slot extending lengthwise thereof, a plurality of crimping bars having transverse notches in one edge mounted in the slot, toggle levers in said slot connected to one of said crimping bars, and means for actuating said toggles to relatively move the crimping bar in said slot; substantially as described.

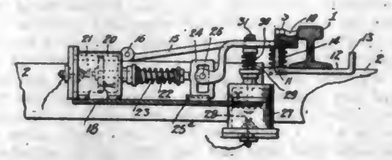
3. In a fence machine, a rotary pull-out drum having a slot extending lengthwise of the drum on the outer surface thereof, a plurality of crimping bars having registering notches in one side mounted in the slot, toggle levers connected to one of said crimping bars, and means for actuating said toggles to relatively move the crimping bar lengthwise when the drum is rotated; substantially as described.

4. In a fence machine, a hollow rotary pull-out drum having slots extending lengthwise on the outer surface of the drum, crimping bars having registering notches in one side thereof mounted in the slots, means for actuating the movable crimping bars longitudinally in one direction, a stationary cam mounted within the hollow drum and operatively engaging with the bar actuating means when the drum is rotated, and independent means for moving the bars in the opposite direction; substantially as described.

5. In a fence machine, a rotary pull-out drum having a plurality of slots extending lengthwise on the outer surface thereof, a plurality of sets of crimping bars mounted in said slots, said crimping bars having registering crimping notches in one side thereof for bending the fence wire, toggle levers connected to at least one of each set of crimping bars, and means contacting with the toggle levers for actuating the movable crimping bars in moving the notches into and out of alinement; substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

973,478. TRACK INSTRUMENT. CHARLES A. COOLIDGE, Portland, Oreg. Filed Dec. 27, 1909. Serial No. 534,982.



1. A device of the character described, comprising a vertical pivot, a horizontally swinging member on said pivot, a horizontal pivot on said member, a substantially horizontal tongue mounted to swing vertically from said horizontal pivot, said tongue being disposed by the side of a track rail in the path of the flanges of car wheels, a spring actuated means for elevating said tongue, a horizontally disposed dash-pot having a slot and pin connection with said tongue, a vertically disposed dash-pot having a slot and pin connection with said tongue, alarm mechanisms, and means controlled by the movement of the tongue for actuating said alarm mechanisms.

2. A device of the character described, comprising a tongue disposed by the side of a track-rail in the path of the flanges of car wheels and mounted for independent swinging movements in horizontal and vertical planes, a spring actuated lever for elevating the tongue, a transverse arm projecting from the tongue, a horizontally disposed dash-pot having a slot and pin connection with said arm, a vertically disposed dash-pot having a slot and pin connection with said arm, and make-and-break devices actuated by said dash-pots.

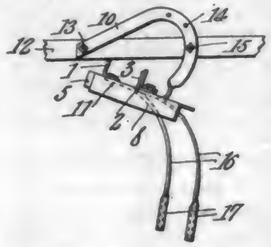
973,479. FISH-HOOK. CHARLES F. COOPER, Detroit, Mich. Filed Feb. 11, 1910. Serial No. 543,258.



In a device of the class described, a shank bent at one end to form a hook rigid therewith, a weight secured to the shank, and a comparatively broad guard having one

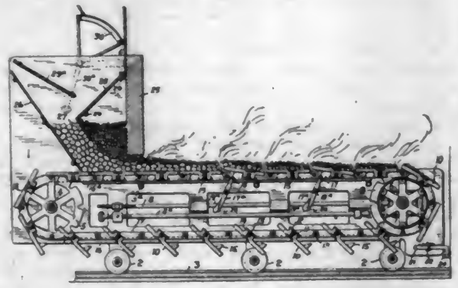
end immovably secured to the shank in spaced relation to said weight, the guard extending upwardly over and shielding the weight with its body in spaced relation to the latter and with its outer free end terminating short of the beak of said hook.

973,480. CULTIVATOR ATTACHMENT. ELMER W. CONNELL, Traverse City, Mich. Filed Feb. 3, 1910. Serial No. 541,688.



A cultivator attachment comprising a frame made up of a front bar with auxiliary bars adjustably attached to its ends, over-lapped rear bars adjustably connected together, cross-bars adjustably connected with the front and rear bars, securing bolts for fixing the over-lapped and intersecting bars together, brackets connected with the front and rear bars of said frame, and adapted to be adjustably connected with a supporting frame, and spring arms connected with said front and rear bars of the attachment frame.

973,481. FURNACE-GRATE. JOHN F. CUNNEEN, Chicago, Ill. Filed July 11, 1908. Serial No. 443,353.



1. A traveling grate comprising rows of pivotally supported fuel supporting clips, a cam integral with each clip curved on the forward faces and means for simultaneously contacting all the curved faces of the cams of a row of clips for swinging the same on their pivots and said cams having flat rear faces adapting the clips to drop abruptly to jar the clips.

2. A traveling grate comprising supporting clips arranged in rows, each row comprising a plurality of clips, a pair of lugs secured to the under side of each clip, a square shaft engaged between the lugs of all the clips in the same row, a downwardly projecting cam secured adjacent the end of each clip opposite the lugs having curved faces facing the lugs and flat perpendicular rear faces and a round shaft on which the clips loosely rest at their extremities outside of the cams.

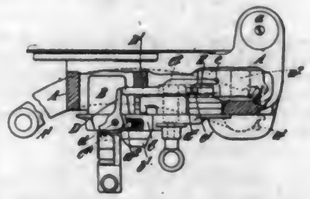
3. A traveling grate embracing a frame, shafts journaled therein, notched wheels on said shafts, alternate round and square connecting rods, said square rods rounded at the ends and adapted together with the round rods to engage in the notches in the wheels, links connecting the rods, fuel supporting clips detachably secured to the square rods and said cups adapted at corresponding ends to rest on the adjacent round rod, inwardly directed projections on said clips having curved forward faces and flat rear faces and a pivotally supported rod for engaging the projections of all the clips on each shaft as the same pass thereby.

4. A traveling furnace grate comprising a frame, a conveyer movably longitudinally thereof, fuel supporting clips detachably secured to the conveyer, a cam secured to each clip on one side of the center of gravity thereof, and means for engaging the cam, said cam being shaped to elevate the clip gradually and to quickly drop the clip to jar the clinkers loose and to shake the fuel bed down.

5. A traveling grate comprising pivotally supported clips, cams or projections secured to the clips at one end thereof, pivotally supported means for coacting with the cams to gradually elevate the clips and to abruptly drop the clips to jar the same, and means for adjusting said pivotally supported means to vary the degree of elevation of the clips.

[Claims 6 to 9 not printed in the Gazette.]

973,482. FIRING MECHANISM OF BREECH-LOADING GUNS. ARTHUR TREVOR DAWSON and GEORGE THOMAS BUCKHAM, Westminster, London, England, assignors to Vickers Sons & Maxim, Limited, London, England. Filed May 6, 1908. Serial No. 431,098.



1. In firing mechanism of the character described, the combination with the striker, lock frame, box slide, and pinion crank operatively connected with the lock frame, of means whereby in the act of opening the breech, the initial movement of the pinion crank causes the striker to be retracted prior to the commencement of the lateral movement of the lock frame in the box slide.

2. In firing mechanism of the lock and box-slide type, the combination with the striker, of a lever carried by the box-slide for retracting the striker, a sliding rod for actuating said lever, a pinion-crank operated by the breech actuating mechanism, and means for operating the said rod from the said pinion-crank.

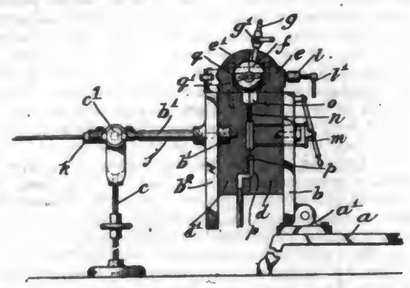
3. In firing mechanism of the lock and box-slide type, the combination with the striker, the striker-retracting lever, the rod for actuating the same, the pinion crank, the lock frame and its guide bolt; of a lever link, adapted to serve the double purpose of actuating the sliding rod appertaining to the striker-retracting lever and of actuating the lock frame through its guide bolt.

973,483. ART OF AND APPARATUS FOR CASTING FLUID METAL. HERMAN H. DOEHLER, New York, N. Y. Filed Jan. 12, 1909. Serial No. 471,886.

1. The herein described process, method or art of casting fluid metal consisting of pouring a measured quantity of molten metal from within an inclosed chamber into a metallic mold and thereafter forcing and compressing the metal by following it up with an elastic fluid under high pressure.

2. The herein described process, method or art of casting fluid metal consisting of pouring a measured quantity of molten metal from within an inclosed chamber into a metallic mold and forcing and compressing the metal by subjecting it while it is flowing from said chamber to the mold to an elastic fluid under high pressure.

3. The herein described process, method or art of casting fluid metal consisting of pouring a measured quantity of fluid metal from within an inclosed chamber into a constricted passage way leading to a metallic mold, and forcing and compressing the metal by subjecting it while it is flowing through said constricted passage way to an elastic fluid under high pressure.

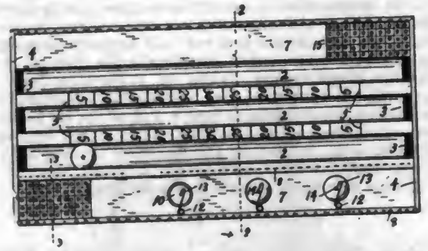


4. The herein described process, method or art of casting fluid metal consisting of pouring a measured quantity of fluid metal from within an inclosed chamber into a metallic mold, maintaining an equilibrium of pressures within said chamber and said mold while pouring, and destroying the equilibrium of pressures with a preponderating pressure within said inclosed chamber, whereby while the metal is flowing to the mold by gravity its movement is accelerated and it is forced into and compressed in the mold under heavy pressure.

5. The herein described process, method or art of casting fluid metal consisting of pouring a measured quantity of fluid metal from within an inclosed chamber into a constricted passage way leading to a metallic mold, maintaining an equilibrium of pressures within said chamber and said mold while pouring, and destroying the equilibrium of pressures with a preponderating pressure within said inclosed chamber, whereby while the metal is flowing to the mold by gravity its movement is accelerated and it is forced into and compressed in the mold under heavy pressure.

[Claims 6 to 23 not printed in the Gazette.]

973,484. GAME APPARATUS. CHARLES J. DORSEY, Baltimore, Md. Filed Feb. 25, 1908, Serial No. 417,782. Renewed Apr. 18, 1910. Serial No. 556,238.

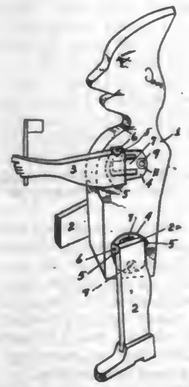


1. A game device adapted for two players with three balls and comprising a board having three separate parallel, contiguous, ball-receiving grooves in permanent fixed relation to each other, each end of each of said grooves being closed by a ball-returning cushion, there being like indicating marks for all the grooves and in common planes transverse to the length of the grooves, whereby such marks aid in comparing the positions of balls in said three grooves.

2. A game device adapted for two players with three balls and comprising a board having three separate parallel, contiguous, ball-receiving grooves in permanent fixed relation to each other, each end of each groove being closed by a ball-returning cushion, there being a row of like indicating marks between the middle groove and each side groove, whereby two rows of such marks only are required for the three grooves and all the grooves are equally well marked, all as set forth.

3. In a game board, seats, and springs secured to the board adjacent to the seats, each spring having a straight free end adapted to enter a hole in a ball and press such ball into its seat.

973,485. TOY FIGURE. CHARLES JAMES DORSEY, Baltimore, Md. Filed Oct. 10, 1908, Serial No. 457,122. Renewed Apr. 18, 1910. Serial No. 556,239.



1. In a toy figure, a flat body and a flat limb having a leaf hinge connection with the body, the limb comprising one leaf of the hinge, the other leaf being pivoted to the body and to the limb.

2. In a toy figure comprising a body and limbs, the plates 4 provided with ears 5, the bolt 9 securing the plates rotatably to the body, and limbs rotatably supported one between the ears of each plate whereby the limb may be adjusted to any angle with respect to the body and whereby also it may be lengthened.

3. In a toy figure comprising a body and limbs, a plate 4 provided with ears 5, a bolt 9 securing the plates to the body, and limbs supported one between the ears of each plate, each plate carrying a spring pressing against its limb to hold it in adjusted position.

4. In a toy or the like, a body, a movable member, a plate 4 provided with ears 5 to which said member is pivoted, a pivot connecting the plate to the body, and said plate having an integral spring pressing against the movable member to hold it in either of several adjusted positions.

5. In a toy or the like, a body, a movable member, a hinge plate connecting the body and movable member, said plate being slitted to form an integral spring tongue cooperating with the movable member, as set forth.

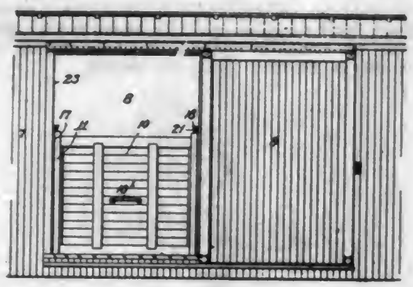
[Claims 6 and 7 not printed in the Gazette.]

973,486. GRAIN-DOOR FOR FREIGHT-CARS. HERBERT W. DREW, Chicago, Ill. Filed Mar. 3, 1910. Serial No. 547,107.

1. In combination, side posts, flanged bars adjacent thereto, each bar being pivotally attached at its upper end to the respective side post, a grain door lying against the flanges of these bars, and locking mechanism for the lower ends of said bars.

2. In combination, side posts, vertically extending bars adjacent thereto, pin and slot connections between the side posts and the respective bars whereby the latter may slide vertically to a limited extent, pivoted bars adjacent to the sliding bars, the pivot being at the upper ends, interlocking connections between the lower ends of the pivoted and sliding bars, said connections being adapted to be disengaged when the sliding bars are at one extreme of their movement, and engaged when at the other extreme, and a door lying against said pivoted bars.

3. In a device of the class described, a side wall having a door opening, a detachable door to go across the lower part of said opening and freely detachable abutments for the ends of the door, said abutments being pivotally connected at their upper ends to the side posts of the door opening and having releasable locking connections at their lower ends.

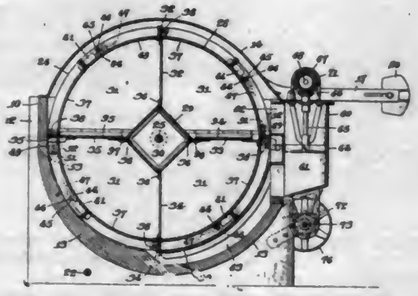


4. In a device of the class described, a side wall having a door opening therein, a vertically sliding and a pivoted bar adjacent to each side post of the door opening, the pivot being near the top end of the bars, the said bars being adapted to swing outward, interlocking mechanism at the opposite end adapted to be engaged or disengaged by movement of the sliding bar, additional interlocking means at the top end to prevent movement of the sliding bar and a door engaging with said bars.

5. In a device of the class described, a side wall having a door opening therein, side posts having upper and lower recesses therein, a swinging bar having a trunnion engaging the upper recess, another bar having a slot engaging the said trunnion, and a stud engaging the lower recess, and a door resting against the swinging bar mounted on the pivot trunnion.

[Claims 6 to 9 not printed in the Gazette.]

973,487. DYEING-MACHINE. GEORGE E. DRUM and JAMES H. SKITT, Philadelphia, Pa., assignors to said Drum and Robert P. Smith, Philadelphia, Pa. Filed Aug. 23, 1910. Serial No. 578,510.



1. In a dyeing machine, the combination of a vat; walls forming a passageway leading to and communicating with the vat at two different points; means for causing dyeing liquor to flow through said passageway and said vat; a rotatable carrier within said vat, said carrier including walls forming a compartment to receive the articles to be dyed, and the walls of the compartment having openings therein; and means for actuating the carrier; the walls of the compartment causing the dyeing liquor to flow through the compartment in one direction when the carrier is in one position and to flow through the compartment in a reverse direction when the carrier is in another position.

2. In a dyeing machine, the combination of a vat; walls forming a passageway leading to and communicating with the vat at two different points; means for causing dyeing liquor to flow through said passageway and said vat; a rotatable carrier within said vat, said carrier including walls forming a compartment to receive the articles to be dyed, and the walls of the compartment having openings therein; and means for actuating the carrier; one wall of said compartment moving substantially in engagement with a wall of the vat between said points during the actuation of the carrier, and the walls of the compartment causing the dyeing liquor to flow through the compartment in one direction when the carrier is in one position and to flow through the compartment in a reverse direction when the carrier is in another position.

3. In a dyeing machine, the combination of a vat; walls forming a passageway leading to and communicating with the vat at two different points; means for causing dying liquor to flow through said passageway and said vat; a rotatable carrier within said vat; and means for actuating the carrier; said carrier including walls dividing the carrier into a plurality of compartments to receive the articles to be dyed, said compartments communicating with each other at the central portion of the carrier and communicating with the vat at the outer portion of the carrier, the outer portions of said walls moving substantially in engagement with a wall of the vat through a portion of their path of travel during the actuation of the carrier, and the walls of the compartments causing the dyeing liquor to flow through said compartments successively first in one direction and then in a reverse direction.

4. In a dyeing machine, the combination of a vat; walls forming a passageway leading to and communicating with the vat at two different points; means for causing dyeing liquor to flow through said passageway and said vat; a rotatable carrier within said vat; means for actuating the carrier; said carrier including walls dividing the carrier into a plurality of compartments to receive the articles to be dyed, said compartments communicating with each other at the central portion of the carrier and communicating with the vat at the outer portion of the carrier, the outer portions of said walls moving substantially in engagement with a wall of the vat through a portion of their path of travel during the actuation of the carrier, and the walls of the compartments causing the dyeing liquor to flow through said compartments successively first in one direction and then in a reverse direction, a hinged door for each compartment; and means for holding each door in its closed position.

5. In a dyeing machine, the combination of a vat; walls forming a passageway leading to and communicating with the vat at two different points; means for causing dyeing liquor to flow through said passageway and said vat a rotatable carrier within said vat; and means for actuating the carrier; said carrier including walls forming two adjacent compartments divided by a partition wall to receive the articles to be dyed, said partition wall moving substantially in engagement with a wall of the vat between said points during the actuation of the carrier and said partition wall controlling the direction of flow of the dyeing liquor.

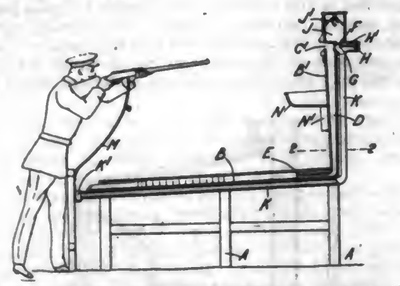
[Claims 6 to 9 not printed in the Gazette.]

973,488. SHOOTING GAME. JOSEPH WILLIAM EAVES, Blackpool, England. Filed May 2, 1910. Serial No. 558,898.

1. In a shooting game the combination of a target having two apertures, one behind the other through which a missile in the form of a ball can pass, a bull's eye behind the rear aperture, an inclined table below the target, and a conduit leading from the chamber between said apertures to the inclined table.

2. In a shooting game the combination of a target having two apertures one behind the other through which a missile in the form of a ball can pass, an inclined table below the target, a conduit leading from the front aperture to the upper end of the inclined table, a second conduit leading from the rear aperture, and a bull's eye behind the rear aperture.

3. In a shooting game the combination of a target having two apertures one behind the other through which a missile in the form of a ball can pass, an inclined table below the target, obstructions on the surface of said table, a conduit leading from the front aperture to the upper end of the inclined table, a chamber behind the rear aperture, a bull's eye in said chamber, and a conduit leading from the chamber.

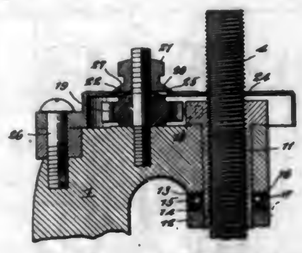


4. In a shooting game the combination of an inclined table, pins upstanding upon the surface of the table, a backboard supported upon the upper end of the table, a plurality of targets mounted upon the board each target having two apertures one behind the other through which a missile in the form of a ball can pass, a conduit leading from the front aperture in each target to the upper end of the inclined table, a chamber behind each rear aperture, a bull's eye in each of said chambers, and a conduit leading from each of the chambers.

5. In a shooting game the combination of an inclined table, pins upstanding upon the surface of the table, guides or barriers on the table, a common outlet conduit for missiles which have passed down over the surface of the table, a backboard supported upon the upper end of the table, a plurality of targets mounted upon the board each target having two apertures one behind the other through which a missile in the form of a ball can pass, a conduit leading from the front aperture in each target to the upper end of the inclined table, a chamber behind each rear aperture, a bull's eye in each of said chambers, and a conduit leading from each of the chambers.

[Claims 6 to 9 not printed in the Gazette.]

973,489. DRILL. FRED E. FARLEY, Greenfield, Mass., assignor to Goodell-Pratt Company, Greenfield, Mass., a Corporation of Massachusetts. Filed Dec. 8, 1909. Serial No. 532,083.



1. In a device of the class described, in combination, a frame provided with bearings, a spindle rotatably supported in said bearings and provided with a threaded portion, a member rotatably supported in one of said bearings and provided with a threaded portion engaging the threaded portion of the spindle, a projection secured to said member, and means for engaging said projection to arrest the rotation of said member.

2. In a device of the class described, in combination, a frame provided with bearings, a spindle rotatably supported in said bearings and provided with a threaded portion, a member rotatably supported in one of said bearings and provided with a threaded portion engaging the threaded portion of the spindle, a projection secured to said member and means for intermittently engaging said projection to intermittently arrest the rotation of said member.

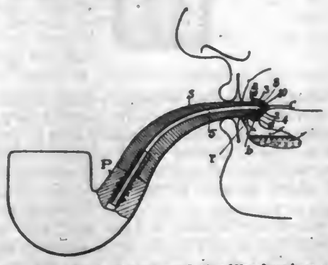
3. In a device of the class described, in combination, a frame provided with bearings, a spindle rotatably supported in said bearings and provided with a threaded portion, a member rotatably supported in one of said bearings and provided with a threaded portion engaging the threaded portion of the spindle, a projection secured to said member, and a star wheel rotatably mounted upon said frame and positioned to have its teeth engaged by said projection for arresting the rotation of said member.

4. In a device of the class described, in combination, a frame provided with bearings, a spindle rotatably supported in said bearings and provided with a threaded portion, a member rotatably supported in one of said bearings and provided with a threaded portion engaging the threaded portion of the spindle, a projection secured to said member, a star wheel rotatably mounted upon said frame and positioned to have its teeth engaged by said projection for arresting the rotation of said member, and variable tension means associated with said star wheel, whereby the power required to rotate the same may be varied.

5. In a device of the class described, in combination, a frame provided with bearings, a spindle rotatably supported in said bearings and provided with a threaded portion, a member rotatably supported in one of said bearings and provided with a threaded portion engaging the threaded portion of the spindle, a projection secured to said member, a star wheel rotatably mounted upon said frame and positioned to have its teeth engaged by said projection for arresting the rotation of said member, a spring washer engaging said star wheel and adapted to exert pressure thereon, and means for varying the pressure exerted by said washer, whereby the power required to rotate the star wheel may be varied.

[Claim 6 not printed in the Gazette.]

973,490. MOUTHPIECE OR STEM FOR SMOKERS' ARTICLES. MAX FEDER, Cleveland, Ohio. Filed Mar. 16, 1910. Serial No. 549,808.



1. A stem for pipes, cigars and the like having a rounded head formed with shoulders as shown and having a beveled flat surface at its bottom end extending from the end of said head to the bottom shoulder at an inclination to the axis of said head, and having a main draft channel terminating in said head and an exit duct of funnel shape inclined downwardly and parallel with said beveled flat surface and communicating with said passage forward of its extremity to form a pocket, the communicating end of said duct being of less diameter than said passage and the flaring end of said duct terminating in both the vertical face of the lower shoulder of said head and in the bottom face of said stem, as and for the purposes set forth.

2. A stem for pipes and cigars having a rounded head provided with shoulders and a flat inclined bottom surface at its end, and having a central draft passage ending within said head and an exit duct of funnel shape for said passage at the bottom of said head extending forwardly

and downwardly therefrom and communicating with said passage at its smaller end, its rear wall lying parallel with said inclined face and providing an end slanting wall of uniform thickness opposite said duct the full length thereof, and said duct terminating at its lower end within said shoulder apart from the bottom face of said head.

3. A stem for pipes, cigars and the like provided with an integral mouth portion having transverse shoulders *a* and *b* top and bottom respectively, and the top and bottom surfaces outside said shoulders inclined to approximately V shape substantially as shown, and said stem having a draft passage terminating within the end thereof and a funnel shaped exit duct communicating with said passage back from its end to form a pocket, the smaller end of said duct being of less diameter than said passage and said duct extending downward at an acute angle to said passage and terminating at the inner angular corner of shoulder *b* and being inclined parallel with the inclined bottom surface of the head to form a slanting end wall of substantially the same thickness throughout.

973,491. COMBINED MOP HEAD AND WRINGER. ALEXANDER FISCHER, Jr., Cheviot, Ohio. Filed Feb. 13, 1909. Serial No. 477,542.

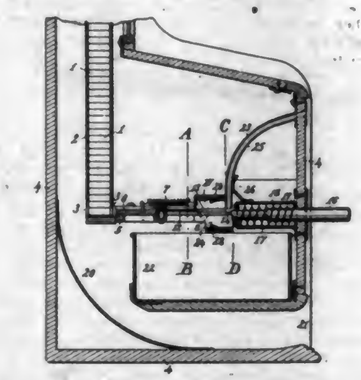


In a combined mop and wringer, a mop handle, a collar secured thereto, a sleeve rotatively mounted on the handle and journaled on the collar, a single strand of yarn looped between the sleeve and the collar, means secured to the sleeve for securing one end of each of the loops in place thereon, means secured to the collar, for securing the other ends of the loops to the collar, an extension formed on said sleeve and forming a hand hold, and means for permanently holding said sleeve in contact with said collar.

973,492. COIN-CONTROLLED MECHANISM FOR AUTOMATIC VENDING-MACHINES. HOWARD C. FLEMING, Watertown, Mass. Filed Feb. 20, 1909. Serial No. 479,277.

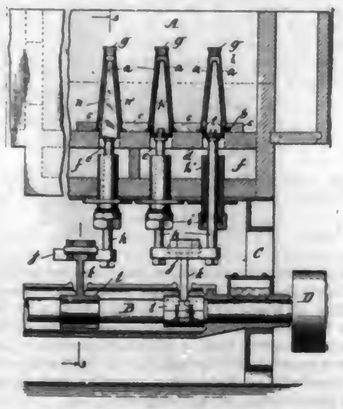
1. In a coin-controlled mechanism for an automatic vending machine, a coin tube, a reciprocating discharging plunger, a push rod, two spring-pressed levers fulcrumed to and carried by said plunger extending from said plunger and having their free ends normally held under the end of the coin-tube, and cams acting on said levers holding them so that a coin dropped through said tube will take a position between said push rod and the free ends of said levers engaging said levers thus coupling the push rod and plunger together to allow the operation of the plunger by the push rod, but releasing said coin after the plunger has performed its duty.

2. In a coin-controlled mechanism for an automatic vending machine, a coin tube, a reciprocating discharging plunger, a push rod, two spring-pressed levers fulcrumed to and carried by said plunger having their ends notched extending from said plunger and having their free ends normally held under the end of the coin tube to receive and hold a coin between them, and cams acting on said levers holding them so that a coin dropped through said tube between the notched surfaces of the levers will take a position in front of said levers between the push rod and free ends of the levers engaging said notched surfaces thus coupling the push rod and plunger together to allow the operation of the plunger by the push rod but releasing said coin after the plunger has performed its duty.



3. In a coin-controlled mechanism for an automatic vending machine, a coin tube, a reciprocating discharging plunger, a push rod, two levers attached to said plunger having notches at their ends to receive a coin dropped through said tube and coupling the discharging plunger and push rod so that the plunger may be reciprocated by pressure on the push rod, a tubular passage through which the coin passes while moving with the plunger, and yielding projections in said passage allowing the free passage of the coin in one direction but engaging the front of said coin and preventing its return movement.

973,493. SCREEN FOR PAPER-STOCK. FRED DU MONT FOWLER, Glens Falls, N. Y., assignor to International Paper Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 6, 1910. Serial No. 575,876.



1. Apparatus for screening paper stock, provided with a series of upright screen compartments, in combination with a series of pistons reciprocating in said compartments, said pistons having a hollow interior and slotted walls; substantially as described.

2. Apparatus for screening paper stock, provided with a series of upright screen compartments, in combination with a series of pistons reciprocating in said compartments, said pistons having a hollow interior, and having side walls provided with a series of slots separated from each other by overlapping projections; substantially as described.

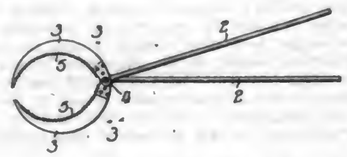
3. Apparatus for screening paper stock, provided with a series of upright screen compartments, in combination with a series of pistons reciprocating in said compartment, said pistons having a hollow interior, and having side walls provided with a series of slots separated from each other by overlapping projections, and having end straps of such dimensions as to protect said projections from coming in contact with the walls of the screen compartment; substantially as described.

4. Apparatus for screening paper stock, provided with a series of upright screen compartments, in combination with a series of pistons reciprocating in said compartments, said pistons having a hollow interior, and having slotted side walls, and having a bottom plate provided with discharge apertures; substantially as described.

5. Apparatus for screening paper stock, provided with a series of upright screen compartments, in combination with a series of pistons reciprocating in said compartment, said pistons being provided with projections for giving a positive blowing action on the up-stroke and having a hollow interior for insuring a positive suction on the down-stroke, the pistons being of such dimensions as to substantially fill the interior of the compartments at the termination of the up-stroke; substantially as described.

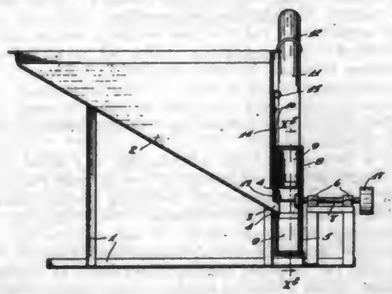
[Claims 6 and 7 not printed in the Gazette.]

973,494. BARK-ROSSING DEVICE. CHARLES FRIEDLUND, Mountain, Wis. Filed June 8, 1910. Serial No. 565,890.



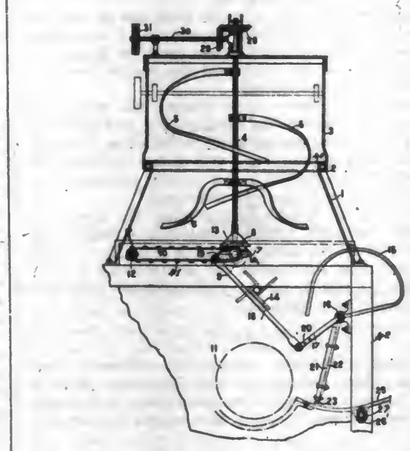
A bark rossing device consisting of a pair of handles provided at their front ends with a pair of approximately semi-circular serrated jaws pivoted together and adapted to overlap each other when the handles are drawn together.

973,495. PORTABLE ELEVATOR. EMIL A. FRITZ and HUGH J. CARSON, Fairfax, Minn. Filed Feb. 10, 1910. Serial No. 543,021.



In an elevator of the kind described, the combination with a fan casing having an eye in one side and provided with a discharge spout, of a disk-like head within said fan casing and working close to the opposite side from said eye, inwardly and radially projecting channel shaped blades secured to said head, a driven shaft projecting into said fan casing and secured to said head, a hopper having a discharge neck projecting into and through the eye of said fan casing, and a regulating gate mounted in said discharge neck outside of said fan casing substantially as described.

973,496. FEEDER FOR THRESHING-MACHINES. JOSÉ GAYRAUD, Buenos Ayres, Argentina. Filed Jan. 12, 1910. Serial No. 537,075.



1. In a feeder of the class described the combination of a rotary shaft, a plurality of helically bent arms in superposition mounted with one end on said shaft, a member transversely disposed with respect to said shaft and mounted thereon below said arms, said member being twisted with respect to its longitudinal axis and means for rotating the shaft.

2. In a feeder of the class described the combination with a rotary shaft, a plurality of helically bent arms mounted with one end on said shaft, a threshing cylinder disposed below said shaft, means for rotating said shaft, a second shaft disposed parallel to said cylinder, a plurality of bent arms mounted with one end on said second shaft and means in coaction with said rotating means for oscillating said second shaft.

3. In a feeder of the class described the combination with a threshing cylinder, of means for conveying stock in one direction to said cylinder, said means including a wiping member disposed parallel to said cylinder and substantially perpendicular with respect to the direction of conveying and means for oscillating said wiping member.

4. In a feeder of the class described the combination with a threshing cylinder, a shaft disposed parallel to said threshing cylinder, a plurality of curved arms mounted with one end on said shaft, a wiping member mounted on said shaft, and means for oscillating said shaft.

5. In a feeder of the class described the combination with a feeding tower, of a rotatory shaft vertically disposed in said feeding tower, a plurality of helically bent arms mounted with one end on said shaft, means for rotating said shaft, a threshing cylinder, a shaft disposed parallel to said threshing cylinder, a plurality of curved arms mounted on said shaft, a wiping member mounted on said shaft and means for oscillating said shaft, said last named means being in coaction with said rotating means.

[Claims 6 to 11 not printed in the Gazette.]

973,497. CIGAR. SAMUEL GESSLER, Chicago, Ill. Filed Jan. 6, 1910. Serial No. 536,747.



1. A cigar, substantially straight from end to end and having intermediate of its ends an annular depression for the purpose specified.

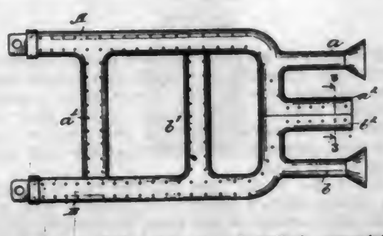
2. A cigar of usual form, being substantially straight from end to end and having intermediate of its ends a permanent line of demarcation subdividing the length of the cigar for the purpose specified.

3. A cigar, substantially straight from end to end and having permanently formed in its wrapper a transverse line of demarcation for the purpose specified located between the middle of the cigar and the end of the same which is intended to be lighted.

4. A plurality of cigars, each bearing like means for identification and each being substantially straight from end to end and having permanently indicated on its wrapper a visible mark distinct from said means for identification to indicate whether or not a certain predetermined fractional part thereof has been consumed.

5. A plurality of cigars, each bearing like means for identification and each being substantially straight from end to end and having indicated on its wrapper a visible mark distinct from said means for identification to indicate whether or not a certain predetermined fractional part thereof has been consumed.

973,498. GAS-BURNER. BERNARD A. GEURINK, East Cleveland, Ohio, assignor to The Trenkamp Stove & Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 29, 1909. Serial No. 535,412.



1. A burner of the character described, comprising a plurality of non-communicating sections and independent fuel supplies for the respective sections, said sections being provided with branches spaced from each other, said branches extending from one section to the body of the other, whereby one section may be lighted from another.

2. A burner of the character described, comprising a plurality of parallel non-communicating sections and independent fuel supplies for the respective sections, said sections being provided with transverse branches spaced from each other, said branches extending from one section to the body of the other, whereby one section may be lighted from another.

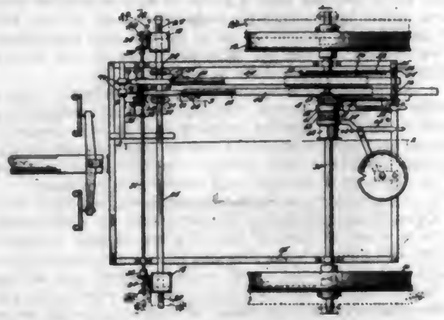
3. A burner of the character described, comprising a plurality of parallel sections and independent fuel supplies for the respective sections, said sections being provided with transverse branches near their opposite ends respectively, said branches extending from one section to the body of the other but not communicating with the latter, whereby one section may be lighted from another.

4. A burner of the character described, comprising a plurality of non-communicating sections and independent fuel supplies for the respective sections, said sections being provided with branches spaced from each other, said branches extending from one section to another, whereby one section may be lighted from another, and said sections being provided with portions terminating at a common point.

5. A burner of the character described, comprising a plurality of parallel non-communicating sections and independent fuel supplies for the respective sections, said sections being provided with transverse branches spaced from each other, said branches extending from one section to another, whereby one section may be lighted from another, and said sections being further provided with portions terminating at a common point.

[Claims 6 to 8 not printed in the Gazette.]

973,499. CORN-PLANTER. JOSEPH GROSS, Chicago, Ill. Filed Feb. 20, 1907. Serial No. 358,388.



1. In a corn planter, the combination of a wheel supported frame, feeding mechanism including a dropper member, a member mounted for reciprocating movement and adapted to engage the dropper member to move the latter means operatively related to the supporting wheels and adapted to engage and move the second said member into engagement with the dropper member, and means for returning the second said member to its normal position.

2. In a corn planter, the combination of a wheel supported frame, feeding mechanism including a dropper member, a member mounted for reciprocating movement and adapted to engage the dropper member to move the latter, means operatively related to the supporting wheels and adapted to engage and move the second said member into engagement with the dropper member, means for varying the time of engagement of the two said members, and means for returning the said members to their normal position.

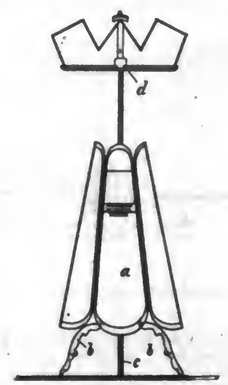
3. In a corn planter, the combination of a wheel supported frame, feeding mechanism including a dropper member, a member mounted for reciprocating movement and adapted to engage the dropper member to move the latter, means operatively related to the supporting wheels and adapted to intermittently engage and move the member into engagement with the dropper member, means for returning the second said member, and means for varying the time of engagement of the two said members.

4. In a corn planter, the combination of a wheel supported frame, feeding mechanism including a dropper member, a member mounted for reciprocating movement, adjustable members on the two said members, means operatively related to the supporting wheels and the reciprocating member to cause the said adjustable members to be brought into engagement to move the dropper member, and means for returning the first said members to cause the adjustable members to assume their normal position with relation to each other.

5. In a corn planter, the combination of a wheel supported frame, planter mechanism proper including a feeding and a dropping member, an operating member, means operatively related to the supporting wheels adapted to intermittently engage and move the last said member in one direction, means operatively related respectively to the feeding and the dropping members adapted to be engaged and moved by the operating member during the movement of the latter in one direction, and means for returning the operating member and the dropper member to their normal position.

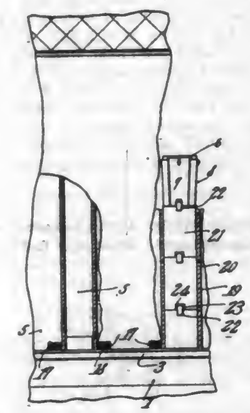
[Claims 6 to 29 not printed in the Gazette.]

973,500. VIOLIN-CASE. JOHANN GÜNTHER, Haaren, Germany. Filed Dec. 16, 1909. Serial No. 533,507.



The combination with an ordinary violin case, of foldable legs arranged in the broad end of the case and adapted to be extended so as to support the case in upright position, and a music holder composed of foldable links arranged in the narrow end of the case whence it can be drawn out and adjusted so as to enable the case to serve as music stand, substantially as set forth.

973,501. CONCRETE CONSTRUCTION. ROBERT C. HANSELL, Muskogee, Okla. Filed Sept. 17, 1909. Serial No. 518,255.



1. The combination of a central block or body having a transverse opening near its upper end, side plates adapted to fit against the sides of the said block or body and having openings near their upper ends, a retaining bolt passing through the openings in the central core or body and the side plates, and a fastening device on the end of the bolt.

2. The combination with a body having grooves therein adjacent one end, of straps seated in the grooves, plates disposed upon the sides of the body and having hooks adjacent one end to engage behind the straps; and means engaging the other ends of the plates and the body to hold the plates upon the body.

973,502. CAR-WINDOW. EDWARD H. HARRIMAN, Arden, N. Y., and WILLIAM R. MCKEEN, Jr., Omaha, Nebr., assignors, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr., a Corporation of New Jersey. Filed June 22, 1907. Serial No. 380,220.



1. In car window construction, in combination, a window frame mounted in a car wall, a rounded sash upon said wall adapted to swing against said frame, a packing between said sash and said frame and means following the joint between said sash and said frame and adapted to receive water passing through the same and discharge said water outside said car wall.

2. In car window construction, in combination a window frame mounted in a car wall, a rounded sash upon said wall adapted to swing against said frame, and means following the joint between said sash and said frame and adapted to receive water passing through the same and discharge said water outside said car wall, said means extending across the bottom of the sash and upwardly at each side thereof.

3. In car window construction, in combination, a window frame mounted in a car wall, a substantially round sash adapted to be swung against said frame, and means forming a channel following the joint between said sash and said frame throughout substantially the entire lower half of the same and adapted to receive water passing through said joint and discharge the same outside said car wall.

4. In car window construction, in combination, a window frame, a sash adapted to swing against said frame, means upon said sash adapted to project over the joint between said sash and said frame, and means upon said frame extending under said joint and adapted to receive and carry away water passing through the same.

5. In car window construction, in combination, a window frame, a rounded sash adapted to swing against said frame, means upon said sash projecting over the joint between the same and said frame, and means upon said frame extending beneath said joint across the bottom of said sash and upwardly at each side thereof and adapted to receive and carry away water passing through said joint.

[Claims 6 to 16 not printed in the Gazette.]

973,503. METALLIC CULVERT. OWEN K. HARBY, Dallas, Tex. Filed Nov. 9, 1909. Serial No. 527,002.

1. A culvert consisting of a series of sections, each section provided with lateral flanges, the section having circumferential corrugations and the flanges being crimped, band members embracing the sections, and means for connecting the ends of the band members and the flanges in a joint.

2. A culvert consisting of a plurality of sections, each section having circumferential corrugations and being of semi-cylindrical form, inverted U-shaped channel members embracing the sections circumferentially, the members having their ends bent into outwardly directed lugs, and means passing through the lugs for drawing the members together and fastening the same about the sections.



3. As an improved article of manufacture, a culvert section constructed of metal and provided with corrugations, the section having substantially a semi-circular form and provided with lateral crimped flanges, and a band member secured to the section.

4. A culvert section of semi-cylindrical form circumferentially corrugated and provided with outwardly directed flanges having finer corrugation or crimps, and a band member mounted on the section and provided with outwardly directed lugs projected over the flanges of the section.

5. A culvert consisting of a plurality of sections each provided with circumferential corrugations and crimped longitudinal sides, outwardly directed flanges formed from the crimped portions, band members embracing the sections, lugs projecting from the members in close relation to the flanges, and means passing through the flanges and the lugs for fastening the sections together.

[Claim 6 not printed in the Gazette.]

973,504. CORE-BOX FOR FORMING GLOBE-VALVE CORES. THOMAS HAWTHORNE, London, Ontario, Canada, assignor of one-half to George S. Trudell, London, Ontario, Canada. Filed June 13, 1910. Serial No. 566,648.

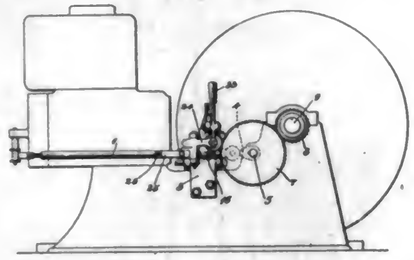


1. A core box for forming globe valve cores formed in two parts divided longitudinally of the valve through the valve opening and a cover for each half of the box shaped to form in the core the space for the metal of the valve seat.

2. A core box for forming globe valve cores, formed in two parts divided longitudinally of the valve through the valve opening and a combined cover for the halves of the box, having one side shaped to form in the core, part of the space for the metal of the valve seat and the other side shaped to form the remainder of said space.

973,505. GOVERNOR. PETER J. HOLM, Sparta, Mich., assignor to Holm's Machine Manufacturing Company, Sparta, Mich., a Corporation of Michigan. Filed July 16, 1909. Serial No. 507,904.

1. In an internal combustion engine, the combination of a reciprocatory member and a governor mechanism for controlling the movements of said member, said governor mechanism comprising a rotatory governor shaft, weighted arms carried by said shaft, a longitudinally slidable rod extending through said shaft and arranged to be moved by said weighted arms, a lever arranged to be rocked by said rod to interfere with the movements of said reciprocatory member, a spring arranged to act upon said weighted arms, a rod extending through the other rod and affording an abutment for said spring, and means for adjusting the position of the second mentioned rod.



2. In an internal combustion engine, the combination of a rotatory governor shaft, weighted arms carried by said shaft and provided with angular fingers, a longitudinally slidable rod extending axially through said shaft and arranged to be moved by said fingers, a controlling element movable by said rod, a spring bearing upon said fingers, a rod slidable axially in the first mentioned rod and affording an abutment for said spring, a hand lever for longitudinally sliding the second mentioned rod, and means for locking said hand lever in adjusted position.

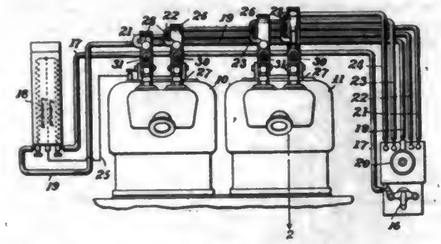
3. In an internal combustion engine, the combination of a reciprocatory member and a governor mechanism for controlling the movements of said member, said governor mechanism comprising a rotatory governor shaft, weighted arms carried by said shaft and provided with angular fingers, a longitudinally slidable rod extending axially through said shaft and arranged to be moved by said fingers, a two-arm lever, one arm of which lever is arranged to be moved by said rod, a projection on said reciprocatory member into the path of which projection the other lever-arm is arranged to be placed when said lever is rocked by said rod, a spring tending to rock said lever to withdraw the second mentioned lever-arm from the path of said projection, a spring bearing upon said fingers, a rod slidable axially within the first mentioned rod and affording an abutment for the last mentioned spring, a hand lever bearing against the second mentioned rod for sliding it to compress the second mentioned spring, and means for locking said hand lever in adjusted position.

973,506. COLLAR-STUD. LOUIS JOHANN FERDINAND HUBERT, Leipzig, Germany. Filed May 6, 1910. Serial No. 559,781.



A collar stud of the character described, comprising a base plate connected to the back of the necktie, a stud divided longitudinally in two parts one of which is mounted directly on the base plate, a lever pivoted to the base plate and adapted to carry the other part of the stud so that the parts can be separated by turning said lever for securing the stud to the button holes of collar and shirt after its introduction, and means for retaining the lever in normal as well as in operated position, substantially as set forth.

973,507. HYDROCARBON-ENGINE IGNITION SYSTEM. RUSSELL HUFF, Detroit, Mich., assignor, by mesne assignments, to Packard Motor Car Company, Detroit, Mich., a Corporation of Michigan. Filed June 15, 1906. Serial No. 321,936.



1. In a high tension ignition system for hydrocarbon engines for motor vehicles, the combination with a plurality of engine cylinders, of a spark plug on each cylinder, a post or support of insulating material adjacent to each spark plug, a switch carried by each support and arranged to coöperate with the spark plug, and a conductor leading to each switch, the said conductors being separately mounted upon said posts.

2. In a high tension ignition system for hydrocarbon engines for motor vehicles, the combination with a plurality of engine cylinders, of a spark plug on each cylinder, a detachable yoke 30 on each spark plug provided with a contact, a post or support of insulating material adjacent to each spark plug, a switch carried by each support and arranged to coöperate with said contact, and a conductor leading to each switch, the said conductors being separately mounted upon said posts.

3. In a high tension ignition system for hydrocarbon engines, the combination with a source of low tension current and a transformer for creating a high tension current, of a plurality of engine cylinders, a corresponding plurality of high tension conductors leading to the cylinders, a distributer for directing the current to said conductors successively, spark plugs on the cylinders, a post or support of insulating material upon each cylinder, and a switch carried by each post or support and coöperating with the spark plug of the corresponding cylinder, the said conductors being mounted upon said posts or supports.

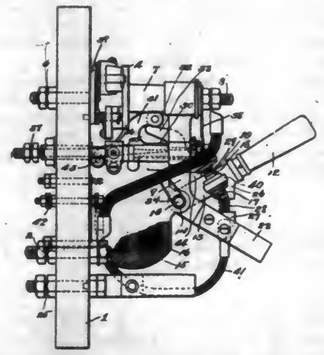
4. In a high tension ignition system for hydrocarbon engines for motor vehicles, the combination with a plurality of engine cylinders, of a spark plug on each cylinder, supporting means consisting of insulating material adjacent each spark plug, switches carried by said supporting means and arranged to coöperate with the respective spark plugs, and high tension conductors mounted on said insulating supporting means, one of said conductors leading to each of said switches.

973,508. POTENTIAL SWITCH. JOHN D. IHLDER, New York, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed Apr. 9, 1906. Serial No. 310,656.

1. The combination with an electric switch, of a device for closing the switch, means for opening the switch, electro-responsive means for holding the switch closed, and means operated by said device for deënergizing said electro-responsive means and thereby rendering said holding means ineffective and permitting the switch to open.

2. The combination with an electric switch, of a device for closing said switch, electro-magnetic means for holding the switch closed, and means operated by the said device when moved in the opposite direction for deënergizing said electro-magnetic means, thereby permitting the switch to move freely to open position.

3. The combination with an electric switch, of manual means for closing said switch, electro-responsive mechanism for holding said switch in closed position, and an appliance operated by the same manual means to render said holding mechanism ineffective by reducing its holding power.

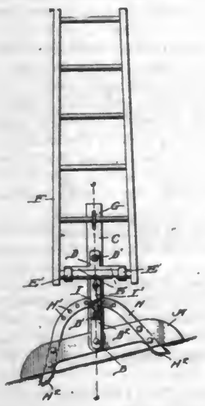


4. The combination with an electro-magnetic switch, of locking apparatus therefor, electro-magnetic means for holding said apparatus in operative position, a manual device for closing said switch, and means operated by the same manual device for effecting the release of said locking apparatus by affecting the magnetic power of said electromagnetic means and thereby permitting the free opening of said switch.

5. The combination with a potential switch, of a manual device for opening said switch, magnetic means for holding the switch closed, and means co-acting with said manual device for varying the magnetic power of said magnetic means, and thereby effecting the release of said potential switch.

[Claims 6 to 23 not printed in the Gazette.]

973,509. ADJUSTABLE LADDER-BASE. ENOCH ISON, Central Lake, Mich. Filed June 4, 1910. Serial No. 565,030.



1. A device of the kind described comprising a base, a standard pivotally mounted on said base, means carried by said standard for supporting a ladder, and means for locking said standard in its adjusted position.

2. An adjustable base for ladders comprising a base member, a standard pivotally mounted on said base member, means carried by the standard for supporting a ladder, an arched shaped member carried by the base, and means for locking said member to said standard.

3. A device of the kind described comprising a base, a ladder supporting member pivotally mounted on said base,

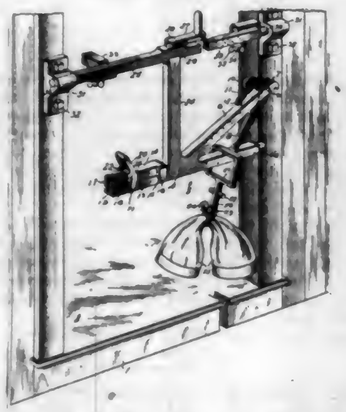
and means for locking said supporting member in its adjusted position.

4. In a device of the kind described, the combination with a base, of a standard pivotally mounted on said base, a strap carried by said standard pivotally connected to said base, hooks carried by said strap adapted to receive the round of a ladder, and a hook bolt carried by said standard for securing a ladder thereto.

5. A device of the kind described comprising a base, a standard pivotally mounted on said base, a strap secured to said standard provided with arms having supporting hooks, a fastening member carried by said standard, and means for locking said standard in its adjusted position.

[Claims 6 to 8 not printed in the Gazette.]

973,510. MAIL-BAG DELIVERY AND CATCHING APPARATUS. WILLIAM S. JAMES, Altoona, Pa. Filed Feb. 25, 1910. Serial No. 545,840.



1. In apparatus of the character described, a support, a delivery device swingingly mounted upon said support, comprising a jaw, a second jaw pivotally connected to said first named jaw, said second jaw being provided with projections, and a yoke carried by said first named jaw for engagement with said projections.

2. In apparatus of the character described, comprising a support, a crane movably mounted upon said support, comprising a catching fork, a stationary jaw connected to said fork and having its free end bifurcated, a movable jaw having its free end bifurcated associated with said first named jaw, and means for locking said movable jaw in a desired position.

3. In apparatus of the character described, a support, a crane connected to said support, comprising a stationary jaw, a movable jaw, said jaws being bifurcated and provided with oppositely arranged cut-out portions.

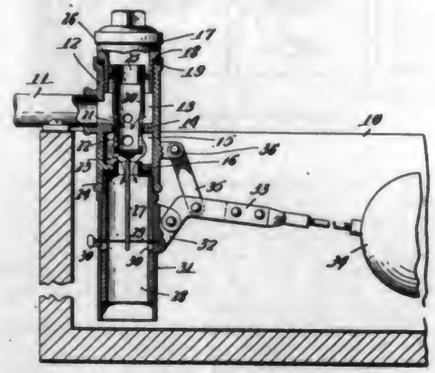
4. In apparatus of the character described, a support, a crane, comprising a catching fork, pivotally mounted upon said support and capable of moving longitudinally, and means whereby said crane may be readily reversed upon said support.

5. In apparatus of the character described, a support, a shaft pivotally and longitudinally movably mounted upon the same, a crane adjustably mounted upon said shaft, comprising a catching fork and stationary and movable jaws.

[Claims 6 to 15 not printed in the Gazette.]

973,511. SUPPLY-VALVE. NELSON B. JOHNSON, Webster, Mass. Filed Feb. 11, 1907. Serial No. 356,727.

1. The combination with a supply valve casing having a valve seat, of a main valve for said seat, said valve being hollow, whereby water may be discharged therethrough, there being sufficient space between the valve and casing to permit water to leak from the supply into the valve chamber above the valve when the valve is closed, whereby the full pressure of the water in the supply acts on the valve to hold it closed, and means for preventing the water pressure from being applied to the seating surface of the main valve before it rests on its seat, and for permitting leakage from the supply to the valve seat in all positions of the valve.



2. The combination with a valve casing having a seat, of a main valve therein adapted to engage said seat, said valve having a free passage therethrough which is always open, whereby the most of the water discharged passes through the valve, and having a loose engagement with the walls of the casing, whereby water may leak by the valve to fill the space above the same in the casing to act on the valve when it is closed to hold it against its seat, and means for preventing the water pressure from being applied to the seating surface of the main valve before it rests on its seat.

3. The combination with a valve casing having a partition, two chambers separated by the partition, and a valve seat at the bottom of the lower chamber, of a hollow valve in the casing having passages through its wall, said valve being adapted to engage said seat, the outside of said valve fitting the partition loosely, whereby leakage is permitted from the upper chamber to the lower chamber in all positions of the valve.

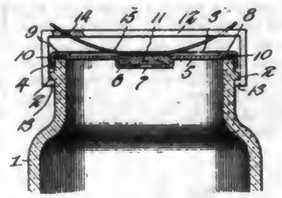
4. The combination with a valve casing having two chambers therein, a partition separating the chambers, and a valve seat at the bottom of the lower chamber, of a hollow valve adapted to seat on said valve seat, said valve having two series of perforations through its walls, one series being located above the partition and the other below the partition when the valve is open and both being located below the top of the partition when the valve is closed.

5. The combination with a valve casing, of a hollow valve therein having perforated walls, and an open top, a cup packing loosely fitting between the upper part of said valve and the walls of the casing, whereby the full force of the pressure is excluded from the top of the valve and leakage thereto is permitted.

[Claims 6 to 9 not printed in the Gazette.]

973,512. VACUUM-SEAL FOR JARS. CHARLES R. KERSAN, Bloomington, Ill. Filed Aug. 10, 1909. Serial No. 512,224.

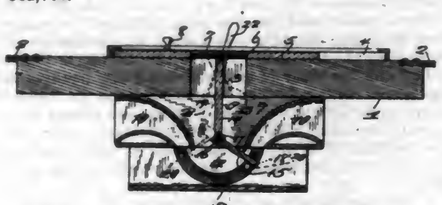
1. The combination with a jar having external threads, of a vacuum sealing disk adapted to effect a sealing connection with the jar, said disk being provided with a vent opening, and a fusible plug for closing said opening, a retaining bail adapted to engage the threads and provided with short inclined transverse slots in the cross portion thereof and a bowed retaining spring adapted to bear upon the plug and having its ends slidably and frictionally engaged with said slots and retained thereby to prevent movement of the spring longitudinally of the bail.



2. The combination with a jar, a vacuum sealing disk adapted to close the mouth of the jar, said disk being provided with a vent opening, and a fusible plug for closing said opening, of a bail-shaped retainer adapted to engage the jar and having outwardly and upwardly inclined short transverse slots therein, and a bowed pressure spring extending longitudinally beneath the cross portion of the bail and having its ends slidably fitted in said slots and its convex central portion arranged to bear upon the plug, said ends of the spring being held by the slots to prevent movement of the spring longitudinally of the bail.

3. A vacuum seal comprising a cap having a flange and a depressed body portion, forming a circular retaining groove between said flange and body portion, the body portion also having a central circular depressed panel of some depth provided in the bottom wall thereof with a vent opening, a sealing ring composed of a non-heat insulating fiber and wax fitted within said circular groove and co-extensive in width and in depth therewith, and a circular plug composed of a similar composition adapted to fit within and close said circular panel and the vent opening therein, said plug being co-extensive in depth with the panel whereby its upper surface is adapted to lie flush with the upper surface of the body portion of the sealing cap.

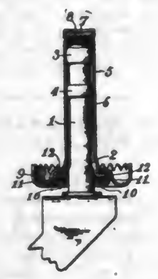
973,513. CAR-VENTILATOR. ALFRED ANTHONY KEMPSKI, Wilmington, Del. Filed May 21, 1910. Serial No. 562,704.



1. In a car window ventilator, a plate having an outwardly projecting casing, said casing having air chutes or passageways converging at one of their ends, said casing having upon each side of the converged portion or the passageways air chutes, said casing having a divisional plate between the converged passageways, means to regulate the draft or intake, means to hold the first named means in adjusted positions, said plate having an opening, and provided with guides, and a slide or door having a screened opening to register with the opening in the plate received by said guide.

2. In a car window ventilator, a plate having an outwardly projecting casing, said casing having air chutes or passageways converging at one of their ends, said casing having upon each side of the converged portion or the passageways air chutes, said casing having a divisional plate between the converged passageways, a draft plate or wing pivoted adjacent the divisional plate to regulate the draft or intake of air, means to hold the draft or wing plate in adjusted positions, said first named plate having an opening and provided with guides, and the slide or door having a screen opening to register with the opening in the first named plate received by said guides.

973,514. CASTER-SOCKET. BERTRAND P. KENYON, Grand Rapids, Mich., assignor to Diamond Steel Truck Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Jan. 15, 1910. Serial No. 538,196.

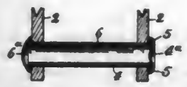


1. A furniture caster socket, comprising a tubular portion closed at the top and provided with a thrust bearing, a lateral bearing at the lower end of the tube, an annular cup to hold the last named bearing in place, and a track plate surrounding said cup and bearing.

2. A furniture caster socket, comprising a sheet metal tube having an inwardly bent tongue near the middle, a closure in the upper end of the tube, an anti-friction thrust bearing engaging the closure, a track plate surrounding the lower end of the tube and recessed at the under side, and an anti-friction washer and retaining cup within the recess of the track plate and attached to the end of the tube.

3. In a furniture caster, the combination of a tubular socket of sheet metal having a spring tongue near the middle and an outwardly turned flange at the lower end, a closure in the upper end of the socket, a thrust bearing engaging the closure, a bearing washer below the end of the tube, a retainer beneath the washer surrounding the washer and the flange and turned inward above the flange, a track plate resting on the inwardly turned edge of the retainer and recessed at the under side to surround the retainer and washer, and a pintle engaging the thrust bearing at the upper end and also having journals at the respective ends and a middle enlargement engaged by the spring.

973,515. TUBULAR AXLE FOR CASTERS. BERTRAND P. KENYON, Grand Rapids, Mich., assignor to Diamond Steel Truck Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Jan. 15, 1910. Serial No. 538,198.



1. An axle for furniture casters, comprising two hollow members tubular throughout their entire length each having a finished head, and one of said members adapted to be forced into the other member and retained therein.

2. An axle for furniture casters, comprising two tubular members of substantially equal length, one of the same adapted to be forced into the other, and having its end turned or clenched within a circumferential enlargement in the head of the other member.

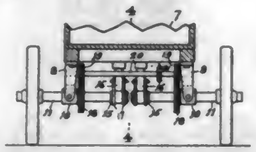
3. An axle for furniture casters, comprising an outer tubular member having a hollow head, and a tubular inner member having an open inner end adapted to clench within the head of the outer members when forced to place within the same.

4. An axle for furniture casters, comprising an outer tubular member having a head convex on the inner side and having hollow margins, an inner tubular member having an open inner end and a head at the outer end, said inner member also having its inner end turned outward

within the margin of the head of the outer member when forced to place in the same.

5. An axle for casters, consisting of a tubular outer member, a head on the same concave on the outside and convex on the inside and also having a hollow margin, and a tubular inner member of substantially the same length as the outer member having a head at one end and having the other end open and turned outward within the hollow margin of the head of the outer member.

973,516. SHOCK-ABSORBER FOR VEHICLES. WILLIAM KOOTZ, Milwaukee, Wis. Filed Apr. 5, 1907. Serial No. 366,619.



1. A shock absorber for vehicles, comprising a two-part axle, each part of which is medially pivoted to a bracket connected to a vehicle frame, collars on said axle near the inner ends, yielding means connected to said collars and the vehicle frame, and means for rotating said axle.

2. A shock absorber for vehicles, comprising a two-part axle, each part of which is medially pivoted to a bracket connected to a vehicle frame, collars on said axles near their inner ends, yielding means connected to said collars and the vehicle frame, gears on said axle, pinions in mesh with said gears, a shaft upon which said pinions are mounted, and means for rotating the shaft.

3. A shock absorber for vehicles, comprising a two-part axle, each part of which is medially pivoted to a bracket connected to a vehicle frame, collars on said axles near their inner ends, and springs connected to said collars and the vehicle frame, gears on said axle, pinions in mesh with said gears, a shaft upon which said pinions are mounted, and means for rotating the shaft.

973,517. VEHICLE-FRAME. WILLIAM KOOTZ, Milwaukee, Wis. Filed Apr. 20, 1910. Serial No. 556,473.

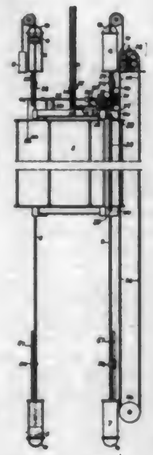


1. A vehicle frame, comprising a main frame, levers pivotally mounted thereon, axle springs connected with the levers, segmental racks carried by the levers, and a pinion mounted on the main frame and meshing with the segmental racks for causing a movement of one lever to be imparted to the other lever.

2. A vehicle frame, comprising a main frame, levers fulcrumed at each side of the main frame, axle springs mounted on the levers, segmental racks carried by the levers, a pair of guide plates spaced apart and mounted on the main frame with the segmental racks guided therebetween, and a pinion mounted on the main frame and meshing with the segmental racks to cause the movements of one lever to impart movements to the other lever.

973,518. SAFETY DEVICE FOR ELEVATORS. JOSEPH KULP, Jersey City, N. J., assignor of one-half to Alfred Hand, Scranton, Pa. Filed Dec. 30, 1908. Serial No. 469,999.

1. The combination, in an elevator safety device, of a car, a pair of standing cables suitably connected at top and bottom of the well in which said car operates, clutch mechanism at top and bottom of the car normally inactive but disposed for engagement with said standing cables, means on top of the car for controlling said clutches, one of said clutches being arranged for engagement with said standing cables when an accident occurs with the car moving in one direction and the other of said clutches being arranged for engagement with said standing cables when an accident occurs with the car moving in the opposite direction, said means being normally in the inactive position, and means for throwing said controlling means into action under varying conditions.



2. In an elevator safety device, the combination of an elevator car, a pair of standing cables suitably connected at top and bottom of the well in which said car operates, clutch mechanism carried at top and bottom of the car normally inactive but disposed for engagement with said standing cables, a shaft on top of the car controlling said clutches, one of said clutches being arranged for engagement with said standing cables when an accident occurs under certain conditions with the car moving in one direction and the other of said clutches being arranged for engagement with said standing cables when an accident occurs under certain conditions with the car moving in the opposite direction, said shaft being normally in an inactive position, and means controlled by said shaft for throwing said clutches into action under varying conditions.

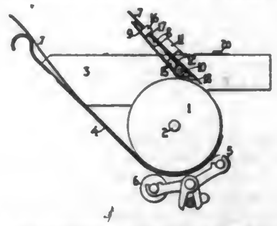
3. The combination, in a safety device for elevators, of a car, a pair of standing cables passing through said car, a shaft mounted on top of said car, a governor, a cable for operating said governor, a wheel mounted on said shaft around which the governor operating cable passes and by which it is moved vertically, clutching mechanism arranged to coöperate with the standing cables, and means for operating said clutching mechanism by the turning of said wheel.

4. The combination, in an elevator safety device, of a car, a hoisting cable therefor, a pair of standing cables, housing carried by said car through which said cables pass, pivoted arms at top and bottom of said car having clutch shoes for engagement with said cables within said housings, means for operating said clutch carrying arms including a weighted lever, and means carried by the car and operable by the breaking of the hoisting cable for throwing said mechanism into action.

5. In an elevator safety device, the combination of a car, having the usual operating mechanism including a governor and a governor cable, a pair of standing cables mounted in the elevator shaft, housings carried by said car through which the cables pass, pivoted arms at top and bottom of said car having clutch shoes for engagement with said cables in the housings, and means carried by the car including a weighted lever for throwing said clutch carrying arms into action by the breaking of the governor cable.

[Claims 6 to 15 not printed in the Gazette.]

973,519. TYPE-WRITING MACHINE. ALFRED G. F. KUSOWSKI, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of Delaware. Filed June 29, 1910. Serial No. 569,511.



1. In a typewriting machine, the combination with a platen, of sheet-alining mechanism comprising gage pins, and a shiftable paper table to cover or overhang said pins and having openings to register with the pins.

2. In a typewriting machine, the combination with a platen, of sheet-alining mechanism comprising gage pins, and a yielding paper table having openings therein to register with the pins to uncover the latter only when the perforated work sheet is to be strung upon the pins.

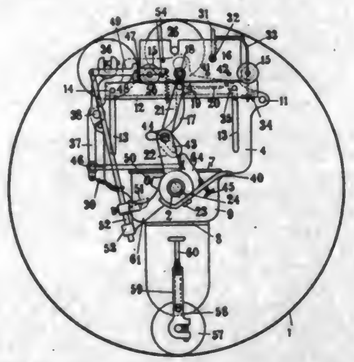
3. In a typewriting machine, the combination with a platen, of a sheet-alining mechanism including gage pins, a paper-table hinged to swing relative thereto and having openings to register with the pins, and means to hold the paper table in position to sheath the pins.

4. In a typewriting machine, the combination with a platen, of sheet-alining mechanism, including a yielding paper table, and gage pins upon which the work-sheet is impaled, said pins rendered normally ineffective by the position of the paper table relative thereto.

5. In a typewriting machine, the combination with a platen, of sheet-alining mechanism comprising stationary gage-pins, upon which the work-sheet is impaled, a shiftable paper table in proximity to the pins, and means to hold the paper table in position to sheath the pins to enable the leading edge of the sheet to clear the pins.

[Claims 6 to 11 not printed in the Gazette.]

973,520. INKING AND INKING-OFF MECHANISM FOR ROTARY PRINTING-MACHINES. PAUL ODON LAFFITTE, Paris, France. Filed Jan. 18, 1909. Serial No. 472,859.



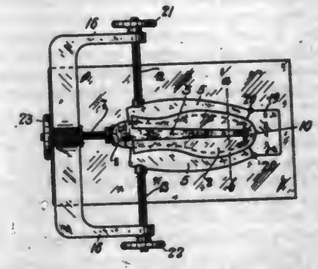
1. Improved inking and inking-off mechanisms for printing machinery, comprising in combination an ink holder, means for moving the said ink holder vertically and transversely in a single curvilinear motion, an adjustable inking roller, an auxiliary roller adapted to press with graduated pressure against the inking roller, an adjustable scraper adapted to press against the surface of the inking roller, mechanism for actuating the inking and inking-off apparatus by transmitted power, and a controlling lever adapted to effect at will either the direct inking of the inking roller, or the indirect inking thereof by the auxiliary roller, or the removal of ink by the said auxiliary roller, or finally the removal of ink by means of the adjustable scraper.

2. An improved inking and inking-off mechanism for printing machinery adapted to be located inside the printing cylinder, comprising in combination a vertically and transversely movable ink holder, lever mechanism for moving the said ink holder, a vertically and transversely in a single curvilinear motion movable inking roller, an adjustable auxiliary roller adapted to press with graduated pressure against the inking roller, an inclinable and adjustable scraper adapted to be pressed against or removed from the surface of the inking roller, and a control lever placed outside the printing cylinder and adapted to control the action of the mechanism and produce either the distribution of ink to the printing roller or the removal of ink from the distributing roller, substantially as set forth.

3. An improved inking and inking-off mechanism comprising in combination with the rotary cylinder of a duplicator, an ink holder, a frame adapted to support the said holder and its controlling mechanism, guide pieces on the said frame adapted to direct the motion vertically and transversely in a single curvilinear motion of the said inking holder, an inking roller adapted to come simultaneously into contact with the contents of the ink holder and the inside of the duplicator cylinder when the said ink holder is raised, means for controlling the action of the said ink roller, auxiliary mechanism for supplying or removing ink from the said roller and mechanism for effecting at will either the direct inking of the inking roller or the indirect inking thereof by the auxiliary roller or the removal of ink by the auxiliary roller or finally the removal of ink by means of an adjustable scraper.

4. An improved inking and inking-off mechanism for printing machinery, comprising in combination, an adjustable ink container, an inking roller coöperating therewith, auxiliary mechanism adapted to apply ink to or remove ink from the said inking roller, the scraper 47, lever mechanism adapted to press the scraper against the roller or remove it therefrom, screw studs 50 on said lever mechanism, spring jambs 51 adapted to coöperate with said screw studs for the purpose of limiting the motion of the scraper mechanism and an outside controlling lever so inter-connected with the mechanism that by means of it the inking or inking-off of the printing roller can be effected, varied, or reversed at will.

973,521. APPARATUS FOR LASTING BOOTS AND SHOES. EWALD LANGENOHL, Wermelskirchen, Germany. Filed Oct. 29, 1906. Serial No. 341,092.



1. An apparatus for lasting uppers comprising in combination, a revolubly mounted toe member provided with a

plurality of toe engaging recesses adapted to engage the upper and points between the same and a welt secured thereto, a plurality of pairs of lateral members hinged to said toe member and adapted to engage side portions of the upper between the same and the welt and each pair forming with its companion a toe recess, a continuous line or margin extending rearwardly from said toe engaging portion, said toe member being adapted for rotation to successively bring pairs of lateral members into and out of operative relation with respect to the upper to be lasted, means for forcing the last forwardly against said toe member to stretch the toe portion of the upper, and independently operable means for compressing the lateral portions to stretch the side portions of the upper upon said last.

2. An apparatus for lasting uppers comprising in combination, a revolubly mounted toe member provided with a plurality of toe engaging recesses adapted to engage the upper and points between the same and a welt secured thereto, a plurality of pairs of lateral members hinged to said toe member and adapted to engage side portions of the upper between the same and the welt and each pair forming with its companion toe recess a continuous line or margin extending rearwardly from said toe engaging portion, said toe member being adapted for rotation to successively bring pairs of lateral members into and out of operative relation with respect to the upper to be lasted, means for forcing the last forwardly against said toe member to stretch the toe portion of the upper, and means for compressing the lateral members to stretch the side portions of the upper upon said last.

3. An apparatus for lasting uppers comprising in combination, a multiple former mechanism composed of a rotatable central plate provided with a plurality of toe engaging recesses, a plurality of pairs of lateral members connected to said central members or plates and adapted for engagement with side portions of the upper, means for forcing the last forwardly to engage the toe portion of said upper with said central plate, and means for engaging said lateral plate to stretch the side portions of the upper upon said last.

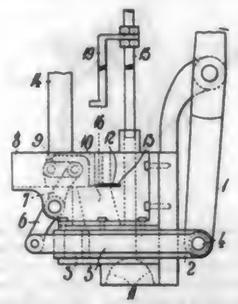
4. An apparatus for lasting uppers comprising in combination, a former mechanism composed of an integral toe member, a support for the toe member, integral lateral or side members hinged to lateral portions of said toe member, said toe and side members having continuous integral inner edges adapted to enter between the welt and the upper, said lateral or side members extending rearwardly from the toe member to points slightly in advance of the heel portion of the upper, means for supporting the last, means for forcing the last and upper against the toe member to last the toe portion of the upper, means engaging one of said side members near the end thereof for lasting one side of the upper, and means for engaging the other side member near the end thereof for lasting the other side of the upper.

973,522. CORKING-MACHINE. JOHANNES KARLSSON LANNMARK, Stockholm, Sweden. Filed July 17, 1908. Serial No. 444,151.

1. A bottle corking machine, comprising in combination, a cork feeding tube, a frame, a lever pivotally attached to said frame, a cork compressing member pivotally connected with said lever means for removing impurities pressed from the cork, a second cork compressing member, means for imparting oscillatory motion to said lever and a device for driving a cork into a bottle.

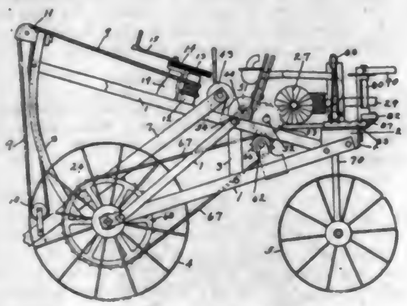
2. A bottle corking machine, comprising in combination, a cork feeding tube, a frame, a lever pivotally attached to said frame, a cork compressing member pivotally attached to said lever, means for removing impurities pressed from the cork, a second cork compressing member, means for imparting oscillatory motion to said lever and reciprocatory motion to said members, and a device for driving a cork into a bottle.

3. In a bottle corking machine, the combination, with a cork feeding tube, of a frame, a lever pivotally connected to said frame, a cork compression member, means for removing impurities pressed from the cork, a link pivotally connected to said lever and said member, said member being adapted to close said tube when in operative position, an operating lever, a second cork compression member pivotally connected with said operating lever, links pivotally connected to both of said levers, said levers, compression members and links being connected, so that reciprocating motion in opposite direction is imparted simultaneously to said compression members, when said operating lever is actuated.



4. In a corking machine, the combination with a cork feeding tube, of a frame, a lever pivotally connected to said frame, said frame being provided with lateral apertures, a cork compression member provided with a portion adapted to project through said apertures and to remove the impurities pressed from the cork, a second cork compression member, said frame being provided with a passage for transmitting the cork from one compression member to the other one, means for actuating said compression members, and a vertically reciprocating plunger.

973,523. SAND-CUTTING MACHINE. GEORGE W. LOAIMES, Piqua, Ohio, assignor, by mesne assignments, to The Sand Mixing Machine Company, Greenfield, Ohio, a Corporation of Ohio. Filed June 6, 1908. Serial No. 437,178.



1. In a traveling sand cutter or mixer, the combination with the carriage, a cutting drum adapted to be raised and lowered and mounted on said carriage, a motor, a power shaft connected to said motor, and to said cutting drum, and means comprising change speed and differential gearing connecting said power shaft with the driving wheels of said carriage.

2. In a traveling sand cutter or mixer, the combination with the carriage, of a frame pivotally mounted on said carriage, a cutting drum mounted on said frame, a motor, a power shaft connected to said motor and to said cutting drum, a traction shaft driven by said power shaft and change speed and differential gearing connecting said traction shaft to the driving wheels of said carriage.

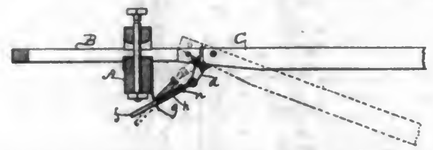
3. In a traveling sand cutter or mixer, the combination with the carriage and cutting drum mounted thereon, of a motor, a power shaft driven by said motor and connected to the cutting drum, a traction shaft driven by said motor and connected to the driving wheels, differential gearing between said traction shaft and said driving wheels and a variable speed gearing through which said carriage wheels are driven.

4. In a traveling sand cutter or mixer, the combination with the carriage and cutting drum mounted thereon, of a motor, a power shaft driven by said motor and connected to said cutting drum, a traction shaft normally free from the power shaft and connected with the driving wheels of the carriage, traction gearing for coupling said traction shaft to said power shaft, whereby said traction shaft can be caused to rotate in either direction, differential gearing through which said driving wheels are driven and means whereby said wheels may be driven at different speeds.

5. In a traveling sand-cutter or mixer, the combination with the carriage and the cutting drum mounted thereon, of a motor, a power shaft geared to said motor, means connected with said power shaft for coupling and uncoupling the driving power, a traction shaft normally free from the power shaft and connected with the driving wheels of the carriage, transmission gearing for coupling said traction shaft to said power shaft whereby the traction shaft can be caused to rotate in either direction, differential gearing through which said traction shaft must be driven, and a high and a low gear secured to said differential gearing, as and for the purpose described.

[Claims 6 to 19 not printed in the Gazette.]

973,524. WAGON-TONGUE SUPPORT. ROY G. LUCAS, Plover, Iowa. Filed Apr. 14, 1909. Serial No. 490,387.



A tongue support for wagons, comprising, in combination with the axle and a pivoted tongue, an apertured bearing plate carried by said axle, a depending bearer extending below said tongue, a rod pivoted to said depending bearer and sliding in said bearing plate, and forming a substantial toggle-lever connection between said plate and said tongue, and a spring bearing between said plate and a point on said rod, said rod having a variable upward inclination toward said bearer, whereby a continuous upward pressure is exerted, and thereby said tongue is depressed or elevated as the pivot joint between said bearer and said rod is above or below the line denoting the parallelism of the bearer and the rod.

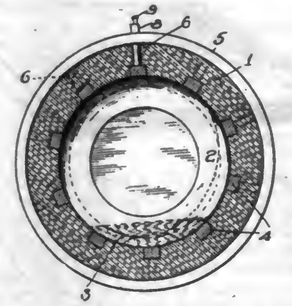
973,525. MOTOR-CONTROLLER. WILLIAM B. LUCAS, Chicago, Ill. Filed Mar. 10, 1909. Serial No. 482,590.

1. In a motor controlling device, a fixed starting resistance, a rotary element, terminals for said resistance carried by said element, and mechanism for automatically short-circuiting said terminals when the speed of the motor is accelerated.

2. In a motor controlling device, a fixed starting resistance, a rotary element driven by the motor, terminals for said resistance carried by said element, and mechanism for automatically short-circuiting said terminals when the speed of the motor is accelerated and for opening said short circuit when the speed of the motor is diminished.

3. In a motor controlling device, a plurality of fixed resistances, a rotary element driven by the motor, terminals for said resistances carried by said element, and mechanism for automatically short-circuiting said terminals when the speed of the motor is accelerated, the number of terminals thus short-circuited depending upon the amount of acceleration of the speed.

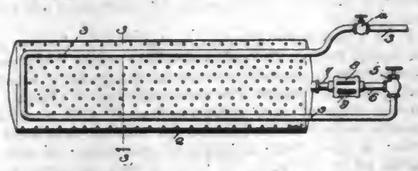
4. In a motor controlling device, a fixed starting resistance in circuit with the motor, a rotary element driven by the motor and carrying terminals for said resistance, and mechanism for automatically short circuiting the terminals of said resistance when the speed of the motor is accelerated.



5. In a motor controlling device, a fixed resistance in circuit with the motor, a rotary element driven by the motor and carrying terminals for said resistance, and mechanism for wholly or in part automatically short-circuiting the terminals of said resistance as the speed of the motor is accelerated, the amount of the resistance thus short-circuited depending upon the amount of acceleration of the speed.

[Claims 6 to 12 not printed in the Gazette.]

973,526. OIL VAPORIZER AND BURNER. ORAL A. MAKINSON, Pratt, Kans. Filed Nov. 26, 1909. Serial No. 529,988.

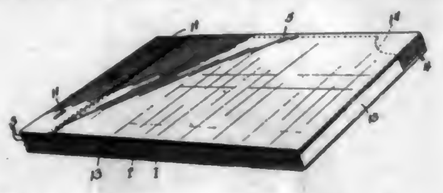


In a device of the character described, a hollow burner having an upper approximately flat face, an oil vaporizing pipe extending over the face of the burner longitudinally along one edge thereof, then extending transversely across the burner along the end margin of the same, and then longitudinally along the base of the burner parallel to the opposite side margin of the same and being supported thereon, said pipe having a uniform diameter throughout its length, the face of the burner being provided with perforations in the space between the oppositely disposed portions of the pipe and perforations extending along the margin of the plate exterior to the pipe, a valve to which the end of the supply pipe is connected, a pipe extending from the valve toward the burner, an inlet pipe opening into the interior of the burner, a nozzle extending from said valve to the inlet pipe and contracted at its end to a diameter smaller than the inlet pipe, and a casing surrounding the end of the nozzle and the adjacent end of the inlet pipe and supporting the nozzle and inlet pipe in their relative positions, said casing being formed with a plurality of air inlet openings.

973,527. MANIFOLDING BOOK OR PAD. BERT C. MAXWELL, Canton, Ohio, assignor to Julius Wilding, Jr., trustee, Canton, Ohio. Filed Jan. 31, 1908. Serial No. 413,623.

1. In a manifolding book, a series of sets of slips, each set formed from a sheet of paper twice folded transversely intermediate of its ends to make three slips all of substantially the same length, the under surfaces of the two

uppermost slips of each set being coated with a suitable transfer substance, and means for binding said slips together in book form arranged at one end of and engaging all of the slips.



2. In a manifolding book, a series of sets of slips, each set formed from a sheet of paper twice folded transversely intermediate of its ends to make three slips all of substantially the same length, the under surfaces of the two uppermost slips of each set being coated with a suitable transfer substance, means for binding said slips together in book form arranged at one end of and engaging all of the slips, and a separator for the sets of slips secured to the book and having a section cut away to expose the lower right hand corner of the set next beneath said separator.

3. In a manifolding book a series of sets of slips, each set formed from a sheet of paper twice folded transversely intermediate of its ends to make three slips all of substantially the same length, the under surfaces of the two uppermost slips of each set being coated with a suitable transfer substance, and means for binding said slips together in book form arranged at one end of and engaging all of the slips, the slips of each set being so arranged that the original slip is secured by the binding means at one end and connected at its opposite end to one of the other slips, and all of said slips being perforated on a line immediately adjacent to the points at which they are bound into the book.

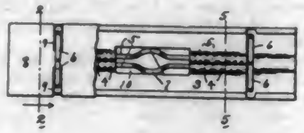
4. In a manifolding book, a series of sets of slips, each set formed from a sheet of paper twice folded transversely intermediate of its ends to make three slips all of substantially the same length, the under surfaces of the two uppermost slips of each set being coated with a suitable transfer substance, and means for binding said slips together in book form arranged at one corner of and engaging all of the slips, the slips of each set being so arranged that the original slip is secured by the binding means at one end and connected at its opposite end to one of the other slips of the set, and all of said slips being perforated on a line extending across their bound corners.

5. In a manifolding book, a series of superposed sets of triplicating slips each set formed from a sheet of paper twice folded transversely, intermediate of its ends to make three slips weakened along the said lines of fold, the two slips formed from the opposite end portions of said sheet of paper lying one upon the other and having suitable transfer substance on their under surfaces and means for binding said slips together in book form arranged at one end of said sets and engaging all of the slips, the slips of each set being so arranged that the original slip is secured by the binding means at one end and connected at its opposite end to one of the other slips of the set.

[Claims 6 and 7 not printed in the Gazette.]

973,528. LOOSE-LEAF BINDER. OSWALD R. MAYER and JULIUS W. SCHOETTLE, Ann Arbor, Mich., assignors to Mayer, Schoettle & Schairer Company, Ann Arbor, Mich., a Corporation of Michigan. Filed Jan. 13, 1910. Serial No. 537,797.

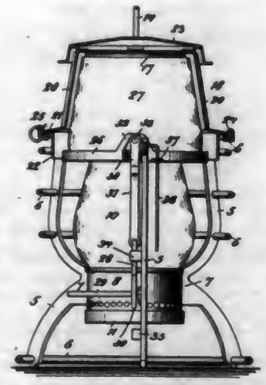
1. In a device of the character described, the combination of a curved back having a central inwardly-extending ridge, a bearing plate extending between the edges of the back and having two longitudinal parallel bearings, and a jaw-member mounted in each of said bearings and having a portion projecting down in engagement with the ridge on the back, and also having upwardly projecting jaws adapted to coöperate with similar jaws on the other jaw-carrier.



2. In a device of the character described, the combination of a back having a central inwardly-extending ridge, a bearing-plate extending between the edges of the back and provided with bearings for the jaw members, two jaw members mounted in said bearings and adapted to engage the ridge on the back to hold the jaws in either open or closed position, and a cover-plate extending between the edges of the back.

3. In a device of the character described, the combination of a plate having bearings, jaw-members mounted in said bearings, the jaws thereof projecting above the plate, and a back of resilient sheet-metal having an inwardly-projecting ridge adapted to engage the jaw member to hold the jaws in closed position.

973,529. LANTERN. HYLA F. MAYNES, Gaines, Pa. Filed Mar. 8, 1910. Serial No. 548,017.

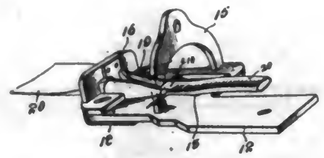


1. In a lantern, the combination with a chimney and a globe for surrounding the same, of a shield for receiving the globe and located in a position substantially unobstructive of the chimney, and means for moving the globe from a point within the shield to a position substantially level with, and inclosing the chimney, the said means comprising an annular carrier, cranks arranged upon either side thereof, and connecting rods connecting the opposite sides of the said carrier with the said crank.

2. In a lantern, the combination with a framework, a stationary burner, and a stationary lamp chimney therefor, of a vertically movable carrier concentrically surrounding the chimney, a globe carried thereby and of larger diameter than the said chimney, cranks mounted upon opposite sides of the burner, a connecting element for connecting the cranks around the said burner, links for connecting the said cranks with the carrier upon opposite sides thereof, and means by which the cranks may be rotated.

973,530. FOLDING AND GUIDING ATTACHMENT FOR SEWING-MACHINES. CALVERT T. MCKANE, Beaver Falls, Pa. Filed Dec. 18, 1909. Serial No. 533,882.

1. A folding and guiding attachment for sewing machines comprising a suitable body portion or support provided with an opening or slot, a longitudinally extending, elastic tongue sustained by said body portion or support, and a folding scroll loosely surrounding a portion of said tongue and having overlapping lips at its forward end, said tongue having a yielding portion extending beyond the forward end of said scroll in said opening or slot for the purpose of coöperating with a feeding device in feeding the work.



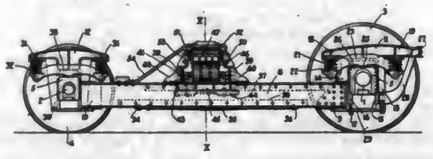
2. A folding and guiding attachment for sewing machines comprising a suitable body or support provided with an opening, a back or bottom plate attached thereto, a longitudinally extending elastic tongue sustained by said body portion or support clear of said back or bottom plate, and a folding scroll loosely surrounding said tongue and having a closed back or bottom, said scroll having overlapping lips at its forward end, the said tongue extending beyond the forward end of said scroll in said opening or slot for the purpose of coöperating with a feeding device in feeding the work.

3. A folding and guiding attachment for sewing machines comprising a suitable body or support, a back or bottom plate attached thereto, a longitudinally extending tongue sustained by said body portion or support clear of said back or bottom plate, and a folding scroll loosely surrounding a portion of said tongue and having a closed back or bottom but having overlapping lips at its forward end, said tongue extending beyond the forward end of said scroll for the purpose of coöperating with a feeding device in feeding the work.

4. A folding and guiding attachment for sewing machines comprising the plate or support 12 having a slot 13, a bridge-piece 16 and a back or bottom plate 18 both attached to said plate 12, an elastic tongue 17 supported by said bridge-piece, and a folding scroll 19 on said back or bottom plate and having a closed back or bottom and overlapping lips at its forward end.

5. A folding and guiding attachment for sewing machines comprising the plate or support 12 having a slot 13, a bridge-piece 16 and a back or bottom plate 18 both attached to said plate 12, an elastic tongue 17 supported by said bridge-piece, and a folding scroll 19 on said back or bottom plate and having a closed back or bottom and overlapping lips at its forward end, said tongue 17 extending in said slot 13 beyond the forward end of said scroll.

973,531. TRUCK CONSTRUCTION. WILLIAM R. MCKEEN, Jr., Omaha, Nebr., assignor, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr., a Corporation of New Jersey. Filed Dec. 19, 1905. Serial No. 292,448.



1. In truck construction, in combination, a spring-plank extending across the truck, a transom, and a pair of members connected with said spring-plank, the members of said pair passing respectively each side of said transom and being secured thereto.

2. In truck construction, in combination, a spring-plank extending across the truck, a transom, and a pair of members connected with said spring-plank, the members of said pair passing respectively each side of said transom and being pivotally secured thereto.

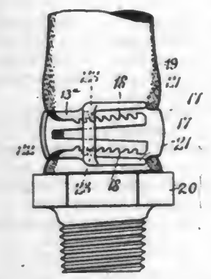
3. In truck construction, in combination, a spring-plank, a transom of substantially I cross-section having formed upon the web thereof a pair of registering bosses, a pair of members pivotally secured to said transom, one of the same upon each of said bosses, and a connection between said members and said spring-plank.

4. In truck construction, in combination, a spring-plank, a transom of substantially I cross-section having formed upon the web thereof a pair of registering bosses, a pair of members pivotally secured to said transoms, one of the same upon each of said bosses, and a pivotal connection between said members and said spring-plank.

5. In truck construction, in combination, a pair of transoms, a bolster, springs upon which said bolster is mounted, a spring-plank having mounted thereon the said springs, and two pairs of supporting-members extending from said spring-plank to each of said transoms, the members of each pair passing each side of one transom and being pivotally secured thereto.

[Claims 6 to 61 not printed in the Gazette.]

973,532. HOSE-CLAMP. MILTON P. MCLAUGHLIN, Wakefield, Mass., assignor of forty-five one-hundredths to H. C. McCarty, Williamsport, Pa. Filed May 5, 1910. Serial No. 559,529.



1. A hose clamp comprising segments having a pivotal interlocked engagement at one end, one segment having an extension at its opposite end provided with depending protecting flanges and the opposite end of the other segment having a bifurcated extension adapted to lie between said flanges and be spread into engagement therewith.

2. A hose clamp comprising segments having a pivotal interlocked engagement at one end, one of said segments having a bifurcated extension at its opposite end, the faces of said bifurcations being serrated, and the other segment being provided with an extension having depending protecting flanges to receive said bifurcated extension between them.

3. A hose clamp comprising segments having a pivotal interlocked engagement at one end, one of said segments having a bifurcated extension at its opposite end, the faces of said bifurcations being serrated and the other segment being provided with an extension having depending protecting flanges to receive said bifurcated extension between them, said flanges having projections on their inner faces to engage said serrated faces.

4. A hose clamp comprising segments having a pivotal interlocked engagement at one end, one of said segments having a bifurcated extension at its opposite end, the faces of said bifurcations being serrated and the other segment being provided with an extension having depending protecting flanges to receive said bifurcated extension between them, said flanges having projections on their inner faces to engage said serrated faces, and a cross bar connecting said flanges.

973,533. SAFETY-RAZOR. EUGENE G. MERGENTHALER, Baltimore, Md. Filed Feb. 16, 1910. Serial No. 544,277.



1. As a new article of manufacture, a blade for safety razors comprising a strip of flexible material having a cutting edge, the said strip being sufficiently long to include a plurality of cutting sections the length of the cutting surface of a safety razor and being adapted to be wound into a coil.

2. As a new article of manufacture, a blade for safety razors comprising a strip of thin flexible material adapted to be wound into a coil.

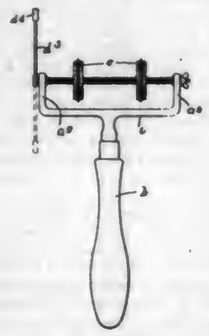
3. As a new article of manufacture, a blade for safety razors comprising a continuous strip of thin flexible material having a cutting edge co-extensive with the blade and adapted to be wound into a coil.

4. In a safety razor, the combination with a frame having a guard portion adapted to hold a blade in cutting position, of a cutting blade longitudinally movable over said guard portion in said frame to bring different portions into cutting position.

5. In a safety razor, the combination with a frame, of means thereon for holding a blade in cutting position, a longitudinally movable cutting blade extending beyond the end of said holding means, the said extended portion being provided with a cutting edge, and means for holding and protecting said extended portion.

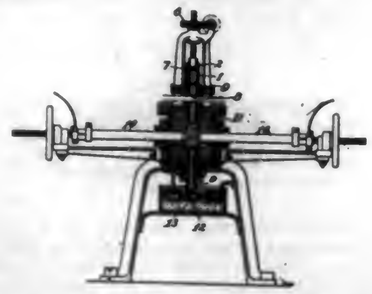
[Claims 6 to 12 not printed in the Gazette.]

973,534. RULING DEVICE. MAX MEYERHEIM, New York, N. Y., assignor to David L. Gluck, New York, N. Y. Filed Apr. 9, 1910. Serial No. 554,335.



A device of the class described comprising a yoke-shaped head provided with a handle, a shaft mounted in the sides of the yoke-shaped head, a threaded sleeve rotatable on said shaft and disks or rollers mounted on said sleeve and threaded to correspond with the thread thereof and adapted to turn therewith, one end of said shaft being also provided with a guide arm which projects at right angles thereto.

973,535. PROCESS OF MANUFACTURING FILAMENTS AND THE FILAMENT PRODUCED THEREBY. GEORGES MICHAUD and EUGENE DELASSON, Montreuil-sous-Bois, France. Filed Oct. 30, 1907. Serial No. 399,963.

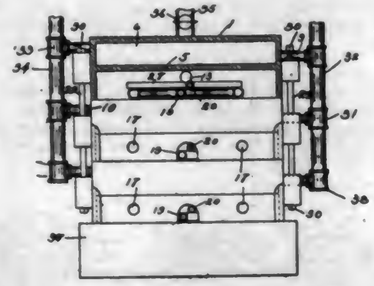


1. The process of producing incandescing filaments which consists in mixing together substantially 99 parts of oxid of thorium, 1 part of oxid of cerium and traces of oxid of chromium, combining substantially 80 parts of said mixture with substantially 20 parts of alumina, adding to this final mixture black soap as agglomerant, forming the composition into a filament, subjecting said filament to an increasing temperature until a pasty fusion of the ingredients is obtained, and afterward gradually subjecting the filament to a decreasing temperature until it is hardened.

2. The process of producing incandescing filaments which consists in mixing together oxid of thorium, oxid of cerium and oxid of chromium, combining said mixture with alumina, adding to the final mixture a black soap agglomerant, forming the composition into a filament, carrying such filament gradually into the range of high temperature from an electric arc until a pasty fusion is obtained, and then gradually carrying said filament out of such range.

3. A filament comprising a mixture of substantially 99 parts of oxid of thorium, 1 part of oxid of cerium and traces of chromium and substantially 20 parts of alumina combined with substantially 80 parts of the above mixture.

973,536. WATER-HEATER. JOHN N. MIDDENDORF, Covington, Ky. Filed Apr. 30, 1910. Serial No. 558,603.



1. A water heater formed from a plurality of similar unit sections, each section forming a complete heater comprising a water compartment and a gas burner compartment underneath the water comprrtment, inlet and outlet pipes for each water compartment with pipe couplings for connecting together the inlet pipes and for connecting together the outlet pipes, lugs on each section with openings registering with each other and tie rods to pass through said lugs to bind the sections together.

2. A water heater formed from a plurality of similar sections, each section comprising a water compartment and a gas burner compartment underneath the water compartment, inlet and outlet pipes for each water compartment with headers for connecting together the inlet pipes and for connecting together the outlet pipes, each burner compartment having a vent opening with vertical passageway therethrough at the rear, and with the vertical passages of each section registering with each other when the sections are assembled together to form a continuous vent pipe for the series of burners.

3. A water heater formed from a plurality of similar sections, each section comprising a hollow rectangular member to form a water compartment with depending lugs to form a burner compartment, each burner compartment having a vent opening with vertical passageway therethrough at the rear, and with the vertical passages of each section registering with each other when the sections are assembled to form a continuous vent pipe for the series of burners.

4. A water heater formed from a plurality of similar unit sections, each section forming a complete heater comprising a water compartment and a gas burner compartment underneath the water compartment, inlet and outlet pipes for each water compartment with pipe couplings for connecting together the inlet pipes and for connecting together the outlet pipes, lugs on each section with openings registering with each other and tie rods to pass through said lugs to bind the sections together, each burner compartment having a vent opening with vertical passageway therethrough at the rear, and with the vertical passages of each section registering with each other when the sections are assembled to form a continuous vent pipe for the series of burners.

973,537. AUGER-DEFLECTOR. GEORGE H. MILLER, Norwalk, Ohio. Filed Dec. 20, 1909. Serial No. 534,202.



1. In combination, a stem, and a deflecting plate adapted to rotate thereon at the upper end of said plate, and means for increasing and diminishing the distance between the lower end of the plate and the stem.

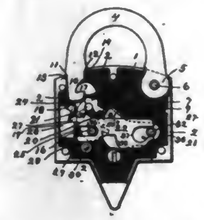
2. In combination, a stem, a deflecting plate pivoted at its upper end thereon, and an adjustable device adapted to secure the lower end of the plate to the stem.

3. In combination, a stem having a sharpened lower end, a deflector plate adapted to rotate at its upper end on said stem, and a link adapted to connect adjustably the lower ends of said plate and stem.

4. In combination, a stem, a plate adapted to rotate at its upper end upon said stem, and a link, adapted to connect the lower end of said plate and said stem, said stem and plate having openings, and said link provided with openings at intervals therein, and bolts adapted to enter said openings.

5. In combination, a stem, a curved deflecting plate adapted to rotate at its upper end on said stem, and a curved link adapted to connect the lower end of said plate and said stem, said link adapted to fold on one of said members for adjustment and provided with openings at intervals, and bolts adapted to connect said plate, stem and link in its adjustable position.

973,538. PADLOCK. GEORGE M. MILLER and SAMUEL R. SLAYMAKER, Lancaster, Pa., assignors to The Slaymaker Lock Manufacturing Corporation, a Corporation of Pennsylvania. Filed Apr. 28, 1910. Serial No. 558,240.



1. In a padlock of the class described, in combination with a hooked nosed shackle, a dog for engaging the hooked nose of said shackle and a series of key tumblers for locking said dog, of a key operated unlocking plate formed with a dog engaging nose and adapted to coact with and disengage said dog from the shackle, said unlocking plate formed with a guide slot or orifice therein and adapted to allow said plate a vertical movement as actuated by key having wards of varying lengths.

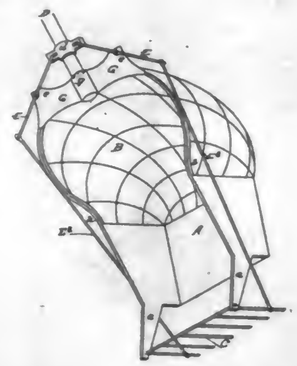
2. In a padlock of the class described, in combination with a pivoted shackle formed with a hooked nose, a dog adapted to engage and secure said shackle, and a series of key tumblers for locking said dog, of a key actuated sliding unlocking plate formed with guide slots and adapted to retract said dog, and a spring actuated stop slide adapted to hold said dog in a retracted position when the shackle is open.

3. In a padlock of the class described, in combination with a pivoted spring actuated shackle formed with a hooked nose, of a shackle engaging dog formed with a shackle end bearing surface, a stop slide engaging point, a key-tumbler engaging lug and a stud upon one side thereof, a series of spring actuated key-tumblers pivotally mounted and adapted to coact with said dog, an unlocking slide plate formed with guide slots in the ends thereof, a shoulder adapted to be actuated by a key formed upon the lower edge thereof, a hooked nose formed upon the upper edge thereof and adapted to engage the stud upon said dog, and a spring actuated stop slide mounted adjacent to said dog and formed with a flanged top and a notched edge and adapted to retain said dog in a retracted position when the shackle is open.

4. A lock mechanism, comprising in combination with a shackle engaging dog having a hooked nose, a shackle nose bearing surface formed thereon for the purpose of forcing the same into engagement with the hooked end of said shackle by the downward pressure of said shackle, a series of key-tumblers mounted adjacent to said dog and coacting therewith, a stud formed upon the side of said dog, a key actuated sliding unlocking plate mounted adjacent to said dog and key-tumblers, and formed with guide slots in the ends thereof, one of said guide slots permitting vertical movement of said slide and a hooked nose formed upon said plate and adapted to engage the stud upon said dog for actuating said dog.

5. A lock mechanism, comprising a spring actuated shackle formed with a hooked nose, a shackle engaging and retaining dog, a series of spring actuated key-tumblers pivoted adjacent to said dog and adapted to engage and coact with said dog, an unlocking slide plate adapted to engage and retract said dog by the action of the key, and a spring actuated stop slide adapted to be depressed when the shackle is closed, and normally raised, when the shackle is open, for the purpose of retaining said dog in a retracted position.

973,539. POTATO PICK-UP. ELMER E. MILLIKEN, Bridgewater, Me. Filed Nov. 8, 1909. Serial No. 526,933.



1. A potato pick-up comprising a scoop, a lifter movable toward and from the mouth of the scoop, a handle for the scoop and means operated by said handle for moving the lifter toward and from the scoop.

2. A potato pick-up comprising a scoop, a lifter movable toward and from the mouth of the scoop, a handle for said scoop connected to and movable longitudinally of the scoop, and connections between said handle and said lifter for causing the operation of the lifter upon the movement of the handle.

3. A potato pick-up comprising a scoop, a lifter movable toward and from the mouth of the scoop, a handle for said scoop connected to and movable longitudinally of the scoop, lever connections between the handle and the lifter whereby the handle and the lifter will move simultaneously toward and from the scoop.

4. A potato pick-up comprising a scoop, the said scoop having a straight edged mouth-piece to rest upon the ground, a framework, and a reticulated basket to receive and hold the potatoes, a lifter movable toward and from the mouth-piece of the scoop, a handle, and means operated by the handle for moving the lifter.

5. A potato pick-up comprising a scoop to receive the potatoes, the said scoop formed with lugs projecting forward from its mouth, a lifter pivotally mounted in said lugs transversely of the mouth and adapted to swing toward and from the mouth of the scoop, and means for operating the lifter.

[Claims 6 and 7 not printed in the Gazette.]

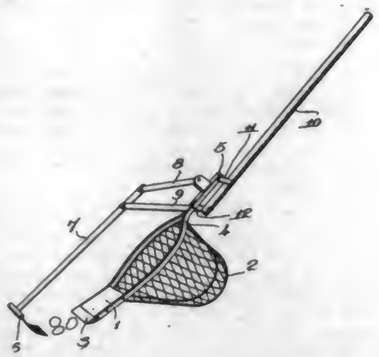
973,540. POTATO PICK-UP. ELMER E. MILLIKEN, Bridgewater, Me. Filed Apr. 14, 1910. Serial No. 555,364.

1. A potato pick-up comprising a scoop, a lifter bodily movable toward and from the mouth of the scoop, a handle for the scoop, and means operated by said handle for moving the lifter bodily toward and from the scoop.

2. A potato pick-up comprising a scoop, a lifter bodily movable toward and from the mouth of the scoop, a lifter arm carrying said lifter at its forward end, the said arm being connected at its rear end to and solely supported from, the scoop opposite the mouth thereof whereby the mouth of the scoop is entirely unobstructed, save by the lifter and lifter arm.

3. A potato pick-up comprising a scoop, a lifter bodily movable toward and from the mouth of the scoop, a lifter arm carrying said lifter at its forward end, the said arm being connected at its rear end to, and solely supported from, the scoop opposite the mouth thereof whereby the mouth of the scoop is entirely unobstructed, save by the lifter and lifter arm, a handle for the scoop, and means operated by said handle for moving the lifter arm to move the lifter toward and from the scoop.

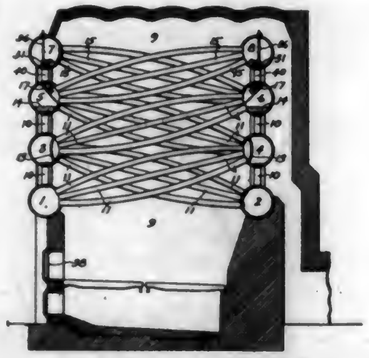
4. A potato pick-up comprising a scoop, said scoop having a straight edged mouth piece to rest upon the ground, a lifter bodily movable toward and from the mouth of the scoop and substantially parallel to the surface of the said mouth piece, a handle for the scoop, and means operated by said handle for moving the lifter toward and from the scoop.



5. A potato pick-up comprising a scoop having a mouth piece, a plate opposite the mouth piece, a lifter, a lifter arm carrying the lifter at its forward end, connections between the rear end of the lifter arm and the said plate, a handle for the scoop connected to and movable longitudinally of the scoop, and lever connections between the handle and the lifter arm whereby the handle and the lifter will move simultaneously toward and from the scoop.

[Claim 6 not printed in the Gazette.]

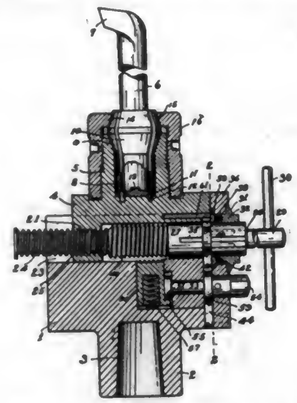
973,541. WATER-TUBE BOILER. JIRO MIYABARA, Tokyo, Japan. Filed Dec. 14, 1909. Serial No. 533,013.



A water-tube boiler having, in combination, two water walls on opposite sides of the combustion space of the boiler inclined water tubes connecting the water walls, a superheated steam chamber located above each water wall, inclined superheating tubes connecting each water wall with the opposite superheated-steam chamber, and steam separators located at the lower ends of the superheating tubes to prevent the entrance of water.

973,542. BORING-HEAD FOR LATHES, MILLING-MACHINES, AND THE LIKE. ADOLPH MUEHLMATT. Newport, Ky. Filed Apr. 14, 1910. Serial No. 555,389.

1. In a device of the character specified, a relatively fixed member and a movable tool carrying member and an adjusting screw in engagement with both members, said screw provided with threads of different pitches, and means for throwing one of said screw threads into and out of engagement with one member, while maintaining the screw threaded engagement with the other member.



2. In a device of the character specified, a relatively fixed member and a movable tool carrying member and an adjusting screw, means for retaining said screw in fixed position with relation to the fixed member, said screw provided with threads of different pitches, with one set of which said movable member is permanently engaged, a movable device relatively fixed to the fixed member to engage the second set of screw threads, means for releasing the retaining device for the screw, and means for throwing said movable device into engagement with said screw.

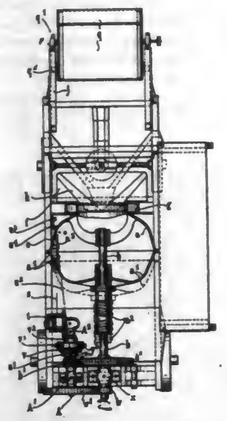
3. In a device of the character specified, a relatively fixed body portion, and a sliding tool carrying member, with an adjusting screw in engagement with the tool carrying member, means for retaining said screw in fixed position with relation to the body portion, a second set of screw threads for said screw of different pitch from those in engagement with the tool carrying plate, a movable device to engage said second set of screw threads said device being mounted in said body portion, and means for releasing said screw retaining device and to simultaneously throw said movable device into engagement with the second set of screw threads.

4. In a device of the character specified, a relatively fixed body portion and a sliding tool member with an adjusting screw in engagement with the tool carrying member, means for retaining said screw in fixed position with relation to the body portion, a second set of screw threads for said screw of different pitch from those in engagement with the tool carrying plate, a movable block with threads to engage said second set of screw threads, said block mounted in a recess in said body portion, with spring to enforce said engagement, and means for releasing the retaining device for the screw and simultaneously releasing said block to permit the block to engage the screw.

5. In a device of the character specified, a relatively fixed body portion and a sliding tool member with an adjusting screw in engagement with the tool carrying member, means for releasing said screw in fixed position with relation to the body portion, a second set of screw threads for said screw of different pitch from those in engagement with the tool carrying plate, a movable block with threads to engage said second set of screw threads, said block mounted in a recess in said body portion, with spring to enforce said engagement, and a cam pin with a pair of cams, one adapted to engage said retaining device and the other to engage said block, said cams so mounted that the block and retaining device will be simultaneously acted upon with the adjustment of the cams to release the retaining device, and to permit the block to engage the screw.

[Claims 6 to 8 not printed in the Gazette.]

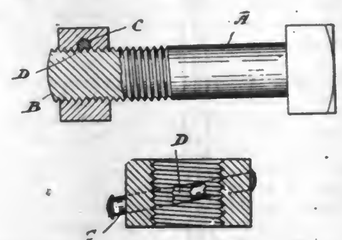
973,543. CONCRETE-MIXING MACHINE. JEAN MÜLLER, Lachen-Vonwyl, near St. Gallen, Switzerland. Filed Apr. 18, 1907. Serial No. 368,895.



1. In a mixing apparatus, a driving shaft, a rotary mixing chamber thereon comprising two parts, one of which has a central charge opening and is rigidly and the other slidably secured to the said shaft and one end of which shaft extends through the said slidably secured part and the other terminates inside the rigidly secured part a distance away from the said charge opening, a bearing for supporting the said shaft outside the mixing chamber, means other than the said shaft for supporting the said rigidly fixed chamber part and mechanism for moving the said slidable part into and out of engagement with the said rigidly secured part, all combined substantially as and for the purpose set forth.

2. In a mixing apparatus, a driving shaft, a rotary mixing chamber thereon comprising two parts, one of which has a central charge opening and is rigidly and the other slidably secured to the said shaft, one end of the said shaft extending through the said slidably secured part and the other terminating inside the said rigidly secured part a distance away from the said charge opening, a bearing for supporting the said shaft outside the said mixing chamber, means for supporting the said rigidly secured part comprising a rim thereon and rollers upon which the said rim runs and mechanism for moving the said slidable part into and out of engagement with the said rigidly secured part, all combined substantially as and for the purpose set forth.

973,544. NUT-LOCK. NEIL D. MUNN, Dresden, Ontario, Canada. Filed June 17, 1910. Serial No. 567,465.

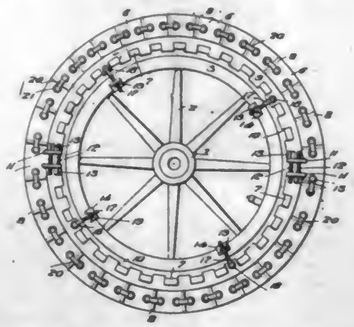


1. A nut having a transverse hole therein partly intersecting the bolt hole, in combination with a longitudinally movable pin passing through said hole and having part of the thread of the bolt hole cut thereon, the transverse hole being inclined to the bolt end in the opposite direc

tion to the inclination of the thread of the bolt hole where the latter is intersected by the pin.

2. A nut for engaging with a bolt, provided with a threaded internal surface a portion of the threads of which is formed on the surface of a movable pin extending transversely of the nut and obliquely to the inclination of the threads thereof, such pin in one position making the thread of the nut continuous and uniform but when moved from such position transversely of the nut, displacing its threads both laterally and longitudinally of the threads of the said nut and of the bolt with which it engages.

973,545. TIRE-PROTECTOR. OTTO NEUKIRCH, Cincinnati, Ohio. Filed Jan. 6, 1910. Serial No. 536,678.



1. A tire protector comprising a series of overlapping armor plates, links for connecting together said plates, spaced hooks formed on the opposite edges of said armor plates, sectional rings provided with notches to be engaged by the hooks on the armor plates, means for adjusting said sectional rings, and means for connecting said sectional rings to the rim of the wheel.

2. A tire protector comprising a flexible shield applied to the tread surface of the tire, a series of overlapping armor plates disposed over the flexible shield, said armor plates being provided with spaced hooks upon their opposite edges, sectional rings provided with outwardly turned spaced flanges, means for adjusting said sectional rings, and means for connecting said sectional rings to the rim of a wheel, said sectional rings being provided with notches to be engaged by the hooks on the armor plates.

973,546. WINDOW-SASH. ALFRED H. NEWPHER, Chicago, Ill., assignor to The Adams & Westlake Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 11, 1909. Serial No. 512,379.



1. In combination, a window sash having a bottom rail and stiles, a bar located below the bottom rail, and rods journaled within the stiles of the sash and in threaded engagement with the bar.

2. In combination, a window sash having a bottom rail and stiles, a bar located below the bottom rail, and rods journaled within the stiles of the sash and in threaded engagement with the bar, such rods extending to the top of the stiles and being adapted for engagement by a turning tool.

3. In combination, a window sash having a bottom rail and stiles, a bar located below the bottom rail, and rods journaled within the stiles of the sash and in threaded engagement with the bar, the upper portions of the rods being adapted for engagement by a turning tool.

973,547. WINDOW-SASH. ALFRED H. NEWPHER, Chicago, Ill., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed Mar. 12, 1910. Serial No. 548,894.



1. In a window sash, in combination, a bar having a longitudinal shouldered seat for a plate of glass, an instanding flange facing the shoulder, a resilient plate adapted to be interposed between the flange and a plate of glass occupying the seat, and a key interposed between the flange and the resilient plate.

2. In a window sash, in combination, a bar formed of sheet metal wrought to tubular form, the inner margin of the bar having a shouldered seat for a plate of glass and a channel at the opposite side of the seat from the shoulder, a flange projecting from the outer wall of the channel and having its margin directed inward, a resilient retaining strip fitted within the channel and projecting beyond the flange, and a key rod interposed between the edge of the flange and the retaining strip.

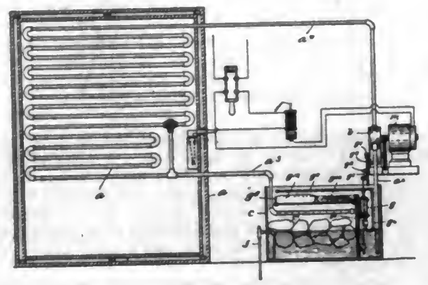
3. In a window sash, in combination, a bar formed of a sheet of metal wrought to tubular form, the inner margin of the bar having a shouldered seat for a plate of glass and a channel at the opposite side of the seat from the shoulder, a flange projecting from the outer wall of the channel and having its margin directed inward, a resilient retaining strip fitted within the channel and projecting beyond the flange, and a key rod interposed between the edge of the flange and the retaining strip and having a longitudinal groove for engagement by the flange.

4. In a window sash, in combination, a bar formed of sheet metal wrought to tubular form, the inner margin of the bar having a shouldered seat for a plate of glass and a channel at the opposite side of the seat from the shoulder, a flange projecting from the outer wall of the channel and having its margin directed inward, a resilient retaining strip fitted within the channel and projecting beyond the flange, and a key rod interposed between the edge of the flange and the retaining strip and having its inner face longitudinally grooved.

5. In a window sash, in combination, a bar formed of sheet metal wrought to tubular form, the inner margin of the bar having a shouldered seat for a plate of glass and a channel at the opposite side of the seat from the shoulder, a flange projecting from the outer wall of the channel and having its margin directed inward, a resilient retaining strip fitted within the channel and projecting beyond the flange, and a key rod interposed between the edge of the flange and the retaining strip and having its inner and outer faces longitudinally grooved.

[Claim 6 not printed in the Gazette.]

973,548. REFRIGERATING APPARATUS. BERNICE J. NOYES, Boston, Mass., assignor to The New England Refrigerator Company, Concord, N. H., a Corporation of New Hampshire. Filed May 28, 1910. Serial No. 563,830.



1. In a refrigerating apparatus, the combination with a tank adapted to contain brine and pieces of ice, circulation-pipes connected with said tank and means for conducting brine from the tank to said circulation-pipes, of a foraminous receptacle for salt, and independent means for conducting brine from the tank to said salt-receptacle from which it returns to the tank, substantially as described.

2. In a refrigerating apparatus, the combination with a tank adapted to contain brine and pieces of ice, circulation pipes connected with said tank, and a pump connected with said circulation pipes, of a foraminous receptacle for salt arranged above the pieces of ice in the tank, and separate means for conducting the brine from the tank to said receptacle, through which it passes to the pieces of ice, substantially as described.

3. In a refrigerating apparatus, the combination with a tank adapted to contain brine and pieces of ice, circulation pipes contained in a compartment and connected with said tank, and a pump connected with the circulation pipes, of a foraminous receptacle for salt arranged above the ice in the tank, a perforated pipe extending over said receptacle, and a pump connected with it, and a pipe leading from said pump to the brine in the tank, whereby the brine is conducted from the tank to the receptacle, substantially as described.

4. In a refrigerating apparatus, the combination with a tank adapted to contain brine and pieces of ice, circulation-pipes arranged in a compartment to be cooled and connected with said tank, and means for conducting brine from the tank to said circulation-pipes, of a foraminous receptacle for salt arranged above the pieces of ice contained in said tank, a perforated pipe extended over said receptacle and means for conducting brine from the tank to the perforated pipe, substantially as described.

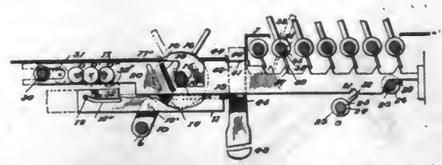
5. In a refrigerating apparatus, the combination with a tank adapted to contain brine and pieces of ice, circulation-pipes contained in a compartment and connected with said tank, and a pump connected with the circulation-pipes, of a foraminous receptacle for salt arranged above the ice in the tank, a perforated pipe extended over said receptacle, a pump connected with it and a pipe leading from said pump to the brine in the tank, whereby the brine is conducted from the tank to the receptacle, and a motor for operating both pumps, substantially as described.

973,549. COMPOUND. WILLIAM L. O'BRYANT, Republic, Mo. Filed Dec. 4, 1909. Serial No. 531,359.

1. A bait composed of an intimate mixture of asafetida, Saigon cinnamon, anise oil, amber oil, rhodium oil, celery seed, sugar, salt, short and fennel.

2. A bait composed of powdered asafetida, powdered Saigon cinnamon, anise oil, amber oil, rhodium oil, celery seed, sugar, salt, flour, and fennel.

973,550. VOTING-MACHINE. CHARLES HERBERT OCUMPAUGH, Rochester, N. Y. Filed July 3, 1902. Serial No. 114,301.



1. In a voting machine, a series of indicators, one for each candidate, a series of registers each having two or more numbered wheels whose axes are parallel, the registers being movable into operative position by the movement of their corresponding indicators, a register actuator, and means whereby the actuator is moved nearer and transversely to the line of the movement of the registers to actuate those in operative situation, said actuator being actuated by the outgoing voter and without the aid of the indicators.

2. In a voting machine, a face plate provided with a series of lines or spaces for names of nominated candidates and for unnominated candidate voting as predetermined by the face plate ballot, registers one corresponding to each of said spaces, indicators one corresponding to each of said spaces, and ballot-receiving openings in line with said spaces, whereby any of said indicators can be used to vote either for nominated or unnominated candidates as predetermined, the count of votes for nominated candidates being shown by the registers and votes for unnominated candidates being shown by the deposited ballots in the selected lines.

3. In a voting machine, a face plate provided with a series of lines or spaces for names of nominated candidates and for unnominated candidate voting as predetermined by the face plate ballot, registers one corresponding to each of said spaces, indicators one corresponding to each of said spaces, ballot-receiving openings corresponding to said spaces, and means controlled by any of said indicators designated for irregular voting for admitting ballots to corresponding openings.

4. In a voting machine, individual registers one for each of several candidates of several parties, a list of the candidates of the parties, individual indicators, a straight ticket indicator, means intermediate the straight ticket indicator and the several individual registers representing candidates of the party corresponding to the straight ticket indicator, whereby said straight ticket indicator may be used to actuate the individual candidate registers of a straight ticket of either party at the will of the voter.

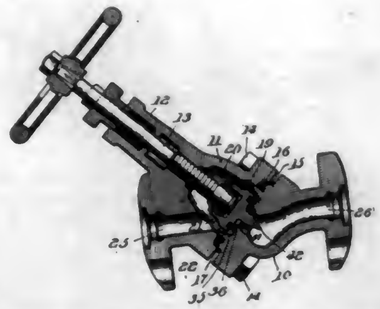
5. In a voting machine, a plurality of individual registers, individual indicators, a straight ticket indicator, straight-ticket-indicator-operated-mechanism comprising a shaft, and interchangeably adjustable parts thereon, whereby said straight-ticket-indicator-operated-mechanism may be put in operative relation to different registers corresponding to different tickets at the will of the votor, said indicator and said mechanism being operable and returnable without operating the registers.

[Claims 6 to 64 not printed in the Gazette.]

973,551. VALVE. WILLIAM L. OSBORNE, Chicago, Ill. Filed July 23, 1909. Serial No. 509,155.

1. A cut off and expansion valve having an annular valve seat surrounding the passage connecting the two

sides of the valve, a valve piece movable toward and from, and adapted to engage, said seat to close the valve and an elongated hardened projection which enters said passage and is reduced or tapered toward its end and adapted to closely fit at its largest diameter the most restricted diameter of said passage at a distance from the plane of the valve seat, said passage being tapered or enlarged in the direction of flow of fluid through the valve, and the distance between the projection and valve seat being greater in all positions of the valve piece than that between the projection and the part of the wall of said passage engaged by said projection.



2. A combined cut off and expansion valve having an annular valve seat surrounding the passage which connects the two sides of the valve, a valve piece movable toward and from, and adapted to engage, said seat to close the valve, and a separately formed, removable and renewable ring fixed in said passage at a distance from the plane of the seat and enlarged or flared at its outer end in the direction of the flow of the fluid through the valve, the valve piece being provided with an elongated, tapered projection which enters said ring and is adapted to fit closely in the smallest diameter of said ring when the valve piece is seated, and to be withdrawn from the ring as the valve is opened.

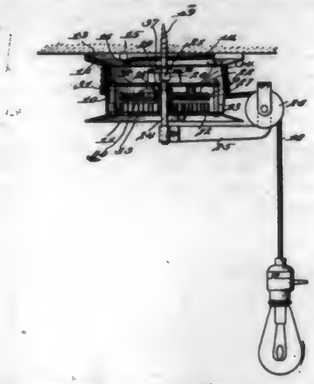
3. A combined cut off and expansion valve comprising a casing provided with a valve seat which surrounds the passage that connects the two sides of the valve, a valve stem, a valve piece swiveled to the stem and adapted to engage said seat and a separately formed, removable and renewable ring fixed in said passage at a distance beyond the plane of the seat and tapered or enlarged in the direction of flow of the fluid through the valve, the valve piece being provided with an elongated projection which enters said ring and is tapered oppositely to said ring and arranged to closely fit at its largest part the smallest diameter of the ring.

973,552. HORSESHOE. HENRY PAAR, Canton, Ohio, assignor, by mesne assignments, of one-fourth to Murry Beard and John W. Willis, Canton, Ohio, and one-fourth to Charles McGranahan, Chicago, Ill. Filed Sept. 20, 1909. Serial No. 518,539.



In a horseshoe of the class described, a horseshoe provided with sockets, the walls of said sockets provided with inward extending flanges, elastic blocks adapted to be seated in the sockets, wear-plates formed of bendable metal, and provided with end flanges having outward extended ribs, said ribs adapted to be located over the inward extending ribs formed upon the walls of the sockets, the end flanges of said wear-plates provided with apertures, substantially as and for the purpose specified.

973,553. AUTOMATIC REWINDING DEVICE FOR ELECTRIC-LIGHT CORDS. GEORGE J. PEACOCK, Albuquerque, N. Mex. Filed June 14, 1910. Serial No. 566,791.

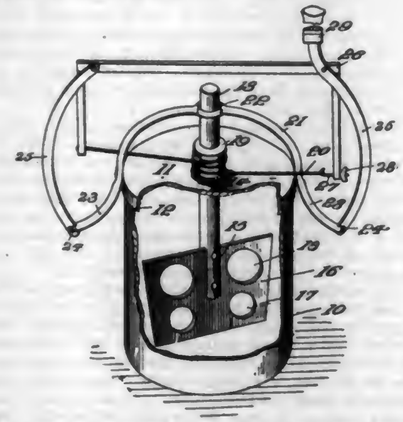


1. The combination of a stationary, hollow drum, fastening means to secure the same upon a suitable support, a removable frame within said drum having means to detachably engage said fastening means, a mechanism within said frame including a rotary spindle and a rewinding spring, an arm secured to and extending from said spindle beyond the periphery of the drum, and a guide sheave carried by said arm.

2. The combination of a stationary, hollow drum, a frame removably held within said drum, a mechanism within said frame including a rotary spindle and a rewinding spring, an arm secured to, and projecting exteriorly of the drum from said spindle, and a guide sheave carried by said arm.

3. The combination of a stationary, hollow drum, fastening means to secure the same upon a suitable support, a removable frame within said drum having means to detachably engage said fastening means, a mechanism within said frame including a rotary spindle, a set of gears, and a rewinding spring, an arm secured to and extending from said spindle beyond the periphery of said drum, a guide sheave carried by said arm, and a pawl mounted in said frame and in engagement with the teeth of one of the gears.

973,554. ROTARY BEATER. JAMES H. PEARSON, Westplains, Mo., assignor to M. A. Cooper, Westplains, Mo. Filed Dec. 15, 1909. Serial No. 533,252.

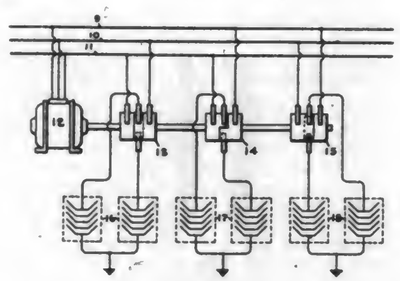


1. A rotary beater including a receptacle, a cover disposed upon the receptacle, a beater shaft vertically arranged through the central portion of the cover, a drum carried upon the beater shaft above the cover, a bail extending upwardly from the cover and engaging at its central portion with the beater shaft to support the same, outwardly flared arms depending from the ends of the bail, rocker arms hinged upon the lower ends of said flared arms and extending upwardly therefrom, a U-shaped frame hinged upon the upper ends of said rocker arms to reciprocate horizontally above the beater shaft, one of said rocker arms being terminated at its upper end in a handle, and a cord wound about the drum and having its extremities extending oppositely from the drum and secured to the free ends of said frame.

2. A rotary beater including a receptacle having a cover, a beater shaft vertically disposed within the receptacle and extending upwardly through the cover, a drum carried upon the upper end of the beater shaft, a cord wound about the drum and having its ends extending oppositely from the same, and a U-shaped frame hingedly mounted over the receptacle and having its free ends connected to the extremities of the cord, said frame adapted for horizontal reciprocation to rotate the drum and for slight vertical movement to guide the cord over the periphery of the drum.

3. A rotary beater including a covered receptacle, a vertical beater shaft arranged in the receptacle and extending upwardly therefrom, a drum arranged upon the upper extremity of the beater shaft, a cord wound about the drum and having its ends extending oppositely from the same, and an inverted U-shaped frame hinged above the receptacle to support the ends of the cord and adapted for horizontal and slight vertical reciprocation about the drum.

973,555. LIGHTNING-ARRESTER. FRANK W. PEEK, Jr., Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 2, 1910. Serial No. 541,455.



1. A protective device for alternating current systems comprising a current limiting condenser forming a discharge path for abnormal potentials, and means for deriving a unidirectional potential from the system to be protected and for impressing said potential upon said condenser.

2. The combination with an alternating current circuit conductor, of a discharge path comprising a current limiting device and a rectifier connected to said conductor and to said current limiting device.

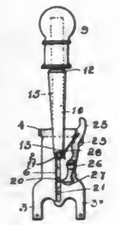
3. The combination with an alternating current circuit conductor, of a discharge path comprising an electrolytic condenser, and a rectifier connected between said condenser and said conductor.

4. A protective device for alternating current circuits comprising a condenser with one terminal connected to ground and a rectifier connected to the other terminal of said condenser and to the circuit to be protected.

5. The combination with two conductors forming an alternating current circuit, of two condensers each connected at one end to ground and a rectifier connected to said conductors and to the other ends of said condensers.

[Claims 6 to 11 not printed in the Gazette.]

973,556. SELF-INKING HAND-STAMP. ALFRED J. PETERSON, Galesburg, Ill. Filed Mar. 14, 1910. Serial No. 549,166.



1. In combination, a stationary frame, a die-carrying frame reciprocable with relation thereto and provided with a niche, means for actuating the die-carrying frame in one direction, it being manually actuable in the other direction, spring-controlled means adapted for automatic engagement with said niche, and means for locking said spring-controlled means out of engagement therewith.

2. In combination, a stationary frame including an inkpad, a die-carrying frame reciprocable with relation thereto and provided with a niche, means for actuating the die-carrying frame in one direction, it being manually actuable in the contrary direction, a spring-controlled lever including a dog, fulcrumed on the stationary frame and said dog adapted for engagement with said niche, and a locking-bar pivoted on the reciprocatory frame and adapted to lock said dog out of engagement with said niche.

3. In combination, a stationary frame including an inkpad, a die-carrying frame reciprocable with relation thereto and provided with a niche, a die pivotally mounted in the last recited frame, means for tumbling said die to bring it into and out of engagement with said pad, means for actuating the die-carrying frame in one of its reciprocating movements, it being manually reciprocable in its contrary movement, a spring-controlled lever including a dog, said lever fulcrumed on the stationary frame and said dog adapted for engagement with said niche, and a locking bar pivoted on the reciprocatory frame and adapted to lock said dog out of engagement with said niche.

973,557. INSULATING MATERIAL. CHARLES F. PETERSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 22, 1907. Serial No. 380,226.



1. An insulating material consisting of fragments of mica pasted together by a material comprising kaolin and silicate of soda.

2. An insulating material consisting of fragments of mica pasted together by a material comprising kaolin, slate and silicate of soda.

3. The process of making insulating material which consists in heating a mass of mica fragments to expel the air, plunging the mass into an insulating compound to absorb the latter, applying pressure to the resulting mass and firing the mass while under pressure.

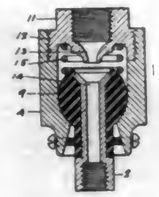
4. The process of making insulating material which consists in building up fragments of mica into a desired

form and heating it to expel the air, plunging the same into an insulating compound to absorb the latter, applying pressure thereto and then firing under pressure.

5. The process of making insulating material which consists in building up fragments of mica into a desired form and heating it to expel the air, plunging the same into an insulating compound of silicious material to absorb the latter, applying pressure thereto and then firing under pressure.

[Claims 6 to 8 not printed in the Gazette.]

973,558. ADJUSTABLE JOINT FOR ELECTRIC-LIGHT FIXTURES. EDWIN F. PIERCE, Milwaukee, Wis. Filed Apr. 12, 1909. Serial No. 489,497.

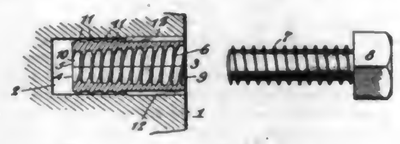


1. In a device of the described class, the combination of a bracket provided on its upper side with a downwardly converging spherical shaped recess for the reception of a spherical member of a hanger, on its lower side with a downwardly diverging recess for the reception of the cylindrical member of such hanger, and at the junction of such recesses with an aperture for the reception of the angular bearings of the hanger, a hanger comprising an upper spherical member and a lower cylindrical member provided at the junction of such members with angular bearings conforming in shape and adapted to fit into the angular bearings of said aperture, whereby said hanger is prevented from turning with said bracket and a plurality of radial adjustable screws having threaded bearings in the downwardly diverging walls of said bracket and adapted to impinge at their inner ends against the central member of said hanger and retain the same at any desired point of adjustment.

2. In adjustable joints for electric light fixtures of the class described, the combination of a bracket provided on its upper side with a downwardly converging spherical shaped recess for the reception of a spherical shaped member of a hanger, and on its lower side with a downwardly diverging recess for the reception of the cylindrical member of such hanger, a hanger comprising an upper spherical shaped insulating member and a lower cylindrical member suspended in said bracket, a screw threaded coupling having threaded bearings in the upper side of said bracket provided at its lower end with downwardly converging flanges terminating centrally above the central aperture of said hanger and adapted to discharge liquid moisture from above into said aperture, and a plurality of radial adjustable screws having threaded bearings in the downwardly diverging walls of said bracket and adapted to impinge at their inner ends against the central member of said hanger and retain the same at any desired point of adjustment.

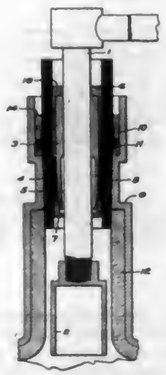
3. In adjustable joints for electric light fixtures of the class described, the combination of a bracket provided on its upper side with a downwardly converging spherical shaped recess for the reception of a spherical shaped member of a hanger, and on its lower side with a downwardly diverging recess for the reception of the cylindrical member of such hanger, a hanger comprising an upper spherical shaped member and a lower cylindrical member suspended in said bracket, a screw threaded coupling having threaded bearings in the upper side of said bracket provided at its lower end with downwardly converging flanges terminating centrally above the central aperture of said hanger, a spiral wire spring interposed between said screw threaded coupling and the spherical member of said hanger, a plurality of radial adjustable screws having threaded bearings in the downwardly diverging walls of said bracket and adapted to impinge at their inner ends against the central member of said hanger and retain the same at any desired point of adjustment, means for connecting said bracket with the ceiling of a room and means for suspending light fixtures from said hanger, all substantially as and for the purpose specified.

973,559. EXPANSION-BOLT. HENRY W. PLEISTER, Westfield, N. J., assignor to Henry B. Newhall, Plainfield, N. J. Filed Feb. 2, 1910. Serial No. 541,580.



A shield for expansion bolts comprising a plurality of expansion members forming a cylinder having its exterior surface of substantially a uniform diameter throughout and provided with a tapered interior surface, transverse projections on the forward exterior surface of the expansion members and longitudinal projections upon the rear exterior surface of the expansion members, making that end of the expansion members of a diameter slightly greater than the end on which the transverse projections are formed.

973,560. TERMINAL FOR ELECTRICAL APPARATUS. WILLIAM B. POTTER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 7, 1907. Serial No. 391,770.



1. The combination of an air-tight casing, an insulating tube fitted thereto with a tapered joint, and a conductive member passed through said tube and having a resilient tapered portion fitting tightly within said tube.

2. The combination of an air-tight casing, an insulating tube forming a tight fit therewith, and a conductor passing through said tube and having a sleeve yieldingly connecting with a tapered surface within said tube.

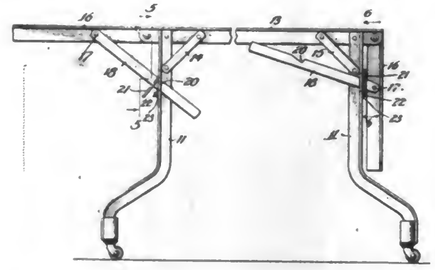
3. The combination with a vacuum tight casing, of an insulating tube and a conductive member, and means affording a yielding air-tight joint between said conductor and said tube.

4. The combination with an air-tight chamber, of a mercury vapor apparatus, a conductor passing into said casing, a sleeve carried on said conductor and having a tapered portion with yielding walls, a tube engaging said tapered portion and forming an air-tight joint therewith, and a body of mercury for excluding air from said tapered joint.

5. The combination of an air-tight casing, a conductor passing into said casing, a tapered member for preventing leakage of air into said casing, and a yielding sleeve contacting with said tapered member to compensate for unequal expansion between said conductor and said tapered member.

[Claims 6 and 7 not printed in the Gazette.]

973,561. FOLDING COUCH. GEORGE G. POWERS, Chicago, Ill., assignor to Union Wire Mattress Co., Chicago, Ill., a Corporation of Illinois. Filed Feb. 4, 1910. Serial No. 542,020.



1. In a folding couch, the combination of a couch post, a leaf, and a brace having a link loosely mounted thereon and adapted to be engaged between said brace and post to hold the leaf in raised position, substantially as described.

2. In a folding couch, in combination, a couch post, a leaf, a brace, and means slidably mounted on the brace and adapted to be engaged between said brace and post for holding the leaf in raised position, substantially as described.

3. In a folding couch, the combination of a couch post, a leaf, a notched brace, and means slidably mounted on the brace and adapted to be engaged in the notch in the brace, for holding the leaf in raised position, substantially as described.

4. In a folding couch, the combination of a couch post, a leaf, a brace, a link slidable on the brace and adapted, when in operative position, to maintain the leaf in raised position, and means for holding said link in inoperative position, substantially as described.

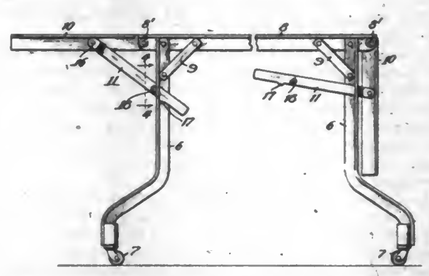
5. In a folding couch, the combination of a couch post, a leaf, a notched brace connected to the leaf and extending through an opening in the post, a link slidable on the brace and adapted to be engaged between the shoulder of the notch and the side of the post to maintain the leaf in raised position, and means on the post for retaining the link in inoperative position to permit the leaf to be lowered, substantially as described.

[Claims 6 to 12 not printed in the Gazette.]

973,562. FOLDING COUCH. GEORGE G. POWERS, Chicago, Ill., assignor to Union Wire Mattress Co., Chicago, Ill., a Corporation of Illinois. Filed Feb. 4, 1910. Serial No. 542,021.

1. In a folding couch, in combination, a couch post, a hinged leaf, and a brace for said leaf provided with lateral outstanding locking means for engagement with the post to retain the leaf in operative position and means integral with said brace and disposed between the ends of said brace, adapted to coöperate with said post for rendering said locking means inoperative upon downward movement of the leaf, substantially as described.

2. In a folding couch, the combination of a couch post having a slotted opening therethrough, a hinged leaf, a brace connected to said leaf and provided with a laterally projecting stud adapted to engage a side wall of the post-slot and retain the leaf in raised position, and means on the brace adapted to coöperate with the bottom of said slot to prevent operative engagement of the stud with said wall whereby the leaf may be lowered, substantially as described.

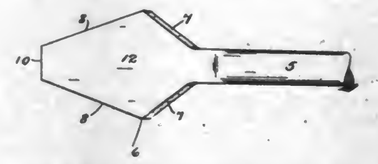


3. In a folding couch, the combination of a couch post, a hinged leaf, and a straight brace for said leaf provided with lateral outstanding locking means for engagement with the post to retain the leaf in operative position, and means integral with and disposed upon the lower edge of said brace and adapted to coöperate with the outer side of said post for rendering said locking means inoperative upon downward movement of the leaf, substantially as described.

4. In a folding couch, the combination of a couch post having a slot therein with a narrow lower portion and a larger upper portion, a hinged leaf, and a brace connected to said leaf and adapted to slide in said slot, said brace having a stud projecting from a side thereof and adapted by coöperating with a side wall of the narrow portion of said slot to maintain said leaf in operative position, said brace having means on its bottom edge adapted to co-act with the bottom wall of said slot to project the brace upward during the lowering of the leaf from a position above normal, whereby to permit the stud to pass through the enlarged part of said slot and allow folding of the couch leaf, substantially as described.

5. In a folding couch, the combination of a couch post having a slotted opening therethrough, a hinged leaf, and a brace connected to said leaf and provided with a stud adapted to engage the wall of the slot in said post and retain the leaf in raised position, said brace having a curved projection extending outwardly from the otherwise straight lower edge of said brace and adapted to co-act with the bottom wall of said slot to project the brace upwardly during lowering of the leaf from a position above normal, whereby to permit the stud to pass through an enlarged part of said slot and allow folding of the couch leaf, substantially as described.

973,563. TAMPING-BAR FOR TAMPING RAILWAY-BALLAST. GEORGE H. PRENTICE, Painesville, Ohio. Filed Aug. 5, 1910. Serial No. 575,661.



1. A tamping bar for tamping railway-ballast, which bar terminates at one end in a tamping head projecting endwise of the bar, which head at its forward end has a forwardly facing tamping edge arranged widthwise of the head, said head having its forward portion increased in width from the said edge in the direction of the rear end of the head.

2. A tamping bar for tamping railway-ballast, which bar terminates at one end in a tamping head projecting

endwise of the bar, which head at its forward end has a forwardly facing tamping edge arranged widthwise of the head, said head having its forward portion gradually increasing in width rearwardly from the said edge and projecting substantially equidistantly laterally beyond opposite ends of the said edge.

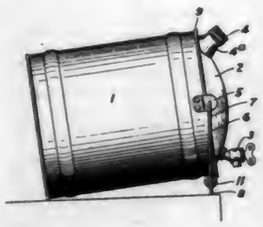
3. A tamping bar for tamping railway-ballast, which bar terminates at one end in a tamping head projecting endwise of the bar, which head at its forward end has a forwardly facing tamping edge arranged transversely or widthwise of the head, said head having two laterally and forwardly facing and rearwardly diverging tamping edges which project laterally beyond opposite ends respectively of the first-mentioned edge.

4. A tamping bar for tamping railway-ballast, which bar terminates at one end in a flat tamping head projecting endwise of the bar, which head at its forward end has a tamping edge arranged transversely or widthwise of the head, said head having a forward portion which increases in width rearwardly from the said edge and projects substantially equidistantly laterally beyond opposite ends of the said edge and has its side edges facing laterally and forwardly.

5. A tamping bar for tamping railway-ballast, which bar terminates at one end in a flat tamping head projecting endwise of the bar, which head is widest at a point intermediate its forward and rear ends and provided at its forward end with a forwardly facing edge which extends widthwise of the head, said head increasing in width rearwardly from opposite ends of the said edge.

[Claim 6 not printed in the Gazette.]

973,564. OIL-CAN. ALBERT R. FRITCHARD, Rochester, N. Y. Filed Dec. 16, 1908. Serial No. 467,905.



1. The combination with an oil can having at the end a beaded edge and an opening in said end, of a bail pivoted at its ends to the can and constructed to spring over and engage under the beaded edge, and having a bearing portion for supporting the can in a stable, substantially horizontal position.

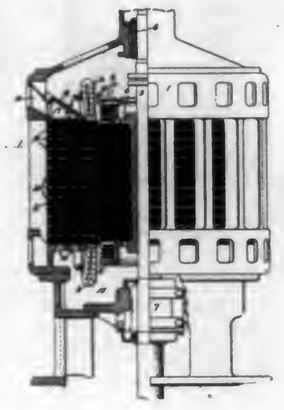
2. The combination with an oil can having at the end a beaded edge and an opening in said end, of a bail pivoted at its ends to the can and constructed to spring over the beaded edge and having separately-offset bearing portions for supporting the can in a stable, substantially horizontal position, the bail being provided with a roller handle between said bearing portions.

3. The combination with an oil can having at the end a beaded edge and a faucet in said end, of an elastic wire bail pivoted at its ends to the can and constructed to swing and to spring over the beaded edge, and having separately-offset bearing portions for supporting the can in a stable, substantially horizontal position.

4. The combination with an oil can having at the end a beaded edge, a faucet near one side thereof and a filler tube near the other side thereof, of an elastic wire bail pivoted at its ends to the can and constructed to swing on its pivots and to spring back of the beaded edge in either of two positions for supporting either the faucet or the filler tube in its lowest position, the said bail having a bearing portion for supporting the can in a stable, substantially horizontal position.

5. The combination with an oil can having at the end a beaded edge and an opening in said end, of an elastic wire bail pivoted at its ends to the can and constructed to swing and to spring over the beaded edge and having separately-offset bearing portions for supporting the can in a stable, substantially horizontal position, and a roller handle on said bail between said bearing portions.

973,565. MEANS FOR VENTILATING DYNAMO-ELECTRIC MACHINES. HENRY G. REIST, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 26, 1906. Serial No. 340,724.



1. In a dynamo-electric machine having stator and rotor members, a casing forming a closed chamber at one end of said members, and means for causing air to flow through the machine into said chamber, said stator having channels through the interior thereof leading from said chamber.

2. In a dynamo-electric machine having stator and rotor members, a casing forming a closed chamber at one end of said members, the stator and rotor members being positioned and arranged so as to provide independent channels leading through the machine to and from said chamber, and a fan device for causing air to flow into the chamber through one of said channels and out of the chamber through the other channel.

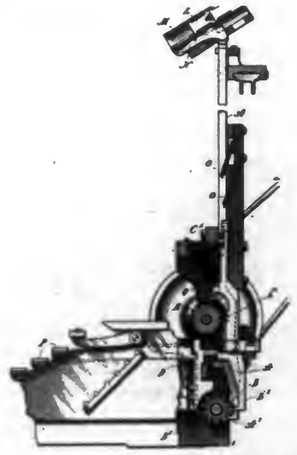
3. In a dynamo-electric machine having stator and rotor members, a casing forming a closed chamber at one end of said members, and means for producing a flow of air into said chamber through the space surrounding the rotor, said stator having ventilating passages leading from said chamber to points remote from the unincloseed end of the rotor.

4. In a dynamo-electric machine having stator and rotor members, a casing forming an inclosed chamber at one end of said members, and means for forcing air into said chamber through the air gap between said members, one of said members having transverse ventilating channels communicating with said air gap, and the stator member having ventilating channels leading from said chamber to the exterior of the machine.

5. In a dynamo-electric machine having stator and rotor members, a casing forming a closed chamber about one end of said members, said stator having transverse ventilating channels communicating with the air gap between the said members and independent longitudinal channels communicating with said chamber, and a fan device for causing air to flow through the said air gap toward the chamber.

[Claims 6 to 17 not printed in the Gazette.]

973,566. KEYBOARD MECHANISM FOR LINOTYPE-MACHINES, &c. JOHN R. ROGERS, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed June 23, 1910. Serial No. 568,470.



1. In a keyboard mechanism, the combination of a plurality of escapement-operating members and actuating devices therefor, with independent means to establish a predetermined and definite interval between the actuation of the successively selected members.

2. In a keyboard mechanism, the combination of a plurality of escapement-operating members, selecting and actuating means therefor, with independent means to establish a predetermined and definite interval between the actuation of the successively selected members.

3. In a keyboard mechanism, the combination of a plurality of escapement-operating members, selecting and actuating means therefor, together with independent means to hold a selected member temporarily out of engagement with the actuating means to establish a predetermined and definite interval between the actuation of the successively selected members.

4. In a keyboard mechanism, the combination of a plurality of escapement-operating members with selecting and actuating means therefor, together with a grooved roll to engage the said members, whereby a definite and predetermined interval is established between the actuation of the successively selected members.

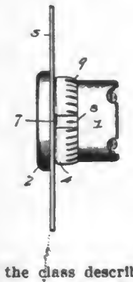
5. In a key-board mechanism, the combination of a plurality of escapement-operating members and selecting and actuating means therefor, with a rotatable roll formed with grooves adapted to engage the said members, whereby a selected member engages one of the grooves thereof and rotates the roll and thus holds a second selected member out of engagement with the actuating means until another groove registers therewith.

[Claims 6 to 8 not printed in the Gazette.]

973,567. SIGN-RECEPTACLE FASTENING. FRANK J. RUSSELL, New York, N. Y. Filed Oct. 9, 1908. Serial No. 456,949.

1. In a mounting for electrical receptacles and analogous bodies, the combination with the supporting element and the receptacle body, of a one piece fastening eyelet consisting of a sheet metal collar having one edge portion engaging in the hole of the supporting element and its opposite edge portion engaging with the receptacle body.

2. In a device of the class described, the combination with the supporting element having a receiving hole, and the receptacle body, of a fastening eyelet consisting of a spring split collar or band having one edge portion interlocked with the supporting element within the receiving hole, and its opposite edge portion provided with a locking element engaging the receptacle body.



3. In a device of the class described, the combination with the supporting element, and a receptacle body having a depressed shoulder, of a one piece fastening device having one part engaging said depressed shoulder and another part engaging the supporting element.

4. In a receptacle mounting, the combination with a supporting element, and a receptacle body having a depression in its wall, of a fastening device engaging with said depression and with the supporting element, said device being arranged to receive and hold the receptacle body when the latter is inserted through the supporting element and into the fastening device.

5. The combination, in a receptacle mounting, of a supporting element having a round hole, a receptacle body having a plain contour with depressions in its sides, and a non-rotative tubular clamping device slidably receiving the body and having locking engagement with the depressions of the body and with the supporting element.

[Claims 6 to 10 not printed in the Gazette.]

973,568. SIGN-RECEPTACLE FASTENING-EYELET. FRANK J. RUSSELL, Brooklyn, N. Y. Filed Oct. 26, 1909. Serial No. 524,728.



1. In a receptacle mounting, the combination with the supporting element and a receptacle body having an external collar, and a fastening device engaging said collar of the receptacle body and in the receiving hole of the supporting element.

2. In a receptacle mounting, the combination with the supporting element having a hole, and a receptacle body having an external collar binding against one side of the supporting element, of a fastening device, also binding against one side of the supporting element and having a holding engagement with both the supporting element and the collar of the receptacle body.

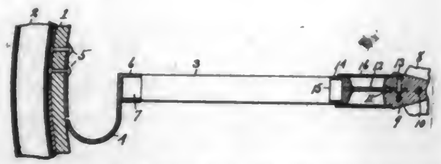
3. In a receptacle mounting, the combination with the supporting element having a hole, and a receptacle body having an external collar, of a fastening eyelet receiving and interlocked with the collar of the receptacle body, and also having a holding engagement with the supporting element.

4. In a receptacle mounting, the combination with the supporting element, and a receptacle body having an external collar provided with keepers, of a fastening eyelet interlocked with the keepers of the receptacle body, and also having a holding engagement with the supporting element.

5. In a receptacle mounting, the combination with the supporting element, and a receptacle body having an external collar provided with notches therein, and a fastening eyelet comprising a ring and securing prongs carried by the ring, said securing prongs being insertible through said notches and through the receiving hole of the supporting element.

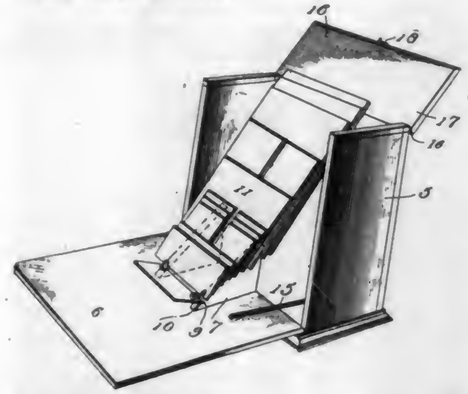
[Claims 6 and 7 not printed in the Gazette.]

973,569. SPRING VEHICLE-WHEEL. HENRY W. SCHMIDT, Detroit, Mich. Filed Feb. 12, 1910. Serial No. 543,553.



A wheel comprising a rim, a hub, relatively short rigid spokes, curved springs interposed between the outer ends of said spokes and the rim of the wheel, and relatively short springs interposed between the inner ends of the spokes and the hub and rigidly connected to both to flexibly connect the inner ends of said spokes with the hub of the wheel.

973,570. DISPLAY-CABINET FOR PHOTOGRAPHS. HARRY SCHWARTZMAN, Baltimore, Md. Filed Jan. 7, 1910. Serial No. 536,921.



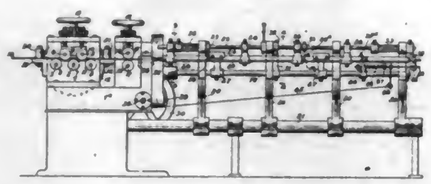
1. A display stand including a cabinet having a door pivoted to swing downwardly, a supporting bracket rigidly secured to the inner face of the door, and picture supporting clips pivotally mounted on the bracket, the pictures carried by said clips being movable with the door to display position when said door is opened and housed within said cabinet when the door is closed.

2. A display stand including a cabinet having a door pivoted to swing downwardly, a supporting bracket rigidly secured to the inner face of the door and having a flat vertically disposed rear face adapted to bear against the bottom of the cabinet when the door is in closed position, and picture supporting members pivotally mounted on the bracket, the pictures being housed within the cabinet when the door is closed and movable with the door to display position when said door is opened.

3. A display stand including a cabinet having a pivoted top and provided with a movable front wall pivoted to swing downwardly and constituting a door, a bracket secured to the inner face of the door near the pivotal axis thereof, and picture supporting clips pivotally mounted on the bracket, some of the pictures supported by said clips being adapted to bear against and elevate the pivoted top of the cabinet when the front wall thereof is moved to open position.

4. A display stand including a cabinet having a pivoted top and provided with a front wall pivoted to swing downwardly and constituting a door, a bracket secured to the inner face of the door and provided with an inclined upper edge, there being a plurality of transverse openings formed in the bracket and in spaced relation to the inclined edge thereof, and picture supporting clips, each provided with inwardly extending spring fingers adapted to enter the adjacent openings in the bracket, said pictures being normally housed within the cabinet and movable to display position when the door is opened, some of said pictures being adapted to bear against and elevate the pivoted top of the cabinet when the door thereof is opened.

973,571. STRIP-METAL STRAIGHTENING AND CUTTING-OFF MACHINE. FRANKLIN BONAPARTE SHUSTER, New Haven, Conn. Filed May 23, 1910. Serial No. 562,848.



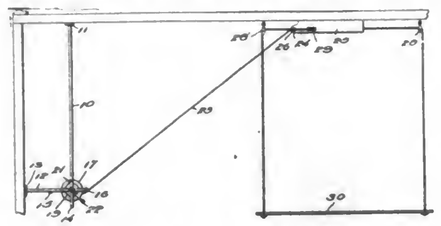
1. In a strip metal straightening and cutting off machine of the character described, the combination with straightening rolls and cutting off mechanism, of a guide-bar and its movable apron, said bar having a recess in the face to form with the apron a passageway for a metal strip, said guide-bar having one or more longitudinal depressions at the bottom of said recess, the apron having corresponding depressions, and one or more gages adapted to project into said depressions of the guide-bar and apron to prevent the feeding of a metal strip by said gage or gages.

2. In a strip metal straightening and cutting off machine of the character described, the combination with straightening rolls and cutting off mechanism, of a guide bar and its movable apron, said bar having a recess in its face to form with the apron a passageway for a metal strip, said bar having longitudinal depressions at the bottom of the recess, the apron having corresponding depressions, gages adapted to project into the depressions of the bar and apron for the purpose described, a trip rod, means for connecting the gages thereto, means for connecting the trip rod with the cutting off mechanism, and an adjustable tension spring connected with the tripping mechanism to assist a thin metal strip in actuating said tripping mechanism.

3. In a machine of the character described, the combination with the guide bar, its apron and a gage rod, said guide bar having a series of holes extending therethrough and located on each side of the gage rod, suspension wires for said holes formed into a loop for supporting the gage rod when the guide bar apron is opened.

4. In a sheet metal straightening and cutting off machine of the character described, the combination with the guide-bar and its apron, of strip extractors adapted to contact with a severed strip and throw it out of the guide-bar when the apron has been carried away from said bar.

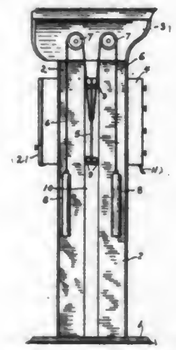
973,572. HOISTING DEVICE. JAMES L. SIMS, Ben Wheeler, Tex. Filed June 18, 1910. Serial No. 567,715.



1. A hoisting apparatus comprising a frame, a drum rotatably carried thereby, means for rotating the drum, means for holding the drum in its adjusted position during its rotation, hoisting ropes secured to the drum, a roller carried by the frame around which said ropes are disposed, a junction box carried thereabove, a roller journaled in said box and over which said ropes pass, pulleys carried at each end of the box, certain of said ropes passing through the box and around the pulleys at the far end thereof, the other of said ropes being disposed around the other pulleys and through the box at the near end, pulleys around which said ropes pass and dependent therefrom and a supporting frame carried by the depending ends of said ropes.

2. A hoisting apparatus comprising a rotatably supported drum, a junction box provided with open ends and apertures through opposite sides thereof, a pair of pulleys rotatable in the box at the far end thereof adjacent one open end, a second pair of pulleys similarly mounted adjacent the apertures, arms carried by the box, a roller journaled thereon, four hoisting ropes secured to the drum and disposed around said roller, said ropes being disposed around said pulleys, two of said ropes passing through the apertures, a supporting frame, said ropes being suspended from a ceiling and connected thereto, a crank handle for the drum and means for holding the drum at any position in its rotation.

973,573. DENTAL CABINET. SAMUEL C. SIMS, Sterling, Ill. Filed Aug. 25, 1909. Serial No. 514,521.



1. A device of the class named, comprising a supporting frame; a cabinet, vertically adjustable in said frame, and containing a plurality of tray compartments, one above another; jointed bracket-arms, pivotally supported in said compartments, and capable of movement outwardly therefrom; and a plurality of trays, hingeably supported by said bracket-arms.

2. In a device of the class named, the combination of a supporting frame; a cabinet, vertically adjustable in said frame, and containing a plurality of tray compartments one above another; a plurality of trays, swingingly supported in said compartments, so as to move freely outwardly and away therefrom; a sterilizing chamber, adapted to communicate independently with said tray compartments; and means for opening communication between said chamber and either of said compartments upon the insertion of the tray therein.

3. A device of the class named, comprising a pair of suitably supported pillars, provided with vertical channels in their inner faces; a cabinet, vertically movable between said pillars, and provided on its sides with guide-means engaging said channels; and means for counterbalancing the weight of said cabinet.

4. In a device of the class named, a pair of suitably mounted box-pillars, provided in their inner faces with vertical channels; a cabinet, vertically movable between said pillars, and provided on its sides with guide-means engaging said channels; a plurality of trays, supported in said cabinet; a plurality of weights, vertically movable within said pillars; and means for connecting said weights with said cabinet, to counterbalance the weight thereof.

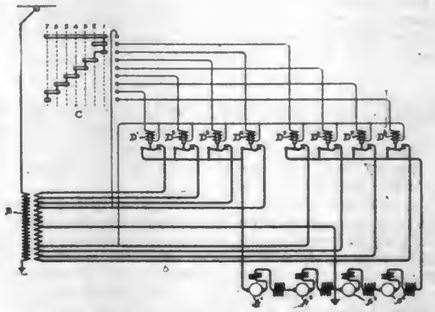
5. In a device of the class named, a cabinet containing a plurality of tray compartments; a plurality of bracket-arms, pivotally supported at one front corner of said cabinet; a plurality of arms, hingeably connected with said bracket-arms; and a plurality of trays, pivotally supported at the free ends of said last-named arms, and capable of horizontal movement outwardly and away from said cabinet, said supporting arms being in the same planes with the trays supported thereby, and adapted to fold against the sides thereof, when the trays are in place in the cabinet.

973,574. COMPOSITION OF MATTER FOR FOUNDRY-CORES. CHARLES A. SLEICHER, Troy, N. Y., assignor to Standard Compound Company, Troy, N. Y., a Corporation of New York. Filed Mar. 10, 1910. Serial No. 548,470.

1. A core comprising a petroleum by-product, one part mixed with thirty parts of sand.

2. A core composition comprising petroleum coke, petroleum asphaltum and sand.

973,575. MOTOR CONTROL. WALTER I. SLICHTER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 23, 1909. Serial No. 503,833.



1. The method of operating a plurality of electric motors mechanically connected to drive a common load, and connected electrically in a plurality of groups, which consists in starting the motors by impressing reduced voltages on the groups, and increasing the voltages on said groups alternately.

2. The method of operating a plurality of electric motors mechanically connected to drive a common load, and connected electrically in a plurality of groups, which consists in starting the motors by impressing reduced voltages on the groups, and increasing the voltages on said groups alternately step-by-step, the voltage being maintained on one group while the voltage on another group is being increased.

3. The method of operating a plurality of electric motors mechanically connected to drive a common load, and connected electrically in a plurality of groups, which consists in so connecting the groups to the source that voltages are impressed on the groups independently, and varying the connections of said groups alternately to increase the impressed voltages.

4. The method of operating a plurality of electric motors mechanically connected to drive a common load, and connected electrically in a plurality of groups, which consists in so connecting the groups to the source that voltages are impressed on the groups independently, and varying the connections of said groups alternately to increase the impressed voltages step-by-step, the connections of one group being maintained while the connections of another group are being varied.

5. In combination, a plurality of electric motors mechanically connected to drive a common load and electrically connected in a plurality of groups, means for impressing voltages on said groups independently, and a controlling switch adapted to vary the voltage on the several groups alternately.

[Claims 6 to 10 not printed in the Gazette.]

973,576. WIRE-FENCE FASTENER. WILLIAM F. M. SMAIL, Rosewood, Ohio. Filed June 7, 1909. Serial No. 500,530.



1. In combination with a fence post having a wire supported thereon, of a band engaged about said post and having its ends overlapped, a resilient lip formed at one side upon said band at the lower edge thereof and extended upwardly to engage said wire, and a set-screw engaged through said lip and the overlapped ends of said band for engagement against said post to retain the band in position.

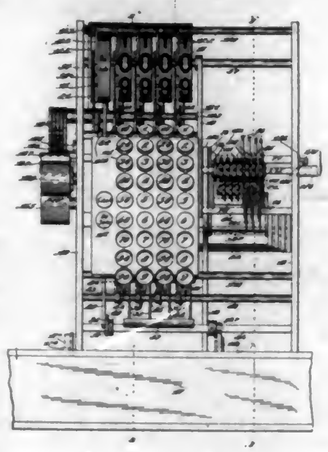
2. A fence wire fastener including a strip of metal bent into U-shape to loosely engage about a fence post and having a resilient lip upwardly extended from one end thereof to receive a strand of wire, and a set-screw carried in the opposite end of the strip for engagement with the post to bind the strip thereagainst.

973,577. CASH-REGISTER. WILLIAM I. SPANGLER, Dayton, Ohio, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio (incorporated in 1906). Filed Jan. 28, 1902. Serial No. 91,602.

1. In a cash register, the combination with a series of keys; of a movable stop member adapted to be actuated by the keys and thereby set to different positions; a graduated segment coöperating with said stop member, an indicator controlled by said segment but movable independently of the same, with provisions for moving said indicator positively by said segment; and means for returning the indicator to its normal position.

2. In a cash register, the combination with a series of keys; of a movable stop member adapted to be actuated by the keys and thereby set to different positions; a graduated segment coöperating with said stop member; an indicator controlled by said segment; means for establishing a one-way connection between said segment and said indicator whereby to set the latter by the movement of the former; and means for preventing overthrow of said indicator beyond said segment.

3. In a cash register, the combination with a series of keys; of a movable stop member arranged to be actuated thereby; a graduated segment coöperating with said stop member; an indicator; a counter; means for controlling the indicator by said segment; and connections controlled by said segment but independent of the indicator controlling means, for controlling said counter.

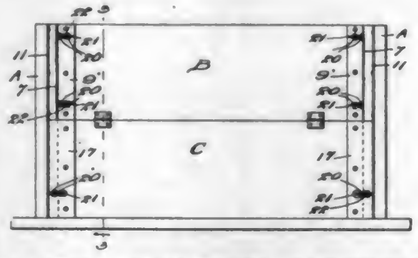


4. In a cash register, the combination with a series of keys; of a stop member actuated thereby; a segment coöperating with said member; a gear moved positively in one direction by said segment but movable independently of the same in the other direction; and an indicator connected to said gear.

5. In a cash register, the combination with a series of keys; of a movable stop member actuated thereby; a differentially movable segment coöperating with said stop member; an indicator controlled by said segment but movable independently of the same; a second differentially movable segment movable with the indicator; and means carried by said stop member for engaging said second segment.

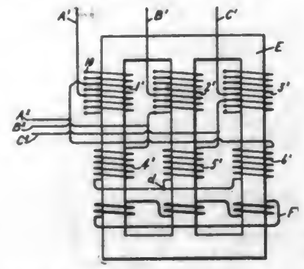
[Claims 6 to 56 not printed in the Gazette.]

973,578. END-GATE FASTENER. BENJAMIN F. SPRINGER, McLean, Ill. Filed Aug. 10, 1909. Serial No. 512,131.



In a device of the class described, the combination with a wagon side board, of a guideway formed from sheet material and comprising a central plane portion adapted to be disposed against the side board to form a buttress portion and being inclined outward from the side board and recurved to form a flange receiving portion, the sheet material being then again recurved laterally and extended a short distance, and being directed inwardly toward the side board, the extreme edge portions being turned in a common plane with the first mentioned central plane portion and adapted to be secured against the side board, the sides of said guideway being convergent toward the lower end; and a wagon gate comprising hinged sections, the upper having at each end a member approximately T-shaped in cross section slidable in said guideway and having oppositely extending flanges divergent toward their upper ends and resiliently held between said flange receiving portions, said flange receiving portions being adapted for lateral yielding under downward movement of the T-shaped member, the buttress being adapted to resist lateral yielding forcing the guide portions inward toward the side board, to clamp the flanges against loose play; a stop flange below the guideway extending over a portion of the height of the side board, the lower hinged section of the gate having a laterally extending flange adapted to abut the stop flange, and adapted to swing away therefrom, means for holding said upper section against vertical movement, and means for holding said lower section in engagement against said stop flange.

973,579. VOLTAGE-REGULATOR. CHARLES P. STEINMETZ, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 9, 1909. Serial No. 501,049.



1. The method of regulating the voltage of one or more phases of a polyphase system independently of the other phases, consisting in adding to the voltage of the phase to be regulated a regulating voltage which is substantially in quadrature with the voltage of the adjacent phase and so does not affect the latter.

2. The method of producing a balanced system of voltages from an unbalanced polyphase system or vice versa, consisting in adding to the voltage of one or more of the phases a regulating voltage of proper value that is substantially in quadrature with the voltage of the adjacent phase and so does not affect the latter.

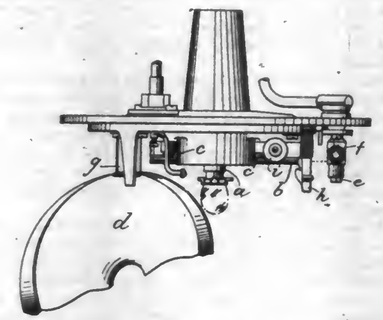
3. The combination with an unbalanced polyphase system, of means for deriving therefrom a balanced system comprising a polyphase translating device having windings connected thereto, and regulating windings connected in series with one or more of the windings of the polyphase translating device each arranged to produce a voltage substantially in quadrature with the voltage of the phase adjacent to the one in which it is connected.

4. The combination with a three-phase system, of a three-phase Y-wound transformer connected thereto, and regulating windings in inductive relation with each of the transformer windings connected each in series with one of the transformer windings, the regulating and transformer windings being so connected that each transformer winding induces in each regulating winding a voltage substantially in quadrature with the voltage of a phase of the system adjacent to the regulating winding and so does not affect the latter voltage.

5. The combination with a three-phase system, of a three-phase Y-wound transformer connected thereto, regulating windings in inductive relation with each of the transformer windings each connected in series with one of the transformer windings, the regulating and transformer windings being so connected that each transformer winding induces in each regulating winding a voltage substantially in quadrature with the voltage of a phase of the system adjacent to the regulating winding and so does not affect the latter voltage, and means for maintaining the neutral point of the transformer windings stable.

[Claim 6 not printed in the Gazette.]

973,580. INCANDESCENT GAS-LAMP. ERNEST HENRY STILL, London, England. Filed Mar. 11, 1910. Serial No. 548,531.



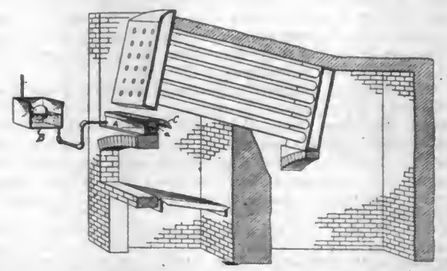
1. In an incandescent gas lamp, a lamp body, a mixing tube fixed thereto, a tubular gas supply part forming part of said body and a gas nipple hinged to said fixed gas supply part and adapted to be turned into and out of line with the inlet end of said mixing tube, substantially as described.

2. In an incandescent gas lamp, a lamp body, a mixing tube fixed thereto, a tubular gas supply part forming part of said body, a gas nipple hinged to said fixed gas supply part and adapted to be turned into and out of line with the inlet end of said mixing tube, and means whereby the passageway through the mixing tube can be obstructed, said means being clear of the movable nipple, substantially as described.

3. In an incandescent gas lamp, a lamp body, a horizontal mixing tube fixed thereto, a tubular gas supply part forming part of said body and a gas nipple hinged to said fixed gas supply part and adapted to be turned upwardly into and downwardly out of line with the inlet end of the said mixing tube, substantially as described.

4. In an incandescent gas lamp, a lamp body, a horizontal mixing tube fixed to the under side thereof, a tubular gas supply part forming part of said body, a gas nipple hinged to said fixed gas supply part and adapted to be turned upwardly into and downwardly out of line with the inlet end of the said mixing tube, and a mixture regulating screw adapted to obstruct the constricted portion of the passageway through the mixing tube, substantially as described.

973,581. DEVICE FOR INCREASING HEAT. GAMALIEL C. ST. JOHN and FREDERIC A. D. RANKINS, New York, N. Y. Filed June 28, 1909. Serial No. 504,868.



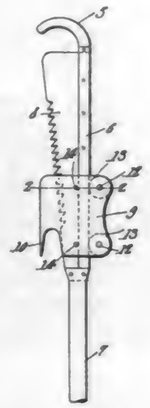
1. The combination in a furnace, of the fire-box thereof, and a steam-generator positioned at its front, above the bed of fuel, and having a steam discharge extending, substantially, from side to side of the fire-box, and directed across the furnace bed, the pressure within the generator being the same as the pressure within the fire-box.

2. The combination in a furnace, of the fire-box thereof, and a steam-generator positioned at its front, above the bed of fuel, and having a steam discharge extending, substantially, from side to side of the fire-box, and directed across the furnace bed, the pressure within the generator being the same as the pressure within the fire-box, and means for maintaining a predetermined level of water in the generator.

3. The combination in a furnace, of the fire-box thereof, and a steam-generator positioned at its front, above the bed of fuel, and having a steam discharge extending, substantially, from side to side of the fire-box, and directed across the furnace bed, the pressure within the generator being the same as the pressure within the fire-box, and automatic means for maintaining a predetermined level of water in the generator.

4. The combination in a furnace, with the fire-box thereof, of a steam-generator comprising a water-box, positioned above the bed of fuel at the front of the fire-box and having a longitudinal discharge, extending, substantially, from side to side of the fire-box, and a hood above the point of discharge, the pressure within the generator being the same as the pressure within the fire-box.

973,582. PRUNING IMPLEMENT. JOHN SWEGLES, Wayne, Mich., assignor of one-third to Anthony A. Snyder and one-third to Joseph P. Snyder, Wayne, Mich. Filed June 10, 1910. Serial No. 566,175.

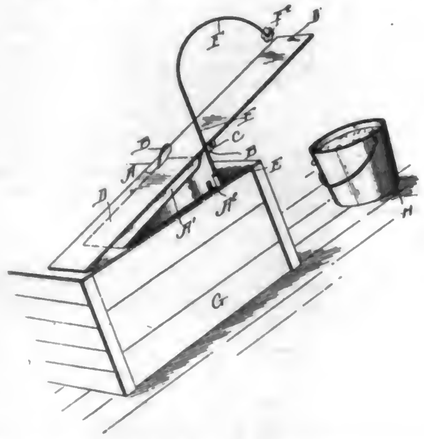


1. A pruning implecmnt comprising a shank, a saw carried by the shank, a casing loosely mounted on the shank and having a hook located adjacent to the saw, rollers carried by the casing and engaging one edge of the shank, and pins extending from the casing into engagement with the other edge of the shank.

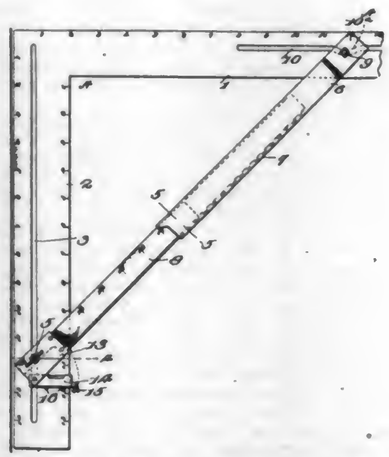
2. A pruning implement comprising a shank, a saw carried thereby, a casing comprising spaced walls between which the shank is received, said casing being loose on the shank, rollers between the walls of the casing, and one of the edges of the shank, pins extending from the casing into engagement with the other edge of the shank, and a hook on the casing located adjacent to the edge of the saw.

973,583. MOUSE AND RAT TRAP. WILLIAM TEETER, Newett, Colo. Filed Sept. 8, 1908, Serial No. 452,044. Renewed Feb. 12, 1910. Serial No. 543,556.

In a trap of the kind described, the combination with a base having an inclined top provided with upwardly projecting ears at its forward end, a platform provided with pivot pins detachably mounted in said ears, said base being provided with a notch adapted to fit over a vessel, sockets formed on the sides of said base, and a rod adapted to fit in one of said sockets provided with a bowed portion having a hook at its end for supporting a bait over the upper end of said platform.



973,584. COMBINATION SQUARE AND BEVEL. JOHN O. THOMAS, Ogden, Utah, assignor of one-half to Samuel Thomas, Ogden, Utah. Filed Jan. 15, 1909. Serial No. 472,488.



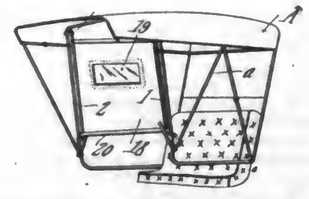
1. In an article as specified the combination of two members arranged at right angles to one another, one of said members being formed with a longitudinally extending slot, the opposite of said members having a slot formed therein with a curved portion intermediately thereof, telescopic sections arranged to cross said members, a pivot pin disposed through one of said members in the curved slot and in the end of one of the said sections, a clamping bolt disposed in the longitudinal slot and connected to the opposite of said sections, the second of said sections having a pocket formed in the end thereof and a spirit level hingedly carried by said second section for engagement within the pocket.

2. An article as specified including a pair of members arranged at right angles to each other, one of said members having a longitudinal slot with a rabbet formed about

the edges thereof, a bolt engaged in the slot and seated in the rabbets, a telescopic member of two sections extended across said first named members and engaged at one end by said bolt, the second of said members having a curved slot formed therein, and a pivot pin disposed in the curved slot and through one end of said telescopic member, the curved slot admitting of the adjusting of said telescopic member longitudinally against the outer face of said second member and inwardly of the edges of the same.

3. A device as specified including a pair of angularly arranged members, one of said members having a longitudinal slot with a rabbet in the edges thereof, the opposite of said members having a longitudinal slot with a curved portion therein, a clamping bolt engaged in the first slot, a pivot pin located in the second slot, and a telescopic member carried by said bolt and said pin, the slots in said angularly arranged members being so disposed as to admit of the adjustment of said telescopic member coincident with said angularly arranged member having the longitudinal slot.

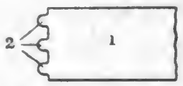
973,585. STORM-SHIELD FOR VEHICLES. JAMES E. THOMPSON, Elkton, Mich. Filed Mar. 9, 1910. Serial No. 548,207.



1. An attachment for vehicles including guides, a spring controlled roller supported by the guides, a shield normally wound upon the roller, a tubular member secured to the shield and slidably mounted on the guides, and a spring controlled locking device housed within said member and movable into engagement with a guide to lock the shield against movement.

2. An attachment for vehicles including guides, means for securing the same to a bow of a vehicle top, a spring controlled roller supported by the guides, a shield normally wound thereon, an element secured to the shield and slidably mounted on the guides, and spring controlled locking devices carried by said element and adapted to automatically engage the guides to lock the shield when unwound from the roller.

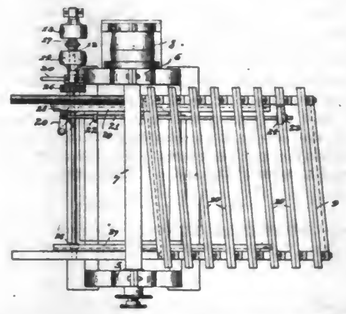
973,586. ELECTRICAL WELDING OF SHEET METAL. ELIHU THOMSON, Swampscott, Mass., assignor, by mesne assignments, to Thomson Electric Welding Company, Lynn, Mass., a Corporation of Massachusetts. Filed Oct. 21, 1909. Serial No. 523,765.



1. The method of welding two sheets of metal together consisting in forming a tongue or tongues in the body of a sheet, bending the tongue back upon the surface to be united, superposing the sheets and applying an electric heating current and pressure, as and for the purpose described.

2. The method of uniting two sheets of metal at one or more isolated spots of union consisting in providing a a sheet with a tongue or tongues cut from the body of a sheet and bent over on the surface thereof, placing another sheet over the same and applying heating electric current and pressure, as and for the purpose described.

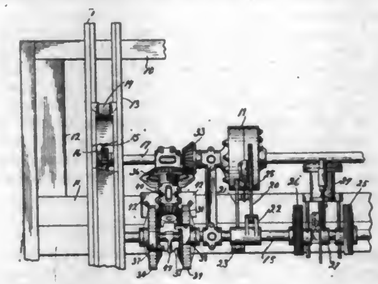
973,587. LATHE OR TURNING-MACHINE. AXEL THORSBY, Beloit, Wis., assignor to The Berlin Machine Works, Beloit, Wis., a Corporation of Wisconsin. Filed May 14, 1909. Serial No. 496,089.



1. In a machine of the character described, the combination of a rotary work holder, a reciprocatory table, a plurality of tool carriers on said table arranged in straight lines obliquely to the axis of the work, and a plurality of tools mounted on each of said tool carriers, the cutting edges of said tools being disposed obliquely to the axis of the carriers, said table and tool carriers supporting said tools and presenting them successively to the work, whereby the pattern upon the latter is progressively formed during movement of the table, substantially as described.

2. In a machine of the character described, the combination of a rotary work holder, a reciprocatory table, a plurality of straight bars obliquely mounted on and extending across said table, a plurality of tool holders mounted on said bars, and a plurality of tools carried by said tool holders, the cutting edges of said tools being disposed obliquely to the axis of the work, so that the rear end of a tool will follow the forward end of an adjacent tool on the same carrier and the oblique bars being spaced apart a sufficient distance so that said tools will be successively presented to the work, substantially as described.

973,588. SAWMILL SETTING AND RECEDING MECHANISM. IRA M. THURLOW, Menominee, Mich., assignor of one-half to De Witt C. Prescott, Chicago, Ill.; and one-half to Loren L. Prescott, Menominee, Mich. Filed May 16, 1908. Serial No. 433,289.



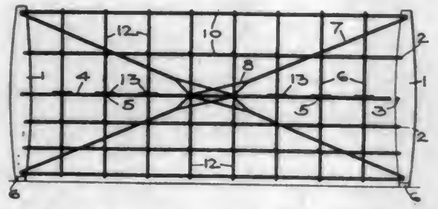
1. In a saw-mill setting and receding mechanism, in combination, a rotatable shaft, a rocker shaft, two sets of pawl and ratchet mechanisms connecting the rocker shaft with the rotatable shaft and arranged to act in alternation and to drive the rotatable shaft in opposite directions.

2. In saw-mill knee-actuating mechanism, in combination, a rotatable shaft, a rocker shaft, means for actuating the rocker shaft, a pair of wheels loosely mounted on the latter shaft, each having a ratchet face and a gear face, the two sets of ratchet teeth being oppositely di-

rected, an arm fixed on said last-named shaft, pawls carried by the arm and coöperating with the two ratchets, a gear meshing with the gear faces of such wheels, and a gear mounted rigidly with the last-named gear and intermeshing with a gear fixed on the rotatable shaft.

3. In saw-mill setting and receding mechanisms, in combination, a rocker shaft, a set-shaft, direct pawl and ratchet connection between the two shafts, a pair of ratchet wheels loose on the rocker shaft and having oppositely-directed teeth and gear teeth on their adjacent faces, an arm fixed on the shaft between such two ratchet wheels and carrying pawls and engageable therewith, a gear on the set-shaft, a counter-shaft, and gears on the countershaft engaging, respectively, the gear teeth of the two ratchet wheels and the set shaft gear.

973,589. PORTABLE FENCE. JOSEPH A. TRAMBLEY, Maxbass, N. D. Filed Sept. 11, 1909. Serial No. 517,197.



1. A fence structure comprising two similar end bars each having a central slot and a plurality of alining apertures, of a perforated brace bar having slotted ends held within said central slots of said end bars, fence wires connecting said end bars and held parallel to said brace bar, two guy wires crosswise secured to said end bars and passing through perforations within said brace bar, and stay wires secured to said fence wires and extending through said bar perforations.

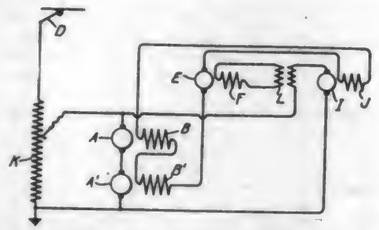
2. A fence structure comprising two similar end bars each having a central slot and a plurality of alining apertures, of a perforated brace bar having slotted ends held within the slots of said end bars, fence wires connecting said end bars and held parallel to said brace bar, two guy wires crosswise secured to said end bars, and passing through perforations within said brace bar, stay wires secured to said fence wires and extending through said bar perforations, an anchor block, and a securing wire extending from said anchor block and being secured to said end bars.

3. A fence structure comprising two similar end bars, each having one or more slots and a plurality of apertures, a perforated brace bar having slotted ends held within the slots on said end bars, fence wires connecting said end bars, stay wires secured to said fence wires and at right angles thereto, guy wires secured to said end bars in such a manner as to cross the fence wires and stay wires, said perforations in said brace bars being for the purpose of passing therethrough such fence, stay or guy wires as may cross them.

973,590. ELECTRIC BRAKING. JOHN F. TRITLE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 2, 1910. Serial No. 558,925.

1. In combination with an electric motor and a source of current therefor, means for causing the motor to act as a braking generator for returning energy to the source, consisting of means for separately exciting the field winding of the motor, and means for automatically compounding the excitation to compensate for varying speeds.

2. In combination with an electric motor and a source of current therefor, means for causing the motor to act as a braking generator for returning energy to the source, said means consisting of a separate exciter for exciting the field winding of the motor, and means for automatically varying the voltage per revolution of the exciter to compensate for variation in the motor speed.



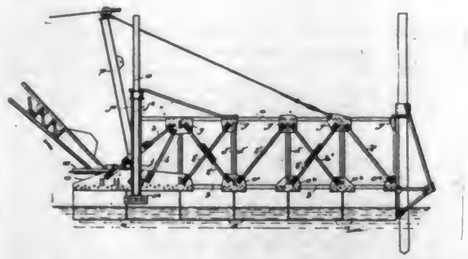
3. In combination with an electric motor and a source of current therefor, means for causing the motor to act as a braking generator to return energy to the source comprising an exciter for separately exciting the motor field and a second exciter varying in speed with the motor and having its armature connected to exert a differential effect upon the field of the first mentioned exciter so as to increase the voltage per revolution of the first mentioned exciter as the motor speed decreases.

4. In combination with an electric motor and a source of current therefor, means for causing the motor to act as a braking generator to return energy to the line, consisting of an exciter for separately exciting the motor field and a second exciter varying in speed with the motor, the field of the first mentioned exciter being excited differentially by voltages derived from the source and from the armature of the second exciter.

5. In combination with an alternating current motor of the commutator type and a source of current therefor, means for causing the motor to act as a braking generator for returning energy to the source, consisting of an exciter having its armature connected to the field winding of the motor and a transformer having its primary connected to the source and its secondary to the field winding of said exciter, and a second exciter having its armature connected in series with the primary of said transformer and its field winding connected to produce an armature voltage opposing the voltage of the source in the circuit of said transformer primary.

[Claim 6 not printed in the Gazette.]

973,591. SECTIONAL DREDGE. GEORGE E. TURNER, Bellefontaine, Ohio, assignor of one-tenth to H. L. Weiser, Bellefontaine, Ohio. Filed May 2, 1908. Serial No. 430,460.



1. In a machine of the character described, a series of hull sections, a frame work also formed in sections mounted upon said hull sections, a single integral piece of said frame work being secured to two or more of said hull sections at each side thereof, and supports for the operating mechanism connected to said integral piece, substantially as and for the purpose specified.

2. In a machine of the character described, a series of hull sections, a super-structure supported by said hull sections, plates connecting said super-structure and said hull sections, one plate on each side of the machine, said plates being extended over two or more of said sections, and supports for the operating mechanism secured to said plates, substantially as and for the purpose specified.

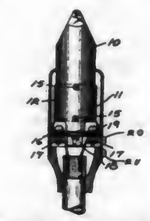
3. In a machine of the character described, a series of hull sections, a super-structure mounted upon said sections, said super-structure comprising angle-iron base rails, two plates one on each side connecting said base rails with two or more of said hull sections, and supports for the boom, A-frame, and spud carrying frame connected to said plates, substantially as and for the purpose specified.

4. In a machine of the character described, a series of hull sections, a super-structure mounted upon said hull sections, two plates one on each side connecting the base of said super-structure with two or more of said hull sections, brace rods extending from said plates to the upper part of said super-structure, and supports for the boom, A-frame, and the spud carrying frame connected to said plates, substantially as and for the purpose specified.

5. In a machine of the character described, a series of hull sections, a super-structure mounted upon said hull sections, said super-structure consisting of longitudinal base rails removably connected to said sections, and a series of transverse trusses connected to said base rails and also to said hull sections, said trusses being connected together, substantially as and for the purpose specified.

[Claims 6 to 9 not printed in the Gazette.]

973,592. SOLDERING-IRON. TYCHO VAN ALLER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 17, 1908. Serial No. 444,001.



1. An electric heating device comprising a slotted metallic body, a resistance conductor formed into a flat heating unit within said slot and means for pressing the surface of the slot into intimate thermal relation with the conductor throughout its length.

2. An electric heating device comprising a slotted metallic body, a flat heating unit within said slot, and means for pressing the metal into intimate thermal relation with the unit.

3. An electric heating device comprising a metallic body provided with a plurality of slots, flat heating units within said slots and means for pressing the surface of the slot into intimate thermal relation with the conductor throughout its length.

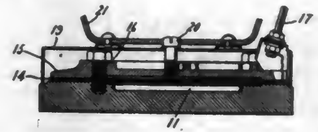
4. An electric heating device comprising a metallic body provided with a plurality of slots, flat heating units within said slots, and means for pressing the metal into intimate thermal relation with the units.

5. An electric heating device comprising a metallic body, and a resistance conductor forming a flat heating unit within said body and means for pressing the surface of the slots into intimate thermal relation with both sides of the conductor throughout its length.

[Claim 6 not printed in the Gazette.]

973,593. ELECTRIC FLAT-IRON. TYCHO VAN ALLER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 18, 1909. Serial No. 478,678.

1. An electric flat iron comprising a body having a narrow resistance strip extending flatwise around its outer portion adjacent to the edge and in heat conductive relation therewith.



2. An electric flat iron comprising a body having a narrow resistance strip extending flatwise around its outer portion parallel with the edge and in heat conductive relation therewith.

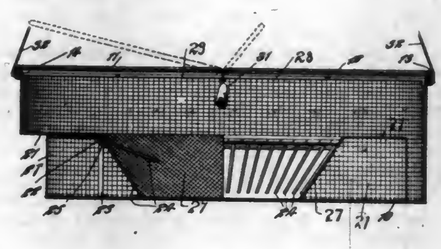
3. An electric flat iron comprising a body having a narrow flat resistance strip laid flatwise upon its outer edge and in heat conductive relation therewith so as to leave the inner portion substantially the shape of the iron.

4. An electric flat iron comprising a body portion having a flat resistance unit laid flatwise upon its outer edge and a flat strip secured to the body portion to hold the unit in place.

5. An electric flat iron comprising a body having its outer portion of thicker metal than its inner portion and a resistance unit arranged to apply heat to the outer portion.

[Claims 6 to 19 not printed in the Gazette.]

973,594. TRAP FOR SHELL-FISH. CHARLES HENRY VAN KEUREN, Jersey City, N. J. Filed Jan. 17, 1910. Serial No. 538,498.



1. In a device of the class described, a cylindrical casing provided with a plurality of V-shaped openings located at a point near its base, a plurality of V-shaped pockets interposed between said openings, said openings being provided with a plurality of pivoted fingers arranged at an angle and adapted to normally close said openings, and said pockets being provided with deflecting plates arranged at the same angle as the pivoted fingers.

2. A device of the class described, comprising a cylindrical member, the lower portion of which is provided with a plurality of V-shaped openings, a pocket formed adjacent to each opening, said openings being provided with pivoted closures, deflector plates secured to the base of the cylindrical members and extending at an angle from said base, said pivoted closures being arranged at the same angle as said deflector plates.

3. A device of the class described, comprising a cylindrical perforated receptacle, a plurality of V-shaped openings formed in said receptacle, a plurality of pockets formed in said receptacle, said openings being provided with pivoted closures arranged at an angle, and said pockets being provided with deflector plates arranged at the same angle.

4. A device of the class described, comprising a wire mesh receptacle, a substantially hexagonal receptacle formed within the first-mentioned receptacle, three of the walls of said hexagonal receptacle being pivoted and the other three walls being rigid.

973,595. SPHERICAL DICE. AXEL W. WAHLIN, Chicago, Ill. Filed Nov. 22, 1909. Serial No. 529,178.



1. A spherical hollow die marked on its periphery at equal distances apart with the characters or counts of a game, recesses within said die corresponding in position with the count, and a spherical body within said die adapted to fall into any of said recesses to present the diametrically opposite count uppermost.

2. Dice, each embracing two hemi-spherical hollow members joined face to face to afford a spherical die and marked on its periphery with characters indicating the count from one to six inclusive, recesses in said spherical die corresponding in position with the counts and a leaden ball within the same adapted to arrest the rolling of the die by falling into one of said recesses and thereby to present the count diametrically opposite therefrom in view position.

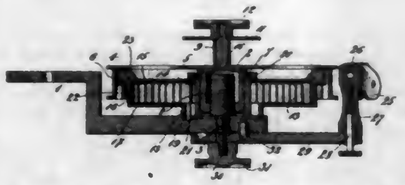
3. A spherical die embracing two hollow hemi-spherical sections rigidly secured together face to face and marked on the surface at equal distances apart with the six counts usual to die, recesses arranged in said die to correspond with said count and a leaden spherical pellet within the die adapted to hold one of the counts uppermost by falling in the opposite recess.

4. Dice formed spherically and hollow having internal recesses in the wall thereof, markings on the external wall of the dice opposite the recesses and a heavy member within the dice adapted to fit in one of the recesses to control the position of the dice.

5. Dice, each comprising a ball having the dice markings on the surface thereof and means in the ball for bringing the same to rest with one of the markings uppermost.

[Claims 6 to 10 not printed in the Gazette.]

973,596. REDUCING-WHEEL. GEORGE A. WEBSTER, Somerville, Mass., assignor to Star Brass Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed Apr. 4, 1910. Serial No. 553,257.



1. In a reducing wheel, the combination with a supporting bracket, of a member or post affixed thereto, an engine cord wheel movable rotarily and reciprocable longitudinally on and with respect to said post as said wheel is rotated in reverse directions, a spring, means for fixedly securing one end of said spring, a rotary casing containing said spring and to which the other end of said spring is secured, which casing also is arranged to turn in the same direction as said wheel for contracting said spring as said wheel is turned in one direction or permit the retraction of said spring as said wheel turns in a reverse direction, and means connecting said wheel and casing whereby said casing may be turned by said wheel and said wheel move longitudinally on said post.

2. In a reducing wheel, the combination with a supporting bracket, of a member or post affixed thereto, an engine cord wheel movable rotarily and reciprocable longitudinally on and with respect to said post as said wheel is rotated in reverse directions, a spring, means for fixedly securing one end of said spring, a rotary casing containing said spring and to which the other end of said spring is secured, said casing also being concentric with said wheel to rotate in unison therewith, and means connecting said wheel and casing whereby said casing may be turned by said wheel and said wheel move longitudinally on said post.

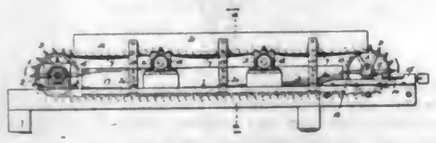
3. In a reducing wheel, the combination with a supporting bracket, of a member or post affixed thereto, an engine cord wheel movable rotarily and reciprocal longitudinally on and with respect to said post as said wheel is rotated in reverse directions, an indicator cord spindle carried by and movable with said wheel, a spring, a casing containing said spring and to which casing one end of said spring is secured, means for securing the other end of said spring, and means connecting said wheel and casing whereby they may rotate together and said wheel move longitudinally with respect to said post and casing.

4. In a reducing wheel, the combination with a supporting bracket, of a member or post affixed thereto, an engine cord wheel movable rotarily and reciprocal longitudinally on and with respect to said fixed member or post as said wheel is rotated in reverse directions, an indicator cord spindle carried by and movable with said wheel, a spring, means for fixedly securing on one end of said spring from the point of said bracket, and means for securing the other end of said spring whereby it may become tightened as said wheel is turned.

5. In a reducing wheel, the combination with a supporting bracket, of an exteriorly threaded member or post affixed thereto, an engine cord wheel having a hub internally threaded to turn upon said post and said wheel to be reciprocated longitudinally with respect to said post as said wheel is rotated in reverse directions, and an exterior bearing for said hub affixed to said bracket.

[Claims 6 to 9 not printed in the Gazette.]

973,597. SCREENING-CONVEYER. UTLEY WEDGE, Ardmore, Pa. Filed May 12, 1908. Serial No. 432,522.

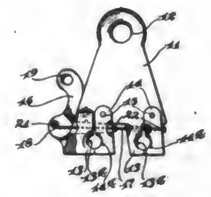


1. The combination, in a screening conveyer, of one or more endless chains, spaced and upstanding transverse bars carried thereby, and so disposed that the bars of the upper run of the conveyer constitute the sole supporting, screening and conveying means for the material under treatment, supporting and operating means for the chains, and a deflector interposed between the upper and lower runs of the conveyer.

2. The combination, in a screening conveyer, of one or more endless chains, spaced and upstanding transverse bars carried thereby, and so disposed that the bars of the upper run of the conveyer constitute the sole supporting, screening and conveying means for the material under treatment, supporting and driving means for the chains so disposed that the upper run of the conveyer is caused to sag between its supports, and a deflector interposed between the upper and lower runs of the conveyer.

3. The combination, in a screening conveyer, of one or more endless chains, spaced and upstanding transverse bars carried thereby and so disposed that the upper run of the conveyer constitutes the sole supporting, screening and conveying means for the material under treatment, supporting and driving means for the chains at the ends of the conveyer, and intermediate supporting devices for the upper run of the conveyer so disposed that said upper run of the conveyer is caused to follow an undulating course.

973,598. HAY-SLING TRIGGER. IVAR J. WESTAD, Fleming, Minn. Filed May 28, 1910. Serial No. 562,855.

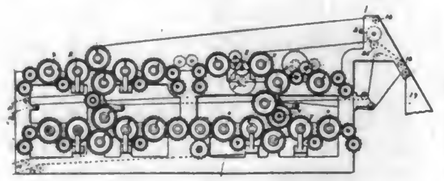


1. The combination with a carrier having means for holding the looped end of a rope, of a head secured to said carrier and provided with a pair of independent grapples and each thereof comprising coöperating rope engaging members, and means carried by said head for holding said grapples locked and for releasing the same, substantially as described.

2. The combination with a carrier having means for holding the looped end of a rope, of a head secured to said carrier and provided with a pair of grapples comprising relatively fixed and coöperating movable members for holding two ends of said rope, a lever mounted on said head, and a connection from said lever to the movable members of said grapples for holding said movable members in operative positions and for simultaneously releasing the same, substantially as described.

3. The combination with a carrier having means for holding the looped end of a rope, of a head secured to said carrier and provided with a pair of grapples comprising relatively fixed and coöperating movable members for holding two ends of said rope, a cam lever loosely mounted between laterally projecting lugs on said head, and a connection from said cam lever to the movable members of said grapples for holding said movable members in operative positions and for simultaneously releasing the same, substantially as described.

973,599. DOUBLE-LINE ROTARY PRESS. LYMAN A. WHEAT, Battle Creek, Mich. Filed Apr. 3, 1909. Serial No. 487,677.



1. In a double line rotary press, the combination of perfecting mechanisms arranged in tiers one above the other, each perfecting mechanism consisting of couples of printing and impression cylinders, the impression cylinders being arranged centrally and one above the other and the impression cylinders being geared to coact, the impression cylinders being provided with gears that mesh the one with the other, one set of such mechanism being provided with detachable boxes whereby the printing cylinders may be removed and those of a different size substituted, and suitable changeable intermediate gears by which the speed of such impression cylinders is made to correspond to their dimensions; a folder; a cut-off feed mechanism for any web that is to move at a lower rate arranged in proximity to the folder whereby the severed sheet drops into the folder and is engaged by the more rapidly moving webs as they advance, all coacting substantially as described and for the purpose specified.

2. A type cylinder for rotary presses consisting of a tapered mandrel 18 suitably driven from a gear 23; an adjustable expansible shell 19; a nut 20 on a screw on the end of said mandrel for expanding the said shell 19 by pressing it onto the tapered mandrel 18; tubular plate cylinder 21 forming a closed tube or cylinder around the said expansible shell; and a removable support and box for the outer end of said mandrel to permit the placing of said tubular plate cylinder on the said mandrel over the end thereof, all coacting substantially as described and for the purpose specified.

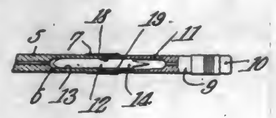
3. A type cylinder for rotary presses consisting of an expansible shell; a tubular plate on the same, said shell being provided with supports and journal boxes, at each end, one of which supports and journal boxes is removable, whereby the tubular plate can be passed over the end of said cylinder and expansible shell, coacting for the purpose specified.

4. In a double line rotary press, the combination of a series of perfecting mechanisms, each perfecting mechanism consisting of couples of plate and impression cylinders, the impression cylinders being geared to coact with and being provided with gears that mesh the one with the other, one set of such perfecting mechanisms being provided with cylinders of half the diameter of the others, whereby multiples of the unit of the press may be effectively produced by combining the perfecting mechanisms having the smaller cylinders with the perfecting mechanism having the large cylinders; a folder and cut-off means for severing the web that moves at the lower rate from the smaller cylinder into sheets in proximity to the folder, so that they will be delivered with the more rapidly moving webs.

5. In a double line rotary press, the combination of a series of main perfecting mechanisms consisting of couples of plate and impression cylinders, of comparatively large size, capable of printing a plurality of pages on their circumference with gears for driving the same; a perfecting mechanism with plate cylinders of small size capable of printing one page on their circumference arranged to coact with any one or any combination of the remaining perfecting mechanisms of the series containing the cylinders of larger diameter; a gear connection for said smaller cylinder perfecting mechanism timed to rotate at the proper rate to deliver its single page, whereby multiples of the unit of the press may be effectively produced by combining the various perfecting mechanisms; a web guiding means for each perfecting mechanism; and a cutting mechanism for cutting the web of the small cylinder perfecting mechanism into sheets, coacting as specified.

[Claim 6 not printed in the Gazette.]

973,600. KNIFE AND NAIL-CLEANER. LOUIS P. WICKLAND, Fremont, Ohio. Filed Nov. 18, 1909. Serial No. 528,743.



1. A device of the class described consisting of a holder having a recess in one end; a cap having its end wall extended across the end of the holder and having a slot alined with the recess; a blade insertible into the slot and into the recess and having a notch in one edge; and a wedge inserted in the slot between the other edge of the blade and the holder, to cause the end wall of the cap to register in the notch.

2. A device of the class described consisting of a holder having a recess in one end; a cap having its end wall extended across the end of the holder and having a slot alined with the recess; a blade insertible into the slot and into the recess and having a notch in one edge; and a wedge inserted in the slot between the other edge of the blade and the holder to cause the end wall of the cap to register in the notch; the wedge having at its outer end,

a transverse head conforming to the periphery of the holder and engaged by the end wall of the cap.

3. A device of the class described consisting of a holder having a recess in one end; a cap having its end wall extended across the end of the holder and having a slot alined with the recess; a blade insertible into the slot and into the recess and having a notch in one edge; a wedge inserted into the slot between the other edge of the blade and the holder to cause the end wall of the cap to register in the notch; a casing having a recess in one end to receive the blade; a tube secured to the recessed end of the casing and inclosing the cap closely to direct the end of the casing against the wedge.

4. A device of the class described consisting of a holder having a recess in one end; a cap having its end wall extended across the end of the holder and having a slot alined with the recess; a blade inserted into the slot and into the recess and having a notch in one edge; a wedge inserted into the slot between the other edge of the blade and the holder, to cause the end wall of the cap to register in the notch; the wedge having at its outer end, a transverse head conforming to the periphery of the holder; a casing having a recess in one end to receive the blade; and a tube secured to the recessed end of the casing and inclosing the cap closely to direct the end of the casing against the head of the wedge.

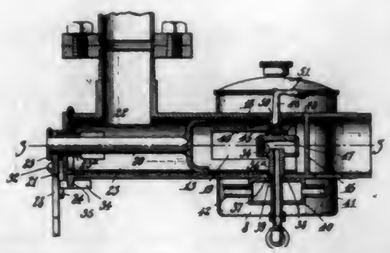
973,601. BRACELET AND THE LIKE. GEORGE WIDENMEYER, New York, N. Y. Filed Apr. 25, 1910. Serial No. 557,595.



1. In a device of the kind described, a concatenated series of links, and an elastic member passing through each of said links.

2. In a device of the kind described, a concatenated series of 8-shaped links, and an elastic member passing between the crossing portions of each of said links.

973,602. CARBURETER. JOSEPH G. WILLIAMS, Buffalo, N. Y. Filed June 3, 1907. Serial No. 376,943.



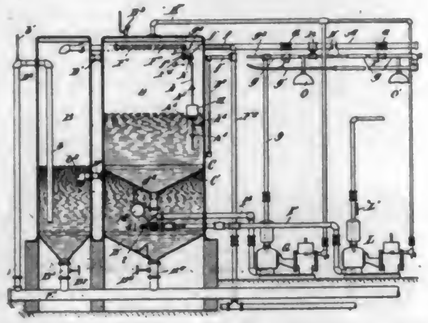
1. In a carbureter, the combination with a gasolene feed-chamber, of a carbureting-chamber having an air-inlet, a mixture-outlet, and connection with said feed-chamber, a cylindrical inlet-valve having an axial stem and an opening and serving to govern the size of said air-inlet, a cylindrical throttle-valve having an opening and a hollow stem through which the stem of the inlet-valve passes and being adapted to govern the size of the mixture-outlet, a lever affixed to the stem of the throttle-valve, a lever affixed to the stem of the inlet-valve, a lever loosely held on said last-mentioned stem, means for connecting said levers so that all may be actuated together, and means for carbureting the air passing through the carbureting-chamber.

2. In a carbureter, the combination with a gasolene feed-chamber, of a carbureting-chamber having an air-inlet, a mixture-outlet, and connection with said feed-chamber, an inlet-valve for said air-inlet provided with a stem, a throttle-valve for said mixture-outlet provided with a hollow stem through which the stem of the inlet-valve passes, a lever secured to the stem of the throttle-valve, a lever loosely mounted on the stem of the inlet-valve and having a slot therein, a screw passing through said slot and threaded into the lever on the stem of the throttle-valve, a lever secured to the stem of the inlet-valve and having a slot, a screw passing through the latter and threaded into said loosely-mounted lever, and means for carbureting the air passing through the carbureting-chamber.

3. In a carbureter, the combination with a gasolene feed-chamber, of a carbureting-chamber having a valve-controlled air-inlet and a valve-controlled mixture-outlet, a gasolene well within the carbureting-chamber having gasolene escape-openings and a depending sleeve provided with a reduced threaded portion extending through the wall of the carbureting-chamber, and a heating-chamber having alined threaded openings to receive the reduced threaded portion of said sleeve, said heating-chamber serving to heat the gasolene passing through said sleeve and to securely hold the gasolene-well in proper position.

4. In a carbureter, the combination with a gasolene feed-chamber having a valve-controlled air-inlet and a valve-controlled mixture-outlet, a cylindrical gasolene-well within said carbureting-chamber having outstanding lugs and slits formed in the upper edge of the cylindrical wall of said gasolene well and extending to the outer ends of said lugs, and means for closing the inner ends of said slits to the extent desired.

973,603. APPARATUS FOR RECOVERING BLOW-OFF PRODUCTS FROM BOILERS AND CONSERVING THE HEAT ENERGY THEREIN. HORACE L. WINSLOW, Chicago, Ill. Filed Dec. 9, 1907. Serial No. 405,698.



1. In an apparatus of the character described, a main reservoir, an auxiliary reservoir for receiving and retaining blow-off products from a boiler, means for introducing blow-off products from a boiler directly into the auxiliary reservoir, means for conducting steam from the auxiliary reservoir into the main reservoir, means for delivering fresh water into the main reservoir, a pump for drawing water from said main reservoir, and means governed by the water-level in the main reservoir for causing the amount of fresh water delivered to be decreased and a circulation of the water in the main reservoir to be produced by said pump.

2. In an apparatus of the character described, a main reservoir, an auxiliary reservoir for receiving and retaining blow-off products from a boiler, means for introducing blow-off products from a boiler directly into said auxiliary reservoir, means for delivering steam from the auxiliary reservoir into the main reservoir, a plurality of spraying devices for spraying fresh water into the top of the main reservoir, a pump for drawing water from the main reservoir, and means operated automatically when the water in the main reservoir reaches a predetermined level to shut off the supply of fresh water to one of said spraying devices and connect the latter spraying device to the discharge side of said pump.

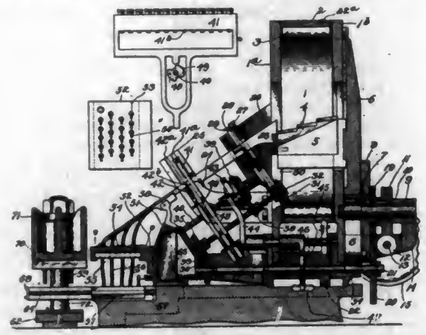
3. In an apparatus of the character described, a main reservoir, an auxiliary reservoir, means for introducing blow-off products from a boiler into said auxiliary reservoir, means for delivering steam from the auxiliary reservoir to the main reservoir, a pair of spraying devices for spraying fresh water into said main reservoir, a pump for drawing water from said main reservoir, means governed by the flow of the blow-off products to the auxiliary reservoir for controlling the supply of fresh water to one of said sprays, and means operating automatically when the water in the main reservoir reaches a predetermined level to disconnect the other spraying device from the fresh water supply and connect it to the discharge side of said pump.

4. In an apparatus of the character described, a main reservoir, an auxiliary reservoir, means for introducing blow-off products from a boiler into said auxiliary reservoir, means for delivering steam from the auxiliary reservoir to the main reservoir, a pair of spraying devices for spraying fresh water into said main reservoir, a pump for drawing water from said main reservoir, means governed by the flow of the blow-off products to the auxiliary reservoir for controlling the supply of fresh water to one of said sprays, and means operating automatically when the water in the main reservoir reaches a predetermined level to disconnect the other spraying device from the fresh water supply and connect it to the discharge side of said pump, and an exhaust steam pipe leading into said main reservoir.

5. In an apparatus of the character described, a settling reservoir for receiving and retaining blow-off products from a boiler, a main reservoir located in proximity to the settling reservoir, there being a free steam passage between the upper ends of said reservoirs, means for introducing blow-off products from a boiler directly into said settling reservoir, a spraying device for delivering fresh water into the top of the main reservoir, and means controlled by the water level in the main reservoir for shutting off the supply of said water to said spraying device and connecting the spraying device to the discharge side of said pump.

[Claims 6 to 15 not printed in the Gazette.]

973,604. MACHINE FOR SETTING PROTECTORS FOR BOOTS AND SHOES. HENRY W. WINTER, Lawrence, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass., a Corporation of New Jersey. Filed Mar. 5, 1901. Serial No. 49,733.



1. In a setting machine, in combination, driving or setting devices, means for presenting articles thereto to be driven, including a series of delivering raceways, a series of supply raceways less in number than the delivering series, and means to cause said supply raceways to deliver to different portions of said series of delivering raceways successively, substantially as described.

2. In a setting machine, in combination, a series of supply raceways, driving or setting devices, and intermediate devices for presenting articles to said devices to be driven, including a series of delivering raceways in number equal to a multiple of the number of supply raceways, and means to cause said supply raceways to supply the raceways of said delivering series in alternating succession, substantially as described.

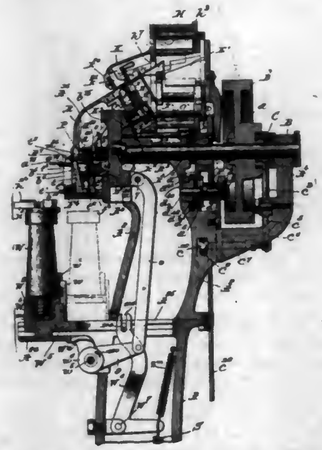
3. In a driving or setting machine, in combination, a series of supply raceways, driving or setting devices, and intermediate devices for presenting articles to said devices to be driven, including a series of delivery raceways greater in number than the supply raceways, and means to shift said supply raceways to cause them to supply raceways of the delivering series in alternating succession, substantially as described.

4. In a driving or setting machine, in combination, a hopper, a series of supply raceways, means to load protectors contained in said hopper onto the said raceways, a series of delivering raceways, greater in number than said supply raceways, and means to shift said hopper and supply raceways transversely to feed to the delivering raceways in alternating succession, substantially as described.

5. In a driving or setting machine, in combination, a hopper, a series of supply raceways, means to load protectors contained in said hopper onto the said raceways, a carriage supporting said hopper and supply raceways, a series of delivering raceways, and means to shift said carriage to cause protectors to be fed to the delivering raceways in alternating succession, substantially as described.

[Claims 6 to 19 not printed in the Gazette.]

973,605. MACHINE FOR SETTING HEEL AND SOLE PROTECTORS. HENRY W. WINTER, Lawrence, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass., a Corporation of New Jersey. Filed May 22, 1899. Serial No. 717,674.



1. In a machine for setting heel or sole protectors, a fixed raceway, a coöperating device to control the discharge of a protector therefrom, a fixed block having a driver passage therein to receive the protector to be driven, a driver, a movable transfer raceway section to receive a protector from the fixed raceway and deliver it to the driver passage, and means controlled by movement of the transfer raceway to operate the discharge controlling device to release the protector when said raceway is in operative position.

2. In a machine for setting heel or sole protectors, a

fixed raceway and a block having a driver passage out of alinement with the raceway end and adapted to receive the protector to be driven, a driver, a movable transfer raceway to at times complete the path from the fixed raceway to the driver passage, and means controlled by movement of said transfer raceway to govern the delivery of a protector thereto from the fixed raceway.

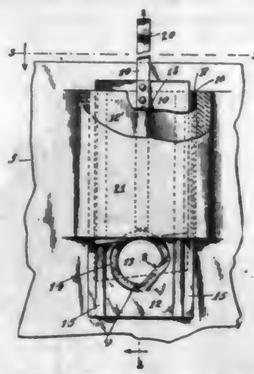
3. In a machine for setting heel or sole protectors, a driver, a raceway, a transferrer to deliver protectors singly from the raceway into the driver path, a block having a driver passage therein to receive the protector to be driven, and a spring-guide within the passage, to yieldingly engage within the protector while it is being driven.

4. In a machine for setting heel or sole protectors, a fixed raceway, and a fixed block below it, having a driver passage out of alinement with the raceway end, to receive a protector, a driver, a transferrer movable between and to at times complete the path from the raceway to the driver passage, a discharge-controlling device coöperating with the raceway, and means to cause said device to release a protector when the transferrer is in operative position, whereby the said protector may travel along the completed path to the driver passage.

5. In a machine for setting heel or sole protectors, a fixed raceway, and a fixed block below it, having a driver passage to receive a protector, a driver, an inclined, movable transfer raceway adapted to at times complete the path from the end of the fixed raceway to the driver passage, whereby a protector may travel to the said passage to be driven, a let-off and a discharge-detent, to coöperate respectively with the endmost and the next protector on the raceway, means controlled by movement of the transfer raceway to actuate the let-off, and independent controlling means for the detent.

[Claims 6 to 33 not printed in the Gazette.]

973,606. FLUME-GATE. MATT H. WORLEY, Redlands, Cal. Filed June 17, 1909. Serial No. 502,709.



1. A flume gate, comprising a tube, a slide holder fastened to the tube near the end thereof, a slide movably disposed in said holder, and resilient means secured to the slide to maintain the slide in water tight engagement with the end of the tube.

2. A flume gate, comprising a tube, a slide holder secured to an end of the tube, a vertically extending guideway formed on said holder, a slide movably disposed in said holder, and a resilient means secured to said slide and disposed in said guideway.

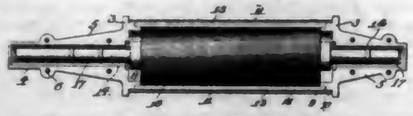
3. A flume gate, comprising a tube, a slide holder fastened to the tube near the end thereof, a slide movably disposed in said holder, and a spring secured to the slide, said spring bearing against a portion of said holder and adapted to maintain the slide in water tight engagement with the tube.

4. A flume gate, comprising a tube, a slide holder secured to an end of said tube, a slide guideway formed integrally with said holder and extending beyond the outer face of said holder to form a bearing, a slide disposed in the guideway of said holder, and resilient means connected to said slide, said means having a sliding contact with the guideway formed on said holder.

5. A flume gate, comprising a tube, a slide holder secured to the end of the tube, said holder provided with an aperture therein, the edge of said aperture being raised to form a slide seat, said aperture registering with the end of the tube, a slide vertically movable in said holder, and a spring secured to said slide and bearing against said holder.

[Claim 6 not printed in the Gazette.]

973,607. SHIPPING-CASE. CHARLES ORVILLE WRIGHT, Bluefield, W. Va. Filed June 8, 1909. Serial No. 500,842.

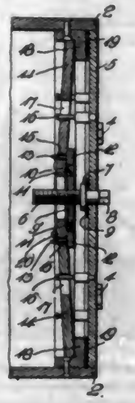


1. A shipping case for the purpose set forth, comprising longitudinal half-sections each consisting of opposite semi-circular heads having a recessed extension at the outer side and a flange at the inner side, the latter forming a shoulder within the perimeter of the head, together with a semi-circular body portion or casing connecting the heads of each section and secured to the flanges thereof, and means for connecting the half-sections together, substantially as shown and described.

2. A shipping case for the purpose set forth, comprising longitudinal half-sections each consisting of opposite semi-circular heads which have a recessed extension at the outer side and a stepped flange at the inner side, the latter forming shoulders within the perimeter of the head; together with semi-circular body portions or casings for each section connecting the heads thereof and secured to the flanges, and means for connecting the half-sections together.

3. A shipping case for the purpose set forth, comprising longitudinal half-sections each consisting of opposite semi-circular heads which have a recessed extension at the outer side and a stepped flange at the inner side forming shoulders within the perimeter of the head, the extension of a head of one section having a projecting flange around the recess and the companion head of the other section having a groove to receive said flange; together with semi-circular body portions or casings for each section connecting the heads thereof and secured to the flanges, and means for connecting the half-sections together.

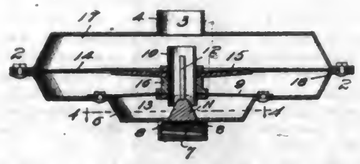
973,608. GRAVE-VAULT. JOHN YOUNG, Bellefontaine, Ohio. Filed Apr. 18, 1910. Serial No. 556,225.



A vault door provided with a centrally disposed screw having a squared wrench face upon its outer end, a cam

mounted upon the threaded portion of said screw, pivoted members carried by the cam, said members having inwardly extending pins, triangular plates provided with curved slots through which said pins extend, said plates being slidingly mounted upon said door; and means for locking said plates against inward movement after they have been projected by means of the screw and cam.

973,609. PRESSURE-REGULATING VALVE FOR GAS-BURNERS. JOHN A. ABRAMS, Wadsworth, Ohio. Filed Apr. 25, 1910. Serial No. 557,472.



In a gas regulator a casing adapted to be secured to the gas burner, a gas receiving chamber formed in said casing, said chamber having gas inlet passages, a stationary valve member secured in said chamber, a diaphragm arranged over said chamber, a movable valve member connected with said diaphragm and adapted to be operated thereby to disengage said stationary valve member whereby the valve is opened by the pressure of gas in said chamber, a guide pin on said stationary member adapted to engage and guide said movable valve member, a diaphragm arranged in said casing and operatively connected with said movable member of the valve, said diaphragm forming a chamber adapted to receive the gas passing through said valve, said diaphragm being adapted to close said valve when the pressure and accumulation of gas in said chamber is greater than the consumption thereof at the burner.

973,610. TUBE AND HEADER CONNECTION. JAMES C. ALEXANDER, Roseburg, Oreg. Filed Dec. 13, 1909. Serial No. 532,955.

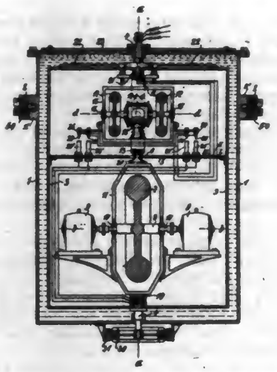


1. In a circulating pipe and header connection, the combination of a header provided with a tapered opening in one wall thereof and with a threaded opening in its opposite wall, a circulating pipe for attachment therein provided with a tapering threaded end, a double bevel packing ring associated on said pipe between the tapered portion thereof and said tapered opening in said header and a screw coupling having an internally threaded forward end adapted to engage the threaded end of said circulating pipe within the header to securely seat said packing ring and having a threaded outer end engaging within said alined threaded opening in said header substantially as described.

2. In a circulating pipe and header connection the combination of a header provided with a tapered opening in one wall thereof and a threaded opening in its opposite wall alined with said tapered opening, a circulating pipe for attachment therein provided with a tapering threaded end, a double beveled packing ring associated on said pipe between the tapered portion thereof and said tapered opening in said header, a screw coupling having an internally threaded forward end adapted to engage upon the threaded end of said circulating pipe within the header to securely seat said packing ring and having a threaded outer end engaging within said alined threaded opening in said header, and a cap-nut adapted to be screwed upon said outer threaded end of said coupling outside the header substantially as described.

3. In a circulating pipe and header connection the combination of a header provided with alined tapered and threaded openings, a circulating pipe having a tapering end projecting within said header, a packing ring having beveled inner and outer faces associated about said circulating pipe between the beveled portion thereof and said tapered opening, a screw coupling engaging within said threaded opening to force said packing ring securely in position, and a cap-nut adapted to be screwed upon said coupling outside the header to form a secure joint, substantially as described.

973,611. GYROSCOPE. HERMANN ANSCHÜTZ-KAEMPFE, Kiel, Germany. Filed Oct. 12, 1907. Serial No. 397,073.



1. The combination with a rotatable spindle and means for sustaining said spindle in a vertical position, of two gyroscopic members each connected to said spindle and embodying the said spindle to constitute a gyroscope, one of said members having its center of gravity below its horizontal axis whereby said members will have different periodic times of oscillation.

2. In a gyroscopic apparatus a frame, a fly wheel within said frame, means for preventing vertical movement of the axis of said fly wheel, means for supporting a fly wheel upon said first-mentioned frame and means for allowing vertical movement of the axis of said last-mentioned fly wheel substantially as described.

3. In a gyroscopic apparatus a frame, a fly wheel within said frame, an upper frame connected to said first-mentioned frame, a fly wheel within said upper frame and means for controlling the movements of the lower fly wheel by the oscillations of the upper frame, substantially as described.

4. In a gyroscopic apparatus a rotatable frame, a plurality of fly wheels therein, a casing supporting said frame, a motor upon said casing and having its rotor attached to said rotatable frame and means for energizing said motor by the gyroscopic movements of one of said fly wheels substantially as described.

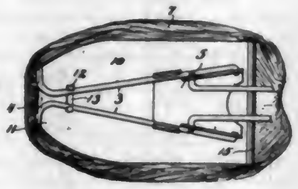
5. In a gyroscopic apparatus, a casing, liquid within said casing, a vertical spindle therethrough, an inner casing upon said spindle, a frame within said casing and connected to said spindle, a plurality of fly wheels upon said frame, and electrical contacts operated by the movements of said fly wheels, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

973,612. MOP ATTACHMENT. WILLIAM EDGAR ARANT, Tampa, Fla. Filed May 4, 1910. Serial No. 559,300.

1. A mop attachment comprising a metal plate adapted to be arranged between a mop head having a cloth holding loop and the cloth of the mop, and means for attaching said plate to the mop head, substantially as described.

2. A mop attachment comprising a metal plate adapted to be arranged between a mop head having a cloth holding loop and the cloth of the mop, one end of said plate being tapered to fit within the loop of the mop head, substantially as described.

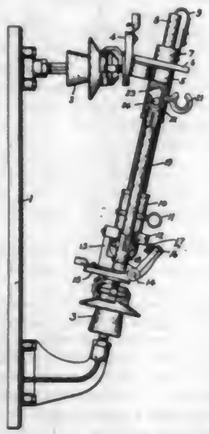


3. A mop attachment comprising a metal plate adapted to be arranged between a mop head having a cloth holding loop and the cloth of the mop, one end of said plate being tapered to fit within the loop of the mop head, and spring tongues on said plate for engaging portions of the mop head, substantially as described.

4. A mop attachment comprising a metal plate adapted to be arranged between a mop head having a cloth holding loop and the cloth of the mop, and means for securing said plate to said head and said plate being apertured to receive portions of the mop head, substantially as described.

5. As an article of manufacture, a mop attachment comprising a flat metal plate adapted to be arranged between a mop head and the cloth of the mop, said plate being tapered at one end, spring tongues extending upwardly from one face of said plate and the end opposite said tapered end being bent upwardly to form a well rounded edge, substantially as described.

973,613. CIRCUIT-CONTROLLER. WINFIELD A. ATWOOD, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 16, 1909. Serial No. 478,251.



1. In a controller for an electric circuit, the combination with two adjacent circuit terminals, of a protective device for opening the circuit in response to abnormal current, an insulating support for said protective device mounted to carry said protective device into and out of circuit with both of said terminals, and means for securing said device on said support to move into and out of engagement with one of said terminals.

2. In a controller for an electric circuit, the combination with two adjacent contact terminals, of a fuse arranged to coöperate with both of said terminals to connect them and thereby close the circuit, a movable insulating fuse support arranged to carry said fuse into and out of engagement with both of said contacts, and means for movably mounting said fuse on said support to permit it to move relatively to said support and in alinement with said terminals.

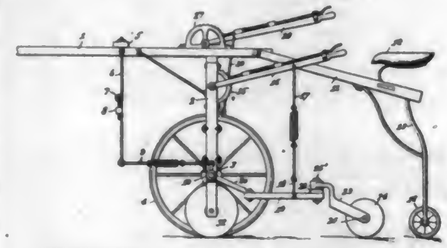
3. In a controller for an electric circuit, the combination with relatively movable adjacent contacts, of an insulating support mounted on and movable with one of said contacts, and a fuse pivotally mounted on said support to swing in alinement with said contacts to bring its ends into engagement with both said contacts.

4. In a circuit controller, the combination with a fixed terminal and a movable terminal mounted adjacent thereto, of an insulating support movable with said movable terminal, a fuse for bridging said terminals to close the circuit, and means whereby said fuse is detachably secured to said support to swing into and out of engagement with said movable terminal and to engage both terminals when said support and said fuse are in circuit closing position.

5. In a controller for an electric circuit, the combination with a stationary terminal, of a movable terminal pivoted adjacent thereto, an insulating support mounted on said movable terminal, and a fuse pivotally mounted on said support to swing into and out of engagement with said movable terminal and to engage both said terminals when in circuit closing position.

[Claims 6 to 10 not printed in the Gazette.]

973,614. CULTIVATOR. FREEMAN AVERY, Larned, Kans. Filed Feb. 21, 1910. Serial No. 545,088.



1. In an arched cultivator, a center arch vertically adjustable in the main arch, and means carried by said center arch and lying within said arch for breaking down ridges along the plant row.

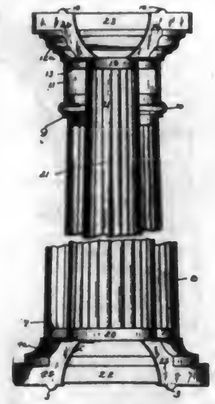
2. In an arched cultivator, a center arch vertically adjustable in the main arch and wheels mounted at the lower ends of said center arch disposed to lie on opposite sides of the plant row for breaking down ridges along said plant row.

3. In a cultivator, a main arch, a center arch within said main arch, guides on said main arch for engaging and permitting a vertical movement of said center arch within said main arch, a lever for controlling the vertical adjustment of said center arch, and wheels mounted on the lower ends of said center arch disposed to lie on opposite sides of the plant row for breaking down ridges along said plant row.

973,615. COLUMN. CHRISTOPHER C. BARRICK, Canton, Ohio. Filed Oct. 26, 1907. Serial No. 399,372.

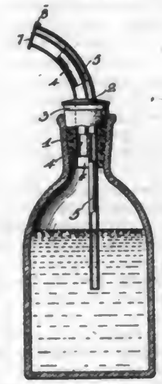
1. In a column, a base provided with supporting flanges having lugs, apertures formed in the top of the base, a torus provided with lugs adapted to be seated in the apertures formed in the base, a flange formed upon the torus and a column located upon the torus and around the flange, a capital torus and a capital detachably connected together, said capital provided with supporting flanges and lugs formed upon said flanges, substantially as and for the purpose specified.

2. In a column of the class described, a base and a torus therefor, a capital and a torus for said capital, the base and capital provided with contact lugs, a column mounted upon the base, a coupling section provided with a flange, a column section located between said coupling section and the capital torus, substantially as and for the purpose specified.



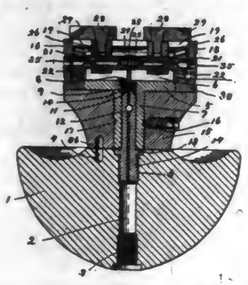
3. In a column of the class described, a base and a torus therefor, said base provided with supporting flanges, a capital and a torus for said capital, said capital provided with flanges, the flanges of said base and capital provided with contact lugs, a column mounted upon the base, a coupling section provided with a flange a column section located between said coupling section and the capital torus, substantially as and for the purpose specified.

973,616. BOTTLE-STOPPER. ERNEST LEWIS BECK, New York, N. Y., assignor, by mesne assignments, to The Dodge and Dent Mfg. Co. Inc., New York, N. Y. Filed May 27, 1909. Serial No. 498,612.



The combination with a bottle, of a stopper connected to the neck thereof, and having an opening extending through the same, a flanged cap secured to the stopper having a discharge and vent tube inserted through the same, said vent tube being inserted through the opening of the stopper and into the body of the bottle, the discharge tube being inserted part way into said opening so as to provide an air space in the stopper which communicates with the discharge tube so as to permit of the contents of the bottle to readily pass through said discharge tube, said discharge and vent tubes being joined together and curved above the cap and having on their outer ends a hinged disk which is adapted to automatically open and close said outer ends of said tubes substantially as specified.

973,617. ENGRAVER'S BLOCK. JAMES A. BOWERS, Lancaster, Pa. Filed Oct. 29, 1909. Serial No. 525,331.



1. In an engraver's block of the class described, comprising a base formed with an axial hole through the body thereof, the ends of said axial hole being screw-threaded, a hollow spindle formed with a thrust-bearing upon its upper end, and screw-threaded upon its lower end and adapted to be detachably secured within either end of said axial hole, a dismountable head formed with a vertical bearing and a thrust-bearing in the body thereof and adapted to be swiveled upon said spindle, movable jaws mounted in said head, means for moving said jaws in a manner independently of each other, and means for moving said jaws simultaneously by an independent keyless mechanism.

2. In an engraver's block, the base having a flat surface, and a spherical surface in which are screw-threaded communicating sockets, a hollow spindle formed with a screw-threaded end adapted to engage either of said sockets, and a thrust-bearing formed upon the other end of said spindle, a work-holding head rotatably mounted upon said spindle, and means for preventing said head from rotating upon said spindle.

3. In an engraver's block, a ring swivelly mounted upon said head, one surface of said ring formed with sockets, and a crown-bevel gear formed upon the opposite surface of said ring, jaw-carrying nuts mounted in said head, combined independently or simultaneously operated nut-moving screws mounted in said head, key sockets formed in the outer end of said screws for the reception of a slotted key, bevel gears secured upon said screws and adapted to be in mesh with and rotated by the crown gear face of said ring when said face is uppermost, a collar placed between the inner ends of said screws, a pin extending through said collar and entering the ends of said screws, and a hollow pin extending transversely through said collar and pin, and in alinement with said hollow spindle.

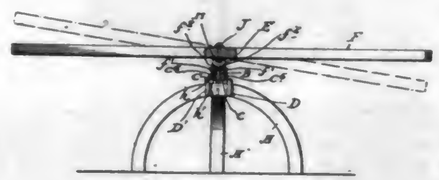
4. In an engraver's block, having a pair of movable jaws, a pair of lead screws having their outer ends journaled in said block, and connected to said jaws, and means comprising a ring mounted upon said block, a bevel gear formed upon said ring, bevel gears secured upon said lead screws and in mesh with said gear upon the rings whereby said jaws are operated in a simultaneous manner, key sockets formed in the outer ends of said lead screws for the reception of a slotted key whereby, when said ring is reversed and the gears out of engagement, said jaws may be operated independently of each other by the use of said key.

973,618. AMUSEMENT DEVICE. ANDREW A. BRENGEL, Jersey City, N. J. Filed Jan. 21, 1910. Serial No. 539,377.

1. In an amusement device, a pedestal comprising two members pivotally connected together for movement on a vertical axis, means on one of said members for locking the two members in an operative position, a bearing on one of said members for supporting a teeter-board, and a teeter-board having members coöperating with said bearing whereby said board is supported for oscillation.

2. In an amusement device, a pedestal comprising two

members pivotally connected together and adapted to be positioned in planes at right angles to each other or to be folded into the same plane, means for locking said pedestal members in said position at right angles to each other, a bearing secured to one of the pedestal members and provided with curved recesses for receiving a pintle, a teeter-board provided with a member having two pintles, one of said pintles being positioned in one of said recesses and the other pintle being positioned within the other of said recesses, whereby the teeter-board is adapted for oscillation.



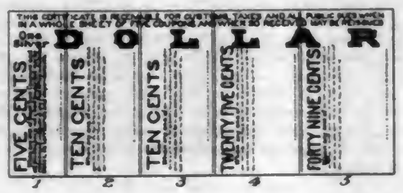
3. In an amusement device, a pedestal comprising two members adapted to be pivotally secured together, a bearing secured to one of said members by means of a bolt, which bolt also secures said pedestal members pivotally together, and a teeter-board supported for oscillation on said bearing.

4. In an amusement device, a pedestal comprising two members adapted to be positioned in the same plane or in planes at right angles to each other, means for locking said members in planes at right angles to each other, a bearing comprising a channeled member having depending flanges which embrace one of the pedestal members and having at either end a semi-cylindrical depression for receiving a pintle, and a teeter-board provided with two pintles adapted to be seated within said semi-cylindrical depressions for oscillatory movement.

5. In an amusement device, a pedestal comprising two members adapted to be pivotally connected together so that said members may be folded into a single plane or positioned in planes at right angles to each other, a bearing secured to one of said members by a bolt which also forms a pivotal connection between the members, and additional means for further securing said bearing to the pedestal member.

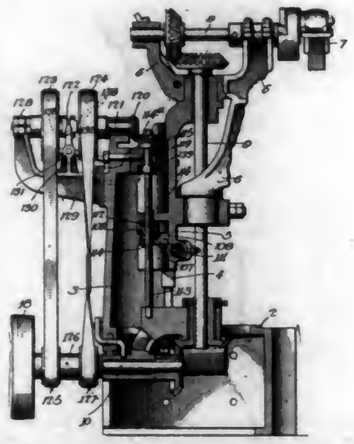
[Claims 6 to 13 not printed in the Gazette.]

973,619. FORM FOR PAPER CURRENCY. BLOOMFIELD BROWER, New York, N. Y. Filed Nov. 9, 1907. Serial No. 401,396.



A currency note having a space extending across substantially its full length on which is printed a statement of the full value of the note substantially filling said space, said note being divided transversely into sections suitably spaced to permit detachment of each without mutilation of the adjacent section or sections, there being printed on each such section a statement of the value of such section, and the sum of the values thereof being less than that of the full value of the integral note, substantially as described.

973,620. POWER-HAMMER. JAMES A. BROWN and FRED E. SUTHERLAND, Los Angeles, Cal., assignors to The Radial Power Hammer Company, Los Angeles, Cal., a Corporation of California. Filed May 27, 1909. Serial No. 498,765.



1. In a power hammer, in combination, a slide, hammer mechanism carried thereby, raising and lowering mechanism for said slide, and automatic means including a lever and pieces on said slide adapted to contact with said lever for suspending the operation of said raising and lowering mechanism at the upper and lower limits of travel of the slide.

2. In a power hammer, in combination, a slide, hammer mechanism carried thereby, raising and lowering mechanism for said slide, devices including a lever for rendering operative said raising and lowering mechanism, means on said slide adapted to contact with said lever for rendering said devices inactive when the slide is near either the upper or lower limits of its travel, and means for holding said devices in an inactive position.

3. In a power hammer, the combination of a slide, with hammer mechanism carried thereby, raising and lowering mechanism for said slide, actuating means associated with said mechanism, including a lever, and contact pieces on said slide for moving said lever to a neutral position when the slide is near either the upper or lower limits of its travel.

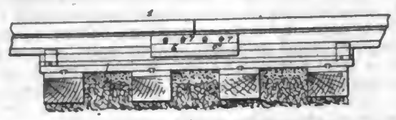
4. In a power hammer, the combination of a slide, with hammer mechanism carried thereby, raising and lowering mechanism for said slide, actuating means associated with said mechanism, including a lever, contact pieces on said slide for moving said lever to a neutral position, and means for retaining the lever in the neutral position when the slide is near either the upper or lower limits of its travel.

5. In a power hammer, the combination with a slide provided with a pocket, of raising and lowering mechanism, including a screw, and means in said pocket for making a non-binding connection of the slide with said screw.

[Claims 6 to 9 not printed in the Gazette.]

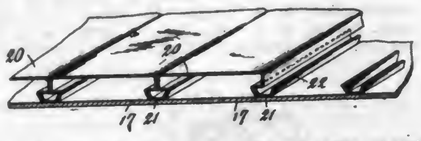
973,621. RAILWAY-JOINT. LESLIE A. BROWN, Bedford, Ind. Filed Oct. 9, 1909. Serial No. 521,887.

1. A railroad joint, comprising upper meeting rail-sections having laterally extended and tapered base-portions, a lower rail-section having laterally extended and tapered portions at its upper edge, supporting the first referred to laterally extended tapered portions at meeting ends thereof, a plurality of transverse supporting members for said lower rail-section, means for securing said lower rail-section to said transverse supporting members, clasps having upright portions provided with opposed openings, the webs of said upper rail-sections having openings alining the aforesaid openings, said clasps having lower portions formed with hooked terminals taking under and engaging the lower surface of the laterally extended portions of said lower rail section, and securing bolts received by said alining openings.



2. A railroad rail joint comprising upper meeting rail-sections having laterally extended and tapered base-portions, a lower rail section having like laterally extended portions at its upper edge supporting the first-referred to extended tapered portions at opposed meeting ends thereof, said lower rail-section being extended each way beyond a vertical line passing through the joint between the upper rail-sections, means for supporting the extended portions of said rail-section and clasps having upright portions embracing the web-portions of said upper meeting rail-sections, the lower portions of said clasps being adapted to engage or receive the tapered extended portions of both the upper and lower rail-sections, the lower ends of said clasps being hooked and terminating directly under and in contact with the laterally extended portions of said lower rail-section, and securing bolts for said clasps passing therethrough and the webs of the upper rail-sections.

973,622. METALLIC SHEATHING. EDWARD G. BUDD, Philadelphia, Pa., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed June 23, 1908. Serial No. 439,007.



1. The combination of a support, a plurality of strips having diverging side walls secured thereto, a sheathing consisting of a plurality of sheet-metal sheathing sections each having a body portion and edge portions turned at an angle to the body portion, said edge portions coacting with the side walls of said strips to hold the sections in position with said body portions forming a substantially unbroken wall, and end strips of angular cross-section extending transversely to said sections and receiving the ends thereof, substantially as set forth.

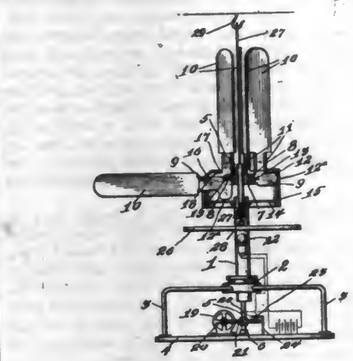
2. The combination of a support, a plurality of sheet-metal strips secured thereto having the lateral edge portions thereof bent to form diverging side walls, and a sheathing consisting of a plurality of sheet-metal sections coacting at their lateral edges with the side walls of said strips to hold the sections in position, substantially as set forth.

3. The combination of a support, a plurality of sheet-metal strips secured thereto having the lateral edge portions thereof bent to form diverging side walls, and a sheathing consisting of a plurality of sheet-metal sheathing sections each having a body portion and edge portions lying at an angle to the body portion, said edge portions coacting with the side walls of said strips to hold the sections in position with said body portions forming a substantially unbroken wall, substantially as set forth.

4. The combination of a support, a plurality of strips secured thereto, a sheathing consisting of a plurality of sheet-metal sheathing sections each having a body portion and edge portions lying at an angle to the body portion, said edge portions coacting with said strips to hold the sections in position with said body portions forming a substantially unbroken wall, said sections being individually removable in the direction of their length and formed to provide spaces between them and said support, and end strips of angular cross-section extending transversely to said sections and receiving the ends thereof, substantially as set forth.

5. The combination of a support, a plurality of strips having diverging side walls secured thereto, a sheathing consisting of a plurality of sheet-metal sheathing sections each having a body portion and edge portions turned at an angle to the body portion, said edge portions being so formed that when the sections are assembled the edge portions of adjacent sections abut throughout a portion of their area and coact with the diverging walls of one of said strips throughout a portion of their area, and end strips of angular cross-section extending transversely to said sections and receiving the ends thereof, substantially as set forth.

973,623. ADVERTISING-SIGN. WILLIAM M. BULLOCK, Grand Rapids, Mich. Filed July 26, 1910. Serial No. 573,863.



1. A sign comprising a hollow standard, a shaft rotatably mounted in said standard, a hub fixed to said shaft, a plurality of hinge members pivotally connected to said hub to swing in a vertical plane, and a sign board fastened to each of said hinge members, a ring mounted on the aforesaid standard, and so arranged that the outer ends of the hinge members will contact the inner face thereof to hold the same in a vertical position, a notch formed in said ring to allow the hinge members to drop to horizontal position, and a cam on the ring for returning the hinge members to a vertical position.

2. A sign comprising a rotatable vertical shaft, a hub fixed to the shaft, signs, attaching shanks for said signs pivoted to the hub to permit the signs to swing in a vertical plane, said shanks having lateral extensions, a stationary annular member surrounding the hub and having its inner periphery engageable by the extremities of the aforesaid extension to hold the aforesaid signs in vertical position, said annular member having a top depression into which the shanks successively drop to lower the signs into horizontal position, and means on one side of the depression engageable by the shanks for swinging the same into vertical position.

3. A sign comprising a rotatable vertical shaft, a hub fixed to the shaft, a stationary annular member surrounding the hub, signs, attaching shanks for said signs pivoted to the hub to swing in a vertical plane, said signs being connected to one of the branches of the shanks, and the extremities of the other branches of the shanks being in engagement with the inner periphery of the annular member to hold the signs in vertical position, said annular member having a top depression into which the shanks successively drop to lower the signs into horizontal position, and means on one side of the depression engageable by the shanks for swinging the same into vertical position.

973,624. LOCKING DEVICE FOR MILK-CAN COVERS. MILLIS B. BURLEY, Philadelphia, Pa. Filed June 8, 1910. Serial No. 565,848.

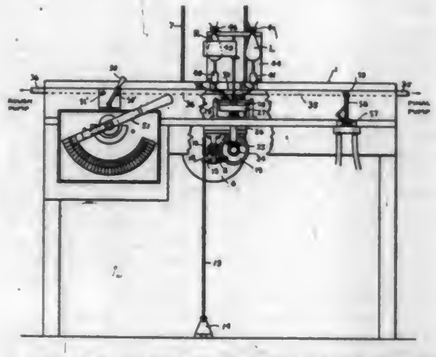


1. A device of the character described, comprising a band, one end of said band having an opening therein, a staple on the other end of said band to receive said opening, a strap connected to an intermediate portion of said band, a link connected to the free end of said strap and adapted to be positioned on the staple and a locking device in the staple locking all of said parts together, substantially as described.

2. A device of the character described, comprising a band, and a strap at right angles thereto, said band comprising a plurality of sections, metal loops between the sections, the ends of said sections bent around said loops and upon themselves, staples located adjacent one end of said band, the other end of said band having openings to receive the staples, a bail having hinged connection with an intermediate section of said band, a metal strap secured to one end of said bail, staple engaging links on the free end of said strap and a locking device in the staple locking all of said parts together, substantially as described.

3. The combination with a milk can, a flaring neck on the can, and a cover on the neck, of a neck band located around the neck of the can, one end of said band having a slot therein, a staple on the other end of said band to enter said slot, a pivoted bail on said band opposite the staple, a strap secured to said bail and positioned over said cover, a link on the free end of said strap to engage said staple, and a pad lock in said staple locking all of said parts together, substantially as described.

973,625. EXHAUSTING-MACHINE. WILLIAM R. BURROWS, Newark, N. J., assignor to General Electric Company, a Corporation of New York. Filed May 11, 1906. Serial No. 316,295.



1. An exhausting machine comprising a valve, means for supporting a bulb in communication with said valve, two pumps connected to said valve, driving means for actuating said valve to connect said bulb to said pumps in succession, and means controlled by said driving means for closing an electric circuit through the filament of the bulb while the bulb is connected to one of said pumps.

2. An exhausting machine comprising a valve having a movable member, a plurality of connections to said valve, means for supporting a plurality of bulbs each in communication with one of said connections, means for making electrical connection to the filaments in the bulbs in said supports, a plurality of pumps connected to said valve, mechanism for actuating said movable valve-member to connect said pumps successively to the bulbs in said supports, and means for closing the circuit of a filament while its bulb is connected to one of said pumps.

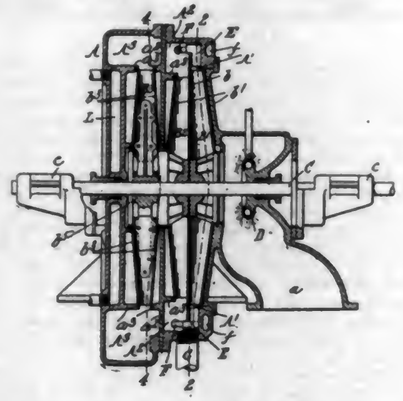
3. An exhausting machine comprising a seat with a plurality of ports, means for connecting a bulb to one of said ports, two pumps connected to other ports in said valve seat, a valve mounted for step by step rotation on said valve seat, and coöperating with said ports to connect said bulb with one pump when in one position, and with the other pump when in the second position, and means actuated in definite relation to said valve to close a circuit through the filament of the bulb as said valve reaches the second position.

4. An exhausting machine comprising a valve, a bulb support arranged to maintain a bulb in communication with said valve, means for making electrical connection to the filament of a bulb in said bulb support, two pumps connected to said valve, means for actuating said valve to connect the bulb to said pumps in succession and a contact device controlled by said valve to close a circuit through the filament of the bulb while the bulb is connected to one of said pumps.

5. An exhausting machine comprising a valve, means for supporting a bulb in communication with said valve, two pumps connected to said valve, driving means for actuating said valve to alternately connect a bulb to said pumps in succession, and means controlled by said driving means for closing an electric circuit through the filament of each bulb while the bulb is connected to one of said pumps.

[Claim 6 not printed in the Gazette.]

973,626. GAS-WASHING MACHINE. WILLIS H. CARRIER, Buffalo, N. Y., assignor to Buffalo Forge Company, Buffalo, N. Y. Filed Dec. 7, 1907. Serial No. 405,514.



1. The combination of a shell having a central intake opening at one end and a discharge opening at the opposite end, a rotary impeller in said shell adjacent to said intake opening and having a central intake and a peripheral discharge for the gas, a second rotary impeller having a peripheral intake and a central discharge for the gas, baffles arranged in said shell around said first impeller against which the gas impinges, the annular space in said shell around said second impeller being unobstructed, and means for discharging water into the annular space in said shell around said second impeller, substantially as set forth.

2. The combination of a shell having a central intake opening at one end and a discharge opening, a rotary impeller in said shell adjacent to said intake opening and having a central intake and a peripheral discharge for the gas, a second rotary impeller having a peripheral intake and a central discharge for the gas, baffles arranged in said shell around said first impeller against which the gas impinges, the annular space in said shell around said second impeller being unobstructed, means for discharging water into the annular space in said shell around said second impeller, and a third rotary impeller having a central intake connecting with the discharge of said second impeller and a peripheral discharge, substantially as set forth.

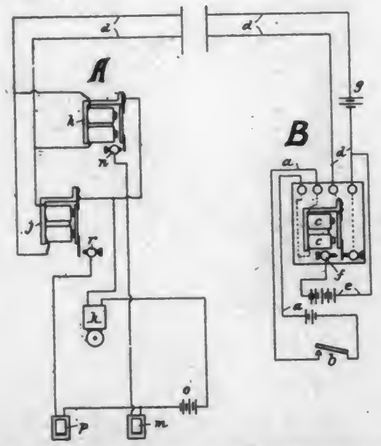
3. The combination in a gas washing machine, of a circular shell, a rotary impeller in said shell for causing the gas to rotate in the shell, and spray nozzles which are arranged to discharge the water into said shell around said impeller in a direction opposite to the direction of rotation of the gas, substantially as set forth.

4. The combination in a gas washing machine, of a circular shell, a rotary impeller in said shell for causing the gas to rotate in the shell, and spray nozzles in said shell around said impeller and constructed and arranged to discharge hollow conical films of water around said impeller in a direction opposite to the direction of rotation of the gas, substantially as set forth.

5. The combination of a shell having a central intake opening at one end and a discharge opening at the opposite end, a rotary impeller in said shell adjacent to said inlet opening and having a central intake and a peripheral discharge for the gas, a second rotary impeller having a peripheral intake and a central discharge, a plate projecting outwardly from the peripheries of said impellers and dividing the surrounding annular space in the shell into two chambers which communicate over the edge of said projecting plate, baffles in one of said chambers, means for spraying water into the other of said chambers, and a third impeller which receives the gas centrally from said second impeller and discharges it peripherally, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

973,627. ELECTRICAL ALARM SYSTEM. FRANK CASTLE, Auckland, New Zealand, assignor of two-fifths to Edward Joshua Riddiford, Wellington, New Zealand, two-fifths to William Edward Bidwill, Featherston, New Zealand, and one-tenth to Leslie Louis McDermott, Auckland, New Zealand. Filed June 8, 1910. Serial No. 565,710.



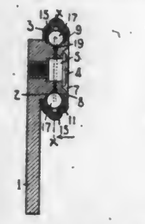
1. In electric alarm systems, the combination with a closed line wire circuit, of a battery circuit adapted to be switched into such wire circuit by the operation of a thermostat or other local circuit, two relays of respectively differential resistances arranged in the line wire circuit, and an alarm indicator circuit adapted to be operated by the movement of the armature of each relay, substantially as herein specified.

2. In electric alarm systems, the combination with a closed line wire circuit, of two relays of respectively differential resistances arranged in such circuit, an alarm indicator circuit adapted to be operated by the movement of each relay armature, and means whereby the differential resistances of the relays may be overbalanced upon the operation of a thermostat or other local circuit, substantially as herein specified.

3. In electric alarm systems, the combination with a closed line wire circuit, of a thermostat or other local relay circuit arranged with its relay armature in the line circuit, a battery circuit adapted to be brought into the line circuit by the movement of the relay armature, a pair of relays of respectively differential resistances arranged in the line circuit and an alarm indicator circuit adapted to be operated by the movement of each relay armature, substantially as specified.

4. In electric alarm systems, the combination with a closed line wire circuit, of two relays of respectively differential resistances arranged in such circuit, an alarm indicator adapted to be operated by the movement of each relay armature, means whereby the differential resistances of the relays may be overbalanced upon the operation of a thermostat or other local circuit, a switch interposed in the line wire circuit and a battery adapted to be switched into such circuit by the operation of the switch, substantially as specified.

973,628. TYPE-WRITING MACHINE. THOMAS J. COO, Toronto, Ontario, Canada, assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Nov. 6, 1907. Serial No. 400,945.



1. The combination of a type bar, a support therefor, a single set of anti-friction balls and a single set of anti-friction rollers of a different shape between said type bar and said support, the said sets of balls and rollers together sustaining the weight of the type bar and the said single set of balls alone receiving the axial thrust of the bar in both directions.

2. The combination of a type bar, a support therefor, alternating circularly arranged anti-friction balls and rollers of a different shape between said type bar and its support, the axes of the rollers being parallel with the axis of revolution of the type bar, and independent means for effecting a relative adjustment between the bearings for said balls and rollers.

3. The combination of a type bar, a support therefor, alternating circularly arranged anti-friction balls and rollers of a different shape between said type bar and its support, the axes of the rollers being parallel with the axis of revolution of the type bar, means for effecting a relative adjustment for the rollers in one direction, and independent means for effecting a relative adjustment between the bearings for the balls in another direction.

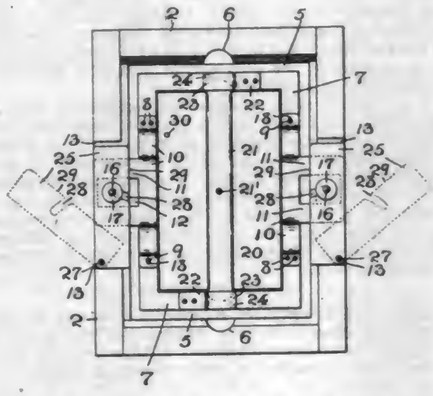
4. The combination of a type bar, a support therefor and anti-friction balls and rollers of a different shape between said type bar and its support, the rollers supporting the type bar for turning movement on its axis of rotation

without taking the axial thrust of the bar and the balls taking the axial thrust of the bar, the median plane of the type bar passing through said balls and rollers.

5. The combination of a type bar, a support therefor, anti-friction balls and loosely disposed rollers of a different shape between said type bar and support, the bearing for the rollers on both the type bar and support being parallel to the axis of revolution of the type bar and the bearings on both the type bar and its support for the balls being inclined to the axis of revolution of the type bar.

[Claims 6 to 14 not printed in the Gazette.]

973,629. PHOTOGRAPHER'S PRINTING-FRAME. GEORGE L. COURSEN, Newark, N. J. Filed Jan. 17, 1910. Serial No. 538,336.



1. A photographic printing frame comprising a main frame-like body provided with an exposing opening and formed with a negative-receiving space adapted to receive a negative, an auxiliary card-holding adjusting frame-like body movably and adjustably disposed in said negative-receiving space of said main frame-like body for adjusting said auxiliary frame-like body, spring-like body-portions mounted upon said auxiliary frame-like body, and lugs extending from said spring-like bodies, said lugs being formed with open portions and being movably disposed upon portions of the said main frame-like body.

2. A photographic printing frame comprising a main frame-like body provided with an exposing opening and formed with a negative-receiving space adapted to receive a negative, an auxiliary card-holding adjusting frame-like body movably and adjustably disposed in said negative-receiving space of said main frame-like body for adjusting said auxiliary frame-like body, spring-like body-portions mounted upon said auxiliary frame-like body, lugs extending from said spring-like bodies, said lugs being formed with open portions and being movably disposed upon portions of the said main frame-like body, and means connected with said main frame-like body in binding engagement with said lugs for immovably securing said auxiliary frame-like body in its adjusted position with said main frame-like body.

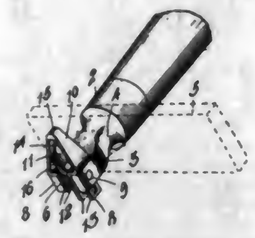
3. A photographic printing frame comprising a main frame-like body provided with an exposing opening and formed with a negative-receiving space adapted to receive a negative, an auxiliary card-holding adjusting frame-like body movably and adjustably disposed in said negative-receiving space of said main frame-like body for adjusting said auxiliary frame-like body, spring-like body-portions mounted upon said auxiliary frame-like body, lugs extending from said spring-like bodies, said lugs being formed with open portions and being movably disposed upon portions of the said main frame-like body, screw-threaded posts extending upwardly from said main frame-like body and through the open portions of the lugs of said spring-like body-portions, clamping plates mounted upon said posts, and nuts serving as finger-pieces screwed upon said posts, and in separable binding engagement with said clamping plates.

4. A photographic printing frame comprising a main frame-like body provided with an exposing opening and formed with a negative-receiving space adapted to receive a negative, an auxiliary card-holding adjusting frame-like body movably and adjustably disposed in said negative-receiving space of said main frame-like body for adjusting said auxiliary frame-like body, spring-like body-portions mounted upon said auxiliary frame-like body, lugs extending from said spring-like bodies, said lugs being formed with open portions and being movably disposed upon portions of the said main frame-like body, screw-threaded posts extending upwardly from said main frame-like body and through the open portions of the lugs of said spring-like body-portions, clamping plates mounted upon said posts, and nuts serving as fingerpieces screwed upon said posts, and in separable binding engagement with said clamping plates.

5. A photographic printing frame comprising a main frame-like body provided with an exposing opening and formed with a negative-receiving space adapted to receive a negative, an auxiliary card-holding adjusting frame-like body movably and adjustably disposed in said negative-receiving space of said main frame-like body for adjusting said auxiliary frame-like body, spring-like body-portions mounted upon said auxiliary frame-like body, lugs extending from said spring-like bodies, said lugs being formed with open portions and being movably disposed upon portions of the said main frame-like body, screw-threaded posts extending upwardly from said main frame-like body and through the open portions of the lugs of said spring-like body-portions, clamping plates mounted upon said posts, nuts serving as fingerpieces screwed upon said posts, and in separable binding engagement with said clamping plates, a card-clamping element in said auxiliary frame-like body, holding members provided with spring-tongues secured upon said auxiliary frame-like body, and a bar pivoted to said clamping element, said bar having its end-portions in separable and frictional holding engagement with the spring-tongues of said holding members.

[Claims 6 to 10 not printed in the Gazette.]

973,630. TRACE-FASTENER. JAMES C. CRUTCHFIELD, Greensboro, N. C. Filed Jan. 20, 1910. Serial No. 539,086.



1. A trace fastener comprising a member having a trace-receiving end formed with a vertically extending recess, the inner wall of said recess having an inwardly extending seat, a pivot pin arranged in said recess, a trace guiding and locking member slotted to receive said pivot pin and having a reduced end to enter said seat in the recess when the two members are in longitudinal alinement, and a movable shouldered dog carried by the trace guiding and locking member and movable with respect thereto, whereby it may be moved into or out of engagement with said pivot pin.

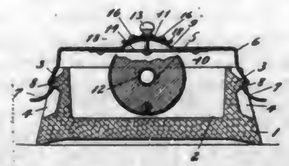
2. A trace fastener comprising a member having a trace-receiving end formed with a vertically extending recess, the inner wall of said recess having an inwardly extending seat, a pivot pin arranged in said recess, a trace guiding and locking member slotted to receive said pivot pin and having a reduced end to enter said seat in the recess when the two members are in longitudinal alinement, and a spring dog carried by the trace guiding and locking member and having a shouldered portion to engage said pivot pin and a finger piece whereby it may be moved to retract its shouldered portion from engagement with said pivot pin.

3. A trace fastener comprising a member having a trace-receiving end formed with a vertically extending recess, the inner wall of said recess having an inwardly extending seat, a pivot pin arranged in said recess, a trace guiding and locking member slotted to receive said pivot pin and having a reduced end to enter said seat in the recess when the two members are in longitudinal alinement, and a dog arranged within said trace guiding and locking member and composed of a longitudinally curved spring secured in the last mentioned member, and provided with a beveled face and a shoulder for engagement with said pivot pin, the longitudinally curved portion of said spring dog projecting beyond the side face of said member to form a finger piece.

4. A trace fastener comprising a member having a trace-receiving end formed with a vertically extending recess, the inner wall of said recess having an inwardly extending seat, a pivot pin arranged in said recess, a trace guiding and locking member slotted to receive said pivot pin and having a reduced end to enter said seat in the recess when the two members are in longitudinal alinement, and a locking dog arranged within said trace guiding and locking member and composed of a leaf spring having its intermediate portion fixed in the outer end of the last mentioned member, one end of said spring being curved longitudinally to provide a projecting finger piece and its extremity being formed with a beveled face and a shoulder for engagement with said pivot pin, and the other end of said spring being curved and engaged with the finger piece to provide a resilient brace.

5. A trace holder comprising a member having a trace-receiving end formed with a recess, the inner wall of said recess containing an inwardly extending seat, a pivot pin arranged in said recess, a trace guiding and locking member formed from a strip of sheet metal folded upon itself at its center and bent to form a tapered body portion and a reduced end, the reduced end being slotted longitudinally and having a portion to enter said seat in the recess of the first mentioned member, the formation of said reduced end of the trace guiding and locking member providing a shoulder for engagement with the outer extremity of the first mentioned member, and a beveled and shouldered spring pawl carried by the trace guiding and locking member for engagement with said pivot pin.

973,631. MOISTENER. JAMES S. CUSHMAN, New York, N. Y. Filed Feb. 18, 1909. Serial No. 478,658.

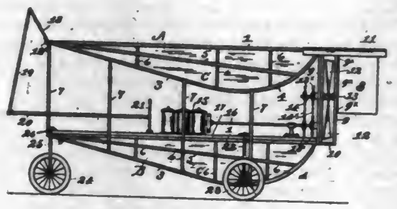


1. A moistener comprising a body portion having a fluid containing well; a roller pivotally mounted in said body portion to extend within said well; and a guide curved to extend partly around said roller and pivotally mounted on said body portion to be alternately disposed to extend over said roller and to be removed therefrom.

2. A moistener comprising a body portion having a fluid containing well; a roller pivotally mounted in said body portion to extend within said well; a top for said body portion extended over said well and having an opening therein for the extension of said roller therethrough; a guide curved to extend partly around said roller and pivoted on said top to be disposed alternately to extend over said roller and to be removed therefrom; and resilient means for maintaining the said guide cover in guided relation with said roller.

3. A moistener comprising a body portion having a fluid containing well; a roller pivotally mounted in said body portion to extend within said well; a top for said body portion extended over said well and having an opening therein for the extension of said roller therethrough; a guide curved to extend partly around said roller and pivoted on said top to be disposed alternately to extend over said roller and to be removed therefrom; and spring actuated means for holding the said guide cover in fixed position over the said roller and pressed against the said top.

973,632. AEROPLANE. JOHN M. DAVIS, McGraw, N. Y., assignor of one-half to Clarence A. Metzler, Binghamton, N. Y. Filed Jan. 31, 1910. Serial No. 540,955.



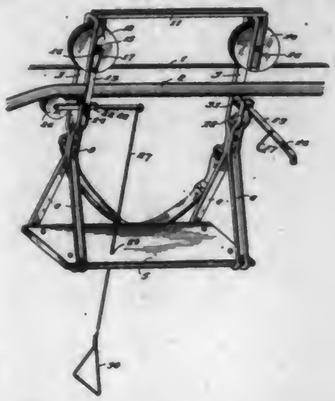
1. An aeroplane comprising two planes disposed one above the other, and the upper plane having the greater area, each plane formed with a flat front end portion and having a transverse curvature gradually increasing from its flat portion to the rear end thereof as set forth.

2. An aeroplane comprising two planes disposed parallel one above the other and each consisting of a frame having a suitable covering, the upper plane having greater area than the lower, and each plane formed with forwardly convergent sides, a straight transverse front end, and a curved rear end as set forth.

3. An aeroplane comprising two rigidly united planes arranged parallel one above the other, and each plane having forwardly convergent sides, and a gradually increasing cross-sectional curvature toward its rear end, a tilt-plane having a hinged connection with the front end of the upper plane, and a rudder connected to the rear ends of the two planes and provided on its top with a shield curved transversely to correspond with the rear end portion of the upper plane and extending over the same as set forth.

4. An aeroplane comprising two planes of equal lengths and disposed parallel one above the other, and both formed with forwardly convergent sides, the upper plane having the greater area, and each plane being formed with a flat front end portion and having a gradually increasing cross-section curvature from its flat portion to the rear end and the latter end curved outwardly, a tilt-plane hinged to the front end of the upper plane and projecting beyond the sides thereof, and a horizontally swinging rudder supported at the rear ends of the two planes and provided on its top with a shield curved correspondingly with the transverse curvature of the rear portion of the upper plane and extending over said plane as set forth.

973,633. LINEMAN'S CHAIR. JOHN W. DAVIS, San Antonio, Tex. Filed Mar. 19, 1910. Serial No. 550,390.



1. A device of the class described, comprising a supporting frame, a seat carried thereby, a lever member carried by said supporting frame, and means carried by said lever member and adapted to be controlled by the foot of the operator for supporting or raising a wire supporting cable in a desired position relative to the lineman's cable or the cable adapted to support the lineman's chair.

2. In a device of the class described, the combination with a main supporting cable, and a wire supporting cable, of a lineman's chair comprising a framework, rollers carried by said framework and traveling upon said main or supporting cable, said wire supporting cable adapted to be suspended below said main or supporting cable, lever means carried by said framework and adapted to engage said wire supporting cable for raising the same to a desired height relative to the main supporting cable, and means engaging said lever member for allowing the free operation of the lever member by the operator.

3. In a device of the class described, the combination with a main supporting cable, and a wire supporting cable, of a lineman's chair adapted to be supported by said main supporting cable, means carried by said chair and adapted to engage said wire supporting cable for raising the same to a desired position relative to the main supporting cable.

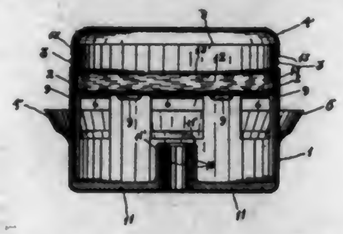
4. A device of the class described, comprising a pair of end frames, said frames provided with lower looped-ends, a seat supported by said lower looped-ends of said supporting frames, rollers carried by the upper ends of said frames and adapted to engage the supporting cable for suspending the chair therefrom, and strengthening means engaging the top of said frames for connecting the same.

5. A device of the class described comprising a pair of end frames, a seat supported between the lower ends thereof, said frames provided with overhanging upper ends, connecting means engaging the upper ends of said frames, rollers supported by said overhanging ends of said frames, and roller means supported by said frames intermediate the said first-mentioned rollers and the loop-portions of said frames.

[Claims 6 to 11 not printed in the Gazette.]

973,634. FUMIGATING APPARATUS. CORNELIUS DE PREE, ABRAHAM LEENHOUTS, and JOHN J. MEESEN, Holland, Mich. Filed May 16, 1907. Serial No. 373,947.

1. As an article of manufacture, a prepared fumigating device consisting of, in combination, a lamp bowl having an imperforate bottom and openings for the circulation of air to the flame, a reservoir having an imperforate bottom carried by the lamp bowl and adapted to contain the material to be vaporized, a non-combustible wick carried immediately by the bottom of the lamp bowl and standing thereon, and a fusible combustible body of paraffin also carried immediately by the lamp bowl and by which alone the wick is held in erect position within the lamp.



2. As an article of manufacture, a prepared fumigating device consisting of, in combination, a lamp bowl having an imperforate bottom and having openings for the circulation of air to the flame, a reservoir having an imperforate bottom carried by the lamp bowl and adapted to contain the material to be vaporized, a non-combustible wick carried immediately by the bottom of the lamp bowl and standing thereon, and a solid fusible combustible body of paraffin also carried immediately by the lamp bowl and by which alone the wick is held in erect position within the lamp, which solid oil body is continued in a thin sheet along the sides of the wick upwardly extending from the main portion thereof.

3. As an article of manufacture, a prepared fumigating device consisting of, in combination, a lamp bowl having an imperforate bottom and having openings for the circulation of air to the flame, a reservoir having an imperforate bottom carried by the lamp bowl and adapted to contain the material to be vaporized, a hollow self supporting non-combustible wick carried immediately by the bottom of the lamp bowl and standing thereon and a solid fusible combustible body of paraffin also carried immediately by the lamp bowl and by which alone the wick is held in erect position within the lamp, which solid body is continued in a thin sheet along the sides of the wick upwardly extending from the main portion thereof, whereby as the surrounding solid fuel body is consumed the wick remains self-supporting.

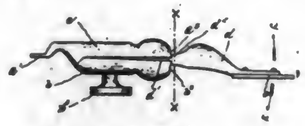
4. As an article of manufacture, a prepared fumigating device consisting of, in combination, a lamp bowl having an imperforate bottom and having openings for the circulation of air to the flame, a reservoir having an imperforate bottom carried by the lamp bowl and adapted to contain the material to be vaporized, a wick carried by such lamp bowl, a solid fusible combustible body of paraffin carried by the lamp bowl and surrounding the wick and an upwardly and outwardly flaring guard flange springing from the lamp bowl at a point below the openings in such bowl snd extending to a point above the same.

5. As an article of manufacture, a prepared fumigating device consisting of, in combination, a lamp bowl having an imperforate bottom and having openings therein for the circulation of air to the flame, a self-supporting, non-combustible wick resting upon the bottom of such lamp bowl, a solid fusible combustible body of paraffin contained in such bowl and surrounding and securing said wick in position, and a reservoir carried by and above such lamp bowl and containing a formaldehyde body and a moistening agent incorporated therewith.

[Claims 6 to 21 not printed in the Gazette.]

973,635. BALL-AND-SOCKET JOINT. FREDERICK A. DILLINGHAM, Troy, Ohio, assignor to The Troy Carriage Sun Shade Company, Troy, Ohio, a Corporation of Ohio. Filed Jan. 4, 1909. Serial No. 470,690.

1. In a device of the character described, two members, one of said members having a ball and the other a socket to receive the ball, and an intermediate member between said ball and socket having an engagement therewith which will permit one of said members to make a complete revolution in one plane of direction and also permit said movable member to have another movement in another plane of direction, substantially as specified.



2. In a device of the character described, two members, said members having a ball and socket joint and an intermediate socket arranged therein, the respective parts of the joint and said intermediate socket having interengaging parts which will permit one of said members to have a complete revolution in one plane of direction and also to have a movement in another plane of direction, substantially as specified.

3. In a device of the character described, two members, one of said members having a main socket and the other a ball, an intermediate member having a socket and fitted in said main socket and receiving said ball, said socketed members having interengaging parts permitting a movement of one of said socketed members with respect to the other in one plane of direction, and said intermediate socketed member and said ball also having interengaging parts permitting a complete revolution of one of said members in another single plane of direction, substantially as specified.

4. In a device of the character described, two members, one of said members having a ball and the other member having a main socket, an intermediate member located in said main socket and having a socket to receive said ball, said intermediate member having a groove in its socket to receive a tongue on said ball, and said main socket member having an interior groove in its socket to receive a tongue on said intermediate member, substantially as specified.

5. In a device of the character described, two members one of said members being formed in sections and having means for clamping the sections together, said sectional member having a main socket and the other member having a ball, an intermediate member also formed in sections located in said main socket and having a socket to receive the ball, said main socket member and intermediate member having interengaging parts permanently secured thereto, and said intermediate member and ball also having interengaging parts permanently secured thereto, substantially as and for the purpose specified.

[Claims 6 to 8 not printed in the Gazette.]

973,636. COMBINED LOG-SCALE, TREE-CALIPERS, AND STAFF. CHARLES A. DIVINE, Franklin, N. C. Filed Feb. 16, 1910. Serial No. 544,227.



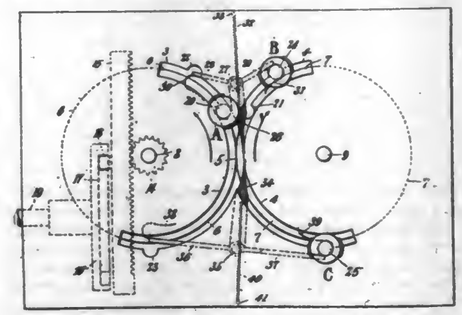
1. A device of the class described comprising a split staff, a ferrule carried by one section of the latter and arranged to receive an end of the opposite section, means for securing the opposite ends of the staff sections together, and parallel measuring tapes connecting said staff sections to indicate the distance therebetween when separated.

2. A device of the class described comprising a split staff, means for detachably connecting the sections of the same, axially parallel tape carrying reels carried by one of the sections, and tapes on said reels connecting the oppositely disposed sections to indicate the distance between said sections when separated.

3. A device of the class described comprising detachable oppositely movable caliper members, means for removably connecting said members, and parallel measuring tapes comprising a connection between said members and adapted to indicate the distance therebetween when separated.

4. An article of the class described comprising detachable oppositely movable caliper members, a ferrule carried by one of said members and adapted to receive the opposite member detachably therein, guide members carried by the opposite sections and adapted to aline with each other longitudinally of the staff, a sliding pin member coöperating with the sections for detachably holding the latter together, and measuring tapes connecting the two sections for indicating the distance between the same.

973,637. BRAIDING-MACHINE. GUSTAVO DONAT, Passaic, N. J. Filed Jan. 8, 1910. Serial No. 537,002.



1. In a braiding machine, the combination of traveling bobbin-spindles, oscillating carriers for said spindles, provided with means for reciprocating or rocking said carriers, intersecting race-ways for said spindles, means for actuating said carriers to move the spindles along the race-ways, and means for diverting each spindle from one carrier to another to shift said spindle to an intersecting race-way and continue its movement along the latter.

2. In a braiding machine, the combination of three traveling bobbin carrying spindles, two intersecting race-ways each having two terminals, and means for moving said spindles along the race-ways *seriatim* through said intersecting point from one terminal to another and returning the said spindles *seriatim* through said intersecting point from one terminal to another.

3. In a braiding machine, the combination of three traveling bobbin carrying spindles, two intersecting race-ways each having two terminals, means for moving said spindles along the race-ways *seriatim* through said intersecting point from one terminal to another and returning the said spindles *seriatim* through said intersecting point from one terminal to another, and means for diverting a traveling spindle from one race-way to another at the intersecting point thereof at a predetermined time, said diverting means being automatically operated by another of said spindles as it comes to rest at a terminal point.

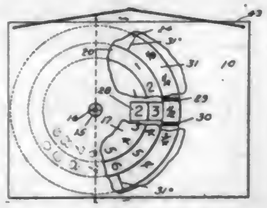
4. In a braiding machine, the combination of three traveling bobbin carrying spindles, two intersecting race-ways each having two terminals, means for moving said spindles along the race-ways *seriatim* through said intersecting point from one terminal to another and returning the said spindles *seriatim* through said intersecting point from one terminal to another, and switching mechanism for switching a traveling spindle at the intersecting point in the race-ways from one race-way to another at a predetermined time, said switching mechanism being operatively connected with and actuated by a spindle when the latter reaches a terminal or resting point.

5. In a braiding machine, the combination of traveling bobbin-carrying spindles, intersecting race-ways each having two terminals, means for moving each spindle in turn along the race-ways and through the intersecting point thereof to a terminal, and retaining it there during the transverse of the other spindles in turn and means for re-

turning each spindle in turn through the intersecting point to another terminal, mechanism for switching a spindle at the intersecting point from one race-way to another, means for removing a spindle from the race-way upon its arrival at a terminal, said removing means being operatively connected with said switching mechanism whereby the latter is actuated by the operation of said removing means.

[Claims 6 to 17 not printed in the Gazette.]

973,638. CHANGEABLE PRICE AND COMMODITY EXHIBITOR. ELMER F. DORSEY, Kansas City, Mo. Filed Nov. 9, 1909. Serial No. 527,063.



1. A changeable exhibitor comprising a sign board having a sight opening and slots one above another adjacent to said opening, revoluble disks varying in circumference on the back of the sign board, provided with characters placed to be displayed through said sight opening, and a curved strip having its ends extending from the outer surface of said sign board through said slots and connected with the face portion of one of said disks, and provided with suitable characters.

2. A changeable exhibitor comprising a sign board having a rectangular sight opening, and slots one above another and adjacent to the inner end of said sight opening, a pivot extending through the sign board from the back thereof and provided with a flange secured to the forward or outer surface of the sign board, a number of revoluble disks varying in circumference on the back of the sign board mounted on said pivot provided with suitable characters and having central openings varying in size, telescopic sleeves on said pivot connected with the respective disks, a curved, flexible strip upon the outer surface of the sign board having its ends extending through said slots and detachably connected with the face portion of one of said disks, said strip having suitable characters applied thereto.

973,639. BLADE-TIE. DELANO H. DUGAR, Wilkinsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed May 21, 1907. Serial No. 374,962.



1. In combination with a blade holding element, a plurality of blades provided with notches on each side, and a tie member adapted to engage with said notches.

2. In combination with a blade holding element, a plurality of blades notched on each side and adapted to engage with a tie member provided with a plurality of holes.

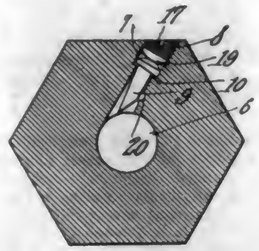
3. In combination with a blade mounting element, a plurality of blades notched on each side, and a tie member provided with a plurality of holes and adapted to be calked into place.

4. In combination with a plurality of blades notched on each side, a tie member adapted to engage with said blades and notches.

5. In combination with a plurality of blades provided with notches on each side, a tie member provided with holes to engage said blades and adapted to be pinched into said notches.

[Claims 6 to 8 not printed in the Gazette.]

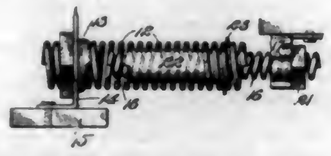
973,640. LOCK-NUT. GEORGE S. DUNKLE and MILLARD M. TAWNEY, Harrisburg, Pa. Filed Mar. 23, 1910. Serial No. 551,084.



1. A nut having a bore communicating with its bolt opening, a tooth mounted in the bore to rock, and a plug fitted in the bore and bearing against the said tooth, the said plug being adjustable whereby to rock the tooth.

2. A nut having a shouldered bore communicating with its bolt opening, a tooth fitted in the bore and having a head resting partly upon the said shoulder, and a plug threaded into the bore and bearing against the head of the tooth, the said plug being adapted to depress the head and rock the tooth.

973,641. SPRING-TENSION REGULATOR. BIRNEY DYSART, St. Louis, Mo., assignor to Adding Typewriter Company, St. Louis, Mo., a Corporation of Missouri. Filed Sept. 3, 1908. Serial No. 451,606.



1. A spring, a second spring forming a continuation of said first-named spring, a device encircling a part of one of said springs operable to vary the combined length of said two springs, and an adjustable attaching device connected to one of said two springs, substantially as specified.

2. A spring, a second spring, and an adjustable member incased within one of said springs connecting said two springs together, whereby they are formed into a connected series which is longer than either of said springs alone, substantially as specified.

3. A spring, a second spring extending into said first-named spring, supports for the outer ends of said two springs, and adjustable means connecting said two springs together.

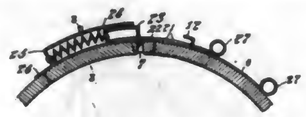
4. Actuating means comprising two springs one of which extends into the other, and an element for adjusting the tension of said two springs while they are in operative position.

5. Actuating means comprising two springs one of which extends into the other, an element operable to adjust the tension of said two springs at their telescoping ends, and a device operable to draw out or compress the outer end of one of said springs, substantially as specified.

[Claims 6 to 9 not printed in the Gazette.]

973,642. EMBROIDERY-HOOP. HARRY C. FERGUSON, Canton, Ohio, assignor to The Empire Novelty Company, Canton, Ohio, a Corporation of Ohio. Filed Feb. 9, 1910. Serial No. 542,957.

1. A hoop composed of two telescoping rings, one of the rings cut, a guide plate secured to the outer ring, said guide plate adapted to bridge the cut and provided with flanges adapted to embrace the edges of said outer ring, said guide plate provided with guide flanges, a slidable plate mounted upon said guide plate, said slidable plate consisting of a toothed and slotted plate, a spring housing and a guide flange, a fixed plate provided with a knob or pull at one of its ends and its opposite end provided with a flange having a cut out portion and a stop plate and a spring located in the housing and means for confining said spring, substantially as and for the purpose specified.

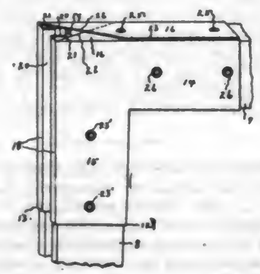


2. A hoop composed of two telescoping rings, one of the rings cut, a plate adapted to bridge the cut, said plate secured to the cut ring, a slotted plate provided with teeth and a slot adjacent the teeth, said plate slidably mounted upon the plate adapted to bridge the cut, a spring adapted to be actuated by the sliding plate, a fixed plate located at one side of the cut in the ring, said fixed plate provided with means adapted to engage the teeth in the slotted plate, substantially as and for the purpose specified.

3. A hoop composed of two telescoping rings, one of the rings cut, a guide plate secured to the cut ring upon one side of the cut and extended over the cut, said plate provided with a recess at its end and guide flanges, a slotted and toothed plate slidably mounted upon the fixed guide plate, a spring adapted to be actuated by the movements of the toothed and slotted plate, a fixed plate provided with a knob at one of its ends, its opposite ends provided with a right angled flange, said right angled flange adapted to extend through the recess in the end of the guide plate and a spring adapted to be actuated by the movements of the notched and toothed plate, substantially as and for the purpose specified.

4. A hoop composed of two telescoping rings, one of the rings cut, a guide plate adapted to bridge the cut, said guide plate provided with guide flanges upon its outer face and its edges respectively, a plate slidably mounted upon the guide plate, said slidable plate provided with means for guiding the movements of the slidable plate and a spring adapted to be actuated by the movements of the slidable plate, a fixed plate and means for holding the slidable plate in fixed adjustment, substantially as and for the purpose specified.

973,643. CORNER-PIECE FOR SCREEN-FRAMES. GILBERT E. FERRY, Omaha, Nebr. Filed Oct. 18, 1909. Serial No. 523,170.



1. In combination with the horizontal and vertical strips of a frame, said vertical strip having a longitudinal groove, a fastening means therefor, comprising a metallic, apertured, L-shaped plate adapted to have a seating upon one of the sides of said horizontal and vertical strips and provided with flanges upon its longitudinal edges adapted to have seatings upon the upper and lower faces of said horizontal strip and upon the outer and inner faces of the vertical strip, the flange upon the outer face of said vertical strip being provided with a longitudinal wing embracing one of the walls of said groove; and holding-members connecting between the L-shaped plate and said strips and traversing the apertures of said plate.

2. In combination with the horizontal and vertical strips of a frame, said vertical strip being provided with a longitudinal groove, a fastening means therefor, comprising a pair of metallic, apertured, L-shaped plates adapted to have seatings upon the sides of said horizontal and vertical strips and provided with flanges upon their longitudinal edges adapted to have seatings upon the upper and lower faces of said horizontal strip and upon the outer and inner faces of the vertical strip, the flanges upon the outer faces of said vertical strip being provided with longitudinal wings adapted to embrace the walls of said groove; and a plurality of holding-members connecting between the L-shaped plates and said strips and traversing the apertures of said plates.

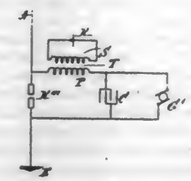
3. In combination with the horizontal and vertical strips of a frame, the vertical strip being provided with a longitudinal groove, a fastening means therefor, comprising a pair of L-shaped plates adapted to have seatings upon the sides of the strips and having longitudinal flanges adapted to have seatings upon the outer and inner faces of said strips and to engage within said groove; and a plurality of keepers connecting between said strips and said plates.

4. In devices for the purpose described, the combination with the horizontal and vertical strips of a frame, the vertical strip having a longitudinal groove opening upon its upper terminal, comprising a pair of plates formed L-shaped and adapted to have seatings upon the sides of said strips; said plates being provided with transversely-formed edges for seatings upon the outer and inner faces of the vertical strip, and with longitudinal flanges adapted to have seatings upon the upper face of the horizontal strip and upon the upper terminal of the vertical strip outwardly of said groove, and a plurality of impaling members transversely traversing said plates and said strips.

5. In combination with the horizontal and vertical strips of a frame, said vertical strip having a longitudinal groove, a fastening means therefor, comprising a metallic, apertured, L-shaped plate adapted to have a seating upon one of the sides of said horizontal and vertical strips and provided with flanges upon its longitudinal edges adapted to have seatings upon the upper and lower faces of said horizontal strip and upon the outer and inner faces of the vertical strip; and holding-members connecting between the L-shaped plate and said strips, and traversing the apertures of said plate.

[Claim 6 not printed in the Gazette.]

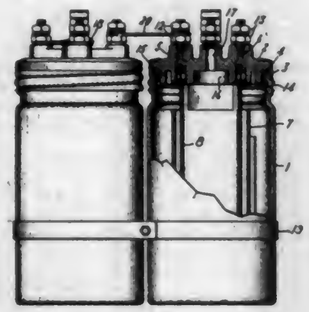
973,644. AEROPHONE. LEE DE FOREST, New York, N. Y., assignor, by mesne assignments, to De Forest Radio Telephone Co., a Corporation of New York. Filed Nov. 12, 1906. Serial No. 342,964.



1. In a system for transmitting articulate speech by free and unguided electro-magnetic waves, an elevated conductor for radiating said waves a singing-arc circuit connected to and operating to create high frequency electrical oscillations in said elevated conductor, and means associated with said circuit for varying the amplitude of the oscillations therein by and in accordance with sound waves.

2. In a system for transmitting articulate speech by free and unguided electromagnetic waves, an elevated conductor for radiating said waves, a singing arc circuit connected to and operating to create high frequency electrical oscillations in said elevated conductor, means for varying the amplitude of the oscillations in said circuit by and in accordance with sound waves and a transformer inductively associating said means with said circuit, the winding of said transformer being so arranged that a relatively small difference of potential is developed at the terminals of the secondary thereof.

973,645. LIGHTNING-ARRESTER. FRANK T. FORSTER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 10, 1909. Serial No. 477,187.



1. An electrolytic cell comprising a vessel containing an electrolyte, a cover having an opening therethrough, an electrode having an integral ear for extending into said opening, a lug secured to said ear by a joint which is in said opening when said electrode is in place, and a stopper for the lower end of said opening coöperating with said ear to protect the joint between said ear and said lug.

2. An electrolytic cell comprising a vessel containing an electrolyte, a cover having a slot, an electrode having an integral ear extending into said slot, a lug secured inside said slot to said ear and projecting outside said cover, means for clamping said lug to said cover, and a washer on said ear with its edges in engagement with said cover to protect the joint between said ear and said lug.

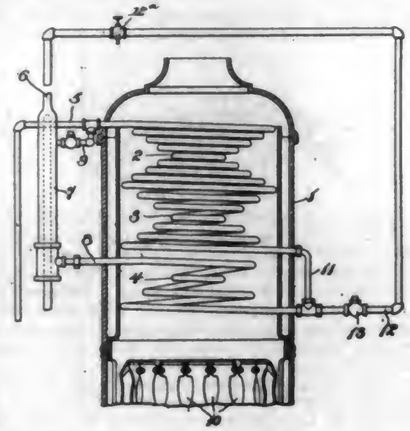
3. An electrolytic cell comprising a vessel containing an electrolyte, a cover for said vessel having a slot with its lower portion enlarged, an electrode having an integral ear to extend into the enlarged portion of said slot, a lug secured to said ear to extend above the cover, means for securing said lug to said cover, and a washer mounted on said ear with its edges in engagement with the walls of the enlarged portion of said slot to protect the joint between said ear and said lug.

4. An electrolytic cell comprising a vessel containing an electrolyte, a cover for said vessel having therein a slot with its lower portion enlarged, an electrode having an ear to extend into the enlarged portion of said slot, a lug secured to said ear to extend through said slot, means for clamping said lug to said cover, and a stopper mounted on said ear to close the lower end of said slot and thereby protect the joint between said ear and said lug.

5. An electrolytic cell comprising a vessel containing an electrolyte, an insulating cover for said vessel provided with two sets of slots, two concentric electrodes immersed in the electrolyte and each having a set of projections arranged to extend through a corresponding set of slots, clamping means coöperating with said projections to clamp them to the cover, and a groove extending along the inner face of said cover between the two sets of slots.

[Claim 6 not printed in the Gazette.]

973,646. INSTANTANEOUS WATER-HEATER. REYNOLDS C. FRAMPTON, Allegheny, Pa., assignor to Pittsburg Water Heater Company, Allegheny, Pa., a Corporation of New Jersey. Filed Nov. 6, 1907. Serial No. 400,905.



1. A boiler comprising a tube of substantially uniform diameter throughout arranged in a series of coils one above the other, with the coils spaced apart distances decreasing from the bottom of the boiler to the top.

2. A coil tube boiler comprising a plurality of sets of coils arranged one above the other and having the spaces between the coils of the sets decreasing from the bottom to the top of the heater, the tubing of the boiler being of substantially uniform diameter throughout.

3. A coil tube boiler comprising a plurality of double helico volute formations arranged one above the other and having the spaces between the coils of the lower formation greater than those between the coils of the upper formations, the tubing of the boiler being of substantially uniform diameter throughout.

4. The combination in a coil tube boiler having a plurality of sets of coils one beneath the other in series, the lower one of which discharges from its upper end, of a coupling between the lower end of the lower set and the lower end of the set above, a return circulation pipe connected to the coupling, an inlet pipe connected to the upper end of the upper set, and means for preventing a back flow through such return circulation pipe.

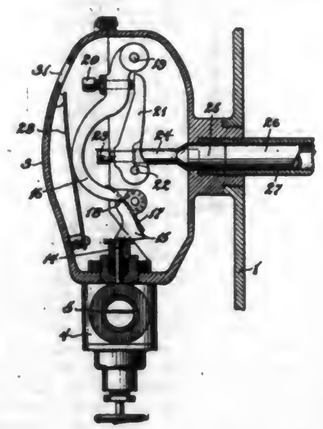
5. The combination in a coil tube boiler having a plurality of sets of coils one above the other, of a detachable coupling between the two lower sets of coils, a return circulation pipe connected to such coupling and provided with a check valve to prevent a back-flow through the return pipe, an inlet pipe connected to the upper portion of the upper set for supplying cold water thereto, and an outlet pipe leading from the bottom set.

[Claims 6 and 7 not printed in the Gazette.]

973,647. CONTROLLING APPARATUS FOR WATER-HEATERS. REYNOLDS C. FRAMPTON, Swissvale, Pa. Filed Oct. 12, 1908. Serial No. 457,382.

1. In a storage water heater, the combination with a reservoir and gas heating means therefor, of a thermostat operated by the water in the reservoir, a valve, means exerting yielding pressure at all times to close the valve, a yielding catch adapted to move automatically into operative engagement with the valve when the valve is manually moved to open position, and the temperature of the water in the heater is below a predetermined point and operative connections from the thermostat to the catch whereby the catch is tripped to permit the valve to close when the water in the reservoir reaches a predetermined temperature.

2. The combination with a thermostatic controlling means and a gas valve, of yielding means bearing continuously upon the valve to move it to closed position, a yielding catch adapted to move automatically into operative engagement with the valve when the valve is moved to open position, and restrained by the valve from such movement when the valve is closed, and a connection between the thermostatic controlling means and the catch whereby the catch is moved by the thermostatic controlling means to release the valve and permit the yielding means to move it to closed position.



3. In a storage water heater, the combination with a reservoir and gas heating means therefor, of a thermostat operated by the water in the reservoir, a manually operable valve for controlling the flow of gas to the heating means, a spring for closing the valve, a movable member provided with a movable catch portion positively held against movement in one direction and normally yieldingly held against movement in the reverse direction in position to prevent the closing of the valve when it is manually opened, and operating connections from the thermostat to the movable member whereby the catch portion is tripped to permit the valve to close when the water in the reservoir reaches a predetermined temperature.

4. In a storage water heater, the combination with a reservoir and gas heating means therefor, of a thermostat operated by the water in the reservoir, a manually operable valve for controlling the flow of gas to the heating means, a spring for closing the valve, a catch for the valve normally yieldingly held so as to move forward and prevent the closing of the valve when it is manually opened, and operating connections from the thermostat to the catch whereby the catch is tripped to permit the valve to close when the water in the reservoir reaches a predetermined temperature, and operative connections between the thermostat and the valve interrupted until the valve is again manually set.

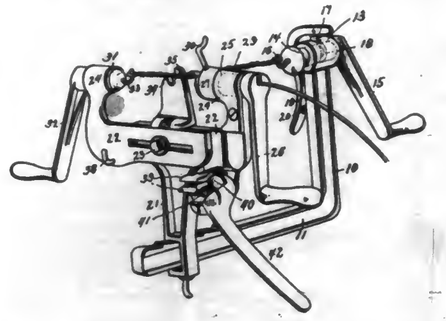
973,648. MACHINE FOR FORMING EAVES-TROUGH HANGERS. HARRY A. GIBBS, Princeton, Ill. Filed Nov. 30, 1908. Serial No. 465,240.

1. In a wire twisting machine, the combination of twisters arranged with their axes in lines that intersect, a chuck in line with one of said twisters, and a wire-engaging device arranged at the points of intersection of the twister axes.

2. In a wire twisting machine, the combination of twisters arranged with their axes in lines that intersect, each twister having its own rotating means, a chuck in line with one of said twisters, and a wire-engaging device arranged at the points of intersection of the twister axes.

3. In a wire twisting machine, the combination of twisters arranged with their axes in lines that intersect, a rotatable chuck in line with one of said twisters, and a wire-engaging device about which the wire may be bent arranged at the points of intersection of the twister axes.

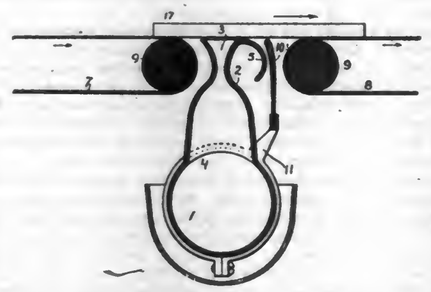
4. In a wire twisting machine, the combination of twisters arranged with their axes in lines that intersect, two of said twisters having each a wire-engaging pin, and a third twister having a wire-holding chuck.



5. In a wire twisting machine, the combination of twisters arranged with their axes in lines that intersect, two of said twisters being mounted on adjustable supports, a wire-engaging pin on one of said supports, and a wire-bending device on the other support.

[Claim 6 not printed in the Gazette.]

973,649. APPARATUS FOR COATING. FREDERICK E. GOLDSMITH, Middletown, Ohio, assignor to The Ceramic Machinery Company, Hamilton, Ohio. Filed Sept. 25, 1905. Serial No. 280,049.



1. The combination of a movable feed support, a discharge conduit opening laterally upon said support, means for preventing contact of the object with the conduit and means for preventing the flow of coating through the discharge conduit beyond a point substantially coincident with the line of the moving support.

2. In a coating machine, the combination of an upwardly projecting orifice, means for preventing the flow of coating therethrough substantially beyond the plane of the object-support, means for preventing contact of the object with the conduit and an object-support upon opposite sides of the orifice located above the mouth of the same.

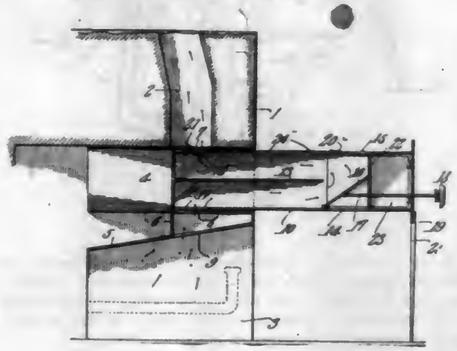
3. In a coating machine, the combination of an upwardly projecting orifice, means for preventing the flow of coating therethrough, substantially beyond the plane of the object support, means for preventing contact of the object with the conduit and a traveling object-support upon opposite sides of the orifice located above the mouth of the same, and serving to carry objects across the coating orifice so that they are coated on their lower side only.

4. The combination of a feed support, a conduit discharging into the line of feed, and stationary means for removing superfluous coating deposited on objects carried by said feed support.

5. The combination of a feed support, a conduit discharging into the line of feed, and adjustable means for removing excess coating deposited on objects carried by said feed support.

[Claims 6 to 33 not printed in the Gazette.]

973,650. STOVE. JOSEPH GRUBER, Tampa, Fla. Filed Feb. 23, 1910. Serial No. 545,519.



1. The combination of a fire-place, a tubular housing above the fire-place having openings for the passage of the products of combustion from the fire-place, and a stove slidably mounted within the said housing and provided in its top and bottom with openings adapted to register with the openings in the housing, and means for directing the course of travel through the stove to the said openings.

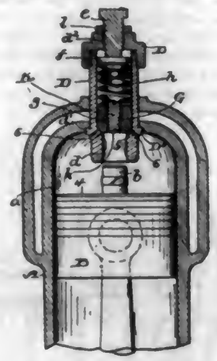
2. The combination with a fire-place, of a slidable stove mounted in the upper portion thereof and provided with a plurality of openings in its top and bottom for the passage of products of combustion from the fire-place, and a damper within the stove arranged to permit the products of combustion to pass directly through the openings near the front end of the stove or to pass in a tortuous course through the openings at the rear end of the stove.

3. The combination of a fire-place, a stove slidably mounted in the upper portion of the fire-place and provided in its top and bottom at its rear end and near its front end with openings for the passage of the products of combustion from the fire-place, a horizontal partition extending from the rear end of the stove to a point near the forward openings therein, a damper adapted to swing to and from the end of the said partition, and means for operating the said damper.

4. The combination of a fire-place, a housing in the upper portion of the fire-place having openings in its top and bottom, a trip plate secured in the opening in the top of the housing, a stove slidably mounted in the housing and provided with sets of openings in its top and bottom adapted to register with the openings in the housing, and a damper pivotally mounted in the opening in the top of the stove near the front end of the same and adapted to engage the said trip plate.

5. The combination with a fireplace of a housing in the fireplace and having openings in its top and bottom, a stove slidably mounted in the said housing and provided in its top and bottom with sets of openings adapted to register with the openings in the housing, a trip plate in the opening in the top of the housing, a damper pivotally mounted in the forward opening in the top of the stove and adapted to engage the said trip plate when the stove is in its retracted position, and a damper mounted within the stove adjacent to the forward openings and adapted to actuate the first-mentioned damper to close the same.

973,651. INTERNAL-COMBUSTION ENGINE. THEODORE H. HABERKORN, Fort Wayne, Ind. Filed Jan. 29, 1909, Serial No. 474,026. Renewed Apr. 22, 1910. Serial No. 557,078.



1. In an internal combustion engine, the combination, with a cylinder, and a piston arranged within and adapted to reciprocate endwise of the cylinder, of a small plunger arranged at the face of and operatively connected with the piston; a valve-casing containing an ignition-chamber in which a combustible and explosive mixture is to be ignited by compression, said ignition-chamber being arranged to receive the plunger during the compressing stroke of the piston and in communication at its inner end with the cylinder when the piston is in position at the commencement of its compressing stroke; a port for conducting fire from the ignition-chamber a suitable distance from the inner end of the ignition-chamber to the cylinder; a valve normally interrupting communication through the said port and movable to establish communication through the port by force resulting from the explosion of the combustible and explosive mixture supplied to the ignition-chamber; an adjustable member instrumental in forming the ignition-chamber and shiftable outwardly or inwardly to enlarge or decrease the size of the ignition-chamber, and means acting to retain the valve in its closed position and yieldable to the force resulting from the explosion of the combustible and explosive mixture compressed in the ignition-chamber by the plunger during the compressing stroke of the piston to the extent required to ignite said mixture.

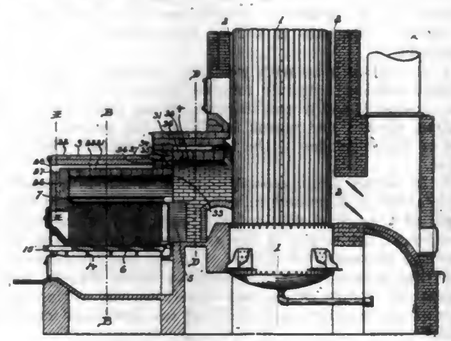
2. In an internal combustion engine, the combination, with a cylinder, and a piston arranged within and adapted to reciprocate endwise of the cylinder, of a small plunger arranged at the face of and operatively connected with the piston; a valve-casing containing an ignition-chamber in which a combustible and explosive mixture is to be ignited by compression, said ignition-chamber being arranged to receive the plunger during the compressing stroke of the piston and in communication at its inner end with the cylinder when the piston is in position at the commencement of its compressing stroke; a port for conducting fire from the ignition-chamber a suitable distance from the inner end of the ignition-chamber to the cylinder; an outwardly movable valve normally interrupting communication through the said port and instrumental in forming the ignition-chamber and movable to establish communication through the port by force resulting from the explosion of the combustible and explosive mixture supplied to the ignition-chamber, which valve is provided with an adjustable member instrumental in forming the ignition-chamber and shiftable outwardly or inwardly to enlarge or decrease the size of the ignition-chamber, and means acting to retain the valve in its closed position and yieldable to the force resulting from the explosion of the combustible and explosive mixture compressed in the ignition-chamber by the plunger during the compressing stroke of the piston to the extent required to ignite said mixture.

3. In an internal combustion engine, the combination, with a cylinder, and a piston arranged within and adapted to reciprocate endwise of the cylinder, of a small plunger arranged at the face of and operatively connected with the piston; a valve-casing containing an ignition-chamber in which a combustible and explosive mixture is to be ignited by compression, said ignition-chamber being arranged to receive the plunger during the compressing stroke of the piston and in communication at its inner end with the cylinder when the piston is in position at the commencement of its compressing stroke, a port for conducting fire from the ignition-chamber a suitable distance from the inner end of the ignition-chamber to the cylinder; an outwardly movable valve normally interrupting communication through the said port and instrumental in forming the ignition-chamber and movable to establish communication through the port by force resulting from the explosion of the combustible and explosive mixture supplied to the ignition-chamber, which valve has a screw-threaded hole extending endwise therethrough; a screw-threaded plug screwed into the valve at the said hole and instrumental in regulating the capacity of the ignition-chamber, and means acting to retain the valve in its closed position and yieldable to the force resulting from the explosion of the combustible and explosive mixture compressed in the ignition-chamber by the plunger during the compressing stroke of the piston to the extent required to ignite said mixture.

4. In an internal combustion engine, the combination, with a cylinder, and a piston arranged within and adapted to reciprocate endwise of the cylinder, of a small plunger arranged at the face of and operatively connected with the piston; a valve-casing containing an ignition-chamber in which a combustible and explosive mixture is to be ignited by compression, said ignition-chamber being arranged to receive the plunger during the compressing stroke of the piston and in communication at its inner end with the cylinder when the piston is in position at the commencement of its compressing stroke; a port for conducting fire from the ignition-chamber a suitable distance from the inner end of the ignition-chamber to the cylinder; an outwardly movable valve normally interrupting communication through the said port and forming the outer end wall of the ignition-chamber and movable to establish communication through the port by force resulting from the explosion of the combustible and explosive mixture supplied to the ignition-chamber, which valve has a hole extending endwise therethrough; a suitably supported member engaging the said hole and adjustable to regulate the capacity of the ignition-chamber, and means acting to retain the valve in its closed position and yieldable to the force resulting from the explosion of the combustible and explosive mixture compressed in the ignition-chamber by the plunger during the compressing stroke of the piston to the extent required to ignite said mixture.

5. In an internal combustion engine, the combination, with a cylinder, and a reciprocatory piston within the cylinder, of a plunger arranged at the face of and operatively connected with the piston; a valve-casing containing an ignition-chamber in which a combustible and explosive mixture is to be ignited by compression, said ignition-chamber being arranged to receive the plunger during the compressing stroke of the piston and in communication at its inner end with the cylinder when the piston is in position at the commencement of its compressing stroke; a port for conducting fire from the ignition-chamber a suitable distance from the inner end of the ignition-chamber to the cylinder; an outwardly movable valve normally interrupting communication through the said port and movable to establish communication through the port by force resulting from the explosion of the combustible and explosive mixture supplied to the ignition-chamber, which valve has a hole extending endwise therethrough; an endwise adjustable member engaging the said hole and instrumental in regulating the capacity of the ignition-chamber and provided with a cavity in its inner end, and means acting to retain the valve in its closed position and yieldable to the force resulting from the explosion of the combustible and explosive mixture compressed in the ignition-chamber by the plunger during the compressing stroke of the piston to the extent required to ignite the said mixture.

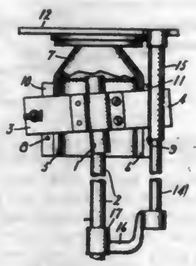
973,652. FURNACE. GILBERT R. HAIGH and JOHN R. FORTUNE, Detroit, Mich., assignors to Murphy Iron Works, Detroit, Mich., a Corporation of Michigan. Filed Mar. 18, 1909. Serial No. 484,271.



1. A furnace comprising an inner and an outer arch extending over a fire chamber with an air space between said arches, a wall to close one end of said air space with an expansion space between said wall and said inner arch, and means extending across the air space adjacent to said wall to close the expansion space and carried by the inner arch to move therewith upon expansion of said arch.

2. In a furnace of the character described having a fire chamber, a boiler chamber, and an intermediate chamber between said chambers and an inner and an outer arch extending over the fire chamber with an air space between said arches, an arch extending over the intermediate chamber between the fire chamber and the boiler chamber, said intermediate arch extending in a horizontal plane above the plane of the inner fire arch, a vertical wall between the adjacent ends of the inner fire arch and the intermediate arch with an expansion space between it and the said inner arch, and a course of brick carried by the inner arch and extending across the air space between the inner and outer arches, adjacent to said walls to close said expansion space and having an expansion space between the upper side of said course and the outer arch to permit free movement of the said course with the inner arch upon expansion of said arch.

973,653. ARC-LAMP. CROMWELL A. B. HALVORSON, Jr., Saugus, Mass., assignor to General Electric Company, a Corporation of New York. Filed Jan. 28, 1909. Serial No. 474,721.



1. In an arc lamp with electrodes having weldable contacting surfaces, means for contacting the electrodes and bodily moving one of them and then separating them for

establishing the arc, and means for angularly displacing one arcing face with reference to the other during contact.

2. In an arc lamp with weldable electrodes, means for forcibly impacting the electrodes and bodily moving one of them and then separating them for establishing the arc, and means for angularly separating the arcing faces by the force of the impact.

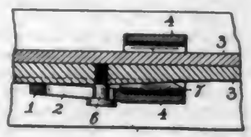
3. In an arc lamp with weldable electrodes, means for forcibly impacting the electrodes and bodily moving one of them and then separating them for establishing the arc, and means for turning the arcing face of one electrode at an angle to the face of and by the impact of the other electrode.

4. In an arc lamp with weldable electrodes, means for feeding one electrode into forcible contact with the other and moving it bodily and then separating them for establishing the arc, and means for tilting the arcing face of one of the electrodes by the force of the contact with the other.

5. In an arc lamp, a positive metal electrode normally maintained in a predetermined position, a negative electrode of a material developing a fused pool in its arcing face under the action of the arc, means for moving the negative electrode into contact with the positive electrode and then separating it therefrom to strike the arc, and means for bodily lifting and simultaneously tilting the face of the positive electrode from the fused pool during contact.

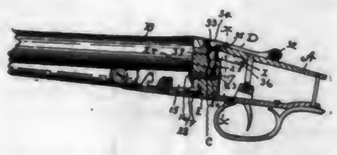
[Claims 6 and 7 not printed in the Gazette.]

973,654. CLAMPING DEVICE. AMUND HANSEN, Christiania, Norway, assignor to Hans Stub, Christiania, Norway, and Theodor Qviller, Lilleströmmen, Norway. Filed Dec. 1, 1909. Serial No. 530,877.



A flange connection comprising two flanges one of which is provided with a wedge-shaped side portion, clamping legs adapted to straddle said flanges, one of said legs having a lateral longitudinally slotted extension adapted to engage said wedge-shaped portion, a regulating screw in said legs, and a pin projecting through said slot adapted to take into the flange provided with said wedge-shaped portion, whereby said flanges are clamped and released by moving the legs longitudinally of the flanges.

973,655. BREECH MECHANISM FOR FIREARMS. JAMES P. HAYES, Meriden, Conn. Filed Mar. 7, 1910. Serial No. 547,804.



1. In a firearm mechanism having a frame and a barrel hinged thereto, coöperating means for locking said frame and barrel comprising a lug on said barrel and a bolt reciprocatingly mounted in said frame and having two sets of engaging surfaces, and held in engaging position, one of said sets of surfaces inclined and adapted to lock said frame and barrel rigidly under normal conditions, and the other set of surfaces parallel to the line of reciprocation of said bolt and adapted to positively lock the said frame and barrel under abnormal conditions and when the firearm is discharged.

2. In a firearm mechanism having a frame and a barrel hinged thereto, the said barrel provided with a lug having engaging surfaces and the said frame provided with a bolt having engaging surfaces adapted to engage with said surfaces on said lug, and means for projecting said bolt forward into engaging position and means for retracting the same from such position, the said surfaces comprising in combination inclined surfaces and surfaces parallel with the line of movement of said bolt.

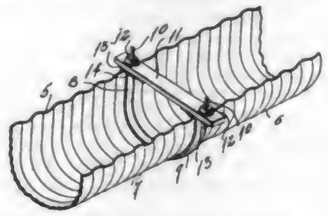
3. In a firearm mechanism having a frame, a barrel hinged thereto, a bolt and means for reciprocating said bolt in said frame the said barrel and bolt having a multiple of engaging surfaces, and means for retaining the same in engaging position, the said surfaces comprising inclined surfaces adapted to prevent rattling and any tendency to looseness in the connection between the said barrel and frame, and coöperating surfaces parallel with the line of reciprocation of said bolt adapted to positively prevent the opening of said barrel and frame.

4. In a firearm mechanism having a frame, a barrel hinged thereto, means for opening and closing said barrel and frame, a bolt adapted to be reciprocated so as to lock and unlock said barrel and frame, and coöperating engaging surfaces on said bolt and frame adapted to engage with one another in effecting such locking, and comprising inclined surfaces in coöperation with surfaces parallel with the line of motion of said bolt, spring pressure means for holding said inclined surfaces in engagement and said parallel surfaces in position ready for engagement and separated by an appreciable space.

5. In a firearm mechanism having a frame and a barrel hinged thereto, means for opening and closing said barrel and frame, a bolt having a back and forth motion and adapted to lock said barrel and frame closed, engaging surfaces on said barrel and bolt adapted to coöperate in said locking, the said surfaces comprising inclined surfaces centrally located and lateral surfaces parallel with the line of motion of said bolt.

[Claims 6 to 10 not printed in the Gazette.]

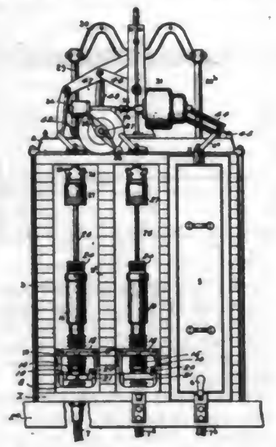
973,656. METALLIC FLUME. GEORGE L. HESS, La Junta, Colo. Filed Apr. 18, 1910. Serial No. 556,052.



The combination with corrugated sections, the same being overlapped at their adjacent ends, of inner and outer clamping means, the inner clamping means comprising a transversely corrugated strip fitted against the corrugations at the inner face of the overlapped end of one section, the outer clamping means comprising a rod engaged against the outer face of the overlapped end of the other section, a bridge beam engaging the ends of the outer clamp means, and shoes arranged beneath the beam engaging the ends of the outer clamping means and having abutments engaged by the ends of the inner clamping means to prevent displacement of the said ends of the latter.

973,657. HIGH-POTENTIAL SWITCH. EDWARD M. HEWLETT and THEODORE E. BUTTON, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed Jan. 7, 1902. Serial No. 88,757.

1. An electric switch comprising a switch member mounted to move in one direction to make the circuit and in the reverse direction to break the circuit, a spring operating means for moving said member in both directions, a motor for storing energy in said spring operating means during the movement of said member in one direction to effect a movement of said member in the reverse direction and vice versa, and means for controlling said motor.



2. An electric switch comprising a movable switch member to open and close the circuit, a spring for closing the switch, an independent spring to open it, a motor to store energy in either spring prior to its action on said member, and means for controlling said motor.

3. An electric switch having a movable switch member, a spring to counter-balance the inertia of the movable parts, a motor for operating said switch, spring-opening and closing means strained when the switch is opened to effect a closing movement thereof and vice versa, and means for controlling said motor.

4. An electric switch comprising a reciprocatory switch member, a power operated crank governing its movement, means for locking the crank in a definite position, a spring to shift the movable switch member when the crank is released, means for releasing the crank, and means for automatically cutting off power from said crank.

5. An electric switch comprising a reciprocatory switch-member, spring operating means for throwing the same, a motor for straining the spring, a rotary member driven by the motor and a clutch governing the movement of the reciprocatory member adapted to be driven by the rotary member and means for releasing the clutch and freeing the spring.

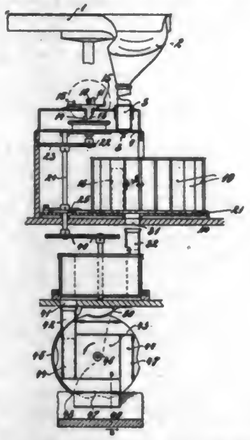
[Claims 6 to 39 not printed in the Gazette.]

973,658. MECHANISM FOR COUNTING AND WRAPPING COINS. PETER HOCHGÜTEL, Koblenz, Germany. Filed Apr. 14, 1910. Serial No. 555,413.

1. In combination, a mechanism for counting and wrapping coins, comprising a coin receptacle, a feed chute, a disk having apertures therein for carrying the coins, an envelop carrier, means automatically actuating said carrier, an envelop closing mechanism under said carrier, and means for transferring the envelops containing the coins from said carrier to said closing mechanism by gravity.

2. The combination in a machine for assembling, counting and wrapping coins of like denomination, of the curved delivery channel 2, ridges on the bottom of said channel, a vertical terminal tube on said channel, a rotatory counting disk adapted to receive consecutively the coins falling through said tube, counting mechanism actuated by the rotation of said disk, means for consecutively conveying coins from the disk into envelops, and means for closing and delivering the filled envelops.

3. The combination in a machine for assembling, counting, and wrapping in rolls coins of like denomination, the curved delivery channel 2, ridges on the bottom of said channel, a vertical terminal tube on said channel, the rotatory disk 5, said disk having perforations arranged concentrically and adapted to allow coins to pass therethrough, means for carrying envelops, means for consecutively conveying coins from the disk into said envelops, and means for closing and delivering the filled envelops.

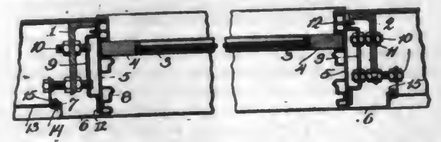


4. The combination in a machine for assembling, counting, and wrapping coins of like denomination, the curved feed channel 2, a vertical terminal tube on said channel, the rotatory disk 5, having concentrically arranged apertures therein, imperforate sections in said rotary disk intervening said apertures, means for arranging envelops, a perforated guide plate, a weighted lever arm, ends on said arm adapted to project through the guide plate and lock the rotatory disk after delivery of the last coin from said terminal tube, means for consecutively conveying coins passing from the disk into envelops, and means for closing and delivering said filled envelops.

5. The combination in a machine for assembling, counting, and wrapping coins of like denomination, the curved feed channel 2, ridges on the bottom of said channel, a vertical terminal tube on said channel, the rotatory disk 5, said disk having apertures arranged concentrically therein and adapted to allow coins to pass therethrough, imperforate sections in said rotatory disk which pass beneath the orifice of the coin delivery tube, the plate 4, the weighted lever arm 8 adapted to be held down by the pressure of the coins in the coin tube, forked ends on said lever adapted to pass through openings in the plate 4, means for consecutively conveying coins from the disk into envelops, means for shifting the envelops horizontally, and means for closing and delivering the filled envelops.

[Claims 6 to 8 not printed in the Gazette.]

973,659. WALL CONSTRUCTION. JACOB K. HOFFMAN, Philadelphia, Pa., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 25, 1909. Serial No. 498,193.



1. In a wall, the combination of two vertically-disposed posts, a window-frame formed of sheet-metal lying between said posts and having the side-members and a member connecting them rigidly connected together to form a

unitary structure, securing devices for securing the side-members of the frame to the posts adjacent thereto, means for effecting an adjustment of said securing devices to compensate for variations in the distance between said side-members and the adjacent posts, an integral extension on one of said side-members, a panel, and means for securing the panel to said extension independently of said posts, substantially as set forth.

2. In a wall, the combination of a plurality of vertically disposed, stationarily mounted posts, brackets secured to the adjacent sides of said posts, means for adjusting the positions of said brackets toward and away from said posts, a window-frame lying between adjacent posts and having grooves therein to receive the sashes, and means for securing said frame to said brackets, substantially as set forth.

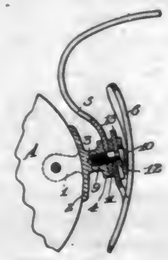
3. In a wall, the combination of a plurality of vertically disposed posts, brackets secured to the adjacent sides of said posts, means for adjusting the positions of said brackets toward and away from said posts, a window-frame lying between adjacent posts and having the opposite side-members thereof and a member connecting them rigidly connected together so as to form a unitary structure, and means for securing the side-members of said frame to said brackets, substantially as set forth.

4. In a wall, the combination of a plurality of vertically disposed, stationarily mounted posts arranged in line, a window-frame between two adjacent posts having grooves formed therein to receive the sashes, a panel between one of said two posts and the next adjacent post, brackets secured to said two adjacent posts, means for adjusting said brackets toward and away from the posts to which they are secured, means for securing said frame to said brackets, securing devices lying within said frame for securing the panel to the frame, and a molding overlying the joint between the panel and frame, substantially as set forth.

5. In a wall, the combination of two vertically disposed posts, a plurality of brackets, adjustable means for securing said brackets to the adjacent sides of said posts, said means including threaded rods coacting with said posts and said brackets and nuts on said rods, and a window-frame secured to said brackets, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

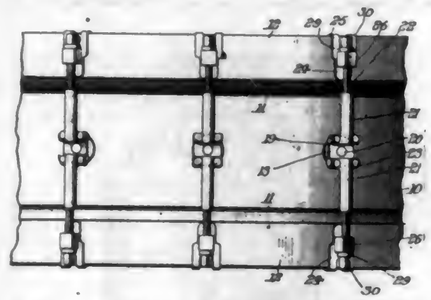
973,660. EYEGLASS CONNECTION. WILLIAM W. HOFFMAN, Rochester, N. Y., assignor to E. Kirstein Sons & Co., Rochester, N. Y., a Corporation of New York. Filed Aug. 16, 1907. Serial No. 388,826.



1. The combination with the lens mount having a box, and a nose guard and a bridge having an end fitted in the box, of a fastener holding the nose guard and the bridge against removal from the box, and having a shoulder transverse to its longitudinal axis arranged within the box, and a locking device entering the box in front of the shoulder to prevent axial movement of the fastener.

2. The combination with a lens mount having a box, and a nose guard and a bridge having an end fitted in the box, of a fastener securing the bridge and the guard to the mount, and having a surrounding shoulder transverse to its longitudinal axis, and a bifurcated locking device arranged within the box and straddling the fastener in front of the shoulder.

973,661. DRUMHEAD-TIGHTENER. FRANK HOLTON, Chicago, Ill., assignor to Frank Holton & Company, Chicago, Ill., a Corporation of Illinois. Filed June 8, 1908. Serial No. 437,253.

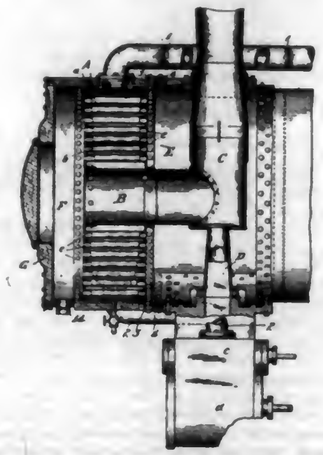


1. The combination with the body and bands of a drum, of a member mounted on the body, said member being provided with a bifurcated hook, a T-shaped link in engagement with said bifurcated hook, and a second link releasably connected to one of the bands, said links being adjustably connected.

2. The combination with the body and bands of a drum, of a member mounted on the body, said member being provided with oppositely disposed portions with bifurcated hooks, T-shaped links pivotally engaging said bifurcated hooks, and other links releasably connected to the bands of said drum, said other links being respectively connected adjustably with said T-shaped links.

3. In a drum head tightener, the combination with a drum of a member, means for securing the member to the body of the drum, said member being provided with spaced hook shaped portions, a clamp comprising two members adjustably connected, one of the members being provided with projections engaging the hook shaped portions in such a manner that the body of the clamp member will stand within the space between said hook shaped portions, and axially rotatable means for detachably securing the free end of the other clamp member to the head of the drum.

973,662. STEAM-SUPERHEATER. HENRY W. JACOBS, Topeka, Kans. Filed Apr. 7, 1910. Serial No. 553,036.

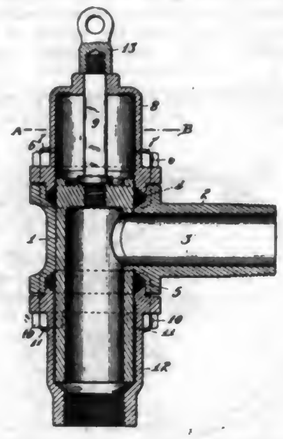


1. The combination in a locomotive, of the boiler, the smoke-box, and the cylinders, with a superheater, the superheater being composed of one or more compartments arranged in the smoke-box, with the shell of the superheater forming a continuation of the boiler-shell and removably secured thereto, said superheater being formed with flues arranged to convey the gases of combustion forward to the front end of the locomotive and an enlarged flue for conveying the said gases rearward for delivery to the smoke-stack of the locomotive, and means located to the outside of the shell whereby communication between the boiler, the superheater and the cylinders is established.

2. In a locomotive, the combination of a boiler-shell, a smoke-box in line therewith and detachably secured thereto, with a superheater of the fire-tube type arranged in said smoke-box forward of the flue-sheet of the boiler, the outer casing of the superheater constituting part of the shell of the smoke-box, the superheater being formed with an enlarged conduit for conveying the gases of combustion to the exhaust end of the smoke-box.

3. In combination with a steam-boiler and a smoke-box, of a superheater of the fire-tube type so arranged in the smoke-box as to provide combustion chambers at opposite ends of the superheater, longitudinally arranged tubes extending through the superheater whereby the gases are allowed to pass from the boiler-flues to the forward chamber of the smoke-box, an enlarged passage for said gases between said forward chamber and the exhaust end of the smoke-box, the shell of the smoke-box constituting the outer casing of the superheater, and means whereby said casing is secured in place to be readily removed.

973,663. BLOW-OFF VALVE. HENRY W. JACOBS, Topeka, Kans. Filed Apr. 18, 1910. Serial No. 556,059.



1. A blow-off valve comprising a casing having inlet and outlet openings, the inner wall of the casing being provided with oppositely beveled surfaces above and below the inlet opening, a hollow cylindrical plunger at one end and provided with an opening in its side wall adapted to register with the inlet opening in the casing, means secured to the closed end of the plunger whereby the latter is reciprocated in the casing, members adjustably secured to the opposite ends of the casing, one of said members having a closed end to form a hood into which the plunger reciprocates when the valve is closed, a pair of beveled composite packing-rings seated on the beveled surfaces in the casing, and means whereby the packing-rings are controlled.

2. A blow-off valve comprising a casing provided with inlet and outlet openings, a hollow cylindrical plunger open at one end and having an opening through its side-wall whereby a passage through the plunger is formed, a pair of packing rings arranged within the casing on opposite sides of the inlet opening, members adjustably secured, one to each end of the casing, and arranged to press the rings against the plunger, one of said members being closed at its outer end to form a hood within which the plunger takes when the valve is closed, and means for operating said plunger.

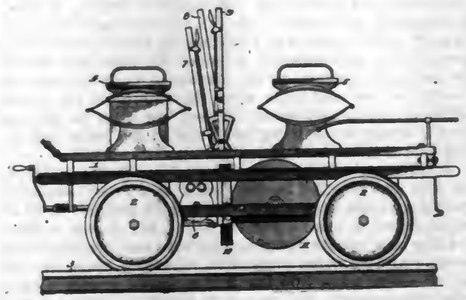
3. A blow-off valve comprising a casing provided with inlet and outlet openings, a hollow cylindrical plunger open at one end and having an opening through its side-wall whereby a passage through the plunger is formed, a pair of composite packing rings arranged within the casing on opposite sides of the inlet opening, members adjustably secured, one to each end of the casing, and arranged to press the rings against the plunger, mechanism secured to the closed end of the plunger whereby the latter is operated, one of said members being closed at its outer end to form a hood through which the operating mechanism takes and into which the plunger moves when the valve is closed.

4. A blow-off valve comprising a casing provided with inlet and outlet openings, the interior of the casing being provided with beveled surfaces on opposite sides of the inlet opening, a pair of packing rings whose edges taper toward the outer circumference and take against the beveled surfaces in the casing, a hollow cylindrical plunger open at one end and provided with an opening through the side-wall to form a passage through the plunger, a pair of members provided with beveled ends taking within the casing and onto said rings, one of said members having a closed end to form a hood within which the plunger takes when in its closed position, and means whereby the pressure of said members on the rings may be regulated.

5. A blow-off valve comprising a casing provided with inlet and outlet openings, the interior of the casing being provided with beveled surfaces on opposite sides of the inlet opening, a pair of packing rings whose edges taper toward the outer circumference and take against the beveled surfaces in the casing, a hollow cylindrical plunger open at one end and provided with an opening through the side wall to form a passage through the plunger, a pair of members provided with beveled ends taking within the casing and compressing the rings, one of said members having a closed end to form a hood within which the plunger takes when in its closed position, and means extending through said hood whereby the plunger is reciprocated, the relation between the means and hood being such that the plunger is held against rotative movement.

[Claim 6 not printed in the Gazette.]

973,664. RAILROAD TRACK-CAR. MERRILL L. JENKINS, Harvey, Ill., assignor to Buda Foundry & Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 20, 1909. Serial No. 479,025.



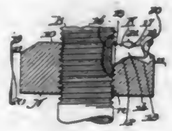
1. In combination in a track car having a driving wheel, a frame, a motor, driving connections between the motor and driving wheel of the car, a pair of opposite seats on the frame, one of which faces forwardly and the other of which faces rearwardly, and a controlling lever for the driving connections located intermediate the seats and accessible from both thereof.

2. In combination in a track car having a driving wheel, a frame, motor driving means for the driving wheel of the car, a pair of opposing seats on the frame, one of which

faces forwardly, and the other of which faces rearwardly, and a controlling member for the motor driving means intermediate the seats accessible from both thereof.

3. In combination in a track car having a driving wheel, a frame, a motor, driving connections between the motor and driving wheel of the car, a brake, a pair of opposing seats on the frame, one of which faces forwardly and the other of which faces rearwardly, and a brake controlling lever and a speed controlling lever located intermediate the seats and accessible from both thereof.

973,665. NUT-LOCK. CLARENCE H. JOHNSON, Beverly, Mass., assignor to Burrows Lock Nut & Bolt Company, West Gloucester, Mass., a Corporation of Massachusetts. Filed Oct. 16, 1909. Serial No. 522,916.



1. In a nut-lock, in combination, a nut having a recess in communication with the bore of the nut, a key having a penetrating edge adapted to enter the bore, and means to support the key within the recess and impart a combined tipping and bodily sliding movement to the key when moved longitudinally of said recess.

2. In a nut-lock, in combination, a nut having the usual threaded bore and provided with a recess communicating with the bore and having smooth, parallel side walls to guide and prevent lateral displacement of the key, the bottom of the recess adjacent the bore being downwardly inclined toward the same, and a smooth-sided key within said recess and movable longitudinally therein between its side walls, said key having a sharpened edge adapted to enter the bore of the nut, the bottom of the key being supported by and sliding downward and inward upon the inclined bottom of the recess when said key is moved bodily inward longitudinally thereupon.

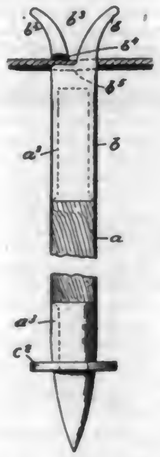
3. In a nut-lock, in combination, a nut having a threaded bore and provided in one face with a recess communicating with the bore and having smooth, parallel side walls to receive between them and guide the key, the bottom of the recess being inclined from a high point thereof downward and toward the bore adjacent thereto, to effect a downward movement of the key when the same is moved inward in the recess, and a key having smooth sides and a penetrating edge adapted to enter the bore and having its bottom conforming to the contour of the bottom of the recess, to rest and slide upon the bottom of the recess when moved longitudinally thereof, the sides of the key fitting snugly between the side walls of the recess and being held thereby from lateral movement.

4. In a nut-lock, in combination, a nut having a threaded bore and provided in one face with a recess communicating with the bore, and having smooth parallel walls at right angles to one face of the nut, a key having a penetrating edge adapted to enter the bore and provided with locking and releasing projections accessible above the top of the recess when said key is in unlocked or locked position, respectively, and means to impart a combined tipping and bodily sliding movement to said key when moved longitudinally of the recess upon the bottom thereof.

5. In a nut-lock, in combination, a nut having a threaded bore and provided in one face with a recess communicating with the bore, the bottom of the recess being downwardly inclined toward its opposite ends from an intermediate high point, and a key having an edge sharpened and adapted to enter the bore and concaved at its bottom to tip and slide upon the bottom of the recess.

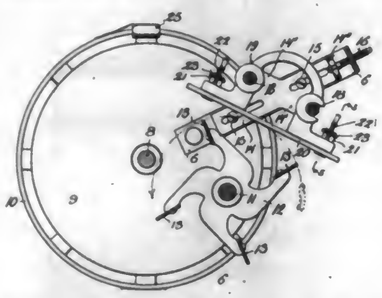
[Claims 6 to 13 not printed in the Gazette.]

973,666. CLOTHES-LINE PROP. CHESNEY L. JONES, Haskell, N. J., assignor of one-half to Elmer Fredericks, Wanaque, N. J. Filed Mar. 12, 1909. Serial No. 482,962.



A clothesline prop provided with a head having oppositely curved side wings forming a V-shaped recess, said side wings being provided in opposite sides with inwardly and downwardly inclined slots or recesses, the bottom portions of which are connected by a supplemental transverse recess which extends below the bottom of the said V-shaped recess.

973,667. LAWN-MOWER ATTACHMENT. JOHN KELLING, Milwaukee, Wis. Filed June 7, 1910. Serial No. 565,473.



1. A lawn-mower attachment consisting of a frame comprising plates designed to be adjustably connected to the side-bars of the mower-frame longitudinally of the same and rods connecting the plates, a slide guided on the rods, and a file in connection with the slide to oppose the edges of the mower-blades at a predetermined angle thereto.

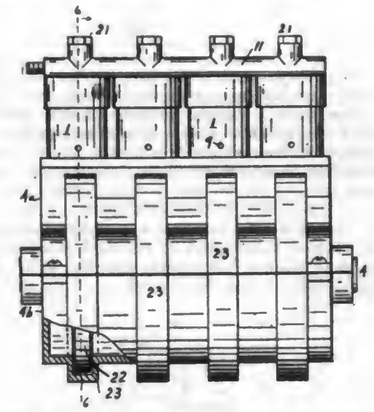
2. A lawn-mower attachment consisting of a frame comprising plates designed to be adjustably connected to side-bars of the mower-frame longitudinally of the same and rods connecting the plates, a slide guided on the rods, a file, and means for clamping the file to the slide in opposition to the edges of the mower-blades at a predetermined angle thereto.

3. A lawn-mower attachment consisting of a frame comprising plates designed to be adjustably connected to side-bars of the mower-frame longitudinally of the same and rods connecting the plates, a slide guided on the rods, a file, bands embracing the file and ends of the slide, plates in connection with the bands and set-screws extending through the latter plates in opposition to said slide, the file being in opposition to the edges of the mower-blades at a predetermined angle thereto.

4. A lawn-mower attachment consisting of a frame comprising plates provided with longitudinal slots, slot-engaging clamp-screws by which to hold the same in adjustable connection with the side-bars of the mower-frame and rods connecting the plates, a slide guided on the rods, and a file in connection with the slide to oppose the edges of the mower-blades at a predetermined angle thereto.

5. A lawn-mower attachment consisting of a frame comprising longitudinally slotted plates having inturned rear ends, adjusting screws in connection with said ends of the plates designed for engagement with transverse rear stretches of a mower frame, clamp-screws extending through the slots of said plates for engagement with side bars of the mower frame, rods connecting the aforesaid plates, a slide guided on the rods, and a file in connection with the slide to oppose the edges of the mower blades at a predetermined angle thereto.

973,668. CAM-DRIVEN MULTIPLE-CYLINDER PUMP APPARATUS. GEORGE W. KELLOGG, Rochester, N. Y. Filed May 28, 1909. Serial No. 499,019.



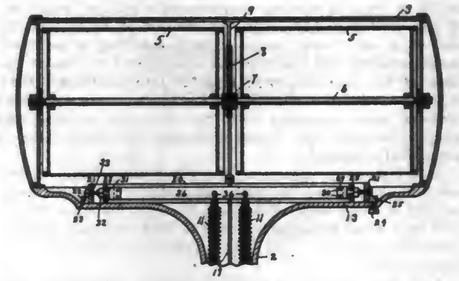
1. The combination of a hollow base comprising upper and lower separable sections having each a plurality of projecting interiorly grooved parts, a plurality of cylinders mounted in a longitudinal row on the upper section, each above a separate groove, a piston and rod adapted to reciprocate, and guided by the corresponding groove, a power shaft extending longitudinally in said base, spaced eccentrics on said shaft, one in each of said links for reciprocating its piston, and a passage with which the cylinders communicate by separate valved ports.

2. The combination of a hollow base comprising upper and lower separable sections having each four registering projecting interiorly grooved parts, four cylinders mounted in a longitudinal row on the upper section, one above each grooved part, a piston and rod for each cylinder, a link connected to each piston rod and adapted to move in and be guided by the corresponding groove, a power shaft extending longitudinally in said base, spaced eccentrics on said shaft, one in each of said links for reciprocating its piston, and a common pipe or passage with which the cylinders communicate by separate valved ports.

973,669. SCALE. BERT W. KING, Detroit, Mich., assignor to Standard Computing Scale Company, Limited, Detroit, Mich., a Limited Partnership of Michigan. Filed June 20, 1910. Serial No. 567,768.

1. In a scale, the combination of a frame, a tensioning bar revolubly mounted therein, a transverse spring carried by said bar, which spring is unequally flexible in different directions load springs hung to the middle of the transverse spring, and means to revolve the transverse spring.

2. In a scale, the combination of a frame, a transverse spring revoluble therein and having diameters of unequal length, load springs suspended from the middle of the transverse spring, and means to revolve the transverse spring.



3. In a scale, the combination of a frame, a transverse spring revoluble therein and having diameters of unequal length, automatic means to revolve said spring to cause the same to increase in height with increasing temperatures, and load springs suspended from said transverse spring.

4. In a scale, the combination of a transverse spring unequally flexible in different directions, a bar to tension the same, a frame, pivots for the spring and bar mounted in the frame, means to revolve the spring and bar, and load-springs suspended from the middle of the transverse-spring.

5. In a scale, the combination of a frame, a tensioning bar revolubly mounted therein, a transverse spring carried by said bar, load springs hung to the middle of the transverse spring, and automatic means to revolve the tensioning bar and the transverse spring.

[Claims 6 to 10 not printed in the Gazette.]

973,670. METALLIC POLE. WILLIAM R. KINNEAR, New Castle, Pa. Filed Aug. 20, 1909. Serial No. 513,892.



1. A pole of the character described comprising a plurality of abutting sections, interposed abutment and centering plates and internal tension members drawing the sections into abutment with the interposed plates and holding the parts of the structure in assembled relation.

2. A pole of the character described comprising a plurality of sections of tapered form adapted to telescope one

within another, abutment plates adapted to receive the ends of said sections when assembled in alinement with the plates interposed between adjacent ends of the sections, and tension means for drawing the sections together and holding them in abutment with said plates.

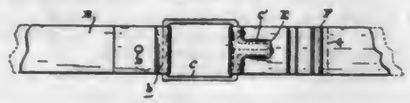
3. A pole of the character described comprising a plurality of tapered sections constructed with the larger end of one section corresponding in dimensions to the smaller end of a next lower section, plates adapted to be interposed between the sections and constructed to receive the ends of the sections when brought into abutment therewith and tension members within the sections extending between and connected with the two end sections and adapted to draw the sections together and hold them in assembled relation.

4. A pole of the character described comprising tapered sections, interposed abutment plates provided with seats for the sections adapted to aline the sections when assembled and tension means connected with the end sections, extending through a plate and adapted to draw the sections together.

5. A pole of the character described comprising compression members constructed with outwardly lobed cross section to strengthen them transversely, union pieces constructed to receive the ends of the compression members in abutment, and tension members connected with the end compression members and extending from one of said end members, through the union piece to the other end member and adapted to impose compression upon the column of members when in assembled relation.

[Claims 6 to 10 not printed in the Gazette.]

973,671. HOOP. FREDERICK KNOLLE, Milwaukee, Wis. Filed Mar. 7, 1907. Serial No. 361,056.



1. A tub hoop comprising a band, a link having end portions extending transversely of the band and connected with the respective ends thereof, said link being composed of wire having meeting ends extending longitudinally of the band beyond the end of the link, and said band being folded over the meeting ends and indented to form a pocket for said ends with the sides of the indented portion engaging said ends of the wire to prevent them from spreading.

2. A tub hoop comprising a band, a link having end portions extending transversely of the band and connected with the respective ends thereof, said link being composed of wire having end portions extending substantially parallel to each other, and longitudinally of the band beyond the end of the link, and said band being folded over said respective ends of the link concealing the end portions of said wire, the band being indented to form a pocket for the end portions with the side walls of the pocket engaging said ends of the wire to prevent them from spreading.

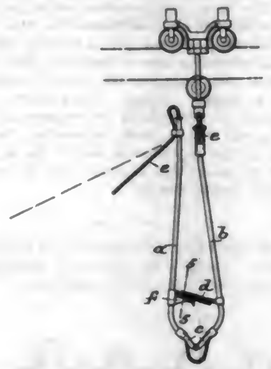
973,672. CURRENT-COLLECTOR FOR ELECTRICALLY-PROPELLED VEHICLES. WILLY KÖHLER, Bremen, Germany. Filed Mar. 17, 1910. Serial No. 550,007.

1. In combination with a traveling current collector, a connecting cable leading from said collector and formed with a loop, and a spring tending to close said loop.

2. In combination with a traveling current collector, a connecting cable leading from said collector and formed with a loop, rigid arms movable toward and from each other and connected with portions of said loop, and a spring tending to draw said arms together.

3. In combination with a traveling current collector, a connecting cable leading from said collector and formed with a loop, rigid arms connected with portions of said loop and pivoted to one another, and a spring tending to draw said arms together.

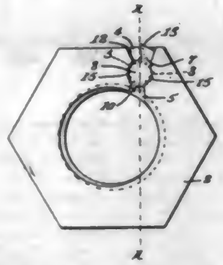
4. In combination with a traveling current collector, a connecting cable leading from said collector and formed with a loop, tubes movable toward and from each other and containing portions of said cable, and a spring tending to draw said tubes together.



5. In combination with a traveling current collector, a connecting cable leading from said collector and formed with a loop, tubes containing portions of said cable and pivoted to one another, and a spring tending to draw said tubes together.

[Claims 6 to 10 not printed in the Gazette.]

973,673. LOCK-NUT. CHARLES A. KUNTZSCH, Syracuse, N. Y., assignor of one-third to Daniel J. Kuntzsch and one-third to William J. Kuntzsch, Syracuse, N. Y. Filed Dec. 20, 1909. Serial No. 534,047.



1. A lock nut provided with a recess in one end thereof, the recess including a bearing portion having opposing cylindrically curved walls, an outwardly extending passage leading from the bearing portion and opening through the periphery of the nut, and an inwardly extending passage leading from the bearing portion and opening through the inner threaded wall of the nut, and a pawl having a cylindrical part fitted to the cylindrical walls of the recess, a tail extending through the outwardly extending passage of the recess, and a tooth extending through the inwardly extending passage thereof, the tail having a cam surface at its outer end, adapted to be engaged by a wrench in order to move the pawl on its pivot and unlock the nut, substantially as and for the purpose set forth.

2. A lock nut provided with a recess in one end thereof, the recess including a bearing portion having opposing cylindrically curved walls, an outwardly extending passage leading from the bearing portion and opening through the periphery of the nut, and an inwardly extending passage leading from the bearing portion and opening through the inner threaded wall of the nut, and a pawl having a cylindrical part fitted to the cylindrical walls of the recess, a tail extending through the outwardly extending passage of the recess and a tooth extending through the inwardly extending passage thereof, the tail having its end face inclined in two directions, substantially as and for the purpose specified.

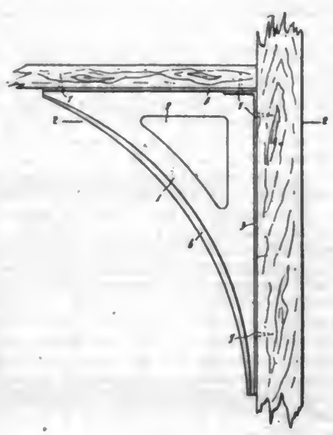
3. A lock nut provided with a recess in one end thereof, the recess including a bearing portion having cylindrically curved walls, a pawl having an enlarged cylindrical part fitted to the cylindrical walls of the recess, and a spring coiled about the cylindrical part and having its ends bearing respectively against the walls of the recess and the pawl, substantially as and for the purpose set forth.

4. A lock nut provided with a recess in one end thereof, the recess including a bearing portion having opposing cylindrically curved walls, a pawl having a cylindrical part fitted to the cylindrical walls of the recess and formed with a circumferential groove, and a spring coiled about the cylindrical part and located in the groove and having its ends bearing respectively against the walls of the recess and the pawl, substantially as and for the purpose specified.

5. A lock nut provided with a recess in one end thereof, the recess including a bearing portion disposed parallel to the axis of the nut and having cylindrically curved walls, and a passage leading from the bearing portion and opening through said end and through the inner threaded wall of the nut, the passage being of less depth in a direction axially of the nut, than said bearing portion of the recess so that a socket is formed at the inner end of the bearing portion of the recess, a pawl having a cylindrical part fitted to the cylindrical walls of the recess and a trunnion extending into the socket, the pawl also having a tooth projecting through the inward extension of the recess, and a spring coiled about the trunnion and having its ends bearing respectively against the walls of the recess and the pawl, substantially as and for the purpose described.

[Claims 6 to 8 not printed in the Gazette.]

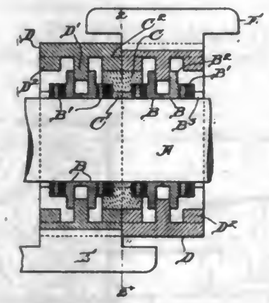
973,674. ANGLE-BRACKET. LIAL LILLEY, Stratford, New Zealand. Filed Dec. 27, 1909. Serial No. 535,145.



1. An angle bracket constructed of a single piece of sheet metal shaped and molded to form a web portion, integral, vertical and horizontal flanges, and an edge of said web portion turned over to produce a bead, substantially as herein specified.

2. An angle bracket constructed of a single piece of sheet metal shaped and molded to form a web portion having a stiffening recess therein, integral, vertical and horizontal flanges, the upper part of the vertical flange bent at right angles beneath said horizontal flange, and an edge of said web portion turned over to produce a bead, substantially as herein specified.

973,675. ROLL FOR LEATHER-DRESSING MACHINES. WILLIAM F. LUCKE, Champlain, N. Y., and JESSE E. BLAKE, Beverly, Mass., assignors to T. W. and C. B. Sheridan Company, a Corporation of New York. Filed June 15, 1910. Serial No. 566,939.

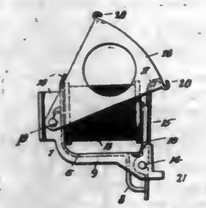


1. In a roller, the combination of a shaft, mutually abutting peripheral rings, and elastic driving means, anchored on the shaft, and engaging and supporting adjacent peripheral rings.

2. In a roller, the combination of a shaft, anchorage collars on the shaft, provided with sockets to engage lugs formed on elastic drivers, mutually abutting peripheral rings, provided with sockets to engage lugs on said drivers, and the elastic drivers provided each with inner and outer lugs, the inner lugs anchored in the collar sockets and the outer lugs engaging sockets in two adjacent peripheral rings.

3. In a roller, the combination of a shaft, mutually abutting anchorage collars on the shaft, each collar provided with a flange coöperating with a similar flange on an adjacent collar to form a guide for a peripheral ring, and provided also with recesses coöperating with similar recesses in an adjacent collar to form sockets to engage lugs on an elastic driving ring, mutually abutting peripheral rings, each provided with an internal flange to play in the guide formed by flanges on abutting anchorage collars, and with internal recesses to form sockets to engage lugs on an elastic driving ring, and elastic driving rings, each provided with inner lugs to engage sockets formed by recesses in abutting anchorage collars, and outer lugs on either side to engage sockets in abutting peripheral rings, each elastic driving ring engaging two adjacent peripheral rings.

973,676. ANNUNCIATOR. ADAM LUNGEN, New York, N. Y., assignor to Edwards & Co., Inc., a Corporation of New York. Filed Nov. 20, 1909. Serial No. 529,115.

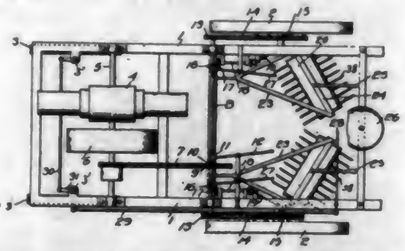


1. In an annunciator, an electro-magnet, an armature, a shutter and a sheet metal keeper carrying said magnet, armature and shutter, said keeper having supporting means, and having struck up therefrom upwardly and laterally projecting shutter limiting means and also an armature limiting extension.

2. In an annunciator, the combination of an electro-magnet, an armature therefor, a shutter and a sheet metal keeper carrying said magnet and armature and having a downwardly disposed limiting abutment for said armature struck up therefrom.

3. In an annunciator, an electro-magnet, an armature, a shutter and a sheet metal keeper carrying said magnet, armature and shutter and having rearwardly disposed supporting ears, upwardly disposed shutter limiting means and downwardly disposed armature limiting means struck up therefrom.

973,677. AUTOMOBILE CULTIVATOR. ADOLPHUS R. LYNCH, Danville, Ill. Filed Sept. 17, 1909. Serial No. 518,225.



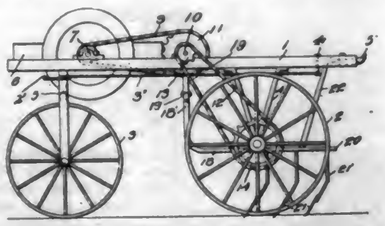
1. A machine for cultivating the soil comprising a vehicle, a rotary and obliquely disposed cylinder carried thereby and provided with a plurality of radially disposed teeth; the mounting of said cylinder permitting of slight lateral displacement thereof, and means for imparting rotary movement to said cylinder.

2. A machine for cultivating the soil comprising a vehicle, a pair of cylinders carrying a plurality of teeth and mounted to rotate in said vehicle, said cylinders adapted to have slight lateral movement and being oppositely disposed toward the rear of the vehicle, and means for imparting rotary movement to said cylinders opposite the direction of travel of the vehicle.

3. A machine for cultivating the soil comprising a vehicle, a motor for propelling the vehicle, a pair of opposite rearwardly disposed cultivators mounted in said vehicle and adapted to be rotated opposite the direction of travel thereof, said cultivators comprising a plurality of radially disposed teeth carried by cylinders, means for permitting of separate or simultaneous rotation of the cylinders, and means for effecting lateral displacement of the cylinders whereby to move the pulverizing teeth clear of obstacles in the path thereof.

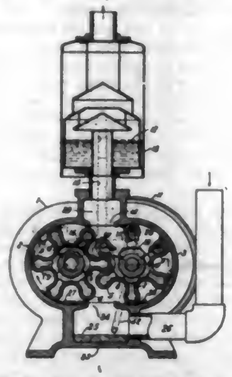
4. A machine for cultivating the soil comprising a vehicle, a motor for propelling the vehicle, a pair of arms with double joints secured to the frame of the vehicle and provided with levers whereby the same may be moved laterally, a cylinder rotatably mounted in each of said arms and provided with a plurality of radially disposed teeth, and gearing connections having knuckle joints adapted to transmit movement to said cylinders through the operation of said motor.

973,678. AUTOMOBILE PLOW. ADOLPHUS R. LYNCH, Danville, Ill. Filed Sept. 17, 1909. Serial No. 518,226.



A cultivating machine comprising a vehicle, a pair of inwardly disposed members mounted on the frame of the vehicle and having downwardly projecting portions, a pair of Y-frames supporting gang-plows, said Y-frames having each an upwardly disposed part, a double hinge connecting each of said parts with the said downwardly projecting portions, and a lever supported upon each of the Y-frames and serving to permit of vertical or lateral movement of the gang-plows, for the purpose set forth.

973,679. PUMP, &c. FRITZ W. MACHLET, Elizabeth, N. J. Filed Apr. 1, 1908. Serial No. 424,689.



1. A rotary engine, gas or air pump or blower comprising a drum, intergeared hollowed open-ended pistons revolving within the drum and fitting to the interior walls thereof, and means for forcing liquid or lubricant into the pistons under pressure, to cause it to exude between the side edges of the pistons and the side walls of the drum to form seals or packings for said edges.

2. A rotary engine, gas or air pump or blower comprising a drum, intergeared hollowed open-ended pistons revolving within the drum and fitting to the interior walls thereof, and means for forcing liquid or lubricant into the pistons under pressure, to cause it to exude between the side edges of the pistons and the side walls of the drum to form seals or packings for said edges, and for collecting the exuded liquid and causing it to be forced again into the pistons to maintain a circulation of the liquid through the pistons.

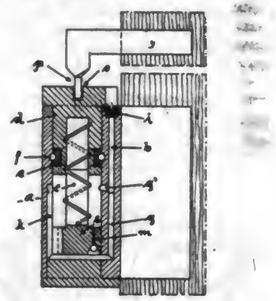
3. A rotary engine, gas or air pump or blower comprising a drum, intergeared hollowed pistons having openings in their sides and revolving within the drum and fitting to the interior walls thereof, and means to force liquid into the pistons and causing the liquid to exude from said openings in the side edges thereof; said forcing means including a source of supply for the liquid, and ports communicating with said source and formed in the side walls of the drum opposite the hollows of the piston.

4. A rotary engine, gas or air pump or blower comprising a drum, intergeared hollowed pistons having openings in their sides and revolving within the drum and fitting to the interior walls thereof, and means to force liquid into the pistons and causing the liquid to exude from said openings in the side edges thereof; said forcing means including a source of supply for the liquid, and ports communicating with said source and formed in the side walls of the drum opposite the hollows of the pistons; said ports having such form and position as to be constantly within the contours of the pistons.

5. A rotary gas or air pump or blower comprising a drum, intergeared hollowed pistons having openings in their sides and revolving within the drum and fitting to the interior walls thereof, a separator to collect liquid from the delivery side of the pump, and means to enable the pressure of the delivered air or gas to force the collected liquid into said pistons to cause it to exude from said openings in the side edges thereof; a catch-basin for the drip from the pistons being provided upon the intake side of the pump to enable the inflowing air or gas to take up the liquid caught in the basin and deliver it to the vanes of the pistons to be thereby carried around to the delivery side of the pump.

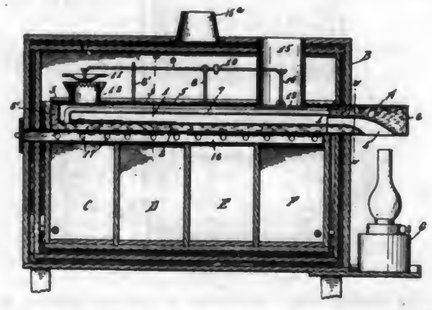
[Claims 6 to 21 not printed in the Gazette.]

973,680. COMBINED HINGE AND DOOR-CHECK. PAUL MÄRKSCH, Vohwinkel, Germany, assignor to The Firm of W. & G. Vogel, Elberfeld, Germany. Filed Nov. 9, 1908. Serial No. 461,808.



In a combined hinge and door check, the combination with the door and door frame, of a plate secured to the rear edge of the door and having depending arms at its opposite ends, two checking cylinders secured, respectively, to the opposite sides of the door frame each provided with a vertical channel in its wall, terminating at its lower end just above the bottom of the cylinder said cylinder provided midway its length with a port communicating with said channel, means including a screw valve, for closing said vertical channel, a hollow pintle having high pitched screw threads rotatably mounted in each of said cylinders and having also a groove in its head to receive the corresponding depending arms of said fixed plate, means including a clamping ring, to prevent vertical movement of said pintle, a piston seated in the respective cylinders and having a threaded piston rod adapted to engage the internal threads on the pintle, whereby it may be reciprocated by the rotation of the pintle, said piston being provided with a non-return valved opening and means to prevent the rotation of the piston in the cylinder.

973,681. HEATING-TANK FOR INCUBATORS. PATRICK J. MCCABE, Madison Lake, Minn. Original application filed July 3, 1908, Serial No. 441,817. Divided and this application filed Jan. 6, 1909. Serial No. 470,992.

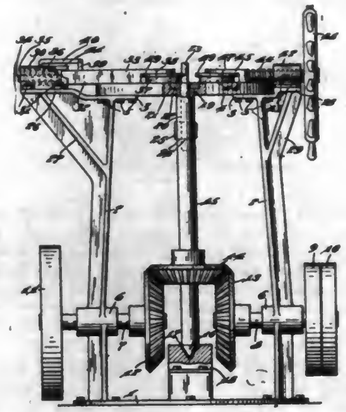


1. A hot water heater comprising a tank provided with a horizontal passageway therethrough having a downwardly turned mouth at one end opening on the under side to receive heated air and an opening on its upper side near each end, said passageway being as wide as the tank for the greater part of its length, but narrower than said tank at the mouth end, and automatic valves controlling said upward openings.

2. A hot water heater comprising a tank provided with a horizontal passageway therethrough having a downwardly turned mouth at one end opening on the under side to receive heated air, said passageway being as wide as the tank for the greater part of its length, but narrower than said tank at its mouth end to provide water communication between the front end of said tank and the portion below the heating passageway, and a water circulating tube extending through said heating passageway connecting the front to the rear of said tank.

3. A hot water heater comprising a horizontal tank divided by a horizontal diaphragm into an upper and lower section, the upper section serving as a passage for hot air and opening at the bottom of the tank to receive heated air, the lower portion of said tank adapted to hold water and having a forward and a rear water section in communication therewith, and a circulating tube extending through the hot air section to connect the front and rear ends of the water tank to cause water to circulate therein.

973,682. METAL-SHAPING APPARATUS. WILLIAM T. MCCREAVY, Philadelphia, Pa. Filed Nov. 4, 1909. Serial No. 526,166.



1. In an apparatus of the character described, the combination with a support, of a vertical shaft in said support, a vertical pin secured in said shaft, means for transmitting rotary movement to said shaft, brackets mounted at opposite sides of said pin, rollers in said brackets, means exerting elastic pressure on one of said brackets to move the same toward the said pin, and positive means for actuating the movement of the other of said brackets.

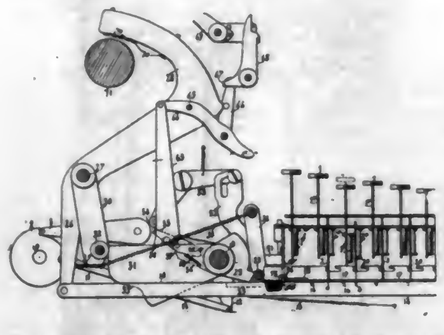
2. In an apparatus of the character described, the combination with a supporting top or table, of a rotary shaft projecting above said top, two brackets mounted on said top at opposite sides of said pin, a single roller in one of said brackets, a screw for positively moving said bracket toward and away from said pin, two rollers mounted in the other of said brackets, a spring normally pressing said last mentioned bracket toward said pin, and a catch on said last mentioned bracket, adapted to hold the bracket against movement toward the pin.

3. In an apparatus of the character described, the combination with a support, a top on said support, a vertical shaft projecting into said top, means for transmitting rotary movement to said shaft, a pin removably secured in the upper end of said shaft and projecting through said top, a wearing ring around said pin located in a recess in the top, brackets mounted to move on the top at opposite sides of said pin, a single roller in one of said brackets, two rollers in the other of said brackets, a screw connected with the single roller bracket and adapted to positively move said bracket, a casing, a spring in said casing, a plunger on the bracket in which the two rollers are mounted, said plunger projecting into the casing and against said spring, a lug on said plunger and a pivoted catch on said lug adapted to catch upon the end of said casing.

4. In an apparatus of the character described, the combination with a support, a top on said support, a vertical

shaft projecting into said top, means for transmitting rotary movement to said shaft, a pin removably secured in the upper end of said shaft and projecting through said table, a wearing ring around said pin located in a recess in the top, brackets mounted to move on the top at opposite sides of said pin, a single roller in one of said brackets, two rollers in the other of said brackets, a screw connected with the single roller bracket and adapted to positively move said bracket, a casing, a spring in said casing, a plunger on the bracket in which the two rollers are mounted, said plunger projecting into the casing and against said spring, a lug on said plunger, a pivoted catch on said lug adapted to catch upon the end of said casing, and annular flanges around the upper edges of all of said rollers.

973,683. COMPUTING AND RECORDING MACHINE. WILLIAM H. MCFARLAND, East Orange, N. J. Filed Nov. 21, 1905. Serial No. 288,500.



1. In a computing machine, the combination with a single system of keys, and restoring springs therefor, of stops set by said keys, individual means to hold the stops stationary during the depression of the keys, springs constituting the sole restoring means of said stops, latches to hold said keys down, means for permitting the keys to be returned to normal positions by their springs in advance of said stops, a series of adding devices, and means for moving said adding devices from normal positions to points determined by said stops.

2. In a computing machine, the combination with a single system of keys, and restoring springs therefor, of stops set by said keys, individual means to hold the stops stationary during the depression of the keys, springs constituting the sole restoring means of said stops, means detaining said keys in depressed positions, means for locking all of said stops in depressed positions, means for releasing the keys in advance of the stops, and adding devices whose strokes are limited by said stops.

3. In a computing machine, the combination with a single system of keys, and restoring springs therefor, of means rendered effective by the depression of said keys, for detaining them in their depressed positions, a series of stops controlled by said keys, individual springs constituting the sole restoring means of said stops, means for detaining said stops in their depressed or set positions and for releasing said keys in advance of the stops, so that the keys may be again depressed while the stops remain depressed, and adding devices whose strokes are limited by said stops.

4. In a computing machine, the combination with a series of adding devices, of a system of stops therefor, individual springs constituting the sole restoring means of said stops, a single system of keys, key-restoring springs, means for enabling the keys to set and retain their associated stops, means called into action by said keys whenever they are depressed, for detaining them in their depressed positions, means for detaining the stops when set and for releasing said keys in advance of the stops, and means for releasing the stops.

5. In a computing machine, the combination with a series of adding devices, of a system of stops therefor, individual springs constituting the sole restoring means of said stops, a single system of keys for setting the stops, key-restoring springs, means for detaining the keys when depressed, independent means for detaining the stops when set and for locking the unset stops, means for releasing the keys, and means for releasing the stops.

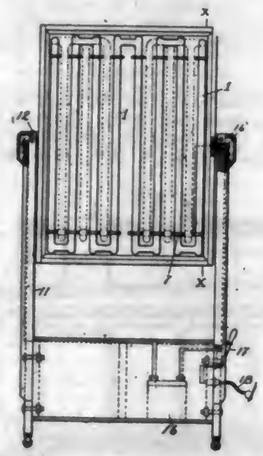
[Claims 6 to 33 not printed in the Gazette.]

973,684. DISH-PAN. MARY THOMPSON-MEARES, Palo Alto, Cal., assignor of one-half to Anna D. Connelly, Palo Alto, Cal. Filed Nov. 1, 1909. Serial No. 525,712.



An article of manufacture adapted to hold water having at its bottom a ring-like abutment removed from the side walls extending a short distance upwardly and leaving a free space within the pan over its top for the wash water, and having at one side of said abutment a support for cutlery and similar articles comprising top and bottom straps.

973,685. ARTIFICIAL SKYLIGHT. DANIEL MCFARLAN MOORE, Newark, N. J., assignor to Moore Electrical Company, New York, N. Y., a Corporation of New York. Filed Oct. 27, 1903. Serial No. 178,700.



1. An electric light comprising a luminous section of tubing doubled back and forth upon itself and multiple terminal tubes therefor disposed opposite the spaces between the doubled portion and in a plane parallel to said portions.

2. An electric tube lamp consisting of a translucent tube doubled back and forth upon itself in a single plane and provided at each end with multiple tube terminals each having a conducting cap, said multiple tube terminals being disposed in a plane parallel to the plane of the doubled portion.

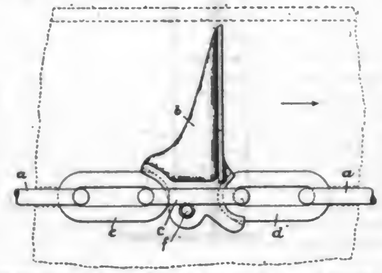
3. An electric tube lamp having an illuminating portion composed of a multiplicity of sections arranged parallel and in close proximity to one another in the same plane and terminals for said tubes arranged at the rear of said plane and with their axes parallel to the axis of the illuminating portion.

4. An electric tube lamp having terminals provided with conducting caps and disposed out of line with but in a plane substantially parallel to the plane in which the light-giving portions of the tube connected thereto are disposed.

5. An electric lamp for photographer's use, comprising a stand or base adapted to be moved freely over the floor into any desired position with relation to the sitter, a frame mounted on said stand on suitable pivotal supports and adapted to be turned on said supports in a vertical plane into any desired degree of inclination from the vertical, and a vacuum tube lamp adapted to be operated at any inclination from the vertical and comprising a group of luminous tubes whose members are arranged in close proximity to one another in a common plane, to produce the effect of a sky-light.

[Claim 6 not printed in the Gazette.]

973,686. CLEAT ATTACHMENT FOR CONVEYER-CHAINS. CHARLES WARREN MORGAN and CLARENCE LUTHER RICE, Lumberton, Miss. Filed Oct. 28, 1909. Serial No. 525,230.



In combination with a chain conveyer, a projection having a shank passing through the vertical link, with its front wall curved and grooved to fit around the end of the adjacent front link, and having a rearward projection curved and grooved to fit one side of the front end of the adjacent rear link and a pin passing through the projection and engaging with the vertical link to hold the projection in place.

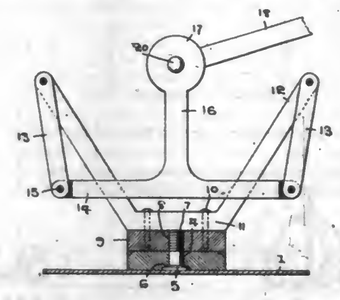
973,687. SILO. PAUL B. NAYLOR, Kansas City, Mo. Filed Jan. 17, 1910. Serial No. 538,481.



1. A silo formed of a series of staves having tongue and groove joints, outer hoops arranged around said staves at the upper and lower ends of the silo, inner hoops engaged with the inner sides of the staves at the upper and lower ends of the silo, a series of U-shaped clamping bolts inserted through said staves and engaged with said outer and inner hoops, clamping plates and nuts arranged on the inner ends of said bolts, a series of brace rods arranged at intervals around the outer side of the silo, said rods being anchored at their lower ends and having eyes at their upper ends engaged with the cross bars of said U-shaped bolts.

2. A silo formed of a series of vertically-arranged staves, adjustable hoops engaging the inner and outer faces of the staves for securing the staves in position, anchoring rods for steadying the silo and means for securing the upper ends of the anchoring rods to the silo and retaining in position the stave-positioning hoops, said means comprising a substantially U-shaped threaded bolt adapted to extend through the staves on opposite sides of the adjustable hoops and clamping nuts engaging the threaded ends of said bolt.

973,688. FINISHING-TOOL. JAMES F. NICHOLAS, Sullivan, Ind. Filed July 27, 1910. Serial No. 574,037.

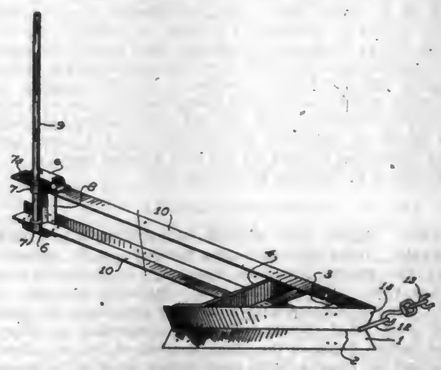


1. In a finishing tool the combination with a trowel and a stud carried thereby, of a head block removably attached to said stud, means to hold the head block in adjusted positions on the stud, brackets carried by the head block, hangers pivotally attached to said brackets, a cross head pivoted to the opposite ends of said hangers and a handle adjustably attached to parts of said cross head.

2. In a finishing tool, the combination with a trowel having a rib thereon and a stud projecting upwardly therefrom, of a head block removably attached to said stud, brackets having upwardly and outwardly extending arms thereon, a cross head, hangers pivoted to said arms and cross head, whereby the cross head will have a swinging movement and a handle adjustably attached to parts of said cross head.

3. In a finishing tool, the combination with a trowel, of a head block removably and adjustably attached thereto, brackets carried by the block having upwardly and outwardly extending arms, hangers pivoted between the upper ends of the arms, a cross head pivoted to the lower ends of the hangers, a standard extending upwardly from the cross head and a handle adjustably attached to the standard.

973,689. DITCHING-PLOW. KELS P. NICKELL, Saratoga, Wyo. Filed Feb. 5, 1910. Serial No. 542,353.

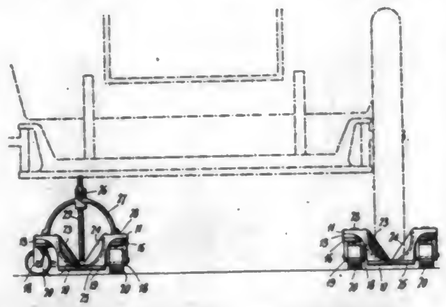


1. A plow comprising castings, angle bars attached to said castings and a share of substantially trough-like out-

line and standing at an angle to said angle bars with their ends meeting at a common point.

2. A plow comprising castings, angle bars attached to said plate castings, a share of substantially trough-like outline and standing at an angle to said angle bars with their ends meeting at a common point, and a handle applied to said angle bars at a distant point to said share, said angle bars being provided upon their upper and lower surfaces with raised members.

973,690. VEHICLE-CASTER. JOHN E. NORWOOD, Baltimore, Md. Filed Dec. 20, 1909. Serial No. 534,086.



1. In a vehicle caster, a base having outstanding side flanges and a longitudinal channel, the latter to accommodate a vehicle wheel tire, the sides of said channel being formed with projections extending into said channel from opposite sides thereof.

2. In a vehicle caster, the combination of a wheeled base having means to receive a vehicle wheel tire, and a supporting member, said base and said supporting member having means to detachably secure the latter on the former.

3. In a vehicle caster, the combination of a wheeled base having means to receive a vehicle wheel tire, and a supporting member, said base and said supporting member having means to detachably secure the latter on the former, said supporting member also having means to support the same against tilting stress either when said supporting member is on or detached from said base.

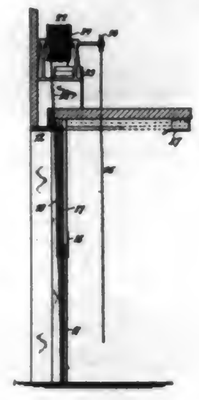
4. In a vehicle caster, a base having outstanding side flanges and a longitudinal channel, the latter to accommodate a vehicle wheel tire, the sides of said channel being formed with projections extending into said channel from opposite sides thereof and further formed with recesses in the outer sides of said projections and casters under and over-hung by said side flanges and disposed opposite and cleared by said recesses.

5. In a vehicle caster, the combination of a wheeled base, having a longitudinal channel to receive a vehicle wheel tire and a supporting member, said supporting member comprising a vertically movable member and a socket member in which said vertically movable member is mounted, said socket member having radially disposed legs extending therefrom, said legs and said wheeled base having means to detachably mount said legs and hence also said supporting member on the said wheeled base.

[Claim 6 not printed in the Gazette.]

973,691. DOOR AND MEANS FOR OPERATING THE SAME. JOHN EDWARD OGDEN, Brooklyn, N. Y., assignor to The Patent Appliance Company, a Corporation of New York. Filed May 20, 1910. Serial No. 562,378.

1. The combination with a doorway framing and a two-part door fitted thereto, one part comprising an upper door section fitted to the upper portion of the said doorway and the other a lower door section fitted to the lower portion of the said doorway, the two said door sections being provided with co-engaging slides and guideways whereby the lower said door section is guided vertically in right lines over the face of the upper door section, suspension elements constituting swinging supports pivotally connected to a part stationary with the doorway framing and to the upper door section, means for first lifting the lower door section in right lines from a position substantially beneath the upper door section to a position substantially side by side therewith and for thereafter lifting the lower ends of both of the said door sections together in substantially right lines to a position substantially neutral with respect to the said supporting elements, the said elements serving to guide the upper end of the door sections outwardly during such lifting movement, and supplemental means for supporting the outer end of the said door sections as they approach a neutral position with respect to the said supporting elements and thereby lose the support thereof.



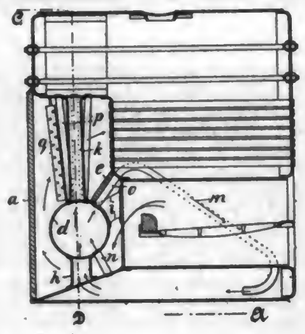
2. The combination with a doorway framing having vertical side guides therein, of an upper door section fitted to the upper portion of the said doorway, a lower door section fitted to the lower portion of the said doorway, the said door sections being provided with co-engaging slides and guideways for guiding the lower section vertically in right lines over the face of the upper door section, trunnions projecting from the lower ends of the lower door section and engaging the vertical side guides of the framing, suspension elements connected to the framing and to the upper door section, the said upper door section being otherwise free to move except as it is controlled by its engagement with the lower door section, a stationary guide normally engaging the upper end of the said lower door section but terminating in a point just above the lower end of the said lower door section when it is in its uppermost position, and means connected with the lower end of the lower door section for first lifting the same in right lines from a position beneath the upper door section to a position substantially side by side therewith and thereafter for lifting the lower ends of both the said door sections together, the suspension elements at such time serving to guide the upper ends of both the said door sections outward.

3. The combination with a doorway framing, of an upper door section fitted to the upper portion of the said doorway, a lower door section fitted to the lower portion of the said doorway, means for first lifting the lower door section in right lines from a position substantially beneath the upper door section, to a position substantially side by side therewith, and thereafter for lifting the lower ends of both the door sections together, suspension elements pivotally connected to the doorway framing and to the said upper door section, the said suspension elements acting to guide the upper ends of the said door sections outward, during the time the lower end of the said upper door section is being lifted, and supplemental supporting means for supporting the outer end of the said door sections, as the said door sections approach a neutral position with respect to the said suspension elements.

4. The combination with a doorway framing having vertical side guides therein, of a door comprising upper and lower sections, fitted thereto, the said door sections being provided with co-engaging slides and guideways for guiding the lower door section vertically in right lines over the face of the upper door section, trunnions projecting from the lower ends of the lower door section and engaging the vertical side guides of the framing, suspension elements connected to the framing and to the upper door section, and means connected with the lower end of the lower door section to lift the same, the said lower door section being arranged to reach a lifting engagement with the upper door section, after the lower door section has been lifted to a predetermined extent, whereby the lower end of both of the door sections will be lifted together in the continuance of such lifting movement, the said suspension elements acting at such times to guide the upper ends of the said sections outward, the lower ends of both the said door sections being at such time entirely guided by the engagement of the trunnions of the lower section with the said vertical guideways.

5. The combination with a doorway framing, of an upper door section fitted to the upper portion of the said doorway, a lower door section fitted to the lower portion of the said doorway, means for first lifting the lower section in right lines from a position substantially beneath the upper door section, to a position substantially side by side therewith, and thereafter for lifting the lower ends of both the door sections together, suspension elements pivotally connected to the doorway framing at points therein substantially in line with the upper end of the upper door section when closed, and to the said upper door section at points about midway between the upper and lower edges thereof, and supplemental supporting means for supporting the outer end of the said door as the lower end thereof approaches the point of pivotal connection of the suspension elements with the doorway framing and so loses the support of the said suspension elements.

973,692. STEAM-BOILER. CARL MARTINIUS OLSEN, Birkerõd, near Sandefjord, Norway. Filed Dec. 27, 1909. Serial No. 535,031.

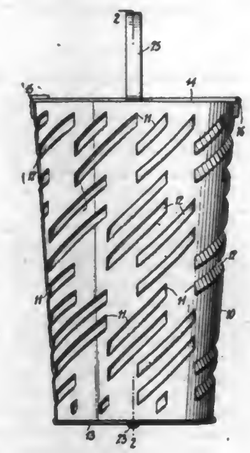


1. In a horizontal multitubular steam boiler, of the character described, a cross-cylinder arranged in elevated position in the combustion chamber so as to be directly exposed to the heat emitted from the furnace flues, water tubes radiating from said cylinder toward the top, the bottom and the back of the boiler, means for guiding the heated flue gases around the cylinder and across the water tubes, and means for conducting heated water from the cylinder to the lower front part of the boiler, substantially as set forth.

2. In a horizontal multitubular steam boiler, of the character described, a cross-cylinder arranged in elevated position in the combustion chamber so as to be directly exposed to the heat emitted from the furnace flues, water tubes radiating from said cylinder toward the top, the bottom and the back of the boiler, a partition wall carried from the cylinder over a row of tubes to the back of the boiler above the furnace flues so as to compel the flue gases to pursue a circuitous route around the cylinder and across the water tubes, and tubes carried from the cylinder under said partition wall to the boiler and thence through the latter in a curve past the furnace flues to the lower front part of the boiler, there to terminate in a rearward bend, substantially as and for the purpose set forth.

3. In a horizontal multitubular steam boiler, of the character described, a cross-cylinder arranged in elevated position in the combustion chamber so as to be directly exposed to the heat emitted from the furnace flues, tubes radiating from said cylinder toward the top, the bottom and the back of the boiler, a super-heater in the upper part of the combustion chamber, a partition wall connecting the cylinder with the boiler so as to conduct the flue gases in a circle around the cylinder and across the water tubes and the super-heater, and tubes carried from the cylinder upward through the boiler and then, in a curve past the furnace flues down to the lower front part of the boiler, substantially as and for the purpose set forth.

973,693. GRATER. MARY LOUISE OPIE, Philadelphia, Pa. Filed Aug. 15, 1910. Serial No. 577,130.

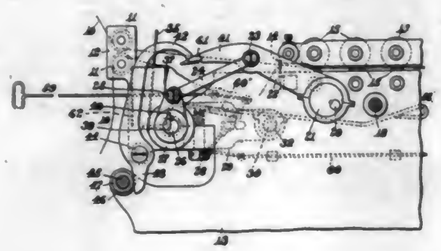


1. The combination with an outer member comprising a hollow inverted frusto-cone having spaced slots extending spirally around its sides and cutter blades projecting inwardly from said slots, a bar on the bottom of said member, and a second bar extending diametrically across the top of said member, said second bar being hinged to the member at one end and detachably secured to the member at the other end, said bars being provided with perforations extending axially of said member; of an interior frusto-conical member having projecting bosses on its exterior, spiders on the ends of said interior member having axial openings, a shaft extending through said spiders and bars, a wing nut on said shaft to hold the same in position, and a bail fixed to the upper end of the interior member and straddling the second bar.

2. The combination with an outer member comprising an inverted frusto-conical sheet metal body having inverted U-shaped slits spaced spirally around the body, the partially severed metal between the arms of said U-shaped slits being bent inward to constitute cutter blades, a bar on the bottom of said member, and a second bar extending diametrically across the top of said member, said second bar being hinged to the member at one end and detachably secured to the member at the other end; of an interior

frusto-conical member having projecting bosses on its exterior, spiders on the ends of said interior member having axial openings, a shaft extending through said spiders and bars, a wing nut on said shaft to hold the shaft in position, and a bail fixed to the upper end of the interior member and straddling said second bar, said second bar and bail constituting stop means to limit the movement of the interior member in either direction.

973,694. DEVICE FOR PREVENTING SINGLES IN ROVING AND SIMILAR FRAMES. VAN R. PAIGE, Hopkinton, N. H., assignor to Bentley Single-and-Stop-Motion Company, Augusta, Me., a Corporation of Maine. Filed Mar. 18, 1908. Serial No. 421,960.



1. In an apparatus of the class described, the combination with a plurality of drawing rolls adapted to move and unite a set of slivers passing between the same; of an oscillating shaft provided with a radial shoulder; means operable with the drawing rolls for oscillating said shaft; a vertically movable plate normally retained in raised position by a thread and adapted upon the breaking of said thread to drop; a pivoted member connected to said plate provided with a shoulder adapted to move when said plate drops into the path of said radial shoulder to prevent further oscillation of said shaft; a stop motion; and means for operating said stop motion actuated upon stopping the oscillatory movement of said shaft.

2. In an apparatus of the class described, the combination with a plurality of drawing rolls adapted to move and unite a set of slivers passing between the same; of an oscillating shaft provided with a radial shoulder; means operable with the drawing rolls for oscillating said shaft; a vertically movable plate normally retained in raised position by a thread and adapted upon the breaking of said thread to drop; a pivoted member connected to said plate provided with a shoulder adapted to move when said plate drops into the path of said radial shoulder to prevent further oscillation of said shaft; a stop motion; means for operating said stop motion actuated upon stopping the oscillatory movement of said shaft; and mechanism for simultaneously raising a plurality of said pivoted members and the plates connected thereto.

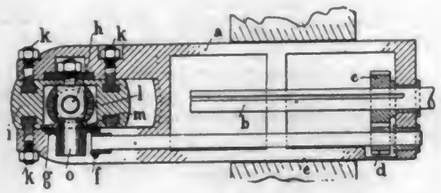
3. In an apparatus of the class described, the combination with a plurality of drawing rolls adapted to move and unite a set of slivers passing between the same; of an oscillating shaft provided with a radial shoulder; means operable with the drawing rolls for oscillating said shaft; a vertically movable plate normally retained in raised position by a thread and adapted upon the breaking of said thread to drop; a pivoted member connected to said plate provided with a shoulder adapted to move when said plate drops into the path of said radial shoulder to prevent further oscillation of said shaft; a stop motion; means for operating said stop motion actuated upon stopping the oscillatory movement of said shaft; a pivoted bar beneath said pivoted members; and means for moving said bar about its pivot to lift said members.

4. In an apparatus of the class described, the combination with a plurality of drawing rolls adapted to move and unite a set of slivers passing between the same; of an oscillating shaft provided with a radial shoulder; means operable with the drawing rolls for oscillating said shaft; a vertically movable plate normally retained in raised position by a thread and adapted upon the breaking of said thread to drop; a pivoted member connected to said plate provided with a shoulder adapted to move when said plate drops into the path of said radial shoulder to prevent further oscillation of said shaft; a stop motion; means for operating said stop motion actuated upon stopping the oscillatory movement of said shaft; a pivoted bar beneath said pivoted members; means for moving said bar about its pivot to lift said members; and a spring member adapted to retain said bar when in raised position.

5. In an apparatus of the class described, the combination with a plurality of drawing rolls adapted to move and unite a set of slivers passing between the same; of an oscillating shaft provided with a radial shoulder; means operable with the drawing rolls for oscillating said shaft; a vertically movable plate normally retained in raised position by a thread and adapted upon the breaking of said thread to drop; a pivoted member connected to said plate provided with a shoulder adapted to move when said plate drops into the path of said radial shoulder to prevent further oscillation of said shaft; a stop motion; means for operating said stop motion actuated upon stopping the oscillatory movement of said shaft; and a roller about which the slivers are adapted to pass before entering the eyes in said plates.

[Claims 6 and 7 not printed in the Gazette.]

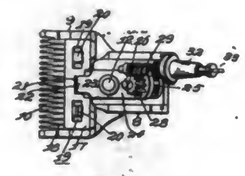
973,695. DEVICE FOR TOOL-HOLDERS IN CUTTING-ENGINES. AUGUSTE PHILIBERT, Paris, France. Filed Feb. 9, 1909, Serial No. 477,030. Renewed Mar. 30, 1910. Serial No. 552,413.



Improved device for tool-holders in cutting machines comprising in combination a cylindrical casing or shell ending into two branches and revolubly mounted on the driving shaft, a tooth wheel fixed in the rear wall of said casing and sliding on the driving shaft, an auxiliary spindle fixed within said casing and adapted to be rotated by means of the tooth wheel, a movable piece between the said branches of the casing, a tool-holder provided with a bevel pinion and adapted to rotate within said movable piece, a bevel pinion with two sets of teeth the internal one of which is destined to gear with the bevel tooth wheel fixed on said tool-holder, while the external set of teeth meshes with a bevel pinion fixed on said auxiliary shaft, substantially as described and set forth.

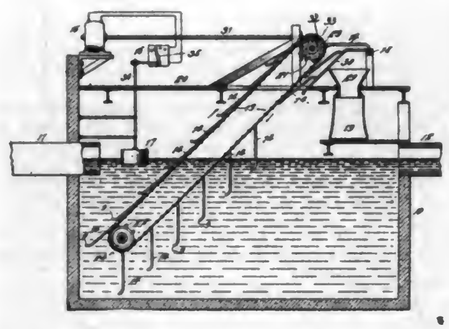
973,696. MOTOR-DRIVEN HAIR-CLIPPER. EDWARD F. PONATH, St. Louis, Mo. Filed Jan. 13, 1910. Serial No. 537,888.

A motor-driven hair clipper comprising a stationary guide cutter blade; a frame mounted on the cutter blade and diverging therefrom on an angle; a post supported in the frame and stationary cutter blade; a casing secured to the frame; a trunnion mounted in the casing and frame; a worm gear mounted on the trunnion; a cam formed on the trunnion and located beneath the worm gear; a worm supported in the casing and meshing with the worm gear; a bifurcated arm pivotally mounted on the post, its one end contacting with the cam and operated thereby; a reciprocating cutter blade mounted on the stationary cutter blade and provided with a recess in which one end of the bifurcated arm contacts for operating the reciprocating blade by the movement of the cam;



a housing supported on the post and contacting with the reciprocating blade; and a set nut located on the post above the housing so as to regulate the tension of the reciprocating blade, substantially as specified.

973,697. APPARATUS FOR SCREENING SEWAGE AND OTHER FLOWING MATTER. CLYDE POTTS, Morristown, N. J. Filed May 27, 1910. Serial No. 563,687.



1. Screening apparatus interposed in the path of a flowing stream and extending without the same and occupying substantially the width of the channel for such flow, comprising a traveling sectional screen composed of an endless carrier and a series of successive screen-sections hinged at one edge thereto and adapted to swing outwardly therefrom as they successively pass a definite location without the stream, means for driving said carrier, and means for jarring the successive individual screen-sections after they leave the stream and while they are turned outwardly from said carrier, for removing the collected matter from said sections; substantially as set forth.

2. Screening apparatus interposed in the path of a flowing stream and extending without the same and occupying substantially the width of the channel for such flow, comprising a traveling sectional screen composed of an endless carrier and a series of successive screen-sections hinged at one edge thereto and adapted to swing outwardly therefrom as they successively pass a definite location without the stream, means for driving said carrier, and means for jarring the successive individual screen-sections after they leave the stream and while they are turned outwardly from said carrier, for removing the collected matter from said sections combined with means for automatically varying the speed of travel of the screen by and in accordance with the quantity of suspended matter in the stream.

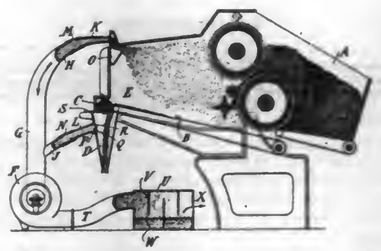
3. Screening apparatus interposed in the path of a flowing stream and extending without the same and occupying substantially the width of the channel for such flow, comprising a traveling sectional screen, an endless carrier to which the screen-sections are hinged at their upper ends, upper and lower supports for said carrier, means for driving the carrier, and a block against which the screen-sections strike as they successively pass over the upper support and are thereby reversed, for the purpose of jarring the collected matter therefrom.

4. Screening apparatus interposed in the path of a flowing stream and extending without the same and occupying substantially the width of the channel for such flow, comprising a traveling sectional screen, an endless carrier to which the screen-sections are hinged at their upper ends, upper and lower supports for said carrier, means for driving the carrier, and a block against which the screen-sections strike as they successively pass over the upper support and are thereby reversed, for the purpose of jarring the collected matter therefrom, said screen-sections having outwardly curved lower ends.

5. Screening apparatus interposed in the path of a flowing stream and extending without the same and occupying substantially the width of the channel for such flow, comprising a traveling sectional screen, an endless carrier to which the screen-sections are hinged at their upper ends, upper and lower supports for said carrier, means for driving the carrier, and a block against which the screen-sections strike as they successively pass over the upper support and are thereby reversed, for the purpose of jarring the collected matter therefrom, combined with means for automatically varying the speed of travel of said carrier in accordance with the quantity of suspended matter in the stream.

[Claims 6 to 10 not printed in the Gazette.]

973,698. CIGARETTE MACHINERY. ERNEST PUGIBET, Mexico, Mexico, assignor to El Buen Tono, S. A., Mexico, Mexico, a Corporation of Mexico. Filed May 6, 1909. Serial No. 494,480.



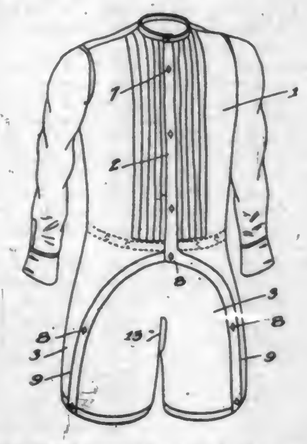
1. A machine of the class described including in combination a machine having a chamber E, means for sucking the dust out of said chamber through a mouth at the upper part thereof, and a collecting box O adjacent to such mouth.

2. A machine of the class described including in combination a machine having a feeder D in which dust is formed, means for sucking the dust out of said feeder through a mouth at the upper part thereof, and a collecting box P adjacent to such mouth.

3. In a machine of the class described a chamber in which dust is liberated, and means for extracting the dust therefrom including a mouth-piece and a box communicating with said mouth-piece, extending substantially the full width of said chamber and provided with a narrow mouth communicating with said chamber.

4. A machine of the class described including in combination a chamber in which dust is liberated, and having a mouth through which the dust is withdrawn, and a shield R over said mouth for preventing the larger particles from being withdrawn through said mouth.

973,699. GARMENT. EDWARD J. QUIGLEY, Newark, N. J., assignor to The Olus Manufacturing Co., New York, N. Y., a Corporation of New York. Filed Jan. 4, 1909. Serial No. 470,688.



A body garment comprising a body covering and lower limb covering provided with an opening extending from the neck opening to a point in proximity to the waist line and branching therefrom to form an opening extending down the outer side of each lower limb covering.

973,700. PAPER-CARRIAGE. JOSEPH RABER, Poplar Bluff, Mo., assignor to Adding Typewriter Company, St. Louis, Mo., a Corporation of Missouri. Filed Feb. 19, 1909. Serial No. 478,968.



1. The combination with a platen, of rails parallel with said platen, and a laterally-movable paper carriage mounted on said rails and being operable to move the paper laterally relative to said platen; said platen being immovable with respect to said paper carriage, substantially as specified.

2. The combination with a platen bar, and an element constituting a printing surface attached to said bar, of a paper carriage operable to move the paper laterally relative to said bar and printing surface, substantially as specified.

3. The combination with a platen, of a paper carriage operable to move the paper relative to said platen; said platen being immovable with respect to said paper carriage, substantially as specified.

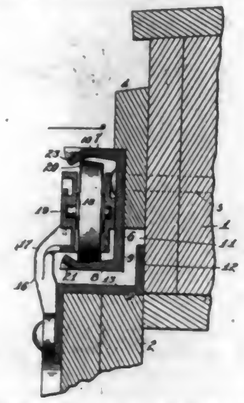
4. The combination with a plurality of platens, of a paper carriage operable to move the paper from one to another of said platens, substantially as specified.

5. The combination with a plurality of alined platens, of a paper carriage operable to transport the paper from one to another of said platens, substantially as specified.

[Claims 6 to 8 not printed in the Gazette.]

973,701. CAR-DOOR. ADOLPH J. RICKER, South Milwaukee, Wis., assignor to Belden D. Jones, Chicago, Ill. Filed Nov. 22, 1909. Serial No. 529,274.

1. The combination with a car body having a door opening, of a door adapted to be moved across said opening, an outwardly facing channel-shaped track member mounted above said opening, a pair of wheel deflectors carried by one of the horizontal flanges of said track-way, and supporting brackets connected to the door and having wheels riding in said track member, said wheels being adapted to engage said deflectors and be forced inwardly thereby when the door is in closed position.



2. The combination with a car body having a door opening, of a door adapted to be moved across said opening, an outwardly facing channel shaped track member mounted above said opening, an inwardly inclined wheel deflector carried by each of the opposed flanges of said track-way, and supporting brackets connected to the door and having wheels riding in said track member.

3. The combination with a car body having a door opening, of a door adapted to be moved across said opening, a substantially horizontal track member extending longitudinally above said opening and parallel with the car body throughout its length, an inwardly inclined wedge-shaped wheel deflector upon the upper face of said track member, a supporting bracket carried by the door and having a wheel riding on said way, said wheel engaging the deflector and being forced inwardly thereby when the door is in closed position.

4. The combination with a car body having a door opening, of a door mounted to move across said opening, of a track member extending horizontally above said opening and parallel with the car body throughout its length, and a wheel deflector mounted to extend above the track-way of said track member, and supporting brackets connected to the door and having track wheels riding in said way.

5. The combination with a car body having a door opening, of a door mounted to move across said opening, an outwardly facing channel-shaped track-way extending above the door, supporting brackets carried by the door and having track wheels riding in said track member, one of the horizontal flanges of said track member having an inclined raised portion forming a wheel deflector.

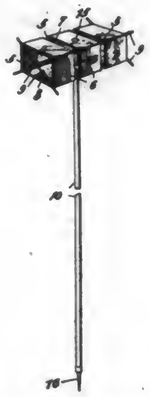
[Claims 6 and 7 not printed in the Gazette.]

973,702. DEVICE FOR HIVING BEES. ZACHARIAH A. ROBERTS and JOHN D. HARTWICK, Carrollton, Ill. Filed Feb. 28, 1910. Serial No. 546,375.

1. A device of the character described comprising a box structure, the sides of said box being formed in sections having their opposed edges separated, handles secured to the ends of said box, a tubular post centrally arranged in the box and secured in the opposite sides thereof, and a supporting standard adapted to be received in said tubular post, substantially as and for the purpose set forth.

2. A device of the character described comprising a rectangular box, the sides of said box being formed of a plurality of separated sections, handles extending beyond the corners of said box, a tubular post centrally arranged within said box and having its ends secured in the opposed sides thereof, and a standard adapted to be received within said tubular post, substantially as and for the purpose set forth.

3. A device of the character described comprising a rectangular open ended box, handles secured to said box, a tubular post centrally arranged in said box and secured upon the opposite sides thereof and a standard having a spindle secured to its upper end adapted to be received within said post, substantially as and for the purpose set forth.

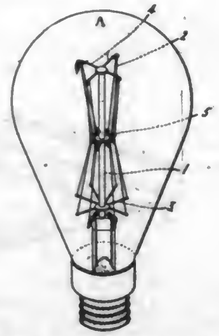


4. A device of the character described comprising a rectangular open ended box structure, the sides of said box being formed of a plurality of sections having their opposed edges separated, handles extending outwardly from each corner of the box, a tubular post centrally arranged in the box and formed with a flange on each end thereof, said flanges being fixed in the opposed box sections, and a supporting standard having a spindle secured to its upper end adapted to be received within said post, substantially as and for the purpose set forth.

5. A device of the character described comprising an open ended box structure, diagonally extending intersecting wires secured to the ends of said box and extending beyond the corners thereof to form handles, a tubular post centrally arranged within the box and having an annular flange formed on each end thereof fixed in the opposed sides of the box, and a standard provided with a longitudinally extending spindle on one end adapted to be received within said post, substantially as and for the purpose set forth.

[Claims 6 and 7 not printed in the Gazette.]

973,703. INCANDESCENT ELECTRIC LAMP. THOMAS E. ROBERTSON, Catford, England, assignor to General Electric Company, a Corporation of New York. Filed Nov. 2, 1908. Serial No. 460,565.



1. In an incandescent lamp, a filament loop, suitable supporting means for the ends and the bend of said loop, and a resilient anchor engaging said loop intermediate its end and bend supports.

2. In an incandescent lamp, a filament loop, supports for the ends and the bend of said loop, and resilient anchors intermediate said end and bend supports pulling the filament legs sidewise.

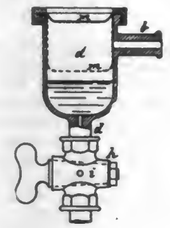
3. In an incandescent lamp, the combination of a central pedestal, a plurality of filament loops grouped about said pedestal, supports for the ends and the bends of said loops, and resilient anchors maintaining said filament loops in tension.

4. In an incandescent lamp, the combination of a filament loop, current supply conductors therefor, a resilient support for the bend of said loop, and resilient anchors between said support and said current supply conductors.

5. In an incandescent lamp, the combination of a filament extending between a current supply conductor and a support, and a resilient anchor situated intermediate said conductor and said support and maintaining said filament in tension.

[Claims 6 to 9 not printed in the Gazette.]

973,704. MILKING DEVICE. AXEL SABROE, Hadersleben, Germany. Filed May 11, 1909. Serial No. 495,252.



1. In a device for the purpose described, a receptacle, a milk conduit connected therewith near the upper end thereof, a pneumatic pipe connected therewith near the bottom end of less area than said conduit, and an elastic member at the top of said receptacle serving as a closure therefor and also for closing said conduit.

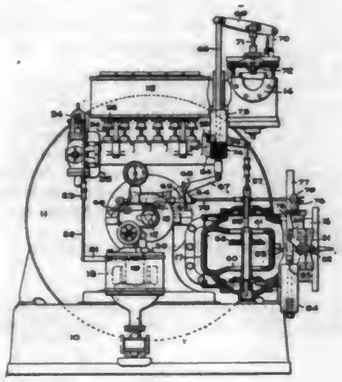
2. In a device for the purpose described, a receptacle, a milk conduit connected therewith near the upper end, a pneumatic tube connected therewith near the bottom and of less area than said conduit, an elastic member forming the closure for the top of said receptacle and for closing said conduit, and means for closing said pneumatic pipe, said means being provided with an air inlet opening.

3. In a device for the purpose described, a receptacle having a space, a pneumatic tube connected therewith near the bottom, a milk conduit connected therewith near the top, an elastic member forming a closure for the top of said receptacle and adapted to yield into said space under atmospheric pressure, a spigot in said conduit, and connections between said spigot and elastic member whereby they are actuated simultaneously.

973,705. GOVERNING MECHANISM FOR MIXED-PRESSURE TURBINES. FREDERICK SAMUELSON, Rugby, England, assignor to General Electric Company, a Corporation of New York. Filed Mar. 16, 1910. Serial No. 549,747.

1. A turbine having a conduit for supplying high pressure motive fluid and a conduit for supplying low pressure motive fluid, in combination with a valve means for regulating the admission of high pressure fluid to the turbine, valve means for regulating the admission of low pressure fluid to the turbine, a motor for actuating both of said valve means, a speed governor that controls said valve means and is driven by the turbine, emergency valves in-

dependent in action of said regulating valves, independent motors for operating the emergency valves, latches for preventing both motors from operating, and a speed governor, also driven by the turbine, that trips one latch, the other being tripped by one of the motors.



2. A turbine having a conduit for supplying high pressure fluid and a conduit for supplying low pressure motive fluid, in combination with valves for regulating the admission of high pressure fluid to the turbine, a cam shaft for moving the valves, a motor mounted on one end of the shaft for actuating it, a low pressure valve mechanism, a bell-crank lever and rod for transmitting motion from the cam shaft to the low pressure valve mechanism, emergency valves for the high and low pressure sources that are arranged to close independently of the regulating valves, and an emergency governor that controls the emergency valves.

3. A turbine having a conduit for supplying high pressure fluid and a conduit for supplying low pressure motive fluid, in combination with valve means for regulating the admission of high pressure fluid to the turbine, a cam shaft for actuating the valves, a motor mounted on the shaft for actuating it directly, a low pressure valve mechanism, a spiral cam driven by the cam shaft, a lever and rod actuated by the spiral cam for moving the low pressure valve mechanism, a governor for the motor, a butterfly emergency valve, a sliding and swinging rod, a weight on the rod for closing the valve, and means for releasing the rod and weight.

4. A turbine having high and low pressure supply conduits, a valve for each of the said supplies, a shaft, a spiral cam thereon, a motor mounted directly on the shaft for moving it, a governor for controlling the motor, means actuated by the cam that is connected to the low pressure valve, an emergency low pressure valve acting independently of the regulating valve, a means for imparting a hammer blow to said valve to close it suddenly, a restraining latch for said means, and a governor controlled motor for releasing said latch.

5. A turbine having high and low pressure supply conduits, a plurality of high pressure valves, a low pressure valve, said valves acting on the supplies from the conduits, main cams for actuating the high pressure valves successively, an auxiliary cam which precedes the main cam in its operation under conditions of increasing load on the turbine, a shaft for the cams, a power transmitting connection between the auxiliary cam and the low pressure valve, a motor mounted directly on the shaft that drives all of the cams, a speed governor for controlling the motor, a low pressure emergency valve, a sliding rod for actuating it, a locking lever therefor, means tending to hold the locking lever in engagement with the rod, and means for moving the lever against the action of the spring.

[Claims 6 to 13 not printed in the Gazette.]

973,706. WIND-SHIELD. LEONARD J. SANKER, Los Angeles, Cal. Original application filed June 24, 1909, Serial No. 504,108. Divided and this application filed Oct. 13, 1909. Serial No. 522,483.

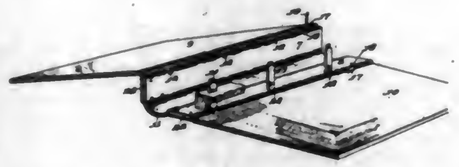


1. In a wind-shield, a circular hinge plate, a hinge pin projecting from the center of the hinge plate and comprising a circular portion, a squared washer lock and a screw threaded nut seat, there being a spring seat groove in the flat face of the hinge plate concentric with the hinge pin, a second hinge plate fitting loosely upon the circular portion of the hinge pin and having a spring seat groove in opposition to the first spring seat groove, a spring fitting in said grooves between the hinge plates, said spring being a section of an expansive coil, a washer having a square hole fitting upon the washer lock and a nut fitting upon the nut seat for tightening the hinge plates against the tension of the spring.

2. In a wind-shield, two hinge-plates having spring seat grooves in their inner faces, said spring seat grooves being narrower in cross section at their bottoms than at their tops, a circle of a coil spring in said spring seat grooves; said spring being larger in cross section than the widest part of the spring seat grooves so as to wedge into said spring seat grooves and hold the hinge-plates apart, and a pivot and nut adjustably connecting said hinge-plates together against the tension of the spring, said spring serving as a bearing upon which one hinge-plate turns relative to the other, and said spring serving as a friction means for holding the hinge stiff in an adjustable position.

3. In a wind shield, a circular hinge plate, a hinge pin projecting from the center of the hinge plate and comprising a circular portion, a squared washer lock and a screw threaded nut seat, there being a spring seat groove in the flat face of the hinge plate concentric with the hinge pin, a second hinge plate fitting loosely upon the circular portion of the hinge pin and having a spring seat groove in opposition to the first spring seat groove, a spring fitting in said grooves between the hinge plates, said spring being a section of an expansive coil, the spring seat grooves being narrower in cross section at their bottoms than at their tops, and the coil spring being larger in cross section than the widest part of the spring seat grooves, a washer having a square hole fitting upon the washer lock and a nut fitting upon the nut seat for tightening the hinge plates against the tension of the spring.

973,707. LOOSE-LEAF BINDER. KARL J. SARLES, Kenwood Springs, and THOMAS E. HEETER, St. Louis, Mo. Filed Nov. 8, 1909. Serial No. 526,858.

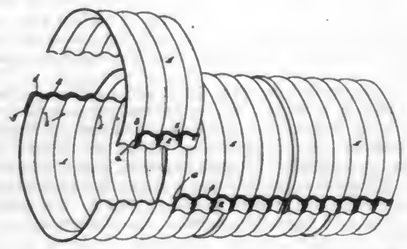


1. In a loose-leaf binder, a plurality of binding posts; a housing apertured to receive the extremities of said binding posts; a latch mounted within the housing and adapted to engage with the extremities of the binding posts; a lever whereby said latch is actuated; means for permanently locking said latch in engagement with the extremities of the binding posts, said lever being provided with a groove for the purpose of enabling the portion of the lever protruding from the housing to be broken off when the latch has been permanently locked, substantially as described.

2. In a loose-leaf binder, the combination of a front housing; a back housing; a plurality of binding posts whose extremities are detachably mounted in the housings, latch mechanisms mounted in the respective housings, means for permanently locking said latch mechanism within said housings; a lever mounted in each housing to actuate its latch, said lever being provided with a groove for the purpose of enabling the portion of the lever protruding from the housing to be broken off when the latch has been permanently locked, substantially as described.

3. In a loose-leaf binder, the combination of a front housing; a back housing; a plurality of binding posts whose extremities are detachably mounted in the housings; latch mechanisms mounted in the respective housings; means for permanently locking said latch mechanisms within said housings; a lever mounted in each housing to actuate its latch, said lever being provided with a groove for the purpose of enabling the portion of the lever protruding from the housing to be broken off when the latch has been permanently locked; a hinge interposed between the rear edges of said housings, and covers hingedly mounted at the front edges of said housings, substantially as described.

973,708. CULVERT. JULIUS H. SCHLAFLY, Canton, Ohio, assignor to The Canton Culvert Company, Canton, Ohio, a Corporation of Ohio. Filed Sept. 21, 1908. Serial No. 453,953.



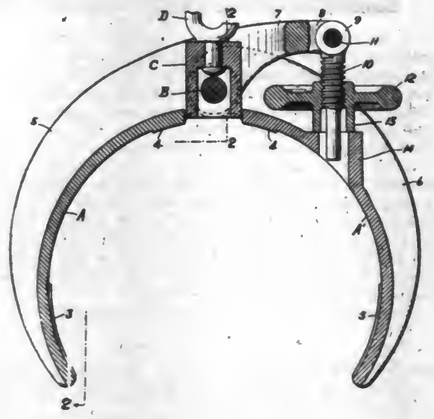
1. A sheet metal culvert comprising longitudinally adjacent sections over-lapping at their meeting ends, each section having longitudinal seam edges and each section comprising means for uniting said longitudinal seam edges, and a portion of each section cut away to permit the overlapping of the meeting ends of longitudinally adjacent sections.

2. A sectional sheet metal culvert composed of complementary half-sections provided with circumferential corrugations, an offset corrugated flange plate secured to one seam edge of each half-section, whereby to form a corrugated longitudinal slot along said edge, said plate terminating short of one end edge for the purpose of permitting the lapping of terminal corrugations of longitudinally adjacent half-sections, and the said half-sections assembled with the unflanged edge of each half-section located within the longitudinal slot of its complementary half-section, and the terminal corrugations of longitudinally adjacent half-sections overlapping.

3. A sectional sheet metal culvert composed of complementary half-sections, an offset flange plate secured to one seam edge of each half-section, whereby to form a longitudinal slot along said edge, said plate terminating short of one end edge, for the purpose of permitting the overlapping of said end edge with the end edge of a longitudinally adjacent half-section, and the said half-sections assembled with the unflanged edge of each half-section located within the longitudinal slot of its complementary half-section, and the end edges of longitudinally adjacent half-sections overlapping.

4. A sheet metal culvert composed of circumferentially corrugated complementary sections, each section provided with an offset flange comprising a flange plate extending along the edge of said section, said plate being corrugated to follow the corrugations in said sections and a spacing strip arranged between the said flange plate and the said section, the said plate, spacing strip and section forming a groove adapted to receive the edge of the complementary section, means for fastening said plate, strip and section together, said plate and strip terminating short of one end of said section, whereby longitudinally adjacent sections may be over-lapped at their ends.

973,709. GRAPPLE. ROBERT F. SCOTT, Philadelphia, Pa., assignor to Edwin Harrington, Son & Co., Inc., Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 31, 1910. Serial No. 541,052.



1. In a grapple, a pair of pivotally connected jaws, an arm fixed to one of said jaws, a bearing on the other of said jaws, and means, comprising a strut and a hub adapted to turn thereon acting between said arm and bearing for closing said jaws.

2. In a grapple, a pair of pivotally connected jaws, an arm fixed on one of said jaws, a bearing member on the other of said jaws, a threaded strut pivotally connected to said arm and movable freely through said bearing member, and a bearing member revoluble on said strut between said arm and bearing member first named for engaging the latter and closing said jaws.

3. In a grapple, a pair of jaws, a swivel block, a pintle connecting said jaws and block, an arm on one and a bearing member on the other of said jaws, a threaded strut pivotally connected to said arm, and a wheel having a hub revoluble on said strut between said arm and bearing member, said hub engaging said bearing member to close said jaws.

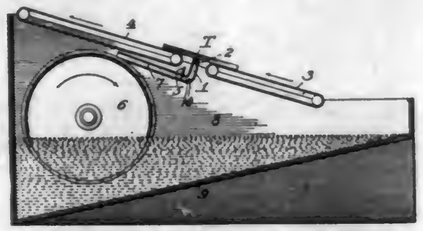
973,710. TILE-COATING MACHINERY. JAMES P. SCOVILL, Wyoming, Ohio, assignor, by mesne assignments, to The Ceramic Machinery Company, Hamilton, Ohio. Filed Sept. 23, 1904. Serial No. 225,619.

1. In a tile coating machine, an upwardly projecting spout provided with a foraminous cap, means for continuously flowing liquid coating material through the spout only to an elevation substantially the same as that of the lower face of the tile, and means for passing the tile over the mouth of the spout with its coat receiving face in close proximity thereto, substantially as described.

2. In a tile coating machine, an upwardly projecting spout, a foraminous cap thereon, means for continuously flowing liquid coating material through the spout, and a

supporting guide for the tile located at the mouth of the spout and serving to direct the tile through the outflowing current of coating material, substantially as described.

3. In a tile coating machine, an upwardly projecting spout, means for continuously flowing the liquid coating material through the spout, and a foraminous cap upon the spout serving as a supporting guide for the tile, substantially as described.

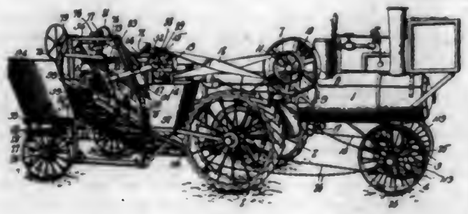


4. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum downwardly into the spout to divert coating material from the drum to the spout, and means for passing the tile over the mouth of the spout with its coat receiving face in close proximity thereto, substantially as described.

5. In a tile coating machine, a vat for liquid coating material, a drum rotating in said vat, an upwardly projecting spout, a chute leading from the top of the drum downwardly into the spout to divert coating material from the drum to the spout, and a supporting guide for the tile located at the mouth of the spout and serving to direct the tile through the outflowing current of coating material, substantially as described.

[Claims 6 to 17 not printed in the Gazette.]

973,711. GRADING-MACHINE. LUTHER J. SEVISON and EUGENE H. MOAK, Port Huron, Mich. Filed Dec. 26, 1906. Serial No. 349,565.



1. In a machine of the character described, a traction engine, a plurality of independently movable trucks flexibly connected thereto, and elevating mechanism supported by said trucks.

2. In a machine of the character described, a traction engine, a pair of independently vertically movable trucks pivotally connected thereto, and elevating mechanism supported by said trucks.

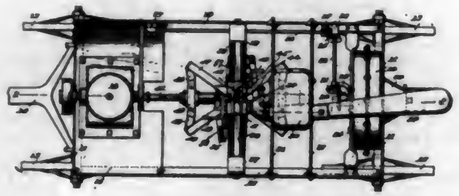
3. In a machine of the character described, a traction engine including a power shaft and means for actuating the same, a plurality of independently movable trucks flexibly connected to the traction engine, elevating mechanism supported upon said trucks, and gearing connecting the power shaft of the traction engine and the elevating mechanism.

4. In a machine of the character described, a traction engine including a power shaft and means for actuating the same, a plurality of independently movable trucks flexibly connected to the traction engine, elevating mechanism supported upon said trucks, means for adjusting said elevating mechanism, and flexible gearing connecting the power shaft of the traction engine and the elevating mechanism.

5. In a machine of the character described, a traction engine including a power shaft and means for actuating the same, a pair of independently vertically movable trucks pivotally connected to said traction engine, a plow supported by one of said trucks, an elevating carrier supported by said trucks and positioned to receive the material from the plow, and gearing connecting the power shaft of the traction engine and the elevating carrier

[Claims 6 to 43 not printed in the Gazette.]

973,712. COTTON-HARVESTER. CHARLES B. SEWELL, Sharon, Tex. Filed Feb. 16, 1910. Serial No. 544,239.



1. In a cotton harvester, a hollow helical suction head having a plurality of inlet openings, a suction pipe connected to the head, and means for rotating the head.

2. In a cotton harvester, a hollow helical suction head having a plurality of inlet openings, a suction pipe connected to the head, means for rotating the head, and means for adjusting the head to the plants.

3. In a cotton harvester, a hollow helical suction head, having a plurality of inlet openings, a suction pipe connected to the head, means for rotating the head, and means for guiding the head in a vertical and a horizontal plane.

4. In a cotton harvester, a wheeled supporting frame, a transverse rack bar carried by the frame, a housing slidable on the rack bar, pinions carried by the housing and meshing with the rack bar, means for rotating the pinions, a vertically disposed rack bar, and a pinion in mesh therewith carried by the housing, means for rotating said pinion, a suction nozzle carried by the vertical rack bar, and a flexible suction pipe connected to the nozzle.

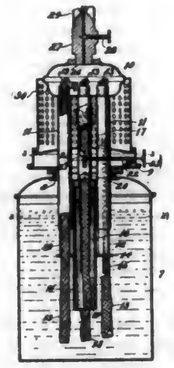
5. In a cotton harvester, a wheeled supporting frame, a transverse rack bar carried by the frame, a housing slidable on the rack bar, pinions carried by the housing and meshing with the rack bar, means for rotating the pinions, a vertically disposed rack bar and a pinion in mesh therewith carried by the housing, means for rotating said pinion, a rotatable helical suction nozzle carried by the vertical rack bar, and a flexible drive shaft and a flexible suction pipe connected to the nozzle.

[Claims 6 to 8 not printed in the Gazette.]

973,713. GENERATOR AND BURNER. WILLIAM C. SHAFFER, Milwaukee, Wis. Filed May 6, 1907. Serial No. 371,978.

1. A generator and burner for volatile fluids, comprising a supply receptacle, a vaporizing chamber, tubes connecting the supply receptacle to the vaporizing chamber, other tubes within the said first mentioned tubes, means for raising and lowering the last mentioned tubes, wicks within the last mentioned tubes for feeding a volatile fluid to the vaporizing chamber from the supply receptacle, a burner beneath said vaporizing chamber adapted to heat said chamber to vaporize the volatile fluid contained therein, means interposed between the supply receptacle and the burner for heating the vaporizing chamber for insulating the heat of said burner from the supply receptacle, and a valve controlled discharge pipe leading from said chamber to a burner.

2. A generator and burner for volatile fluids, comprising a supply receptacle, a vaporizing chamber, tubes connecting the supply receptacle to the vaporizing chamber, other tubes within the said first mentioned tubes, means for raising and lowering the last mentioned tubes, wicks within the last mentioned tubes for feeding a volatile fluid to the vaporizing chamber from the supply receptacle, a burner beneath said vaporizing chamber adapted to heat said chamber to vaporize the volatile fluid contained therein, a vaporizing chamber positioned between the burner for heating the vaporizing chamber and the supply receptacle, and a valve controlled discharge pipe leading from said vaporizing chamber to a burner.



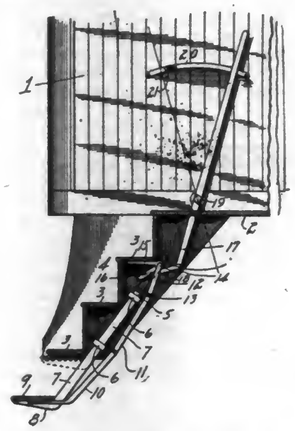
3. A generator and burner for volatile fluids, comprising a supply receptacle, a hollow cap connected to said receptacle, a vaporizing chamber, tubes connected to the vaporizing chamber and passing through said cap into the supply receptacle, other tubes within the first mentioned tubes, wicks within the last mentioned tubes adapted to feed a volatile fluid to the vaporizing chamber, a burner tube disposed beneath the vaporizing chamber and also passing through said cap and into the supply receptacle, a wick within the burner tube for supplying the volatile fluid to the burner portion of said tube for heating the vaporizing chamber, and means for controlling the discharge of vapor from the vaporizing chamber.

4. A generator and burner for volatile fluids, comprising a supply receptacle, a hollow cap connected to said receptacle, a vaporizing chamber, tubes connected to the vaporizing chamber and passing through said cap into the supply receptacle, other tubes within said first mentioned tubes, means for raising and lowering the last mentioned tubes, wicks within said last mentioned tubes adapted to feed a volatile fluid to the vaporizing chamber, a burner tube disposed beneath the vaporizing chamber and also passing through said cap and into the supply receptacle, a wick within the burner tube for supplying the volatile fluid to the burner portion of said tube for heating the vaporizing chamber, and means for controlling the discharge of vapor from the vaporizing chamber.

5. A generator and burner for volatile fluids comprising a supply receptacle, a hollow cap connected to the supply chamber, a vaporizing chamber located above the hollow cap, a screen resting on the hollow cap and surrounding a portion of the vaporizing chamber, tubes connected to the vaporizing chamber and passing through said cap and into the supply receptacle, other tubes within the first mentioned tubes, a plate connecting all of the last mentioned tubes together, means for raising and lowering said plate, wicks within the last mentioned tubes for feeding a volatile fluid to the vaporizing chamber from the supply receptacle, a burner adjacent to the vaporizing chamber adapted to heat said chamber to vaporize the volatile fluid contained therein, and a valve for controlling the discharge of said vapor.

[Claim 6 not printed in the Gazette.]

973,714. EXTENSION CAR-STEP. BLAKE SMITH and GEORGE SHIVADECKER, Verona, Ohio. Filed Feb. 25, 1910. Serial No. 545,814.



In an extension step for railway cars, the combination with the platform and stationary steps of a car, of an extension step below the lower stationary step of the car and movable to a position to serve as a supplemental step, sliding bars having their lower ends extending parallel with the extension step and to which said extension step is attached, keepers attached to the side members of the stationary steps and forming guides for said sliding rods, the upper ends of said sliding rods having means thereon acting as stops in connection with the uppermost keepers to support the extension step in its lower position, arms extending from said extension step parallel with the sliding rods, levers extending parallel with said sliding rods and to which the upper ends of the first named levers are attached, said last named levers having their upper ends engaging and pivotally connected to one arm of a crank shaft, said crank shaft being supported in bearings attached to the uppermost stationary step of the car and provided with a second arm, a hand-operative lever extending above the platform of the car and having its lower end connected to the second arm of the crank shaft by a link lever, and a segment attached to the car and having a shoulder adapted to engage said hand lever, substantially as specified.

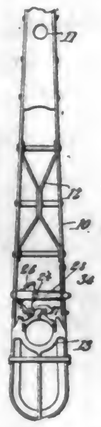
973,715. PITMAN. GEORGE E. SMITH, Los Angeles, Cal., assignor of one-half to George Hess, Coalinga, Cal. Filed Feb. 14, 1910. Serial No. 543,698.

1. In a pitman or like machine element, a pillow block, a cap block mounted for sliding adjustment in the pillow block, said pillow block and cap block being constructed and arranged to afford bearings for a crank pin disposed between them, the cap block being provided with lugs overlying its upper face, and an oscillatory flanged eccentric arranged above the cap block and having its flange confined between the said overhanging lugs and said upper face of the cap block.

2. In a pitman or like machine element, bearing blocks, one relatively fixed and the other being adjustable with respect thereto, eccentrics whereby the adjustable block may be moved into or out of coöperative relation with respect to the fixed block, and means carried by the cap block and having positive engagement with the crank pin whereby to prevent displacement of the pitman with respect to the pin.

3. In a pitman or like machine element, bearing blocks, one relatively fixed and the other being adjustable with respect thereto, eccentrics whereby the adjustable block may be moved into or out of coöperative relation with

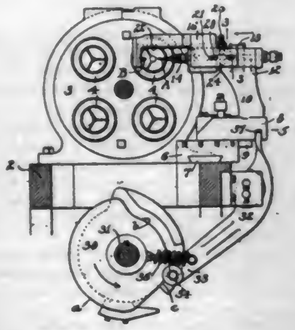
respect to the fixed block, and spring actuated means carried by the cap block and having positive engagement with the crank pin whereby to prevent displacement of the pitman with respect to the pin.



4. In a pitman or like machine element, bearing blocks, one relatively fixed and the other being adjustable with respect thereto, eccentrics whereby the adjustable block may be moved into or out of coöperative relation with respect to the fixed block, and spring actuated, cam released means carried by the cap block and having positive engagement with the crank pin whereby to prevent displacement of the pitman with respect to the pin.

5. In a pitman or like machine element, a relatively fixed bearing, and an adjustable bearing block, eccentric means whereby the adjustable block may be lowered to coöperative relation with respect to the fixed block, the said bearings being designed to receive a crank pin formed with a circumscribing groove, a plate slidable upon the adjustable block, a spring tending to normally lower the plate, and a cam finger pivoted to the plate and having locking engagement with a fixed portion of the pitman.

973,716. CROSS-DRILLING ATTACHMENT. OSCAR A. SMITH, Cleveland, Ohio, assignor to The National Acme Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Mar. 25, 1908. Serial No. 423,193.



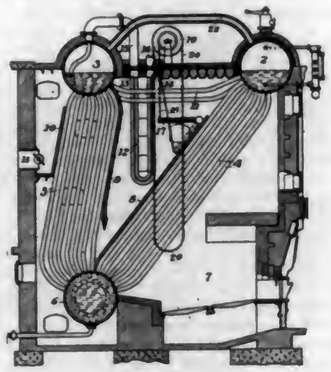
1. The combination with work supporting means, of a cross-drilling attachment comprising a pair of opposed rotary drills mounted on a common support and located one at each side of the work whereby they are adapted to work on opposite sides of such work, means for rotating said drills, and means for shifting said common support into position to enable the drills to work successively on opposite sides of the work.

2. The combination with work supporting means, of a cross-drilling attachment comprising a pair of opposed rotary drills mounted on a common support and located one at each side of the work whereby they are adapted to work on opposite sides of such work, means for rotating said drills, means for shifting said common support into position to enable the drills to work successively on opposite sides of the work, and means for effecting an adjustment of one of the rotary drills toward and from the other.

3. The combination with work supporting means carrying a work holder, of a cross drilling attachment comprising a pair of opposed axially alined rotating tools located one at each side of the work carried in said holder whereby they are adapted to work on opposite sides of the work and mounted on a common support, means for shifting said common support into position to permit the tools to successively work on opposite sides of the work and timed to carry each of such tools successively into a neutral position, and means for rotating both of said tools.

4. The combination with work supporting means having a work holder, of a cross drilling attachment comprising a pair of rotary tools supported in opposition on a common support, one part of such common support comprising a bracket overhanging the work holder and carrying one of said tools, means for rotating both of said tools, and means for shifting said common support thereby to carry the tools toward and from the work.

973,717. SUPERHEATER-BOILER. JAMES P. SNEDDON, Barberton, Ohio, assignor to The Babcock & Wilcox Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 19, 1907. Serial No. 358,170.



1. The combination with a boiler of the transverse drum, multiple bank, serial pass type, of a superheater, constituting the entire heating surface of the second pass, and an adjustable baffle shelf adjacent the bottom of the entrance to the pass arranged to vary the flow of the gases over the superheater; substantially as described.

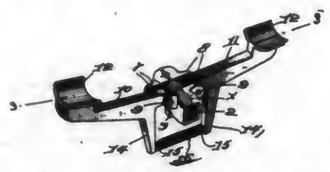
2. A superheater boiler of the transverse drum, multiple bank, serial pass type, having the superheater located in a pass in the rear of the first pass, and in the normal path of the gases, and an adjustable baffle adjacent the bottom of the entrance to the pass arranged in the pass with the superheater to vary the flow of the gases over the superheater tubes; substantially as described.

3. The combination with a boiler of the transverse drum, multiple bank, serial pass, type, having a triangular shaped pass in the rear of the first pass, a superheater set in said triangular shaped pass, and a swinging baffle in front of the superheater in the normal path of the gases in said pass and at the bottom of the entrance to the pass, and external means for adjusting the swinging baffle during the operation of the boiler; substantially as described.

4. In a boiler of the transverse drum, multiple bank, upright serial pass type, a superheater in one of the passes, and an adjustable baffle having a connection extending to a point outside the boiler, the superheater and baffle being in the normal path of the gaseous flow in the same pass and the baffle being located at the bottom of the entrance to the pass; substantially as described.

5. The combination with a boiler of the transverse drum, multiple bank, serial pass, type, of a superheater in a pass back of the first pass and in the normal flow of the gases, said superheater consisting of vertically extending tubes connected to boxes located at the roof of the setting, and means at the entrance to the pass for varying the flow of the gases over the superheater; substantially as described.

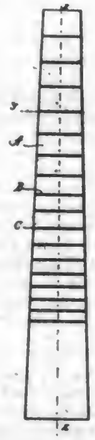
973,718. BUGGY-BOW REST. JOHN A. STAFFORD, Grady, Okla. Filed Dec. 30, 1909. Serial No. 535,577.



1. A device of the character described comprising a body adapted for detachable engagement with a vehicle body, a pair of oppositely projecting bow supporting arms pivoted thereto, a pendent lug projecting from each arm, and a spring interposed between said pendent lugs.

2. A device of the character described comprising a hollow body, means for detachably fastening the same to a vehicle body, a pair of oppositely projecting arms pivoted thereto and provided with a seat at their free ends, a pendent lug projecting from each arm, a laterally projecting spring supporting pin projecting from each lug, and a spring having its ends mounted on said pins.

973,719. FINGER-BOARD FOR MUSICAL INSTRUMENTS. FRANK CONSOLI, Brooklyn, N. Y. Filed June 29, 1910. Serial No. 569,532.

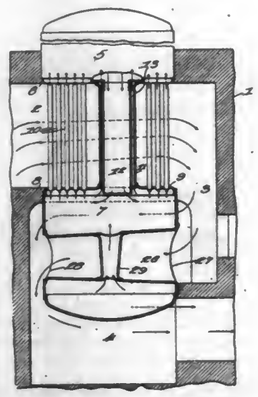


1. A finger board for musical instruments having narrow recesses in its upper surface extending across the finger board, and cross pieces less in width than the depth of the said recesses, the said cross pieces being constructed to fit tightly in said recesses, and the said cross pieces being placed upon the bottoms of the recesses leaving a portion of each recess at the top empty whereby the position of each recess may be detected by touch.

2. A finger board for musical instruments having narrow wedge-shaped recesses in its upper surface extending across the finger board, and wedge-shaped cross pieces less in width than the depth of the said recesses, the said cross pieces being constructed to fit tightly in said recesses, and the said cross pieces being placed upon the bottoms of the recesses leaving a portion of each recess at the top empty whereby the position of each recess may be detected by touch.

3. A finger board for musical instruments having narrow recesses in its upper surface extending across the finger board, the upper surface of the finger board being curved transversely and the bottoms of said recesses being curved correspondingly, and cross pieces less in width than the depth of said recesses, the said cross pieces being curved and constructed to fit tightly in said recesses, and the said cross pieces being placed upon the bottoms of the said recesses and a portion of each recess at the top is left empty whereby the position of each recess may be detected by touch.

973,720. VERTICAL BOILER. TOZABURO SUZUKI, Sunamura, Japan. Filed Apr. 9, 1909. Serial No. 488,919.

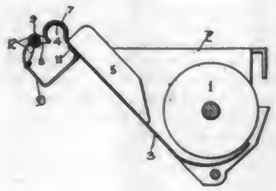


A vertical boiler comprising in combination, a boiler setting provided with a main passage for the products of combustion, a steam chamber intersecting the upper wall of said passage, a water chamber intersecting the lower wall of said passage and being provided with a combustion flue below said passage having an enlarged intake end and a relatively reduced outlet end; water tubes connecting said chambers and extending across and into the path of the products of combustion traveling through said main passage, a downwardly directed extension passage connecting said main passage with said combustion flue, an egress passage for the delivery end of said combustion flue, and an auxiliary passage connecting said extension passage with said egress passage.

973,721. TYPE-WRITING MACHINE. GUSTAF SWENSON, Pittsburg, Pa., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 22, 1909. Serial No. 473,630.

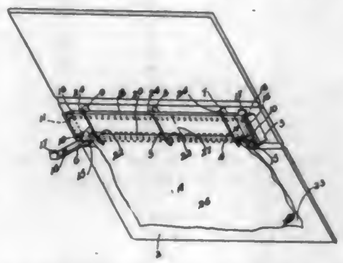
1. A device of the character described, comprising a member adapted to be secured to the paper shelf of a typewriter and to serve as a gage for the paper, said gage member having a curved claw to catch over and support said member pivotally upon the curved edge of said shelf, and a spring-pressed clip on said claw and extending forwardly to press against the back of the paper shelf, to bind said member thereto.

2. A device of the character described, comprising a member adapted to be secured to the paper shelf of a typewriter to serve as a paper gage, said member having a claw curved to conform to the rolled edge of the said shelf, ears on said claw, a pintle mounted thereon, a plurality of downwardly and forwardly extending arms carried by said pintle, a cross plate connecting said arms and adapted to engage against the rear of the typewriter shelf to hold the gage against the front thereof, and springs to press said plate against the shelf.



3. A gage for the side edge of the sheet, to be attached to a paper shelf and having a claw or hook to catch over the top of the paper shelf and support said gage pivotally thereon, and a spring clip pivoted to said claw and extending forwardly to press against the back of the paper shelf, to bind said gage thereto.

973,722. BINDING-FILE. DANIEL TAYLOR, Dunedin, New Zealand. Filed Apr. 14, 1910. Serial No. 555,536.



1. In binding files of the class described, in combination, a supporting member, keepers associated therewith and adapted to engage the binding wires upon which the documents to be filed are mounted, and cutting means operatively associated with said keepers to form slits in the edge of the documents to be filed.

2. In binding files of the class described, in combination, a cover, keepers operatively associated therewith and adapted to engage the binding wires upon which the documents to be filed are mounted, and cutting means operatively associated with said keepers to form slits in the edge of the documents to be filed.

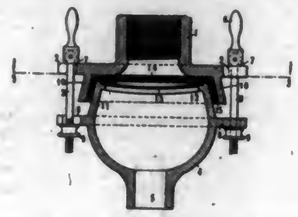
3. In binding files of the class described, in combination, a supporting member, keepers associated therewith and adapted to engage the binding wires upon which the documents to be filed are mounted, and cutting means operatively associated with said keepers, said cutting means being in alinement with said keepers to form slits in the edge of the documents to be filed.

4. In binding files of the class described, in combination, a cover, a strip secured thereto, keepers mounted upon said strip to engage the binding wires upon which the documents to be filed are mounted, and cutting blades operatively associated with said cover and positioned in alinement with said keepers to form slits in the edges of the documents to be filed.

5. In binding files of the class described, in combination, a cover, a strip secured thereto, keepers mounted upon said strip and cutting blades secured to said strip and positioned in alinement with said keepers.

[Claims 6 to 8 not printed in the Gazette.]

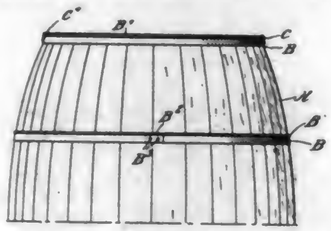
973,723. FILTER. JUDSON L. THOMSON, New York, N. Y. Filed Sept. 25, 1909. Serial No. 519,607.



1. In a device of the class described, in combination, a relatively fixed member, a removable member, co-acting wedging flanges on said members, means inserted between said wedging flanges for making an air and water tight connection therebetween, and a filter-pad adapted to be stretched over one of said flanges and clamped in place by the other.

2. In a device of the class described, in combination, a relatively fixed member, a removable member, co-acting flanges on said members, a filter-pad adapted to have its outer edge clamped between said flanges, a rubber gasket around the edge of said filter-pad adapted to be clamped between said co-acting flanges, and a perforated plate adapted to support said filter-pad when assembling the parts.

973,724. TOOL. ERNEST C. THORSCHMIDT, New York, N. Y. Filed Aug. 4, 1909. Serial No. 511,122.



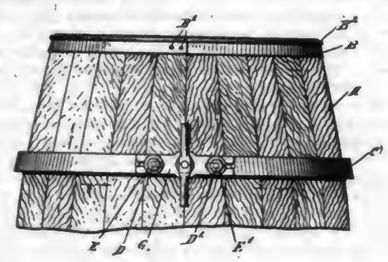
1. A tool for the purpose described comprising a ring adapted to fit over a barrel hoop and having inwardly projecting means adapted to abut one edge of said hoop, said ring being approximately the width of a hoop and of such weight that it may be manually handled together with the barrel on which the hoop is to be set.

2. A tool for the purpose described comprising a metallic ring of approximately the width of a hoop, adapted to fit over a barrel hoop and having an inwardly extending flange at one edge adapted to abut one edge of said hoop, and having a recess in one side to receive the projections of the hoop, the inner surface of said ring being tapered from the under side of the flange to its lower edge for the purpose set forth, the weight of said ring while being within the lifting capacity of the operator, bearing such a proportion to the weight of the barrel that its inertia will upon the dropping of the barrel with said ring applied, force the hoop to position.

973,725. TOOL. ERNEST C. THORSCHMIDT, New York, N. Y. Filed Dec. 15, 1909. Serial No. 533,153.

1. A portable hoop-driving tool comprising a resilient ring adapted to engage a barrel hoop and a plate connecting the ends of said ring in sliding relation thereto and a manually operated cam located between the ends of said ring and adapted to force the said ends apart a predetermined distance.

2. A portable hoop-driving tool comprising a ring formed of spring metal and provided with a groove on its inner periphery adapted to engage the beaded edge of a metal barrel hoop, stud bolts extending through the ends of said ring, a plate held to said ring by said bolts, and a manually operated cam-headed bolt connected to said plate and having its cam shaped end located between the ends of said ring and adapted to force the ends apart a predetermined distance.



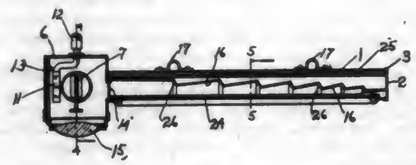
3. A portable hoop-driving tool comprising a resilient ring having a groove on its inner periphery adapted to engage the beaded end of a metal barrel hoop, and means for separating the ends of said ring to increase its diameter, said ring acting by reason of its resiliency to lock itself to a barrel hoop of the character described.

4. A portable hoop-driving ring recessed on its inner periphery to receive a barrel hoop and to provide a flange for driving said hoop divided at one point but tending by its own resilience to maintain the ends in contact and a rotary cam inserted between and directly engaging said ends to expand the ring.

5. A portable hoop-driving tool comprising a resilient ring having a groove on its inner periphery adapted to engage the beaded end of a metal barrel hoop, and a plate held to said ring in movable relation thereto and carrying a cam by means of which the ends of said ring may be separated a predetermined distance.

[Claim 6 not printed in the Gazette.]

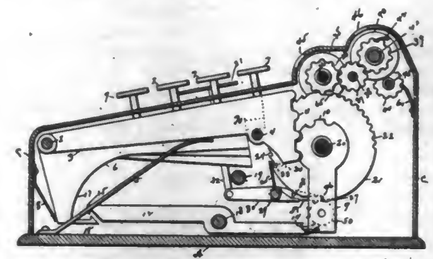
973,726. INDICATOR FOR VEHICLES. LLOYD M. TINGLEY, Pawtucket, R. I., assignor, by direct and mesne assignments, of one-third to Samuel Gee, Providence, R. I., and one-third to Byron H. Nixon, Summit, R. I. Filed Feb. 25, 1909. Serial No. 479,921.



A lantern of the character described comprising an elongated casing provided with an opening in the front wall thereof, a door pivoted to one end of said casing, the other end of said casing being provided with an enlargement forming a burner chamber, an indicating plate for closing said opening, means engaging the back of said indicating plate to hold the same in position, a reflector arranged diagonally across said elongated casing and provided with a plurality of angular reflecting faces, a storage space being formed between said reflector and the rear wall of said casing, and a second reflector in said burner chamber arranged to direct the light rays into the first mentioned reflector.

973,727. ADDING-MACHINE. JOHN A. TOOMEY, Santa Monica, Cal. Filed May 10, 1909. Serial No. 495,175.

1. In an apparatus of the kind described, a combination of a suitable frame work for the machine, a key frame pivoted in said frame work, and adapted to oscillate on its pivot, a series of key levers and one or more suitable stops, adapted to oscillate the frame a series of graduated distances; a separate tension spring for each key lever; a finger piece in each key lever; a spring, adapted to coöperate with the key lever in oscillating the key frame; a shaft; a frame journaled on said shaft, adapted to oscillate thereon; intermeshing gears between the key frame and the oscillating frame, adapting them to oscillate in unison; a beveled edge on the oscillating frame and one or more V-shaped stops, adapted to engage said beveled edge and hold the oscillating frame and key frame against the tension of the spring, as specified herein.



2. In an apparatus of the kind described the combination of a suitable frame work for the machine; a key frame pivoted in said frame work, and adapted to oscillate on its pivot; a series of key levers and one or more suitable stops, adapted to oscillate the key frame a series of graduated distances; a separate tension spring for each key lever, a finger piece for each key lever; a spring, adapted to coöperate with the key levers in oscillating the key frame; one or more of said key levers having a notch to allow the lever to be moved a short distance before it engages and moves the key frame, as described herein.

3. In an apparatus of the kind described, the combination of a suitable frame for the machine; a key frame pivoted in the frame of the machine, adapted to oscillate on its pivot; a series of key levers and one or more suitable stops, adapted to oscillate the frame a series of graduated distances; a spring, adapted to coöperate with the key levers in oscillating the key frame; a shaft; a frame journaled on said shaft, adapted to oscillate thereon; intermeshing gears between the key frame and the oscillating frame, adapting them to oscillate in unison; an extension or arm formed on each key lever; a hook on each of said arms; a series of tilting levers pivoted in the frame of the machine; a hook on one end of each tilting lever, adapted to engage the hook on a key lever and lock it in place; a V-shaped notch on the opposite end of each tilting lever; a beveled edge on the oscillating frame, adapted to engage the V-shaped notch on each tilting lever; said tilting levers forming a stop, to limit the action of the spring in oscillating the key frame, and a means to lock and unlock the key levers, as described herein.

4. In an apparatus of the kind described, the combination of a suitable frame for the machine, a shaft; a frame, journaled on said shaft, adapted to oscillate thereon; a key mechanism and a spring adapted to oscillate said frame a series of graduated distances; a toothed roller, journaled in the frame; a ratchet on said roller; a rocking shaft; a bar, pivoted on said rocking shaft, engaging the ratchet, adapted to turn the roller by the ratchet striking the bar as the frame oscillates; substantially as described herein.

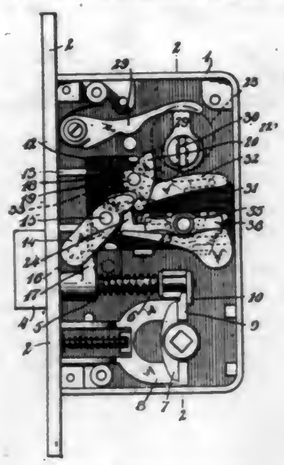
5. In an apparatus of the kind described, the combination of a suitable frame for the machine; a shaft; a frame, journaled on said shaft, adapted to oscillate thereon; a key mechanism and a spring, adapted to oscillate the frame a series of graduated distances; a toothed roller, journaled in the frame; a ratchet on said roller; a coiled spring, adapted to be coiled by turning the roller and to turn the roller backward when released; a pawl to hold the coiled spring; a rocking shaft; a bar, pivoted on said rocking shaft, engaging the ratchet, adapted to turn the roller, and coil the spring element, by the ratchet striking the bar as the frame oscillates; a cross arm on

said rocking shaft; a key on the cross arm adapted to rock the shaft; means for engagement between the cross arm and the bar; means for engagement between the bar and the pawl, adapted to disengage the bar and pawl from the ratchet, to release the coiled spring; an extension piece on the ratchet and a stud on the pawl, adapted to engage each other and limit the return movement of the roller to the unit or starting point; and a spring on the pawl adapted to throw the pawl and bar back in position; substantially as described herein.

[Claims 6 to 13 not printed in the Gazette.]

973,728. LOCK. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed June 24, 1910. Serial No. 568,623.

1. In a lock, a latch bolt, means for retracting said latch bolt by a series of keys including a guest key and an



emergency key, means for dead-locking said latch bolt operable by said guest and emergency keys to prevent retraction of said latch bolt by any except said guest or emergency key, and means to prevent retraction of the latch bolt by said guest key when dead-locked by the operation of said emergency key.

2. In a lock, a latch bolt, means for retracting said latch bolt by the operation of any of a series of keys including a guest key and an emergency key, dead-locking means for said latch bolt operable by said guest and emergency keys respectively to prevent retraction of said latch bolt by any except said guest or emergency key, a roll-back arranged to operate said dead-locking means from the inner side of the door, means to permit operation of said dead-locking means interchangeably by said guest key and said roll-back and to prevent release of said dead-locking means by said guest key when the latter is thrown into operation by operation of said emergency key.

3. In a lock, a latch bolt, means for retracting said latch bolt by the operation of any of a series of keys including a guest key and an emergency key, means operable by said guest key and said emergency key for dead-locking said latch bolt against retraction by the operation of any of said keys except said guest and emergency keys respectively, a roll-back operable from the inner side of the door to throw said dead-locking means into and out of action, and the release of said dead-locking means by said guest key and said roll-back interchangeably when thrown into action by either said guest key or said roll-back, and means to prevent release of said dead-locking means by said guest key when thrown into action by said emergency key and to permit release of said dead-locking means by said roll-back when thrown into action by said emergency key.

4. In a lock, a latch bolt, means for retracting said latch bolt by the operation of any of a series of keys including a guest key and an emergency key, dead-locking means for said latch bolt operable by said guest and emergency keys respectively to throw said latch retracting means out of rage of operation by the other keys of said series, means to permit release of said dead-locking means by the operation of said guest and emergency keys respectively when thrown into action by said guest key, and means to prevent release of said dead-locking means by the operation of said guest key when thrown into action by said emergency key.

5. In a lock, a latch bolt, means operable by any of a series of keys including a guest key and an emergency key for retracting said latch bolt, means operable by said guest key and said emergency key for throwing said latch retracting mechanism out of range of retraction by all of said keys, a roll-back operable from the inner side of the door for actuating said dead-locking means, means for permitting the release of said dead-locking means by said guest key and said roll-back interchangeably when thrown into action by either of said members respectively and to prevent release of said dead-locking means by said guest key when thrown into action by the operation of said emergency key but to permit release of said dead-locking means by said roll-back when thrown into action by said emergency key.

[Claims 6 to 18 not printed in the Gazette.]

973,729. LAMP-GLASS. GEORGE WAMHOFF, Jr., Pittsburg, Pa., assignor, by mesne assignments, to Ma-Belle S. Wamhoff, Pittsburg, Pa. Filed Aug. 27, 1909. Serial No. 514,909.

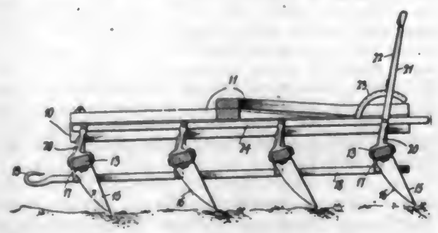


1. A lamp glass comprising an intermediate vertical section of clear rounded glass and an outer vertical section of flat ground glass on the side of the same.

2. A lamp glass comprising an intermediate vertical section of clear glass having a convex outer face in cross-section and an outer vertical section of ground glass on the side of the same.

3. In a lamp glass, the combination with a supporting rim, of an intermediate vertical section of clear glass having a convex outer face in cross-section and beveled ends for fitting against said rim, and an outer vertical section of ground glass on the side of said lenses.

973,730. HARROW. BERNHARD A. WANDERSEE, Montrose, Minn. Filed July 13, 1910. Serial No. 571,801.



1. In a harrow, a frame, tooth bars hingedly connected to said frame, knife teeth projecting downward from said tooth bars, one edge of each tooth constituting a cutting edge, traction arms projecting downward from said tooth bars, draft links connecting the lower ends of said traction arms, and clevises on those ends of said links toward which the edges of said knife teeth face.

2. In a harrow, a frame, tooth bars hingedly connected to said frame, adjusting arms projecting upwardly from said bars, an adjusting link connecting said adjusting arms, one of said arms being continued upward to form a lever, a latch on said lever, a quadrant on said link coöperating with said latch, a series of knife teeth projecting downward from said bars, one edge of each tooth constituting a cutting edge, traction arms projecting downward from said tooth bars, draft links connecting the lower ends of said traction arms, and clevises on those ends of the traction links toward which the edges of said knife teeth face.

973,731. MILK-TICKET OR ADVERTISING AND PRICE CARD HOLDER. CLEMENS I. WATKINS, New Martinsville, W. Va. Filed Sept. 22, 1909. Serial No. 519,036.



In a device of the character described, the combination of a main clip the base of which is flexed when the clip is applied, a card holding clip constructed independently of the main clip and comprising a base the ends of which are returned and form coöperating jaws, and a fastening member securing the base of the card holding clip to the base of the main clip, the said base of the card holding clip fitting against the base of the main clip and extending along the same for a distance so that the aforesaid flexing of the base of the main clip tends to force the jaws of the card holding clip into a closer engagement with the card placed between the same when the device is applied.

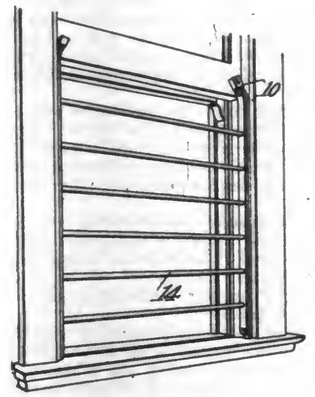
973,732. PROCESS OF REDUCTION OF ORES CONTAINING SULFUR AND IRON. ARNOLD WIENS, Bitterfeld, Germany, assignor to Elektrochemische Werke, G. M. B. H., Berlin-Bitterfeld, Germany. Filed Feb. 27, 1909. Serial No. 480,386.

1. The method of reducing ores containing iron and sulfur, which consists in smelting the ore to ferro-silicon in the presence of silica and carbon and at a high temperature by the aid of an electric current, the silica present being in such quanity as to substantially eliminate the sulfur from the ferro-silicon produced; substantially as described.

2. The method of reducing ores containing iron and sulfur, which consists in first roasting the ore to partially desulfurize it, then smelting the roasted ore to ferro-silicon in the presence of silica and carbon and at a high temperature with the aid of an electric current, the silica being present in such quantity as to substantially eliminate the sulfur from the ferro-silicon produced; substantially as described.

3. The method of reducing ores containing iron and sulfur, and which likewise contain other volatile and non-volatile metals, which consists in smelting the ore to ferro-silicon in the presence of silica and carbon and at a high temperature with the aid of an electric current, the silica being present in such quantity as to substantially eliminate the sulfur from the ferro-silicon produced, retaining the sulfur in the slag by a suitable sulfur absorbing element of said slag, recovering the volatile metals by distillation and condensation and recovering the non-volatile metals with the ferro-silicon; substantially as described.

973,733. WINDOW-GUARD. ROBERT H. WILSON, Indianapolis, Ind. Filed Sept. 27, 1909. Serial No. 519,799.



1. In a window guard, pivoted bars of which one is formed with a plurality of sockets opening through one edge thereof and extending laterally only part way through the depth of the bar and the other is formed with a plurality of notches opening through its other edge and adapted to register with said sockets, cross rods adapted to engage at their extremities with said sockets and notches when in register, fastening means concealed within the sockets for holding one of each pair of bars within the window frame, and other means for holding the notched bars overlapped upon the socketed bars.

2. In a window guard, pivoted bars of which one is formed with a plurality of sockets opening through one edge thereof and extending laterally only part way through the depth of the bar and the other is formed with a plurality of notches opening through its other edge and adapted to register with said sockets, cross rods adapted to engage at their extremities with said sockets and notches when in register, fastening means concealed within the sockets for holding one of each pair of bars within the window frame, a pivot connecting one end of each bar with its companion, and adjustable means for locking their other ends together so that their bodies will overlap.

3. In a window guard, pivoted bars, one of said bars being formed with a plurality of sockets opening through one edge thereof and with openings through the bottom walls of the sockets, the said openings being for the passage of means for securing the member upon a window frame or like structure, the other member being formed with a plurality of notches, and a plurality of rods seated at their ends in the sockets and engaged at their ends in the notches in the second mentioned member when the same is folded to lie against the first mentioned member.

973,734. SAFETY-RAZOR. ELMER J. YOUNG, Montclair, N. J., assignor, by direct and mesne assignments, to Young Specialty Company, a Corporation of New York. Filed Oct. 20, 1909. Serial No. 523,556.



1. In a safety razor, the combination with blade holding devices, of a handle oblique thereto, means securing the handle to said devices and permitting it to rotate about an axis other than its own while yieldingly resisting such

movement, a blade in the plane of said holding devices, and means rigidly securing the blade to the holding devices and permitting rotation of the handle; whereby the blade and holding devices readily rotate upon the handle and in their own plane while rigidly locked together.

2. In a safety razor, the combination with a handle, of a guarded blade oblique to the axis of the handle and mounted upon the latter to rotate in its own plane, and means for locking it at any desired point in its rotary path.

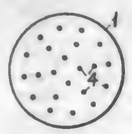
3. In a safety razor, the combination with a handle, of a guarded blade oblique to the axis of the handle and mounted upon the latter to rotate in its own plane while held against other displacement, and means for yieldingly holding it in any desired adjustment about its axis of rotation.

4. In a safety-razor, the combination with blade-holding means, of a blade, a guard, a handle and means for yieldingly and positively securing the handle to said blade-holding means and arranged to revolve bodily through substantially a complete revolution about an axis lying outside of said handle.

5. In a safety-razor, the combination with blade-holding means, of a blade, a guard, a handle and means for yieldingly and positively securing the handle to said blade-holding means at an angle to an axis which is substantially perpendicular to the plane of the blade, said handle being arranged to revolve bodily through substantially a complete revolution about said axis.

[Claims 6 to 16 not printed in the Gazette.]

973,735. TALKING-MACHINE DIAPHRAGM. WILLIAM W. YOUNG, Springfield, Mass. Original application filed Dec. 12, 1908, Serial No. 467,225. Divided and this application filed Jan. 5, 1910. Serial No. 536,473.



1. As a new article of manufacture, a diaphragm, for talking-machines, consisting of a perforated disk having burs formed thereon, each bur surrounding the perforations at one end.

2. As a new article of manufacture, a diaphragm, for talking-machines, consisting of a perforated disk having flattened burs thereon which form bosses, each of the latter surrounding its perforation at one end.

3. As a new article of manufacture, a diaphragm, for talking-machines, consisting of a disk having perforations therein and bosses thereon which latter surround said perforations and partially fill the same.

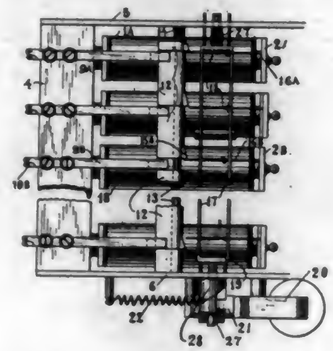
4. As a new article of manufacture, a diaphragm, for talking-machines, consisting of a disk having perforations therein which are filled with the material originally forced out to form such perforations, and with hardened filling material.

5. As a new article of manufacture, a diaphragm, for talking-machines, consisting of a perforated metallic disk having bosses thereon surrounding the perforations therein at one end of each, hardened filling material in the perforations in said disk, and hardened coating material on the outside of said disk.

973,736. PRODUCTION OF LIGHTING EFFECTS ON STAGES BY MEANS OF HIGH-TENSION CURRENTS OF HIGH FREQUENCY. CAMILLA FEHÉR ZHANIEL, Charlottenburg, Germany. Filed July 7, 1909. Serial No. 506,406.

The method of producing lighting effects on stages by means of high tension currents of high frequency, which comprises impregnating theatrical garments or decorations with powdered conducting material, and thereupon introducing the articles thus prepared into the circuit of high tension currents of high frequency, as and for the purpose described.

973,737. DEVICE FOR CONTROLLING THE CONSECUTIVE OPERATION OF ELECTROMAGNETS. FRANS G. AGRELL, Stockholm, Sweden. Filed Feb. 27, 1907. Serial No. 359,660.



1. In a device for controlling the consecutive operation of electro-magnets, the combination with a series of releasable members adapted to perform a mechanical operation, of a series of mechanically coöperating releasing members operative to release one of said releasable members, and means for operating said releasing members.

2. In a device for controlling the consecutive operation of electro-magnets, the combination with a series of releasable members adapted to perform a mechanical operation, of a series of releasing members operative to release one of said releasable members, means for simultaneously operating a number of said releasing members, and means for predetermining how many of said releasing members are to be operated by said last named means.

3. In a device for controlling the consecutive operation of electro-magnets, the combination with a series of releasable members adapted to perform a mechanical operation, of a series of mechanically coöperating releasing members each operative to release one of said releasable members, means for selectively operating one or more of said releasing members, and means for preventing the operation of any other of said releasing members to release said releasable member controlled thereby.

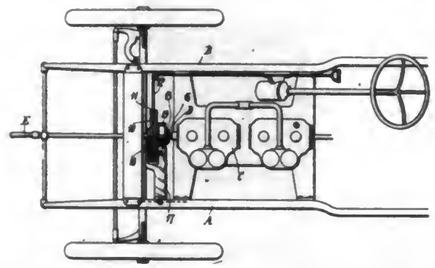
4. In a device for controlling the consecutive operation of electro-magnets, the combination with a series of releasable members adapted to perform a mechanical operation, of a series of mechanically coöperating releasing members operative to release one of said releasable members, means for operating said releasing members, and means for preventing the release of more than one of said releasable members at the same time.

5. In a device for controlling the consecutive operation of electro-magnets, the combination with a series of releasable members adapted to perform a mechanical operation, of a series of mechanically coöperating releasing members operative to release said releasable members, means for operating said releasing members consecutively to successively release a number of said releasable members.

[Claims 6 to 12 not printed in the Gazette.]

973,738. ENGINE-STARTER. ELWOOD C. ALLISON, New York, N. Y. Filed Feb. 3, 1910. Serial No. 541,820.

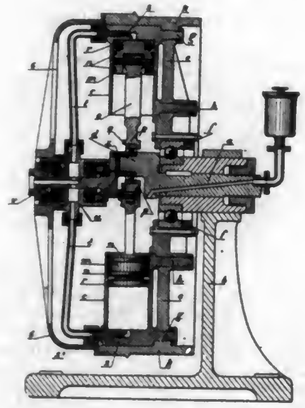
1. The combination with a vehicle and an explosive engine carried thereby for propelling same, of a drum on the crank shaft of said engine, means for imparting the rotation of said drum in one direction to the crank shaft, automatic means for rotating the drum in the opposite direction energized by the rotation of the drum in the first named direction, and a forked member mounted on the vehicle embracing said drum, the arms of said member being disposed partially across the respective ends of said drum.



2. The combination with a vehicle and an explosive engine carried thereby for propelling same, of a drum on the crank shaft of said engine, means for imparting the rotation of the drum in one direction to the crank shaft, automatic means for rotating the drum in the opposite direction energized by the rotation of the drum in the first named direction, a forked member secured to the vehicle and embracing the drum and a friction wheel journaled on one of the arms of said member and in engagement with one end of the drum.

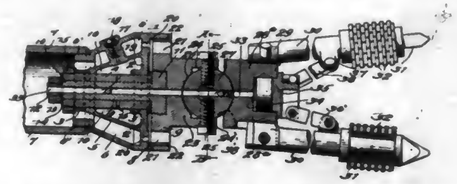
3. The combination with a vehicle and an explosive engine carried thereby for propelling same, of a drum on the crank shaft of the engine, means for imparting the rotation of the drum in one direction to the crank shaft, automatic means for rotating the drum in the opposite direction energized by the rotation of the drum in the first named direction, said means comprising a projecting hub formed on the drum, a forked member secured to the vehicle and having its arms disposed partially across the respective ends of the drum, and a spring encircling said hub and having one end fixed thereto and the other end secured to one of the arms of said forked member.

973,739. AIR-COMPRESSOR. GEORGES PROSPER OCTAVE ALVERGNAT, Paris, France, assignor to Societe de la Pompe Vadam, Neuilly-sur-Seine, France. Filed Feb. 1, 1910. Serial No. 541,382.



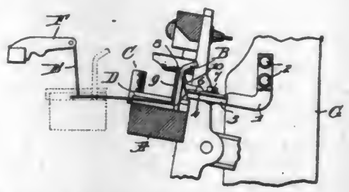
An improved air compressor comprising in combination a main shaft having at its inner end an eccentric part, a ball bearing mounted on said eccentric part, piston rods articulated on said ball bearing, one of said piston rods being rigidly fixed to the same, the pistons fixed to the outer ends of said rods and having each an annular air-channel, and air inlet channels, segments in said pistons for guiding the same and a leather packing collar at the free end of each piston, the cylinders in which said pistons are guided, an annular disk revolubly mounted on said main shaft and having horizontal perforations, a lateral flanged rim of said annular disk serving as pulley for the driving belt, lateral arms of said cylinders projecting through said perforations of the annular disk, means for fixing said arms in said disk, a non return valve in each of the outlet channels for the air from the cylinders, a spiral spring for maintaining the said non return valve upon its seat, tubes connected with said air outlet channels, a hollow axle arranged in alinement with said main shaft, an eccentric part at the inner end of said hollow axle fixed to the eccentric end of said main shaft, two cups revolubly mounted on said axle and having inner borings which form the collecting chamber to which said outlet tubes are connected and which communicates with the inner boring of said hollow axle, and stepwise arranged series of leather packing collars at the right and left of said air chamber, substantially as described and shown and for the purpose set forth.

973,740. TUBE-CLEANER. THOMAS ANDREWS, Rockaway, N. J. Filed Sept. 15, 1908. Serial No. 453,197.



A device of the character described comprising a head having a chamber in one end thereof, a piston in said chamber, arms pivoted to said head, rotary cutters on said arms, links pivoted to said piston and said arms, a casing with a turbine head therein, said first named head and said turbine head each having lugs thereon, and each having a socket formed in their adjacent ends and a ball pivoted to each of said heads, said ball and each of said heads having openings forming a communicating passage to said chamber.

973,741. FORK-GRID CLEARER FOR LOOMS. MICHAEL J. ARMSTEAD, Lowell, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed June 6, 1910. Serial No. 565,335.



1. In a loom, a lay having a fork-grid, a series of upright, stationary clearing members adapted to traverse the grid-openings as the lay swings forward and back, a bracket-arm fixed on the loom-side and having a flattened forward end behind the grid, and a plate to clamp the outer clearing members on said flattened end of the bracket, the center clearing member being mounted on the plate.

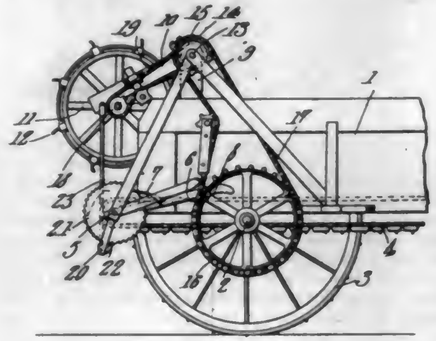
2. In a loom, a lay having a transverse recess in its race way, a fork-grid mounted on the lay in the recess at

its rear end, a series of upright clearing members adapted to traverse the grid openings as the lay swings forward and back, a stationary support for the clearing members, behind the lay, and a loop-like extension projecting frontward from the lower ends of the clearing members and traversing the recess in the lay.

3. In a loom, a lay having a transverse recess in its raceway, a fork-grid mounted on the lay in the recess at its rear end, a fixedly mounted bracket behind the lay and having a flat, longitudinally grooved front end, a cover-plate clamped thereon and provided with an upright, blade-like clearing member to pass through the center opening of the grid, and a wire loop having its ends clamped on the grooved end of the bracket by the cover-plate and bent to form two upturned portions constituting clearing members to pass through the outer openings in the grid.

4. In a loom, a lay having a transverse recess in its raceway, a fork-grid mounted on the lay in the recess at its rear end, a series of upright clearing members adapted to traverse the grid openings as the lay swings forward and back, a supporting bracket fixed on the loom-side behind the lay, means to fixedly connect the clearing members with the front end of the bracket, and an extension projecting frontward from the lower part of the clearing members and traversing the recess in the lay, to support the filling in front of the grid when the lay beats up and adapted to remove lint or waste from the tines of the filling-fork.

973,742. MANURE-SPREADER. HENRY A. ARNOLD, Lake Geneva, Wis. Filed July 29, 1910. Serial No. 574,529.

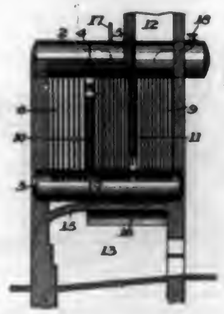


1. In combination with a body having an apron mounted for movement along its bottom, and a reel journaled for rotation and arranged to move vertically with relation to the apron, and means connected with the reel and adapted to move freely when the reel moves in an upward direction and which operatively engages the apron mechanism to retard the descent of the reel.

2. In combination with a body having an apron mounted for movement along its bottom, a reel journaled for rotation and arranged to swing vertically with relation to the body, means connected with the reel and adapted to move freely with the reel when the reel moves in an upward direction, and which operatively engages the apron mechanism to retard the descent of the reel but permitting the downward movement of the reel at a rate in proportion to the rate of movement of the apron.

3. In combination with a body having an apron arranged to move along its bottom, a ratchet disk forming a part of the apron mechanism and arranged to rotate as the apron moves, arms pivotally mounted upon the body, a reel journaled for rotation between the arms, means for rotating the reel, a rod connected to one of the arms, a yoke pivotally supported and straddling the ratchet disk, said rod being pivotally connected to the outer portion of the yoke and a spring pressed pawl carried by the yoke and adapted to engage the teeth of the ratchet disk.

973,743. INDEPENDENTLY-FIRED SUPERHEATER. JOHN E. BELL, New York, N. Y., assignor to The Babcock & Wilcox Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 26, 1907. Serial No. 359,402.

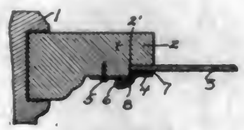


1. An independently fired superheater having a longitudinal steam and water drum or receptacle, with water tubes extending downwardly therefrom and forming the first pass for the gases, means for giving the gases back and forth passes longitudinally of the said drum, and a superheater having tubes forming the succeeding heating surface and constituting the major portion of the entire heating surface, said superheater having an inlet arranged to supply steam thereto from a separate boiler, substantially as described.

2. An independently fired superheater having upper and lower longitudinal drums or receptacles baffles arranged to cause back and forth passes to the gases longitudinally of the drums, water heating surface forming the major part of the heating surface in the first pass, the superheating tubes being located in the succeeding pass or passes, and constituting the major part of the heating surface, the superheater having an inlet arranged to supply steam thereto from a separate boiler and being arranged to receive water and itself act as a steam generator, substantially as described.

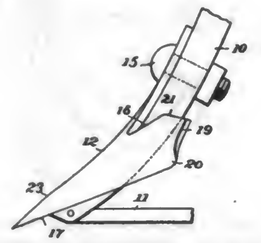
3. An independently fired superheater having longitudinal upper and lower drums connected by water tubes and superheating tubes, the water tubes forming substantially the entire first pass for the gases, and superheating tubes in the successive passes constituting the major portion of the heating surface, and baffles arranged to give the gases back and forth passes to the gases longitudinally of the drums, the superheater having an inlet from the steam space of its upper water chamber, and also an inlet to supply steam thereto from a separate boiler, substantially as described.

973,744. WINDOW-GLASS HOLDER. EUGENIA M. BEST, Salina, Kans. Filed Apr. 13, 1909. Serial No. 489,559.



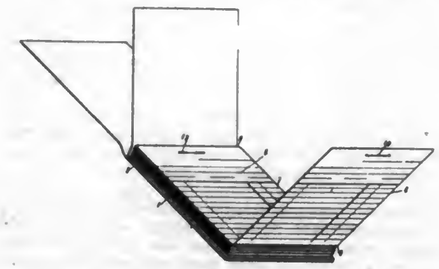
In combination with a window sash and glass located in a mortise formed therein, of a metallic strip, a centrally located looped portion formed along the entire length of the strip, said metallic strip having a free projecting yielding longitudinal portion disposed parallel to the inner surface of the securing portion of the strip and on a plane rearwardly thereof, a strip of textile material extending along the full length of the metallic strip, a portion of which is securely clamped and held within the looped portion of the same, said textile fabric extending to the outer edge of the yielding portion of the metallic strip, and means for securing the latter to the sash frame.

973,745. PLOW. WILLIAM A. BLIZZARD, Dillon, S. C., assignor to Dillon Plow & Novelty Works, Dillon, S. C., a Corporation of South Carolina. Filed Jan. 22, 1910. Serial No. 539,590.



A plow sweep having a pair of wings extending outwardly upwardly and rearwardly forming a forwardly projecting point, the wings terminating rearwardly in substantially vertically arranged edges which flare outwardly, said edges terminating in sharp corners which run under the ground and pulverize the same, and said wings terminating rearwardly in substantially horizontally arranged edges, said wings being concave and turned over at said horizontally arranged edges, the lower edges of said wings from the point to said rear sharp corners being sharpened, for the purpose set forth.

973,746. MANIFOLDING SALES-BOOK. EDWARD KIRBY BOTTLE, Niagara Falls, N. Y., assignor to The Carter-Crume Co., Limited, Niagara Falls, N. Y., a Corporation. Filed Mar. 22, 1907. Serial No. 363,912.



1. In a device of the class described, in combination, a pad comprising a plurality of superimposed leaves connected to one another along weakened lines, and holding means comprising a pair of members spaced from one another and extending through said pad at a point offset from said weakened lines and projecting above the surface of said pad, the leaves of said pad being weakened between said spaced members to aid in the removal of said leaves from said holding means.

2. In a device of the class described, in combination, a pad comprising a plurality of leaves, and holding means extending through and bent directly over the upper leaf of the pad, the leaves of said pad being slit beneath the overlying portion of said means whereby as each leaf is drawn from the pad the slit formed therein will aid in its removal from said holding means.

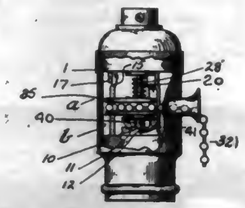
3. In a device of the class described, in combination, a pad, a member extending through and bent over the upper surface of said pad, the leaves of said pad being weakened beneath the overlying portion of said member, and a transfer sheet mounted upon a pad in a position to be inserted between said leaves and free from connection with the bent portions of said member.

4. In a device of the class described, in combination, a pad comprising a plurality of superimposed leaves connected to one another along weakened lines, and a pair of members projecting through said pad at a point offset from said weakened lines and having their ends bent one toward the other, the ends of said member being spaced one from another and the leaves of said pad being weakened beneath said bent portions of said members.

5. In a device of the class described, in combination, a pad comprising a plurality of superimposed leaves connected to one another along weakened lines, and a pair of members projecting through said pad and having their ends bent one toward the other, the ends of said members being spaced one from another and the leaves of said pad being slit beneath said bent portions of said members.

[Claims 6 to 13 not printed in the Gazette.]

973,747. PULL-SOCKET. THOMAS H. BRADY, New Britain, Conn. Filed Mar. 18, 1909. Serial No. 484,326.



1. In a pull socket the combination with an insulating block having a contact, a rotatable spindle mounted in the block, an oscillatory driving member fixed to said spindle, an operating member fixed to the driving member, a rotary driven member, means for holding the driven member in operative relation with respect to the driving member, means interposed between the driving and driven members for coupling the members together when the driving member is oscillated in one direction, resilient contact fingers carried by the driven member in operative relation with respect to said contact, and means for turning said driving member to normal position.

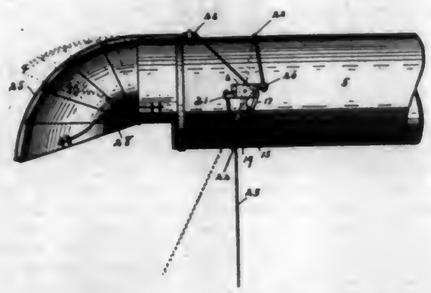
2. In a pull socket the combination with an insulating block having a contact, a rotatable spindle mounted in the block, an oscillatory driving member fixed to said spindle, an operating member fixed to the driving member, a rotary driven member, means for holding the driven member in operative relation with respect to the driving member, means interposed between the driving and driven members for coupling the members together when the driving member is oscillated in one direction, resilient contact fingers carried by the driven member in operative relation with respect to said contact, and a spring having one end fixed and its other end connected to the operating member for returning said driving member to normal position.

3. In a pull socket the combination of an insulating block having a contact, a rotatable spindle mounted in said block, an operating member surrounding the spindle and provided with a series of openings, an oscillatory driving member fixed to said spindle and provided with pins extending through said openings and engaging the operating member for fixedly-securing the two members together, said driving member having its lower face recessed, a rotary driven member having its upper face recessed, means for holding the driven member in operative relation with respect to the driving member, means mounted in the recessed face of the driven member and extending in the recesses of the driving member for coupling the said members together when the driving member is oscillated in one direction, resilient contact fingers depending from the driven member in operative relation with respect to said contact, and means for returning said driving member to normal position.

4. In a pull socket the combination of an insulating block having a contact, a rotatable spindle mounted in said block, an operating member surrounding the spindle and provided with a series of openings, an oscillatory

driving member fixed to said spindle and provided with pins extending through said openings and engaging the operating member for fixedly-securing the two members together, said driving member having its lower face recessed, a rotary driven member having its upper face recessed, means for holding the driven member in operative relation with respect to the driving member, means mounted in the recessed face of the driven member and extending in the recesses of the driving member for coupling the said members together when the driving member is oscillated in one direction, resilient contact fingers depending from the driven member in operative relation with respect to said contact, and a spring surrounding said spindle and having one end fixed and its other end fixed to said operating member for returning said driving member to normal position.

973,748. PNEUMATIC STACKER. WILLIAM W. BROWER, Harmattan, Alberta, Canada, assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed Apr. 28, 1909. Serial No. 492,686.



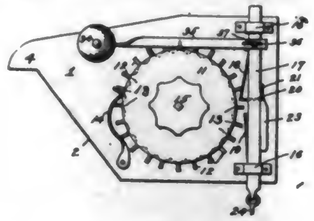
1. The combination, with a pneumatic stacker chute, of a collapsible hood mounted at the delivery end thereof, a rope secured to said hood for retracting the same and communicating with and depending from the delivery end of said chute in close proximity with a strawstack, means for automatically extending said hood and adjustable clamping and releasing means connected to said chute in proximity to said hood and through which said rope passes whereby said hood may be adjusted to collapsed or extended position with said rope by an operator on a strawstack.

2. The combination, with a pneumatic stacker chute, of a collapsible hood mounted at the delivery end thereof, a rope secured to said hood for retracting the same and communicating with and extending downwardly from said chute over a strawstack and operable by a man on the stack, means for automatically extending said hood and means connected to said chute in proximity to said hood and through which said rope passes for clamping said rope when pulled in one direction to collapse said hood and for releasing said rope when pulled in a reverse direction to permit the extension of said hood.

973,749. STATION-INDICATOR. WILLIAM A. BRYANT, Wetumpka, Ala., assignor of one-third to John A. Lancaster and John R. Gamble, Wetumpka, Ala. Filed Sept. 16, 1909. Serial No. 518,051.

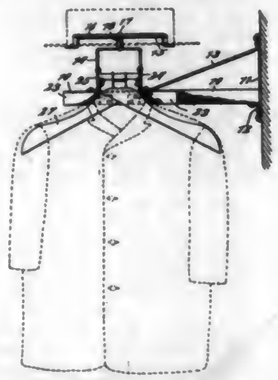
1. In an indicator, an endless belt, indicating cards thereon, a toothed wheel for operating said belt, an operating rod, a pair of spring pawls secured to said rod and having their free ends passing therethrough, and a lever pivoted to the rod adapted to throw one of said pawls out of operative position.

2. In an indicator, an endless belt, indicating cards thereon, a toothed wheel for operating said belt, an operating rod, a pair of oppositely arranged spring pawls secured to said rod and having their free ends passed through said rod, hooks on the free ends of said pawls adapted to engage said rod to limit the movement of the pawls, a lever pivoted to said rod, intermediate said hooks, and cam extensions carried by the lever on either side of



its pivotal point adapted to enter between the rod and hooks to alternately draw one of the pawls from operative position, together with a spring to retract said rod.

973,750. GARMENT-SUPPORT. ROSWELL H. BUCKINGHAM, Barberton, Ohio, assignor to The Barberton Novelty Company, Barberton, Ohio, a Corporation of Ohio. Filed Feb. 11, 1910. Serial No. 543,317.



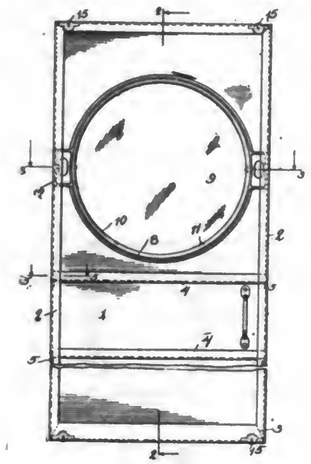
1. In a garment support, the combination of a horizontal bar, a standard rising therefrom, a strip pivotally mounted on said standard at each side thereof and adapted to swing toward or away from said bar, and a spring connecting said two strips below their pivotal point tending to draw said strips toward said bar.

2. In a garment support, the combination of a horizontal bar, a standard rising therefrom, a longitudinally-extending strip pivotally mounted on said standard at each side thereof and adapted to support a coat-hanger, other strips connected rigidly with said first-mentioned longitudinally-extending strips and adapted to be swung into and out of close contact with said bar, and yielding means tending to draw said last-mentioned strips toward said bar.

3. In a garment support, the combination of a horizontal bar, a standard rising therefrom, a three-sided rectangular frame pivotally mounted on said standard at each side thereof, arms depending from each of said frames, a strip mounted on said arms at each side of and opposite said bar, and a spring connecting one of said frames to the other and tending to hold said strips in contact with said bar.

973,751. METALLIC DOOR. EDWARD G. BUDD, Philadelphia, Pa., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed June 23, 1908. Serial No. 439,905.

1. A metallic door comprising a side-wall of sheet-metal having an opening therein, sheet-metal edge-strips of U-shaped cross-section secured to the edges of said wall, and a window-frame secured to said wall about said opening, parts of said frame extending within the edge-strips at opposite sides of the door, substantially as set forth.

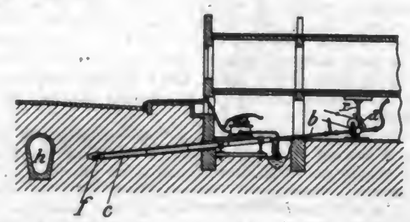


2. A metallic door comprising a sheet-metal side-wall having an opening therein, edge portions of U-shaped cross-section at the edges of the side-wall, and a window-frame secured to said wall about said opening and having parts thereon extending within said edge-portions and bracing the same, substantially as set forth.

3. A metallic door comprising a side-wall of sheet-metal having an opening therein, sheet-metal edge-strips of U-shaped cross-section secured to the edges of said wall, a window-frame secured to said wall about said opening, and offsets on said frame extending within the edge-strips at opposite edges of the door, substantially as set forth.

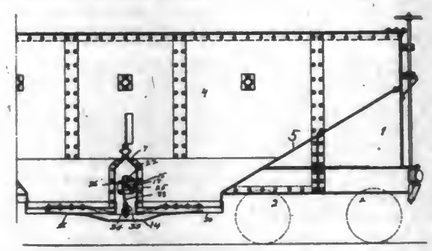
4. A metallic door consisting of two sheet-metal side-walls spaced apart from each other and having openings therein one of which is larger than the other, edge-strips secured to the edges of said side-walls, a window-frame lying between said side-walls, secured to the adjacent faces thereof and alining with the edges of said openings in the side-walls, parts on said frame extending within said edge-strips and bracing the same, and a glass in said frame, substantially as set forth.

973,752. METHOD OF LAYING CONDUITS. CARL CAHN and EUGEN SEEBERGER, Aachen, Germany. Original application filed Apr. 20, 1909, Serial No. 491,153. Divided and this application filed Dec. 17, 1909. Serial No. 533,718.



The improved method of laying a branch conduit underground to join a main conduit without opening the ground for the purpose, which consists in boring a passage through the ground for the branch conduit tube, carrying an outer conduit tube along with the boring tool, boring an approximately conical hole through the wall of the main conduit, applying jointing material to the conical front end of an inner conduit tube, and inserting said inner conduit tube through said outer conduit tube until the conical front end of the inner conduit tube, provided with jointing material, has entered and become jointed in the conical hole in the wall of the main conduit, as set forth.

973,753. DUMP-CAR. ARGYLE CAMPBELL, Chicago, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 13, 1909. Serial No. 532,826.



1. In a dump car, the combination of a dump car body having a longitudinally extending central hopper sheet and a transversely extending hopper sheet, and door openings on each side of said central hopper sheet and between which said transverse hopper sheet extends, inner and outer longitudinally hinged doors for closing each of said openings, bridge members connecting the inner doors, bridge members connecting the outer doors, a common operating shaft for all said doors extending transversely between the ends of adjacent doors under said transverse hopper sheet and provided with two polygonal winding drums, one on each side of said central hopper sheet, each of said winding drums having a shouldered locking face a locking block having a shouldered locking face engaging the shouldered locking face of each drum, and connecting links between said drum and locking block, said locking block having a rotary supporting pin extending through it, and a pair of supporting bars each having a pivotal connection with said rotary pin transversely thereto, each of said door supporting bars connecting with a bridge member of said doors, substantially as specified.

2. In a dump car, the combination of a dump car body having a longitudinally extending central hopper sheet and a transversely extending hopper sheet, and door openings on each side of said central hopper sheet and between which said transverse hopper sheet extends, inner and outer longitudinally hinged doors for closing each of said openings, bridge members connecting the inner doors, bridge members connecting the outer doors, a common operating shaft for all said doors extending transversely between the ends of adjacent doors under said transverse hopper sheet and provided with two polygonal winding drums, one on each side of said central hopper sheet, each of said winding drums having a shouldered locking face a locking block having a shouldered locking face engaging the shouldered locking face of the drum, and connecting links between said drum and locking block, said locking block having a rotary supporting pin extending through it, and a pair of supporting bars each having a pivotal connection with said rotary pin transversely thereto, each of said door supporting bars connecting with the bridge members of said doors, each of said supporting bars having a double or two-way pivotal connection with said bridge member, substantially as specified.

3. In a dump car, the combination with a door opening, of two doors hinged at their opposite edges and opening and closing together, of an operating shaft, a polygonal winding drum on said shaft having a shouldered locking face, a locking block having a shouldered locking face, connecting links between said locking block and drum, and a rotary supporting pin extending through said locking block with its axis directly above said operating shaft,

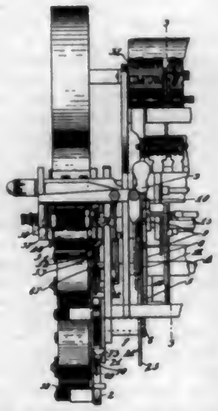
and a pair of door supporting bars connected one to each of said doors and having a pivotal connection with said rotary supporting pin, substantially as specified.

4. In a dump car, the combination with a door opening, of two doors hinged at their opposite edges and opening and closing together, of an operating shaft, a polygonal winding drum on said shaft having a shouldered locking face, a locking block having a shouldered locking face, connecting links between said locking block and drum, and a rotary supporting pin extending through said locking block with its axis directly above said operating shaft, and a pair of door supporting bars connected one to each of said doors and having a pivotal connection with said rotary supporting pin, said pivotal connection being transverse to said swivel supporting pin, substantially as specified.

5. In a dump car, the combination with a door opening, of two doors hinged at their opposite edges and opening and closing together, of an operating shaft, a polygonal winding drum on said shaft having a shouldered locking face, connecting links between said locking block and drum, and a rotary supporting pin extending through said locking block with its axis directly above said operating shaft, and a pair of door supporting bars connected one to each of said doors and having a pivotal connection with said rotary supporting pin, each of said door supporting bars having a two-way pivotal connection with the door to which it is attached, substantially as specified.

[Claims 6 to 8 not printed in the Gazette.]

973,754. CASH-REGISTER. THOMAS CARROLL, Dayton, Ohio, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio (incorporated in 1906). Filed Oct. 5, 1904. Serial No. 227,320.



1. In a cash register, the combination with suitable type; of an adjustable carrier and a plurality of strip holders movably mounted thereon, any one of which holders can be juxta-positioned with relation to the type by adjustment of said carrier; together with means for effecting the imprint by movement of the strip holder independently of the carrier.

2. In a cash register, the combination with suitable type; of an adjustable carrier and a plurality of strip holders movably mounted thereon, any one of which holders can be juxta-positioned with relation to the type by adjustment of said carrier; together with means for effecting the imprint by movement of the strip holder independently of the carrier; and means for preventing such independent movement of any strip holder when out of juxta-relation to the type.

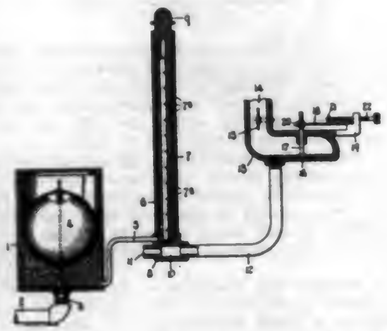
3. In a cash register, the combination with suitable type; of a rotatable carrier and a plurality of strip holders movably mounted thereon, any one of which holders can be juxta-positioned with relation to the type by adjustment of said carrier; together with means for effecting the imprint by movement of the strip holder independently of the carrier.

4. In a cash register, the combination with suitable type; of a rotatable carrier and a plurality of strip holders, movably mounted thereon, any one of which holders can be juxta-positioned with relation to the type by adjustment of said carrier; together with means for effecting the imprint by movement of the strip holder independently of the carrier; and a circular track with which a part of each strip holder runs in contact to prevent such independent movement of any holder, unless juxta-positioned with relation to the type, the said track having a break in it substantially as and for the purpose described.

5. In a cash register, the combination with suitable type; of an adjustable carrier and a plurality of strip holders pivotally mounted thereon, any one of which holders can be juxta-positioned with relation to the type by adjustment of said carrier; together with means for effecting the imprint by movement of the strip holder independently of the carrier.

[Claims 6 to 41 not printed in the Gazette.]

973,755. CARBURETER. WILLIAM C. CARTER, St. Louis, Mo. Filed Feb. 10, 1908. Serial No. 415,141.



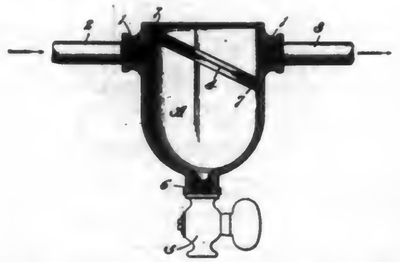
1. A carbureter comprising a vertically disposed tubular-shaped receptacle closed at both ends, means for supplying liquid fuel to the lower end of said receptacle, a member at the lower end of said receptacle provided with a carbureting chamber that communicates with the atmosphere, a multiple jet tube arranged in said receptacle and communicating with said carbureting chamber, a conduit leading from said carbureting chamber to the mixing chamber of the carbureter.

2. A carbureter comprising a vertically disposed tube, a member closing the lower end of said tube and provided with a carbureting chamber which communicates with the atmosphere, means for supplying liquid fuel to the lower end of said tube, a multiple jet tube arranged in said vertically disposed tube and having its lower end communicating with said carbureting chamber, means for closing the upper ends of both tubes, and a conduit leading from said carbureting chamber to the mixing chamber of the carbureter.

3. A carbureter comprising a vertically disposed glass tube, a casting at the lower end of said tube which acts as a closure for same, said casting being provided with a carbureting chamber that communicates with the atmosphere, a multiple jet tube arranged in said glass tube and screwed into said casting in such a manner that communication is established with the carbureting chamber, a cap on the upper end of the jet tube that closes same and also acts as a closure for the glass tube, means for supplying liquid fuel to the lower end of said glass tube, and a conduit leading from the carbureting chamber in said casting to the mixing chamber of the carbureter.

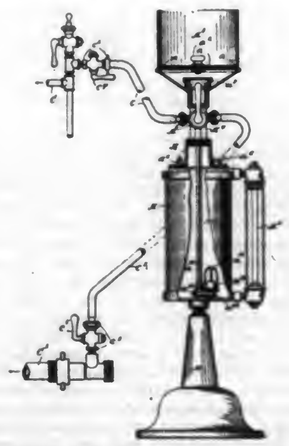
4. A carbureter comprising a vertically disposed tube closed at its opposite ends, means for supplying liquid fuel to the lower end of said tube, a multiple jet tube arranged in said vertically disposed tube, a member provided with a carbureting chamber with which the lower end of said jet tube communicates, said carbureting chamber being provided with an air supply port, a mixing chamber, a conduit leading from said carbureting chamber to said mixing chamber, a valve for supplying air to the mixing chamber, a leaf spring for holding said valve seated, and an adjustable device for varying the tension of said leaf spring.

973,756. LIQUID-FUEL STRAINER. WILLIAM C. CARTER, St. Louis, Mo. Filed July 23, 1909. Serial No. 509,202.



A liquid fuel strainer comprising a substantially cup-shaped member formed of cast metal and provided with an integral top wall, said member being provided with a pair of oppositely disposed openings located adjacent to said top wall so as to permit the fuel to flow through said member, an inclined screen arranged inside of said member between said openings, an integral flange on the interior of said member in which the edge of said screen is permanently embedded during the process of casting said member, and a drain-cock at the lower end of said member.

973,757. BEER-RECLAIMER. JOSEPH H. CHAMP, Cleveland, Ohio. Filed Mar. 25, 1908. Serial No. 423,110.



1. The combination with the top air inlet and liquid inlet of a bottling machine; of reclaiming apparatus comprising a receptacle having an exteriorly opening liquid inlet and an air vent, and a fluid pressure inlet and liquid outlet respectively connected with the top air inlet and the liquid inlet of said machine; and means adapted to simultaneously control the inlets, outlet, and vent of said reclaiming apparatus.

2. The combination with the top air inlet and liquid inlet of a bottling machine; of reclaiming apparatus comprising a receptacle having an exteriorly opening liquid inlet and an air vent, and a fluid pressure inlet and liquid outlet respectively connected with the top air inlet and the liquid inlet of said machine; and a cock controlling the inlets, outlet, and vent, respectively, of said reclaiming apparatus, said cock being adapted to simultaneously open the liquid inlet and vent and close the fluid pressure inlet and liquid outlet of said apparatus, and vice versa.

3. The combination with the top air inlet and liquid inlet of a bottling machine; of reclaiming apparatus comprising a receptacle; a head surmounting said receptacle and having an exteriorly opening liquid inlet, and a fluid pressure inlet and liquid outlet respectively connected with the top air inlet and the liquid inlet of said machine; a funnel provided with a strainer, removably fitted to the exterior opening of the liquid inlet of said head; and a cock controlling the inlets and the outlet, respectively, of said head, said cock being adapted to simultaneously open the liquid inlet and close the fluid pressure inlet and liquid outlet of said apparatus, and vice versa.

4. The combination with the top air inlet and liquid inlet of a bottling machine; of reclaiming apparatus comprising a receptacle; a head surmounting said receptacle and having an exteriorly opening liquid inlet, a fluid pressure inlet and alined outlet passage, such fluid pressure inlet and liquid outlet being respectively connected with the top air inlet and the liquid inlet of said machine; a tube connected with such outlet passage and depending to near the bottom of said receptacle; a funnel, provided with a strainer, removably fitted to the exterior opening of the liquid inlet of said head; manually operable means adapted to control the inlets and the outlet to said head, respectively; and other means adapted automatically to control said outlet.

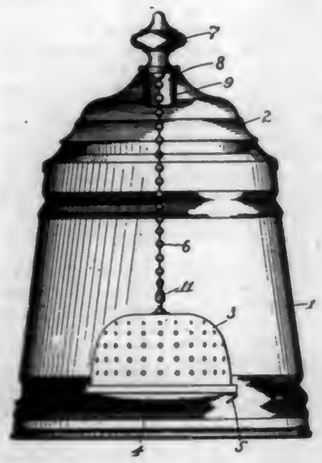
5. The combination with the top air inlet and liquid inlet of a bottling machine; of reclaiming apparatus comprising a receptacle; a head surmounting said receptacle and having an exteriorly opening liquid inlet, a fluid pressure inlet and a liquid outlet passage, such fluid pressure inlet and liquid outlet being respectively connected with the top air inlet and the liquid inlet of said machine; a tube connected with such outlet passage and depending to near the bottom of said receptacle; a funnel, provided with a strainer, removably fitted to the exterior opening of the liquid inlet of said head; a cock controlling the inlets and the outlet, respectively, of said reclaiming apparatus, said cock being adapted to simultaneously open the liquid inlet and close the fluid pressure inlet and liquid outlet of said head, and vice versa, a cage inclosing the lower end of said depending tube; and a ball valve within said cage adapted to close such opening, the liquid in said receptacle serving to normally raise said valve from its seat.

973,758. TEA OR COFFEE POT. JAMES W. CHAPMAN, Meriden, Conn., assignor to Manning, Bowman & Company, Meriden, Conn., a Corporation of Connecticut. Filed Dec. 23, 1909. Serial No. 534,584.

1. A tea or coffee pot comprising in combination, a pot, a cover therefor having a knob removable therefrom, a foraminous receptacle suspended within the pot from said knob by a flexible connector whereby said receptacle may be raised by the removal of said knob, and means within and carried by said cover adapted to engage said connector to hold said receptacle in elevated position.

2. A tea or coffee pot comprising a pot, a cover therefor having a knob removable therefrom, a foraminous receptacle suspended within the pot from said knob by a connecting member, a member carried by and extending within the cover, slotted to permit the passage of said connecting member, and means carried by said receptacle to engage said slot to hold the receptacle in elevated position.

3. A tea or coffee pot comprising in combination, a pot, a cover therefor having a knob removable therefrom, a foraminous receptacle suspended from said knob whereby said receptacle may be raised by the removal of said knob, a tubular member projecting inwardly from said cover and having a key-hole slot in the bottom thereof, and a shouldered stud or pin on said receptacle adapted to pass through the larger portion of said slot and to be engaged by the smaller portion thereof to hold said receptacle in elevated position within said pot with said stud entirely concealed within said tubular member.



4. A tea or coffee pot comprising in combination a pot, a cover therefor having a removable knob, a foraminous receptacle suspended within the pot from said knob by a flexible connector and a cup-like member extending inwardly from said cover having means to engage said connector to hold said receptacle in elevated position, said connector being adapted to be nested within said cup-like member to prevent disengagement of said connector from said member.

5. A tea or coffee pot comprising in combination a pot, a cover therefor having a removable knob, a foraminous receptacle suspended from said knob by a flexible connector, a cup-like member projecting inwardly from said cover and having a key-hole slot therein, a shouldered stud or pin on said receptacle adapted to pass through the larger portion of said slot and to be engaged by the smaller portion thereof, to hold said receptacle in elevated position, said cup-like member being adapted to have said connector nested therein and around said stud to prevent disengagement of the latter from said slot.

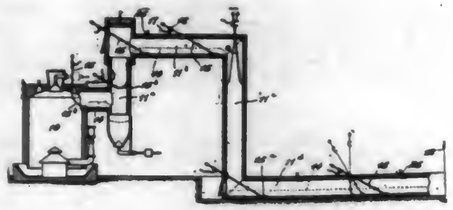
[Claims 6 and 7 not printed in the Gazette.]

973,759. MEANS FOR CLEANING GAS-FLUES. WILLIAM B. CHAPMAN, New York, N. Y., assignor to Walter B. Hopping, trustee, New York, N. Y. Filed Jan. 14, 1907, Serial No. 352,139. Renewed Feb. 28, 1910. Serial No. 546,549.

1. A gas flue having an opening therein, a removable means for closing the opening, a jet pipe and a closure on the jet pipe, said jet pipe being adapted to enter the opening in the flue upon the removal of the first named closure and the closure on the jet pipe serving to close the opening upon the insertion of the pipe therein.

2. A gas flue having an opening therein, a casting set in the opening and having an orifice therein, a removable closure adapted normally to seal the orifice in the casting, a jet pipe adapted to be projected through the orifice in the casting when the said closure is removed, and a closure on the jet pipe adapted to seal the orifice when the jet pipe is therein.

3. A gas flue having an opening therein, a movable closure for the opening, a jet pipe adapted to project through the opening upon removal of said closure and a spherical closure on the jet pipe therein serving to seal the opening when the jet pipe is therein.



4. A gas flue having an opening therein, a removable closure for the opening, a jet pipe adapted to be projected in the opening when the closure is removed and a spherical closure on the jet pipe said closure having a tapering opening through which the jet pipe passes loosely.

5. A gas flue having an opening therein, an orificed casing placed in the opening, a removable closure for the orifice, a jet pipe adapted to project through the orifice when the closure is removed and the spherical closure on the jet pipe for the purpose specified.

[Claims 6 to 11 not printed in the Gazette.]

973,760. PLIERS. HERMAN R. CHAVES, Madison, Wis. Filed June 2, 1910. Serial No. 564,642.



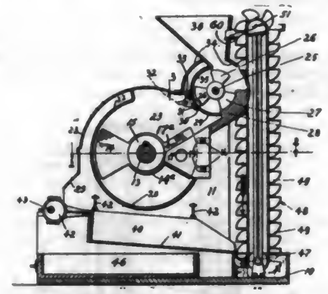
1. The combination with a pair of pliers, of angular cutting blades slidably secured to the jaws of said pliers and adapted to yieldingly embrace an insulated wire; and springs arranged to yieldingly press said blades to contact with a wire, substantially as described.

2. The combination with a pair of pliers, of angular cutting blades slidably secured to the jaws of said pliers and adapted to yieldingly embrace an insulated wire; springs arranged to yieldingly press said blades to contact with a wire; and longitudinal splitting edges on the inner faces of said jaws, substantially as described.

3. The combination with a pair of pliers, of a pair of angular cutting blades slidably secured to each side of the jaws of said pliers and adapted to yieldingly embrace an insulated wire; springs arranged to yieldingly press said blades to contact with a wire; longitudinal splitting edges on the inner faces of said jaws extending from one pair of said blades to the other; and a set screw arranged to limit the approach of said jaws, substantially as described.

4. The combination with a pair of pliers, of a pair of angular cutting blades slidably secured to each side of the jaws of said pliers and adapted to yieldingly embrace an insulated wire; springs arranged to yieldingly press said blades to contact with a wire; longitudinal splitting edges on the inner faces of said jaws extending from one pair of said blades to the other; a set screw arranged to limit the approach of said jaws; and wire cutting edges on said plier jaws, substantially as described.

973,761. SPICE-MILL. ROBERT F. CLINE, Los Angeles, Cal. Filed June 1, 1908. Serial No. 436,072.



1. In a machine of the class described, in combination, a case, a plurality of die plates projecting into the interior of said case and disposed apart to form spaces therebetween, a shaft extending from said case, a plurality of blades fixed on said shaft and adapted to pass through the spaces between said die plates, said blades having outer portions coöperating with said die plates, and having hubs constantly engaging the inner ends of said die plates and maintaining the same in alinement.

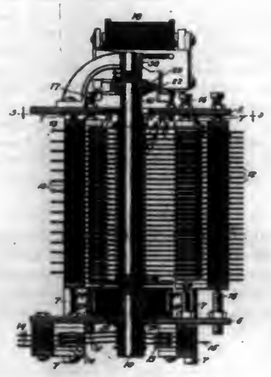
2. In a machine of the class described, in combination, a case, a transverse shaft passing therethrough, a plurality of blades rigidly mounted on said shaft, a plurality of rings disposed between said blades, a plurality of die plates projecting into the spaces between said blades and coöperating with the outer portions of said blades, the inner ends of said die plates lying adjacent to the faces of said rings, said plates having hubs engaging the inner faces of said die plates when the cutting portions of said blades are out of contact with said die plates, said hubs affording means for maintaining the alinement of said die plates.

3. In a machine of the class described, in combination, a case, a shaft passing transversely through said case, a plurality of blades rigidly secured on said shaft, having disk shaped center portions and having substantially radial cutting edges on their outer portions, a plurality of die plates mounted on said case projecting into the spaces between the cutting portions of said blades and having their inner ends projecting beyond the edges of said hubs and maintained in alinement by said hubs when the cutting portions of said blades are out of contact therewith, and means for adjusting said die plates toward said shaft, the upper edges of said die plates being inclined downwardly toward said shaft.

4. In a machine of the class described, in combination, a case, a shaft passing transversely therethrough, a plurality of die plates mounted on said case and projecting into the interior thereof, said die plates having upwardly disposed cutting edges inclined downwardly toward said shaft, a plurality of blades rigidly attached on said shaft and adapted to pass through the spaces between said die plates, a plurality of rings disposed between said blades and having their faces adjacent to the inner ends of said die plates, the inner ends of said cutting edges being depressed to substantially the level of the axis of said shaft whereby pockets are formed adjacent to the side faces of said rings in which the spices may collect.

5. In a machine of the class described, in combination, a case, a shaft rotatably mounted on said case, rings mounted on said shaft, said plates holding the same apart, a plurality of die plates projecting into the space between said plates, means for adjusting said die plates toward said shaft, said blades having cutting edges on the outer portions thereof coöperating with the upper edges of said die plates and having hubs adapted to engage the side faces of said die plates to maintain the alinement thereof, the upper edges of the die plates inclined downwardly toward said shaft and coöperating with said rings to form pockets to retain the spices.

973,762. SELECTOR-SWITCH. EDWARD B. CRAFT, Chicago, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 23, 1907. Serial No. 403,535.



1. In a selector, the combination with a hollow rotatable shaft and contact brushes mounted thereon, of rows of terminals 12 mounted in a bank concentric with said shaft, a series of segmental contact plates, one for each brush, also concentric with said shaft, each brush being adapted to connect its segmental plate with a corresponding terminal in any of the rows over which such brush is adapted to sweep in the rotary movement of the shaft, an auxiliary or brush-choosing selector associated with said main selector and having an operating shaft extending through said hollow main shaft, each of said shafts being provided with a ratchet, a stepping magnet, a stepping pawl operated thereby normally in position to drive one of said ratchets, a shift magnet, and means controlled thereby for causing said pawl to drive the other ratchet.

2. In a selector, the combination with a hollow shaft and brushes carried thereby, of rows of line terminals mounted in a bank concentric with said shaft, segmental contact plates, one for each of said brushes, also mounted concentric with said shaft, an auxiliary brush-choosing selector having an operating shaft extending through said hollow main shaft, a ratchet for each shaft, a stepping magnet, a stepping pawl operated by said magnet adapted to engage either ratchet, a magnet having an annular core surrounding the inner shaft, and a disk armature carried by the outer shaft and adapted to be attracted by said annular core to shift said shaft longitudinally.

3. In a selector, the combination with rows of terminals and a movable row of brushes, corresponding in number to the terminals of each row, adapted to make contact with said terminals, of a stepping magnet, mechanism operated thereby for bringing the row of brushes into position to contact with any row of terminals, a shift magnet, means controlled by said shift magnet for holding the several brushes in contact with the respective terminals of the selected row of terminals, brush-chooser mechanism adapted to select a particular brush or brushes of the row, and mechanism also operated by the shift magnet, arranged to bring said brush-chooser mechanism under control of said stepping magnet to be operated thereby.

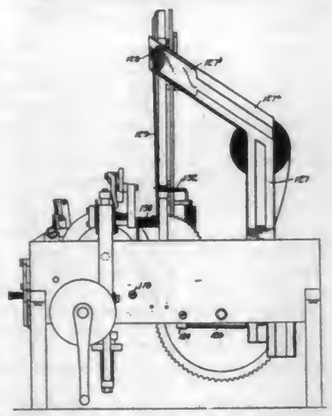
4. In a selector, the combination with a rotatable and longitudinally movable brush carrier, and brushes carried thereby, of a ratchet mounted upon said brush carrier, a

stepping magnet and a stepping pawl operated thereby normally in position to engage said ratchet to rotate the brush carrier, a second brush carrier having an operating shaft concentric with the first-mentioned brush carrier, said shaft having an operating ratchet mounted thereon adjacent to said first-mentioned ratchet, sets of stationary terminals with which the brushes are adapted to engage, a clutch magnet and means operated thereby to shift both brush carriers longitudinally to bring their brushes into engagement with their respective terminals, and to shift the ratchet of the second brush carrier into operative relation to said stepping pawl.

5. A selector comprising upper and lower frame plates, and intermediate supports uniting them, a shaft 10 extending between said frame plates mounted in bearings supported respectively by said plates, a hollow tubular shaft 8 journaled upon said shaft 10, contact brushes carried by said tubular shaft 8, stationary contact terminals mounted between said plates, in position to be engaged by said brushes, electromagnetic operating mechanism for said brush-carrying shaft 8, mounted upon the outer side of one of said plates, and brush-chooser mechanism mounted upon the outside of the other plate, and connected with the aforesaid operating mechanism by said shaft 10.

[Claims 6 to 10 not printed in the Gazette.]

973,763. COIN-CONTROLLED MECHANISM. ROBERT B. CRAIG and ALBERT COFFMAN, Dayton, Ohio, assignors to The Automatic Vending Machines Company, Kansas City, Mo., a Corporation of New Mexico. Original application filed Apr. 12, 1909, Serial No. 489,457. Divided and this application filed Aug. 24, 1909. Serial No. 514,455.

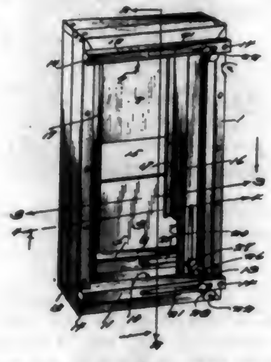


1. In a coin controlled mechanism, the combination of a cam having a shoulder, a stop thereon disposed in advance of said shoulder and providing a recess, an arresting lever provided with a projection on one end adapted to enter between the shoulder and the stop and pass through said recess, a spring tending to move the lever out of arresting position, a detent engaging the opposite end of said lever and resisting such movement, an arm carried by and controlling said detent, and a coin chute directing a coin against said arm.

2. In a coin controlled mechanism, the combination of a cam having a shoulder, a stop carried by said cam and disposed in advance of said shoulder and provided with a recess, an arresting lever provided with a projection on one end adapted to enter between the shoulder and stop and have passage through said recess, a spring tending to move the lever out of arresting position, a detent pivotally mounted and engaging the opposite end of said lever and resisting such movement, an arm fixed on said detent and controlling the same, a coin guard associated with said lever and adapted to be actuated thereby, and a coin chute directing a coin against said arm.

3. The combination with a coin controlled machine provided with a coin chute, of a guard for said chute, said guard comprising a staff fulcrumed on the machine and having a barrier and a controlling end; and a stop lever adapted to arrest the machine in operative position, said controlling end of the staff being disposed at an angle thereto and adapted to be engaged and deflected by the stop lever whereby to project the barrier into the path of the coin chute and prevent the insertion of a coin in said chute during the operation of the machine or when the machine becomes inoperative.

973,764. PHOTOPRINTING-FRAME. JOHN FRANKLIN CURTIS, Macclenny, Fla. Filed June 16, 1909. Serial No. 502,610.



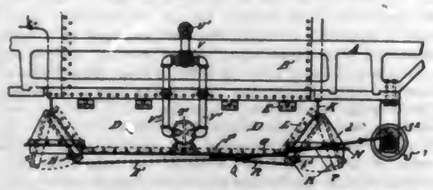
1. In combination, a frame having an opening, slotted members for the frame, a fixed shutter on the frame, a movable shutter adapted to vary the area of the opening, means engaging the slotted members for securing in adjusted position the movable shutter and guideways on the frame adapted to hold a photographic printing frame in a movable position over said opening.

2. In combination, a frame having an opening, slotted members for the frame, a fixed shutter for the opening, a movable shutter for the opening, and adjustable means engaging the slotted members for holding a photographic printing frame in movable position over the opening.

3. In combination, a frame having an opening therein, slotted members for the frame, a fixed shutter on the frame, a movable shutter for varying the area of the opening, screws movable on the slotted members for adjustably securing the movable shutter, and means for movably holding a photographic printing frame over the opening.

4. In combination, a frame having an opening therein, a fixed shutter on the frame, a movable shutter on the frame having a slotted member extending transversely of the frame, means extending through said slotted member adapted to hold the movable shutter in adjusted positions, a member movable transversely of the movable shutter and means for holding the transversely moving member in adjusted positions.

973,765. LOCOMOTIVE ASH-PAN. THEODORE H. CURTIS, Louisville, Ky., assignor to John G. Talmage, Cleveland, Ohio. Filed Jan. 12, 1909. Serial No. 471,913.



1. The combination, with a locomotive ash pan having an exit, of means for directing a fluid discharge therein to propel the ashes through the exit, and means including a door and guiding walls for closing said exit and for controlling the discharge of ashes therethrough and directing them downwardly while preventing their lateral spreading, whereby an effective downward discharge is insured.

2. The combination of a locomotive ash pan, means for directing a fluid discharge therein, and a controller for effecting the downward discharge of ashes and preventing their lateral spreading, said controller including a door which serves in one position to close the exit from the ash pan and in another position to form a portion of the downward guide for the discharge of ashes.

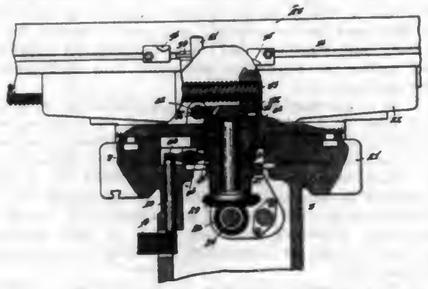
3. The combination, with a locomotive ash pan, of means for directing a fluid discharge therein, and a pivoted door which in one position coöperates with the sides and bottom of the pan to close the exit from the pan and in another position leaves an open space between the door and bottom of the pan while maintaining closed the space between the door and side walls of the pan.

4. The combination, with a locomotive ash pan, of means for directing a fluid discharge therein, and a pivoted door operating between extensions of the ash pan sides and serving to close the exit from the pan and to form a portion of a downwardly extending chute when in open position.

5. The combination, with a locomotive ash pan, of means for directing a fluid discharge therein, extensions of the side walls of the pan, a door operating between said extensions to close the pan or form a portion of a downward chute, the ends of the door being free from the side extensions, and ribs carried by said extensions and overhanging the door to make a tight closure therewith.

[Claims 6 and 7 not printed in the Gazette.]

973,766. MILLING-MACHINE. ADOLPH L. DE LEEUW, Hamilton, Ohio, assignor to The Cincinnati Milling Machine Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 13, 1909. Serial No. 527,964.

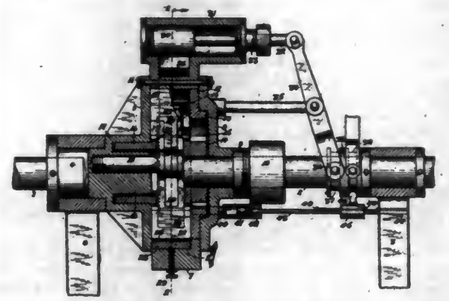


1. In a machine of the class described, a saddle, a carriage swiveled thereon, a table sliding on the carriage, a table driving shaft concentric relative to the swivel, feed mechanism between one end of the shaft and table, a clutch controlled feed mechanism connected to the other end of said shaft, a longitudinally movable and circumferentially toothed sleeve concentric to the swivel, tripping mechanism having connections between one end of the sleeve and the table and between the other end of the sleeve and the clutch.

2. In a machine of the class described, a knee, a saddle sliding thereon, a carriage swiveled on the saddle, a table sliding on the carriage, a clutch controlled primary feeding mechanism, tributary feeds to said saddle and table, the table feed having a driving shaft concentric to said swivel, a longitudinally movable and circumferentially toothed sleeve concentric to said table shaft, tripping mechanism between the table and support, having connections for moving said sleeve, a longitudinal plunger in the knee having connections with the clutch, and a rock bar having elongated toothed connection with said plunger and the sleeve, whereby the table can be tripped irrespective of its position of longitudinal and swiveled adjustment.

3. In a device of the class described, a knee, a saddle, feeding mechanism for reciprocating the saddle thereon, a feed control, a carriage swiveled on the saddle, a table slidable on the carriage, a trip, and devices on the carriage, adapted to positively reciprocate the trip by the reciprocation of the table, a member concentric with the carriage swivel, and devices connecting said concentric member with the trip and with the feed control, said concentric member being adapted to be reciprocated so as to automatically reverse the feed irrespective of the swiveled position of the table.

973,767. CLUTCH. PETER ENGLISH, Sathers Station, Cal., assignor to The Hydraulic Clutch Company, San Francisco, Cal., a Corporation of Arizona. Filed Aug. 4, 1909. Serial No. 511,104.



1. In a hydraulic clutch, the combination with a casing having an eccentric bearing-box in one of its heads, and a supporting arm extended from said box inward toward the center of the cylinder, of a main shaft in line with said bearing-box and extending through the other head of the cylinder into the interior thereof, a slotted drum secured on and concentric with said main shaft and bearing, and having a hollow interior and a hollow trunnion adapted to run within the bearing-box, a fixed shaft supported by the arm of the bearing-box and extending through the hollow trunnion into the interior of the drum, and wings or vanes pivotally mounted on said fixed shaft extending through the slots in the drum and bearing against the inner face of the cylinder.

2. In a hydraulic clutch, the combination with a cylinder or casing having in one of its heads an externally closed eccentric bearing box communicating with the interior of the cylinder, and a fixed shaft concentric with the cylinder and extending into the interior thereof, said shaft being provided with wings or vanes pivotally mounted thereon and bearing against the inner face of the cylinder, of a main shaft extending through the other head of the cylinder a short distance into the interior thereof, said shaft being eccentric relatively to the cylinder and concentric with the bearing-box, and a drum closed at one end to form a hub whereby it is secured to the end of the main shaft, having a hollow interior to receive the fixed shaft and provided with a hollow open trunnion at its opposite end supported within the bearing-box, said drum being concentric with the main shaft and bearing-box and eccentric relatively to the cylinder, and provided with slots through which the wings or vanes extend.

3. In a hydraulic clutch, the combination with a cylinder having a fixed concentric shaft, wings or vanes having hubs encircling said shaft, said cylinder having also an eccentric externally closed bearing-box in one of its heads, of a correspondingly eccentric main shaft extending through the other head, a hollow drum secured at one end to said shaft and concentric therewith, and having at its other end a hollow trunnion through which the fixed shaft passes, said drum having slots in which the wings or vanes are slidable.

4. In a hydraulic clutch, the combination with a cylinder having in its inner face a depression or recess of smaller radius and less length than the cylinder proper, of an eccentric hollow drum inclosed in said cylinder and having a body portion of a radius conforming to the depression or recess to bear upon the true cylindrical face of the cylinder, and reduced ends, an abutment block located in said depression or recess, a fixed shaft concentric with the cylinder and extending into the interior of the hollow drum, and wings or vanes pivotally mounted on said fixed shaft, extending through slots in the drum, and having their outer ends widened.

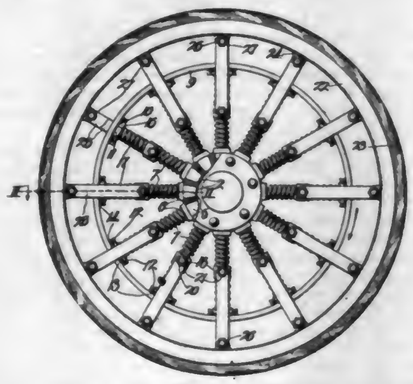
5. The combination in a hydraulic clutch, of a cylindrical shell, a shaft fixed and turnable with said shell, a second shaft axially in line with the first, extending through and turnable within the opposite head of the shell, a slotted drum fixed to and turnable with said second shaft, wings or vanes extending transversely through the drum, an eccentric pin upon which the inner ends of said vanes are carried, and by which the outer ends of the vanes are caused to traverse the inner periphery of the cylinder, a segmental conduit opening into the interior of the cylinder upon each side of the point of contact between the drum and the cylinder, a packing plate or abutment fitting the cylinder between the conduit inlet openings, and means to adjust said plate to maintain contact between it and the periphery of the drum.

[Claims 6 to 15 not printed in the Gazette.]

973,768. METHOD OF MAKING TOBACCO SUPPLE. FERDINAND EVERS, Dusseldorf, Germany. Filed June 7, 1910. Serial No. 565,566.

Method of making tobacco supple which consists in adding to 90–80 kgs. of a sauce of tobacco, licorice and tamarinds, about 10 kgs. of levulose or 20 kgs. of inverted sugar containing levulose and soaking the tobacco in this mixture.

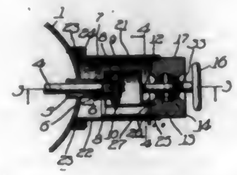
973,769. SPRING-WHEEL. ARTHUR J. FROGUE, Kansas City, Mo., and MATHIAS A. WEBER, La Crosse, Wis. Filed Dec. 27, 1909. Serial No. 535,102.



1. A spring wheel, comprising an inner member consisting of a hub, spokes radiating therefrom and a rim secured to and surrounding the spokes, an outer member surrounding the rim of the inner member, collars mounted slidingly on the spokes, springs mounted on the spokes between the collars and rim and pressing inwardly on the collars, links embracing opposite sides of the rim of the inner member and pivoted at their inner ends to said collars and at their outer ends to said outer member, and sleeves inclosing the spokes, springs and collars and provided with longitudinal slots to accommodate the pivotal connections between said collars and the inner ends of said links.

2. A spring wheel, comprising a hub provided with peripheral sockets which open through its outer face, radiating spokes fitting at their inner ends in said sockets, a cap secured to the outer side of the hub and overlapping the ends of the spokes fitting in said sockets to hold them therein, a rim inclosing the spokes and concentrically surrounding the hub, radially-arranged sleeves at the inner side of the rim and each consisting of a pair of semi-cylindrical necks embracing between them the outer ends of the spokes, the outer members of the necks being removably secured to the inner members and to the rim, an outer member surrounding the rim of the inner member and provided with a tire, links pivoted to the outer member and embracing opposite sides of the first-named rim, means bearing a slidable relation to the spokes and pivoted to the inner ends of said links, and an inner and outer series of springs suitably supported, the inner series of springs pressing outwardly against the said means and the outer series of springs pressing inwardly against said means.

973,770. MASSAGE APPARATUS. BENJIMAN L. GATES, Chicago, Ill. Filed Mar. 12, 1909. Serial No. 483,075.



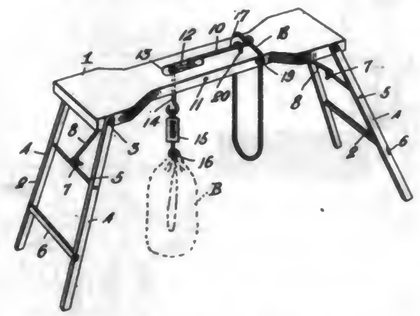
1. In a massage apparatus the combination of a motor, a motor case, an adjustable extension from said case in line with the axis of the motor shaft, a roller journaled in the outer end of the adjustable case extension, a cam attached to motor shaft, a sleeve fitted over said cam, an oscillator bar telescoping said sleeve, means for attaching said oscillator bar to said roller, an applicator and means for removably attaching said applicator to said oscillator bar.

2. In a massage apparatus the combination of a suitable case, of a drive shaft, of a cam, of a sleeve, of a pin for preventing said sleeve from rotating, of an oscillator bar, of a tubular recess in end of said oscillator bar in which said sleeve is adjustably fitted, of a roller journaled in said case, of means for attaching said oscillator bar to said roller, of an applicator, of means for removably attaching said applicator to said oscillator bar and means for removably attaching said applicator to said roller.

3. In a massage apparatus in combination, an electric motor with a rotating shaft, a tubular extension from motor case, a slot in the outer end of said extension, of notches in said slot, of a latch engaging with said notches, of a telescoping tube carrying said latch, of a roller journaled in the outer end of said tube, of an oscillator bar attached to said roller, said oscillator bar being adjustable in the tubular extension through the adjustment of said telescoping tube which is held in any desired position by the latch engaging in the notches in said tubular extension substantially as and for the purpose described.

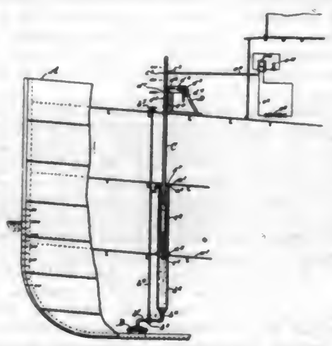
973,771. PORTABLE SUPPORT FOR WEIGHING-SCALES. WILLIAM H. GEARY, Newport, Ark. Filed July 6, 1909, Serial No. 506,184. Renewed Aug. 20, 1910. Serial No. 578,245.

A device of the character described, comprising a body formed with a slot, foldable supporting legs at the ends of the body, a transverse pivot pin arranged horizontally in the slot of the body, a lever loosely mounted intermediate its ends on said pivot pin, a weighing scale suspended from one end of said lever, the other end of the lever extending longitudinally of the body and being disposed above the same, a downturned keeper hook upon the top of the body and under which said lever is adapted to be swung, guide ears upon opposite side edges of



the body, and a flexible cord extending around the body and through said guide ears, the upper portion of the cord being secured to the lever, and its lower portion hanging from the body for the purpose set forth.

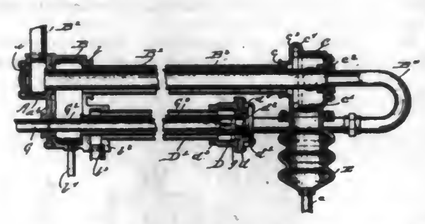
973,772. VESSEL-LOADING ALARM. JAMES GEDEON, Cleveland, Ohio, assignor of one-third to Charles L. Brown and one-third to Robert D. Mansfield, Cleveland, Ohio. Filed June 30, 1909. Serial No. 505,185.



1. In a vessel loading alarm, the combination of a stand-pipe located within the hull of the vessel and communicating with the water outside of the hull, a vertical tube therein open at the bottom, a windlass for adjusting said tube with relation to the draft of the vessel, electrical terminals within said tube, an arm pivotally connected to one of said terminals; a float suspended from said arm, and adapted to raise the arm into contact with the other terminal when the water level reaches a predetermined height with relation to the vessel.

2. In a device of the character described, the combination of an interior stand-pipe having on its lower end a stop-cock connection with the water outside, a tube having a graduated scale on its upper end and open at the bottom, vertically movable in said stand-pipe, a windlass for adjusting said tube with relation to the draft of the vessel, electrical terminals within said tube, an arm pivotally connected to one of said terminals, a float pivotally suspended from and adapted to raise said arm into contact with the other terminal when the water level reaches a predetermined height with relation to the vessel.

973,773. WATER HEATER AND PURIFIER. WILLIAM ASA GIBSON, Peoria, Ill. Filed Sept. 13, 1909. Serial No. 517,471.



1. In a device of the class described the combination with means for heating water to a high temperature of a primary separating chamber adapted to separate the heavier precipitates from the water, a secondary separating chamber in communication with said primary chamber, a mud drum beneath the same and a passage leading from the top of the secondary separating chamber and discharging into the mud drum.

2. In a device of the class described the combination with a feed pipe of a nozzle connected therewith, a deflector at the end of said nozzle, a primary separating chamber, a return pipe leading from said deflector to said chamber and inclosing said nozzle, means for heating said return pipe, a secondary separating chamber, a water pipe connecting said chambers, a steam pipe extending axially thereof and a corrugated mud drum beneath said secondary separating chamber adapted to receive deposits therein.

3. In a device of the class described the combination with a primary and a secondary separating chamber communicating with each other, of a heater for raising the water to a high temperature and delivering the water into the primary separating chamber a corrugated mud drum adapted to receive the heavier precipitates by gravity and a passage for conducting the lighter precipitates downwardly to said mud drum.

4. In a device of the class described the combination with a primary and a secondary separating chamber of a water pipe opening at its ends into said chambers, a steam expansion pipe extending through said chambers and axially of said water pipe, a steam pipe leading from said expansion pipe, a feed water pipe, a nozzle thereon, extending axially of said steam pipe, a deflector at the end of said nozzle, a return pipe between said nozzle and steam pipe and opening into the primary separating chamber, a corrugated mud drum in open communication with the secondary separating chamber and means for creating a plurality of currents in said secondary separating chamber.

5. In a device of the class described the combination with a primary separating chamber, of a secondary separating chamber, a water pipe connecting said chambers, means for agitating and heating the water before entering said chambers, an inwardly directed wall in the secondary chamber adapted to deflect the water, a mud drum beneath said chamber and a channel opening from the top of said chamber and leading downwardly to the mud drum.

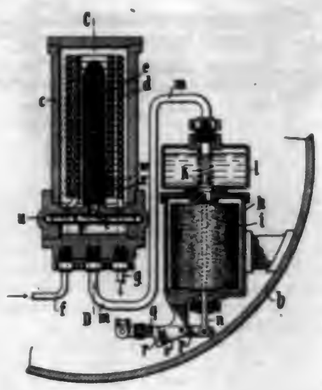
[Claims 6 to 20 not printed in the Gazette.]

973,774. MEANS FOR INCREASING TENSION OF GASEOUS PROPELLANTS FOR TORPEDOES. MAX GLASS, Vienna, Austria-Hungary. Filed Nov. 22, 1909. Serial No. 529,409.

1. In a torpedo, means for increasing the tension of a gaseous driving fluid, comprising a coil through which said driving fluid passes, an acetylene burner arranged axially within said coil for heating the same, an acetylene generator mounted on the inner face of a wall of the torpedo and means for feeding said burner therefrom, substantially as described.

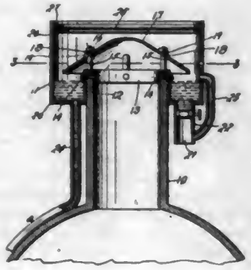
2. In a torpedo, means for increasing the tension of a

gaseous driving fluid, comprising a coil through which said driving fluid passes, an acetylene burner arranged within said coil for heating the same, an acetylene generator and means for feeding said burner therefrom, said



generator comprising a carbid receptacle, a superposed water tank and an interposed valve, a lever for opening said valve and means for securing said lever in position to hold said valve open, substantially as described.

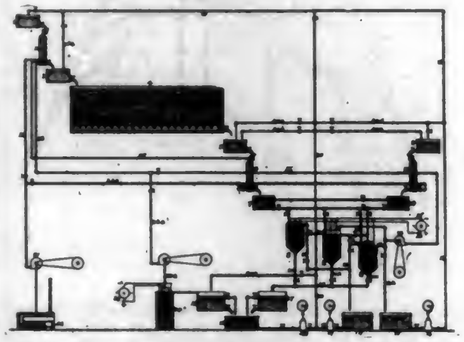
973,775. SPARK-ARRESTER. LUMAN L. GOODRICH, Jr., San Antonio, Tex. Filed Mar. 28, 1910. Serial No. 551,892.



A spark arrester for application to smoke stacks, comprising a tank having a central tube rising from its bottom, said tube terminating at its upper end in a hook like flange, adapted to fit over the top edge of the smoke stack and to reinforce the same to withstand the weight of the device, a plurality of spaced standards rising from the shoulder of said flange, a concave deflector plate removably secured to the upper ends of said standards and having its periphery disposed below the shoulder of said flange, a removable screen mounted in the tank above the deflector plate, an inlet pipe, and an outlet pipe assembled with the tank.

973,776. PROCESS OF EXTRACTING METALS FROM THEIR ORES. WILLIAM E. GREENAWALT, Denver, Colo. Filed May 25, 1909. Serial No. 498,328.

1. A process of extracting copper from its ores which consists in treating the ore with an acid solution to dissolve the copper; applying sulfur dioxid to the resulting copper solution in the presence of some other chlorid to convert the dissolved copper into the cuprous chlorid; electrolyzing the resulting solution, containing the cuprous chlorid, to deposit the copper and liberate chlorin; bringing the chlorin so liberated in contact with the solution in the presence of sulfur dioxid; returning the regenerated acid solution to the ore and repeating the cycle of solution, precipitation and regeneration, as before, until the copper in the ore is sufficiently extracted.



2. A process of extracting copper from its ores which consists in treating the ore with an acid solution to dissolve the copper; applying sulfur dioxid to the resulting copper solution in the presence of a metal chlorid to convert the dissolved copper into the cuprous chlorid; electrolyzing the cuprous chlorid to deposit the copper and liberate chlorin; subdividing the solution; then bringing the chlorin, liberated by the decomposition of the cuprous chlorid, in contact with the solution while in a state of subdivision, in the presence of sulfur dioxid; returning the regenerated acid solution to the ore and repeating the cycle, as before, until the copper in the ore is sufficiently extracted.

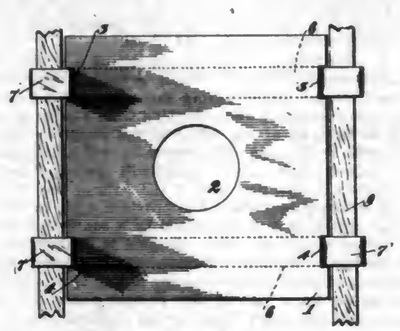
3. A process of extracting copper from its ores containing other metals which consists in treating the ore with an acid solution to dissolve the copper and other metals; applying sulfur dioxid to the resulting copper solution in the presence of other chlorids to convert the dissolved copper into cuprous chlorid; electrolyzing the resulting solution, containing the cuprous chlorid, to deposit the copper and liberate chlorin; bringing the chlorin so liberated in contact with the solution in the presence of sulfur dioxid; returning the regenerated acid solution to the ore and repeating the cycle of solution, precipitation and regeneration, as before, until the copper and other metals in the ore are sufficiently extracted.

4. A process of extracting metals from their ores containing copper which consists in treating the ore with an acid solution to dissolve the copper and other metals; applying sulfur dioxid to the solution in the presence of a metal chlorid; electrolyzing the cuprous and other metal chlorids to deposit the copper and other metals and liberate chlorin; subdividing the solution; then bringing the chlorin so liberated in contact with the solution in the presence of sulfur dioxid; returning the regenerated acid solution to the ore, and repeating the cycle as before, until the metals in the ore are sufficiently extracted.

5. A process of extracting metals from their ores containing copper which consists in treating the ore with an acid solution to dissolve the copper and other metals; applying sulfur dioxid to the resulting copper solution in the presence of other chlorids to convert the dissolved copper into cuprous chlorid; electrolyzing the resulting solution, containing the cuprous chlorid, to deposit the copper and liberate chlorin; bringing the chlorin so liberated in contact with the solution in the presence of sulfur dioxid; returning the regenerated acid solution to the ore and repeating the cycle of solution, precipitation and regeneration, as before, until the copper in the ore is sufficiently extracted.

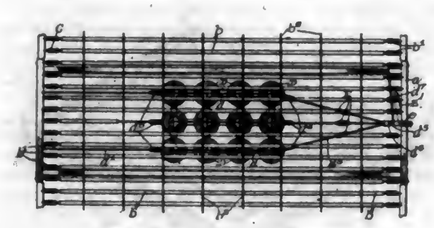
[Claims 6 to 27 not printed in the Gazette.]

973,777. FLUE-BASE. JOSEPH GRIGSOM, Birmingham, Ala. Filed Oct. 22, 1909. Serial No. 523,958.



In a flue base, a pair of supports spaced from each other, each support being of substantially U-shape and having outbent and down-turned hook like ends for engagement with adjacent joists, and a centrally perforated flat plate normally resting upon the cross connecting portions of the said supports and having notches formed in opposite side edges receiving the vertical leg portions of said supports, whereby the plate will be held against displacement with respect to the latter without the use of fasteners.

973,778. BED OR COUCH. WILLIAM J. GROTENHUIS, Elkhart, Ind., assignor to Sanitary Steel Couch Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 2, 1909, Serial No. 487,413. Renewed Sept. 22, 1910. Serial No. 583,282.



1. In a bed or couch, a metallic fabric, springs below the same, mechanism for raising and lowering the said springs, said mechanism having only two operative positions, to determine the high and low positions of the springs.

2. In a bed or couch, a metallic fabric, springs below said fabric, and a lever mechanism for raising and lowering said springs, said mechanism having only certain definite operative positions to determine the positions of the springs, a device for manually operating said mechanism, and a frame upon which all of said elements are supported.

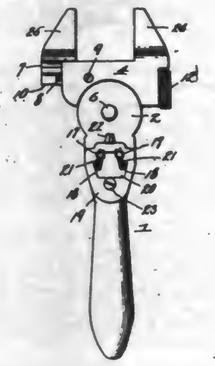
3. In a bed or couch, a metallic fabric, a set of spiral springs below the said fabric, mechanism for lifting said springs into contact with said fabric and lowering the same out of contact therewith, said mechanism having only two operative positions, a frame to which the fabric is fastened, and a manually manipulated element for controlling said mechanism, said element movably mounted on the frame.

4. In a bed or couch, a metallic fabric, a set of springs beneath said fabric, means operating on the lower ends of said springs for causing the latter to either support or not support the weight of a person on said fabric, mechanism for operating said means, said mechanism having provisions for limiting said means to determinate positions, a frame to which the fabric is fastened, and a manually manipulated element for controlling said mechanism, said element movably mounted on the frame.

5. In a bed or couch, a support for the person, springs below the same, mechanism for controlling all of said springs and a single handle for operating said mechanism.

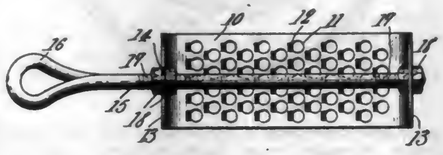
[Claims 6 to 23 not printed in the Gazette.]

973,779. RATCHET-WRENCH. JOHN P. HANSEN, Suring, Wis. Filed Jan. 25, 1910. Serial No. 539,994.



In a ratchet wrench a head, a fixed jaw carried thereby, a slidable jaw carried by the head, means for moving the slidable jaw, a ratchet portion carried by the head, a handle pivotally connected to said ratchet portion, said handle being recessed, pawls movable in the recess, springs for holding said pawls in engagement with the ratchet, operating pins carried by the pawls, the handle being slotted and the pins projecting through said slots, and a pivoted plate carried by the handle, said plate being centrally cut out, the pins moving in said central cut-out portion, and said plate being provided with inwardly extending shoulders adapted for engagement with said pins, as and for the purpose set forth.

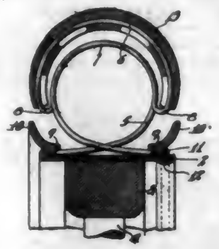
973,780. HOOF-PLANE. MOSES W. HARVEY, Forestshill, W. Va. Filed July 6, 1910. Serial No. 570,644.



1. A hoof plane comprising a scraper plate having upturned ends, and a handle having a shank fitted through the ends and adjustable with respect thereto, whereby to flex the plate to various degrees of curvature.

2. A hoof plane comprising a scraper plate having upturned ends, a handle having a shank engaged through openings in the said ends of the plate, the portions of the shank at and adjacent the point of engagement through the openings being threaded, and nuts threaded upon the said portions of the shank and bearing against the said upturned ends of the plate, the nuts being adjustable upon their respective threaded shank portions to exert pressure against the ends of the plate to flex the same to various degrees of curvature.

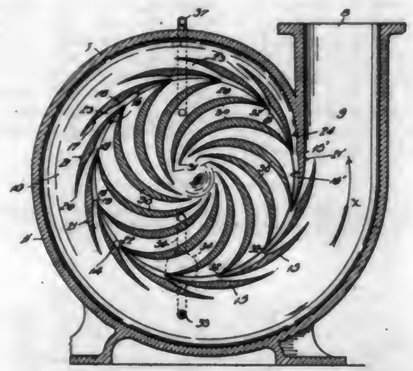
973,781. RESILIENT TIRE. NELS H. HASSEL, Los Angeles, Cal. Filed July 6, 1909. Serial No. 506,232.



1. In a tire, a plurality of spring members formed of wire and arranged side by side, said spring members having an outer arch, the base of said outer arch supported by an inner arch, said inner arch formed by two thicknesses of wire side by side, the ends of said wire projecting downwardly and crossing each other at a central point under said arches, means for securing the ends of said wire to a rim, and a plurality of plates supported by said outer arch.

2. In a tire, a plurality of radial spring members transversely disposed, each of said spring members having an outer arch with the ends thereof bent inwardly side by side to the opposite side of said outer arch forming a double inner arch, a plurality of rows of blocks encircling the outer arch of said spring members and means for attaching said spring members to a rim.

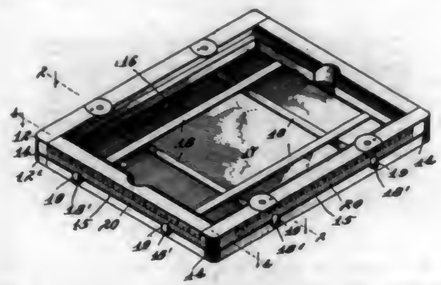
973,782. CENTRIFUGAL FORCE-PUMP. THOMAS RUSSELL HAYTON, Mount Vernon, Wash. Filed Oct. 29, 1908. Serial No. 460,157.



1. A centrifugal force pump comprising a rotary wheel provided throughout with closely arranged tangentially-disposed curved blades having each face thereof upon a single arc throughout and extending from a point in proximity to the axis of the wheel to the periphery thereof, said blades so disposed with respect to each other that the space between each pair of blades will gradually decrease in width in a direction toward the axis of the wheel, a casing inclosing said wheel and provided with an annular passage separated from the wheel by a contracted throat, and curved stationary vanes mounted in said throat and each having its inner face formed with two concaved portions each of equal length whereby a cusp is provided medially of the inner face of each of said stationary vanes, each of said stationary vanes having its outer face formed upon a single arc, each of said vanes so disposed that the inner end thereof will be positioned inwardly of and in close proximity to the cusp of one vane and its outer end projecting away from the outer face of another vane whereby the passage formed between two adjacent vanes will gradually decrease in width from its outer toward its inner end, said casing provided with an inlet and an outlet, said inlet opening into said wheel.

2. A centrifugal force pump comprising a rotary wheel provided throughout with closely arranged tangentially-disposed curved blades having each face thereof upon a single arc throughout and extending from a point in proximity to the axis of the wheel to the periphery thereof, said blades so disposed with respect to each other that the space between each pair of blades will gradually decrease in width in a direction toward the axis of the wheel, a casing inclosing said wheel and provided with an annular passage separated from the wheel by a contracted throat, and curved stationary vanes mounted in said throat and each having its inner face formed with two concaved portions each of equal length whereby a cusp is provided medially of the inner face of each of said stationary vanes, each of said stationary vanes having its outer face formed upon a single arc, each of said vanes so disposed that the inner end thereof will be positioned inwardly of and in close proximity to the cusp of one vane and its outer end projecting away from the outer face of another vane whereby the passage formed between two adjacent vanes will gradually decrease in width from its outer toward its inner end, said casing provided with an inlet and an outlet, said inlet opening into said wheel, an air chamber exteriorly of said casing, a pipe extending in said chamber and communicating with said passage, and a pipe opening into said casing at a point inwardly of said throat and at the rear of the wheel and further extending in said chamber and overlapping said first mentioned pipe.

973,783. PHOTOGRAPHIC-PRINTING FRAME. JOHN H. HEUSER, Chicago, Ill. Filed Oct. 24, 1907. Serial No. 398,863.



1. A photographic printing frame having slotted sides, margin strips extending across the frame and projecting through the slots therein at opposite sides of the frame, and means mounted upon said strips and adapted to engage with the frame, for maintaining said strips under tension.

2. A photographic printing frame having slotted sides, margin strips extending across the frame and projecting through the slots at opposite sides thereof, and means secured at either end of the strips for engaging the outer side of the frame, and maintaining the strips in adjusted position.

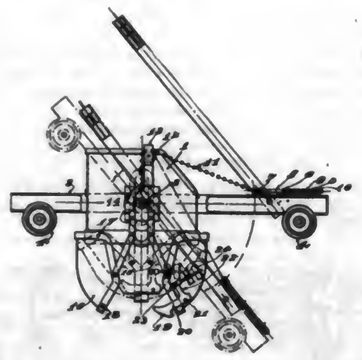
3. A photographic printing frame having slotted sides, margin strips extending across the frame and projecting through the slots at the opposite sides thereof, and means secured at either end of said strips and adapted to yieldingly engage the outer sides of the frame, for holding said strips under tension and in adjusted position.

4. A photographic printing frame having slotted sides, a plurality of margin strips extending across the frame and projecting through the slots therein, and means on the strips to frictionally engage the outer faces of the sides of the frame and hold the strips under tension in adjusted position.

5. A photographic printing frame having slotted sides, margin strips extending across the frame and projecting through opposite sides thereof, and heads on said strips, at the ends thereof to frictionally engage the outer faces of the sides of the frame.

[Claims 6 and 7 not printed in the Gazette.]

973,784. APPARATUS FOR MOVING MATERIAL. CHARLES W. HILL, Birmingham, Ala. Filed June 10, 1909. Serial No. 501,372.



1. In an apparatus for transferring material, the combination with a way having inclined and substantially horizontal portions, of a receptacle, a support in which the receptacle is journaled and which moves over said way, closure means for a discharge opening in said receptacle, and means actuated by the relative change in position between said receptacle and its support, as the latter moves from the inclined to horizontal portions of said way, and vice versa to control the operation of said closure means.

2. In an apparatus of the character described, a carriage, a receptacle pivotally suspended from said carriage and having a discharge opening in the lower part thereof, means connected to said carriage and leading to the upper portion of the receptacle above its center of gravity, and closure means for said opening adapted to be actuated by said means connected to the carriage, as and for the purposes described.

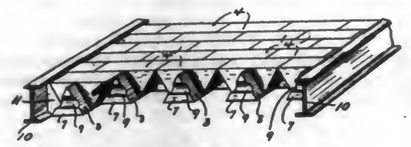
3. In an apparatus of the character described, a carriage, a receptacle pivotally suspended therefrom, door means controlling the discharge opening in the lower part of the receptacle, a pulley mounted near the top of the receptacle, a yielding member mounted on said carriage near an end thereof, and a chain connected to said member and door means and passing over said pulley, as and for the purposes described.

4. An apparatus for transferring and dumping material comprising a receptacle having a discharge opening at or near the bottom, a carriage which supports said receptacle, trunnions on which said receptacle swings in a vertical position irrespective of the position of its carriage, a guide near the top of the receptacle, a flexible connection attached to said carriage and passed over said guide, and means operated by said connection for closing the bottom opening of said receptacle when said frame assumes a predetermined position with relation to said receptacle.

5. An apparatus for transferring and dumping material comprising a receptacle having a discharge opening at or near the bottom, a carriage which supports said receptacle, trunnions on which said receptacle swings always in a vertical position irrespective of the position of its carriage, a guide near the top of the receptacle, a flexible connection from said carriage which passes over said guide, a closure for said opening, means operated by said connection to move said closure to close said opening when the frame assumes one predetermined position with relation to said receptacle, and which releases said closure for discharging the contents when said carriage reaches a second predetermined position with relation to said receptacle.

[Claims 6 to 8 not printed in the Gazette.]

973,785. BUILDING-BLOCK. HENRY HRADILEK, Cleveland, Ohio. Filed June 26, 1909. Serial No. 504,526.



1. A building block comprising a rectangular body portion having the end faces thereof inclined inwardly and downwardly and a centrally arranged projection formed on each of the side faces thereof, each projection being triangular-shaped in longitudinal section and having the end faces thereof inclined upwardly and inwardly.

2. A building block comprising a rectangular body portion having the end faces thereof inclined inwardly and downwardly and a centrally arranged projection formed on each of the side faces thereof, each projection being triangular-shaped in vertical longitudinal section and having the end faces thereof inclined upwardly and inwardly at the same angle as the end faces of the body portion.

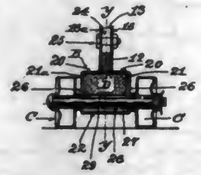
3. A building block comprising a rectangular body portion having the end faces thereof inclined inwardly and downwardly and a centrally arranged projection formed on each of the side faces thereof, said projections being triangular-shaped in vertical longitudinal section and having the end faces thereof inclined upwardly and inwardly and the side face thereof parallel with the side face of the body portion.

4. A building block comprising a main body portion having the end faces thereof inclined inwardly and downwardly, a projection formed at each side of said body portion, the base of each projection lying in the same plane as the base of the body portion and the end faces of said projections having a slope corresponding to the angle on the inclined end faces of the body portion but in the opposite direction.

5. A building block comprising a main body portion having an air passageway extending longitudinally therethrough and having the end faces thereof inclined inwardly and downwardly, a projection formed at each side of said body portion, the base of each projection lying in the same plane as the base of the body portion and the end faces of said projections having a slope corresponding to the angle on the inclined ends of the body portion but in the opposite direction.

[Claim 6 not printed in the Gazette.]

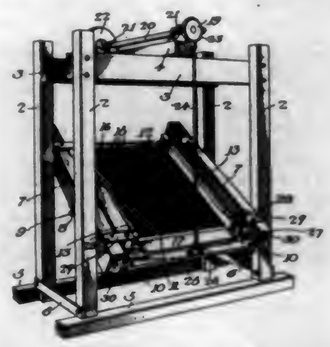
973,786. SKATE. ALEXANDER HUBBATH, Hammond, Ind. Filed Aug. 17, 1910. Serial No. 577,634.



An attachment to an ice skate adapted to convert the same into a roller skate, said attachment comprising two fixtures adapted to be removably applied to said skate as described, each of said fixtures comprising a frame

having parallel members constructed to embrace the runner of said skate, outwardly projecting members on said parallel members, downwardly pending side members and a bottom member connecting the side members, the walls of the side members being slotted, an axle passing through said slots and having its ends projecting from said side members, a wheel on each end of said axle, a sleeve upon said axle said sleeve being located between said side members, laterally projecting carrying members on said sleeve, and a cushion upon said laterally projecting carrying members and bearing against the inner surfaces of the outwardly projecting members.

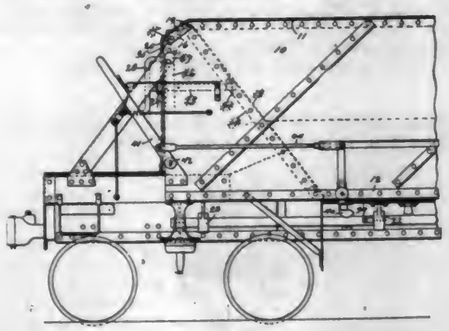
973,787. SCREENING APPARATUS. EDWARD INGLIS, Kofa, Ariz., assignor of one-third to M. M. Mendenhall, Kofa, Ariz. Filed Sept. 27, 1909. Serial No. 521,640.



1. In screening apparatus, in combination, a screen and frame therefor pivotally mounted intermediate of its ends, a leaf spring attached to said frame, and means for oscillating said screen, including a shaft, an eccentric thereon, an eccentric strap on said eccentric, an eccentric rod connected to said strap at one of its ends and to said leaf spring at its other end.

2. In a screening apparatus, in combination, a screen, a frame therefor, a shaft disposed transversely of said frame, means to oscillate said frame upon said shaft, a leaf spring attached to said frame, a rod attached to said spring and means to reciprocate said rod.

973,788. CAR. FRANK S. INGOLDSBY, St. Louis, Mo., assignor to The Ingoldsby Automatic Car Company, St. Louis, Mo., a Corporation of West Virginia. Filed July 2, 1907. Serial No. 381,903.



1. In a car, the combination of a cross member for the upper portion of the car end comprising a channel beam set at an angle, and an inclined end floor at substantially the same angle and riveted thereto.

2. In a car, the combination of a cross member for the upper portion of the car end comprising a channel beam with its flanges facing downwardly diagonally and its web inclined downwardly toward the end of the car.

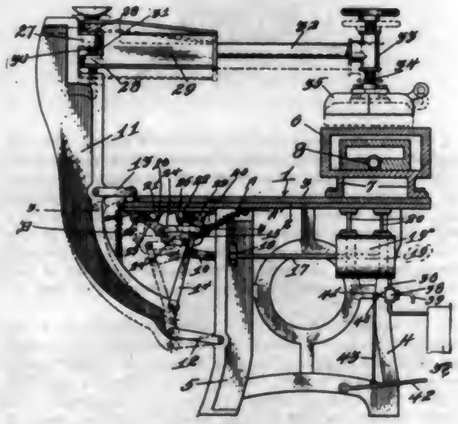
3. In a car, the combination of a cross member for the upper portion of the car end comprising a channel beam with its flanges facing downwardly diagonally and its web inclined downwardly toward the end of the car, and door raising mechanism located beneath and protected by said channel member.

4. In a car, the combination of a cross member for the upper portion of the car end comprising an inclined channel beam, an inclined end floor riveted thereto and angle straps at the ends of the channels riveted to the web of the channel and to the car sides.

5. In a dump car, the combination with the inclined end floor of a flanged rolled structural member extending crosswise of the car at the top of its end and adjacent to the upper end of such end floor and secured to the car sides and having a flange parallel with the end floor and engaging its underside and secured to it.

[Claims 6 to 17 not printed in the Gazette.]

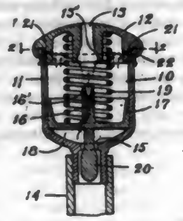
973,789. IRONING AND PRESSING MACHINE. PETER JONESKU, Chicago, Ill. Filed Aug. 13, 1910. Serial No. 576,984.



In an ironing machine, the combination with a table, of a vertically movable standard, having means to carry the iron, links connecting the standard and the table, a casting secured to the under side of the table, links pivoted at their upper ends to said casting, and a slotted member carried by said links, spaced operating arms pivoted at their lower ends to the lower end of said standard, and a roller journaled between the upper ends of said arms, and adapted to work in the slot of the aforesaid member, and means for moving the operating arms rearwardly to swing the links to a perpendicular position and lower the standard, stops formed on the aforesaid casting, to limit the movement of the links in both directions, certain of said stops being so arranged as to allow the links to swing slightly beyond the dead center when they are moved to perpendicular, to lock the same, and means for returning the parts to normal position.

973,790. BUBBLING DRINKING-FOUNTAIN. SIMEON C. KEITH, Jr., Somerville, Mass. Filed Mar. 23, 1910. Serial No. 551,187.

1. A bubbling fountain, comprising a casing forming a chamber and having at its upper end an outlet port surrounded by a depending imperforate annular flange extending into the chamber, an inlet for delivering water into the outlet port, and a separate outlet through the casing located above the lower end of said flange, through which water is emitted only when the said outlet port is obstructed.



2. A bubbling fountain, comprising a casing forming a chamber and having at its upper end an outlet port surrounded by an imperforate flange depending into said chamber, and an inlet for said chamber located in alinement with said outlet port to deliver a jet of water thereto, said casing having one or more supplemental outlets for water in said chamber, said outlets being located above the depending end of said flange.

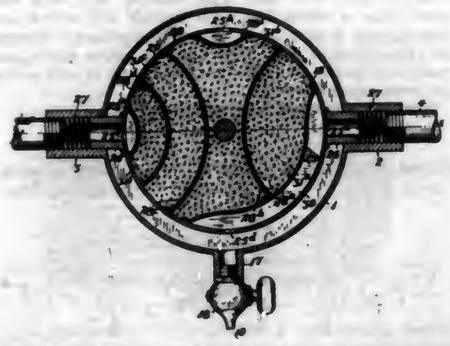
3. A bubbling fountain, comprising a casing forming a chamber and having a cap formed with a depending imperforate annular flange to constitute a main outlet for the emission of a jet, said casing having an inlet for the water, and a spring-tensioned piston in the chamber having a pressure-regulating valve controlling said inlet, and having a water passage alined with the outlet port, said casing having supplemental outlets located in a plane above the lower end of said flange whereby the main outlet is normally sealed against the entrance of air from the supplemental outlets.

4. A bubbling drinking fountain, comprising a casing forming a chamber and having lateral supplemental outlets, a nozzle extending into the lower portion of said chamber, an outlet port at the upper end of said chamber alined with the nozzle, and means for sealing said outlet port against the passage of air therethrough from said supplemental outlets.

5. A bubbling drinking fountain, comprising a casing forming a chamber to receive a body of water, a nozzle extending upwardly into said chamber, a cap forming the upper end of the casing and having an annular flange depending into said chamber which forms an outlet port alined with the nozzle, said nozzle and said flange being oppositely flaring.

[Claim 6 not printed in the Gazette.]

973,791. ROTARY FILTER. GUY L. KENNEDY, San Francisco, Cal., assignor to National Carbonated Liquid Co., San Francisco, Cal., a Corporation of California. Filed Sept. 2, 1909. Serial No. 515,971.

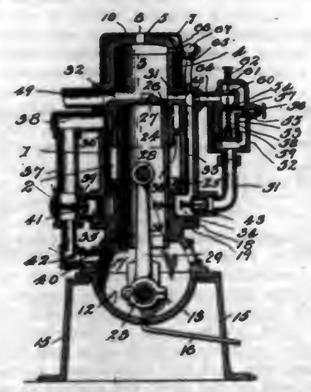


1. A rotary filter, comprising a casing, a filter box rotatably mounted therein and having in its circumference a series of equally spaced ports arranged to discharge therefrom, inlet and outlet pipes, said casing having tubular extensions to which the pipes are connected, tubes fitting in said extensions, springs arranged to press the inner ends of said tubes against said filter box, the outer circumference of the said filter box being spaced from casing, a cleaning outlet conduit, a valve therefor, said outlet being spaced from one another and the inlet, said inlet and outlets being opposite to, or registering with, ports in said filter box, filtering material in said filter box, and means for rotating said filter box, substantially as described.

2. A rotary filter, comprising a casing, a cover therefor, a filter box rotatably mounted therein and having in its circumference a series of equally spaced ports arranged to discharge therefrom, a shaft for said box having conical collars thereon, said casing and cover having conical bearings for said collars, means for pressing said bearings against said collars to make a tight joint, inlet and outlet pipes connected to the said casing, a cleaning outlet conduit, a valve therefor, said outlets being spaced from one another and the inlet, so that, in the different rotary position of the filter box, said inlet and outlets are opposite to, or register with, ports in said filter box, filtering material in said filter box, substantially as described.

3. A rotary filter comprising a casing, a shaft therethrough, a filter box secured on said shaft, means for rotating said shaft, said casing having tubular extensions, inlet and outlet pipes secured to said extensions, said casing having also a downward tubular extension, a stop cock therefor, said filter box having equally spaced ports in its circumferential surface, said ports, being, by the rotation of said box, adapted to register in regular succession with said extensions, tubes slidable in said first named extensions, springs between said tubes and the inlet and outlet pipes, the inner end of the said tubes bearing against the cylindrical surface of the box, perforated partitions extending across the filter box to form compartments, the compartments immediately between each port and the adjacent partition being free from filtering material, and filtering material in the remaining compartments, substantially as described.

973,792. GAS-ENGINE. CHARLES M. LEECH, Lima, Ohio. Filed May 1, 1909. Serial No. 493,296.



1. In a gas engine of the character described, the combination of a cylinder feed channel, and a removable throttle valve therein comprising a solid cylindrical body having a portion semi-circular in cross-section cut out therefrom between its ends, and with a conical opening extending transversely therethrough and communicating with the space made by the removal of said cut-out portion, and a wire mesh secured upon said body to cover said space.

2. In a gas engine, a casing comprising explosion com-

pression chambers, having different diameters, a crank case connected to the lower end of said casing, a hollow piston disposed within said explosion chamber and provided with a flanged portion disposed within the compression chamber, said compression chamber opening downwardly into said crank case, said explosion chamber having an inlet and outlet port, a jacket surrounding said explosion chamber, said compression chamber and said crank case forming air compressing chambers, air connections between said jacket and said air compressing chamber, said casing being provided with an opening in its wall communicating between one of said air compressing chambers and said explosion chamber inlet, and a valved air connection between said opening and the upper portion of the explosion chamber, whereby to inject air into said explosion chamber each time the pressure is reduced therein by the uncovering of the exhaust port.

3. In a gas engine, the combination with the feed channel of an explosion chamber, of a valve for controlling the same, comprising a body portion provided upon one side thereof with a cut out portion and upon its opposite side with an opening communicating with said cut out portion, and a section of wire gage arranged upon said valve for covering said cut out portion.

4. In a gas engine, a casing comprising an explosion chamber and a larger compression chamber, a hollow piston arranged within said explosion chamber and having a flanged portion disposed to operate within said compression chamber, a crank-case connected to said casing and communicating with said compression chamber, a jacket surrounding said explosion chamber and provided with an air inlet, means of communication between said jacket and said compression chamber, means of communication between said jacket and said crank-case, said explosion chamber being provided with inlet and exhaust ports, means of communication between said compression chamber and said inlet port, a device for holding fuel having means of communication with said inlet port, and means of communication between said compression chamber and the fuel holding device.

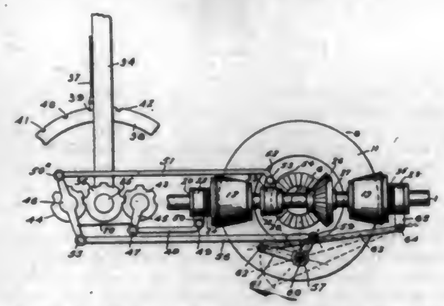
5. In a gas engine, a casing comprising an explosion chamber and a larger compression chamber, a hollow piston arranged within said explosion chamber and having a flanged portion disposed to operate within said compression chamber, a crank-case connected to said casing and communicating with said compression chamber, a jacket surrounding said explosion chamber and provided with an air inlet, means of communication between said jacket and said compression chamber, means of communication between said jacket and said crank case, said explosion chamber having inlet and exhaust ports, means of communication between said compression chamber and said inlet port, means of communication between said inlet port and the upper portion of said explosion chamber, a device for supplying material to said inlet port, and means of communication between said compression chamber and said device.

[Claim 6 not printed in the Gazette.]

973,793. TRANSMISSION-GEAR. CHARLES M. LEECH, Lima, Ohio. Filed Dec. 18, 1909. Serial No. 533,791.

1. The combination with a driving shaft, of a driven shaft, a friction disk and gear rigidly mounted upon said driven shaft, friction pulleys keyed upon said driving shaft to engage said friction disk at diametrically opposite points, a gear rotatably mounted upon said driving shaft and meshing with said first named gear, a clutch device keyed upon said driving shaft and adapted to engage said last named gear, a controlling lever for rotating a pinion, a plurality of pinions meshing with said first named pinion one of said last named pinions being provided with a lever, connecting means between said last named lever and one of said friction pulleys, the other of said last named pinions being provided with a double-ended lever, and connecting means between said double-ended lever and said clutch device and the other friction pulley.

2. The combination with a driving shaft, of a driven shaft, a friction disk and gear rigidly connected to said driven shaft, friction pulleys keyed upon said driving shaft for engagement with said friction disk, a gear loosely mounted upon said driving shaft and meshing with said first named gear, means for locking said last named gear to said driving shaft, a swinging lever, connecting rods pivotally connected to the opposite ends of said swinging lever, one of said connecting rods being pivotally connected to said locking means and the other to one of said friction pulleys, a swinging lever provided with connecting means with the other of said friction pulleys, and common means for simultaneously moving said swinging levers.



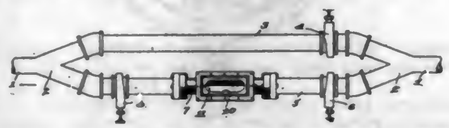
3. The combination with a driving shaft, of a driven shaft, a friction disk and gear rigidly connected to said driving shaft, friction pulleys keyed upon said driving shaft for engagement with said friction disk, a second gear loosely mounted upon said driving shaft and meshing with said first named gear, a clutch device for locking said last named gear to said driving shaft, a swinging lever, connecting means between one end of said lever and said clutch device, a bell-crank lever, connecting means between the opposite end of said swinging lever and said bell-crank lever, connecting means between said bell-crank lever and one of said friction pulleys, a swinging lever provided with connecting means with the other of said friction pulleys, and a single lever for moving said swinging levers.

4. The combination with a rotary disk and gear, of a rotary shaft arranged in operative relation thereto, a pulley keyed upon said rotary shaft, a second gear loosely mounted upon said shaft and meshing with said first named gear, a clutch device for locking said second gear to said shaft, a swinging lever, connecting means between one end of said swinging lever and said clutch device, connecting means between the opposite end of said swinging lever and said pulley, and means for actuating said swinging lever.

5. The combination with a rotary disk and gear, of a rotary shaft arranged in operative relation thereto, a pulley keyed upon said rotary shaft, a second gear loosely mounted upon said shaft and meshing with said first named gear, a clutch device for locking said second gear to said shaft, a swinging lever, connecting means between one end of said swinging lever and said clutch device, and connecting means between the opposite end of said swinging lever and said pulley.

[Claims 6 and 7 not printed in the Gazette.]

973,794. PIPE-LINE SYSTEM. ISAAC LIGHTCAP, Rocksburg, N. J. Filed May 26, 1910. Serial No. 563,533.

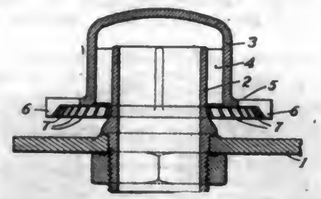


1. In a pipe line system, means for inserting and removing a pipe scraper comprising a by-pass including a scraper trap provided with means preventing the passage of a scraper therethrough, and means to divert the entire flow from the main line through the by-pass.

2. In a pipe line system, means for inserting and removing a pipe scraper, comprising a by-pass including a scraper trap provided with means preventing the passage of a scraper therethrough, means to divert the entire flow from the main line through the by-pass, and means upon each side of the scraper trap adapted to cut off the by-pass from the main line.

3. In a pipe line system, means for inserting and removing a pipe scraper, comprising a scraper trap having an opening in the top thereof corresponding in width to the width of the pipe in the pipe line and of greater length than the scraper, a removable cover therefor, a removable obstruction at the discharge end of the trap, means for diverting the flow of the main line through the trap, and means adapted to cut off the trap from the main line.

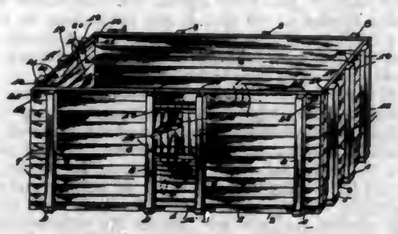
973,795. BOILING-CAP. WALTER E. LUMMUS, Lynn, Mass. Filed Feb. 8, 1908. Serial No. 414,883.



1. A boiling cap for distilling apparatus having a vapor tube and a cap provided with a horizontal vapor-distributing flange, said flange being provided with slots of uniform width beginning at the periphery of the flange and extending inwardly equal distances and terminating short of the outer surface of the cap, causing the vapor, as it enters the liquid in the distilling vessel, to be discharged in films of uniform thickness, substantially as described.

2. A boiling cap for distilling apparatus having a vapor tube and a cap provided with a horizontal vapor-distributing flange under which the vapor is discharged, said flange being provided with slots of uniform width extending from the edge of the flange inwardly equal distances and terminating short of the outer surface of the cap, causing the vapor, as it enters the liquid in the distilling vessel, to be discharged in films of uniform thickness, and a lip at its edge compelling a complete use of the slots to the extent of their capacity before the vapor is allowed to escape at the edge of the flange, the flange being located at all points at a uniform distance below the level of the liquid adapted to be contained in the distilling vessel, substantially as described.

973,796. KNOCKDOWN BIN. WILLIAM R. MAEDER, Chicago, Ill. Filed Apr. 11, 1910. Serial No. 554,705.



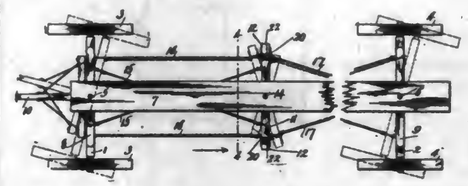
1. A knock-down bin comprising a substantially rectangular bottom wall, loops spaced upon the peripheral edges of said bottom wall, vertical side and end walls having their lower edges resting upon the peripheral portions of said bottom wall, cleats spaced upon said side and end walls having their lower extremities extending downwardly and loosely engaging said loops, detachable connections between the contiguous edges of said side and end walls, one of said walls being provided with a discharge opening, and a sliding closure for said opening, substantially as described.

2. A knock-down bin comprising a substantially rectangular bottom wall, loops spaced upon the peripheral edges of said bottom wall, vertical side and end walls having their lower edges resting upon the peripheral portions of said bottom wall, spaced cleats provided upon the outer sides of said side and end walls, the lower extremities of said cleats loosely engaging said loops, threaded studs projecting from said walls engaging and projecting through perforations in said side walls, and nuts threaded upon the outer ends of said studs for locking said side and end walls together, substantially as described.

3. A knock-down bin comprising a substantially rectangular bottom wall, loops spaced upon the peripheral edges of said bottom wall, vertical side and end walls having their lower edges resting upon the peripheral portions of said bottom wall, spaced cleats provided upon the outer sides of said side and end walls, the lower extremities of said cleats loosely engaging said loops, threaded studs laterally projecting from the vertical edges of said end walls loosely engaging and projecting through perforations provided adjacent the vertical edges of said side walls, and nuts threaded upon the outer ends of said studs for detachably locking said side and end walls together, substantially as described.

4. A knock-down bin comprising a sectional bottom wall substantially rectangular in outline, loops spaced upon and projecting from the peripheral edges of said bottom wall, sectional side and end walls having their lower edges resting upon the peripheral portions of said bottom wall, vertically extending spaced cleats provided upon the outer surfaces of said side and end walls, the lower extremities of said cleats loosely engaging said loops, threaded studs laterally projecting from the vertical edges of said end walls loosely engaging and projecting through perforations adjacent the vertical edges of said side walls, nuts threaded upon the outer ends of said studs for detachably locking said side and end walls together, one of said side walls being provided with a discharge opening at its lower edge, and a sliding closure for said opening, substantially as described.

973,797. TRUCK. ARTHUR MARVIN, El Paso, Ill. Filed Mar. 5, 1909. Serial No. 481,235.



1. In an apparatus of the character described, the combination of front and rear pivoted axles, a reach bar connecting said axles, a plurality of steering bars pivotally attached to said reach bar, steering connections between the front axle and certain of said steering bars, steering connections between the rear axle and certain other of said bars, and means for interchangeably locking certain of said steering bars together, whereby the rear axle may be caused to turn in the same general direction or in an opposite direction with said front axle.

2. In an apparatus of the character described, the combination of front and rear pivoted axles, a reach bar connecting said axles, a plurality of superimposed steering bars pivotally attached to said reach bar, crossed connections between the front axle and the upper steering bar, parallel and spaced rods connecting said front axle

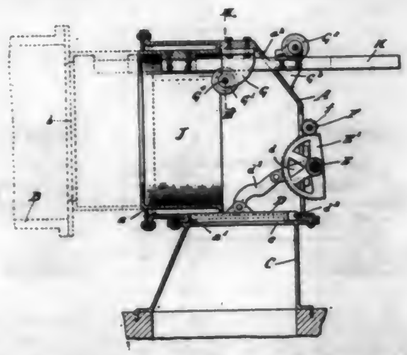
with the lower steering bar, crossed connections between the rear axle and the intermediate steering bar, and means for interchangeably locking the upper and lower steering bars with the intermediate bar, whereby the rear axle may be caused to turn in the same general direction or in an opposite direction with said front axle.

3. In an apparatus of the character described, the combination of front and rear pivoted axles, a reach bar connecting said axles, a plurality of superimposed steering bars arranged transversely to the reach bar and pivotally attached thereto, crossed steering connections between the front axle and one of said steering bars, a plurality of parallel and spaced steering rods between said front axle and one of the other of said steering bars, crossed steering connections between said rear axle and one of the other of said steering bars, and means for interchangeably locking certain of said steering bars together, whereby the rear axle may be caused to turn in the same general direction or in an opposite direction with said front axle.

4. In an apparatus of the character described, the combination of front and rear pivoted axles, a reach bar connecting said axles, a bar connected with said reach bar and steering connections between said front axle and said bar, a second bar also connected with said reach bar and connections between said front axle and said second bar, a third bar also connected with said reach bar and steering connections between said rear axle and said third bar, and means for interchangeably connecting the first and second bars with said third bar.

5. In an apparatus of the character described, the combination of front and rear pivoted axles, a member connecting said axles, three transverse bars one arranged above the other pivotally connected with said member, the intermediate of said three bars being longer than the other bars, connections between front and rear axles and certain of said transverse bars, and switch arms pivotally connected with the extensions of said intermediate bar for interchangeably connecting the upper and lower of said transverse bars with said intermediate bars.

973,798. BLAST-FURNACE-CHIMNEY VALVE. ARTHUR G. MCKEE, Cleveland, Ohio. Filed Dec. 11, 1909. Serial No. 532,516.



1. The combination of a chamber communicating with a chimney, a blast stove, rollers mounted upon said chamber, a bar supported by said rollers, a telescoping connection suspended from said bar, and means for actuating the former and adapted to connect said chamber and an opening in said stove.

2. The combination of a suitable casing provided with an exterior opening having a horizontal axis; said casing being arranged to communicate with a chimney; a valve for controlling such communication; manually operable means for operating said valve; rollers supported by said casing; a horizontally slidable bar supported by said rollers; and a duct member having a horizontal axis and a diameter such as to permit it to pass through said exterior opening; said duct member being supported by said bar.

3. The combination of a suitable casing provided with an exterior opening having a horizontal axis, and arranged to communicate with a chimney; a manually operable valve controlling such chimney communication; a roller secured upon the interior of said casing; a roller mounted upon the exterior of the casing, and having its axis located in a plane above the axis of the first mentioned roller; a horizontally located bar extending through said casing, resting upon the upper part of said first mentioned roller, and engaging the under portion of the second named roller; a tubular duct member supported by said bar and having a diameter such that it may be caused to pass through said exterior opening; and means for manually rotating said first-named roller, whereby said bar and duct member may be moved in the longitudinal direction of said bar, and said duct member may be projected through said opening or withdrawn from such projecting position into the casing.

973,799. GAME DEVICE. PATRICK JOS. MCKINLEY, Denver, Colo. Filed Nov. 21, 1908. Serial No. 463,761.



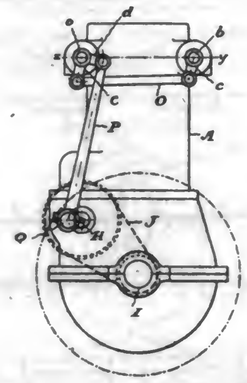
In a game apparatus, the combination of a table, a plurality of parallel wires arranged horizontally above said table, a support for one end of said wires, means for removably attaching the said support to the table, coiled springs connecting the wires with said support, a reel supporting the opposite ends of the wires, and having the wires wound thereon, a detent for preventing unwinding of the reel, counters slidably mounted on said wires, and indicating cards arranged below said wires, said cards having numerals thereon to denote values.

973,800. INTERNAL-COMBUSTION MOTOR. DONALD J. MCKINNON, Toronto, Ontario, Canada, assignor of two-thirds to K. F. McKinnon, Ross B. McKinnon, John G. McKinnon, Ronald S. McKinnon, and Ernest W. Oliver, Toronto, Canada, and William A. McKinnon, Birmingham, England. Filed Nov. 1, 1909. Serial No. 525,820.

1. In a four-stroke cycle internal combustion motor the combination with the combustion chamber having inlet and exhaust ports formed in its walls of means for shutting off both of said ports during the compression and explosion strokes of the engine, and for opening up both during the exhaust and suction strokes; and means for closing the inlet port during the exhaust stroke and the exhaust port during the suction stroke.

2. In a four-stroke cycle internal combustion motor the combination with the combustion chamber having inlet and exhaust ports formed in its walls of means within the combustion chamber for shutting off both of said ports during the compression and explosion strokes of the engine, and for opening up both during the exhaust and suction strokes; and means external to the combustion chamber for closing the inlet port during the exhaust stroke and the exhaust port during the suction stroke.

3. In a four-stroke cycle internal combustion motor the combination with the combustion chamber having inlet and exhaust ports formed in its walls of means within the combustion chamber for shutting off both of said ports during the compression and explosion strokes of the engine, and for opening up both during the exhaust and suction strokes; and a separate rotary valve for each port adapted to open and close said ports.

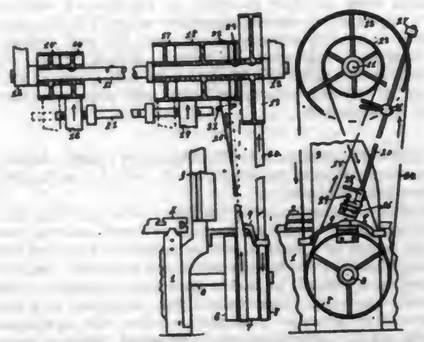


4. In a four-stroke cycle internal combustion motor the combination with the combustion chamber having inlet and exhaust ports formed in its walls of means within the combustion chamber for shutting off both of said ports during the compression and explosion strokes of the engine, and for opening up both during the exhaust and suction strokes; and a separate oscillating rotary valve for each port adapted to open and close said ports.

5. In a four-stroke cycle internal combustion motor the combination of a cylindrical combustion chamber having an inlet and an exhaust port in its sides; a movable sleeve adapted to open up both ports during the suction and exhaust strokes of the engine and to shut them off during the compression and explosion strokes; and means exterior to the combustion chamber for closing the inlet port during the exhaust stroke and the exhaust port during the suction stroke.

[Claims 6 to 16 not printed in the Gazette.]

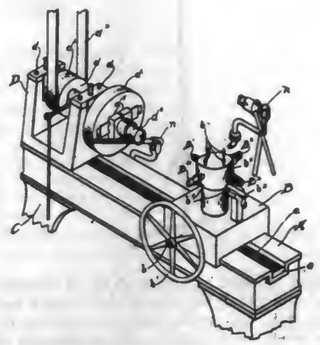
973,801. BELT-GEARING. CHARLES MEIER and GEORGE LANGEN, Cincinnati, Ohio, assignors to The Cincinnati Planer Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Apr. 21, 1909. Serial No. 491,373.



1. The combination of a driven shaft, a counter shaft, a tight and a loose pulley mounted on each of said shafts, a belt extending between the respective tight pulleys, separate means for shifting the belt onto the respective loose pulleys, and separate means for driving the pulleys on the countershaft at respective different speeds.

2. A belt gearing comprising a driven shaft, a tight and a loose pulley thereon, a counter shaft, two pulleys thereon having adjacent portions of their faces crowned, separate belt connections for driving said crowned pulleys at respective different speeds, a belt engaging with one of the crowned pulleys, means for shifting the belt onto the other crowned pulley and means for shifting the belt onto the loose pulley.

973,802. PROCESS FOR MAKING PLUMBERS' FERRULES. ROBERT A. MERRILL, Cincinnati, Ohio, assignor to The Eagle White Lead Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Sept. 22, 1909. Serial No. 519,111.



1. A process of forming a plumber's ferrule from a section of lead pipe and an iron ferrule and consisting of inserting a tool within one end of the pipe, revolving the pipe and tool in relation to each other to expand said end of the pipe, and inserting an iron ferrule into the expanded end of the pipe and securing it therein.

2. A process of forming a plumber's ferrule from a section of lead pipe and an iron ferrule and consisting of inserting graded tools within one end of the pipe and revolving the pipe and the tools relatively to each other gradually to expand said end, inserting the iron ferrule into the expanded end and securing it therein.

3. A process of forming a plumber's ferrule from a section of lead pipe and an iron ferrule and consisting of clamping one end of the pipe so as to prevent the expansion of that end, expanding the opposite end of the pipe by inserting tools therein, and rotating the pipe and tools relatively to each other and inserting the iron ferrule into the expanded end.

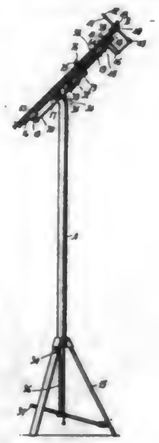
973,803. AUTOMATIC SHEET-MUSIC RACK. ARMAND C. MORAND, Boston, Mass. Filed Apr. 29, 1908. Serial No. 429,997.

1. In a leaf turning device, a support, mechanism for bulging the sheet to be turned, a leaf turning finger, other mechanisms for placing said finger behind the leaf, a pedal, and a resilient connection between said pedal and the bulging and finger placing mechanism and means connected to the turning finger adapted to be engaged by said pedal after the movement of the bulging mechanism.

2. In a leaf turning device, a support, mechanism for bulging the sheet to be turned, a leaf turning finger, other mechanisms for placing said finger behind the leaf, mechanism for turning said finger, a pedal, a resilient connection between the bulging and finger placing mechanisms and said pedal, said pedal having an opening therein, a bar passing through said opening and operatively connected to the leaf turning mechanism, and a head on said bar engaging said pedal when the latter has completed a portion of its movement.

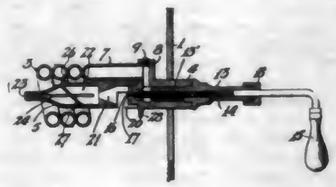
3. In a leaf turning device, a support, mechanism for bulging the sheet to be turned, a pedal, a stop for the bulging mechanism, a resilient connection between the

bulging mechanism and said pedal whereby the pedal may continue to move after the bulging mechanism reaches the stop, a leaf turning finger, a bar operatively connected to said leaf turning finger and extending through said



pedal, a head on said bar adapted to be engaged by the pedal after said pedal has moved the bulging mechanism against its stop, and mechanism for placing the finger behind the sheet to be turned, said mechanism being operatively connected to the bulging mechanism.

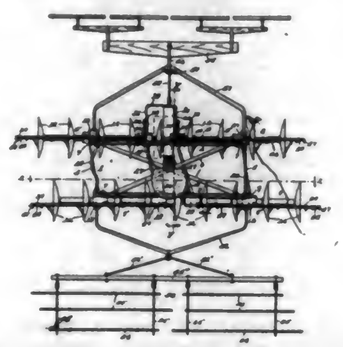
973,804. GAS-GENERATING OIL-BURNER. THOMAS MUEHLEISEN, San Diego, Cal. Filed Aug. 25, 1909. Serial No. 514,631.



1. An oil burner comprising an oil supply connection provided with a valve, a retort having an inlet connected to said valve, a regulating valve connected to the outlet of said retort, a combined burner head and mixing chamber connected to said regulating valve and extending therefrom within the retort, said burner head and mixing chamber having a main outlet for producing a main burner flame and auxiliary outlets for directing auxiliary heat onto the retort, and a deflector in said mixing chamber to force the gas through said auxiliary outlets, said retort being out of the path of the main burner flame, so that the retort is subjected only to sufficient heat to vaporize the oil without carbonizing it.

2. An oil burner comprising an oil supply connection provided with a valve, a horizontally disposed inlet pipe connected to the valve and having its inner end bent upwardly and formed into a coil comprising a retort above the inlet pipe, and a longitudinally disposed combined burner head and mixing chamber within said retort having a connection with said retort provided with a regulating valve, said burner head and mixing chamber being flattened at its forward end and provided with a main outlet opening in the flattened portion and having auxiliary openings in the sides of the burner head and mixing chamber for directing a portion of the flame on said retort, said burner head being also provided with an opening at the rear thereof within which said regulating valve is fitted and having its inner walls converging toward said mixing chamber, part of said walls being cut away to form an air inlet between said regulating valve and said mixing chamber.

973,805. HARROW. MILES P. NEFF, Wayland, Iowa. Filed Feb. 14, 1910. Serial No. 543,887.



1. In a harrow, the combination of a frame, two gangs of disks arranged under each side of said frame one in front of the other, each of said gangs of disks being mounted to rock in vertical planes, substantially U-shaped members adjustably secured to the inner ends of each of said gangs on the same side and arranged to loosely contact with the bottom of said frame, and means of draft for said harrow, substantially as described.

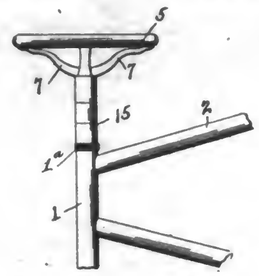
2. In a harrow, the combination of a substantially rectangular frame, two gangs of disks arranged under each side of said frame one in front of the other, the disks of the respective gangs at the same side being in non-alinement, and the number of disks in the forward gang on one side being greater than the number in the corresponding rearward gang and the number of disks in the forward gang on the other side being less than the number in the corresponding rearward gang, said gangs being pivotally mounted upon depending posts at each corner of said frames, said connection being such as to permit of the rocking of said gangs in vertical and horizontal planes, means for simultaneously swinging the gangs of each pair on their pivotal points in a horizontal plane in the same direction independently of the other pair of gangs and for holding them in their positions of adjustment, substantially U-shaped members adjustably secured to the inner ends of each of said gangs on the same side and arranged to loosely contact with the bottom of said frame, and draft elements connected directly with said gangs at their points of pivotal connection with said frame, substantially as described.

973,806. STEERING DEVICE FOR BICYCLES. ROBERT PRIMROSE NOBLE, Smithfield, N. C. Filed Dec. 7, 1909. Serial No. 531,836.

1. The combination with the frame of a cycle having a front upright tube and a rotatably mounted steering tube in the latter, of a hand wheel, a handle tube having said hand wheel fixed to its upper end, and its lower end telescopically arranged in and adjustably clamped to said steering tube, and a surrounding tube composed of a plurality of detachably connected sections, the uppermost section being connected to the hand wheel, and the lowermost section terminating adjacent the upper extremity of said upright front tube of the cycle frame.

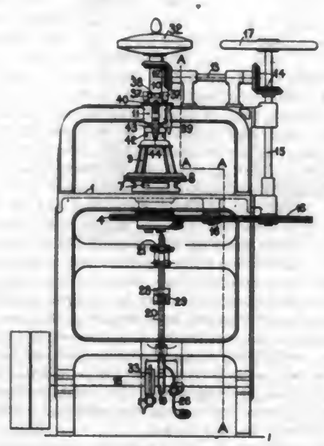
2. The combination with the frame of a cycle having a front upright tube, a cap upon the top of the latter and a rotatable steering tube in said upright tube, of a hand wheel having a hub provided with an internally threaded bore and an externally threaded lower end, a handle tube screwed into the bore of said hub and having its lower end

telescopically arranged in said steering tube, a clamping means for adjustably securing the lower end of the handle tube in said steering tube, and a surrounding tube composed of a plurality of detachably connected sections having screw threaded engagement with each other, the upper-



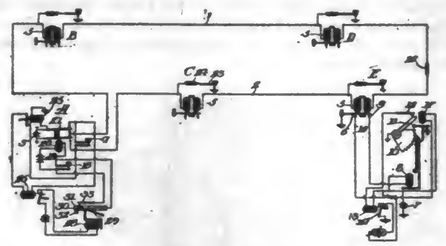
most section of said surrounding tube being internally screw threaded to engage the external screw threads on the hub of the hand wheel, and the lowermost section of said surrounding tube bearing upon the cap at the top of the front upright tube of the cycle frame, substantially as shown and described.

973,807. MACHINE FOR RECTIFYING STEREOTYPE-PLATES. PHILIPPE OASONI, Paris, France. Filed Mar. 24, 1909. Serial No. 485,496.



A machine for rectifying stereotype-plates comprising in combination a bed-plate, having a central opening, a tool-disk revolubly mounted in said central opening and provided with suitably shaped sockets for the embossing tools, embossing tools of various shape mounted in the sockets of the tool disk so that they are on a level with the upper surface of said disk, a hammer arranged under the tool disk and means for throwing the hammer against the lower end of the embossing-tool which is placed over the same, a glass block having the shapes of the embossing tools engraved upon its lower surface at the exact place where such tools are located, a frame for supporting said glass block so that its lower surface is easily visible for the operator of the machine, means for pressing the glass-block upon the tool-disk, means for connecting said glass-block with the tool disk so that they rotate together and suitable means for lifting the glass block from the tool-disk upon which the stereotype-plate is placed, substantially as described and for the purpose set forth.

973,808. SIGNALING SYSTEM. EMORY PARSONS, Chicago, Ill. Filed Aug. 20, 1908. Serial No. 449,396.



1. A signaling system, comprising a plurality of stations, a source of operating current at one of said stations, a signal at each station, controlling apparatus at each station for operating the signal at said station, and selecting devices at a plurality of stations for calling selectively any desired station, said devices performing their function through the agency of the single source of current aforesaid, in combination with means for selectively changing the polarity of the operating current furnished by said source.

2. A signaling system, comprising a plurality of stations, a source of operating current at one of said stations united by a common line circuit, signal receiving apparatus at each station, and associated with said circuit, and calling devices at a plurality of stations for operatively actuating any signal receiving apparatus aforesaid independently, said devices performing their functions through the agency of the single source of current aforesaid, in combination with means for selectively changing the polarity of the operating current furnished by said source.

3. A signal system, comprising a plurality of stations united by a common line circuit, a source of operating current at one of said stations, signal-receiving apparatus at each station and associated with said circuit, calling devices at a plurality of stations for operatively actuating any signal-receiving apparatus aforesaid independently, and instrumentalities operable from a plurality of stations for restoring said signal-receiving apparatus to normal after operation, said instrumentalities including means for selectively changing the polarity of the operating current furnished by said source.

4. A signal system, comprising a plurality of stations, a source of operating current at one of said stations, a signal at each station, controlling apparatus at each station for operating its associated signal, and selecting devices at a plurality of stations for selectively actuating said controlling apparatus to operate any desired signal, said devices performing their functions through the agency of the single source of current aforesaid, in combination with means for selectively changing the polarity of the operating current furnished by said source.

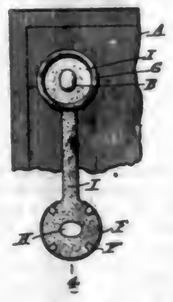
5. A signaling system, comprising a plurality of stations, a source of operating current at one of said stations, a signal at each station, controlling apparatus at each station for operating its associated signal, selecting devices at a plurality of stations for selectively actuating said controlling apparatus to operate any desired signal, said devices performing their functions through the agency of the single source of current aforesaid, and instrumentalities operable from a plurality of stations for restoring said controlling apparatus to normal after operation, said instrumentalities including means for selectively changing the polarity of the operating current furnished by said source.

[Claims 6 to 19 not printed in the Gazette.]

973,809. CURTAIN-FASTENER AND THE LIKE. HENRY B. PITNER, Olean, N. Y. Filed Mar. 24, 1910. Serial No. 551,408.

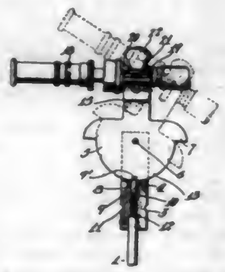
1. In a device of the character described, the combination of an elliptical post having a notch cut therein, a

socket member adapted to be passed over said post, a cap provided with an elliptical opening for engagement over the post, the major axis of the opening in said cap being disposed at right angles to the major axis of the post, the edge portions of said opening being seated in the notch of said post and a flexible connection between said cap and the socket member.



2. A post having an oval head with a notch below said head forming a shoulder, said post adapted to be attached to one of two parts to be connected together, a socket member attached to the other of said parts to be connected and adapted to be passed over said post head, and a locking device flexibly connected to said second part and consisting of a socket having an oval opening therein, the major axis of said opening lying normally at a right angle to that of said oval post head, whereby said locking device is adapted to lock said socket member upon said post.

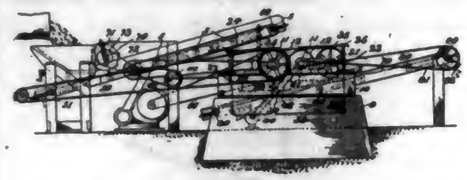
973,810. HOSE-HOLDER. DANIEL F. REGAN, Los Angeles, Cal. Filed Mar. 31, 1910. Serial No. 552,725.



1. A hose holder comprising a supporting rod provided with a head, said head being vertically slotted, a segmental plate pivotally mounted on said head within said slot, said plate having peripheral spring catch means frictionally engaging with the peripheral portion of said plate, and an arm on said plate provided with means for attachment of the hose thereto, said attaching means comprising a clip member extending laterally over said arm, and detachably secured thereto, said clip member formed with a loop adapted to surround and support a hose nozzle.

2. A hose holder comprising a supporting rod provided with a head, said head being vertically slotted, a segmental plate pivotally mounted on said head within said slot, said plate having peripheral notches, spring catch means frictionally engaging with the peripheral portion of said plate, and an arm on said plate provided with means for attachment of the hose thereto, said plate having a radial projection at each end of its peripheral portion adapted to engage the aforesaid head to limit angular motion of the plate.

973,811. GRINDING-MILL. CHARLES W. RENNAR, Honolulu, Hawaii, assignor to Renear Company Limited, Honolulu, Hawaii. Filed Nov. 13, 1909. Serial No. 527,802.



1. In a grinding machine for Algarroba beans and the like, the combination with a pair of rolls having grinding surfaces thereon, said rolls running in contact with each other, means for delivering an atomized liquid spray directly to the periphery of each of said rolls, means for oscillating said atomizing means to move said atomizing means longitudinally of said rolls whereby to directly moisten the entire surface of each roll before it meets the material to be ground.

2. In a grinding machine for Algarroba beans and the like, the combination with a pair of rolls having grinding surfaces thereon, said rolls running in contact with each other, of a spraying pipe pivoted at the side of each roll so that the spray-delivering end may be moved over the roll from end to end thereof, arms connected to said pipes, and a rod joining said arms and connected to the driving mechanism of the mill for oscillating said spraying pipes.

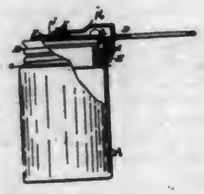
3. In a grinding machine for Algarroba beans and the like, the combination with a pair of rolls having grinding surfaces thereon, a standard extending upwardly opposite the middle of each roll, a head mounted upon said standard, a liquid supplying-pipe extending through said standard to said head, an air-supplying pipe extending to said head, a pipe extending out from the head and terminating over its respective roll and connected to the liquid supplying-pipe, a second pipe surrounding said last mentioned pipe and connected to said air-supplying pipe whereby an atomizer is formed at the free end of said combined pipes, a valve in the head for controlling the supply of liquid, means for supplying compressed air to the air-pipe and means for oscillating the free end of said pipes lengthwise of said roll whereby the surface of the roll is moistened before meeting the material to be ground.

4. The combination with a pair of rolls adapted to grind Algarroba beans and the like, of a conveyer belt mounted in position to deliver the beans to be ground between the rolls, a second conveyer belt mounted in line with the first conveyer belt with the adjacent ends of the belts separated, both belts being upwardly inclined toward said rolls, a nozzle mounted between the adjacent ends of the belts, a blower for supplying air under pressure to the nozzle, and means for driving the grinding rolls, the conveyer belts and the air blower.

5. The combination with a pair of rolls adapted to grind Algarroba beans and the like, of a conveyer belt mounted in position to deliver the beans to be ground between the rolls, a second conveyer belt mounted in line with the first conveyer belt with the adjacent ends of the belts separated, a nozzle mounted between the adjacent ends of the belts, a blower for supplying air under pressure to the nozzle, a roller having ribs running longitudinally thereof and extending axially therefrom, said roller being mounted over the top of the second-mentioned conveyer belt, means for driving the conveyer belts, the blower, and the roller, the said means operating to drive the roller in the opposite direction from the movement of the conveyer belt over which it is mounted.

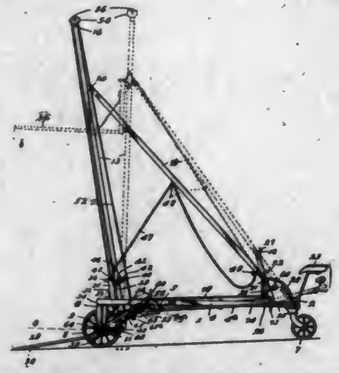
973,812. CAN-SEALING DEVICE. AUGUST A. RICKERT, Erie, Pa. Filed Oct. 22, 1908. Serial No. 458,970.

1. In a can sealing device, the combination of an anchor; lugs on the anchor; a clamp jaw eccentrically mounted on the anchor for clamping the anchor on a cover by radial pressure; and a smoothing roller mounted concentric with the cover and adapted to be swung on the pivot throughout the circumference of the cover with pressure on the edge of the can cover.



2. In a can sealing device, the combination of an anchor; means for locking the anchor on the top of the can cover; a smoothing roller mounted to freely swing on the anchor with free radial play on the pivot, and adapted to be swung on the pivot with pressure in an axial direction on the upper side along the outer edge of a can cover.

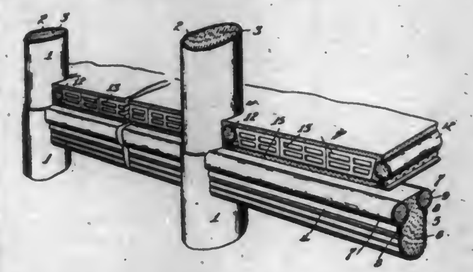
973,813. COMBINED HAY RAKE AND STACKER. CLEMENS A. ROSEN, Angelus, Kans. Filed Dec. 31, 1909. Serial No. 536,877.



A machine of the character described, consisting of a wheeled-frame, standards tiltably-mounted thereon, a rake having vertical movement on said standards, drums geared to the wheels of the frame, cables for actuating the rake attached at their ends to the standards and the drums and having a running connection with said standards and the rake, manually-operable means for throwing the drums out of gear, a connecting-rod, a guide through which said connecting-rod extends, a sleeve through which the connecting-rod loosely extends, an expansion spring interposed between one end of said sleeve and the guide, a collar abutting against the other end of the sleeve and secured to the connecting-rod, a lever fulcrumed at its lower end to the wheeled-frame and pivotally-connected at its upper end to the sleeve, a pawl actuated by said lever, a ratchet-wheel engaging the pawl to lock the drums when thrown out of gear with the wheels, a drum fixed to said ratchet-wheel, and a band encircling the last-mentioned drum and connected to the lever to retard the rotation of the last-mentioned drum when lowering the rake.

973,814. COMPOSITE BUILDING-FRAME STRUCTURE. ROY HENRY ROBINSON, Chicago, Ill. Original application filed Jan. 2, 1908, Serial No. 409,053. Divided and this application filed Feb. 17, 1909. Serial No. 478,489.

1. A composite beam member comprising a pair of tubular substantially parallel stiffening members, a sheet metal reinforcement having its lateral edges connected to and supported by said tubular members and depending trough-fashion between the latter, a filling of concrete in each of said tubular members, and a filling of concrete occupying the trough-like receptacle formed by said tubular members and sheet metal reinforcement.



2. In combination with a pair of uprights, a composite beam member extending between said uprights, comprising a pair of tubular reinforcements arranged in parallel relation, spaced apart and having their ends interengaged with the respective uprights, a sheet metal reinforcement of trough-shape form in cross section having its lateral edges united with the respective tubular reinforcements and depending between the two, a filling of concrete occupying the interior of the trough-like sheet metal reinforcement and anchoring reinforcements extending from the respective uprights into the concrete filling of the beam member in the lower parts of the latter.

3. A composite beam member comprising a pair of hollow stiffening members, a sheet metal reinforcement having its lateral edges connected to and supported by said hollow stiffening members and depending trough fashion between the latter, a filling of concrete in each of said hollow stiffening members, and a filling of concrete occupying the trough like receptacle formed by said hollow members and sheet metal reinforcement.

4. In combination with a pair of uprights, a composite beam member extending between said uprights and comprising a trough-like container, a filling of concrete within said container, stiffening members upon the upper lateral edges of said container and having their ends extending into the uprights, bonding extensions upon the ends of said stiffening members, and a filling of concrete within said uprights and embedding the ends of said stiffening members.

5. In combination with a pair of uprights, a composite beam member extending between said uprights and comprising a trough-like container, a filling of concrete within said container, stiffening members upon the upper lateral edges of said container and having their ends extending into the uprights, and a filling of concrete within said uprights and embedding the ends of said stiffening members.

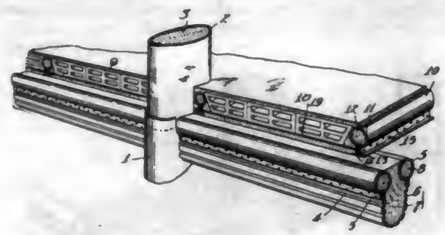
[Claim 6 not printed in the Gazette.]

973,815. COMPOSITE BUILDING-FRAME STRUCTURE. ROY HENRY ROBINSON, Chicago, Ill. Original application filed Jan. 2, 1908, Serial No. 409,053. Divided and this application filed Feb. 17, 1909. Serial No. 478,490.

1. A composite beam, comprising an inner monolithic beam member, an outer circumferentially-continuous metallic jacket united with, and substantially covering, the superficial area of said inner member so as to combine and mutually enhance the strength of both, and a continuous metal reinforcement extending along one side of the jacket member and forming a structural unit with the latter.

2. A pre-formed beam, comprising an inner monolithic compression member, a metal tension member extending throughout the length of said compression member along the tension side of the latter, and a metal constrictor

jacket embracing the compression member and structurally uniting the tension and compression members throughout the length of the beam.



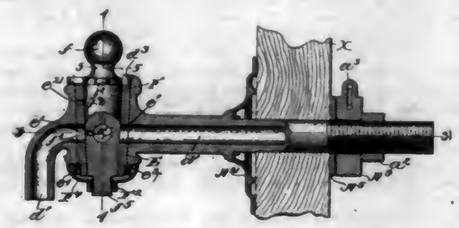
3. A composite beam member, comprising a hollow tubular member provided at its lower side with a depending web-like reinforcement having laterally outstanding flanges, and a filling of cementitious material within said tubular member.

4. A composite beam structure, comprising a hollow tubular member provided along its side with an outstanding web-like reinforcement, and a filling of cementitious material within said tubular member.

5. A composite beam structure, comprising a tubular sheet metal member provided along its tension side with a pair of depending web-like reinforcements, a second reinforcing member inserted between said web-like members and secured to the latter, and laterally out-turned flanges upon the lower side of said inserted member.

[Claims 6 and 7 not printed in the Gazette.]

973,816. APPARATUS FOR CONVEYING LIQUIDS UNDER PRESSURE. BENTON C. ROWELL, Chicago, Ill. Filed July 19, 1905. Serial No. 270,375.



1. In an apparatus for conveying liquid under pressure the combination of a source of liquid supply; a source of pressure; a faucet comprising a casing having a conduit leading to the source of liquid and a conduit leading to the source of pressure; a plug valve within the casing and having a multiplicity of telescopic plugs with various ports adapted to be moved independently or conjointly for the registry of any predetermined combination of ports and so arranged that the initial plug is free to move through a predetermined arc independently when further movement carries with it the other plugs, the several ports and conduits being arranged to provide a predetermined, normal velocity of the liquid in its conduit with one registry of ports and a predetermined, abnormal velocity of the liquid in its conduit with another registry of ports.

2. In an apparatus for conveying liquid under pressure the combination of a source of liquid supply; a delivery conduit; and means for controlling the delivery conduit comprising a plurality of valve members movable with relation to each other and to the delivery conduit to provide either a predetermined relatively small discharge for said conduit or a predetermined relatively large discharge for said conduit.

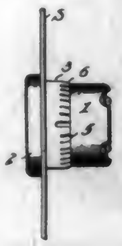
3. In an apparatus for conveying liquid under pressure the combination of a source of liquid supply; a delivery conduit; a plurality of valve members controlling said conduit made with coöperating ports comprising a set of relatively small ports and a set of relatively large ports, said members being relatively movable and movable with relation to the delivery conduit to selectively adjust the ports so as to provide either a relatively large liquid delivering discharge of a predetermined capacity, or a restricted pressure reducing vent.

4. In an apparatus for conveying liquid under pressure the combination of a source of liquid supply; a delivery conduit; a plurality of valve members controlling said conduit made with coöperating ports comprising a set of relatively small ports and a set of relatively large ports, said members being relatively movable and movable with relation to the delivery conduit to selectively adjust the ports so as to provide either a relatively large liquid delivering discharge of a predetermined capacity, or a restricted pressure reducing vent whose maximum capacity is insufficient for delivering liquid.

5. In an apparatus for conveying liquid under pressure the combination of a source of liquid supply; a source of pressure; a faucet comprising a casing having a conduit leading to the source of liquid and a conduit leading to the source of pressure; a hollow plug fitting within the casing and a plug fitting within the hollow plug, the two plugs being provided with one registry of ports to permit a predetermined, normal velocity of the liquid in its conduit and another registry to permit a predetermined, abnormal velocity of the liquid in its conduit.

[Claims 6 to 11 not printed in the Gazette.]

973,817. SIGN-RECEPTACLE FASTENING-EYELET. FRANK J. RUSSELL, Brooklyn, N. Y. Filed Oct. 26, 1909. Serial No. 524,727.



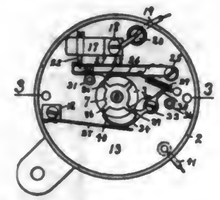
1. In a receptacle mounting, the combination with the receptacle body having a front shoulder and an intermediate shoulder, of a supporting element having an integral fastening eyelet receiving the receptacle body and engaging between said two shoulders.

2. In a receptacle mounting, the combination with the receptacle body having an annular shoulder, and a depressed part adjacent to said shoulder and formed with a continuous series of bearing flats, of a supporting element having an integral fastening eyelet provided with spring locking tongues engaging said shoulder and said flats.

973,818. CIRCUIT-CLOSING DEVICE. LESLIE R. SAUNDERS, Los Angeles, Cal. Filed Feb. 21, 1910. Serial No. 545,187.

1. In a circuit closing device, the combination of a plurality of contact elements movable relatively to each other, a revoluble driver, a collar adapted to cause the contact points to engage, said collar revoluble with said driver, and an accelerator, a spring to drive the same, to revolve said collar during the time it forces the contact points to engage.

2. In a circuit closing device, the combination of a contact-element in an electric circuit adapted to be moved to close said circuit, an actuator to periodically move said contact-element to circuit closing position, means to normally move said actuator at constant speed, an accelerator adapted to be positioned by the actuator, and a spring to return the accelerator and thereby move the actuator at increased speed while closing the circuit.



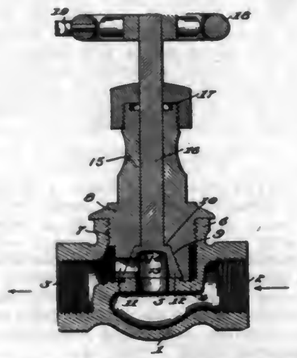
3. In a circuit closing device, the combination of a contact-element in an electric circuit adapted to be moved to close said circuit, an actuator revoluble to periodically move said contact-element to circuit closing position, means to normally drive the actuator at a constant speed, an accelerator and spring to tension the same, said accelerator positioned to normally engage the actuator and be forced back by the same against the tension of the spring and then released to engage the actuator at increased speed while it causes the closing of the circuit.

4. In a circuit closing device, the combination of a contact-element in an electric circuit adapted to be moved to close said circuit, a motor-driven revoluble actuator to periodically move said contact-element to circuit closing position, a driver to support and normally revolve said actuator at constant speed, and a reciprocating spring-driven accelerator for turning said actuator at increased speed while it causes the closing of the circuit.

5. In a circuit closing device, the combination of a contact-element in an electric circuit adapted to be moved to close said circuit, an accelerator, a spring to drive the same, and an actuator to periodically move said contact-element to circuit closing position under an impulse from the accelerator, and a driver for moving said actuator between the impulses from the accelerator.

[Claims 6 to 9 not printed in the Gazette.]

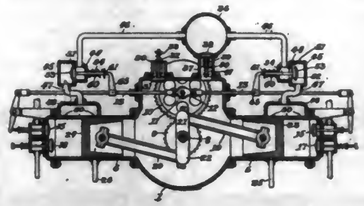
973,819. VALVE. GUSTAV SCHMAAL and JOSEPH B. WICKS, Paulsboro, N. J. Filed July 2, 1907. Serial No. 381,922.



1. A valve comprising a casing having an aperture and provided with an interior, transverse, apertured division plate, a threaded valve seat member engaging the aperture in said casing and extending to said division plate and forming a tight joint therewith, said valve-seat member having an internal shoulder, and a hollow frusto-conical, apertured valve rotatable within said seat-member and carried thereby, said valve having a shoulder engaging the shoulder in said valve-seat member, the lower face of the valve abutting the portion of the apertured division plate surrounding the aperture.

2. A valve comprising a casing having an aperture and provided with an interior, transverse, apertured division plate, a threaded valve seat member engaging the aperture in said casing and extending to said division plate and forming a tight joint therewith, said valve-seat member having an internal shoulder, a hollow frusto-conical, apertured valve rotatable within said seat-member and carried thereby, said valve having a shoulder engaging the shoulder in said valve-seat member, the lower face of the valve abutting the portion of the apertured division plate surrounding the aperture, the stem of the valve projecting through said valve seat-member, and an oil pocket in said valve seat-member in contact with said stem.

973,820. COOLING ATTACHMENT FOR EXPLOSIVE-ENGINES. SEMPLE S. SCOTT, Chicago, Ill. Filed July 24, 1909. Serial No. 509,256.



1. In an explosion motor, in combination with the crank casing, the power cylinder, the exhaust valve, and the rod for opening said exhaust valve, a check valve through which air is taken into the crank casing, a storage tank adapted to receive air from the crank casing, a pipe connection between said storage tank and the power cylinder, a valve casing in said pipe connection provided with two chambers opening into each other, a valve adapted to close the opening between said chambers, said valve having a stem projecting through the wall of said valve casing, and an arm attached to the exhaust valve operating rod adapted to engage said valve stem to open the valve in the pipe connection.

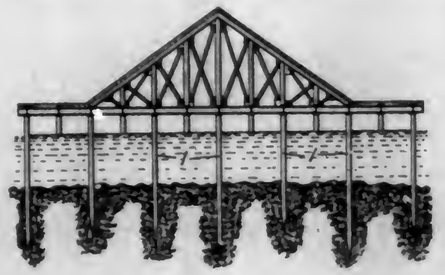
2. In an explosion motor, the combination with a crank casing, a power cylinder which is provided near one end with a longitudinally arranged row of ports, an exhaust valve for said cylinder and operating mechanism for said valve, of a check-valve through which air is taken into the crank casing, a storage tank adapted to receive the air from the crank casing, an air chamber formed integrally with the power cylinder and covering the longitudinally arranged row of ports therein, a pipe connection adapted to deliver air from the storage tank into the air chamber upon the cylinder wall, and a valve located in said pipe connection and adapted to be opened simultaneously with the opening of the exhaust valve of the engine.

3. In an explosion motor, in combination with the power cylinder, the exhaust valve and operating mechanism for said exhaust valve, said power cylinder being provided with a longitudinally arranged row of ports on one side thereof, a storage tank containing compressed air, and means controlled by the operating mechanism of the exhaust valve for delivering air from said storage chamber to said ports in the side of the cylinder upon the scavenger stroke of the engine.

4. In an explosion motor, in combination with the crank casing, the power cylinder, the engine piston, the exhaust valve and the valve controlling mechanism, an intake valve in the crank casing which is opened by the vacuum created in the crank casing at the outer stroke of the piston, an air storage tank opening into said crank casing, a valve controlling the inlet opening of said tank, said valve being opened by the pressure of air in the crank casing, a fire exhaust port located near the inner end of the cylinder, and means controlled by the exhaust valve operating mechanism for delivering air from the tank into the power cylinder in advance of the piston as it travels toward the outer end of the cylinder on its scavenger stroke.

5. In an explosion motor, in combination with the crank casing, the power cylinder, the exhaust valve for said power cylinder and the operating rod for opening said exhaust valve, a fire exhaust port located near the inner end of said cylinder, a check-valve through which air is drawn into the crank casing, a storage tank which receives the air from said crank casing, a pipe connecting said tank with said power cylinder at a point or points intermediate of the ends of said cylinder, a control valve in said pipe embracing a valve and stem therefor, and an arm secured to the exhaust valve operating rod adapted to engage the end of said valve stem to open said control valve.

973,821. METHOD OF CONSTRUCTING DAMS, DOCKS, AND SIMILAR WATER-RETAINING OR WATER-EXCLUDING STRUCTURES. THEODORE H. SKINNER, Oneida, N. Y. Filed Feb. 23, 1910. Serial No. 545,456.



1. The method of coustructing dams, docks and other water retaining or water excluding walls which consists in sinking a series of piles or posts in the bed of a stream or body of water at the apexes of a series of triangles, then connecting the piles with partitions to form separate triangular compartments, then pumping out the water and other substance from the compartment, and finally filling the compartment with concrete.

2. In the construction of dams, docks and other water retaining or water excluding walls, a system of piles driven into the bed of the stream or other body of water and projecting some distance above the level of the water and spaced uniform distances apart, partitions connecting adjacent piles forming a series of compartments, and fillings for said compartments.

3. A dam, dock or other water retaining or water excluding wall, comprising a system of piles located at the apexes of a series of equilateral trangles and having their lower ends embedded in the bed of the stream or other body of water, sectional partitions connecting adjacent piles and concrete fillings between the partitions.

4. The method of constructing dams, docks and other water retaining or water excluding walls consisting in gradually partitioning off a predetermined area or body of water in smaller subdivisions or compartments, and displacing the water from each compartment by a concrete filling.

5. The method of constructing dams, docks and other water retaining or water excluding walls which consists in securely positioning a series of piles so as to extend from the bed through and above the surface of the water and some distance apart, progressively connecting said piles by partitions in such manner as to form compartments, and replacing the water in the compartments with concrete.

973,822. SHAMPOOING DEVICE. JOHN SPARENBURG, Chicago, Ill. Filed Jan. 15, 1910. Serial No. 538,291.

1. A device of the class described comprising a base, a vertically adjustable upright comprised of telescoping sections extending above said base, a shallow tray open at one end and having a circular recess provided in the other, a link connection between said tray and said upright, an angularly disposed longitudinally adjustable rod having its lower end pivotally secured to said upright and having its upper end in linked connection with said tray for adjusting the angular disposition of the latter, substantially as described.



2. A device of the class described comprising a base, a vertically adjustable upright comprised of telescoping sections extending above said base, means for locking said sections in adjusted positions, a shallow tray open at one end and having a circular neck-receiving recess in the other end, a swinging and horizontally adjustable connection between said tray and the upper extremity of the uppermost section of said upright, means for locking said tray in adjustable position upon said upright, an angularly disposed longitudinally adjustable rod comprising telescoping sections having its lower end pivotally secured to said upright section and its upper end in pivotal and horizontally adjustable connection with said tray, means for locking said rod sections in adjusted positions, and means for locking said tray in adjustable position to said rod, substantially as described.

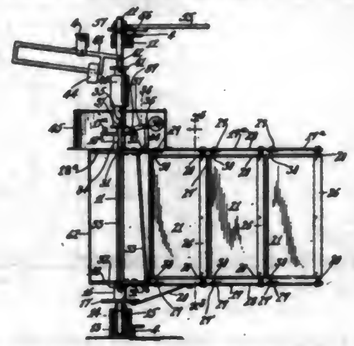
3. A device of the class described comprising a base, a vertically disposed tubular upright extending above said base, a rod slidable in said tubular section, means for locking said rod in adjusted position in said tubular section, a shallow tray open at one end and having a circular recess centrally provided in the other end, a swinging and longitudinally adjustable connection between said tray and the upper extremity of said rod, means for locking said tray in adjusted position upon said rod, an angularly disposed tubular member having its lower end pivotally secured to said rod, a second rod slidably carried in said angularly disposed tubular member, means for locking said second rod in said tubular member, a pivotal and horizontally adjustable connection between the upper extremity of said second rod and said tray, and means for locking said tray in adjusted position upon said second rod, substantially as described.

973,823. WATER-MOTOR. NORMAN A. STAMM, Glendora, Cal. Filed May 10, 1909. Serial No. 495,188.

1. In a water motor, a main shaft, a series of units connected with the main shaft, each unit comprising a series of pivoted gates capable of complete rotation with respect to their pivots, a lug shaft radial of the main shaft extending along each unit, a series of lugs on each lug shaft adapted to hold the adjacent gates from swinging in one direction, and weight controlled means for operating said lug shafts.

2. In a water motor, a main shaft, a plurality of units connected to the main shaft, each unit comprising a series of pivoted gates, a lug shaft extending along each edge of each unit, a plurality of lugs on each lug shaft adapted to hold the gates from swinging in one direction and permitting the gates to swing in the other direction, an arm on each lug shaft, a rod connecting said arms, an individual weight for each unit having a connection with one of said arms, an intermediate weight for controlling said individual weight, and means for controlling the intermediate weight.

3. In a water motor, a vertical shaft, a plurality of units connected to the shaft, each unit comprising a series of gates, a frame supporting each series of gates, each frame comprising a pair of horizontal bars, vertical rods connecting said bars and forming pintles for said gates, a lug shaft extending along each bar and journaled thereto, lugs on each lug shaft adapted to stand back of the respective gates or to be folded forward to permit the gates to swing in either direction, and weight controlled means for turning said lug shafts.

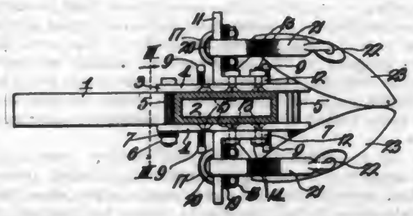


4. In a water motor, a vertical shaft, a pair of sleeves on said shaft, each sleeve having upper and lower disks, a series of units secured to a disk of each sleeve, each unit comprising a pair of parallel bars, vertical rods extending between said bars and forming pintles, a gate hung on each pintle, each gate comprising vertical bars with horizontal bars connecting the same, a sheet metal cover for said bars, channel bars forming caps for the top and bottom edges of the gate, and a channel bar secured to the inner edge of the gate and embracing the adjacent pintle rod, said top and bottom channel bars being notched to receive said pintle bars, lug shafts extending along the horizontal bars of each unit, lugs on each lug shaft adapted to hold the gates from movement in one direction or to permit the gates to swing in the other direction, and weight controlled means for turning said lug shafts.

5. In a water motor, a vertical shaft, a series of units connected to the shaft, each unit comprising a series of pivoted gates, lug shafts extending along each unit, lugs on each lug shaft for controlling the position of the gates, an arm on the inner end of each lug shaft, a rod connecting said arms, an arm extending above the upper arm, a flanged sleeve on the main shaft, a series of individual weights pivoted on said flanged sleeve and loosely engaging the last named vertical arms, an intermediate weight slidable on said main shaft, and resting against the inner ends of the arms of the individual weights, and means for controlling the elevation of said intermediate weight.

[Claims 6 to 10 not printed in the Gazette.]

973,824. ATTACHMENT FOR SEED-PLANTERS. EDWIN TAYLOR, Edwardsville, Kans. Filed July 27, 1910. Serial No. 574,150.



1. A seed planter attachment, comprising a clamp for attachment to the seed planter, arms projecting outwardly from the clamp, a pair of longitudinal arms carried by and projecting rearwardly from said first-named arms, and a pair of coverers carried by said longitudinal arms and susceptible of upward movement to pass over unyielding obstructions.

2. A seed planter attachment, comprising a clamp for attachment to the seed planter, arms projecting outwardly from the clamp, a pair of longitudinal arms carried by and projecting rearwardly from said first-named arms, and a pair of coverers carried by said longitudinal arms and susceptible of upward movement to pass over unyielding obstructions; each set of longitudinal arms being susceptible of adjustment vertically, laterally, and around a horizontal axis with respect to said first-named arms.

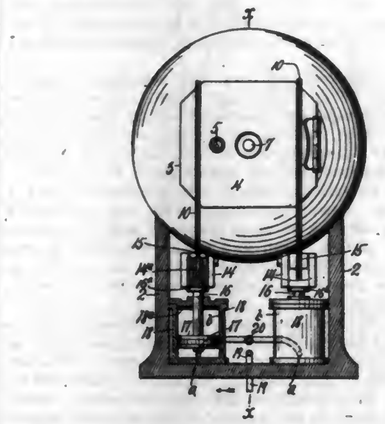
3. A seed planter attachment, comprising a clamp for attachment to the seed planter, arms projecting outwardly from the clamp, a pair of longitudinally arranged arched arms of spring metal, secured at their front ends to the first-named arms, and a pair of coverers attached to the rear ends of said arched spring arms.

4. A seed planter attachment, comprising a clamp for attachment to the seed planter, arms projecting outwardly from the clamp, a pair of longitudinally arranged arched arms of spring metal, secured at their front ends to the first-named arms; each of said arched arms being susceptible of adjustment vertically, laterally and around a horizontal axis with respect to one of said first-named arms and coverers attached to said arched arms.

5. The combination with the hollow leg of a seed planter of a clamp secured thereto arms projecting outwardly from the clamp, a pair of longitudinal arms carried by and projecting rearwardly from said first-named arms, and a pair of coverers carried by said longitudinal arms and susceptible of upward movement to pass over unyielding obstructions.

[Claim 6 not printed in the Gazette.]

973,825. SAFE. WALTER THOMAS, Vancouver, British Columbia, Canada. Filed Feb. 25, 1910. Serial No. 545,927.



1. The combination with a revoluble safe having a door, of a pedestal having a seat at the top and an opening in its wall, means therein for raising the safe from, and lowering on, its seat, and means for rotating it to bring its door into the top opening of the pedestal, substantially as described.

2. The combination with a revoluble safe, of a hollow pedestal having at the top a seat for the safe, means for raising and lowering the safe, means for rotating it, controlling devices in the pedestal connecting with the raising and lowering, and revolving mechanism, substantially as described.

3. The combination with a revoluble safe, of a hollow

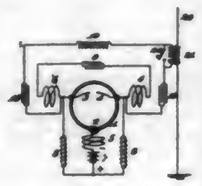
pedestal having a seat therefor, means in the pedestal for raising and lowering the safe, means for revolving the safe, a door in the pedestal giving access to the controlling devices by which the mechanism is operated, substantially as described.

4. The combination with a revoluble safe, of a hollow pedestal having a seat therefor, a movable frame in the pedestal having wheels or rollers therein for supporting the safe, means bearing on the frame for raising and lowering it to raise and lower the safe, and means in the pedestal for revolving the safe, substantially as described.

5. The combination with a revoluble safe having a toothed rack in its outer surface, of a hollow pedestal, a gear within it for engaging said rack to turn the safe, and means in the pedestal for raising the safe from its seat so that it may be revolved and for lowering it on its seat after being revolved, substantially as described.

[Claim 6 not printed in the Gazette.]

973,826. ELECTRICAL OSCILLATOR. FREDERICK K. VREELAND, Montclair, N. J., assignor to Wireless Telegraph Exploitation Company, New York, N. Y., a Corporation of New York. Filed Dec. 15, 1906. Serial No. 348,085.



1. An electrical oscillator wherein are combined an oscillating circuit, a vacuum tube and means for producing an axial magnetic field for concentrating and directing the cathode blast, substantially as set forth.

2. In an electrical oscillator, the combination with a vacuum tube, of an oscillating circuit, means for producing an axial magnetic field for concentrating the cathode blast, and means controlled by the oscillating circuit for shifting the axis of said field, substantially as set forth.

3. In an electrical oscillator, the combination with a vacuum tube, of an oscillating circuit, means for producing a continuous axial magnetic field for concentrating the cathode blast, and an alternating or pulsating field controlled by the oscillating circuit and acting to shift the axis of the resultant field, substantially as set forth.

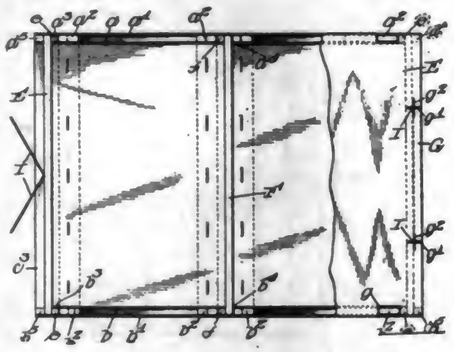
4. In an electrical oscillator, the combination with a vacuum tube having two anodes and one cathode, of means for producing an axial magnetic field for concentrating the cathode blast, and means controlled by the oscillating circuit for shifting the axis of said field so as to direct the cathode blast alternately on the two anodes, substantially as set forth.

5. In an electrical oscillator, the combination with a vacuum tube having two anodes and one cathode, of an oscillating circuit, means for producing a continuous axial magnetic field for concentrating the cathode blast, and an alternating field controlled by the oscillating circuit, placed at an angle to the constant field, and acting to produce a resultant magnetic field whose axis shifts from one anode to the other, substantially as set forth.

973,827. KNOCKDOWN BOX. ENOS L. WALKER, Cape Girardeau, Mo. Filed Mar. 20, 1908. Serial No. 422,266.

1. A knockdown or foldable box comprising hollow sides, transverse walls, means rigid with the transverse walls for engaging between the inner and outer thicknesses of the sides to hold the box together, each transverse wall extending beyond the inner thickness and engaging the outer thickness of each side wall, and means for holding the said end walls in place.

2. A knockdown or foldable box comprising flexibly connected hollow sides forming a blank that can be flattened out for shipment, transverse walls, ribs fixed on the vertical edges of said walls to engage between the inner and outer thicknesses of the sides, as set forth, and means for holding the said end walls in place.



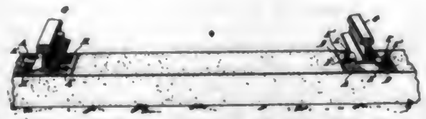
3. A knockdown or foldable box comprising hollow sides, a hollow bottom flexibly connected therewith, removable transverse walls resting upon and supported by the bottom, and means on said walls for engaging between the inner and outer thicknesses of the sides, to hold the box together, and means for holding the said end walls in place.

4. A knockdown or foldable box comprising a side having inner and outer thicknesses, one longer than the other, means for spacing the same apart, an end wall bearing against the edge of the shorter thickness, the edge of the end wall engaging the inner surface of the outer thickness, said wall provided with a fixed rib engaging between said thickness, and means carried by the side and engaging the outside of the wall to hold the latter in place.

5. A knockdown or foldable box comprising a double side wall, a vertical slot in the inner thickness thereof, a transverse wall engaging in said slot, bearing against the outer thickness and means rigidly fixed on the vertical edge of said transverse wall for engaging between the inner and outer thickness of said side wall.

[Claims 6 and 7 not printed in the Gazette.]

973,828. ANCHORAGE FOR CONCRETE WORK. HARRY L. WEBER, Bucyrus, Ohio. Filed July 26, 1910. Serial No. 573,861.



1. An anchorage for concrete work, said anchorage consisting of a plate with arms formed rigid therewith and extending for a substantial distance beyond opposite edges of said plate, and set vertically on edge, said plate being disposed at the upper central portion of the anchorage and the vertical height of the arms being substantially uniform throughout the length of said arms, said plate having openings adapted to receive securing devices.

2. An anchorage for reinforced concrete construction, said anchorage consisting of a plate and integral arms extending beneath the same and beyond opposite edges thereof, said arms having openings to receive the concrete, and said plate having openings adapted to receive securing devices.

3. An anchorage for reinforced concrete construction, said anchorage consisting of a plate and arms rigid therewith extending beneath the plate and beyond opposite edges thereof, and being set on edge, certain of said arms extending at right-angles to other arms, said plate having means for the attachment of securing devices.

4. An anchorage for reinforced concrete work, said anchorage consisting of a plate and a pair of alined arms integral therewith extending below the plate and beyond opposite edges thereof, and set on edge, and other alined arms at right-angles to the first-named arms, said second-named arms being separable from the first arms and said anchorage having a centrally located opening to detachably receive the inner overlapping ends of the second-named arms.

5. An anchorage for reinforced concrete work, said anchorage consisting of a plate and a pair of alined arms integral therewith extending below the plate and beyond opposite edges thereof, and set on edge, and other alined arms at right-angles to the first-named arms, said second-named arms being separable from the first arms, and said anchorage having a transverse opening to detachably receive the inner overlapping ends of the second-named arms, the inner ends of the second-named arms having oppositely facing shoulders adapted to abut against opposite faces of the anchorage adjacent the walls of said opening.

[Claims 6 and 7 not printed in the Gazette.]

973,829. COMBINED SHADE, CURTAIN, AND DRAPERY SUPPORT FOR ROLLERS. REINHARD WENDT, Muskegon, Mich. Filed Feb. 28, 1910. Serial No. 546,351.



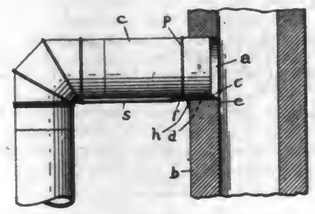
1. In a device of the class described, the combination with a window frame of socket plates arranged to be secured to said frame and form vertical sockets therewith; shade roller supports secured to said socket plates; and curtain rod supports, each comprising a horizontal wire supporting member having a downwardly turned U-shaped loop at its inner end adapted to be inserted in said socket, the said loop being formed in a vertical plane at an angle to said horizontal member, substantially as described.

2. In a device of the class described, the combination with a window frame of socket plates arranged to be secured to said frame and form vertical sockets therewith; shade roller supports secured to said socket plates; and curtain rod supports, each comprising a pair of horizontal wire supporting members of different lengths connected together by a downwardly turned U-shaped loop adapted to be inserted in said socket, the said loop being formed in a vertical plane at an angle to said horizontal member, substantially as described.

3. In a device of the class described, the combination with a window frame of socket plates arranged to be secured to said frame and form vertical sockets therewith; shade roller supports secured to said socket plates; and curtain rod supports, each comprising a pair of horizontal wire supporting members of different lengths and having upwardly turned outer ends and connected together by a downwardly turned U-shaped flattened loop adapted to be inserted in said sockets, said horizontal members being inclined outwardly in a horizontal plane with reference to said loop, substantially as described.

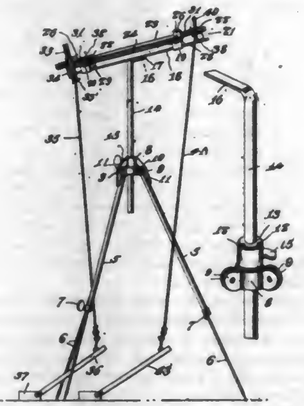
973,830. SAFETY STOVEPIPE-HOLDER. JOSEPH W. WHITAKER, Noble, Ill. Filed Mar. 18, 1910. Serial No. 550,224.

A stove-pipe holder consisting of an elongated bar, having a straight flat body portion, an integral downturned end to engage the inside of the flue wall, an integral upturned ing forward of said end to engage the end of the pipe and formed with an eye in its opposite end, and an intermediate series of apertures, an adjustable drop-pin having a thin head adapted to be located between the



stove-pipe and said bar and a vertical shank engaging one of said apertures and adapted to bear against the outside of the flue wall, a pipe stay wire connected to the end eye of the bar, and a collar engaging the pipe and connected to the bar between said end eye and said pin.

973,831. MUSIC-LEAF TURNER. EDWARD WIEDEMER, Atlantic City, N. J. Filed Jan. 8, 1910. Serial No. 537,020.



A music leaf turner comprising an adjustable standard, an angularly positioned frame removably disposed upon the upper end of said standard, said frame consisting of a central bar and a plurality of laterally extending arms pivotally supported upon opposite sides thereof, a plurality of blocks loosely mounted upon said rod adjacent to its ends, a sheet carrying frame adjustably connected to each of said blocks, the blocks on the lower end of said rod having their opposite faces beveled, said beveled faces being normally disposed in different planes, a grooved wheel loosely mounted on the lower end of said rod, an operating cable secured thereto at one end and having its other end attached to a foot treadle, a spring supported upon said rod having one end secured to said wheel and adapted to return the same to its normal position, means carried by said wheel engaging with said sheet carrying frames to turn the same, a laterally and inwardly extending arm loosely mounted upon the upper end of said rod and operating means connected to said arm to actuate the same to simultaneously return all of said sheet carrying frames to their normal positions.

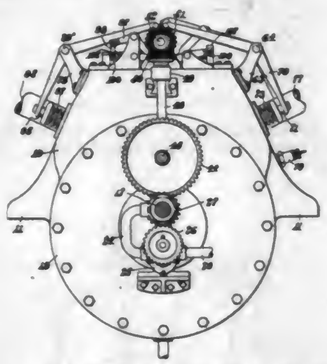
973,832. PROCESS OF MAKING OXALATES FROM FORMATES. ARNOLD WIENS, Bitterfeld, Germany, assignor to Electrochemische Werke G. M. B. H., Bitterfeld, Germany, a Corporation of Germany. Filed Sept. 13, 1907. Serial No. 392,781.

1. The process for manufacturing oxalates, which consists in bringing formates into a vessel and heating the formates therein *in vacuo* at a temperature substantially below 360° C.; substantially as described.

2. The process for manufacturing oxalates, which consists in bringing formates into a vessel and heating the formates therein *in vacuo* at a temperature in the neighborhood of 280° C.; substantially as described.

3. The process for manufacturing oxalates which consists in bringing formates into a vessel, exhausting the air as completely as possible therefrom and heating the formates to between 280° C. and 360° C.

973,833. ROTARY GAS-ENGINE. HERBERT I. WILBER, Dorchester, Mass. Filed July 16, 1909. Serial No. 508,063.



1. In a device of the class described, the combination of two cylinders; a piston in each; a compression chamber for each cylinder; a valve between each chamber and its cylinder; a valved passage between said cylinders; a valve between each compression chamber and said passage; a revoluble shaft; and a plurality of cams thereon for operating said valves.

2. In a device of the class described, the combination of two cylinders; a piston in each; a compression chamber for each cylinder; a valve between each chamber and its cylinder; a valved passage between said cylinders; a valve between each compression chamber and said passage; an inlet valve; an exhaust valve; a revoluble shaft; and cams on said revoluble shaft for operating said valves.

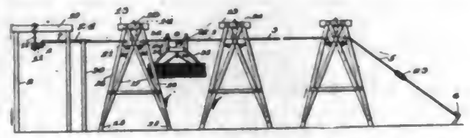
3. In a device of the class described, the combination of two cylinders; a piston in each; a passage connecting said cylinders; a valve between said passage and each cylinder; a compression chamber for each cylinder; an outlet valve from each chamber to its cylinder; an inlet valve to each chamber from said passage; and means for operating said valves to permit compressing alternately in each cylinder and then admitting the compressed mixture to the compression chamber of the opposite cylinder.

4. In a device of the class described, the combination of two cylinders; a piston in each; a passage connecting said cylinders; a valve between said passage and each cylinder; a compression chamber for each cylinder; an outlet valve from each chamber to its cylinder; an inlet valve to each chamber from said passage; means for operating a valve between said cylinder and passage when the piston has reached a predetermined point; means for opening the inlet valve to the compression chamber of the other cylinder; and means for operating the outlet valve of said compression chamber of the other cylinder at a predetermined time and admitting to said cylinder a compressed charge.

5. In a device of the class described, the combination of two cylinders; a piston in each; a passage connecting said cylinders; a valve between said passage and each cylinder; a compression chamber for each cylinder; an outlet valve from each chamber to its cylinder; an inlet valve to each chamber from said passage; means for operating a valve between said cylinder and passage when the piston has reached a predetermined point; means for opening the inlet valve to the compression chamber of the other cylinder; means for operating the outlet valve of said compression chamber of the other cylinder at a predetermined time; and means for exploding the compressed charge thus admitted.

[Claims 6 to 14 not printed in the Gazette.]

973,834. TRANSPORTATION SYSTEM. JAMES STUART WILKINS, Preston, Cuba. Filed July 25, 1910. Serial No. 573,606.



1. In a system of transportation, an over head main cable-way, and one or more branches leading therefrom suspended from portable supports and connected thereto by a portable hinged switch.

2. In a system of transportation, an over head main cable-way, one or more detachable branches leading therefrom suspended from portable supports having angular depending braces on each side of the cable-way and a carrier provided with forked lead positioning members directing the load between the angular disposed supports.

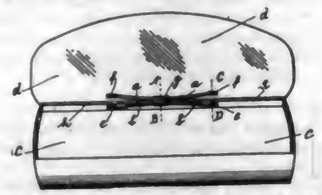
3. In a system of transportation, an over head main cable-way, and one or more branch cable-ways detachably connected thereto and suspended by brackets from a supporting beam between side braces carried upon transverse bases of portable supporting frames.

4. In a system of transportation, an over head main cable-way, and a plurality of branch cable-ways leading therefrom, each branch comprising a plurality of detached cable lengths and a corresponding number of portable supports having securing means for the ends of the cable lengths, a hinged switch engaging the main line and secured to the free end of the adjacent cable lengths, a portable support for said switch and a tension brace for the outermost portable cable support.

5. In a system of transportation, an over head main cable-way, and a plurality of branch cable-ways including a portable cable supporting frame comprising a longitudinal supporting beam, a cable suspending bracket secured thereto, spaced apart transverse bases at each end of the supporting beam, and angularly disposed braces on each side of the beam leading from each end thereof to each brace.

[Claim 6 not printed in the Gazette.]

973,835. CASE FOR SPECTACLES, EYEGLASSES, AND OTHER ARTICLES. FRANCIS JAMES WILLMOTT, Evesham, England, assignor to American Optical Company, Southbridge, Mass., a Corporation of Massachusetts. Filed Sept. 22, 1908. Serial No. 454,254.



A spring lid box composed of two members hinged together, two springs secured respectively to said members and each consisting of a wire secured at its ends only to its respective member, and a bent link connected to both of said springs midway of their length, whereby the line joining the ends of said link will pass from one side of the axis of the hinge to the other in opening and closing the box.

973,836. BRUSH FOR DYNAMO-ELECTRIC MACHINES. HENRY L. ZABRISKIE, Brooklyn, N. Y., assignor to Diehl Manufacturing Company, a Corporation of New Jersey. Filed Aug. 19, 1908. Serial No. 449,212.



1. The combination with a brush-block formed with a recess, of an anchorage of high conductivity disposed within said recess, means for clamping said anchorage firmly in electrical contact with the wall of said recess of the brush-block, a flexible conducting lead, and a connection intermediate the lead and said anchorage.

2. The combination with a brush-block provided in its body portion with a transversely disposed seat, of an anchorage of high conductivity embedded within the same adjacent said seat, clamping means acting transversely of said seat for removably securing said anchorage upon and in electrical contact with said seat, a flexible conducting lead, and a connection intermediate the lead and said anchorage.

3. The combination with a brush-block for dynamo-electric machines, of an anchorage of high conductivity embedded within the same, a metallic cap-plate applied to the exterior of said brush-block and embracing between itself and the latter a portion of the body of said brush-block, conducting fastening means extending between said cap-plate and the anchorage and adapted to clamp both of said parts firmly upon the interposed portion of the brush-block, and a flexible conducting lead attached to said cap-plate.

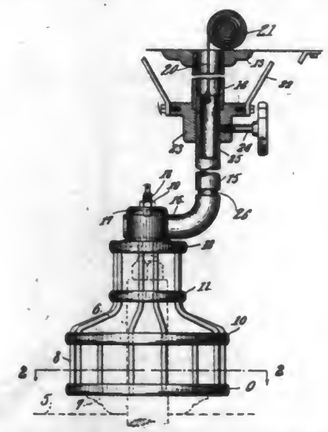
4. The combination with a brush-block for dynamo electric machines, of an anchorage of high conductivity embedded within and disposed transversely of the same, a metallic cap-plate applied to the exterior of said brush-block, a metallic screw arranged lengthwise of said brush-block for detachably securing together said cap-plate and the embedded anchorage, and a flexible conducting lead attached to said cap-plate.

5. The combination with a brush-block for dynamo electric machines, of a metallic anchorage of high conductivity embedded in and disposed transversely of the body of the same, a metallic cap-plate applied to the exterior of said brush-block parallel with said anchorage, spaced metallic screws arranged lengthwise of said brush-block for connecting said cap-plate with the anchorage through the intervening portion of the brush-block, and a flexible conducting lead attached to said cap-plate.

[Claims 6 to 15 not printed in the Gazette.]

973,837. GUARD FOR WOODWORKING-MACHINES. AUGUST F. W. ZASTROW, Lyons, Iowa. Filed June 20, 1910. Serial No. 567,906.

1. A guard for cutter heads comprising an open cage surrounding said cutter head, and an overhead support for the cage, said support comprising a stationary member, and a member carried thereby and movable in the direction of the cutter head, said movable member carrying the cage and having longitudinal and circumferential grooves therein, resilient means connected to the movable member for elevating the same, and means engaging said grooves for locking said movable member in adjusted position.



2. A guard for cutter heads comprising an open cage surrounding the same, and an overhead support for said cage, said support comprising a stationary tube, a rod telescoping in said tube, said rod carrying the cage and having longitudinal and circumferential grooves therein, resilient means connected to the rod for moving the same in a direction to remove the cage from the cutter head, and means engaging said grooves for locking the rod.

3. A cutter head guard comprising an open cage into which the cutter head extends, and an overhead support for said cage, said support comprising a stationary member, and a member carried thereby and movable in the direction of the cutter head, said movable member being rotatable on its longitudinal axis, and having a lateral bend to which the cage is connected, and means for locking the movable member.

4. A cutter head guard comprising an open cage into which the cutter head extends, and an overhead support for the cage comprising a stationary tube, a rod telescoping in said tube, and carrying the cage, a stationary guide collar in which the rod works, a set screw threaded through said collar to engage the rod, and resilient means connected to the rod for moving the same in a direction to remove the guard from the cutter head.

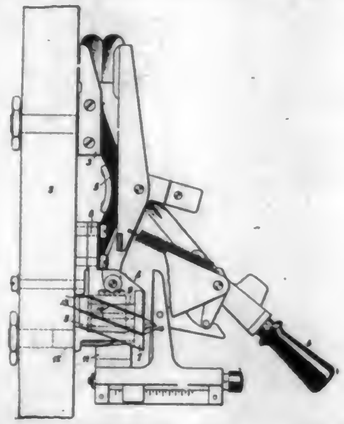
5. A cutter head guard comprising an open cage into which the cutter head extends, and a rotatable overhead support for the cage, said support having longitudinal and circumferential grooves and said cage being located outside the axis of rotation of said support, a collar surrounding said support, and a set screw in said collar and adapted to engage either groove of the support.

973,838. COIL FOR ELECTROMAGNETS. CHRISTIAN AALBORG, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed June 4, 1906. Serial No. 320,149.

1. A magnet coil comprising a tubular shell and a plurality of webs extending through the shell from side to side, said shell having side slots between the ends of adjacent webs and diagonal slots joining the ends of each side slot with the ends of the next slot in the series at the opposite side of the shell.

2. A multi-path magnet coil comprising a tubular shell of approximately rectangular cross-section and a plurality of webs extending through the shell from side to side, said shell having side slots between the ends of adjacent webs and diagonal slots between the ends of each side slot and a longitudinally offset slot at the opposite side of the shell to form paths of connection between one end of each web and the opposite end of the next adjacent web.

3. A magnet coil comprising a tubular member having substantially parallel cross webs through the center, lateral slots across the sides connected by the web and diagonal slots across the ends adjacent to the connected sides.

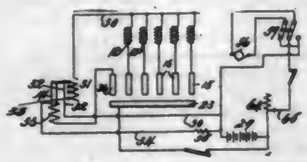


4. A magnet coil comprising a tubular member having substantially parallel cross webs through the center, lateral slots across the sides connected by the webs and diagonal slots at both ends which form two paths of connection between one end of each web and the opposite end of the next adjacent web.

5. A magnet coil comprising a tubular shell and a plurality of substantially parallel cross webs extending through the shell from side to side, said shell having side slots between the ends of adjacent webs, diagonal slots in the sides adjacent to those connected by the webs and projections by which the coil is supported and electrically connected in circuit.

[Claims 6 and 7 not printed in the Gazette.]

973,839. AUTOMATIC PIANO-PLAYER. ALEXANDER A. AARONS, New York, N. Y. Filed Feb. 5, 1910. Serial No. 542,202.



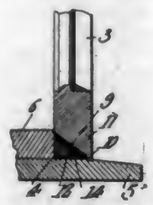
1. In a piano-playing device, a plurality of electrically operated devices for actuating the keys of a piano, a parallel circuit for each of said electrical devices, means for controlling the flow of current to said electrical devices, a common conductor for said parallel circuits, a rheostat located in said common conductor provided with a movable circuit-closer, means for actuating said circuit-closer and an adjustable device for controlling the extent of operation of said circuit-closer.

2. In a piano-playing device, a plurality of electrically operated devices for actuating the keys of a piano, a parallel circuit for each of said electrical devices, means for controlling the flow of current to said electrical devices, a common conductor for said parallel circuits, a rheostat located in said common conductor, provided with a movable circuit-closer, means for actuating said circuit-closer, said means comprising a solenoid and a longitudinally movable core actuated thereby, and means for controlling the extent of movement of said core.

3. In a piano-playing device, a plurality of electrically operated devices for actuating the keys of a piano, a parallel circuit for each of said electrical devices, means for controlling the flow of current to said electrical devices, a common conductor for said parallel circuits, a rheostat located in said common conductor, provided with a movable circuit-closer, means for actuating said circuit-closer, said means comprising a solenoid and a longitudinally movable core actuated thereby, and an adjustable screw for controlling the extent of movement of said core.

4. In a piano-playing device, a plurality of electrically operated devices for actuating the keys of a piano, a parallel circuit for each of said electrical devices, means for controlling the flow of current to said electrical devices, a common conductor for said parallel circuits, a rheostat located in said common conductor, provided with a plurality of contacts and a pivotally mounted circuit-closer, a gear carried by said circuit-closer, a rack in engagement with said gear, an electrical device for actuating said rack, and an adjustable screw for controlling the extent of operation of said rack.

973,840. DUST AND WIND GUARD. WARREN J. ANSON, El Paso, Tex., assignor of one-third to Henry C. Hucker and one-third to Frank W. Bacon, Los Angeles, Cal. Filed Apr. 8, 1910. Serial No. 554,251.



1. A device of the class described comprising a plate arranged to be mounted upon a window frame and having an inclined upper face provided with longitudinal grooves; a sash slidable into contact with the plate and having its lower edge beveled to conform with the inclined face of the plate; and a resilient pad secured to the lower edge of the sash and arranged to be compressed into the grooves of the plate.

2. A device of the class described comprising a plate arranged to be mounted on the base of a window frame and having an inclined upper face; a slidably mounted sash having its lower edge beveled to conform to the inclined face of the plate; a resilient pad secured to the lower edge of the sash; there being a longitudinal groove in the inclined face of the plate, the walls of the groove being inclined at an acute angle to the plane of movement of the sash, to define an abrupt abutting edge over which the pad is adapted to be compressed, the groove defining a chamber within which the pad is adapted to expand to interlock behind the abutting edge of the plate.

3. A device of the class described comprising a window frame; parting strips upon the window frame; a slidably mounted plate having its ends engaged between the parting strips upon opposite sides of the frame, the plate having an upright outer face and an inclined upper face provided with longitudinal grooves; a sash slidable between the parting strips and having its lower edge beveled to conform with the inclined face of the plate, there being a flange upon the sash arranged to depend in front of upright face of the plate; a resilient pad secured to the lower edge of the sash and arranged to be compressed into the grooves of the plate; and a compression spring acting between the base of the frame and the plate to actuate the latter toward the pad.

973,841. PIANO-ACTION. LEOPOLD AVISUS, Chicago, Ill. Filed May 1, 1909. Serial No. 493,254.

1. In a piano action in combination, a pivot bearing between two parts, comprising a pivot pin fixed to one of said parts, a bearing attached to the other part comprising a metal bushing having a lining of soft material in which said pin is located, and a bushing-holder for gripping tightly said bushing.



2. In a piano action in combination, a pivot bearing between two parts, comprising a pivot pin fixed to one of said parts, a bearing attached to the other part comprising a metal bushing having a lining of soft material in which said pin is located, and a bushing-holder formed of a single piece of spring metal bent over upon itself and gripping said bushing at its bight.

3. In a piano action in combination, a pivot bearing between two parts, comprising a pivot pin fixed to one of said parts, a bearing attached to the other part comprising a metal bushing having a lining of soft material in which said pin is located, and a bushing-holder formed of a single piece of spring metal bent over upon itself to form two legs, and gripping said bushing at its bight, and a screw connecting said legs.

4. A bushing holder comprising a spring-metal plate bent over upon itself to form two legs having a tendency to spring apart, a metal bushing held by said holder, and a lining of soft material in said bushing, and a screw for drawing said legs together.

5. In a piano action in combination, a flange rail, a pivot flange comprising a spring metal plate bent over upon itself to form legs disposed on opposite sides of said rail, and a screw passing through said legs to clasp the same upon said rail.

[Claims 6 to 24 not printed in the Gazette.]

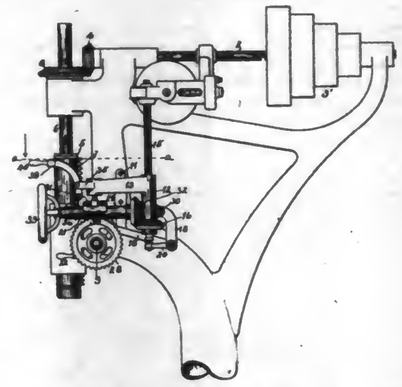
973,842. COMPOSITION TOOTHPICK. ALBERT H. BAIRD, Delta, Colo. Filed Feb. 7, 1910. Serial No. 542,500.

1. As a new article of manufacture, a tooth-pick composed of a gelatinous base, a first coating of keratin solution and a final coating of collodion.

2. As a new article of manufacture, a tooth-pick composed of a gelatinous base, a coating of keratin solution and a final coating of collodion, said base and coating substances including a suitable antiseptic.

3. As a new article of manufacture, a tooth-pick composed of a gelatinous base comprising isinglass and chrome alum, dried and formed into suitable forms, a first coating of a keratin solution subjected to a solution of chrome alum, and a final coating of collodion.

973,843. DRILLING-MACHINE. JOHN S. BARNES, Rockford, Ill., assignor to W. F. & John Barnes Company, Rockford, Ill., a Corporation of Illinois. Filed Apr. 27, 1909. Serial No. 492,591.



1. In a machine of the character set forth, the combination with a supporting frame, of a longitudinally movable tool spindle therein, means for moving said tool spindle, including a shaft geared thereto and having a worm wheel, a worm movable into and out of mesh with the worm wheel, a swinging support for the worm, a bracket carried by the supporting frame and located over the worm, a spring mounted on the bracket, means connected to the support for the worm and engaging the spring for normally holding said worm out of mesh with the worm wheel, and a lever fulcrumed on the bracket and having a movable bearing on the worm support for holding the worm in mesh with the worm wheel against the action of the spring.

2. In a machine of the character set forth, the combination with a supporting frame, of a longitudinally movable tool spindle therein, means for moving said tool spindle, including a shaft geared thereto and having a worm wheel, a worm movable into and out of mesh with the worm wheel, a swinging support for the worm, a bracket carried by the supporting frame and located over the worm, a spring mounted on the bracket, means connected to the support for the worm, and engaging the spring for normally holding said worm out of mesh with the worm wheel, a lever fulcrumed on the bracket and having a movable bearing on the worm support for holding the worm in mesh with the worm wheel against the action of the spring, and a device movable with the spindle and adapted to operate on the lever to move the same to a position to permit the spring to act and disengage the worm from the worm wheel.

3. In a machine of the character set forth, the combination with a longitudinally movable spindle, of means for operating the same, including intermeshing gear elements that constitute a lock for holding the spindle against longitudinal movement when at a standstill and other coacting driving and driven toothed gears connected to the worm gearing, one of the latter gear elements being movable into and out of mesh with the coacting element, a support for holding the latter gear in mesh with the coacting gear, and automatic mechanism controlled by the spindle for effecting the movement of the support and causing the gear to move out of mesh without effecting the relation of the locking gears.

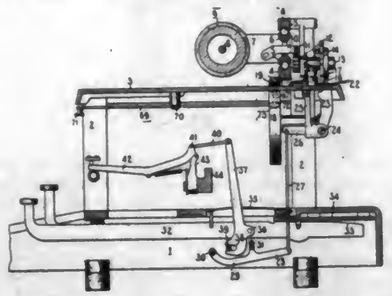
4. In a machine of the character set forth, the combination with a longitudinally movable tool spindle, of moving mechanism therefor, including a set of coacting gear elements relatively movable into and out of mesh and constituting holding means for the tool spindle when in mesh and at a standstill and another set of coacting gear elements that are also movable into and out of mesh, and mechanism automatically operating with the spindle to

effect the relative movement of either set of gear elements independently of the other set to cause the same to move out of mesh and thereby stop the longitudinal movement of the tool spindle.

5. In a machine of the character set forth, the combination with a frame, of a longitudinally movable tool spindle mounted thereon, means for moving the spindle, including coacting gears, one of which is movable into and out of mesh with the other, a movable arm for supporting the gear in mesh, and a holding device for the arm movably mounted thereon and detachably engaging the frame.

[Claims 6 to 11 not printed in the Gazette.]

973,844. TYPE-WRITING MACHINE. EDWIN E. BARNEY, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 23, 1909. Serial No. 491,746.



1. In a typewriting machine, the combination of a carriage, a feed rack carried thereby, escapement mechanism carried by the frame of the machine, intermediate gearing between said escapement mechanism and feed rack, and means whereby an engagement may be brought about between said feed rack and one or another of the members of said intermediate gearing to change the extent of letter spacing carriage feed movements.

2. In a typewriting machine, the combination of a carriage, a feed rack, escapement devices, gears between said escapement devices and the feed rack, and hand actuated means operable at will to shift one or another of said gears into engagement with said rack to change the character of the feed.

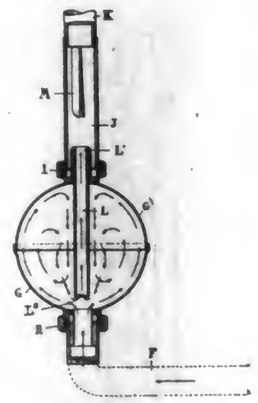
3. In a typewriting machine, the combination of a carriage, a feed rack carried thereby, a feed pinion carried by the frame of the machine and with which said feed rack coöperates, escapement devices which control said pinion, supplemental gearing operatively connected with said feed pinion, and means for disengaging the feed rack and said feed pinion and for bringing about an engagement between the feed rack and one of said supplemental gears to vary the feed of the carriage.

4. In a typewriting machine, the combination of a carriage, a feed rack carried thereby, a feed pinion with which said feed rack coöperates, escapement devices which control said pinion, supplemental gearing operatively connected with said feed pinion, hand actuated means operable at will for disengaging the feed rack and said feed pinion and for bringing about an engagement between the feed rack and one of said supplemental gears to vary the feed of the carriage, and means whereby the engagement between the rack and pinion or the rack and gears may be maintained indefinitely.

5. In a typewriting machine, the combination of a carriage, a feed rack pivoted to the carriage, escapement mechanism including an escapement wheel, a feed pinion controlled thereby, supplemental differential gearing which is likewise adapted to be controlled by said escapement wheel, and means for effecting a disengagement between the feed rack and the feed pinion and for effecting an engagement between said feed rack and the differential gearing to vary the feed of the carriage.

[Claims 6 to 9 not printed in the Gazette.]

973,845. DEVICE FOR SOUNDING MOTOR-CAR HORNS. HUGUES BEAUCOURT, Lyon, France. Filed July 18, 1908. Serial No. 444,236.



1. The combination with an audible warning instrument and means for providing compressed air of an intermediate reservoir comprising an air chamber having its entrance in communication with said air providing means, said air-chamber having a tubular member therein, with one end delivering into said audible warning instrument exteriorly of said air-chamber, the opposite end of said tubular member terminating near the entrance of said air-chamber substantially as described.

2. The combination of an audible warning instrument a pump for discharging compressed air, a reservoir intermediate the said instrument and pump, having its inlet in communication with said pump, and an air tube having its inlet end within the reservoir and in close proximity to the inlet thereof, and its discharge end in communication with the audible warning instrument exteriorly of said reservoir substantially as described.

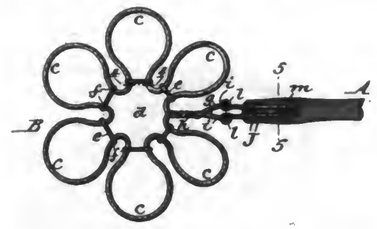
3. A device of the character described, comprising an audible warning instrument, means for providing compressed air, and an air-chamber spherical in outline and having its entrance in communication with said compressed air providing means, said air-chamber having a tubular member therein, one end of said tubular member delivering into said audible warning instrument exteriorly of said air-chamber, the opposite end of said tubular member terminating adjacent to the inlet of said air-chamber.

973,846. TAILPIECE FOR VIOLINS, VIOLAS, AND THE LIKE. JOSEF BENDEL, Kronstadt, Austria-Hungary. Filed Sept. 29, 1909. Serial No. 520,186.



Improvements in tail pieces for violins, violas and the like, comprising in combination, a tail piece, a plurality of metal plates carried on the latter, said plates being separated by slots, metal strips carried by said tail piece and over which the strings pass, a set screw in mesh with one of said slots, and a suitably shaped piece carried by said set screw, said piece being adapted to press down on a string, and so raise the tone of the latter when the set screw is screwed up, substantially as described and shown, and for the purpose set forth.

973,847. CARPET-BEATER. ARTHUR E. BENNETT, Buffalo, and JAMES H. HUNTER, Williamsville, N. Y., assignors of one-third to Gerritt W. Post, Kenmore, N. Y. Filed Feb. 24, 1908. Serial No. 417,511.

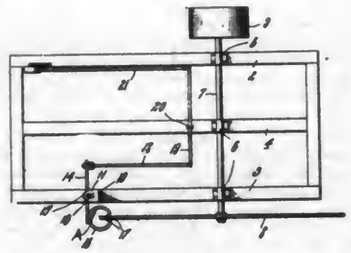


1. A carpet beater comprising a handle, a head connected with said handle and consisting of an annular row of loops which are closed at their outer ends and each of which has a throat at its inner end, and means extending across the throat of each loop and connecting with the branches of the respective loop, substantially as set forth.

2. A carpet beater comprising a handle, and a head pivoted on said handle and consisting of an annular row of loops which are closed at their outer ends and each having a throat at its inner end, and a tie bar extending across the throat of each loop and having eyes at its opposite ends which encircle the branches of the respective loop, substantially as set forth.

3. A carpet beater comprising a handle having a socket in its front end, a shank constructed of a piece of wire which is doubled into U-shape and inserted with its bight in said socket and provided at its ends with a pair of hinge eyes, a filling piece driven into the socket between the arms of said shank, and a head constructed of a piece of wire and provided with a pair of hinge eyes which engage with the hinge eyes on the handle, substantially as set forth.

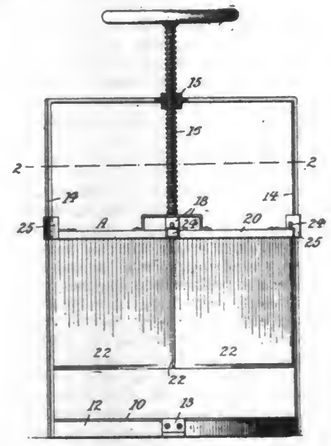
973,848. SAW-GUIDE. JAMES R. BERRY, Jonesboro, Tenn. Filed May 29, 1908. Serial No. 435,788.



In a saw guide, a bed frame, a saw carried by the frame, a standard mounted upon the frame having its terminals bent to form parallel spaced ears; a rod rotatably mounted between said ears, a guide arm mounted upon said rod for angular movement therewith, said guide arm comprising a plate, saw engaging fingers secured to one end of said plate formed from a single piece of metal bent to form two oppositely curved portions having their terminals bent inwardly in parallel spaced relation to receive the edge of the saw between them, and means for oscillating said guide arm so that the terminals of said engaging fingers may be forced into contact respectively with adjacent sides of the saw.

973,849. CHEESE-CUTTER. HARRY BICK, Yonkers, N. Y. Filed Aug. 24, 1910. Serial No. 578,783.

1. A cheese cutter provided with a reciprocative cutter head having a cruciform groove, a series of blades having heels adapted to removably engage said groove, and catches carried by the cutter head and adapted to engage the blades.

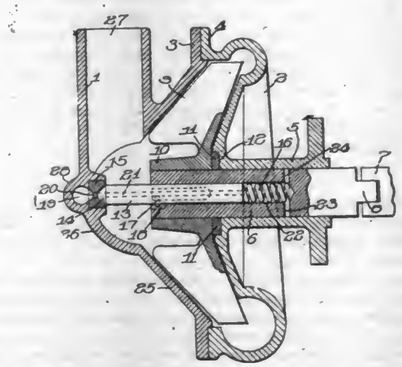


2. A cheese cutter provided with a base plate, a frame projecting upwardly therefrom, a screw spindle tapped into the frame, a cruciform cutter head carried by the spindle, guides secured to the cutter head and engaging the frame, and blades removably secured to the cutter head.

3. A cheese cutter provided with a base plate, a frame projecting upwardly therefrom, a screw spindle tapped into the frame, a cruciform cutter head carried by the spindle, guides secured to opposite sides of a pair of diametrically disposed arms of the cutter head and engaging the frame, and blades removably secured to the cutter head.

4. A cheese cutter provided with a base plate having a series of concentric circles represented thereon, a frame projecting upwardly from the base plate, a screw spindle tapped into the frame, a cruciform cutter head carried by the spindle, guides secured to the cutter head and engaging the frame, and blades removably secured to the cutter head.

973,850. SHAFT-PACKING. JOSEPH J. BOUCHER, Harvey, Ill., assignor to Sterling Vehicle Company, Harvey, Ill., a Corporation of New Jersey. Filed Aug. 30, 1909. Serial No. 515,203.



1. The combination with a fluid chamber provided with a bearing, a member movable in said bearing, said member being made in sections movable relatively to each other,

and means interposed between the sections of said member for creating a resilient pressure between the sections of said member.

2. The combination with a fluid chamber provided with a bearing, packing means for said bearing, a member movable in said bearing relatively to said packing means, said member being made in two sections movable relatively to each other, and means interposed between the sections of said member for generating a resilient pressure between the member and the packing.

3. The combination with a fluid containing chamber provided with a bearing, of a rotor shaft mounted in said bearing and provided with a rotor head within said chamber, said shaft being movable axially to enable the rotor head to be pressed against a portion of the inner wall of the chamber contiguous to said bearing, and means interposed between said shaft and another portion of the inner wall of the chamber for exerting a resilient pressure on said rotor head toward said bearing.

4. The combination with a fluid chamber provided with a bearing, of a rotor shaft mounted in said bearing and provided with a cylindrical recess in the end thereof, a rotor head, means extending around the rotor shaft and interposed between the rotor head and the inner wall of the chamber for packing said bearing, a spindle reciprocably mounted in said recess, and resilient means interposed in said recess between said shaft and spindle whereby the spindle is forced resiliently against the inner wall of the chamber to press the rotor against said packing means.

5. In a rotary machine, the combination of rotor and housing members, said members being axially adjustable relatively to each other, and said rotor comprising a telescoping sectional shaft, and means for resiliently forcing the sections of said shaft apart to press said rotor and housing members together.

[Claims 6 to 22 not printed in the Gazette.]

973,851. MATRICES AND BLANKS FOR MAKING TABLETS. LLOYD BOWMAN, Fort Worth, Tex. Filed Jan. 7, 1910. Serial No. 536,945.

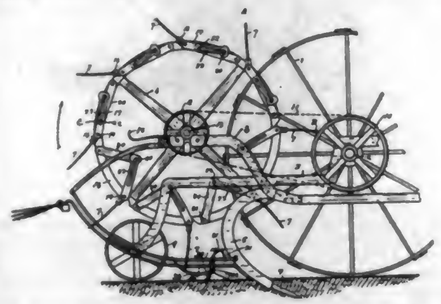


In molds for making and lettering tablets and the like, the combination of side and end pieces and a bed plate, and blanks and matrix blocks mounted on said bed plate, said blanks having undercut edges and said matrix blocks being dovetailed between the blanks and said blanks and matrix blocks being held in place by said sides and ends, the joints between said blanks and matrix blocks and between said matrix blocks being formed by feather or sharp edges.

973,852. POTATO-HARVESTER. JAMES P. BRENNAN, Columbus, Wis., assignor of one-half to Henry J. Weidemann, Columbus, Wis. Filed Feb. 6, 1909. Serial No. 476,565.

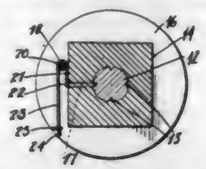
1. In a potato harvester of the class described, the combination with a revoluble reel of a plurality of series of fingers pivotally supported from said reel, means for automatically locking said fingers radially to the reel supporting shaft as they pass between the bars of the screen of said harvester and means for automatically releasing said series of fingers and permitting them to incline downwardly after they have passed said screen.

2. In a potato harvester of the class described, the combination of a revoluble reel, a plurality of finger supporting heads, a series of fingers and an operating arm rigidly connected with each of said heads, means for pivotally supporting said arms from said revoluble reel, a link slidably connected at one end with each of said arms and pivotally connected at its opposite end with said reel,



the operating arm of said series of fingers being adapted to drop into locking engagement with said links as said fingers pass between the screen bars of the harvester and means for automatically disengaging said locking mechanism and releasing said fingers from their locked position, when they have passed said screen.

973,853. NUT-LOCK. ROBERT W. BRIDGMAN, Dayton, Ohio. Filed July 2, 1910. Serial No. 570,181.



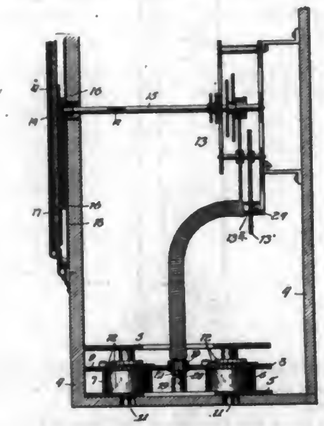
The combination with a bolt having a plurality of longitudinal rabbets in its threaded end, of a nut having an angular wrench head provided with an opening in one of its sides communicating with its bore and having a perimetral base flange, a pivot pin fixed on the base flange, a helical spring mounted on said pivot pin having one terminal bent laterally and engaging the adjacent wrench face of the wrench head, then bent at right angles and engaged through the opening therein, the extremity of this latter-named bent portion projecting into one of the rabbets in said bolt, the opposite extremity of said spring being directed laterally and approximately parallel to the wrench face engaging portion of the spring, and means for holding the free end of the spring under tension whereby to prevent the accidental disengagement of the spring from operative position.

973,854. CLOCK. JACOB J. BUSENBENZ, Chicago, Ill. Filed Apr. 16, 1910. Serial No. 555,784.

1. In a clock of the character described, the combination with a primary motor and a clock-train, of a core, a spiral spring about the core having one end geared to said motor, for contracting the spring to tension it about the core, and its opposite end geared to the train, and regulating means coöperating with the spring between its ends to form the train-actuating spring-section and limit the extent of tensioning said section, for the purpose set forth.

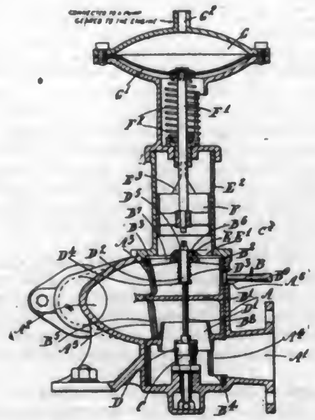
2. In a clock of the character described, the combination with a primary motor and a clock-train, of a core provided with an enlargement between its ends, and a spiral spring about the core and said enlargement having one end geared to said motor and its opposite end geared to the train, for the purpose set forth.

3. In a clock of the character described, the combination with a primary motor and a clock-train, of a rigid cylindrical core, a pinion journaled on said core and engaged by said motor to be continuously driven thereby, a spiral spring about said core having one end connected with the pinion for contracting the spring to tension it about the core by the power of said motor, and its opposite end geared to the train, and regulating means coöperating with the spring between the ends to form the train-actuating spring-section and limit the extent of tensioning said section, for the purpose set forth.



4. In a clock of the character described, the combination with a primary motor and a clock-train, of a stationary cylindrical core provided with an enlargement between its ends, a pinion journaled on said core and engaged by said motor to be continuously driven thereby, and a spiral spring about said core and enlargement having one end connected with the pinion and its opposite end geared to the train, for the purpose set forth.

973,855. CARBURETER. PERCIVAL CHARLES CANNON, London, England, assignor to Montague Stanley Napier and Selwyn Francis Edge, London, England. Filed Oct. 25, 1907. Serial No. 399,092.



1. In a carbureter for an internal combustion engine the combination of a central chamber having a main air inlet in the side of the chamber at the bottom an auxiliary air inlet at the top of the chamber a main mixture outlet and an auxiliary outlet both in the side of the chamber, a rotatable throttling sleeve open at the top and having apertures corresponding to the main air inlet and the mixture and auxiliary air outlets, a division in the sleeve between the mixture and auxiliary outlets, a fuel nozzle situated at the main air inlet end of the sleeve having a discharge orifice in the form of a circular slot and a rotatable cut-off on said nozzle operatively connected to the throttling sleeve whereby the capacity of the fuel nozzle is varied according to the position of the throttling sleeve.

2. In a carbureter for an internal combustion engine the combination of a central chamber having a main air inlet in the side of the chamber at the bottom an auxiliary air inlet at the top of the chamber a main mixture outlet and an auxiliary outlet both in the side of the chamber, a rotatable throttling sleeve open at the top and having apertures corresponding to the main air inlet and the mixture and auxiliary air outlets, a division in the sleeve between the mixture and auxiliary outlets, a central conical boss in the sleeve and a central conical bearing in the carbureting chamber, a fuel nozzle situated at the main air inlet end of the sleeve having a discharge orifice in the form of a circular slot and a rotatable cut-off on said nozzle operatively connected to the throttling sleeve whereby the capacity of the fuel nozzle is varied according to the position of the throttling sleeve.

3. In a carbureter for an internal combustion engine the combination of a central chamber having a main air inlet in the side of the chamber at the bottom an auxiliary air inlet at the top of the chamber a main mixture outlet and an auxiliary outlet both in the side of the chamber, a rotatable throttling sleeve open at the top and having apertures corresponding to the main air inlet and the mixture and auxiliary air outlets, a division in the sleeve between the mixture and auxiliary outlets, a central conical boss in the sleeve and a central conical bearing in the carbureting chamber, a fuel nozzle situated at the main air inlet end of the sleeve having a discharge orifice in the form of a circular slot and a permanently open auxiliary orifice and a rotatable cut-off on said nozzle operatively connected to the throttling sleeve whereby the capacity of the fuel nozzle is varied according to the position of the throttling sleeve.

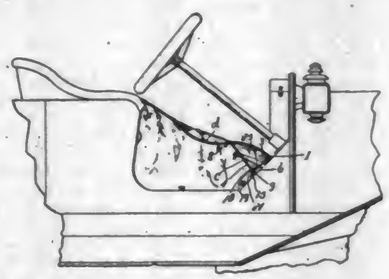
4. In a carbureter for an internal combustion engine the combination of a central chamber having a main air inlet in the side of the chamber at the bottom an auxiliary air inlet at the top of the chamber a main mixture outlet and an auxiliary outlet both in the side of the chamber, a rotatable throttling sleeve open at the top and having apertures corresponding to the main air inlet and the mixture and auxiliary air outlets, a division in the sleeve between the mixture and auxiliary outlets, a central conical boss in the sleeve and a central conical bearing in the carbureting chamber, a fuel nozzle situated at the main air inlet end of the sleeve having a discharge orifice in the form of a circular slot and a permanently open auxiliary orifice and a rotatable cut-off on said nozzle operatively connected to the throttling sleeve whereby the capacity of the fuel nozzle is varied according to the position of the throttling sleeve and an annular conical chimney carried by the throttling sleeve and surrounding said nozzle.

973,856. AUTOMOBILE ATTACHMENT. GEORGE H. CHANDLEE, Chevy Chase, Md. Filed Feb. 12, 1910. Serial No. 543,476.

1. A lap robe securing and supporting device comprising a securing member to engage one end of a robe, a supporting member disposed at an angle to the securing member to engage the robe at another point, said securing member being movable into and out of operative position, means for holding the securing member in operative position, and means for connecting said members to an automobile with the supporting member in position to support the lap robe free from the sweep of the automobile pedals.

2. A lap robe holder for automobiles including mutually-connected robe-securing and robe-supporting members, the former being arranged to secure the front end of a robe and the latter being arranged to engage an intermediate

portion of the robe and prevent said intermediate portion from coming in contact with the pedals of the automobile by sagging, and means for positioning said holder in operative relation to said pedals.



3. A lap robe clamping and supporting device for automobiles comprising a robe-clamping member to engage one end of a robe, a robe-supporting member to engage the robe at another point, said supporting member being disposed at an angle to the clamping member, and means for movably connecting the device to an automobile for movement of the clamping member into and out of clamping relation to a coöperating element on the automobile, the said securing and supporting members being connected together.

4. A lap robe securing and supporting device comprising a securing member to engage one end of a robe, a supporting member disposed at an angle to said securing member to engage the robe at another point, and means for movably connecting said members to the foot board of an automobile with the securing member in position for movement into and out of clamping relation to a coöperating contiguous portion of the automobile.

5. A lap robe securing and supporting attachment for automobiles comprising a pair of brackets each having a standard portion and a base portion, the latter to bear and be secured on the foot-board of the automobile, a bowed robe-securing bar, a bowed robe-supporting bar, the corresponding ends of said bars converging and being connected, pivots connecting the corresponding ends of said bars to said standard portions of said brackets for angular movement of said bars for the purpose set forth, and springs exerting downward pressure on said securing bar, the said springs having arms bearing on said standard portions, coils engaging said pivots and arms engaging said securing bar.

[Claims 6 to 14 not printed in the Gazette.]

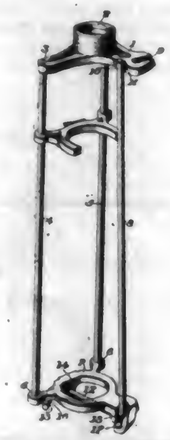
973,857. CHEMICAL FIRE-EXTINGUISHER. FRANK LESLIE COOKE, New York, N. Y., assignor to Pittsburg Fire Extinguisher Company, a Corporation of Pennsylvania. Filed Oct. 28, 1905. Serial No. 284,884.

1. In an extinguisher cage, top and bottom parts, one of which provides bearings, a plurality of side members connecting these parts, a transversely movable pivotal side member mounted in said bearings, and means for changing from pivotal movement of this member to lateral spring movement thereof in proximity to the closed position.

2. In an extinguisher cage, an upper spider having a transverse slot therein, a lower spider having bearings upon opposite sides of the center thereof, fixed connections between said spiders, a closing member pivoted in said bearings, and means upon the lower spider for checking pivotal movement of said closing member in proximity to its closed position.

3. In an extinguisher cage, top and bottom members therefor having a transverse catch in one and bearings upon opposite sides of the center of the other thereof, connections between the top and bottom, a closure pivoted in said bearings and extending beyond said bearings, and means upon the member carrying the bearings for engaging said extension.

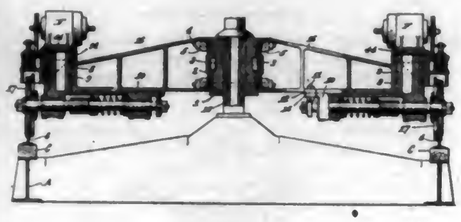
4. In an extinguisher cage, top and bottom cage portions presenting bearings upon opposite sides of the center in one and a catch in the other, fixed connections between said portions, a side opening member pivoted in said bearings, and having a free end of sufficient length to engage with the catch.



5. In an extinguisher, a cap, studs depending therefrom, a spider engaging with the said studs and a cage secured to said spider.

[Claims 6 to 14 not printed in the Gazette.]

973,858. TESTING-MACHINE. PAUL A. CUBNOT, Steelton, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 13, 1909. Serial No. 489,620.



1. In a rail testing machine, the combination with a metallic frame for supporting the rails to be tested; of a movable arm extending over the frame, a railway car wheel mount secured to the arm, and means to angularly adjust and hold the mount in its adjusted position with respect to the arm and simultaneously skew the axis of the wheel from its radial line.

2. In a rail testing machine, the combination with a metallic frame for supporting the rails to be tested; of a movable arm extending over the frame, means to permit the vertical adjustment of inclination of the arm, a railway car wheel mount secured to the arm and means to angularly and laterally adjust the mount with respect to the arm.

3. In a rail testing machine, the combination with an arm; of a railway car wheel mount secured to the arm, and means to angularly and positively adjust the mount with respect to the arm during the movement of said arm and hold the mount in its adjusted position.

4. In a rail testing machine, the combination with a circular frame for supporting the rails to be tested, and a vertical central driving shaft; of a hub on the shaft having cylindrical seats, arms having cylindrical ends fitting said seats, removable exchangeable keys between the hub and arm ends having off-sets varying from zero to a maximum to determine the angular adjustment of the arms and means to secure the arms to the hub.

5. In a rail testing machine, the combination with a circular frame for supporting the rails to be tested, and an arm mounted to rotate about the center thereof and having a bearing in its end; of a railway car wheel mount secured to the arm and having a boss mounted in the bearing.

[Claims 6 to 15 not printed in the Gazette.]

973,859. FOLDING UMBRELLA OR PARASOL. JOHN J. DANIELS, Rockford, Ill. Filed May 14, 1909. Serial No. 498,079.



1. In an umbrella, the combination with a rod, of a sleeve fixed to the rod and projecting beyond the same, forming a socket, said sleeve having an outstanding flange, a notch mounted on the sleeve and abutting against the inner side of the flange, ribs pivoted to the notch, a tip having its inner end fitting in the socket, said tip having an annular shoulder abutting against the outer side of the flange, and a latch located within the tip and detachably engaging the flange to maintain said tip in place.

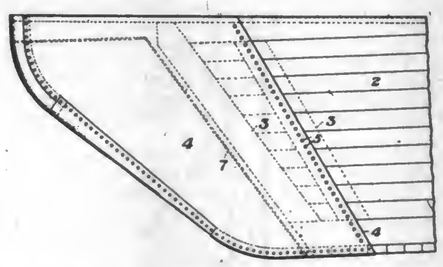
2. In an umbrella, the combination with a rod, of a sleeve fixed thereon, a notch detachably mounted on the outer end of the sleeve, ribs pivoted to the notch, a runner slidable on the rod and abutting against the inner end of the sleeve to limit its outward movement, and spreaders pivoted to the runner and to the ribs.

3. In an umbrella, the combination with a rod, of a sleeve fixed to and projecting beyond the outer end of the rod, said sleeve having an outstanding stop flange, a notch surrounding the sleeve and abutting against the flange, a catch for holding the notch in place, ribs pivoted to the notch, a runner slidable upon the rod and abutting against the inner end of the sleeve to limit its outward movement, spreaders connecting the runner and ribs, a detachable tip that fits within the sleeve, and a catch carried by the tip and detachably engaging the sleeve to maintain the tip in position.

973,860. BARGE. RICHARD J. DONOVAN, Ambridge, Pa. Filed Mar. 16, 1907. Serial No. 362,694.

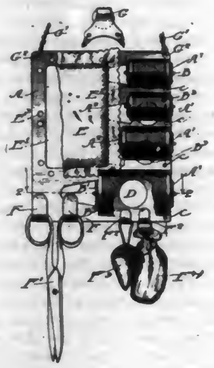
1. A wooden barge having a steel rake end, consisting of side plating, bottom plating curved upwardly to form the rake, head or bumping block, a steel handling deck, and a steel water-tight bulk head; substantially as described.

2. A wooden barge having a steel rake end; consisting of side plating, bottom plating curved upwardly to form the rake, head or bumping block, a steel handling deck



and a steel water-tight bulk head, said end containing a water-tight compartment to thereby give sufficient buoyancy to float the barge; substantially as described.

973,861. SPOOL-HOLDER. MARIE J. EIDAM, Chicago, Ill. Filed Dec. 2, 1909. Serial No. 530,927.



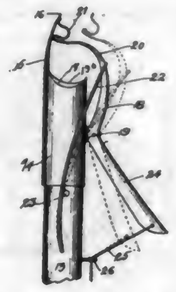
1. A spool holding device comprising a flat plate, upwardly turned spring lugs integral therewith, spool-carrying rods in said lugs, a pin cushion attached to said plate, supporting means at one edge of the plate, a plurality of upwardly turned integral hooks at the opposite edge, a thread guide comprising a hole through the plate adjacent each of the spool-carrying rods and a perforation in the plate beneath each of said rods.

2. A spool holding device comprising a flat plate, upwardly turned spring lugs integral therewith, spool-carrying rods in said lugs, a pin cushion attached to said plate, supporting means at one edge of the plate, a plurality of upwardly turned integral hooks at the opposite edge, a thread guide comprising a hole through the plate adjacent each of the spool-carrying rods and a perforation in the plate beneath each of said rods, said plate perforated to contain the pin cushion, perforations about such cushion, and means engaging the cushion and said perforations for attaching it to the plate.

973,862. TONGS. LOUIS E. FUNK, Chicago, Ill. Filed Apr. 4, 1910. Serial No. 553,203.

1. In a device of the class described, the combination of tong mechanism mounted upon one end of a pole, and mechanism adjacent to the other end of the pole for actuating said tong mechanism, the tong mechanism comprising a fixed section and a movable section, and the upper

end of the movable section being of an S-shaped formation and contacting the article at a plurality of points during the clamping operation, substantially as described.



2. In a device of the class described, the combination of tong mechanism mounted upon one end of a pole, and mechanism adjacent to the other end of the pole for actuating said tong mechanism, the tong mechanism comprising a fixed section and a movable section, the upper end of the movable section being of an S-shaped formation and producing a plurality of various sized grooves between the fixed and movable sections, for the reception of articles of various sizes, substantially as described.

3. In a device of the class described, the combination of tong mechanism mounted upon one end of a pole, mechanism adjacent to the other end of the pole for actuating said tong mechanism in one direction, the tong mechanism comprising a fixed section and a movable section, the upper end of the movable section being of an S-shaped formation and contacting the article at a plurality of points during the clamping operation, and a spring for actuating the movable clamping member in the other direction, substantially as described.

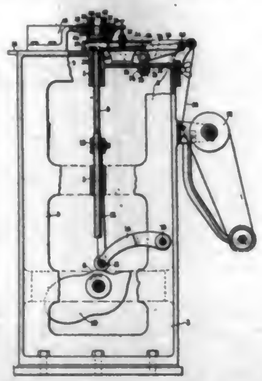
4. In a device of the class described, the combination of tong mechanism mounted upon one end of a pole, said mechanism comprising a fixed section and a movable section, the movable section being in the form of a bell crank lever, having its upper or clamping end of an S-shaped formation and contacting the article at a plurality of points during the clamping operation, an actuating member adjacent to the other end of the pole, and comprising a bell crank lever, a connection between the movable section and the actuating member, means for adjusting said connection, and means for adjusting the actuating member up and down upon the pole, substantially as described.

5. In a device of the class described, the combination of tong mechanism mounted upon one end of a pole, said mechanism comprising a fixed section and a movable section, the movable section being in the form of a bell-crank lever, having its upper or clamping end of an S-shaped formation, said S-shaped formation producing a plurality of various sized grooves between the fixed and movable clamping members, for the reception of articles of different sizes, an actuating member adjacent to the other end of the pole, and comprising a bell crank lever, a connection between the movable section and the actuating member, means for adjusting said connection, and means for adjusting the actuating member up and down the pole, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

973,863. WRAPPING-MACHINE. FREDERICK GROVER, Leeds, England, assignor to The Forgrove Machinery Company, Limited, Leeds, England. Filed July 24, 1909. Serial No. 509,405.

1. In a machine for wrapping conical or semi-spherical bodies such as chocolate bonbons in tin foil or other wrappers; the combination with a framework, a bearing in the framework, a vertical plunger to slide in said bearing, a flat horizontal table forming part of said framework with the upper plane surface of which the upper end of said plunger normally coincides, means for placing the body to be wrapped upon the said upper end of said plunger, a horizontal stationary tray carried on the framework to support the wrapper and having a through aperture co-axial with said plunger, said tray being located at a distance above said horizontal table, means for supplying and feeding said wrapper onto said horizontal tray, a stationary folding plate having a through aperture co-axial with said plunger, means for supporting said folding plate above said horizontal tray and at a short distance therefrom, an annular brush having internal radial bristles, a bearing supported from the framework within which said annular brush is capable of revolving about its axis co-axial with the axis of said plunger, means for constantly revolving said brush, and means for spinning inward the dependent ends of the wrapper up against the base of the body carried by the revolving brush; of mechanism to slide said plunger upward to carry said body resting thereon and said wrapper through said aperture in said stationary folding plate and into the grip of the bristles of said revolving brush, to cause said plunger to descend during the spinning in of the dependent ends of said wrapper and to again be slid upward through a longer distance to force and carry said wrapped body through said rotating annular brush to deliver said body and simultaneously press said wrapper closely to the base of said body substantially as set forth.



2. In a machine for wrapping conical or semi-spherical bodies such as chocolate bonbons in tin foil or other wrappers; the combination with a framework, a bearing in the framework, a vertical plunger to slide in said bearing, a flat horizontal table forming part of said framework with the upper plane surface of which the upper end of said plunger normally coincides, means for placing the body to be wrapped upon the said upper end of said plunger, a horizontal stationary tray carried on the framework to support the wrapper and having a through aperture co-axial with said plunger, said tray being located at a distance above said horizontal table, means for supplying and feeding said wrapper on to said horizontal tray, a stationary folding plate having a through aperture co-axial with said plunger, means for supporting said folding plate above said horizontal tray and at a short distance therefrom, an annular brush having internal radial bristles, a bearing supported from the framework within which said annular brush is capable of revolving about its axis co-axial with the axis of said plunger, means for constantly revolving said brush, horizontal pivoted side fingers beneath said annular brush, said fingers being normally separated to allow of the passage of said plunger and the body and wrapper carried thereby, means for closing said fingers while said body and wrapper are held in said rotating brush to spin the dependent ends of said wrapper inward under the base of the body being wrapped, and means for again separating said fingers; of mechanism to slide said plunger upward to carry said body resting thereon through said aperture in said horizontal tray to carry said body and said wrapper located above said tray through said aperture in said stationary folding plate and into the grip of the bristles of said revolving brush, to cause said plunger to descend during the spinning in of the dependent ends of said wrapper, and to again be slid upward through a longer distance to force and carry said body through said rotating annular brush to deliver said body, substantially as set forth.

3. In a machine for wrapping conical or semi-spherical bodies such as chocolate bonbons in tin foil or other wrappers; the combination with a framework, a bearing in the framework, a vertical plunger to slide in said bearing, a flat horizontal table forming part of said framework with the upper plane surface of which the upper end of said plunger normally coincides, means for placing the body to be wrapped upon the said upper end of said plunger, a horizontal stationary tray carried on the framework to support the wrapper and having a through aperture co-axial with said plunger, said tray being located at a distance above said horizontal table, means for supplying and feeding said wrapper on to said horizontal tray, a stationary folding plate having a through aperture co-axial with said plunger, means for supporting said folding plate above said horizontal tray and at a short distance therefrom, a bracket from said framework, a boss formed on said bracket and having a circular through aperture, a ring carried in said aperture and capable of revolving therein, an annular brush co-axial with said plunger and carried by said ring and located above said folding plate, means for revolving said ring, horizontal pivoted side fingers beneath said annular brush, said fingers being normally separated to allow of the passage of said plunger and the body and wrapper carried thereby, and means for closing said fingers while said body and wrapper are held in said annular rotating brush to spin the dependent ends of said wrapper inward under the base of the body being wrapped, and means for again separating said fingers; of mechanism to slide said plunger upward to carry said body resting thereon through said aperture in said horizontal tray, to carry said body and said wrapper located above said tray through said aperture in said stationary folding plate and into the grip of said annular revolving brush, to cause said plunger to descend and to again be slid upward through a longer distance to force and carry said wrapped body through said rotating annular brush, a stationary inclined chute having a through aperture in its base co-axial with said annular brush, a deflecting plate in said chute above said aperture to deflect said body carried through said aperture by said plunger down said chute, substantially as set forth.

4. In a machine for wrapping conical or semi-spherical bodies such as chocolate bonbons in tin foil or other wrappers; the combination with a framework, a bearing in the framework, a vertical plunger to slide in said bearing, a flat horizontal table forming part of said framework with the upper plane surface of which the upper end of said plunger normally coincides, means for placing the body to be wrapped upon the said upper end of said plunger, a horizontal stationary tray carried on the framework to support the wrapper and having a through aperture co-axial with said plunger, said tray being located at a distance above said horizontal table, means for supplying and feeding said wrapper on to said horizontal tray, a stationary folding plate having a through aperture co-axial with said plunger, means for supporting said folding plate above said horizontal tray and at a short distance therefrom, an annular brush having internal radial bristles, a bearing supported from the framework within which said annular brush is capable of revolving about its axis co-axial with the axis of said plunger, means for constantly revolving said brush, and means for spinning inward the dependent ends of the wrapper up against the base of the body carried by the revolving brush; of a main horizontal first motion shaft located near the base of the machine, bearings in the framework to carry said shaft, a controlling arm pivoted at one end to the framework, a runner carried on a pivot at the opposite end of said arm, a pair of links pivoted at their upper ends to the plunger and at their lower ends to the pivot of said runner on said controlling arm, and a cam on said first motion shaft to act on said runner to slide said plunger upward to carry said body to be wrapped resting thereon and said wrapper through said aperture in said stationary folding plate and into the grip of the bristles of said revolving brush, to cause said plunger to descend during the spinning in of the dependent ends of said wrapper and to again be slid upward through a longer distance to force said wrapped body through said rotating annular brush and to flatten said wrapper on to the base of said body, substantially as set forth.

5. In a machine for wrapping conical or semi-spherical bodies such as chocolate bonbons in tin foil or other wrappers; the combination with a framework, a bearing in the framework, a vertical plunger to slide in said bearing, a flat horizontal table forming part of said framework with the upper plane surface of which the upper end of said plunger normally coincides, means for placing the body to be wrapped upon the said upper end of said plunger, a horizontal stationary tray carried on the framework to support the wrapper and having a through aperture co-axial with said plunger, said tray being located at a distance above said horizontal table, means for supplying and placing said wrapper upon said tray, a stationary folding plate having a through aperture co-axial with said plunger, means for supporting said folding plate above said horizontal tray and at a short distance therefrom, a bracket carried from said framework extending horizontally above said folding plate, a boss formed on said bracket above said folding plate and having a circular through aperture, a ring carried in said aperture and capable of revolving therein, an annular brush co-axial with said plunger and carried by said ring, a vertical revoluble shaft, bearings to carry said shaft, means for constantly rotating said vertical shaft, external annular teeth formed on said ring carrying said brush, and toothed gearing driven by said vertical shaft and engaging said teeth formed on said brush-carrying ring to give the latter constant rotation, and means for spinning inward the dependent ends of the wrapper up against the base of the body carried by the revolving brush; of mechanism to slide said plunger upward to carry said body resting thereon and said wrapper through said aperture in said stationary folding plate and into the grip of the bristles of said revolving brush, to cause said plunger to descend during the spinning in of the dependent ends of said wrapper and to again be slid upward through a longer distance to force and carry said wrapped body through said rotating annular brush to deliver said body and simultaneously press said wrapper closely to the base of said body, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

973,864. CUFF-BUTTON. JOSEPH L. HERZOG, New York, N. Y. Filed Feb. 9, 1910. Serial No. 542,825.



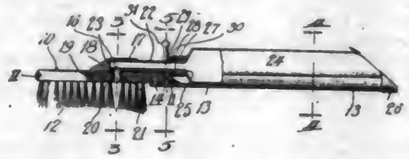
A cuff button constructed of a single piece of metal and comprising two disks connected by a bar, said bar merging into the metal of which the disks are formed at points within the outer edges of said disks.

973,865. BRUSH. JESSE L. HITZ, Chicago, Ill. Filed Jan. 15, 1910. Serial No. 538,176.

1. The combination with a brush having a fixed handle, and provided with a duct having a port communicating with the bristles of the brush, of a collapsible reservoir carried by said brush, a hollow stem secured upon and extending from said reservoir to said duct and arranged to open and close said port.

2. The combination with a brush having a fixed handle, of a reservoir removably secured thereto against relative

movement, and a hollow stem communicating with the interior of said reservoir and with a duct in the brush which leads to the bristles, and arranged to open and close said port.



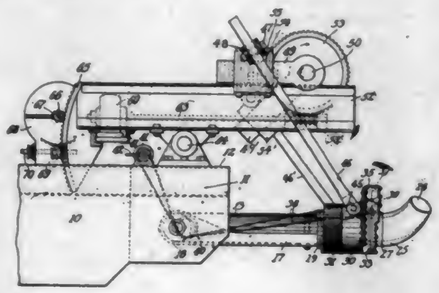
3. The combination with a brush having a fixed handle and provided with a duct having a port communicating with the bristles, of a reservoir removably secured to said handle against relative rotatory movement and having an externally screw threaded neck, a hollow stem communicating with the interior of said reservoir and arranged to cover and uncover said port and a coupling for securing said hollow stem upon the neck of the reservoir.

4. The combination with a brush having a fixed handle and provided with a duct having a port communicating with the bristles, of a collapsible reservoir removably secured to said handle against relative rotatory movement and having an externally screw threaded neck, a hollow stem in communication with the interior of the reservoir and having a port adapted to register with said port and a coupling for connecting said hollow stem with the neck of the reservoir.

5. The combination with a brush having a fixed handle and a lateral projection formed with a duct having a port communicating with the bristles of the brush, of a collapsible paste tube, one end of which is removably secured to the handle, and the other end of which is provided with an externally screw threaded neck, a hollow stem seated in said duct and arranged to open and close said port and a coupling threaded upon said neck and arranged to connect the hollow stem therewith.

[Claims 6 to 9 not printed in the Gazette.]

973,866. DREDGE. WILLIAM F. HOWE, Chicago, Ill. Filed Feb. 25, 1909. Serial No. 480,021.



1. In a dredging apparatus providing a hull, the combination of a suction pipe, a suction head provided with a mouth, means operable from and contained on the hull for oscillating the pipe in a vertical plane and cotemporaneously oscillating the head with respect to the axis of the pipe.

2. In a dredging apparatus providing a hull, the combination of a suction pipe, a suction head rotatably movable about the axis of the pipe and provided with a mouth at an angle to the pipe axis, and means operable from and contained on the hull for operation to elevate and lower said pipe and in such operation simultaneously oscillating the head with respect to the pipe axis.

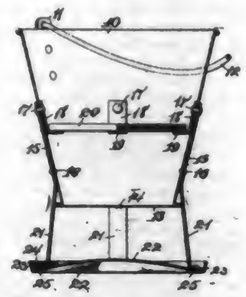
3. In a dredging apparatus, the combination of a suction pipe, mounted for vertical oscillation, a suction head mounted for oscillation about the axis of said pipe, and a rotatable actuating element connected with said parts to both oscillate the pipe in a vertical plane and oscillate the suction head with respect to the pipe axis cotemporaneously.

4. In a dredging apparatus, a suction pipe, a suction head having its mouth opening at an angle to said pipe, and means automatically operable upon operation of the dredge for rotatably adjusting said suction head on the pipe to turn said mouth in the direction of the vertical travel of the pipe.

5. In a dredge, a hull, a suction pipe pivotally connected to said hull, a cutter head mounted on said suction pipe for rotation with respect thereto, and means involving a rotatable element for oscillating the pipe and simultaneously rotatably oscillating said cutter head.

[Claims 6 to 18 not printed in the Gazette.]

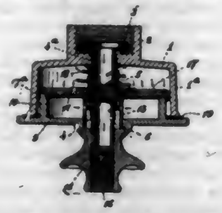
973,867. PLUMBER'S POT. CHARLES A. JOHNSON, Jr., East Orange, N. J. Filed Sept. 1, 1909. Serial No. 515,635.



1. A plumber's furnace comprising a body portion with flaring sides and an open top, a bottom plate on the body portion, right-angled clips on the inner sides of the body portion, legs lying against the body portion in line with the clips, rivets passing through the legs the clips and the body portion to secure them together, the legs having projecting portions extending below the body portion, and a bottom tray with a peripheral flange secured to the ends of the legs.

2. A plumber's furnace comprising a body portion with flaring sides and an open top, a bottom plate on the body portion, right-angled clips on the inner sides of the body portion, legs lying against the body portion in line with the clips, rivets passing through the legs the clips and the body portion to secure them together, the legs having projecting portions extending below the body portion and formed with bent ends, a bottom tray of concavo-convex form with the convex side upward having a peripheral flange extending upwardly along its edge, the bent ends of the legs adapted to lie on the tray and abut on the flange, and rivets passing through the tray and the bent portions of the legs to secure them together.

973,868. FILTER. GEORGE M. KNEUPER, Brooklyn, N. Y. Filed Sept. 10, 1909. Serial No. 517,036.



1. A filter comprising a casing formed in two sections, means for securing said sections together, a sieve located in said casing and provided with an aperture, a tube extending axially of said casing through the aperture of said sieve, said tube being of less diameter than the diameter of said aperture, and a sheet of filtering material arranged on said sieve and to be clamped between the peripheries of the aperture and the tube.

2. A filter comprising a casing formed in two sections, means for securing said sections together, a sieve located in said casing and provided with an aperture having a beveled periphery, a tube extending axially of said casing and having a tapered portion projecting through said aperture, said tapered portion being of less diameter than the diameter of said aperture and a sheet of filtering material arranged on said sieve and to be clamped between the beveled periphery of the aperture and the tapered portion of the tube.

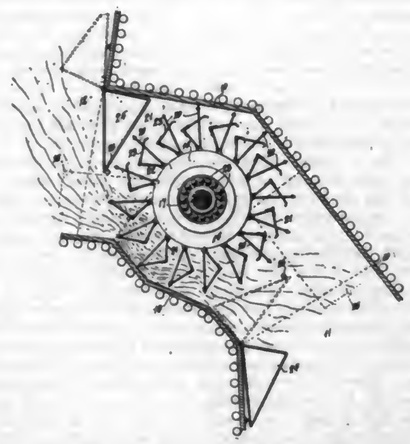
3. A filter comprising a casing, a sheet of filtering material located in said casing and provided with a central aperture, a tube extending axially of said casing through said aperture and divided into an inlet and outlet chamber, and means for clamping said filtering material at its periphery and at its central portion adjacent to the aperture.

4. A filter comprising a casing formed in two sections, one of said sections having an annular flange extending into the other section and spaced therefrom, a sieve supported on said flange provided with a central aperture, a tube divided into an inlet and an outlet compartment extending axially of said casing through the said aperture and a sheet of filtering material located on said sieve and arranged to be clamped between the flange and the casing and also between the periphery of said aperture and said tube.

5. A filter comprising a casing formed in two sections, one of said sections having an annular flange extending into the other section and spaced therefrom, a sieve supported on said flange provided with a central aperture, a tube divided into an inlet and an outlet compartment extending axially of said casing through the said aperture, a sheet of filtering material located on said sieve and arranged to be clamped between the flange and the casing and also between the periphery of said aperture and said tube, and a nut swiveled in one section and arranged to engage said tube to lock the sections together.

[Claims 6 and 7 not printed in the Gazette.]

973,869. TIDE-WATER MOTOR. MARTIN LOGAN, New York, N. Y. Filed Oct. 27, 1909. Serial No. 524,905.



1. A water motor comprising a channel provided with enlarged entrances and a restricted portion, a water wheel mounted in the restricted portion of said channel and adapted to rotate horizontally, a pair of gates, said gates being pivoted on opposite sides of said channel one at each end thereof and being arranged to swing in a horizontal plane away from the restricted portion of the channel when open, means for arresting the outward open movement of said gates whereby the movement of water through the channel in either direction will open one of said gates and close the other to maintain the direction of rotation of the water wheel constant.

2. A water motor comprising a channel having a restricted portion, a water wheel mounted in the restricted portion of said channel and adapted to rotate horizontally, a pair of horizontally movable gates extending into said channel and adapted to be swung by the movement of the water through the channel, the movement of the water in one direction swinging one gate inwardly across the restricted portion of the channel to a closed position and the other gate outwardly toward the channel wall away from the restricted portion, the reverse movement of the water reversing the movement of the gates.

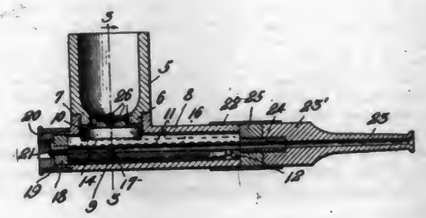
3. A water motor comprising a channel having a restricted portion, a water wheel mounted in said restricted portion of the channel and adapted to rotate horizontally, a pair of gates pivoted to the side walls of the channel and adapted to be moved inwardly to obstruct the channel on opposite sides of the water wheel, means for limiting the inward movement of said gates in their open position whereby the movement of water through the channel in either direction will cause one of said gates to obstruct the channel and deflect the flowing water toward one side of the water wheel.

4. A water motor comprising a channel having a restricted portion, a water wheel mounted in the restricted portion of said channel and adapted to rotate horizontally, a gate pivoted to the side wall of said channel adjacent to the wheel and adapted to be swung horizontally by the movement of the water through said channel, means for arresting the gate in its inward movement whereby said gate will partially obstruct the channel when the water is moving therethrough in one direction and will be swung outwardly toward the channel wall to free the channel when the water is moving therethrough in the opposite direction.

5. A water motor comprising a channel, a water wheel mounted therein, a gate triangular in horizontal section means for pivoting said gate at one of its angles to the channel wall near the water wheel, means for arresting the inward movement of the gate to cause it to obstruct the channel whereby the gate may be swung in one direction by the movement of the water in the channel and in the opposite direction by the reverse movement of the water.

[Claims 6 to 12 not printed in the Gazette.]

973,870. TOBACCO-PIPE. ANDREW E. MATSON, Eureka, Cal. Filed Nov. 10, 1909. Serial No. 527,272.



1. A tobacco pipe comprising a bowl and stem, an adjustable channeled member positioned in the stem and extending beneath the bowl, the adjacent channels of said members being connected, and a mouthpiece secured on the forward end of the stem, the adjustment of said member providing a long or short circuit of the smoke through the stem from the bowl to the mouthpiece.

2. A tobacco pipe comprising a bowl and stem, a removable member in said stem extending beneath the bowl

provided with a circuitous passage and having a communicating passage between said circuitous passage and the tobacco chamber, a mouth piece frictionally held in engagement with the forward end of the stem, and means for directing the smoke into said passages to provide a long or short circuit through the stem to the bore of the mouth piece.

3. A tobacco pipe comprising a bowl and tubular stem, a removable member in said stem extending beneath the bowl and spaced therefrom and having a circuitous smoke conducting passage therein, the outer end of said stem extending beyond the bowl, a removable closure therefor, a mouth piece frictionally held in engagement with the forward end of the stem, and means for directing the smoke into said passages to obtain a long or short circuit through the stem to the bore of the mouth piece.

4. A tobacco pipe comprising a bowl and tubular stem, a removable member in said stem having a plurality of longitudinal channels and transverse passages at its opposite ends, said member extending beneath the bowl, said bowl being provided with a plurality of apertures through the bottom thereof, a mouth piece frictionally held in engagement with the forward end of said stem, and means for directing the smoke into said channels to provide a long or short circuit in its passage from the bowl to the bore of the mouth piece.

5. A tobacco pipe comprising a separable bowl and stem, a removable member disposed in said stem and extending beneath the bowl, said member tapering from its rear to its forward end and having a plurality of longitudinal surface channels and transverse connecting passages at each end, the rear end of said member being spaced from the bottom of the bowl to provide a collecting chamber, said bowl having a plurality of vertical apertures through the bottom thereof, a mouthpiece frictionally held in longitudinal alinement with said stem and adapted to be moved outwardly thereof, and means for directing the smoke into certain of said channels to provide a long or short circuit therefor through the stem to the bore of the mouth piece.

[Claims 6 to 15 not printed in the Gazette.]

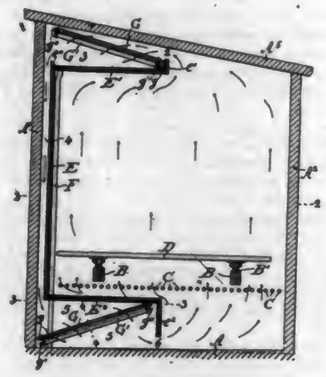
973,871. NECKTIE-SUPPORTER. JUNIUS B. MAYO, Dallas, Tex. Filed Dec. 9, 1909. Serial No. 532,190.



1. In a necktie supporter, a curved piece of sheet material having its upper edge formed in a single continuous curve, the sheet material having its lower edge in the form of a single continuous curve except at the central portion where the material is cut out to form a narrow central shank portion, the ends of the sheet material being bent out of alinement with the general curvature of the remaining portion thereof, curved spring arms having their outer end engaging with the sheet material at each side of the shank and beyond the same, and a central button engaging loop merged from the inner ends of the arms.

2. In a necktie supporter, a curved piece of sheet material, the upper edge of the sheet being continuous in single general curve, a narrow shank portion provided at the center of the sheet, a wire button engaging loop having its lower ends some distance below the shank portion of the sheet, and a single wire arm extending laterally from each lower end of the loop in a full curve and having its end rigidly secured to the sheet beyond the shank portion, whereby the loop is resiliently supported and capable of movement independently of the sheet material.

973,872. LUMBER-KILN. JOHN MCLAUGHLIN, Ottawa, Ontario, Canada. Filed Aug. 23, 1909. Serial No. 514,334.



1. In a lumber kiln, the combination with the walls forming a chamber, of a false wall facing one of the side walls and forming a narrow flue, approximately horizontal continuations of said false wall at top and bottom extending partly into and near the center line of the chamber and forming horizontal deeper continuations of said flue as condensing chambers, vertical lips at the inner edges of said horizontal continuations of false wall contracting the mouths of the condensing chambers, condensing coils within said condensing chambers consisting of two tiers of pipes placed in staggered relation and sloping transversely across said chambers, means of drainage for said condensing chambers and heating apparatus in the lower part of the main chamber and above the lower condensing chamber, substantially as set forth.

2. In a lumber kiln, the combination with the walls forming a chamber of a false wall facing one of the side walls but short at top and bottom and forming a narrow flue, approximately horizontal continuations of said false wall at top and bottom extending partly into and near the center line of the chamber and forming horizontal continuations of said flue, the lower one deeper to form a condensing chamber, a vertical continuation or lip at the lower edge of said lower horizontal continuation descending near the floor but leaving a mouth or space forming the egress from and said descending lip forming the inner confine of the condensing chamber, two tiers of condensing pipes placed transversely in said chamber and sloping from the floor of the ingress side to the top of the egress side and disposed in staggered relation and heating apparatus placed in the lower part of the main chamber above the condensing chamber, substantially as set forth.

3. In a lumber kiln, the combination with the walls forming a chamber, of a false wall facing the highest side wall but short at top and bottom and forming a narrow flue, approximately horizontal continuations of said false wall at top and bottom extending partly into and near the center line of the chamber and forming horizontal continuations of said flue, the upper one deeper to form a condensing chamber, a vertical continuation or lip at the inner edge of said upper horizontal continuation ascending near the roof but leaving a mouth or ingress space forming the ingress to and said ascending lip forming the inner confine of the condensing chamber, two tiers of condensing pipes placed transversely in said chamber and sloping from the floor of the ingress side to the top of the egress side and disposed in staggered relation, an upward extension of the false wall above the floor of the condensing chamber to complete the trough shape, a down-spout draining said trough and a heating apparatus in the lower part of the main chamber, substantially as set forth.

4. In a lumber kiln, the combination with the walls forming a chamber, of a narrow flue facing the highest side wall in its whole length, a condensing chamber at a vertical end of said flue extending horizontally partly across and near the center line of the said main chamber and having a contracted mouth adjacent to said main chamber, condensing pipes placed transversely sloping across said condensing chamber and rising from the floor of the ingress side to the top of the egress side and consisting of two tiers placed in staggered relation, means of confining the precipitated water at the bottom of said condensing chamber, means of drainage of said condensing chamber and means of heating the air in the lower part of the main chamber, substantially as set forth.

973,873. SPARK-PLUG FOR EXPLOSIVE-ENGINES. MARTIN T. MINOGUE, Philadelphia, Pa., assignor, by direct and mesne assignments, to The Superior Motor Specialty Company, New York, N. Y., a Corporation of New York. Filed Dec. 18, 1909. Serial No. 533,957.



1. A spark plug containing a socket, and an insulating member composed of upper and lower sections in said socket, the lower section having an opening therein and the upper section having an opening inclined in respect to that in the lower section, and an electrode passing through said openings in the sections of the insulating member.

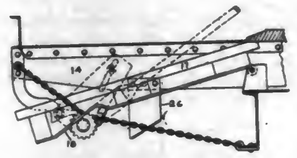
2. A spark plug containing a socket, an insulating member composed of upper and lower sections with a chamber between them in said socket, the lower section having an opening therein and the upper section having an opening inclined in respect to that in the lower member, and an electrode passing through said openings and bent in the chamber between the two sections of the insulating member.

3. A spark plug containing a socket, an insulating member composed of upper and lower sections in said socket, the lower section having an opening therein and the upper section having an opening inclined in respect to that in the lower member, and flared as to its inner portion, and an electrode passing through the openings in the two sections of the insulating member, and having upper and lower engagement therewith so as to retain the sections in proper relation to one another when the insulating member is removed from the plug.

4. A spark plug having an insulating member with projecting electrode, a device for holding the said insulating member to the plug, and a finger having an insulating pivotal mounting upon said holding device which permits of swinging movement of the finger in order to form a spark gap on the outside of the plug.

5. A spark plug having an insulating member with electrode stems having outwardly projecting ends, a yoke for holding said insulating member to the plug, and fingers one on each side of the yoke, said fingers having insulating pivotal mountings which permit swinging movement of the fingers, whereby a spark gap can be formed on the outside of the plug between either of the electrodes and its corresponding finger.

973,874. DUMPING-DOOR-OPERATING MECHANISM. JOHN O. NEIKIRK, Morgan Park, Ill., assignor to National Dump Car Company, Chicago, Ill., a Corporation of Maine. Filed Mar. 12, 1908. Serial No. 420,737.



1. In a dump car, a door supporting shaft and supporting chains therefor, said shaft being supported in intermediate positions solely by the chains.

2. In a dump car, a door supporting shaft, means to support the shaft when the door is closed or nearly closed, and chains forming the sole support of the door in intermediate positions and serving to reciprocate the shaft.

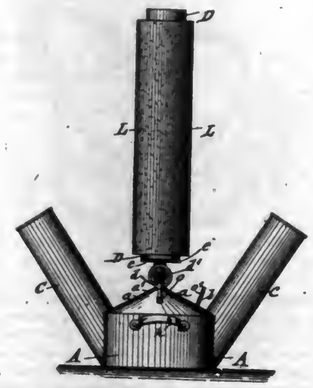
3. In a dump car, a door supporting shaft, opposed supporting chains extending oppositely from the shaft to fixed parts of the car, and fixed supports for the door in its extreme open and closed positions, said shaft being supported solely by said chains in intermediate positions.

4. In a dump car, a door supporting shaft, supporting chains for the shaft, and means adapted to receive and support the shaft when it is at the end of its path of movement corresponding to a closure of the door, said shaft being supported solely by said chains in other positions.

5. In a dump car, a door supporting shaft, a chain wrapped about the shaft, and means for preventing said chain from slipping on the shaft, the ends of said chain extending from the shaft and being connected respectively to fixed parts of the car framework, said chain constituting the sole supporting means for the shaft in intermediate positions thereof.

[Claims 6 to 13 not printed in the Gazette.]

973,875. SPONGING APPARATUS FOR TAILORS. BERNARD PASKOWITZ, New York, N. Y. Filed June 21, 1910. Serial No. 568,122.



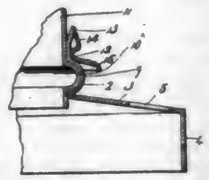
1. A sponging apparatus for tailors, comprising a steam-boiler provided with a plugged filling-opening and a safety device, and one or more upwardly-extending steam-trunks connected with the boiler, a steam supply-pipe at the uppermost point or apex of the boiler, a stopcock for said supply-pipe, a horizontal support on said pipe, a nozzle in line with the supply-pipe, and a perforated sponging cylinder supported on the nozzle-support and covered by a layer of felt or other porous material.

2. A sponging apparatus for tailors, comprising a boiler

provided with a valved steam supply-pipe at its uppermost point and provided with closed trunks connected at their lower ends with the upper part of the boiler for receiving dry steam generated in the boiler.

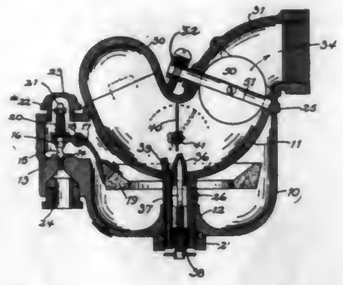
3. A sponging apparatus for tailors, comprising a boiler provided with a valved steam supply-pipe at its uppermost point and provided with closed trunks connected at their lower ends with the upper part of the boiler for receiving dry steam generated in the boiler, a steam supply-pipe, and a combined safety-valve and pressure-indicator arranged on the top-part of the boiler.

973,876. SHADE-HOLDER. WALTER H. PERKINS, Cheshire, Conn., assignor to Waterbury Mfg. Co., Waterbury, Conn., a Corporation. Filed June 13, 1910. Serial No. 566,669.



In a shade-holder for incandescent lamps, the combination with a shade-receiving ring provided with a socket-receiving collar divided by vertical slots into yielding collar-sections collectively having an outwardly projecting knurl for receiving a bead upon the lower end of a lamp socket; of a clamping-ring adapted to be sprung over the upper ends of the said collar-sections, and having an inwardly projecting bead, an upwardly extending and inwardly turned retaining-flange located above the same, and an outwardly turned lifting-off flange extending below the same.

973,877. CARBURETER. BURT NEULON PIERCE, Indianapolis, Ind. Filed Sept. 19, 1907. Serial No. 393,627.



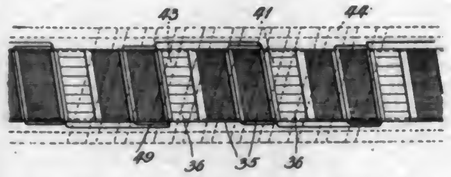
1. A carbureter including a shell forming a gas chamber with an air inlet opening substantially at one side and a gas outlet opening substantially at the other side, a fuel inlet between said air inlet and gas outlet openings, and a spring-controlled rocking valve mounted over said fuel inlet in position to substantially close said chamber, the major portion of said valve lying on the side of the fulcrum thereof opposite said fuel inlet, whereby the suction of the engine will automatically turn the larger portion of said valve above the fulcrum thereof toward the gas outlet and the smaller portion behind the fuel inlet end and thus increase the effect of the suction upon the fuel inlet.

2. A carbureter including a shell forming a gas chamber with an air inlet opening substantially at one side and a gas outlet opening substantially at the other side, a fuel inlet between said air inlet and gas outlet openings, and a spring-controlled rocking valve mounted over said fuel inlet in position to substantially close said chamber, the major portion of said valve lying on the side of the fulcrum thereof opposite said fuel inlet, whereby the suction of the engine will automatically turn the larger portion of said valve above the fulcrum thereof toward the gas outlet and the smaller portion behind the fuel inlet and thus increase the effect of the suction upon the fuel inlet, and a throttle valve between the gas outlet and said rocking valve for modifying the effect of the suction of the engine upon said rocking valve.

3. A carbureter including a shell forming a gas chamber with an air inlet opening substantially at one side and a gas outlet opening substantially at the other side, a fuel inlet nozzle projecting upwardly through the bottom of said shell and between said air inlet and gas outlet opening, a shaft mounted in said shell and extending transversely through said gas chamber and over said fuel inlet nozzle, a wing valve secured to said shaft so as to be normally vertical over the fuel inlet and with the part thereof below the fulcrum being partially cut away so that it will be smaller than the part of said valve above the fulcrum thereof, a spring acting on said shaft tending to prevent the movement of the upper part of said valve toward the gas outlet, and a stop for limiting the return movement of said valve and holding the same substantially vertical over said fuel inlet nozzle, whereby the valve can be actuated by the suction of the engine and then said fuel inlet nozzle will be on the suction side of the valve, substantially as set forth.

4. A carbureter including a gasolene bowl with a cylindrical open top and with a central opening through the bottom thereof, a shell for forming the gas-creating chamber adapted to fit upon and extend down into said bowl and with a tubular extension therefrom through the opening in the bottom of said bowl, which extension is threaded on its outer end, a nut on the outer end of said extension whereby said parts may be adjusted and held in relative positions, a fuel inlet passage way from the bowl through said extension into the chamber within said shell, a valve in said extension and operable from the outside for closing said fuel inlet port, and a waste tube leading from the chamber within said shell, said waste tube extending above the bottom of the shell to a point slightly lower than the upper end of the nozzle.

973,878. ELECTRIC MOTOR. EDWIN S. PILLSBURY, St. Louis, Mo., assignor to Century Electric Company, a Corporation of Missouri. Filed May 14, 1910. Serial No. 561,332.



1. In a device of the class described, a laminated field pole, the thickness of the individual laminæ being different on two sides thereof.

2. In a device of the class described, a laminated slotted field pole, the thickness of the individual laminæ being different on opposite sides of the slot.

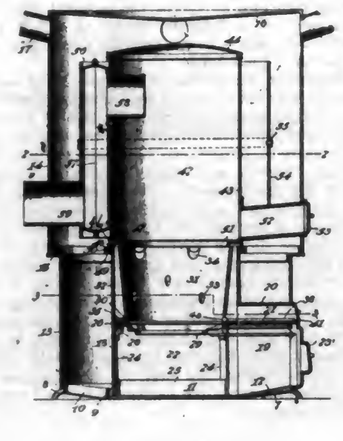
3. In a device of the class described, a laminated field pole comprising a plurality of teeth, the tooth at one side thereof being of thicker laminæ than the tooth at the opposite side.

4. In a device of the class described, a laminated field magnet having a plurality of teeth to each pole, part of the teeth being composed of integral projections from the field magnet laminæ, and other teeth being separate therefrom and of laminæ having a different thickness.

5. In a device of the class described, a laminated field magnet, each field magnet pole having a plurality of teeth, the field magnet being made up of stampings having part of the teeth integral therewith and having spaces left for other teeth, these spaces being filled with teeth built up from laminæ of a different thickness from the others.

[Claims 6 to 11 not printed in the Gazette.]

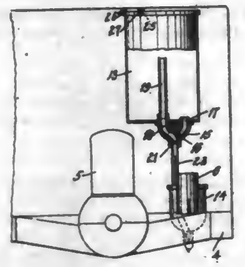
973,879. FURNACE. JAKE PROMENSHENKEL and RICHARD FREEMAN, Crestline, Ohio. Filed May 3, 1909. Serial No. 493,531.



1. In a furnace, the combination of a base, a jacket supported thereon, a grate-support located in the jacket and arranged on the base independently of said jacket and extending from the base upward in the jacket to an intermediate point in the height of the jacket; said grate support having an apertured ring at its upper end and also having brackets slightly below said end, a grate mounted on said brackets, a fire pot mounted on the inner portion of the apertured ring and separated by an annular intervening space from the jacket and having openings in its side wall, a combustion chamber supported on the jacket independently of the fire pot and arranged above said fire pot, and a rotatable draft-controlling ring mounted on the support ring and having apertures adapted to register with those of the latter.

2. In a furnace, the combination of a base, a jacket mounted on the base and having an opening in one side of its lower portion and a groove in its upper edge and also having, above said opening, a lateral handle-bar chamber that is open at its inner and outer ends, and a door normally closing the outer end of said chamber, a grate-support located in the jacket and arranged on the base independently of said jacket and extending from the base upward to an intermediate point in the height of the jacket; said grate support having an apertured ring at its upper end and also having brackets slightly below said end, a grate mounted on said brackets, a fire pot mounted on the inner portion of the apertured ring and separated by an annular intervening space from the jacket and having openings in its side wall; said annular space being in communication with said handle-bar chamber, a combustion chamber having its lower edge seated in the groove of the jacket and also having a portion disposed above the upper end of said annular space and over the fire-pot, and a rotatable draft controlling ring mounted on the support ring and having apertures adapted to register with those of the latter and also having means, located opposite the handle-bar chamber for the connection of a handle-bar.

973,880. AUXILIARY LIQUID-HYDROCARBON TANK FOR INTERNAL-COMBUSTION ENGINES. AMBROSE ELLIOTT RANNEY, New York, N. Y., assignor to The Scientific Research Co., New York, N. Y., a Corporation of New York. Filed Jan. 9, 1909. Serial No. 471,488.



1. The combination with the charge forming device of an internal combustion engine, of a main tank for fluid under pressure, an auxiliary tank communicating with said main tank, a connection leading from said charge forming device to said auxiliary tank and branching out into two passages, one of which terminates at or near to the bottom and the other near to the top of said auxiliary tank, and a single means inserted into said connection for closing or opening either of said passages at will.

2. The combination with the charge forming device of an internal combustion engine having a float chamber, of a main tank for fluid under pressure, an auxiliary tank communicating with and being arranged above the level of said float chamber, a connection leading from said charge forming device to said auxiliary tank and branching out into two passages, one of which terminates at or near to the bottom for conducting the fluid by gravity alone to said float chamber and the other near to the top of said auxiliary tank, and a valve inserted into said connection for closing or opening either of said passages at will.

3. The combination with the charge forming device of an internal combustion engine, of a main tank for fluid under pressure arranged below the level of said charge forming device, an auxiliary tank arranged above the level of said charge forming device and communicating with said main tank, a connection leading from said charge forming device to said auxiliary tank and branching out into two passages, one of which terminates at or near to the bottom for conducting the fluid by gravity alone to said float chamber and the other near to the top of said auxiliary tank for allowing the fluid to pass under pressure to said float chamber, and means inserted into said connection for closing or opening either of said passages at will.

4. The combination with the charge forming device of an internal combustion engine, of a main tank for fluid under pressure arranged below the level of said charge forming device, an auxiliary tank arranged above the level of said charge forming device and communicating with said main tank, a connection leading from said charge forming device to said auxiliary tank and branching out into two passages, one of which terminates at or near to the bottom for conducting the fluid by gravity alone to said float chamber and the other near to the top of said auxiliary tank for allowing the fluid to pass under pressure to said float chamber, and a valve inserted into said connection for closing or opening either of said passages at will.

5. The combination with the exhaust pipe of an internal combustion engine, of a main tank for liquid-hydrocarbon communicating with said exhaust pipe, an auxiliary tank communicating with said main tank, a charge forming device for said internal combustion engine arranged below the level of said auxiliary tank, a communication leading from said charge forming device to said auxiliary tank and branching out into two passages, one of which terminates at or near to the bottom for conducting the fluid by gravity alone to said float chamber and the other near to the top of said auxiliary tank for allowing the fluid to

pass under pressure to said float chamber, and a valve inserted into said connection for closing or opening either of said passages at will.

[Claims 6 and 7 not printed in the Gazette.]

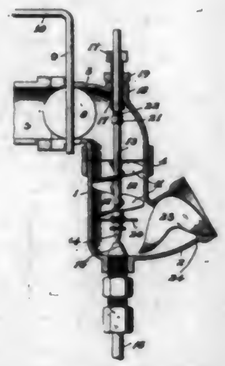
973,881. SPIRAL TOOL-DRIVER. DAVID RIOUX, Springfield, Mass. Filed July 19, 1910. Serial No. 572,660.



1. In a spiral tool driver, the combination with a tool operating shaft made with double oppositely running spiral grooves, of a handle member of tubular form, inclosing and axially movable relatively to the shaft, provided in opposite sides with apertures, dogs in said apertures having ribs in oblique arrangements corresponding to the spirality of the said reversely running grooves, a shell fitted about the tubular and apertured member rotatively adjustable relatively thereto, and inclosing said dogs, and having internal cam surfaces coöperative with the dogs, and means for forcing the dogs outwardly from the grooved operating shaft.

2. In an implement of the character described, the combination with a tool operating shaft made with double oppositely running spiral grooves, of a handle member of tubular form inclosing and movable axially relatively to the shaft, provided in opposite sides with apertures therethrough, a flat curved spring which intermediately thereof is secured on the tubular member and which has its extremities extended across both said apertures, dogs located in said apertures having recesses at intermediate portions of their inner sides by which they are engaged with the extremities of said curved springs and having their portions oppositely beyond said recesses provided with inwardly projecting ribs for engagement in said reversely running grooves, and a shell fitted and rotatably adjustable about the tubular apertured member having internal cam surfaces coöperative with the backs of the dogs.

973,882. CARBURETER. WILLIAM F. ROTHE, East St. Louis, Ill., assignor to Wm. F. Rothe and Company, East St. Louis, Ill., a Corporation of Illinois. Filed May 28, 1909. Serial No. 498,835.



1. A carbureter comprising a substantially vertical tubular casing having laterally turned end portions and whose bottom portion constitutes an oil receptacle, means for supplying oil to said receptacle, said casing having a spiral air inlet passageway in its lower end portion and having an outlet at its opposite end, said spiral air inlet passageway being arranged to deflect the air to the bottom of said oil receptacle in a whirling motion.

2. A carbureter comprising a tubular casing whose end portion is turned laterally and having a spiral passageway through its body portion, said casing having a receptacle for oil at the inner end of said spiral passageway, and means for supplying oil to said receptacle, said casing having a spiral air inlet passageway in its laterally turned end portion which is arranged and adapted to deflect the air to the bottom of said oil receptacle in a whirling motion.

3. A carbureter comprising a tubular casing having a spiral passageway through the body portion thereof, and having an oil receptacle at the inner end of said spiral passageway and an oil inlet opening into said receptacle, and a resiliently supported valve for said oil inlet having a diaphragm thereon, said casing having an air passageway opening into said oil receptacle, a spiral deflector arranged in said air passageway so as to deflect the air downwardly into said oil receptacle in a whirling motion and against said diaphragm.

4. A carbureter comprising a tubular casing having a spiral passageway through the body portion thereof, and having an oil receptacle at the inner end of said spiral passageway and an oil inlet opening into said receptacle, and a resiliently-supported valve for said oil inlet having a diaphragm thereon, said casing having a laterally-extending air inlet passageway at its inner end and an outlet at its opposite end, said air inlet passageway having a spiral deflector extending into said oil receptacle and arranged to deflect the air downwardly into said oil receptacle in a whirling motion and against said diaphragm.

5. A carbureter comprising a casing having a mixing chamber, inlet and outlet passageways located respectively at opposite ends of said mixing chamber, an oil receptacle at the bottom of said mixing chamber and said inlet passageway, and a spiral deflector arranged in said inlet passageway and extending into said oil receptacle so as to direct the incoming air to the bottom of said oil receptacle in a whirling motion.

973,883. PRODUCTION OF INCANDESCENT-ELECTRIC-LAMP FILAMENTS. WALDEMAR RÜHLING, Berlin, Germany, assignor to Hermann Malachowski, Berlin, Germany. Filed Nov. 15, 1909. Serial No. 528,152.

1. An incandescent electric lamp, having a carbon filament with a coating containing antimony deposited thereon.

2. An incandescent electric lamp, having a carbon filament with a coating of antimony deposited thereon.

3. An incandescent electric lamp, having a carbon filament with a coating containing an element of the antimony-arsenic group deposited thereon and an outer layer of carbon.

4. An incandescent electric lamp, having a carbon filament with a coating consisting of an element of the antimony-arsenic group deposited thereon and an outer layer of carbon.

5. An incandescent electric lamp, having a carbon filament with a coating of antimony deposited thereon and an outer layer of carbon.

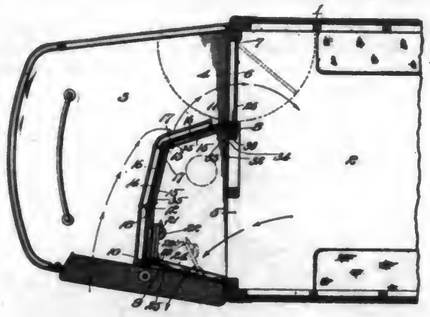
973,884. PASSENGER-CAR. CHARLES RUDOLF SEISER, St. Louis, Mo., assignor to United Railways Company of Saint Louis, St. Louis, Mo., a Corporation. Filed Apr. 15, 1909. Serial No. 489,971.

1. A car body, an extension thereto, and a fixed inclosure upon said extension extending from the floor to the roof of the extension and always in open communication with the car body, the extension and body being in communication aside from said inclosure.

2. A car body, an extension thereto, and an inclosure upon said extension extending from the floor to the roof of the extension and always in open communication with the car body and having an opening between the interior and the exterior thereof, the extension and body being in communication aside from said inclosure.

3. A car body, an extension thereto, an inclosure upon said extension extending from the floor to the roof of the

extension and always in open communication with the car body and having an opening between the interior and the exterior thereof, and means for closing said opening, the extension and body being in communication aside from said inclosure.

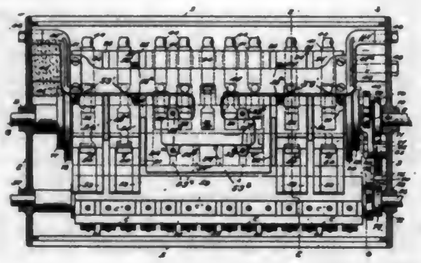


4. A car body, an extension thereto, an inclosure upon said extension extending from the floor to the roof of the extension and always in open communication with the car body, the car body having an opening providing communication with said extension aside from said inclosure, the extension and body being in communication aside from said inclosure.

5. A car body, an extension thereto, an inclosure upon said extension extending from the floor to the roof of the extension and always in open communication with the car body, the car body having an opening providing communication with said extension aside from said inclosure, and means for closing said opening, the extension and body being in communication aside from said inclosure.

[Claims 6 to 15 not printed in the Gazette.]

973,885. CURRENT-CONTROLLER. FRANK L. SESSIONS, Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Jan. 7, 1904, Serial No. 188,085. Renewed Feb. 23, 1909. Serial No. 479,514.



1. In a controller for electrical apparatus the combination of a current switching and resistance controlling mechanism, the resistance controlled thereby, and oppositely wound blow-out magnets arranged at either end of said current switching and resistance controlling mechanism, and having their energizing coils connected in parallel with the resistance, substantially as set forth.

2. In a controller for electrical apparatus the combination with the resistance coils, of a series of stationary contacts connected therewith, a series of movable contacts for engaging with said stationary contacts successively and the blow-out magnets arranged at either end of the series of stationary contacts and having their energizing coils oppositely wound on their respective cores and connected in parallel with the resistance, substantially as set forth.

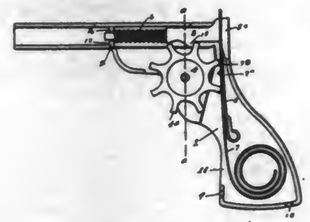
3. In a controller for electrical apparatus, the combination of a current-switching and resistance-controlling mechanism, a casing in which said mechanism is mounted, resistance controlled by said mechanism, and the blow-out magnets arranged near either end of said mechanism and having a common core and their energizing coils connected in parallel with said resistance.

4. In a controller for electrical apparatus, the combination with the resistance coils, of a series of stationary contacts connected therewith, a series of movable contacts for engaging with said stationary contacts, and stationary blow-out magnets for extinguishing the arcs formed at all of said contacts, mechanically independent of the movable contacts and having their energizing coils connected in parallel with said resistance coils.

5. The combination in controller for electrical apparatus of the frame work made of magnetizable metal, the pole piece arranged longitudinally between the end walls thereof, the magnet cores at the opposite ends of said pole piece and the pole pieces arranged transversely of and secured to said frame work between its ends, the latter pole pieces and the frame forming the return circuits for the lines of force which emanate from the longitudinally arranged pole piece, substantially as set forth.

[Claims 6 to 25 not printed in the Gazette.]

973,886. TOY PISTOL. ROBERT D. SIMPSON, Columbus, Ohio. Filed May 19, 1910. Serial No. 562,333.



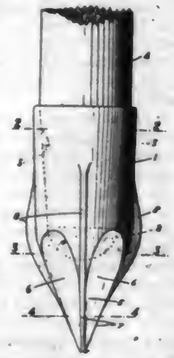
1. In a device of the class described, the combination of a suitable casing, an anvil therefor, a reciprocating firing pin, and a rotating member having a series of projections extending radially therefrom, said projections being adapted to act as triggers, and upon the movement of the rotating member to actuate the firing pin and feed a tape past the anvil.

2. In a device of the class described, the combination of a suitable casing, an anvil therefor, a reciprocating firing pin, tension means normally holding said pin against said anvil, and a rotating member provided with a series of projections adapted to engage a portion of the firing pin to move the same out of contact with the anvil against the action of the tension means, and to feed a tape or strip of caps between the anvil and the pin.

3. In a device of the class described, the combination of a casing, an anvil therefor, a reciprocating firing pin mounted within the casing and coöperating with the anvil, a spring member within the casing, a rotating member mounted adjacent thereto and provided with a series of projections adapted severally to act as triggers and to feed a tape in contact with said flat spring over the anvil, and to reciprocate the firing pin.

4. In a device of the class described, the combination with a casing, an anvil carried thereby, a hammer comprising a slidably mounted firing pin coöperating with the anvil, a spring for tensioning said pin and normally holding the same against the anvil, a shoulder on one end of the firing pin, a rotating wheel member, and projections on the wheel member adapted to act simultaneously as triggers, as means to feed a tape over the anvil, and means for reciprocating the firing pin, said tape being located in a recess in the casing.

973,887. PILE-SHOE. JOSEPH A. STEINMETZ, Philadelphia, Pa. Filed Oct. 16, 1909. Serial No. 522,929.



1. A pile shoe having a socketed body and a tapered point provided with sloping longitudinal channels.

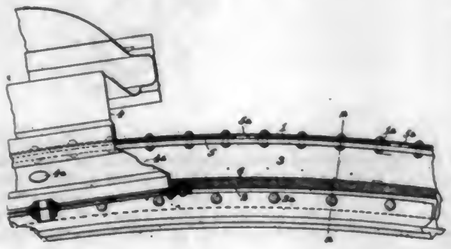
2. A pile shoe having a socketed body, tapered point and outwardly extending fins, each of said fins tapering into said body and point.

3. A pile shoe having a socketed body and a point provided with sloping longitudinal channels, said shoe having outwardly extending longitudinal fins.

4. A pile shoe having a point provided with longitudinal ribs and concave channels between said ribs.

5. A pile shoe having a fluted point and a socket provided with claws.

973,888. CAR-ROOF. HOWARD STILLMAN, Berkeley, Cal. Filed Apr. 13, 1910. Serial No. 555,238.

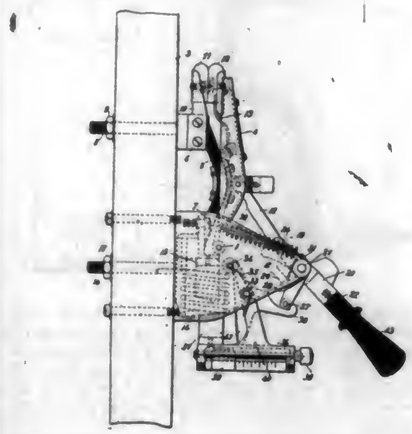


A car roof comprising a series of parallel carlines extending transversely of the car, inside sheets secured to the lower edge of said carlines, outside sheets secured to the upper edge of the latter non-continuous strips of material interposed between the outside sheets and the upper edge of the carlines, whereby the spaces between each pair of carlines are put in communication, and openings leading to the outside air from one of the said spaces.

973,889. ELECTRICAL-CIRCUIT BREAKER. HARVE R. STUART, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 6, 1906. Serial No. 299,762.

1. The combination with a plurality of circuit-breakers, a single closing handle therefor having projections for the respective breakers which severally serve as both closing and tripping members, and devices for retaining the circuit-breakers in closed position, of an electro-magnetically actuated means for withdrawing each retaining device, and means for actuating the projections of the other circuit-breakers to effect withdrawal of their retaining devices.

2. The combination with a plurality of circuit-breakers, operating levers therefor having projecting ends and a single handle for moving all of the levers, of devices for retaining the breakers in closed position, an electromagnetically actuated means for tripping each retaining device and means for actuating the projecting ends of the operating levers to trip all of the retaining devices which are not electromagnetically tripped.



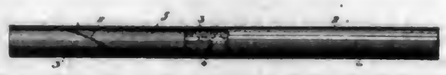
3. In a circuit-breaker, the combination with a movable switch arm and toggle levers for actuating the same, of means coöperating directly with one of said toggle levers to retain the circuit-breaker in closed position, and a loosely mounted lever having an arm for directly engaging the joint between the toggle levers to close the breaker and adapted to engage the retaining means to trip the breaker.

4. In a circuit-breaker, the combination with a movable switch arm and toggle members for actuating the same, of means coöperating directly with one of said toggle members to retain the circuit-breaker in closed position, independently actuated means for releasing the same, and a loosely mounted lever having an arm for engaging the joint between the toggle members to close the breaker and adapted to engage the retaining means to release the breaker.

5. In a circuit-breaker, the combination with a switch arm and toggle members for actuating the same, of a trigger that engages one of said members to retain the circuit-breaker in closed position, and a lever loosely pivoted concentrically with one of the toggle members and having an arm for engaging the joint between the members to close the breaker and adapted to engage the trigger and move it from its holding position.

[Claim 6 not printed in the Gazette.]

973,890. MOUTHPIECE FOR CIGARETTES AND THE LIKE. JOHN W. SCARBOO, Montclair, N. J. Filed Sept. 2, 1909. Serial No. 515,891.

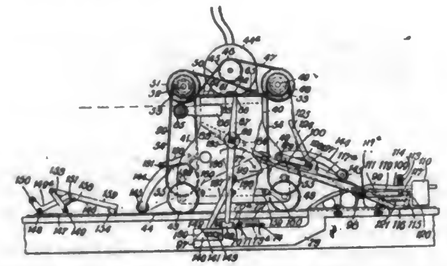


1. As an article of manufacture, a plug for cigarettes and the like, comprising a strip of material folded over on to itself and rolled into the plug with the line of the fold centrally located.

2. As a product of manufacture, a plug for cigarettes and the like, comprising a strip of material folded over upon itself to constitute a double ply, said double ply being rolled upon itself, and said strip having an opposite or broken surface.

3. In a cigarette or the like, the combination of an outer tubular covering, of a plug comprising a strip of corrugated material folded over on itself and rolled into the plug with the line of the fold centrally located said plug being frictionally held within said tube.

973,891. CLOTH-PILING MACHINE. WILLIAM M. SWERDLOVE, New York, N. Y. Filed Feb. 6, 1909. Serial No. 476,434.



1. The combination with a supporting table, of a plurality of devices having means for holding a quantity of fabric from which the latter may be unwound, a carriage adapted to move along the supporting table, means arranged as a part of the carriage for moving the same along the table in either direction, reversing mechanism, means for automatically operating the reversing mechanism to change the direction of movement of the carriage, an oscillating guide arranged to oscillate on the carriage around which the fabric is adapted to pass, gripping and clamping devices located on opposite sides of the carriage in the path of movement thereof, means whereby the cloth may be automatically directed by the guide into the gripping and clamping devices during the movement of the carriage, and means for holding the edges of the cloth as it is deposited upon the table.

2. The combination with a support, of a source of supply for the fabric located at one end of said support, means whereby a plurality of pieces of cloth may be superposed, a carriage movable along the support and having a device thereon around which the cloth or fabric is caused to pass, gripping and clamping devices located on opposite sides of the carriage in the path of movement thereof, means for automatically actuating said devices, together with means for holding the edges of the cloth as it is deposited upon the support to be automatically actuated by the carriage as it moves back and forth on said support.

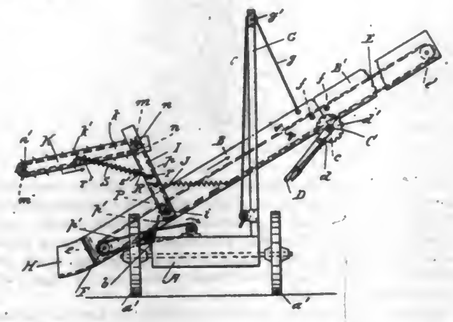
3. The combination with a table having a track thereon, of a carriage adapted to travel along said track and having a guide thereon around which the fabric is adapted to pass, fabric engaging devices held to the carriage on opposite sides thereof, means mounted on the carriage for moving the same in either direction along the track, holding devices adapted to clamp the edges of the cloth and automatically actuated during the movement of the carriage, mechanism for reversing the direction of movement of the carriage, means for oscillating the guide, and gripping and clamping devices adjustably held to the table on opposite sides of the carriage and having means adapted to be automatically actuated so as to receive the fabric and hold the same during the movement of said carriage.

4. The combination with a table having a track thereon, of a carriage adapted to travel along said track and having a guide thereon around which the fabric is adapted to pass, means for moving the same in either direction along the track, mechanism for reversing the direction of movement of the carriage, means for oscillating the guide, gripping and clamping devices adjustably held to the table on opposite sides of the carriage and having means adapted to be automatically actuated so as to receive the fabric and hold the same during the movement of said carriage, and means for holding the edges of the cloth as it is deposited upon the table.

5. The combination with a table having a track thereon, of a carriage adapted to travel along said track and having a guide thereon around which the fabric is adapted to pass, vertically movable rolls held to the carriage on opposite sides thereof, means mounted on the carriage for moving the same in either direction along the track, mechanism for reversing the direction of movement of the carriage, means for oscillating the guide, and gripping and clamping devices held to the table on opposite sides of the carriage and having means adapted to be automatically actuated so as to receive the fabric and hold the same during the movement of said carriage.

[Claims 6 to 21 not printed in the Gazette.]

973,892. STRAW-ELEVATOR. WILLIAM V. TEETER, Grinnell, Kans. Filed July 3, 1909. Serial No. 505,917.



1. In a straw elevator, the combination, with a truck, of a straw carrier pivotally supported by the truck and having end portions of unequal length which project on opposite sides of its pivot, the shorter end portion being provided with a receiving hopper of greater width than its main portion, said hopper being an extension of the carrier frame and arranged substantially in line with it, means for supporting the straw carrier in an inclined position with the hopper projecting below the top of the truck, arms having their lower parts pivoted to the longer end portion of the straw carrier, a drag-rake pivoted at one end to the upper parts of the said arms with its free end projecting over the said hopper and adapted to drag the straw into it, and means for supporting the upper parts of the said arms from the straw carrier and permitting them to be moved pivotally.

2. The combination, with a truck mounted on wheels, of a straw-elevator hinged to one side of the truck and projecting crosswise thereof between its wheels, spring-supported arms having their lower end portions pivoted to the lower end portion of the elevator, a drag-rake pivoted at one end to the upper end portions of the said arms and arranged to feed the straw onto the elevator, and means for supporting the upper part of the elevator from the truck.

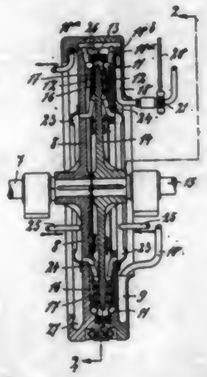
3. The combination, with a straw-elevator, of spring-supported arms having their lower end portions pivoted to the lower end portion of the elevator, and a drag-rake pivoted at one end to the upper end portions of the said arms and arranged to feed the straw onto the elevator.

4. The combination, with a straw-elevator, of arms pivoted to the elevator, supporting springs arranged between the said arms and the elevator and permitting the arms to be moved pivotally, and a drag-rake pivoted to the free end portions of the arms.

5. The combination, with a straw-elevator, of spring-supported arms having their lower end portions pivoted to the lower end portion of the elevator, a drag-rake pivoted at one end to the upper end portions of the said arms and arranged to feed the straw onto the elevator, guides se-

cured to the sides of the drag-rake, rods pivoted to the said arms and slidable in the said guides, and supporting springs carried by the said rods and bearing against the said guides.

973,893. HYDRAULIC COUPLING. VICTOR TICHOMIROFF and LAZAR SCHECHTER, Kolomna, Moscow, Russia. Filed June 23, 1909. Serial No. 503,802.



1. In combination, a rotatable driving shaft; an annular-chambered member on said shaft; annular plates fixed to said member; a driven member between the plates; and means for passing liquid to said annular chamber to press said plates substantially axially into engagement with the driven member by the centrifugal action of the liquid on rotation of the driving member.

2. In combination, a rotatable driving shaft; an annular-chambered member on said shaft; resilient plates fixed to said member within an annular chamber thereof; means for supplying a liquid to said annular chambered member with a disk between; a driven member rotatable coaxially with said annular-chambered member; and a pipe movable as desired into an annular-chamber of said member which removes the liquid therefrom and thereby releases the coupling.

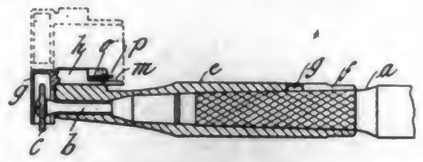
3. In combination, a rotatable driving shaft; an annular-chambered member on said shaft; annular plates fixed to said member; a driven member with a disk between the plates; means for passing liquid to said annular chamber to press said plates substantially axially into engagement with the driven member; and means for passing a lubricant to said plates, where they coact with said driven members; and means for extracting said lubricants.

4. In combination, a rotatable driving shaft; an annular-chambered member on said shaft; parallel annular partition-walls extending from the outer circumference of the chamber radially inwardly and dividing thus the chamber into parallel compartments, and having holes near the outer circumference, so as to form direct communication between the different compartments; a driven member arranged coaxially with the driving part and having disks extending parallel and radially into the different compartments; means for passing a greater or smaller quantity of liquid into the chambered driving member and into all the compartments at the same time; and means for extracting any desired quantity of liquid out of the clutch during its action.

5. In combination, a rotatable driving shaft; an annular-chambered member on said shaft; parallel annular partition walls extending from the outer circumference of the chamber radially inwardly and dividing thus the chamber into parallel compartments and having holes near the outer circumference, so as to form direct communication between the different compartments; a driven member arranged axially with the driving part and having disks extending parallel and radially into the different compartments; ribs arranged on the driven disks and on the walls of the driving compartments; means for passing a desired quantity of liquid into the chambered driving member; and means for extracting any desired quantity of liquid out of the clutch during its action.

[Claims 6 to 8 not printed in the Gazette.]

973,894. DENTAL INSTRUMENT. MICHAEL H. TOOMEY, Greenfield, Mass. Filed Oct. 27, 1909. Serial No. 524,967.



1. A hand-piece for dental engines, comprising in combination a mandrel, a grinding disk, a sleeve for the mandrel, a guard for the disk, and a friction latch carried by the sleeve and coöperating with the guard to lock the latter in its operative position.

2. A hand-piece for dental engines, comprising in combination a mandrel, a grinding disk, a sleeve for the mandrel provided on its outer face with an open-ended longitudinal groove, a guard for the disk provided with a projection detachably fitted within the said groove, and a friction latch carried by the sleeve and coöperating with the projection to lock the guard in its operative position.

3. A hand-piece for dental engines, comprising in combination a mandrel, a grinding disk carried by the outer end of the mandrel, a sleeve for the mandrel provided on its outer face with an open ended longitudinal groove, a guard for the disk having an opening opposite the groove, and provided with a projection fitting within the groove, and a locking device carried by the sleeve and coöperating with the guard to lock the latter in its operative position.

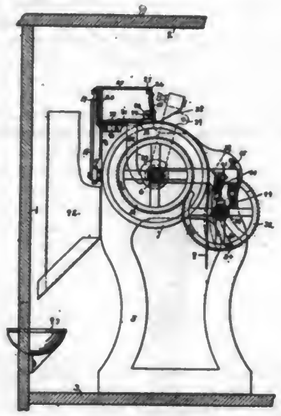
4. A hand-piece for dental engines, comprising in combination a mandrel, a grinding disk carried by the outer end of the mandrel, a sleeve for the mandrel provided on its outer face with an open-ended longitudinal groove, a guard for the disk having a projection fitting within the groove, said projection having an inclined upper surface, and a friction latch pivotally mounted on the sleeve and coöperating with the said inclined surface of the projection to detachably lock the guard in its operative position.

973,895. SAND-SCREEN. PAUL G. TRESS, Amarillo, Tex. Filed May 28, 1909. Serial No. 498,939.



A sifter having side walls bent longitudinally upon themselves to form guide channels, transverse brace bands having their terminals conforming to the outline of the outer faces of the channels and secured to the side walls, a transverse stop having terminal lugs fixed to the side walls and having its upper edge bent to form a channel in registration with the guide channel, and a screen member detachably secured in said guide and stop channels.

973,896. TICKET-VENDING MACHINE. WILLIAM F. TRIPPENSEE, Detroit, Mich. Filed May 17, 1910. Serial No. 561,910.



1. In a ticket vending machine, the combination of a support for a ticket-tape, a freely revoluble cylindrical platen over which the ticket-tape can move, shear members for severing the tape as it leaves the platen, a reciprocatory actuator mounted concentric with the platen for moving the tape, means to hold the tape upon the return stroke of the actuator, and driving mechanism for the various parts.

2. In a ticket vending machine, the combination of a support for a ticket-tape, a cylindrical platen over which the ticket-tape is moved, a reciprocating actuator mounted concentric with the platen for moving the tape, and means for holding the tape during the return movement of the actuator.

3. In a ticket vending machine, the combination of a frame, a shaft in said frame, a support for the ticket-tape, a platen freely revoluble on said shaft, a ticket-tape actuator mounted on said shaft, means to swing said actuator to move the ticket-tape with said platen, a shear to sever the tape at the end of the forward movement of the actuator, means to actuate the shear, and a gripping device to prevent the return movement of the tape upon the return movement of the actuator.

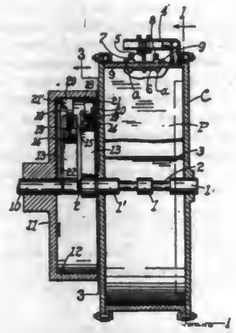
4. In a ticket vending machine, the combination of a support for a ticket-tape, a freely revoluble cylindrical platen over which the ticket-tape can move, shear members for severing the tape as it leaves the platen, a pivoted actuator for moving the tape, spring-held means to grip the tape during the return stroke of the actuator, and mechanism for releasing the gripping means during the operative movement of the actuator.

5. In a ticket vending machine, the combination of a support for a ticket-tape, a cylindrical platen over which the ticket-tape is moved, a reciprocating actuator for moving the tape mounted concentric with the platen, means for holding the tape during the return movement of the actuator, a cam mounted concentric with the platen to cause the release of the tape and a shear operative at the end of the forward movement of the actuator for severing the tape.

[Claims 6 to 11 not printed in the Gazette.]

973,897. ROTARY ENGINE. ROBERT WALL, St. Louis, Mo. Filed Feb. 21, 1910. Serial No. 545,143.

1. In a rotary engine, a cylinder, a pair of piston-blades successively rotating within the cylinder about a fixed axis, an exhaust valve on the cylinder mounted in the path of travel of the blades, and means on the valve for holding one of the blades at rest while the other blade is rotating.



2. In a rotary engine, a cylinder, a pair of piston-blades successively rotating within the cylinder about the axis thereof, an exhaust valve mounted in the path of travel of the blades and opening at the end of a rotation for each blade, a conduit for delivering the motor-fluid into the cylinder, and means controlled by the opening movement of the exhaust valve for cutting off the supply of the motor-fluid.

3. In a rotary engine, a cylinder provided with a pair of axially mounted normally diverging successively rotatable piston-blades, means for conducting the motor-fluid to the space between the blades, an exhaust valve on the cylinder mounted in the path of travel of the blades, means on the valve for holding one of the blades stationary during the travel of the other blade, and a valve controlled by the exhaust-valve for cutting off the supply of the motor-fluid during the period of exhaust.

4. In combination with a cylinder provided with a pair of rotatable piston-blades following each other in succession around the axis of the cylinder, a rotatable member disposed about the said axis on the outside of the cylinder, and clutches coupled to the respective blades and disposed at equal distances from the common axis thereof and successively rotating said member with the successive rotations of said blades.

5. In combination with a cylinder provided with a pair of rotatable piston-blades following each other in succession around the axis of the cylinder, a rotatable member disposed about said axis on the outside of the cylinder, clutches coupled to the respective blades and disposed at equal distances from the common axis thereof for engaging said member and driving the same with the rotation of the blades, means for holding one of the blades stationary during a rotation of the other blade, and means for disengaging the clutch of the stationary blade from the rotatable member aforesaid.

[Claims 6 to 8 not printed in the Gazette.]

973,898. BINDING-POST. ANTHONY F. WALLBILLICH, Bridgeport, Conn., assignor to The Perkins Electric Switch Mfg. Company, Bridgeport, Conn., a Corporation of Connecticut. Filed June 22, 1910. Serial No. 568,363.

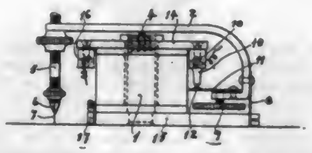


1. An integral combined switch contact and binding post comprising a vertical frame portion with contact blade offset from the base thereof at right angles, said frame being pierced by a perforation threaded to receive

a binding screw, supporting legs offset at right angles from the sides of said frame and forming with the latter a wire channel in which the head of said binding screw lies, together with foot portions offset at right angles from the base of said legs and perforated to receive securing screws.

2. A blank for a combined switch contact and binding post comprising a perforated central frame portion with switch contact blade forming an extension thereof, integral lateral wings on each side of said frame adapted to be angled over to form a channel embracing the binding screw threaded into the perforation in the frame, said side portions being enlarged at their free ends and perforated to receive securing screws, said free ends being adapted to be angled over to form supporting feet, substantially as described.

973,899. ELECTRICAL APPARATUS FOR PERFORATING DESIGNS. BOO HENNING WALLIN, Gottenborg, Sweden. Filed Feb. 25, 1910. Serial No. 545,861.



An electrical apparatus for the purpose described, comprising a base plate, a plate spring fixed to and rising from one end thereof, an electromagnet fixed on the base plate, a non-conducting pin on the top of the magnet, a non-conducting plate fixed above the electromagnet and extending beyond the sides of the same, a pole screw carried at one end of said plate, a pole screw carried at the opposite end of the plate, a depending pin connected with the latter pole screw, an armature fixed to the inner side of the upright plate spring and having a short arm disposed slightly above the base plate and also having a long arm overhanging the electromagnet and the non-conducting pin and extending beyond the former, a needle carrier carried by said extended portion of the overhanging arm, a contact spring carried by the short arm of the armature and opposed to the said depending pin, and a screw bearing in said short arm and against the underside of the contact spring.

973,900. LOOPER FOR SEWING-MACHINES. JOHN P. WEIS, Brooklyn, N. Y., assignor, by mesne assignments, to Metropolitan Sewing Machine Company, a Corporation of New York. Filed Jan. 30, 1903. Serial No. 141,100.



1. A looper having its body of substantially uniform width from shank to tip and a thread-engaging hook offset from said body in a plane cutting the longitudinal axis of said body, and a depression in said body at the base of said hook.

2. A looper having its body of substantially uniform width from shank to tip and a thread-engaging hook, a supporting shank at one end of said body, and a needle-guard on said body in rear of said hook and at the other end of the looper.

3. A looper having its body of substantially uniform width from shank to tip and a thread-engaging offset hook, a supporting shank at one end of its body, and a needle-deflecting portion on its body in advance of the hook.

4. A looper having a thread-engaging hook offset from its body, a guard extension in rear of said hook, and a depression in its body in rear of said hook.

5. A looper having its body of substantially uniform width from shank to tip and a hook offset from said body and pointing in the direction of its shank, and a depression in its body at the base of said hook.

[Claims 6 to 8 not printed in the Gazette.]

973,901. HOSE. EMIL WITZENMANN, Pforzheim, Germany. Filed Oct. 26, 1907. Serial No. 399,290.



1. In combination, flexible spirally wound metallic tubing, connecting pieces at the ends thereof presenting projections, cross pieces movable within said connecting pieces and bearing against said projections, said cross pieces forming loose bridges movable within the connecting pieces and having central apertures, adjustable means passed through said apertures and flexible means connecting said adjustable means and extending through said connecting pieces and the metallic tubing.

2. In combination, flexible spirally wound metallic tubing, coupling pieces, end pieces screwed thereinto and having projecting lips, gaskets surrounding said lips, lock nuts for said coupling pieces and end pieces, said end pieces having annular internal ribs, bridge pieces bearing against said ribs and loosely inclosed within the end pieces, means adjustably held in said bridge pieces and extended toward each other, and flexible means joining the adjacent ends of said adjustable means and disposed within the metallic tubing.

973,902. CLEAT FOR SECURING PREPARED ROOFING. WILLIAM H. WORSHEIDE, St. Louis, Mo. Filed Jan. 22, 1909. Serial No. 473,710.



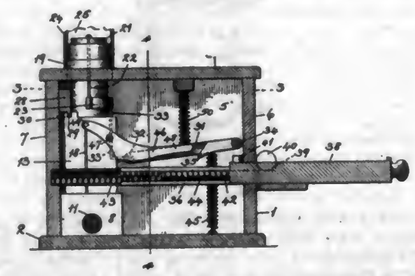
1. A cleat arched transversely and having greater length than breadth, the crown of the arch being narrow, the side walls of the arch leading with sufficient abruptness from the narrow crown to the base of the cleat to prevent depression of the crown between the side walls, and the ends of the cleat being closed by stay portions restraining the side walls from spreading outwardly beneath said crown.

2. A cleat arched transversely and having greater length than breadth, the crown of the arch being narrow, the side walls of the arch leading with sufficient abruptness from the narrow crown to the base of the cleat to prevent depression of the crown between the side walls, the ends of the cleat being closed by stay portions drawn from, and leading abruptly from, the crown to the base of the cleat and connecting the side walls to resist outward movement thereof beneath the crown of the cleat.

3. A cleat arched transversely and having greater length than breadth, the crown of the arch being narrow, the side walls of the arch leading with sufficient abruptness from the narrow crown to the base of the cleat to prevent depression of the crown between the side walls, and the ends of the cleat being closed by stay portions restraining the side walls from spreading outwardly beneath said crown; the crown of said arch having therein, in alinement with each other longitudinally of the cleat a plurality of nail holes at the transverse center of the crown for a plurality of nails collectively of service in holding the cleat to its seat by direct action therefrom to and through said side walls.

4. A cleat arched transversely and having greater length than breadth, the crown of the arch being narrow, the side walls of the arch leading with sufficient abruptness from the narrow crown to the base of the cleat to prevent depression of the crown between the side walls, the ends of the cleat being closed by stay portions leading abruptly from the crown to the base of the cleat and connecting the side walls to resist outward movement thereof beneath the crown of the cleat; the crown of said arch having therein, in alinement with each other longitudinally of the cleat a plurality of nail holes at the transverse center of the crown for a plurality of nails collectively of service in holding the cleat to its seat by direct action therefrom to and through said side walls.

973,903. LIQUID-VENDING APPARATUS. JACOB ZILL, Baltimore, Md. Filed Mar. 25, 1909. Serial No. 485,618.

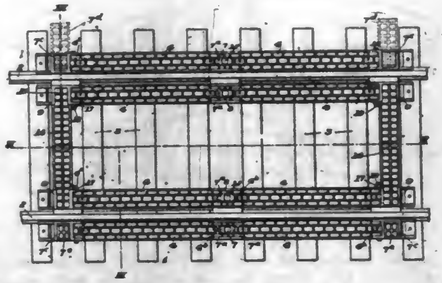


1. In a liquid vending apparatus the combination with a case, of a vertical measuring receptacle having an inlet at its upper end and an outlet at its lower end; a liquid supply at the upper end of the measuring receptacle; a valve movable vertically with respect to said inlet to control communication between the supply and the inlet to said receptacle; rods connected to and depending from said valve; a lever pivotally sustained in the case and having connection with said valve rods; a valve pivotally sustained at the outlet of said receptacle; and a separate lever for operating said valve.

2. In a liquid vending apparatus the combination with a case, of a receptacle therein having an inclined bottom and forming a chamber; a discharge tube communicating with said chamber; a valve in said chamber; means for operating said valve; a measuring receptacle extending vertically above said valve; a valve at the upper end of said measuring receptacle; rods connected to said latter valve and depending at the side of the measuring receptacle; a yoke connected with said rods; a lever for operating said yoke to move it vertically with respect to the measuring receptacle, and a connection between the yoke and said lever.

3. In a liquid vending apparatus the combination with a case, of a chambered receptacle in said case; a valve pivotally sustained in said chamber; a measuring receptacle extending vertically above said chamber and having its lower end closed by said valve; a lever pivoted at one side of the measuring receptacle and connected with the valve in the chambered receptacle; a shell around the upper end of the measuring receptacle; a valve in said shell; means for operating said latter valve to control communication between the shell and the measuring receptacle and a supply pipe entering said shell.

973,904. RAILROAD-CROSSING. WILLIAM L. AFFELDER, Brownfield, Pa. Filed July 21, 1910. Serial No. 573,020.



1. A metal railway crossing, comprising plates placed substantially parallel with the track rails at both the inner and outer sides thereof, and supports for said plates secured to the track; substantially as described.

2. A metal railway crossing, comprising plates placed substantially parallel with the track rails at both the inner and outer sides thereof, and supports for said plates secured to the track, said plates being formed in sections; substantially as described.

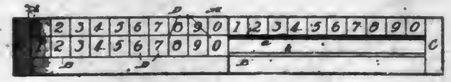
3. A metal railway crossing, comprising metal plates placed at the inner and outer sides of each rail and substantially parallel therewith, supports for such plates secured to the track, and connecting pieces at the ends of the crossings connecting the plates at the inner sides of the two rails; substantially as described.

4. A metal railway crossing, comprising a plurality of supports secured to the track at each side of the rails, and a plurality of metal crossing plates removably seated on said supports; substantially as described.

5. A metal railway crossing, comprising a plurality of supports secured to the track at each side of the rails, and a plurality of metal crossing plates removably seated on said supports, together with means for removably securing the plates to the supports; substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

973,905. ADDING APPARATUS. JOHN W. ALEXANDER, Spartanburg, S. C. Filed May 11, 1910. Serial No. 560,601.



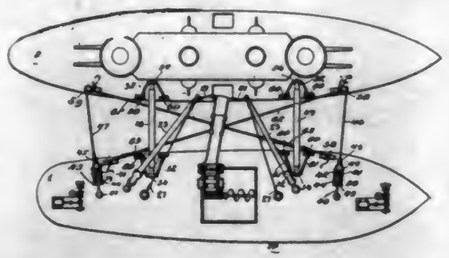
1. An adding apparatus comprising a rigid elongated frame having parallel upper and lower bars spaced apart and provided interiorly with longitudinal tongues, the upper bar being inscribed with two sets of digits in consecutive order, and a series of blocks inscribed with digits

1 to 0, inclusive, and arranged in the space between said bars and adapted to slide thereon, as shown and described.

2. An adding apparatus, comprising a frame having upper and lower bars arranged parallel and spaced apart, one of said bars being inscribed with two sets of digits, and a series of blocks inscribed with digits and arranged between the said bars and adapted to slide thereon.

3. An adding apparatus, comprising a frame having a longitudinal bar inscribed with two sets of digits in consecutive order, and a series of blocks similarly inscribed with digits and adapted to slide in a line parallel with said bar, as shown and described.

973,906. APPARATUS FOR LOADING SHIPS AT SEA. CARL M. ASKEGREN, Goulding, Fla. Filed Mar. 13, 1909. Serial No. 483,236.

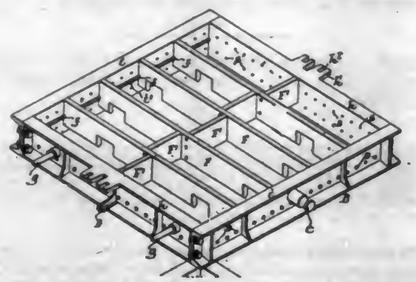


1. The combination with two relatively moving bodies, a yieldable bow breast line connecting the bows of the bodies, a yieldable stern breast line connecting the sterns of the vessels, yieldable hawsers extending from the bow of one of the bodies to the stern of the second body and booms having a limited yielding movement flexibly connected with each of the bodies between the bow breast and stern breast lines.

2. In combination with two relatively moving bodies, means for lashing the bodies adjacent each other, means for preventing the bodies swinging away from each other, means for preventing the movement of one of the bodies at a greater rate of speed than the second body, and booms provided with yieldable extensions flexibly connected with the bodies to limit the movement of either of the bodies toward the other.

3. A boom for spacing one vessel away from the other, comprising a central tube, collars secured in said tube, helical springs contacting the collars and extending in opposite directions within the tube, sliding members within the ends of the tubes adapted to be contacted by the springs, and collars upon the outer ends of said sliding members.

973,907. MOLDING-FLASK. JAMES BARKER, Philadelphia, Pa. Filed Feb. 4, 1910. Serial No. 542,127.



1. The combination in a flask of two members, one member having vertically arranged V-shaped guides at each end, the other member having thin projections adapted to the guides so that when the cope is tilted and raised from the drag the projection will be immediately cleared of the guide.

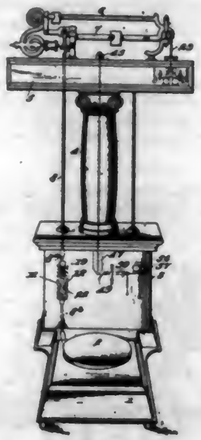
2. The combination in a metal flask having at each edge at each end slotted projections adapted to receive guides, and at the other edge thin projections adapted to the guides of another flask section.

973,908. PREPARATION OF EUGENOL AND ALBUMIN. HANS BELART, Huddersfield, England. Filed May 8, 1908. Serial No. 431,698. (Specimens.)

1. A process for the production of a compound of eugenol and albumin, consisting in mixing a watery alkaline solution of eugenol with a watery solution of albumin, isolating, washing, and drying the reaction product formed, and rendering it indigestible in the stomach by subjecting it to a heat of 115–120 centigrade, substantially as and for the purpose set forth.

2. As a new product, a compound for internal use, composed of eugenol and albumin, and in the form of a yellow powder, insoluble in water and diluted acids, easily splitting up into its two components eugenol and albumin by the action of alkalies or the alkaline action of the mucus of the bowels, substantially as set forth.

973,909. WEIGHING-MACHINE. HENRY A. BENSON, Scranton, Pa. Filed July 7, 1909. Serial No. 506,420.



1. In a weighing machine, the combination of a platform, a scale beam, electric means whereby said scale beam is prevented from operating when a weight greater than a predetermined amount is placed on the platform, said means including a two-part adjustable connection between said platform and the scale beam, substantially as described.

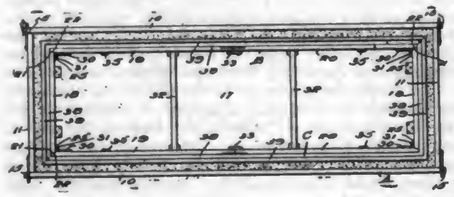
2. In a weighing machine, the combination of a platform, a scale beam, and electrically operated means whereby said scale beam is prevented from movement when a weight greater than a predetermined amount is placed on the platform, said means including a two-part connection between said platform and the scale beam, the parts thereof being provided with suitable insulating material, with a spring for regulating the relative movement between said parts, and means for adjusting said spring, substantially as described.

3. In a weighing machine, the combination of a platform, a scale beam, and means whereby said scale beam is automatically locked when a weight greater than a predetermined amount is placed on the platform, said means including a rod carried by said scale beam, and electric means for automatically locking said rod against movement substantially as described.

4. In a weighing machine, the combination of a platform, a scale beam, and means whereby said scale beam is prevented from moving when a weight greater than a predetermined amount is placed on the platform, said means including a rod attached to said scale beam, electrically operated gripping means for holding said rod against movement, and an extensible connection between said platform and said scale beam, whereby an electric circuit is closed when said connection is extended to a predetermined amount, substantially as described.

5. In a weighing machine, the combination of a platform, a scale beam, and means whereby said scale beam is prevented from moving when a weight greater than a predetermined amount is placed on the platform, said means including a rod attached to said scale beam, electrically operated means for gripping said rod and preventing its movement, and a two-part adjustable, spring-controlled connection, between said platform and said scale beam, whereby when the spring in said connection is compressed to a predetermined amount, an electric circuit is closed and the rod attached to the scale beam locked, substantially as described.

973,910. COFFIN-MOLD. WILLIAM H. BISWELL, Fayette, Mo. Filed Mar. 10, 1910. Serial No. 548,429.



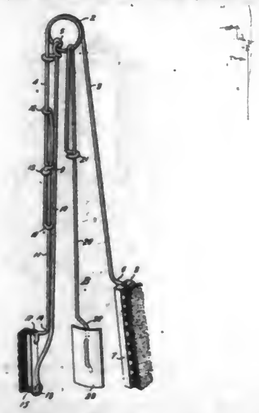
In a device of the class described, the combination with a bottom and end members connected therewith, said end members having transversely curvate vertical edges and centrally hinged side members adapted for inward folding movement at their centers, said side members having transversely curvate vertically disposed recesses adjacent their extremities and upon their inner sides segmental blocks secured to the inner faces of the end members, and having curvate inner surfaces adapted to form a continuation of the curved edge portions of the end members and provided with horizontal recesses extending inwardly of the end members and ending outwardly in a shoulder spaced from the surface of the side members, and longitudinally projecting members carried by the side members and adapted to project into the recesses of the blocks when in extended position, said members being adapted to coact as and for the purpose described.

973,911. BOTTLE AND LAMP-CHIMNEY CLEANER. PHILIP BUCK, Rugby, Tenn. Filed Jan. 3, 1910. Serial No. 535,917.

1. An article of manufacture comprising a portion of spring wire coiled adjacent one extremity thereof, a vertical brush carried at one extremity of said wire and an adjustable brush at the other, and means for removing hardened dirt.

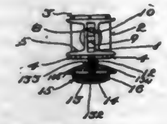
2. A device of the class described comprising spring wire arms resiliently connected, having brushes secured to their extremities, one of said brushes being vertical and the other adjustable to various angles, means whereby said adjustable brush may be retained in any desired position, and means whereby hardened dirt may be removed.

3. An article of manufacture comprising a plurality of resiliently connected arms, one of said arms carrying a vertical brush, an auxiliary arm slidably mounted on the remaining arm, a brush having one extremity secured to



said auxiliary arm, and a supporting arm interposed between the free terminal of the brush and the resilient connection between the main arms aforesaid.

973,912. POLISHING-MACHINE FOR USE IN REPAIRING CRACKS IN PATENT-LEATHER. VERTRUDE P. BUCK, Boston, Mass., assignor to Shawmut Machinery Company, Boston, Mass., a Corporation of Maine. Filed Jan. 15, 1906. Serial No. 296,027.



1. A polishing machine for use in repairing patent leather, comprising in combination the hand-supported frame or body formed with a transverse guideway, a cross-head movable transversely in said guideway and provided with a vertical slot, a fixed polishing pad of yielding material carried directly by the said cross-head, a rotating shaft mounted in the said frame or body and provided with a crank working in the said vertical slot, and actuating devices comprising flexible driving connections for said shaft.

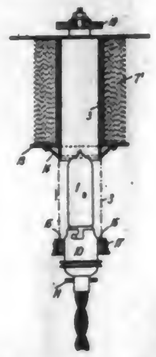
2. A polishing machine for use in repairing patent leather, comprising in combination the hand-supported frame or body formed with a transverse guideway, a cross-head movable transversely in said guideway and provided with a slot, a stem projecting from said cross-head, a disk carried by the said stem, a yielding pad applied to the said disk, a covering 15 for the said pad, and means engaging in said slot to reciprocate the said cross-head in said guideway.

973,913. FLASH-LIGHT SIGNALING APPARATUS. GEORGE HERBERT BUTTERWORTH and EDMUND VEEVERS, Liverpool, England. Filed Feb. 19, 1909. Serial No. 478,987.

1. In a flash light signaling apparatus, in combination; a continuously lighted lamp adapted to shine all around; a solenoid located co-axially with said lamp; and a tubular core for said solenoid forming a screen for the lamp and adapted to expose the latter when withdrawn therefrom by the solenoid; substantially as described.

2. In a flash light signaling apparatus, in combination; a continuously lighted lamp adapted to shine all around; a

solenoid located co-axially above said lamp; and a tubular core for said solenoid forming a screen for said lamp and urged by its weight into position to screen said lamp; substantially as described.

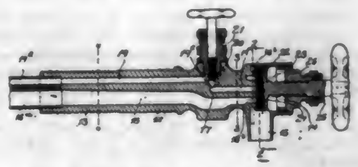


3. In a flash light signaling apparatus, in combination; a continuously lighted lamp adapted to shine all around; a solenoid located co-axially above said lamp; a tubular core for said solenoid forming a screen for said lamp and urged by its weight into position to screen said lamp; and yielding cushions to receive the impacts of the screen; substantially as described.

4. In a flash light signaling apparatus, in combination; a continuously lighted lamp adapted to shine all around; a solenoid located co-axially above said lamp; a tubular core for said solenoid forming a screen for said lamp and urged by its weight into position to screen said lamp; a yielding cushion for the top of the screen carried by the frame of the solenoid; a second cushion for the base of the screen; and a spring-supported cup carrying said lower cushion; substantially as described.

5. In a flash light signaling apparatus, in combination; a solenoid; a pair of rods depending from the solenoid; a cross bar carried by said rods; a continuously lighted lamp carried by said cross bar co-axially below the solenoid; a tubular core for the solenoid guided by the solenoid frame and adapted to shroud the lamp when in its lowest position; cushions for the screen, and a cup for one of the cushions, supported by springs from the said cross bar; substantially as described.

973,914. FAUCET. ROBERT L. CAFFERY, Boston, Mass. Filed Mar. 18, 1910. Serial No. 550,169.



1. A faucet comprising an elongated body having a mixing chamber at its outer end portion, one side of said chamber having two annular concentric valve seats separated by an annular cavity, two longitudinal liquid passages of different diameters, extending side by side from the inner end of the body to said chamber, the larger of said passages terminating in an annular cavity which forms the outlet of said passage, while the smaller passage has its outlet within the inner valve seat, whereby a stream of liquid flowing through the larger passage is caused to surround and become intimately mixed with a stream of liquid flowing through the smaller passage, and a valve in the mixing chamber adapted to close simultaneously on said seats.

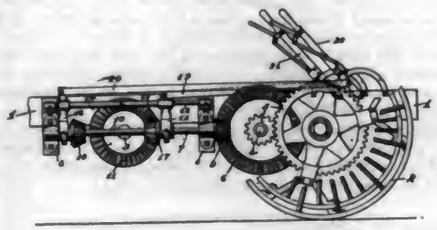
2. A faucet comprising an elongated body having a mixing chamber at its outer end portion, a longitudinal passage having its outlet at one side of the mixing chamber, a longitudinal passage smaller than the first-mention longitudinal passage having its outlet in the same side of the mixing chamber, the smaller passage being offset at a point between its ends and provided with an enlargement at its offset portion constituting a regulating valve chamber, one side of which has a valve seat, a regulating valve adapted to coöperate with said seat in adjusting and controlling said smaller passage, and a valve in the mixing chamber adapted to simultaneously close and open the outlets of said passages.

3. A faucet comprising an elongated body having a mixing chamber at its outer end portion, a longitudinal passage for flat liquid communicating with said chamber, an internal rib integral with said body and forming one side of said passage, and a smaller charged liquid passage formed in said rib and communicating with the mixing chamber, one side of the rib and adjacent portions of the body constituting valve seats surrounding the outlet ends of the two passages, a valve in the mixing chamber adapted to simultaneously close and open said passages, and means for controlling and regulating the flow of the liquid through the smaller passage.

4. A faucet comprising an elongated body having a mixing chamber at its outer end portion, a longitudinal passage for flat liquid communicating with said chamber, an internal rib integral with said body and forming one side of said passage, and a smaller charged liquid passage formed in said rib and communicating with the mixing chamber, said smaller passage being composed of two portions, one offset from the other, and an enlargement constituting a regulating valve seat between said portions.

5. A faucet comprising an elongated body having a mixing chamber at its outer end portion, a longitudinal passage for flat liquid, an internal rib forming one side of said passage, a portion of the outer end of the rib being cut away to provide an annular outlet for said passage to the mixing chamber, and a smaller charged liquid passage formed in said rib and having its outlet surrounded by said annular outlet, said smaller passage being composed of two portions, one offset from the other, and an enlargement constituting a regulating valve seat between said portions.

973,915. REVERSING-GEARING. LEE CANFIELD, Sparta, Wis. Filed May 9, 1910. Serial No. 560,226.

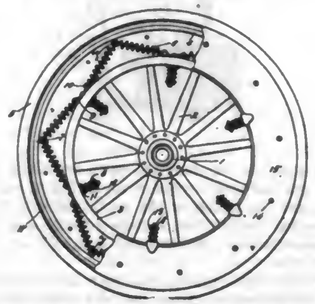


1. A reversing gearing for power driven machinery comprising a power shaft, a driven shaft, and a counter shaft geared to the driven shaft, a beveled gear wheel secured to the power shaft, beveled pinions slidably mounted on the counter shaft and adapted to engage the beveled gear wheel, means to separately actuate the pinions, and means extending from the pinion mountings and adapted to engage one another to prevent the two pinions from simultaneously engaging the gear wheel.

2. In a reversing gearing for power driven machinery, a power shaft, a counter shaft geared to the driven shaft, a gear wheel secured to the power shaft, pinions slidably mounted on the counter shaft and adapted to mesh with the power gear wheel, a rod suitably secured, sleeves slidably mounted on said rod, and arms secured to said sleeves and engaging the pinions, said sleeves being longer than the radius of the power gear wheel to prevent the two pinions from simultaneously meshing with said gear wheel.

3. A reversing gearing for power driven machinery comprising a power shaft, a driven shaft, a counter shaft rectangular in cross section and geared to the driven shaft, a beveled gear wheel secured to the power shaft, a rod suitably secured, sleeves slidably mounted on said rod, arms secured to the sleeves beveled pinions journaled in said arms and slidably mounted on the rectangular portion of the counter shaft, and levers suitably mounted and connected to said arms, the sleeves aforesaid being longer than the radius of the power gear wheel to prevent simultaneous engagement of the pinions therewith.

973,916. WHEEL. CHALMER CARPENTER, Pittsburg, Pa. Filed Jan. 22, 1909. Serial No. 473,757.



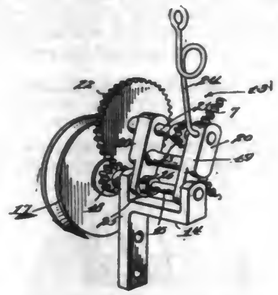
1. A wheel comprising a hub, radially disposed spokes carried thereby, an inner rim carried by said spokes, an outer rim surrounding said inner rim, a tire arranged upon said outer rim, bolts arranged in said inner rim, tie plates carried by said bolts upon the periphery of said inner rim, a plurality of equally spaced eyelets carried by said outer rim, coil springs arranged between said eyelets and said tie plates, coil springs encircling said bolts upon the inner side of said inner rim, clips carried by said bolts, side plates held by said clips and having the upper edges thereof extending into said tire, and tie rods connecting said plates, substantially as described.

2. A wheel comprising a hub, radially disposed spokes carried thereby, an inner rim carried by said spokes, an outer rim surrounding said inner rim, coil springs connecting said inner rim with said outer rim, bolts upon said inner rim, clips slidably mounted upon said bolts and embracing said inner rim, springs connecting said bolts and clips, side plates held by said clips and having the outer edges thereof embracing said outer rim, and tie rods connecting said plates.

3. A wheel of the type described, comprising an inner rim, an outer rim surrounding said inner rim, bolts arranged in said inner rim, tie plates carried by said bolts upon the periphery of said inner rim, coil springs connecting said outer rims with said tie plates, clips carried by said bolts, side plates partially supported by said clips, and means mounted upon said bolts for retaining said plates in engagement with said inner rim.

973,917. MOTOR ATTACHMENT FOR MOTION-PICTURE EXHIBITORS. JAMES CHAMBLESS, Evansville, Ind. Filed May 24, 1910. Serial No. 563,164.

1. The combination with a moving picture exhibitor including a base board having a projection aperture and a frame carrying the operating parts and also a driving pinion and which is vertically slidable to insure the proper alinement of the film sections with the projection aperture of a motor attachment including a stationary bracket, a motor driven transverse shaft carried thereby, a swinging bracket mounted on the transverse shaft, a second transverse shaft carried by the swinging bracket, operative connections between the transverse shafts to drive the second shaft from the first shaft, and a pinion mounted on the second shaft for engagement with the driving pinion.



2. The combination with a moving picture exhibitor including a base board having a projection aperture and a frame carrying the operating parts and also a driving pinion and which is vertically slidable to insure the proper alinement of the film sections with the projection aperture, of a motor attachment including a stationary bracket, a motor driven transverse shaft carried thereby, a swinging bracket mounted on the transverse shaft, a second transverse shaft carried by the swinging bracket, operative connections between the transverse shafts to drive the second shaft from the first shaft, a pinion mounted on the second shaft for engagement with the driving pinion, and a spring associated with the swinging bracket to cause the latter to maintain the engagement of the last named pinion with the first named pinion.

3. The combination with a moving picture exhibitor including a base board having a projection aperture and a frame carrying the operating parts and also a driving pinion and which is vertically slidable to insure the proper alinement of the film sections with the projection aperture, of a motor attachment including a stationary bracket having a U-shaped portion, a transverse motor driven shaft journaled therein, a pinion mounted at one end of the shaft, a second bracket mounted for swinging movement on the transverse shaft, a collar secured on the latter and arranged adjacent to an arm of the swinging bracket, a second transverse shaft carried by the swinging bracket, and a pair of pinions mounted on the second shaft, one of which has constant engagement with the driving pinion and the other of which has constant engagement with the pinion ou the first named shaft.

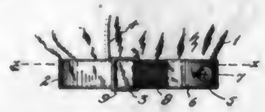
4. The combination with a moving picture exhibitor including a base board having a projection aperture and a frame carrying the operating parts and also a driving pinion and which is vertically slidable to insure the proper alinement of the film sections with the projection aperture, of a motor attachment including a stationary bracket having a U-shaped portion, a transverse motor driven shaft journaled therein, a pinion mounted at one end of the shaft, a second bracket mounted for swinging movement on the transverse shaft, a second transverse shaft carried by the swinging bracket, a pair of pinions mounted on the second shaft, one of which has constant engagement with the driving pinion and the other of which has constant engagement with the pinion on the first named shaft, and means for maintaining a constant operative relation between the driving pinion and the pinion coöperative therewith.

5. The combination with a moving picture exhibitor including a base board having a projection aperture and a frame carrying the operating parts and also a driving pinion and which is vertically slidable to insure the proper alinement of the film sections with the projection aperture, of a motor attachment including a stationary bracket having a U-shaped portion, a transverse motor driven shaft journaled therein, a pinion mounted at one end of

the shaft, a second bracket mounted for swinging movement on the transverse shaft, a second transverse shaft carried by the swinging bracket, a pair of pinions mounted on the second shaft, one of which has constant engagement with the driving pinion and the other of which has constant engagement with the pinion on the first named shaft, and a spring associated with the swinging bracket to cause the latter to maintain a constant operative relation between the driving pinion and the pinion coöperative therewith.

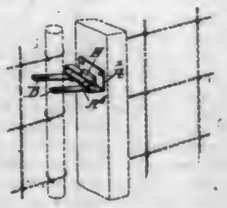
[Claims 6 and 7 not printed in the Gazette.]

973,918. BUCKLE-FASTENING. ELEANOR MOORE CHAPMAN, Dallas, Tex. Filed Oct. 23, 1907. Serial No. 398,851.



In a device of the character described, the combination with a trousers leg having a slit in the lower portion thereof, of a knee-band extending around the lower extremity of the leg, one extremity thereof projecting some distance beyond the slit forming a tab, a button attached to the knee-band, a cloth tab, provided with a button hole to receive said button, an elastic strip forming a loop its extremities being attached to the last named tab, and a buckle through which the elastic strip passes, adapted to be attached to the first named tab, substantially as shown.

973,919. LATCH. ALVA CLINE, Lima, Ohio. Filed May 5, 1910. Serial No. 559,594.



1. A latch for gates and the like comprising a body portion or case having lateral stop wings and provided between the same with a forwardly projecting loop or clip, a pintle bar pivoted between its ends to said loop or clip, latch bars pivoted at one end on the said pintle rod along the opposite sides of the loop or clip and coöperating with the stop wings, and a keeper bar pivoted between its ends in connection with the loop or clip and having at its ends portions fitting along the outer sides of the latch bars and retaining the same on the pintle rod, substantially as set forth.

2. A latch for gates and the like comprising a body having forwardly projecting stop wings and between the same a loop or clip, a pintle rod fitting between its ends in said loop or clip, a keeper bar having at its ends portions fitting on the pintle rod and spaced away from the ends of the loop or clip, means securing the keeper bar and pintle rod midway their ends to the loop or clip and latch bars pivoted on the pintle rod between the retaining portions of the keeper bar and the loop or clip, substantially as set forth.

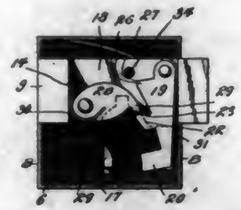
3. The combination in a latch with a body or main portion, of a pintle and a keeper bar rockably connected midway between their ends with the body portion and latch bars carried at the opposite ends of the pintle rod and retained thereon by the keeper bar, substantially as set forth.

4. The combination of a body portion having a loop or clip, a pintle rod and a keeper bar pivotally connected between their ends with said loop or clip and independently movable latch bars carried at the opposite ends of the pintle rod, substantially as set forth.

5. The combination with independently movable latch bars spaced apart, of a carrier for said bars pivoted between its ends whereby it may be rocked or tilted, the latch bars being movable bodily with the carrier substantially as set forth.

[Claim 6 not printed in the Gazette.]

973,920. LOCK. FRED G. DIEHL, Selden, Kans. Filed Apr. 12, 1910. Serial No. 554,952.



1. In a lock the combination with a casing and lock bolt; of a key fastener pivoted to the lock bolt and adapted to yield under the action of the key bit during the operation of moving the lock bolt to locked position and to positively engage the key bit when the lock bolt moves to unlocked position.

2. In a lock the combination with a casing and lock bolt; of a spring-actuated key fastener pivoted to the lock bolt and provided with means to engage with the bit of a key and yield under the action of said bit during the operation of the lock bolt moving to locked position, the said means positively engaging the key bit when the lock bolt moves to unlocked position.

3. In a lock the combination with a casing and lock bolt; of a spring-actuated key fastener pivoted to the lock bolt and provided with means to engage with the bit of a key and yield under the action of said bit during the operation of the lock bolt moving to locked position, the said means positively engaging the key bit when the lock bolt moves to unlocked position, and means for holding the key fastener inoperative when the lock bolt is in locked position.

4. In a lock the combination with a casing and lock bolt; of a spring-actuated key fastener pivoted to the lock bolt and provided with means to engage with the bit of a key and yield under the action of said bit during the operation of the lock bolt moving to locked position, the said means positively engaging the key bit when the lock bolt moves to unlocked position, and a pivoted spring-actuated dog adapted to engage with the key fastener and hold the same inoperative when the lock bolt is in locked position.

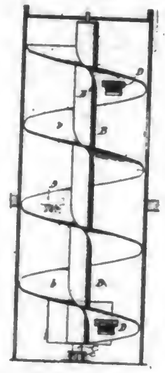
5. In a lock the combination with a casing and lock bolt; of a fastener pivoted to the lock bolt, and a member pivoted to the lock bolt and adjacent the key fastener and operable by the bit of a key to release the key fastener to engage with the bit of a key when the lock bolt has been moved to unlocked position.

[Claim 6 not printed in the Gazette.]

973,921. CONVEYER. JAMES M. DODGE, Philadelphia, Pa. Filed Jan. 2, 1907. Serial No. 350,368.

1. The combination of an inclined plane for transporting materials, said inclined plane being arranged to allow bodies of different weight and size to pass over the carrying surface, the plane being arranged at a less angle than the angle of slide of said material, and means carried wholly by the inclined plane for imparting a slight tremor to the said inclined plane so as to cause material to move slowly in the direction of the least resistance.

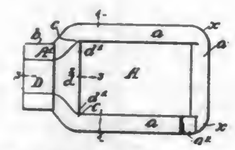
2. The combination of an inclined plane, a casing in which the inclined plane is situated, means carried by the inclined plane for imparting a tremor thereto, and an elastic support between the inclined plane and the casing.



3. The combination of a building, a spirally arranged inclined plane, the floor of the inclined plane being at an angle less than the angle of slide of the material to be transported, with a vibrator mounted on the underside of the inclined plane for imparting a tremor thereto.

4. The combination of an inclined plane for transporting materials, arranged in a spiral, the carrying surface of the inclined plane being arranged at an angle less than the angle of slide of the material to be transported, and a series of electrical devices located on the underside of the inclined plane for imparting a tremor thereto.

973,922. CHAIN-LINK. JAMES M. DODGE, Philadelphia, Pa., assignor to Link-Belt Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 15, 1909. Serial No. 477,837.



1. The combination in an open rectangular chain link, of side bars; each having a hook at one end and each being provided with a laterally extending shoulder adjacent its hook; with a socket member mounted between the hooks and having extensions resting against the shoulders.

2. An open rectangular chain link having an end bar and side bars; each side bar having a hook at one end and a laterally extending shoulder back of the hook; the side bars at the hooks being closer than at the end bar; a socket member secured to the side bars and mounted between the hooks; the rear portion of said member having lateral extensions bearing against the shoulders.

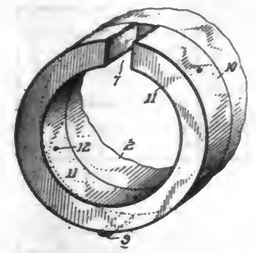
3. The combination in an open rectangular chain link, of a cross bar of circular section and rectangular side bars; each side bar having a hook at one end and being provided with a laterally extending shoulder directly back of the hook; the hooked ends of the side bars being closer together than the other ends thereof; with a socket member mounted between the hooked ends of the side bars and having lateral extensions resting against the shoulders; said socket member being secured to said side bars.

4. The combination in an open rectangular chain link of an end bar; two side bars each having a hook at one end and connected to the end bar; with a hooked socket member mounted between the hooks of the side bar; the internal surfaces of the hooks of the socket member and of the side bars alining with each other.

5. The combination in a chain link of two side bars; means for connecting said bars, the ends of the side bars being hooked; with a hooked socket member mounted between said side bars and provided with a lateral extension engaging the same; the hooks of the socket member and side bars being in line with each other and forming a substantially continuous working surface.

[Claim 6 not printed in the Gazette.]

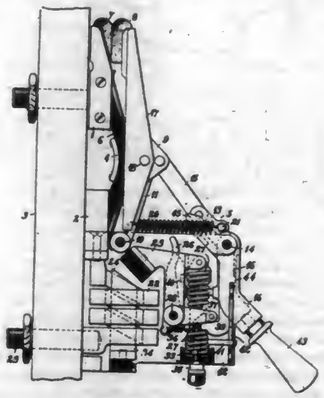
973,923. CORE FOR PAPER-ROLLS. DANIEL B. DONNELLY, Pittsburg, Pa. Filed Aug. 14, 1909. Serial No. 512,880.



1. A tubular core for a paper roll having its end slotted longitudinally to receive a chuck projection, in combination with a reinforcement for the slotted end consisting of a sheet metal band corresponding in width to the depth of the slot, the band curved to fit the inner and outer peripheries of the roll extremity and extending over the side walls of the slot.

2. A tubular core for a paper roll having a pin-receiving slot in an extremity thereof, and a reinforcement for the slotted extremity formed of a single band of metal, said band bent to encircle the inner and outer surfaces of said extremity and extending through the slot thereof with the ends of the band secured together.

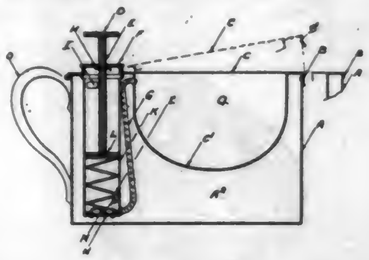
973,924. CIRCUIT-BREAKER. JAMES C. DOW, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed July 13, 1907. Serial No. 383,659.



In a circuit breaker, the combination with an insulating base plate, stationary and movable contact members, an interposed link, a bell crank operating lever having an inwardly extending hooked projection, and a bell crank latch pivotally supported between the operating lever and the base and adapted to coöperate with the hooked projection of the operating lever in holding the breaker closed, of a release magnet having a movable core member piv-

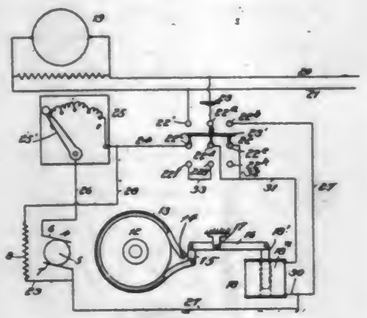
otally mounted coaxially with the latch and resiliently connected thereto, and a handle lever supported coaxially with the operating lever and having a projection adapted either to close the breaker or to engage the latch in releasing the breaker.

973,925. SANITARY SHAVING-CUP. WILLIAM H. J. DOWNEY, Wilmington, Del. Filed May 17, 1910. Serial No. 561,893.



A shaving cup, a hinged cover therefor provided with an opening, a lather receptacle fastened to said cover and adapted to close within the cup, a cylinder supported in the opening in the cover and adapted to swing therewith, the bottom of said cylinder having a valved opening, an apertured top for closing said cylinder, a spring-pressed piston movable within the cylinder and having a stem extending through said apertured top, and a pipe communicating between the portion of the cylinder below the piston and said receptacle.

973,926. ELECTRIC BRAKE. ROBERT R. DUNLOP, Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Jan. 17, 1905. Serial No. 241,526.



1. The combination of an electric current source of supply, a shunt-wound dynamo-electric machine adapted to run either as a motor or generator, a brake for controlling the speed of rotation of the armature of said machine, an electro-magnet for operating said brake, electric connections between the coil of the magnet and the commutator brushes of said machine, and switch devices adapted to connect said machine with the source of current supply without energizing the magnet so as to apply the brake, and also to entirely disconnect the machine from said current source and close the machine circuit through the energizing coil of the electro-magnet so as to apply the brake.

2. The combination of an electric current source of supply, a shunt-wound dynamo-electric machine adapted to run either as a motor or generator, a brake for controlling the speed of rotation of the armature of said machine, an electro-magnet for operating said brake, electric connections between the coil of the magnet and the commutator brushes of said machine, and switch devices adapted to connect said machine with the source of current supply and at the same time shunt the current around the energizing coil of said magnet, and also to entirely disconnect the machine from said current source and close the machine circuit through the energizing coil of the electro-magnet so as to apply the brake.

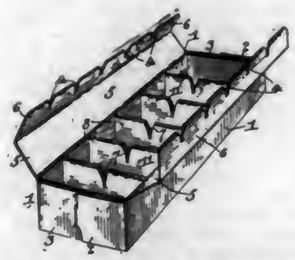
3. The combination of an electric current source of supply, a dynamo-electric machine adapted to run either as a motor or generator, a brake for controlling the speed of rotation of the armature of said machine, an electro-magnet for operating said brake, electric connections between the coil of the magnet and the commutator brushes of said machine, and switch devices having a single operating handle adapted to connect said machine with the source of current supply without energizing the magnet so as to apply the brake, and also to entirely disconnect the machine from said current source and close the machine circuit through the energizing coil of the electro-magnet so as to apply the brake.

4. The combination of an electric current source of supply, a dynamo-electric machine adapted to run either as a motor or generator, a brake for controlling the speed of rotation of the armature of said machine, an electro-magnet for operating said brake, electric connections between the coil of the magnet and the commutator brushes of said machine, switch devices adapted to connect said machine with the source of current supply without energizing the magnet so as to apply the brake, and also to entirely disconnect the machine from said current source and close the machine circuit through the energizing coil of the electro-magnet so as to apply the brake, and a rheostatic controlling device operable independently of said switch device and adapted to control both the current supplied to the machine when it runs as a motor and the current supplied to the electro-magnet by the machine when running as a generator.

5. The combination of a source of current supply, a dynamo-electric machine adapted to run either as a motor or generator, a brake for controlling the speed of rotation of the armature of said machine, an electro-magnet for operating said brake, and a triple-pole double-throw switch adapted when in one position to connect said machine with the source of current supply and to short-circuit the energizing coil of said electro-magnet, and when in its other position to connect the energizing coil of said magnet into the machine circuit.

[Claim 6 not printed in the Gazette.]

973,927. BOX. CHARLES F. A. EDDY, Los Angeles, Cal. Filed Dec. 13, 1909. Serial No. 532,778.



1. A box having top folding cover portions provided with inwardly extending notched edges, forming cell partition walls, and a separable cellular filler arranged in the box and engaging the said notched edges of the cover for completing the cell formation within the box.

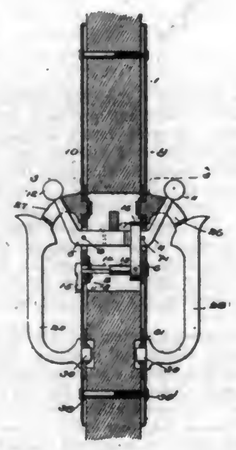
2. A box having hinged cover portions provided with edges arranged to meet and extend as a double partition into said box and an interlocking cellular filler in the box held in place by said double partition.

3. A collapsible receptacle comprising a folding box portion formed from a single sheet of material, the said sheet having top cover portions with notched edges adapted to be turned inwardly, and a folding filler for said receptacle formed of a single piece of material having notches cut therein, the notched portions being capable of folding to form partitions within the receptacle, the said partitions being engaged and locked in place by the notched portions of the cover edge.

4. A folding cellular structure comprising a body portion having inwardly folding cover sections carrying notched partition forming edges, the notches of said edges being flared outwardly, and a cellular filler arranged in the structure and having notched partition forming portions, the notches of said partitions being flared outwardly and arranged to receive and interlock with the flaring notches of the cover.

5. A box formed with a cover having an inwardly extending partition forming and filler interlocking portion, a filler for said box formed of a single strip of material creased for folding, and having notches formed therein, the filler when folded and engaged by the cover of the box forming cells therein.

973,928. LOCK. CHARLES E. C. EDDY, Tacoma, Wash. Filed Nov. 29, 1909. Serial No. 530,452.



1. In a device of the character described, the combination with a bolt of an inside and outside lever for operating said bolt, means for each of said levers for independently pivoting the same, a pin positioned above one of said levers, a pivotally mounted locking member locking one of said levers against movement and formed with a hook shaped extension projecting beneath said pin when in a locked position, and operating means connected with said locking member for moving the hook-shaped extension between said levers and said pin, said pin preventing accidental removal of said locking member.

2. In a device of the character described, the combination with a lock having a bolt, a pair of levers for independently operating said bolt, a locking member engaging one of said levers for locking the same against movement, means for operating said locking member and at the same time indicating the position thereof, and handholds associated with said levers for guiding the same in their movement.

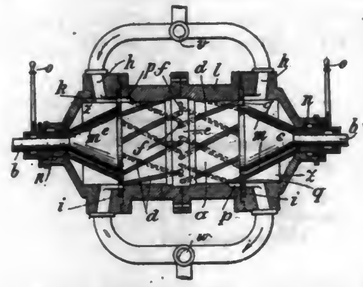
3. In a device of the character described, the combination with a lock formed with a retractile bolt, of levers for moving said bolt, means for locking one of said levers against movement, means for supporting said levers properly in position, and hand-holds formed with elongated slots through which said levers project for guiding said levers.

4. In a device of the character described, the combination with a lock having a retractile bolt, of a plurality of levers for moving said bolt, means for locking one of said levers against operation, means for controlling said locking means, and a pair of hand-holds removably secured in position and arranged to guide said levers in their movement.

5. In a device of the character described, the combination with a lock having a retractile bolt, of levers for operating said bolt, and hand-holds formed with a lug at each end, and a slot at one end, said slot accommodating said levers for holding and guiding the same, and means passing through said lugs for holding the hand-holds in position.

[Claims 6 and 7 not printed in the Gazette.]

973,929. TURBINE. GUSTAV ENGISCH, Berlin, Germany. Filed Mar. 7, 1910. Serial No. 547,845.



1. In a reversible turbine the combination with the distributing body and the rotor of a plurality of helicoidally arranged crossing channels provided in the said distributing body and rotor in such a manner that they do not extend over the entire length of the distributing body and rotor but are all stopped at an annular plane, another set of similar channels beginning in the same annular plane at other points than those where the first set opens out, the channels of the last set opening out at the ends of the distributing body and of the rotor body, substantially as and for the purpose set forth.

2. In a reversible turbine the combination with the distributing body and the rotor of a plurality of crossing channels obliquely arranged with reference to the longitudinal direction of the turbine and provided in the said distributing body and rotor in such a manner that they do not extend over the entire length of the said distributing body and rotor but are stopped all at an annular plane, another set of similar channels beginning in the same annular plane at other points than those where the first set opens out, the channels of the last set opening out at the ends of the said distributing body and rotor, substantially as and for the purpose set forth.

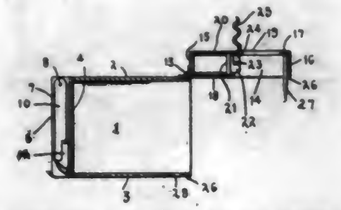
3. In a reversible turbine the combination with the distributing body and the rotor of a plurality of crossing helicoidally or obliquely arranged channels provided in the said distributing body and rotor, and opening out in one annular plane, another similar set of channels beginning in the same plane, a tightening ring surrounding said annular plane of the rotor and having openings wherein open out the channels of one set and openings wherefrom start channels of the next set, substantially as and for the purpose set forth.

4. In a reversible turbine the combination with the distributing body and the rotor of a plurality of sets of crossing channels helicoidally or obliquely arranged in the distributing body and the rotor, the channels of the first set ending in one annular plane and those of the following set starting from the same annular plane but at other

places thereof, the first set of channels beginning at one end of the distributing and rotor body while the last set opens out at the other side of the said distributing and rotor bodies, means for covering on the inlet side of the driving medium the channels of the rotor and on the escape side the channels of said distributing body, substantially as and for the purpose set forth.

5. In a reversible turbine the combination with the distributing body and the rotor of a plurality of sets of crossing channels provided obliquely or helicoidally in the said distributing body and rotor the channels of one set opening out in one annular plane and the channels of the next set beginning in the same annular plane but at other places thereof, a rotary slide arranged in front of the admission end and another in front of the escape end of said distributing body and rotor, both slides being provided with openings corresponding to the channels of the said distributing body and rotor and being adapted to respectively cover the channels of the rotor at the inlet side of the driving medium and to cover the channels of the distributing body at the escape side and means for actuating said slides, substantially as and for the purpose set forth.

973,930. MATCH-BOX. JOHN W. FINK, Pittsburg, Pa. Filed Mar. 5, 1910. Serial No. 547,454.



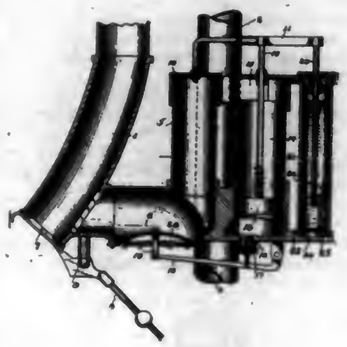
1. In combination, a receptacle having a hinged lid, said lid comprising side walls, end walls, a top and a bottom wall, said bottom wall of less length than said top wall and said top wall provided with a longitudinally-extending slot in that portion which projects beyond the bottom wall, the opposing faces of said top and bottom walls provided with longitudinally-extending grooves, each of a length less than the length of the bottom wall, a head slidably mounted in said grooves, a web projecting from the head, and a cork-screw pivotally connected to said web and adapted when shifted to operative position to extend through the slot in the top wall.

2. A receptacle provided with a hinged lid comprising side walls, end walls, a top and a bottom wall, said top wall provided with a longitudinally-extending slot, said top wall and bottom wall having the opposing faces thereof provided with longitudinally-extending grooves of less length than the length of their respective walls, a head slidably mounted in said grooves and a cork-screw pivoted to said head and adapted when moved to operative position to extend through said slot, one end wall of each of said grooves limiting the movement in one direction of said head.

973,931. VACUO DESPATCH SYSTEM. EDGAR FLINT, Toronto, Ontario, Canada. Filed Nov. 27, 1908. Serial No. 464,645.

1. In a vacuo-despatch system the combination of a line of tubing provided at one end with a manually operable trap; a diaphragm chamber in communication with said line adjacent to said trap and provided at the upper side with an air inlet; a gravity actuated closure normally closing said inlet; pneumatic means for opening the closure normally exposed to the pressure in the system and closed to the atmosphere; a movable diaphragm in the diaphragm chamber exposed at one side to the pressure in the system and at the other to the atmosphere; and means operable by the diaphragm for conditioning the operation of the closure opening means by admitting atmospheric pressure thereto.

2. In a vacuo-despatch system the combination of a line of tubing normally closed and provided with a terminal air inlet; a gravity actuated closure normally closing said inlet; an exhauster connected with the line; a closed cylinder at one end in communication with the exhauster and having an air inlet at the other end; a piston in said cylinder adapted to permit a restricted leakage of air from one side to the other; operating connections between said piston and the closure; a valve closing the air inlet of the cylinder; and means controlled by the vacuum in the system whereby said valve is held closed except at such times as the system is opened.



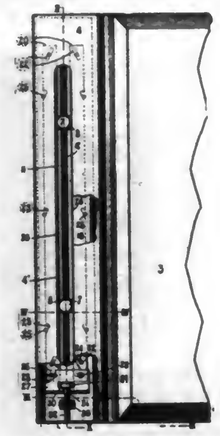
3. In a vacuo-despatch system the combination of a line of tubing normally closed and provided with a terminal air inlet; a gravity actuated closure normally closing said inlet; an exhauster connected with the line; a closed cylinder at one end in communication with the exhauster and having an air inlet at the other end; a piston in said cylinder adapted to permit a restricted leakage of air from one side to the other; operating connections between said piston and the closure; a valve closing the air inlet of the cylinder; a flexible diaphragm exposed at one side to the pressure in the system and at the other to the atmosphere, and connections between the diaphragm and the valve for operating the latter.

4. In a vacuo despatch system the combination of a line of tubing normally closed and provided with a terminal air inlet; a gravity actuated closure normally closing said inlet; an exhauster connected with the line; a closed cylinder at one end in communication with the exhauster and having an air inlet at the other end; a piston in said cylinder adapted to permit a restricted leakage of air from one side to the other; operating connections between said piston and the closure; a valve closing the air inlet of the cylinder; a flexible diaphragm exposed at one end to the pressure in the system and at the other to the atmosphere; connections between the diaphragm and the valve for operating the latter, and means for regulating the closing movement of the closure.

5. In a vacuo-despatch system the combination of a line of tubing normally closed and provided with a terminal air inlet; a gravity actuated closure normally closing said inlet; an exhauster connected with the line; a closed cylinder at one end in communication with the exhauster and having an air inlet at the other end; a piston in said cylinder adapted to permit a restricted leakage of air from one side to the other; operating connections between said piston and the closure; a valve closing the air inlet of the cylinder; a flexible diaphragm exposed at one side to the pressure of the system and at the other to the atmosphere; connections between the diaphragm and the valve for operating the latter; a cylinder filled with fluid; a piston in said cylinder connected with the closure; a check valve in the piston opening downwardly; and a by pass past said piston.

[Claim 6 not printed in the Gazette.]

973,932. LOOSE-LEAF BINDER. HENRY G. FORNOFF and HENRY C. KLAGES, St. Louis, Mo. Filed Feb. 26, 1910. Serial No. 546,095.



1. In a loose leaf binder, a cover having a pocket member, leaf receiving posts loosely mounted in said pocket member, and means within said pocket member on which said posts are adjustably mounted.

2. In a loose leaf binder, a cover having a pocket member provided with a slot, leaf receiving posts mounted in said pocket member and movable in said slot, and means mounted in said pocket member upon which said posts are adjustably mounted.

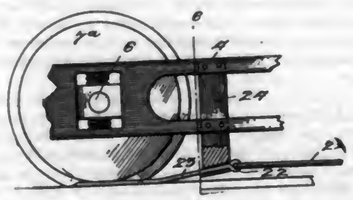
3. In a loose leaf binder, a cover, leaf receiving posts, and a post holding rod mounted in said cover and to which said posts are adjustably fitted, the rod being provided with means for engaging said posts to hold them from movement longitudinally of the rod.

4. In a loose leaf binder, a cover, leaf receiving posts provided with apertures, a post holding rod extending through the apertures in said posts adapted when in one position of adjustment to hold the posts from movement thereon, and to permit movement thereon of the posts when in another position.

5. In a loose leaf binder, a cover, leaf receiving posts, and a serrated rod mounted in said cover and extending through said posts to hold them in adjusted positions.

[Claims 6 to 14 not printed in the Gazette.]

973,933. CAR-BRAKE. RICHARD M. FOX, Bluefield, W. Va., assignor of one-half to John P. Hunt, Chatham, Va. Filed Jan. 3, 1910. Serial No. 535,905.



1. An emergency brake mechanism for vehicles comprising operating levers, transverse bars, pivotal rod connections between said bars and said lever, brake shoes carried by said bars adapted to be forced beneath the wheels of a vehicle, a rod projecting from each end of said bars, brake shoes carried thereby, and guiding and supporting means for said shoes adapted to be suspended from a vehicle.

2. An emergency brake mechanism comprising brake shoes for engagement between wheels of a vehicle and the surface over which said wheels travel, guiding and supporting means through which said shoes are movable, and means for operating said shoes.

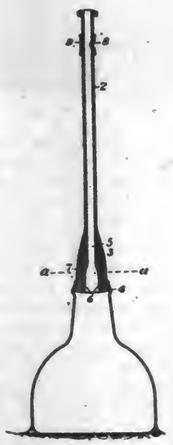
3. An emergency brake mechanism comprising brake shoes, a supporting arm for each shoe provided with a slot through which said shoes are movable, and means for moving said shoes through said slots.

4. An emergency brake mechanism comprising a transverse bar, brake shoes pivoted thereto, rods projecting from the ends of said bar, brake shoes pivoted to said rods, guiding and supporting means for said shoes, a platform lever, and pivotal rod connections between said lever and said transverse bar.

5. In an apparatus of the character described, the combination with a vehicle, of guides arranged in front and behind the wheels thereof, brake shoes slidably mounted in said guides, and means for operating said shoes to project the same between the wheel of the vehicle and the surface over which said wheels are traveling.

[Claim 6 not printed in the Gazette.]

973,934. BAIT FOR DRAWING GLASS. ROBERT L. FRINK, Belle Vernon, Pa., assignor to Window Glass Machine Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Apr. 23, 1906. Serial No. 313,204.



1. In glass-drawing apparatus, a blow pipe having its lower bait-forming end portion provided with a fixed thickened wall enlargement to give a sufficient mass of metal to prevent rapid cooling, the extreme lower end having an outwardly turned adhesion lip, and the enlargement extending above said lip, substantially as described.

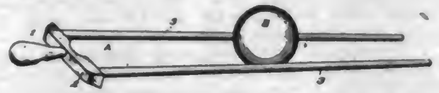
2. In glass-drawing apparatus, a blow pipe having its lower bait-forming end portion provided with a fixed thickened wall enlargement to give a sufficient mass of metal to prevent rapid cooling, and having the lower end of its passage formed with an enlargement of increasing diameter to the orifice thereof, substantially as described.

3. In glass-drawing apparatus, a blow-pipe having its lower end portion gradually enlarged downwardly and its walls thickened, the lower portion of the passage through said enlarged portion being also enlarged beyond the diameter of the remainder of said passage, substantially as described.

973,935. BAT-AND-BALL GAME DEVICE. LEMUEL L. GEORGE, York, Pa., assignor of one-half to Harry C. Miller, York, Pa. Filed May 7, 1910. Serial No. 559,974.

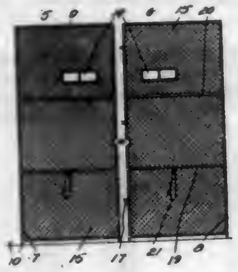
1. A game device of the class described, comprising a pair of approximately parallel stick-like members straight

throughout their length, and a handle to which the members are connected; and a ball adapted to be caught on and held by the members, the outer ends of the members being spaced apart a distance less than the diameter of the ball.



2. A bat comprising a plurality of stick-like members, a hilt-forming cross-piece in which the members are secured, and a handle connected with the cross-piece, and a ball of greater diameter than the distance between the said members.

973,936. SHIELD. WILLARD GRAVES, Pontiac, Mich. Filed Jan. 11, 1910. Serial No. 537,559.



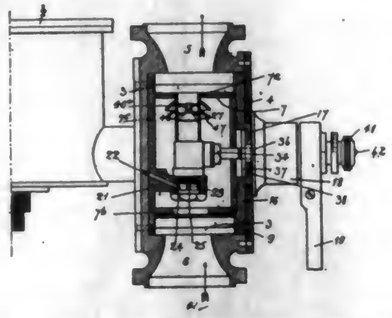
1. A portable shield for firemen comprising a frame consisting of two arcuate sections, means for detachably securing the said sections together, a sheet of non-heat-conducting material secured to the sides and ends of each section, said sheet having a peep opening adjacent to its upper end, said sections being provided at opposite points and at the medial portions of their adjacent sides with semi-circular openings, the sides of which flank an annular opening when the sections are brought together, a cross piece connecting the medial portion of each of said sections, and a handle secured to the cross piece.

2. In a shield for firemen, an oblong frame the sides of which are connected together at their opposite ends by a pair of curved end pieces, a sheet of non-heat-conducting material secured to the sides and ends of the frame, said sheet having a peep opening adjacent to its upper end and further provided at a point below said peep opening with an opening for the reception of a nozzle, a cross piece connecting the medial portions of the sides of the frame, a wire netting secured to the sides and ends of the frame and on that face of the latter opposite to the face covered by the non-heat-conducting material, and a handle secured to the cross piece.

973,937. CARBURETER. WILLIAM ERNEST HAINES, Cheltenham, England. Filed Dec. 11, 1909. Serial No. 532,714.

1. In a carbureter, in combination, an outer casing, a mixing chamber fixed concentrically therein, a throttle valve movable between said mixing chamber and outer casing, means for actuating said throttle, a jet nozzle communicating with the source of fuel supply and located within said mixing chamber, a plug loosely positioned within said nozzle and extending through and adapted to close said fuel passage, said plug being formed with longitudinal taper grooves for controlling the passage of the fuel when the plug is moved from its closed position, and means having a releasable pin and hole connection with the throttle operating means for simultaneously rotating and reciprocating said plug.

2. In a carbureter the combination with the throttle and fuel jet of a plug movable within said jet, a spindle carried by the jet body, a crank on said spindle adapted to enter a slot in the plug, and means normally operable by and in unison with the throttle but capable of independent operation relatively thereto for imparting rotary motion to said spindle.



3. In a carbureter the combination with the throttle and fuel jet of a plug movable within said jet for controlling the flow of fuel therethrough, mechanism for imparting a simultaneous reciprocating and rotary motion to the plug within the jet, throttle controlling means, a headed stem having an adjustable and releasable clutch connection with the throttle controlling means and operatively engaging said mechanism.

4. In a carbureter, the combination with an outer casing having inlet and outlet ports for air and vapor respectively of a throttle comprising slides adapted to be moved within said casing to simultaneously control the supply of air and vapor, means for actuating said slides and mechanism normally operable by and in unison with said throttle slides for regulating the fuel supply and for removing obstructions from the fuel jet.

5. In a carbureter, the combination with a cylindrical outer casing having inlet and outlet ports for air and vapor respectively and a similarly ported concentric inner mixing chamber, of throttle slides movable between said outer and inner casings, said slides each comprising two superposed segmental members, springs located between said members for maintaining them in close contact with the walls of the said outer and mixing chambers respectively and means for operating said slides.

[Claims 6 to 9 not printed in the Gazette.]

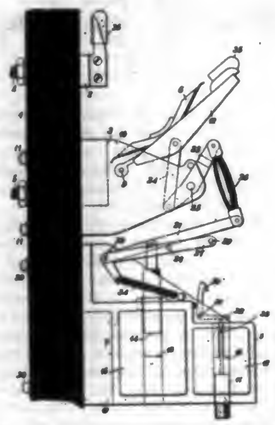
973,938. CIRCUIT-INTERRUPTER. FORD W. HARRIS, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Dec. 14, 1908. Serial No. 467,524.

1. The combination with stationary and movable contact members and an operating lever for the movable contact member, and an interposed link, of a solenoid, a core a lever to which said core is attached, a link interposed between said levers and constituting a handle grip for manually operating said movable contact member, and an electro-magnetically released lever for actuating said levers and links to open the breaker.

2. In a circuit breaker, the combination with stationary contact terminals, a movable contact member, an operating lever and link, a remotely controllable lever and an insulating link interposed between it and said operating lever, of a spring-restrained lever adapted to be actuated in one direction by said remotely controllable lever and adapted to actuate said lever in the opposite direction, and an electromagnetically actuated latch for holding said spring-restrained lever to permit independent manual operation of the remotely controllable lever to open the breaker.

3. In a circuit breaker, the combination with stationary contact terminals, a movable contact member, a set of co-operating links and levers adapted for manual operation to open or close the breaker and a solenoid and core for

operating said links and levers to close the breaker, of a spring-actuated lever for tripping the link and lever mechanism to open the breaker, and an electromagnetically actuated latch for normally holding said spring-actuated lever in an inactive position.

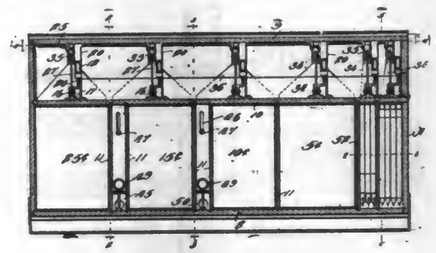


4. The combination with a circuit interrupter comprising an insulating plate or slab, stationary contact members and a stationary bracket, a movable bridging contact member pivotally mounted on the bracket, an operating lever fulcrumed at the outer end of the bracket, and a link between said bridging contact member and said operating lever, of a remotely controllable lever, a bell crank lever actuated by said remotely controllable lever, a spring secured to one arm of said bell crank lever to oppose the action of said remotely controllable lever, a latch for restraining the bell crank lever against the action of said spring, a tripping magnet for the latch and a link of insulating material interposed between the operating lever and the remotely controllable lever, to constitute a handle grip for the manual operation of the interrupter.

5. The combination with an insulating plate or slab, a circuit interrupter comprising stationary contact members, a stationary bracket secured to the plate or slab, a bridging contact member pivotally mounted on the bracket, an operating lever fulcrumed at the outer end of the bracket and a link interposed between the inner end of the operating lever and the bridging contact member, of a remotely controllable means for governing the circuit interrupter, said means comprising a stationary bracket independent of the interrupter, an operating electro-magnet and a releasing electro-magnet, a lever pivotally secured to the magnet bracket, a bell crank lever fulcrumed on the same axis and having a projection to engage said lever, a spring tending to rotate the lever in opposition to the pull of the operating electro-magnet, a latch for restraining the bell crank lever and an insulating link, interposed between the operating lever and the magnet lever to constitute a handle grip for manually operating the interrupter.

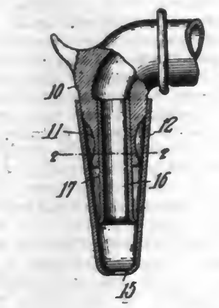
973,939. VENDING-MACHINE. IRVIN F. HARRIS, Forreston, Tex. Filed Jan. 8, 1910. Serial No. 536,998.

In a vending machine, a coin-receiving chute, a horizontally disposed tube connected with the lower end thereof and having a bottom slot which is out of alinement with the receiving chute, a coin receptacle, an inclined chute connecting said receptacle with the bottom slot, a plunger operating in the horizontally disposed tube, a spring-retracted lever connected with and actuating said plunger, a slide movable in the horizontally disposed tube, a suitably supported lever having an upwardly extending arm connected with the slide to operate the latter, a link connecting the upwardly extending lever arm with the spring-retracted lever, said link being slidably and adjustably connected with the lever arm, a merchandise compartment, a plunger operating in the bottom of said compartment, and suitable means connecting said plunger



with the downwardly extending arm of the lever to project the plunger when the spring-retracted operating lever is manipulated against the tension of the retracting spring.

973,940. NOZZLE. CHARLES S. JONES, Marion, Ind. Original application filed May 31, 1907, Serial No. 376,538. Divided and this application filed July 20, 1909. Serial No. 508,584.



1. In apparatus of the class described, a nozzle having a tapered outer face provided with a peripheral groove forming an air chamber, a tube depending from and forming a continuation of the nozzle, said tube having an outwardly flared lower end, and a spout member fitting over the tube and the nozzle and forming in connection therewith a pair of chambers in which a partial vacuum is created by the downrush of liquid through the tube, the lower end of said spout member having an inturned flange.

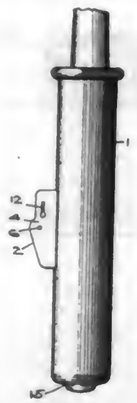
2. In apparatus of the class described, a delivery nozzle having an extension tube, the periphery of the nozzle being provided with an annular groove, and a spout member fitting over the tube, and the nozzle forming in connection therewith a pair of chambers in which a partial vacuum is created on the discharge of the liquid.

3. A nozzle having an air chamber which is open to the atmosphere at all times except when liquid is flowing through the nozzle, whereby a partial vacuum is created in said air chamber by the flow of liquid through the nozzle, the opening in said chamber being shaped to hold water therein by suction and capillary attraction.

4. A nozzle having a pair of connected air chambers open at their lower ends, in each of which a partial vacuum is created by the discharge of liquid through the nozzle.

5. A nozzle having an air chamber, which is open at its lower end and in which a partial vacuum is created by the discharge of liquid through the nozzle, the opening at the lower end of said air chamber being narrower than the portion of the chamber above said opening so as to hold a seal of water in said opening by suction and capillary attraction.

973,941. WHIP-SOCKET. MOSES JONES, Jr., Greenwich, N. J. Filed Apr. 15, 1910. Serial No. 555,650.

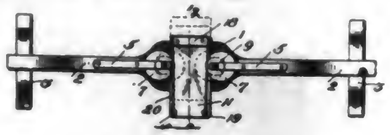


1. A whip socket comprising an angular pivoted dog located within a suitable cavity formed in the socket, said dog having an inclined whip supporting surface, and a biting nose, means for holding said dog in an elevated position with its end projecting into the socket for primarily supporting the whip handle and also for locking the latter, a seat located within the socket below the locking device, a coil spring disposed between said seat and the bottom of the socket for causing said seat to assume an elevated position and means for releasing the locking device, said seat adapted to be forced upward by the spring to engage the side face of the whip with the said biting nose.

2. In combination with a whip socket having a cavity formed therein, an angular pivoted dog located within said cavity adjacent its upper wall, the outer end of said dog projecting a sufficient distance within the socket, said dog having an inclined riding surface and a lower inclined surface forming a biting edge, said inclined riding surface adapted to support the handle of a whip, a pin secured to the dog and projecting angularly upwardly therefrom, a seat movably located within the socket below the dog, a coil spring disposed between said seat and the bottom of the socket for holding the former in an elevated position, said seat adapted to force the said whip upward into engagement with said biting edge, a leaf spring secured within the socket and having its free end projecting into the cavity of the socket and in contact with the under inclined surface of the dog adjacent to its pivotal connection, and suitable means for releasing or depressing the dog and adapted to be brought in contact with the upper end of the pin carried by the latter.

3. In combination with a whip socket having a cavity formed therein, an angular pivoted dog, one end of which is located adjacent the outer wall of said cavity, said dog having an inclined contacting surface projecting into the socket and a terminal biting edge, a pin projecting angularly upward therefrom and normally located within the cavity, a seat movably located within the socket below the dog, a coil spring disposed between said seat and bottom of the socket for holding the former in an elevated position in respect to the lower biting edge of the dog, a leaf spring secured within the socket adjacent the lower end of the cavity of the socket and having its upper free end in yielding contact with the under inclined surface of the dog adjacent its pivotal connection, one wall of said cavity having an opening therethrough, and suitable means adapted to be inserted through said opening for releasing or depressing the dog and adapted to be brought in contact with the upper end of the inclined pin carried by the dog, whereby the lower end of the whip handle is normally held in an elevated position within the socket above the yielding seat located below the locking device.

973,942. ADJUSTABLE DOOR-VISE. WILLIAM T. KENNEDY and GEORGE C. PETTIT, Lonerock, Iowa. Filed May 17, 1910. Serial No. 561,818.



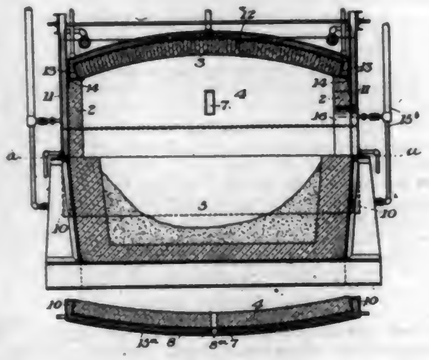
1. A clamp of the class described comprising a base, a bodily movable member, abutment means carried thereby, eccentric rollers carried by said base, flexible means secured to said bodily movable member and passing around a portion of said rollers for rotating the same when said bodily movable member is actuated.

2. A clamp of the class described comprising a body, a plate slidably mounted thereon, an abutment block carried by one end thereof, rollers carried by said body, said rollers provided with an eccentric upper portion and a reduced lower drum portion, a flexible member wound around said drum portions and secured to the back of said abutment block, pins carried by the front of said plate and the end of said flexible member secured thereto.

3. A clamp comprising a body, a plate, said body provided with a transversely extending notch, a rod secured to the under surface of said plate, eyes carried by said body and engaging said rod for holding the plate against displacement from said body, work gripping rollers carried by said body, and means coöperating with said rollers and plate whereby when said plate is shifted upon said body, said rollers will be actuated.

4. A clamp comprising a base, a work-supporting plate carried thereby, an abutment block carried by said plate, eccentric rollers carried by said base, flexible means passing around the lower ends of said rollers and in back of said abutment block and having its front ends attached to the front end of said plate for reinforcing said abutment member.

973,943. FURNACE. LUTHER L. KNOX, Avalon, Pa., assignor to Keystone Furnace Construction Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 12, 1910. Serial No. 560,856.



1. In a regenerative furnace, an end wall or bulk head for the uptakes and ports, comprising a plurality of outer hollow cooling plates and an inner refractory wall or lining, the said wall or lining and plates being arched transversely and the cooling plates having skew-backs which support and carry the wall or lining; substantially as described.

2. In a regenerative furnace, an end wall or bulk head for the uptakes and ports, comprising a plurality of outer hollow cooling plates arranged transversely across the uptakes one above another and an inner refractory wall or lining, the said wall or lining and plates being arched transversely and the cooling plates having skew-backs which support and carry the wall or lining; substantially as described.

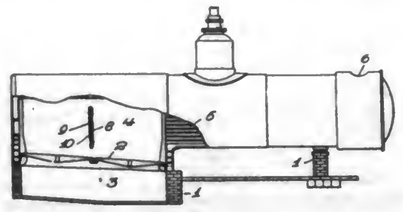
3. In a furnace, an arched roof comprising an inner refractory wall and a plurality of hollow closed cooling plates, each of said plates having means which support and carry a section of the refractory wall; substantially as described.

4. In a furnace, an arched roof comprising an inner refractory wall and a plurality of hollow closed cooling plates, each of said plates having skew-backs which support and carry a section of the refractory wall, said plates extending continuously across the arch; substantially as described.

5. In a furnace, a transversely arched roof consisting of an inner refractory wall, and a series of transversely arched hollow cooling plates which cover substantially the entire roof of the furnace, each plate having skew backs at its ends which carry a section of the refractory wall; substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

973,944. SMOKE-RETARDING DEVICE. EMIL KRUSE, Tokio, N. D., assignor of one-half to Elias Bodal, Fort Totten, N. D. Filed Apr. 29, 1910. Serial No. 558,417.



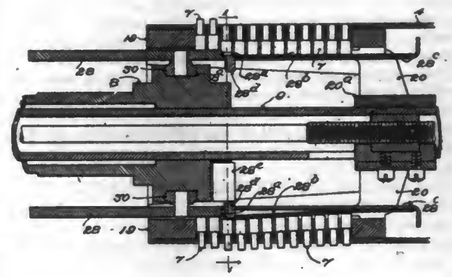
1. A smoke retarding device comprising the combination with the combustion chamber of a furnace having the upper portion of its side walls off-set outwardly with respect to the lower portions thereof, of oppositely-disposed vertically-extending arms secured at their lower ends to the lower portions of the side walls of said chamber and having their upper portions spaced from the off-set portions of the said side walls, and a vertically-disposed plate trunnioned approximately centrally thereof in the upper ends of said arms and having its lower end spaced from the bottom of the combustion chamber, said plate spaced from the offset portion of the walls of the fire box and further spaced from the top of the fire box.

2. A smoke retarding device comprising the combination with the combustion chamber of a furnace having the upper portion of its side walls off-set outwardly with respect to the lower portions thereof, of oppositely-disposed vertically-extending arms secured at their lower ends to the lower portions of the side walls of said chamber and having their upper portions spaced from the off-set portions of the said side walls, a vertically-disposed plate trunnioned approximately centrally thereof in the upper ends of said arms and having its lower end spaced from the bottom of the combustion chamber, said plate spaced from the offset portion of the walls of the fire box and further spaced from the top of the fire box, and a covering of non-combustible material inclosing said plate.

973,945. AUTOMATIC WEB-GUIDING DEVICE. WILLARD I. LEWIS, Walpole, Mass. Filed Jan. 3, 1910. Serial No. 536,176.

1. The combination with the detector-roll and the detector-pins which are adapted to be pressed inward by the web making contact with the exterior of such roll, of means for positively thrusting-out the detector-pins into their projected position.

2. The combination with the detector-roll and the detector-pins which are adapted to be pressed inward by the web passing such roll, of a thrusting-out cam by which the said pins are moved outward.



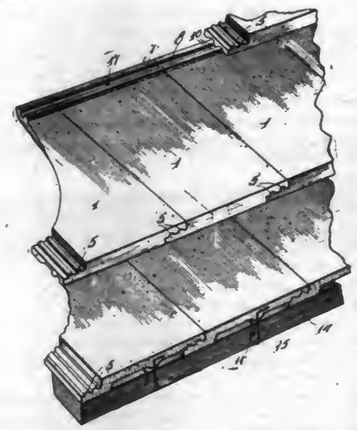
3. The combination with the detector-roll and its detector-pins, and a shifter-device which coöperates with those pins having their positions determined by the web passing such roll, of means located adjacent the place of such coöperation whereby to move the pins into positions permitting them to be carried around without coaction with the shifter-device unless otherwise controlled by the said web.

4. The combination with the detector-roll, the detector-pins, the reciprocating shifter-bars, and the shifter-cam, of movable members connected with the said shifter-bars, adapted to engage the said pins, and means in connection with the said shifter-cam for actuating the said members to thrust out the pins.

5. The combination with the detector-roll, the detector-pins, the reciprocating shifter-bars, and the shifter-cam, of movable members connected with the said shifter-bars, and a roll connected with the shifter-cam and acting as a cam to actuate the said members to thrust out the pins.

[Claim 6 not printed in the Gazette.]

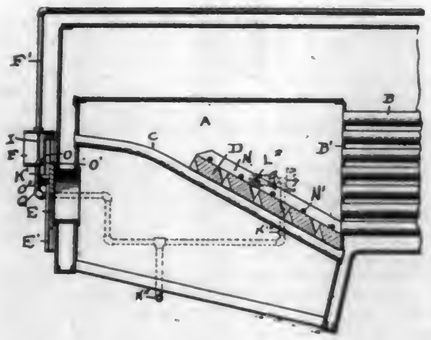
973,946. CEMENT ROOFING-TILE. WILLIAM E. LINDAU, Napoleon, Ohio. Filed Feb. 2, 1910. Serial No. 541,476.



A tile of the class described comprising a body of substantially rectangular outline and provided with top, bottom and side edges and upper and under surfaces, said body having its upper surface rabbeted along one side edge and its under surface grooved along the other side edge, ribs extending throughout the length of the rabbeted portion, a rib extending across the upper surface at the top edge thereof, a second rib parallel to the last

mentioned rib and spaced therefrom, a strip extending across the under face at the bottom edge, said strip extending from the edge of the rabbeted side toward the opposite edge and terminating a distance from the grooves equal to the width of the rabbet, a pair of spaced ribs extending the full length of said strip, one of said ribs being at the bottom edge of the strip and the other intermediate its width, a second strip extending along the under surface of the body beneath said rabbet from the upper edge of the body to the first mentioned strip, and a third strip extending along the lower edge of the body from the last mentioned strip, the under surfaces of the ribs on the first strip and of the remaining strips all lying in substantially the same plane.

973,947. SMOKE-CONSUMING APPARATUS FOR LOCOMOTIVES. JOHN LOFTUS, Albany, N. Y., assignor of one-half to Anthony Hughes, Philadelphia, Pa. Filed May 9, 1910. Serial No. 560,124.



1. A smoke consuming device comprising, in combination with the fire box of a locomotive having an inclined arch with openings therethrough, flues positioned above and at the sides of said arch and having exit apertures adapted to discharge air transversely of the arch between the openings in the latter, and means for automatically introducing air into said flue.

2. A smoke consuming device comprising, in combination with the fire box of a locomotive having an inclined arch with openings therethrough, flues positioned above and at the sides of said arch and having exit apertures adapted to discharge air transversely of the arch between the openings in the latter, a door to the fire box, and automatically operated means actuated by the opening of the door for allowing air to be introduced into the flue to be heated previous to its issuing therefrom into the fire box.

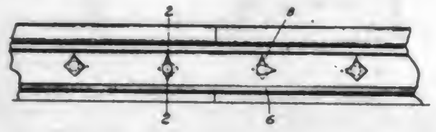
3. A smoke consuming device comprising, in combination with the fire box of a locomotive having an inclined arch with openings therethrough, flues positioned above and at the sides of said arch and having exit apertures adapted to discharge air transversely of the arch between the openings in the latter, a door to the fire box, a casing communicating with the flues, a steam supply pipe leading to and normally closing an opening into said casing and designed to be automatically opened to allow air to be drawn into the casing as the steam is turned on by the opening of the door.

4. A smoke consuming device comprising, in combination with the fire box of a locomotive, an arch made up of fire brick with spaces intermediate the same and positioned within the fire box, the walls of the fire box having apertures intermediate the openings in the arch and above the same, a steam cylinder, a piston mounted therein, one end of the cylinder being contracted, a steam supply pipe leading to the contracted end of the cylinder, a by-pass pipe communicating between the opposite ends of the cylinder, a needle valve controlling the passage of steam through said by-pass pipe into the lower end of the cylinder, an exit pipe leading from the contracted portion of the latter, a nozzle communicating with said exit and having flexible connections therein, a casing having a funnel-shaped end in which said nozzle is adapted to seat to normally close the opening therein, said casing communicating through a duct with said apertures in the wall of the fire box, and automatic means for causing said piston to open communication between the cylinder and said exit pipe.

5. A smoke consuming device comprising, in combination with the fire box of a locomotive, an arch made up of fire brick with spaces intermediate the same and positioned within the fire box, the walls of the fire box having apertures intermediate the openings in the arch and above the same, a steam cylinder, a piston mounted therein, one end of the cylinder being contracted, a steam supply pipe leading to the contracted end of the cylinder, a by-pass pipe communicating between the opposite ends of the cylinder, a needle valve controlling the passage of steam through said by-pass pipe into the lower end of the cylinder, an exit pipe leading from the contracted portion of the latter, a nozzle communicating with said exit pipe and having flexible connections therein, a casing having a funnel-shaped end in which said nozzle is adapted to seat to normally close the opening therein, said casing communicating through a duct with said apertures in the wall of the fire box, an exhaust valve controlling an exit opening in the cylinder, and automatically-operated means for unseating said exhaust valve.

[Claims 6 to 8 not printed in the Gazette.]

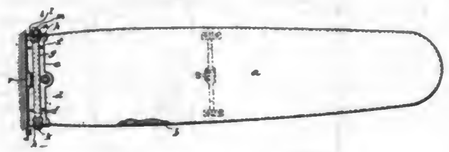
973,948. RAIL-JOINT. FRANK HOLMES LOOKABAUGH, Leechburg, Pa. Filed Jan. 21, 1910. Serial No. 539,339.



In a rail joint, the combination with rails having the webs thereof formed with vertically arranged inverted V-shaped openings with the lower walls thereof rounded and extending below the longitudinal center of the webs, of splice bars adapted to brace said rails and be connected to the webs thereof, each of said bars having its outer face inclined toward the top of the web and each further provided with a series of vertically arranged inverted V-shaped openings extending below the longitudinal center thereof and adapted to register with the openings of said rails and being of the same identical size and shape as said rail openings, oppositely disposed headed bolts extending through the registering openings and each provided upon one side of the bolt and extending longitudinally thereof and at one end thereof with a V-shaped enlargement having its inner face inclined and engaging with the inclined outer face of a splice bar for binding the splice bar against the rails when the enlargement projects through said opening and is rotated toward the lower longitudinal edge of the splice bar when the parts are assembled.

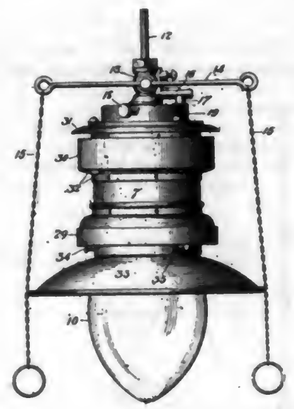
973,949. IRONING-BOARD. ALEXANDER T. LUTZ, York, Pa., assignor of one-half to William Edward Koch, York, Pa. Filed Apr. 9, 1910. Serial No. 554,503.

1. In combination with an ironing board grooved around its edges and notched at each of its corners, a housing plate fastened across the inner end of the board and extending over said notches and provided with a lug at each end extending downwardly at the outer sides of said notches, a shaft journaled across the board under said housing plate and means for rotating and locking said shaft, a cord having its ends fastened to and wound upon said shaft and extending around the board in the grooved edges thereof, the inner ends of said cord passing behind said lugs.



2. In combination with a board having a groove in its edges, a shaft journaled at one end of the board, a cord lying in said groove and having its ends attached to the said shaft, a plate fastened to the upper face of the board and forming a housing for said shaft and the cord windings thereon, and means for rotating said shaft and locking it against rotation.

973,950. INCANDESCENT GAS-LAMP. JOSEPH MAAS, Kalamazoo, Mich., assignor to American Gas Light Company, Kalamazoo, Mich., a Corporation. Filed Sept. 18, 1909. Serial No. 518,318.



1. In an incandescent gas lamp, a casing having a zone of outlet openings in its side wall, a burner tube extending down through the casing and having air inlets, and a preheating chamber inclosing said air inlets and having a substantially horizontal bottom closed to the passage of the products of combustion and extending completely across the space defined by the aforesaid side wall, above but adjacent said outlet openings.

2. In an incandescent gas lamp, a casing having outlet openings in its side wall, a burner tube extending down through the casing and having air inlets, a preheating chamber inclosing said air inlets and having a substantially horizontal bottom extending completely across the space defined by the aforesaid side wall, above but adjacent said outlet openings, and means to isolate a portion of the air rising in the casing and to supply it to said preheating chamber through the bottom of the latter.

3. In an incandescent gas lamp, a casing, a burner tube extending downward therein and having air inlets, a preheating chamber within the casing surrounding said air inlets, means to lead air up through the casing and into said chamber, and a chimney surrounding the burner tube and having its upper edge spaced from, but in close proximity to, the bottom of said preheating chamber.

4. In an incandescent gas lamp, a casing having outlet openings in its side wall, a burner tube extending down through the casing and having air inlets, a preheating chamber inclosing said air inlets and arranged with its bottom extending completely across the space defined by the casing side wall, and a chimney having its upper edge in close proximity to the bottom of said chamber but spaced from the same to permit the escape of the gases in a lateral direction toward said outlet openings.

5. In an incandescent gas lamp, a casing, a burner tube therein, a preheating chamber inclosing the upper portion of the burner tube and having its bottom extending completely across the space defined by the casing side wall, a chimney surrounding the burner tube and having its upper edge spaced from the bottom of said preheating chamber, and air tubes or flues around the chimney, leading upward to said preheating chamber.

[Claims 6 to 13 not printed in the Gazette.]

973,951. ELECTROPLATING PROCESS. FRANCIS J. MCELHONE, Jersey City, N. J. Filed June 9, 1906. Serial No. 320,966.

1. The process which consists in treating the graphite covering for a type mold with an organic acid, and electroplating thereafter.

2. The process which consists in wetting the graphite covering of a type case with an organic acid solution, removing the said acid solution thereafter, and electroplating.

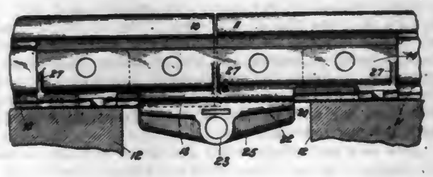
3. The process which consists in covering a mold with graphite, wetting said graphite with an organic acid solution, rinsing said case to remove said solution, and electroplating thereafter.

4. The process of preparing a type case which consists in covering the case with graphite, wetting said case with an oxygen acid, rinsing the said case to remove the acid, and electro-plating thereafter.

5. The process of preparing a type case, which consists in covering the case with graphite, wetting said case with an acid of the carbo-cyclic series, rinsing, and electroplating thereafter.

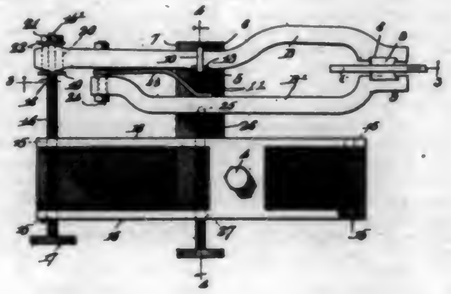
[Claim 6 not printed in the Gazette.]

973,952. RAIL-JOINT. JAMES G. MCMICHAEL, Chicago, Ill. Filed Oct. 25, 1909. Serial No. 524,554.



In a rail joint, the combination of an angle-bar part, comprising a head, shaped to interfit beneath the head of a rail, a web portion coincident with the web of the rail and internally dished, and an angle-bar portion arranged to overlie the upper surface of the base of the rail throughout its length; with a base-supporting portion extending only a part of the joint-length and arranged at the middle thereof, comprising a folded part embracing the edge of the rail base, and a seat member for extending beneath the rail base, said base-receiving seat providing a bolt-receiving boss extending below and transversely of the center of the seat portion coextensive with the width thereof and flanged by ribs, extending longitudinally below the seat portion near the center of the rail.

973,953. SAW-GUIDE. CONDA MILLER, Woodbury, Pa. Filed Apr. 27, 1910. Serial No. 557,885.



1. A saw guide comprising a supporting frame, separate saw-engaging members, a pivot for one of the members, means for adjusting the said pivoted member, a spring interposed between the members, and a screw forming a pivot for the other member and also forming means for adjusting the position of such member said spring being arranged to press the said screw-adjusted member against the pivot.

2. A saw guide comprising a supporting frame, saw engaging members of jaws, separate screws for adjusting the jaws, one of the screws forming a fulcrum for one of the jaws, a spring disposed between the jaws and pressing the said jaw against the fulcrum, and a member passing through the jaws for supporting the spring.

3. A saw guide comprising a body, a bracket projecting therefrom, a saw engaging jaw pivoted at an intermediate point on the bracket, means on one end of the jaw for engaging a saw, an adjusting screw mounted on the body and engaging the opposite end of the jaw for adjusting the position of the latter, a second jaw mounted on the bracket, a screw mounted on the body and engaging the second jaw to form a fulcrum therefor and for adjusting the position thereof, and yielding means supported by and disposed between the jaws for holding the same in operative position.

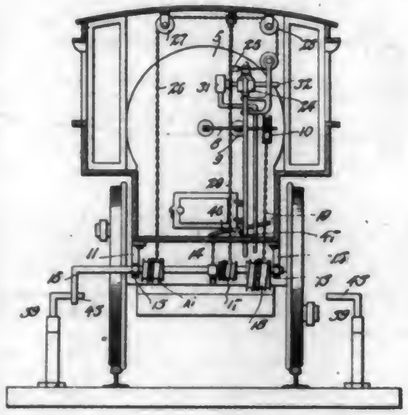
4. A saw guide comprising a body having a centrally disposed lateral projecting bracket, the top surface of the bracket being oppositely beveled to form seats, saw engaging jaws extending across the bracket and both engaging the same seat and adapted to be reversibly mounted on the bracket, an adjusting screw centrally disposed on the body to engage one jaw, a screw adapted to be mounted on either end of the body to engage the other jaw for setting the same, and means operating between the jaws for holding the same in cooperative relation with the saw to be guided.

5. A saw guide comprising a body, a laterally projecting bracket on the body, jaws extending transversely to to the bracket, a bolt engaging the outer jaw and forming a pivotal connection between the same and bracket, a screw for adjusting the outer jaw and connected with one end thereof, an adjusting screw engaging the intermediate portion of the other jaw for adjusting the position thereof, and a spring interposed between the outer and inner jaws and serving to tilt the inner jaw on its screw to maintain said jaw in engagement with the saw.

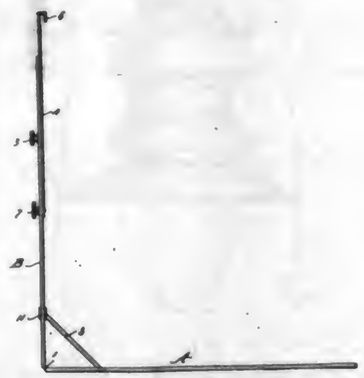
[Claim 6 not printed in the Gazette.]

973,954. AUTOMATIC STOPPING MECHANISM FOR TRAINS. WILLIAM MINGO, Jr., Weimar, Tex. Filed Sept. 23, 1908. Serial No. 454,359.

Train controlling mechanism embodying a revolubly mounted shaft, means for actuating the shaft, one or more drums mounted upon the shaft, a valve or valves operatively connected with the drums to be actuated thereby upon rotation of the shaft in one direction, one of the drums being eccentrically mounted on the shaft to normally hold the shaft in an operative position, and means connected with the shaft and adapted to be actuated to move it in a reverse direction to the movement imparted to the shaft by the first named means.



973,955. SKIRT-GAGE. MARY MOHLSICK, Peekskill, N. Y. Filed June 4, 1910. Serial No. 565,106.

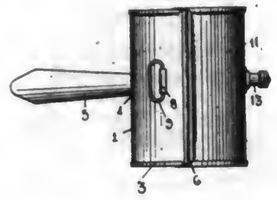


1. A skirt gage comprising a base adapted to rest horizontally and a movable section hinged thereto and adapted to rest flat on the base when inoperative and be moved to a right angle to the base into an operative position, means for holding the hinged section in its operative position, a measuring arm adjustably mounted on the hinged section, and means carried by said arm to engage the base and hold the hinged section in its inoperative position.

2. A skirt gage, comprising a base adapted to rest horizontally and a section hinged to one end of the base and movable to a right angle to the base, a device for holding the section in an operative position, a measuring arm slidably mounted on the hinged section and having a hook to engage the base to hold the hinged section folded against said base, and a member for positively holding the measuring arm at a predetermined adjustment when its hook is engaged or disengaged with respect to the base.

3. A skirt gage, comprising a base and a section hinged to one end of the base and adapted to fold down thereon when not in use, the said section being provided with a longitudinal slot, a measuring arm carried by the hinged section and provided with a hook adapted to engage the opposite end of the base to hold the hinged section locked down thereon, an adjusting screw passing through the slot of the hinged section and slidably and adjustably connecting said measuring arm to the section, a brace having detachable connection with the base and coacting to hold the hinged section upright, and a member connecting said brace with the hinged section permitting the brace to move into the slot of the hinged section when the latter is folded on the base.

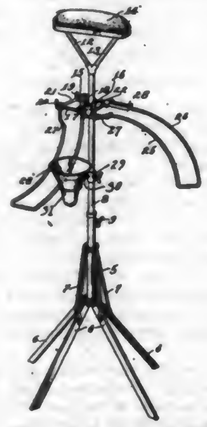
973,956. STEAMER. JOHN GEORGE MORITZ, Millersburg, Ohio. Filed June 7, 1910. Serial No. 565,532.



1. A steamer embodying semi-cylindrical sections hinged together and having closed ends, a funnel in communication with one of said sections, a rack interposed between said sections, and a handle carried by the other of said sections.

2. A steamer embodying a semi-cylindrical section having closed ends, a funnel-shaped spout in communication with said section, said section having the longitudinal edges thereof provided with guide-ways, a rack slidably mounted in said guide-ways, another semi-cylindrical section hinged to one of said guide-ways and having closed ends, and a handle carried by said section.

973,957. HEAD-REST. OMAR F. NEFF, Milford, Ind. Filed Mar. 11, 1910. Serial No. 548,567.



1. In a device of the class described, the combination with a standard carrying a head rest; of laterally extending bracket arms secured to the standard and located below the head rest, slides arranged on the bracket arms, and substantially U-shaped arm rests pivoted to the slides and movable into engagement with the said bracket arms to be held thereby at an angle to the standard.

2. In a device of the class described, the combination with a standard and a head rest carried thereby; of a pair of movable and substantially U-shaped arm supports, and means connecting the arm supports with the standards and adapted to maintain the said arm supports parallel with or at an angle to the standard.

3. In a device of the class described, the combination with a standard and a head rest carried thereby; of a double pair of bracket arms extending from opposite sides of the standard, and a pair of substantially U-shaped arm supports slidingly fitted upon said bracket arms and movable to positions at substantially right angles to or parallel with the said standard.

4. In a device of the class described, the combination with a standard and a head rest carried thereby, a double pair of bracket arms extending from opposite sides of said standard, slides arranged on said bracket arms, and a pair of substantially U-shaped arm supports pivoted to said slides and movable at right angles and into engagement with the said bracket arms.

973,958. WINDOW-VENTILATOR AND CURTAIN-GUARD. PAUL H. NEFFLEN and JAMES F. GIFFEN, Elkins, W. Va.; said Giffen assignor to said Neffen. Filed Mar. 2, 1910. Serial No. 546,861.



1. The combination, with a window ventilator having closed ends, and a pivoted front, of a wind guard hung within the ventilator and closing part of the top opening of the ventilator, means for swinging the front above and below the window sill and means for hanging the guard.

2. The combination, with a window ventilator having a front pivoted to the window sill, of a wind guard, arms connected with the front of the ventilator and holding the guard against the window for closing part of the top of the ventilator and means for swinging the front above and below the window sill without detaching it therefrom.

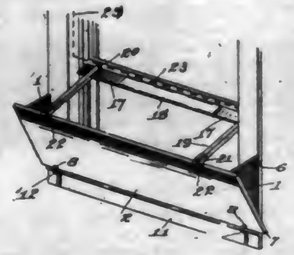
3. The combination, with a window ventilator comprising a front, and ends, of pivot plates for swinging the front above and below the window-sill, brackets adjustable on the front and having said ends hinged thereto, a wind guard pivoted to the said front and adapted to swing from its pivot during the said swinging movements of the front, and means for holding the front above the sill.

4. The combination, with a window ventilator comprising a front portion, hinged-end portions, means for adjusting the end portions lengthwise the front portion, and means for swinging the ventilator into and out of ventilating position without detaching it from the window, of a rod extending lengthwise the free edge of the front portion, arms pivoted on the rod, and a wind guard secured to the free ends of the arms.

5. In a foldable window ventilator, the combination, with the front portion thereof having grooves, plates pivoted to the window-sill and having the front adjustably secured thereto, and end portions, of a pair of brackets having said ends hinged thereto and having projections engaging the grooves in adjusting the brackets lengthwise

the front, a rod secured to the front, a wind guard adjustable lengthwise, arms pivoted to the rod and attached to the ends of the guard, means for holding the guard folded on the front, and means for holding the front in ventilating position.

973,959. WINDOW-VENTILATOR AND SHADE-GUARD. PAUL H. NEFFLEN, Elkins, W. Va. Filed Aug. 19, 1910. Serial No. 578,017.



1. The combination, with a window ventilator having closed ends and a closed front, of a shade-guard comprising telescopic sections, bars having looped ends for certain of said sections, sleeves hinged to the said front and having the other end of the bars adjustable therein; and means for swinging the front above and below the window sill.

2. The combination, with a window ventilator having closed ends and a closed front, of means for hanging the ventilator from a window sill, comprising a pair of hangers secured to the sill and having a bowed portion adapted to fit over the edge of the sill, said bowed portion permitting the said front to be swung thereon above and below the sill.

3. The combination, with a window ventilator having closed ends and a closed front, of means for hanging the ventilator from a window-sill, comprising a pair of hangers secured to the sill and having a bowed portion adapted to fit over the edge of the sill, said bowed portion permitting the said front to be swung thereon above and below the sill, and a shoulder or stop-lug on the hangers to prevent backward movement of the front during set position of the ventilator.

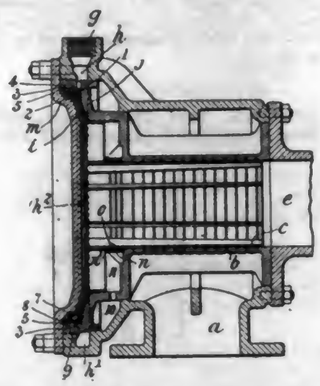
4. The combination, with a window ventilator, a closed front, end wings, and a shade-guard adjustable lengthwise and laterally, of hinges having a slotted tongue for adjustably connecting the wings to the front, adjusting bars having a looped end in which the guard is adjusted lengthwise, sleeves pivoted to the front and in which the bars work for adjusting the guard laterally, and means for hanging the ventilator to the sill so as to permit it to be swung above and below the sill.

5. In a window ventilator, the combination, with a closed ventilator front, having slots adjacent its bottom edge, of hangers working through the slots and secured to the window-sill and having a bowed portion spanning the edge of the sill, and a stop shoulder on the hangers adapted to engage the edge of the slots for controlling the movement of the said front.

973,960. SOUND-PRODUCING DEVICE. JOHN PELL NORTHEY, Toronto, Ontario, Canada. Filed June 5, 1908. Serial No. 436,898.

1. A sound producing device comprising a fixed part having note determining orifices, a movable part having similar coacting orifices, one of said parts comprising a note vibration chamber, means conducting a main fluid under pressure to same, a piston head carried by said movable part, means for conducting an auxiliary fluid under pressure to said piston head, and means conducting the exhaust auxiliary pressure fluid from said piston head and introducing same into said chamber synchronously with the introduction of said main fluid.

2. A sound producing device comprising a fixed part having note determining orifices, a movable part having similar co-acting orifices, means conducting fluid under pressure to said orifices, a piston head carried by said movable part, means conducting fluid under pressure to said piston head, an exhaust chamber for the exhaust pressure fluid from said piston head, said exhaust chamber containing portions corresponding to said fixed and movable part and having co-acting orifices therein to receive the exhaust from said exhaust chamber.



3. A sound producing device comprising a fixed part having two sets of note determining orifices, a movable part having two similar co-acting sets of orifices, means for conducting pressure fluid to one co-acting set, a piston head carried by such movable part, separate fluid conducting means leading to said piston head, and an exhaust chamber for said separate fluid in communication with the other co-acting set.

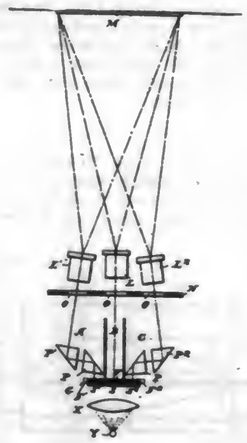
4. A sound producing device comprising a fixed part having note determining orifices, a movable part having similar co-acting orifices, one of said parts comprising a note vibration chamber, and said movable part being provided with a piston head, means for conducting fluid under pressure through said orifices into said vibration chamber, means for conducting an auxiliary fluid under pressure to said piston head, and means for conducting the exhaust from said auxiliary fluid under pressure to said vibration chamber at the same time that said main fluid is introduced therein, and through orifices of the same size as said previously mentioned orifices.

973,961. ART OF EXHIBITING MOTION-PICTURES IN NATURAL COLORS. WILLIAM E. OLIVER, Washington, D. C., assignor to The Oliver Tri-Chromatic Company, Washington, D. C., a Corporation of Virginia. Filed Mar. 15, 1909. Serial No. 483,530.

1. The art of displaying motion pictures in natural colors, which consists in projecting from a single film through complemental color screens a plurality of photographic records or images, diverging in opposite directions the light rays of the two colors having the higher wave-vibrations, maintaining equal focal distances in the paths of the several light rays, and projecting the rays of the three colors through optical media directly upon a screen or curtain.

2. The art of displaying motion pictures in natural colors, which consists in superimposing on an identical field photographic records or images in the three primary colors, said images being projected from a film having a series of like views extending transversely thereof with the red rays in the center, the light rays from the other two colors being diverged from their original paths in opposite directions, and the rays of the three colors, having paths of equal focal distance, and being projected directly upon a curtain or screen through optical media.

3. The art of displaying motion pictures in natural colors, which consists in forming on a single film a plurality of transversely ranging views of each pose of the picture and projecting them synchronously and coextensively through their proper corresponding color screens in equal focal relations and directly through an optic medium upon an identical field.



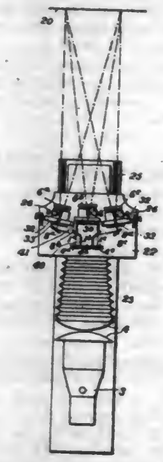
4. The art of exhibiting motion pictures in natural colors, which consists in forming three like images of each pose of the object or scene to be reproduced, and projecting them through complemental color screens with the red rays in the center, diverging the rays of the other two colors in opposite directions, and then converging them in a manner to coincide with the said red rays upon a screen while maintaining equal focal distances in the paths of three colors, and projecting the rays of the three colors directly upon the screen through optical media.

5. The art of exhibiting motion pictures in natural colors, which consists in forming in transverse alinement and in the three primary color values three like images of each pose of the object or scene to be reproduced, and projecting them through complemental color screens with the red rays in the middle, diverging the rays of the other two colors in opposite directions, and then converging them in a manner to coincide with the said red rays upon a screen, maintaining equal focal distances for the light rays of the three colors, and projecting the rays of the three colors directly upon the screen through optical media.

973,962. PROJECTING PHOTOGRAPHIC IMAGES IN NATURAL COLORS. WILLIAM E. OLIVER, Washington, D. C., assignor to The Oliver Tri-Chromatic Company, Washington, D. C., a Corporation of Virginia. Filed Mar. 3, 1910. Serial No. 547,037.

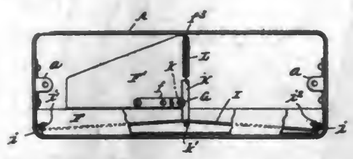
1. Apparatus for projecting pictures in natural colors comprising a film having a plurality of transversely arranged like images of the object or scene to be reproduced, in three primary color values, a plurality of projecting lenses, means for axial and rotary adjustment of said lenses, and means interposed between said film and said lenses for diverging light rays transmitted through the outer images in opposite directions and converging them in a manner to coincide with light rays passing directly through the central image and central lens.

2. Apparatus for projecting pictures in natural colors comprising a film having a plurality of transversely arranged like images of the object or scene to be reproduced in three primary color values, a plurality of projecting lenses, means for axial, lateral, and rotary adjustment of said lenses, means interposed between said film and said lenses for diverging light rays transmitted through the outer images in opposite directions and converging them in a manner to coincide with light rays passing directly through the central image and central lens, and means for adjusting said reflectors in vertical and horizontal planes.



3. Apparatus for projecting photographic images in natural colors comprising a tri-part film having like images of each pose of the object or scene to be projected in juxtaposition and the images having different primary color values, means for projecting rays of light from a suitable source through said film, a plurality of projecting lenses corresponding with the film images, and means interposed between said film and said lenses to first diverge and then converge the light rays passing through the outer film-images.

973,963. TEMPERATURE-INDICATING INSTRUMENT. ALBERT N. OZIAS, Minneapolis, Minn. Filed Dec. 22, 1909. Serial No. 534,508.



1. In a temperature indicating instrument, the combination with a substantially straight and rigid chord member having a high coefficient of expansion, a deflectible arc member having a low coefficient of expansion rigidly supported at its ends by the ends of the chord member, a rack bar at one end connected with the arc member intermediate its ends, a spring normally under tension connected with the opposite end of said rack bar, a pinion in mesh with the rack bar, and a pointer operated by said pinion.

2. In a temperature indicating instrument, the combination with a substantially straight rigid chord member having a high coefficient of expansion and a deflectible arc member having a low coefficient of expansion with its ends connected rigidly with the ends of the chord member, of a bracket projecting from one side of the chord member, a rack bar connected with the arc member intermediate the ends of the latter, a spring interposed between the rack bar and bracket and normally under tension tending to deflect the arc member, a pinion journaled in the bracket and in mesh with the rack bar, and a pointer operated by said pinion.

3. In an instrument such as described, the combination with a substantially straight and rigid chord member of channel form in cross-section, of a deflectible arc member having a low coefficient of expansion held under longitudi-

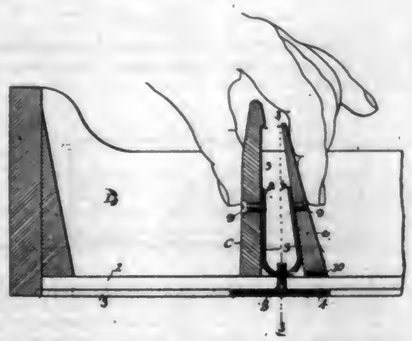
nal tension by being anchored at its ends to the ends of said chord member by transversely extending supporting pins, and means whereby said arc member may be yieldingly deflected intermediate its ends, the arrangement being such that, as the temperature rises said arc member is put under increased longitudinal tension and its resistance to transverse deflection increased.

4. In a temperature indicating instrument, the combination with the substantially straight rigid chord member of channel form in cross-section, an arc member having a relatively low coefficient of expansion, transverse pins seated in the chord member at the ends and forming the anchors for the arc member, a rack bar connected with the arc member intermediate its ends, a spring connected with said rack bar and under tension tending to deflect the arc member, a pinion in mesh with said rack bar and mounted in bearings rigidly connected with the chord member, and a pointer moved by said pinion.

5. In a temperature indicating instrument, the combination with the substantially straight rigid chord member having a high coefficient of expansion and of channel form in cross-section, anchor seats in the side walls of said chord member and arms in proximity to said side walls, of an arc member having a relatively low coefficient of expansion, anchoring pins to which the ends of said arc member are secured, mounted in said seats, the ends of said arc member passing between and being held in proper transverse position by the arms on the chord member, an indicator, a spring for deflecting the arc member intermediate its ends, and connecting mechanism between said arc member and indicator.

[Claims 6 and 7 not printed in the Gazette.]

973,964. FILING DEVICE FOR INDEX-PAPERS. FRANK PACHINGER, Cleveland, Ohio, assignor of forty-five one-hundredths to Frank Lukan, Cleveland, Ohio. Filed Apr. 29, 1910. Serial No. 558,498.



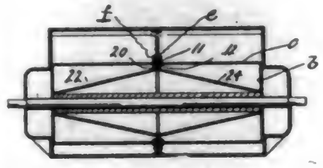
1. A filing receptacle having a slot lengthwise in its bottom, in combination with a follower therein consisting of two parts and a U shaped spring interposed between the said parts and having a hole centrally in its bend, a slidable part on the outside of said slot and a pin engaged with said part and in said hole in the spring and operatively connecting the parts.

2. A filing drawer having a slot lengthwise through its bottom, a two-part follower and a U shaped spring uniting said parts and having its bend next over said slot, a slide beneath said slot and a screw connecting the same through said slot with said spring, and the rear member of the said follower provided with a clinging substance on its engaging edge adapted to hold said member by contact with the surface of the floor in any adjusted position, the said parts of the follower being constructed to engage one with the other at their top portions.

3. A filing drawer having a slot through its bottom, in combination with a follower consisting of two opposed parts having flat sides and extending across said drawer from side to side, a spring uniting said parts and means slidably connecting the said spring through said slot with the under side of the drawer, one of said parts of the follower having a shoulder along its top and rear and the other of said parts having a top edge adapted to engage beneath said shoulder and serve as a brace.

4. A filing drawer of rectangular shape having a flat bottom and a slot lengthwise through the same, in combination with a follower consisting of two flat sided parts substantially the full width of said drawer and resting on the bottom thereof, a U shaped spring uniting the sides of said follower, a slidable plate beneath the bottom of said drawer and a screw through said plate and slot engaged in the bend of said spring.

973,965. MULTIPLE-COLOR PAPER AND PULP MACHINE. HOWARD PARKER, Nashua, N. H., assignor to Improved Paper Machinery Company, Nashua, N. H., a Corporation of Maine. Filed Jan. 20, 1910. Serial No. 539,055.



1. In a machine of the character described the combination with a tank, a partition arranged transversely therein to divide the tank into compartments, a cylinder mold rotatably mounted in the tank and extending through said partition, a liquid-tight packing between said mold and partition, and an outlet from the ends of said mold.

2. In a machine of the character described the combination with a tank, a partition arranged transversely therein to form separate compartments within the tank, a cylinder mold rotatably mounted in said tank and extending through said partition, a division-plate arranged within said mold transversely thereof to form separate compartments, a foraminous shell on said mold, a packing strip secured to the exterior of said shell circumferentially about said mold and directly over said division-plate, a liquid-tight packing between said partition and the packing strip on said mold.

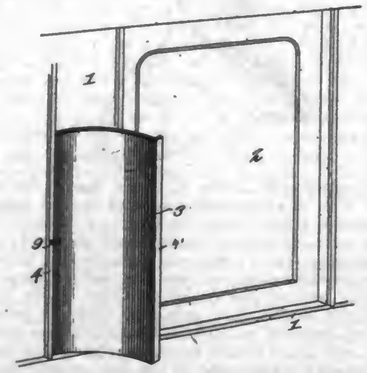
3. In a machine of the character described the combination with a tank, a partition arranged transversely therein to form separate compartments within the tank, a cylinder mold rotatably mounted in said tank and extending through said partition, a division-plate arranged within said mold transversely thereof to form separate compartments, a foraminous shell on said mold, a packing strip secured to the exterior of said shell circumferentially about said mold and directly over said division-plate, a liquid-tight packing between said partition and the packing strip on said mold, and inclined bottom-plates for the compartments of said mold.

4. In a machine of the character described a tank, a partition arranged transversely thereof forming compartments within said tank, a cylinder mold rotatably mounted in said tank and extending through said partition, a division-plate within said mold in alinement with said partition, a liquid-tight packing between the shell of said cylinder mold and said partition, and an outlet from the ends of said cylinder mold.

5. In a machine of the character described the combination with a tank and a partition arranged transversely therein to divide said tank into compartments, of a cylinder mold rotatably mounted in said tank and extending through said partition, a division-plate within said cylinder mold and arranged transversely thereof to divide said mold into compartments, radial plates arranged longitudinally within said mold compartments to form chambers, bottom-plates for said compartments inclined toward the ends of said mold, a liquid-tight packing between the shell of said mold and said partition, and suction and blowing apparatus arranged in operative relation with the ends of said mold, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

973,966. COMBINED VENTILATOR AND DEFLECTOR. THOMAS T. PEDDY, Bienville, La., assignor of fifteen one-hundredths to Jessie L. Baker, Mount Lebanon, La., and thirty one-hundredths to George F. Gallagher, Rochester, N. Y. Filed Jan. 14, 1910. Serial No. 538,128.



1. A railroad car having window frames, vertically disposed cleats adjacent to said frames, and a concave deflecting shield supported intermediate the window frames and having a flange engaging the rear edge of one of the cleats.

2. A railroad car having window frames, vertically disposed cleats adjacent to said frames, and a concave deflecting shield movably supported intermediate said frames and provided at the edges thereof with flanges adapted for engagement with the cleats.

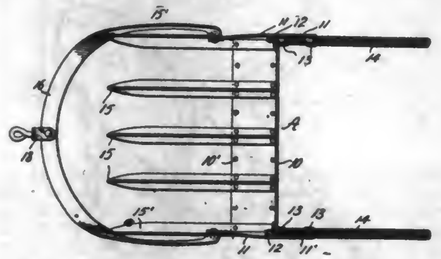
3. A railroad car having window frames, vertically disposed cleats adjacent to said frames, a concave deflecting shield having link members, the ends of which are hingedly supported intermediate the cleats, said deflector being provided adjacent to its edges with cleat engaging flanges, and shield engaging holding members connected with the cleats.

4. A railroad car having window frames, vertically disposed cleats adjacent to said frames, a concave deflecting shield provided with inturned flanges at its side edges and provided intermediate its side edges with hingedly supported links suitably spaced apart, and plates adjacent to the cleats with which the said links are hingedly connected.

5. A railroad car having window frames, vertically disposed cleats adjacent to said frames, plates mounted upon the car body adjacent to the cleats, a concave deflecting shield having a plate secured upon its inner convex side, links connecting the ends of said plate with the plates secured upon the car body, and holding members consisting of turn buttons connected with the cleats, the shield being provided adjacent to its side edges with inturned flanges, one of which engages the rear edge of one of the cleats where it is held in operative position by the holding member.

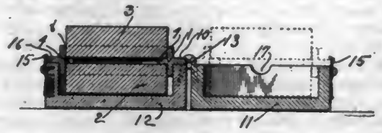
973,967. MANURE-SCRAPER. LARS C. PETERSON, Osage City, Kans., assignor of one-half to Fred E. Anderson, Osage City, Kans. Filed Mar. 3, 1910. Serial No. 547,058.

1. A device of the class described comprising, in combination, a body portion provided with a horizontal base and a vertical back, sides coöperating with said body portion and projecting rearwardly therefrom, an angle bar interposed between the back of the body portion and said sides, central T-teeth secured to said base and extending completely across the same, extreme angle bar teeth similarly secured to said base and forming a connection between said sides and said base, registering socket bands secured on the projections of said sides, handles adapted to be received in said sockets, and a bail pivoted to the sides provided adjacent to said sides with an upwardly curved portion.



2. A device of the class described comprising, in combination, a body portion provided with a horizontal base and a vertical back, sides secured to the extremities of said body portion and projecting rearwardly therefrom, centrally located T-teeth secured to said base and extending completely across the same, extreme angle bar teeth likewise extending completely across the base and forming a connection between said sides and the base, coinciding registering socket bands carried by said rearwardly projecting portions of the sides aforesaid, handles removably secured in said bands, and a bail pivotally connected to said sides, said bail being provided with an upwardly curved portion adjacent to the sides.

973,968. BOX FOR SHARPENING-STONES. EDWIN BERTRAM PIKE, Pike, N. H. Filed July 28, 1910. Serial No. 574,400.



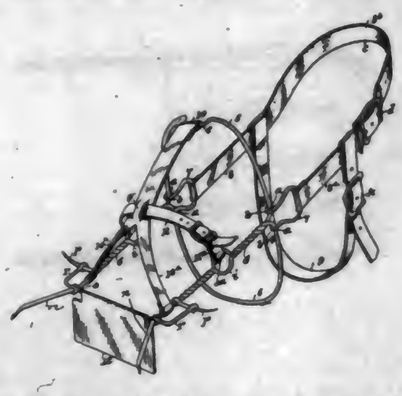
1. A box for sharpening stones comprising a rectangular frame; a plurality of ledges located within said frame and upon which two sharpening stones arranged to project beyond either edge of said frame may rest; means for engaging sharpening stones when in position within said frame to thereby hold them in position; and two recessed covers hinged to and the edges whereof contact with said frame when the covers are closed.

2. A box for sharpening stones comprising a rectanular frame; a plurality of ledges located within said frame and upon which two sharpening stones arranged to project beyond either edge of said frame may rest; a follower within said frame and adapted to engage both said sharpening stones when in position within said frame to thereby hold them in position and the ends of which follower are provided each with a recess with which two of said ledges engage and whereby said follower is guided; a screw extending through said frame and the inner end of which engages said follower; and two recessed covers hinged to and the edges whereof contact with said frame when the covers are closed.

3. A box for sharpening stones comprising a rectangular frame; a plurality of ledges located within said frame and upon which two sharpening stones arranged to project beyond either edge of said frame may rest and the edges of said frame overhanging the middle portion there-

of so that a more firm hold will be secured upon the stones; means for engaging sharpening stones when in position within said frame to thereby hold them in position; and two recessed covers hinged to and the edges whereof contact with said frame when the covers are closed.

973,969. CALF OR COLT WEANER. JOSEPH PIVNY, Wasta, S. D. Filed July 20, 1909. Serial No. 508,609.



1. In a device of the character described, a muzzle band having forwardly projecting side bars provided with tines, a head stall connected with the upper ends of the side arms, a bifurcated head strap secured to the muzzle band and having its members secured to the forward ends of the side bars of the muzzle band, and a nose strap secured to the head strap and to the said side bars.

2. In a device of the character described, a muzzle band having forwardly projecting side bars provided with tines at their forward ends and intermediate of their ends with eyes, loops secured upon the muzzle band, a head stall secured to the loops, a bifurcated head strap secured to the upper part of the muzzle band and having its members secured to the forward ends of the side bars of the muzzle band, and a nose band loosely connected with the head band and having its ends secured to the eyes of the said side bars.

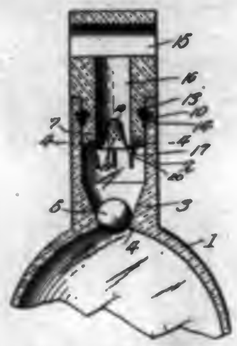
3. In a device of the character described, a muzzle band having forwardly projecting side bars provided with tines at their forward ends, a cross bar connecting the forward ends of the side bars, an apron pivoted upon the cross bar, a head stall secured to the muzzle band, a head band secured to the muzzle band and to the side bars thereof, and a nose band secured to the head band and to the said side bars.

4. The combination with a muzzle band formed of two wire rods bent at their centers into semicircular form, remaining portions of said wire rods being twisted together in pairs forming two opposite side bars, of means for securing the side bars and muzzle band on the head of an animal, a pointed tine formed on the forward end of each side bar and thence curved upward and forward, a laterally projected tine on each side bar near the forward end thereof, and an apron rockably supported on the side bars between their forward ends.

5. A weaning device, comprising a muzzle band, two side bars extended forward from opposite points on the muzzle band, a cheek strap extended from the rear ends of the side bars, a head stall on rear ends of the cheek straps, a throat latch on the cheek straps, a bifurcated head band extended forward and downward from the crown of the muzzle band, the lower ends of said band being secured oppositely on forward ends of the side bars, two tines extended forward and upward from the side bars, two tines extended laterally from the side bars, and an apron pendent between said side bars at their forward ends.

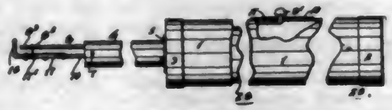
[Claims 6 and 7 not printed in the Gazette.]

973,970. NON-REFILLABLE BOTTLE. WARD B. POWELL, Chant, Okla., assignor of one-half to W. W. Wingo, Hartford, Ark. Filed Aug. 18, 1909. Serial No. 513,492.



In a non-refillable bottle, a bottle having its neck provided with a substantially inverted conical passage whose reduced end is formed to provide a valve seat, a spherical valve movable in the neck and adapted to normally rest upon the said seat, a plug disposed in the neck of the bottle and having its lower end disposed above the said conical seat to provide for movement of the valve longitudinally of the neck, said plug having a passage therein and disposed in line with the longitudinal axis of the neck, said plug having a second passage formed therein and disposed transversely of the first named passage and communicating therewith, a substantially conical guard extending into the first named passage of the plug, said guard being formed of sheet material and formed with an annular flange which is seated against the inner face of the said plug, said guard having its walls formed with a plurality of perforations whereby communication between the body of the bottle and the said plug can be had when the valve is moved from its seat, and a series of fingers extending from the inner face of the plug, said fingers being arranged annularly of the guard and having offset portions bent into engagement with the flange of the guard, said fingers being provided to limit the outward movement of the valve to prevent its closing the said first named passage formed in the neck.

973,971. GAS-LIGHTING APPLIANCE. MEDERIC PRIMEAU and GEORGE MCCULLAGH, Winnipeg, Manitoba, Canada. Filed Dec. 6, 1909. Serial No. 531,697.



1. In a gas lighting appliance a stationary and a longitudinally slidable contact piece one of said contact pieces being provided with lugs and the other with a notch, a contact tip constructed from a single piece of wire having coils at intervals the coils being designed to be received by the lugs aforesaid and a further free coil terminating in an upturned end adapted normally to protrude within the notch, as and for the purpose specified.

2. In a gas lighting appliance a stationary and a longitudinally slidable contact piece insulated the one from the other, one of said contact pieces being provided with a notch and an angular end and the other of said pieces having portions thereof at opposite sides cut away to form lugs, and a wire contact tip having coils formed thereon at intervals adapted to be received by the lugs thereby releasably securing the contact tip to the contact piece and being provided further with a free loop terminating in an upwardly directed end which protrudes normally within the notch of the adjoining contact piece, as and for the purpose specified.

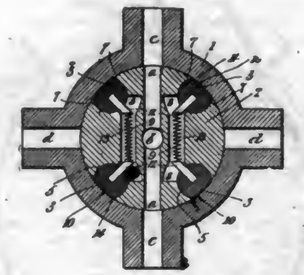
3. A gas lighting appliance comprising a tube a stationary and a spring pressed longitudinally slidable contact piece insulated the one from the other and passing within the tube, a contact tip carried by one of the contact pieces and engageable with the other, a stationary means within the tube adapted to pass into and out of contact with the sliding piece, and a source of electromotive force connected electrically through suitable wires with the latter means and the stationary contact piece, as and for the purpose specified.

4. A gas lighting appliance comprising a tube, an insulating plug located within one end of the tube, a contact piece permanently secured to the plug, a spring pressed slidable contact piece carried by the plug and entering the tube, a coiled spring contact tip carried by the extending end of the stationary contact piece and engageable with the sliding contact piece, a contact plate secured to the plug and having a spring member extending therefrom, a pin extending from the sliding contact piece and engageable with the spring member, a battery and wires electrically connecting the poles of the battery with the contact piece and the stationary member, respectively, as and for the purpose specified.

5. A gas lighting appliance comprising a tubular member, an insulating plug located in one end of the member, a slidable spring pressed contact piece carried by the plug and having its ends extending beyond the tube, a stationary contact piece carried by the plug, a spring contact tip secured to the stationary member and engageable with the slidable member, a contact plate carried by the plug having a spring member extending therefrom, a pin passing from the slidable member and adapted to engage primarily with the spring member subsequent to the engagement of the contact tip with the sliding member and to pass out of engagement with the pin prior to the contact tip escaping from the sliding contact piece in the reverse motion of the contact piece, as and for the purpose specified.

[Claims 6 and 7 not printed in the Gazette.]

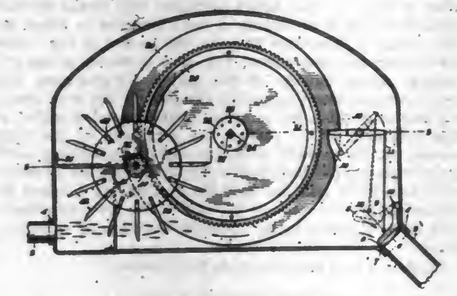
973,972. PACKING FOR FLUID-ENGINES. WILLIAM F. PURCELL, Brooklyn, N. Y. Filed May 1, 1908. Serial No. 430,856.



1. In a machine of the character described, the combination of two bodies, one of them being movable, a cylindrical packing member adapted to form a seal between said bodies, and cradled in one of them, means for tilting said packing member, and means for restraining the movement of the same in other directions.

2. In a machine of the character described, the combination of a movable and a stationary body, a cylindrical packing member carried by the movable body, said member having a flattened side which is adapted to contact with a surface of the stationary body, and means for changing the angular relation of the said flattened side to the said surface.

973,973. FLUSHING APPARATUS. OSCAR TURNER RICHEY, Tucson, Ariz. Filed May 5, 1910. Serial No. 559,601.



1. An apparatus of the character specified, comprising a casing having an inlet at one end, and an outlet at the other of greater capacity than the inlet, said outlet having a valve seat at its commencement, a valve normally resting upon and closing the outlet, an arm hinged to the casing at one end and connected at the other end to the valve, a shaft journaled transversely of the casing and extending outside of the same, the extended portion having a crank arm, a lever secured at its center to the shaft, a link connecting the one end of the lever to the valve, a disk journaled for rotation in the casing adjacent to lever and having a recess in its periphery engaged by the inner end of the lever when the valve is closed, a gear ring secured to one of the faces of the disk and concentric therewith, a shaft journaled adjacent to the disk on one side of the outlet, a pinion on the shaft meshing with the gear ring, a disk secured to the shaft, and a plurality of spaced wings extending radially from the disk and extending in front of the inlet on one side of the disk.

2. An apparatus of the character specified, comprising a casing having an inlet and an outlet opposite to the inlet and of greater capacity, a valve for the outlet held closed normally by the pressure of the water, a lever pivoted at its center, means outside of the casing for swinging the lever, a connection between one end of the lever and the valve for opening the valve when the lever is swung in one direction, a disk rotatable in the casing and having a recess in its periphery engaged by the free end of the lever when the valve is closed, a shaft journaled adjacent to the inlet and at one side thereof, a driving connection between the shaft and the disk, and a plurality of radial blades on the shaft, the blades on one side of the shaft extending in the path of movement of the water entering through the inlet.

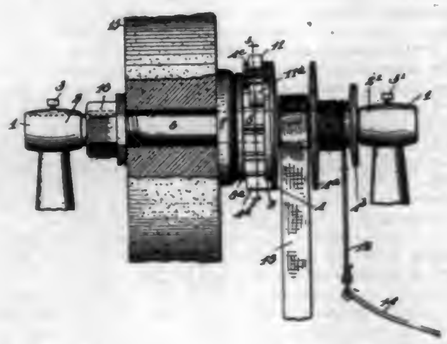
3. An apparatus of the character specified, comprising a casing having an inlet and an outlet opposite to the inlet and of greater capacity, a valve for the outlet held closed normally by the pressure of the water, a lever pivoted at its center, means outside of the casing for swinging the lever, a connection between one end of the lever and the valve for opening the valve when the lever is swung in one direction, a disk rotatable in the casing and having a recess in its periphery engaged by the free end of the lever when the valve is closed, a water wheel in the casing, having one side thereof in front of the inlet, and a driving connection between the shaft and the disk.

4. An apparatus of the character specified, comprising a casing having oppositely arranged inlet and outlet openings, a valve for the outlet normally held closed by the water pressure in the casing, a water wheel arranged in the casing in front of the inlet opening for operation by the incoming water, a rotatable disk having a driving connection with the water wheel, a lever mounted for swinging movement in the casing, a connection between the lever and the valve for opening said valve when the lever is swung in one direction, and means outside of the casing for swinging the lever, the disk having a recess in its periphery for receiving the end of the lever when the valve is closed.

5. An apparatus of the character specified, comprising a casing having oppositely arranged inlet and outlet openings, the outlet being of greater capacity than the inlet, a valve for the outlet normally held closed by the water pressure in the casing, a lever mounted to swing in the casing, a connection between the lever and the valve for opening said valve when the lever is swung in one direction, means outside of the casing for swinging the lever, a water wheel journaled adjacent to the inlet opening and in position for rotation by the incoming water, a disk rotatable in the casing, the periphery of the disk moving in engagement with the lever and holding said lever in swung position, and a driving connection between the water wheel and the disk, the disk having a recess in its periphery for receiving the end of the lever to permit said lever to swing in the opposite direction to close the valve.

[Claims 6 to 9 not printed in the Gazette.]

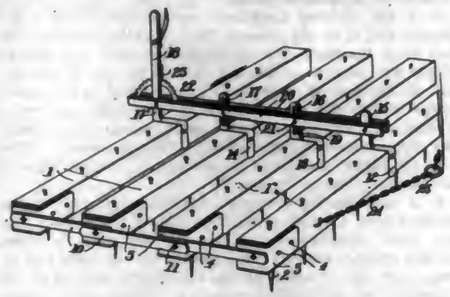
973,974. RATCHET FOR GRINDING-MACHINES AND FOOT-POWER APPARATUS. GEORGE W. RIDDLE, St. Joseph, Mo. Filed Mar. 25, 1909. Serial No. 485,794.



1. A ratchet for foot power machines comprising a stationary shaft, a reel rotatably mounted on said shaft having two portions arranged to bear flexible operating members and having lateral extensions on one side thereof, one of said extensions being provided with a slot, a sleeve mounted on said shaft having an integral ratchet secured thereto, a pawl casing on said shaft and having an opening in one side to receive said ratchet, a pawl pivoted in said pawl casing, said pawl having a part arranged to project through the slot in the extended portion of the reel, and another part adapted to engage the teeth of the ratchet wheel, and means for holding the ratchet-bearing sleeve in position on said shaft.

2. A ratchet for foot power machines comprising a stationary shaft, a reel rotatably mounted on said shaft having two portions arranged to bear flexible operating members, and having lateral extensions on one side thereof, each of said extensions being provided with a slot, a sleeve on said shaft having an integral ratchet secured thereto at one end, a bearing member adjacent the ratchet, and a collar adjacent the bearing member, said sleeve being threaded at the opposite end, a pawl casing comprising a pair of circular plates, one of said plates having an opening arranged to fit over said stationary shaft and the other of said plates having an opening arranged to receive the ratchet wheel and the adjacent bearing member, pins connecting said plates, pawls mounted upon certain of said pins arranged to engage said ratchet wheel, and a nut disposed on the threaded portion of said sleeve and arranged to clamp a member against said collar.

973,975. HARROW. WILLIAM MARVIN ROBERTS, Columbia, Tenn. Filed Dec. 31, 1908. Serial No. 470,214.

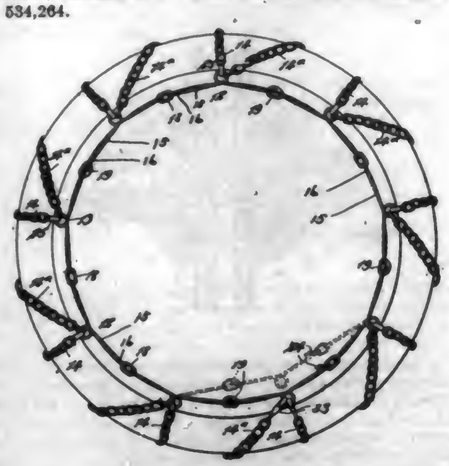


1. In a harrow of the character set forth, the combination with a plurality of harrow beams, of end caps secured thereto and having projecting studs, separate links connecting the different beams and pivotally engaging the studs, and means for controlling the position of the beams on their pivot axes.

2. In a harrow of the character set forth, the combination with harrow beams, of end caps secured thereto and having sockets in their inner sides, an angular opening extending therefrom, studs having heads located in the sockets, and shanks projecting through the opening, said shanks having angular portions in said openings, separate links connecting the separate beams and pivotally engaging the studs, and means for turning the beams on their axes and holding them in different positions.

3. In a harrow of the character set forth, the combination with harrow beams, of caps secured thereto and comprising right angularly disposed metal plates having outstanding threaded studs, links located on the studs, nuts screwed on said studs and maintaining the links in position, and means for securing the beams against pivotal movement on the studs and in different positions, said means permitting the relative up and down play of the beams.

973,976. ANTISKIDDING DEVICE. FREDERICK A. RUFF, Newark, N. J. Filed Dec. 21, 1909. Serial No. 534,264.



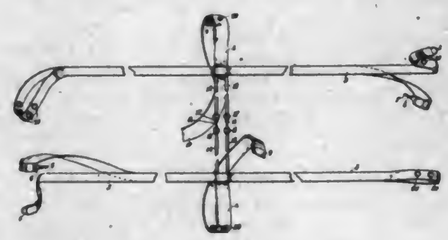
1. A device of the character described, comprising two side members having yielding links, cam links connecting the yielding links together in such a way as to shorten or lengthen the same at will, and a plurality of transversely-extending chains connected to the side members and passing about the tire.

2. A device of the character described, comprising two linked side members arranged in parallel relation and each comprising a plurality of linked members having a looped portion with oppositely-extending arms forming a yielding part for each linked member and each arm having a hooked end, and a plurality of rotary and cam-acting links connected to certain of the linked members, and a plurality of transversely-extending tread chains connected to the side members.

3. A device of the character described, comprising side members formed of a plurality of parts, tread members joining the side members together, and a plurality of links connecting the parts of the side members together and comprising a body portion having a projecting part forming a series of engaging portions and adapted when rotated to shorten or increase the distance between the ends of said parts of the side members.

4. A device of the character described, comprising side members formed of a plurality of parts, tread members joining the side members together, and a plurality of cam-acting links connecting the parts of the side members together and comprising a body portion having an inwardly-projecting part forming a series of engaging portions and adapted when rotated to shorten or increase the distance between the ends of said parts of the side members.

973,977. BED-STRAP. JEAN STARR SALINGER, New Rochelle, N. Y. Filed Mar. 11, 1910. Serial No. 548,532.



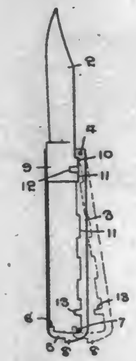
1. In a device of the class described, the combination with one or more longitudinally-extending straps, of a transverse strap formed of two members, one end of one of said members being detachably and adjustably secured to one end of the other of said members, and the other end of the first-mentioned member being detachably secured to the other end of the second-mentioned member to form a complete endless band.

2. In a device of the class described, the combination with a plurality of longitudinal straps adapted to be secured around bedding, of a belt connecting said straps and comprising a pair of strips arranged in close juxtaposition, extending from each of said first-mentioned straps, and coacting snap catches on the juxtaposed ends of said strips.

3. In a device of the class described, the combination with a pair of longitudinally-extending elastic bands, of means for securing the end of each band together, a transverse elastic strap secured to said bands, said strap comprising two parts, means for detachably connecting said parts together at one point, and means for adjustably connecting said parts together at another point, said bands and strap having a plurality of openings therein adapted to receive fastening devices for securing them to bedding.

973,978. KNIFE CONSTRUCTION. FRANK V. SANDFORD, Ellenville, N. Y. Filed Mar. 16, 1910. Serial No. 549,872.

1. In a knife construction, the combination with a hollow handle, of a blade movably mounted in said handle, a movable member pivotally secured to the handle and having notches therein engaging parts of the blade and coacting means at the free end of said pivoted member and at an adjacent point on the handle to limit the swinging movement of said pivoted member, said limiting means also forming a stop for said blade.



2. In a knife construction, the combination with a hollow handle composed of a stationary and a swinging section; of a blade received by said sections, means to limit the outward movement of said blade, means to hold the same in other extended positions, and co-acting means at the lower ends of said sections to limit the movement of the swinging section, said latter means also forming a stop for said blade in its retracted position.

3. In a knife construction, the combination with a hollow handle composed of a stationary and a swinging section; of a blade received by said sections, means to limit the outward movement of said blade, means to hold the same in other extended positions, one of said sections being provided with an extension inserted in one end of the other section and said other section being provided with a transverse pin in the path of said extension, whereby the movement of said swinging section may be limited.

4. In a knife construction, the combination with a cutting blade having a shank thereon, of a hollow handle in which said blade is seated, said handle being provided with a stationary and a movable portion, means to lock said blade within the handle, additional means to lock said blade in various extended positions, said handle having parts engaging the free end of the shank and means at each end of the handle for limiting the inward or outward movement of the blade.

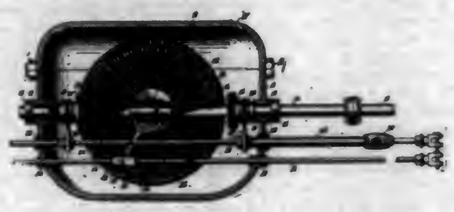
5. In a knife construction, the combination with a blade, of a hollow handle having its ends and one side open, a locking bar pivoted at one end to one end of the handle, said locking bar entering the open side of the handle, and having means at its ends to limit the inward or outward movement of the blade, means to limit the swinging movement of the locking bar and additional means carried by the locking bar to prevent longitudinal movement of the blade when the locking bar is but partially open.

[Claims 6 and 7 not printed in the Gazette.]

973,979. TRANSMISSION MECHANISM. PRESTON B. SCHADT and HOWARD E. B. SCHADT, Allentown, Pa. Filed Dec. 20, 1909. Serial No. 534,000.

1. Transmission mechanism, comprising a driving shaft, a slidable gear thereon, a driven shaft having a collar and a part of angular section, a gear disk having a plurality of concentric gear sections, each adapted to mesh with said gear of said driving shaft, said gear disk having a hub provided with an opening corresponding to said part of said driven shaft and receiving the same, whereby said driven shaft is constrained to rotate with said gear disk, and said gear disk is movable longitudinally of said driven shaft, said hub having a groove, said collar having a groove, a spring upon said shaft and seating in said grooves, a thrust-block associated with said disk, a cam member engaging said

block, whereby the rotation of said cam member moves said gear disk longitudinally of said driven shaft, means for shifting said gear of said driving shaft, and means for moving said cam member.



2. Transmission mechanism, comprising a driving shaft, a slidable gear thereon, a fixed, rounded member, a driven shaft, a slidable gear disk thereon adapted to mesh with said gear, a rotatable cam member engaging said fixed member and said gear disk and operable to move said gear disk longitudinally of said driven shaft, and a release rod having an operating connection with said cam member.

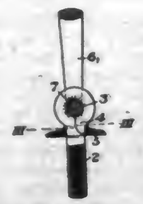
3. Transmission mechanism, comprising a driving shaft, a slidable gear thereon, a fixed, rounded member, a driven shaft, a slidable gear disk thereon adapted to mesh with said gear, a cam member engaging said fixed member and said gear disk and rotatable to move said gear disk longitudinally of said driven shaft, a release rod for operating said cam member, a thrust bearing between said gear disk and said cam member, and a rod for operating said gear.

4. Transmission mechanism, comprising a driving shaft, a pinion slidably mounted upon said shaft and constrained to rotate therewith, a driven shaft, a gear disk slidably mounted upon said driven shaft and constrained to rotate therewith, a spring forcing said gear disk toward said driving shaft, a fixed abutment member, a cam member in engagement with said abutment member, a thrust bearing between said cam member and said gear disk, a release rod for rotating said cam member to move said gear disk against the tension of said spring, and a rod for operating said pinion, said gear disk having a plurality of concentric gear sections each adapted to mesh with said pinion.

5. Transmission mechanism, comprising a driving shaft, pinions slidably mounted thereon and constrained to rotate therewith, a driven shaft, a gear disk slidably mounted upon said driven shaft and constrained to rotate therewith, said shafts being at an angle with each other, a spring normally forcing said gear disk toward said driving shaft and into mesh with one of said pinions, a casing encompassing said pinions and said gear disk, a slidable rod having an arm controlling one of said pinions, a hollow member having said rod slidable therein and having an arm controlling one of said pinions, and a release rod controlling said gear disk.

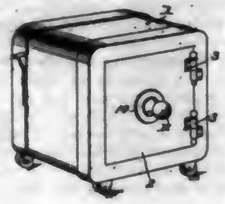
[Claim 6 not printed in the Gazette.]

973,980. DROP TERRET AND HOOK. WILLIAM A. SCHLEICHER, Cleveland, Ohio. Filed Aug. 7, 1909. Serial No. 511,773.



A harness mounting comprising a screw shank, a split eye on one end of the shank, a strap supporting member journaled in the eye and wholly supported thereby, said eye being formed of a continuation of the shank bent upon itself and extending along the shank, the free end of the eye extending below the journal of the strap supporting member and being rectangular in cross section for a portion of its length, and a washer engaging the shank and the rectangular free end of the eye and arranged to hold the free end in engagement with the shank and to prevent the rotation of the shank in the washer; substantially as described.

973,981. COIN-REGISTER. CHARLES SCHMIDT, New Orleans, La., assignor of one-half to Edward Wunderlich, New Orleans, La. Filed Apr. 4, 1910. Serial No. 553,245.



1. In a registering mechanism, a coin receiving slide adapted to receive coins of different sizes, an independent means for registering the different sized coins, a sliding bar adapted to be moved by said coins, and means for moving said slide for causing said coins to move said sliding bar, whereby the particular mechanism for registering the particular coin moving said sliding bar will be operated.

2. In a coin registering mechanism a coin slide, a guide for holding the coin in said slide until positively ejected therefrom, a sliding bar raised by the coin moved by said slide, mechanism associated with said sliding bar for registering said coin irrespective of the size thereof, and means for moving said coin slide for causing the coin to raise said sliding bar.

3. In a coin registering mechanism, a coin receiving slide, a guide for holding a coin in said coin receiving slide, means for moving said slide, and a coin positioned therein, means for ejecting said coin, and single means for moving said slide and operating said ejector, a sliding bar moved by the coin in said slide when the coin is moved by said slide, and means associated with said slide for registering said coin irrespective of the size thereof.

4. In a coin registering mechanism, a coin slide, a guide therefor, an ejector adapted to press against the coin at all times and to eject the said coin when said slide has moved said coin above said guide, a lever for moving said coin slide and acting on said ejector at the same time for causing said ejector to press against the coin in said coin slide, an operating lever for moving said first mentioned lever and means for registering said coin irrespective of the size thereof.

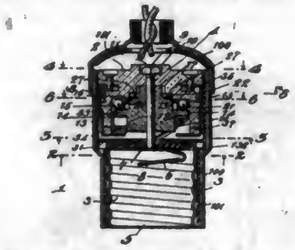
5. In a coin registering mechanism, a coin slide, means for moving said coin slide and the coin positioned therein, a sliding bar moved by the coin in said coin slide, a pivotally mounted plate moved by said sliding bar, and means associated with said pivotally mounted plate for registering the coin irrespective of the size thereof.

[Claims 6 to 28 not printed in the Gazette.]

973,982. FULL-SOCKET. RALPH A. SCHOENBERG, New York, N. Y., assignor to Ida S. Rosenheim, New York, N. Y. Filed Apr. 27, 1910. Serial No. 557,043.

1. In a mechanical movement the combination of a rotating driven member, an axle or arbor upon which the member rotates, a flexible driving member adapted to contact directly with the driven member and a chain rail or carrier connected to the driving member and means to retract the chain rail and driving member.

2. In a mechanical movement the combination of a rotating driven member, an axle or arbor upon which the member rotates, a flexible driving member adapted to contact directly with the driven member, a chain rail or carrier connected to the driving member, means to retract the chain rail and driving member, and means tending to prevent the driving member engaging with the engaging surface of the driven member upon the retraction of the chain rail or carrier and the driving member.



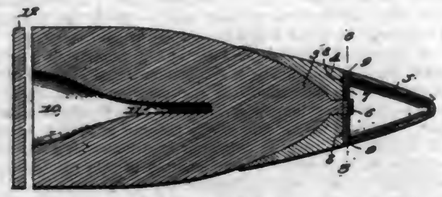
3. In a mechanical movement the combination of a rotating driven member, an axle or arbor upon which the member rotates, a flexible driving member adapted to contact directly with the driven member, a chain rail or carrier connected to the driving member, and adjustable means to retract the chain rail and driving member.

4. In a mechanical movement the combination of a rotating driven member, an axle or arbor upon which the member rotates, a flexible driving member adapted to contact directly with the driven member, a chain rail or carrier connected to the driving member, and a spring for retracting the chain rail and driving member.

5. In a mechanical movement the combination of a rotating driven member, an axle or arbor upon which the member rotates, a flexible driving member adapted to contact directly with the driven member, a chain rail or carrier connected to the driving member, and an adjustable spring for retracting the chain rail and driving member.

[Claims 6 to 35 not printed in the Gazette.]

973,983. PROJECTILE. DUNCAN I. SELFRIDGE, U. S. Navy. Filed July 6, 1910. Serial No. 570,657.

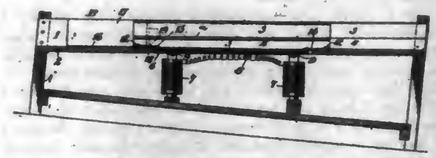


1. In a projectile provided with an integral projection on its point, the combination of a tapering soft metal cap fitting over and secured to said projectile by said projection; a tapering hollow cap forward of said soft metal cap forming a continuation of the contour of the same and also fitting over and secured to said projectile by said projection; and means for locking said hollow cap to said projection, substantially as described.

2. In a projectile, the combination of an integral screw threaded projection extending from the extreme point of said projectile; a screw threaded soft metal cap fitting over said projection and the head of said projectile; and a hollow contour cap also screw threaded to said projection, substantially as described.

3. In a projectile, the combination of an integral screw threaded projection extending from the extreme point of the projectile; a soft metal cap provided with a threaded hole adapted to fit said projection and a flat front face; a contour cap provided with a rear flat face adapted to fit against said soft cap and also provided with a screw threaded hole adapted to fit said projection; and a pin passing through said contour cap and said projection, substantially as described.

973,984. MAGNETIC ORE-SEPARATOR. CHARLES A. SELLON, Halleck, Cal. Filed Nov. 16, 1909. Serial No. 528,416.



1. The combination of a trough, a magnetic plate arranged in the bottom thereof and consisting of sheet metal of double thickness with a non-magnetic filling, and magnets arranged on the plate.

2. The combination of a trough, a magnetic plate arranged in the bottom thereof snd consisting of sheet metal of double thickness with a non-magnetic filling, magnets arranged under the plate, and removable partitions extending longitudinally of the trough and arranged on the plate.

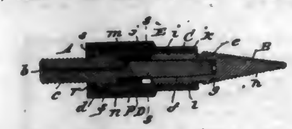
3. The combination of a trough having a magnetic bottom plate, magnets arranged under the plate, socketed transverse strips at the ends of the plate, partitions extending longitudinally of the plate, and lateral lugs at the lower edges of the partitions having depending pins to engage the socketed strips.

4. The combination of a trough, a plurality of magnetic plates mounted in the bottom thereof, a main partition extending between the plates and longitudinally of the trough, secondary partitions mounted on the plates, and magnets under each plate, each plate consisting of a sheet of magnetic material doubled longitudinally and having a non-magnetic filling disposed between the doubled portions.

5. The combination of a trough having a metal lining which is spaced from the trough to form a recess, an amalgamated plate removably fitted in the trough at a point below the lining and engaging the recess, a magnetic plate above the amalgamated plate fixed in the trough, and magnets under the magnetic plate.

[Claims 6 and 7 not printed in the Gazette.]

973,985. CHUCK. ERNEST RIDGLEY SIBERT, Colorado Springs, Colo. Filed Mar. 18, 1910. Serial No. 550,097.



1. In a chuck, the combination of an arbor, a shift sleeve frictionally rotated from the arbor and having a thread and also having a projection, and a device adapted to be moved into and out of frictional connection with the arbor and having a thread engaging the thread of the shift sleeve and also having a bank pin for coöperating with the said projection of the shift sleeve.

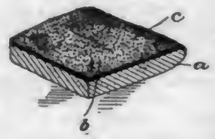
2. In a chuck, the combination of an arbor, a shift sleeve frictionally rotated from the arbor and having a thread and also having a projection, a device adapted to be moved into and out of frictional connection with the arbor and having a thread engaging the thread of the shift sleeve and also having a pin for coöperating with the said projection of the shift sleeve, and an adjustable device carried by the shift sleeve and adapted in one position to rest out of the path of the bank pin and in another position to rest adjacent the bank pin and behind the same.

3. In a chuck, the combination of an arbor having a circumferential flange and also having a forward taper portion, a friction washer surrounding the arbor, an endwise movable and rotary device having a taper socket receiving the taper portion of the arbor and also having a thread and a bank pin, and a shift sleeve comprising connected parts disposed at opposite sides of the circumferen-

tial flange of the arbor and having a thread engaging that of the said endwise movable device and also having an inwardly extending projection adapted to coöperate with the bank pin of the device.

4. In a chuck, the combination of an arbor having a circumferential flange and also having a forward taper portion, a friction washer surrounding the arbor, an endwise movable and rotary device having a taper socket receiving the taper portion of the arbor and also having a thread and a bank pin, a shift sleeve comprising connected parts disposed at opposite sides of the flange on the arbor and having a thread engaging that of the said endwise movable device and also having an inwardly extending projection adapted to coöperate with the bank pin of the device, and an auxiliary screw carried by the shift sleeve and adapted in one position to rest adjacent the bank pin and at the opposite side thereof to the projection on the shift sleeve.

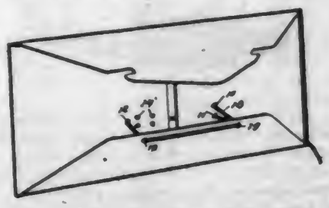
973,986. ABRADING-SURFACE. EDWARD F. SMITH, Rochester, N. Y. Filed Apr. 25, 1907. Serial No. 370,302. Renewed Aug. 9, 1910. Serial No. 576,391.



1. An improved abrading implement consisting of a porous base, a plastic fusible adhesive entering the pores of said base and covering its surface, and an abradant mixed in and carried by said adhesive, the adhesive and abradant material united to the porous base by fusion.

2. An improved vegetable abrading surface consisting of an earthenware base, a plastic fusible adhesive and an abradant material mixed together and covering the earthenware base, the mixture permanently attached thereto by fusing the base and adhesive together to prevent the abradant from detaching and mixing with the vegetables.

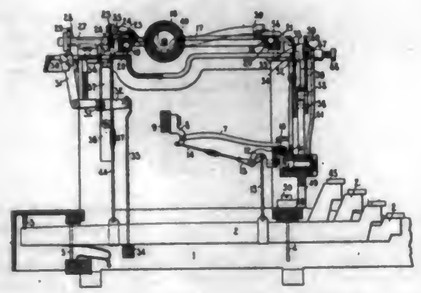
973,987. ENVELOP-SEAL. EDWARD A. SPEER, Sturgis, S. D. Filed Apr. 6, 1910. Serial No. 553,731.



1. An envelop having a flexible connection secured at one of its terminals to one of the end flaps and threaded through the other end flap and through the bottom flap, a sealing flap having a tongue constructed to engage the portions of the said flexible element which is disposed between the said end flaps and the said bottom flap, and a locking member operable to engage the flexible connection to hold the same in its adjusted position and against movement in one direction.

2. An envelop having an eye member secured to one of its end flaps, a movable flexible element threaded through the end flaps and through the bottom flap and having a free manipulating terminal disposed at one end of the envelop, the sealing flap of the said envelop having a tongue constructed to be engaged by portions of the said flexible element, and a locking member operable to engage the said flexible connection and to hold the same in its adjusted position and against movement in one direction.

973,988. TYPE-WRITING MACHINE. HERBERT H. STEELE, Marcellus, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Original application filed Mar. 27, 1905, Serial No. 252,216. Divided and this application filed Dec. 2 1908. Serial No. 465,611.



1. In a typewriting machine and a tabulating mechanism, the combination of a single rotating tabulating stop moving in unison with the carriage, and a second tabulating stop movable to different positions and coöperative with said first mentioned tabulating stop to arrest the carriage at varying columnar positions along the line of print as determined by the position of said second stop.

2. In a typewriting machine and a tabulating mechanism, the combination of a rotating stop member and a coöperating tabulating stop movable to different positions to intercept the path of said rotating stop member at varying positions corresponding to any letter space position in the travel of the carriage as determined by the position of said tabulating stop.

3. In a typewriting machine and a tabulating mechanism, the combination of a single stop movable in unison with the carriage, a slotted member, and a stop coöperative with said first mentioned stop to arrest the carriage at varying columnar positions defined by said member.

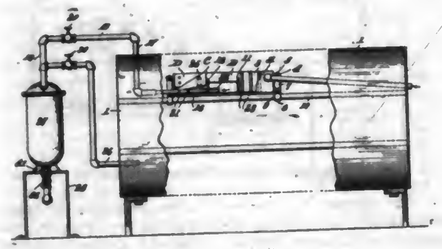
4. In a typewriting machine and a tabulating mechanism, the combination of a single tabulating stop movable in unison with the carriage, a stop positioning determining member, and a column-stop movable to different positions and coöperative with said single tabulating stop to arrest the carriage at varying columnar positions along the line of print as determined by the position of said column stop relatively to said stop positioning determining member.

5. In a typewriting machine and a tabulating mechanism, the combination of a rotating tabulating stop movable in unison with the carriage, a stop positioning determining member, and a tabulating stop movable to different positions and coöperative with said rotating stop to arrest the carriage at varying columnar positions as determined by the position of said stop which is movable to different positions as defined by said stop positioning determining member.

[Claims 6 to 38 not printed in the Gazette.]

973,989. SCALE-PREVENTER FOR BOILERS. JOHN W. STEPHENS, Staunton, Va. Filed Nov. 20, 1909. Serial No. 529,053.

1. The combination with the boiler, of a separator comprising a casing having an open top and a trough shape bottom, a plurality of spaced transverse baffle plates of lesser height than the casing walls, dividing the casing into a front, an intermediate and a rear compartment, a feed water pipe delivering to the front compartment, a plurality of substantially vertical tubes extending upwardly through the bottom of the casing in the front compartment, a discharge pipe in the bottom and leading from the intermediate compartment through the rear compartment and outside of the boiler, a plurality of substantially longitudinal baffle plates of lesser height than the casing wall dividing the rear compartment into a central and side compartments, a skimming device in the said central compartment, over-flow pipes leading from the side compartment to the boiler, said discharge communicating with said central and side compartments, a filter outside the boiler to which the discharge pipe delivers, and a return pipe leading from the filter to the boiler.



2. In a device of the character specified, a separator provided with means for supporting the same within a boiler above the normal water level, said separator comprising a casing having an open top, a plurality of transverse baffle plates of lesser height than the walls of the casing dividing said casing into a plurality of compartments, a feed water pipe delivering to the front compartment, a plurality of substantially vertical tubes extending through the bottom of the front compartment a discharge pipe in the bottom leading from the intermediate compartment, a plurality of substantially longitudinal baffle plates dividing the rear compartment into central and side compartments, a skimming device in said central compartment, the discharge pipe communicating with said central and side compartments and leading from the boiler, an overflow pipe leading from each of the side compartments and delivering into the boiler, a filter to which the discharge pipe delivers, and a pipe leading from the filter to the boiler.

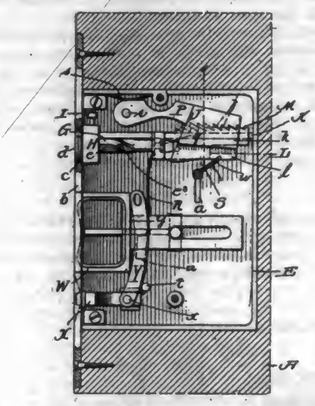
3. In a device of the character specified, a separator, comprising a casing having an open top, and adapted to be supported in a boiler above the water level, baffle plates of lesser height than the casing walls dividing said casing into a plurality of compartments, a feed water pipe delivering to the front compartment, a plurality of substantially vertical tubes extending through the bottom of the front compartment, a plurality of substantially longitudinal baffle plates dividing the rear compartment into a central and side compartment, over-flow pipes leading from the side compartments, a skimming device in the central compartment, and means for removing the sediment from the casing.

4. In a device of the character specified, a separator comprising an open top casing, transverse baffle plates of lesser height than the casing dividing said casing into a plurality of compartments, a feed water pipe delivering to the front compartment, a skimming device in another of the compartments, baffle plates in said compartment, over-flow pipes leading therefrom, and means for conducting the sediment from the casing.

5. In a device of the character specified, a separator comprising a casing adapted to be arranged in the boiler above the water level, a plurality of baffle plates in the casing, overflow pipes leading from the top of the casing, a filter, and means for removing the sediment from the casing and passing it through the filter.

[Claims 6 to 11 not printed in the Gazette.]

973,990. SLIDING-DOOR LOCK. AXEL H. STONE, Marshalltown, Iowa. Filed Mar. 7, 1910. Serial No. 547,753.



1. In a door lock, the combination of a casing containing a guideway, of circular form in cross-section, and also containing a horizontal rib, and having a keyhole and also having a vertically extending oblong opening in its forward wall; a suitably guided gravitating pin having a reduced lower end extending into said guideway; a locking bolt having a shank, of circular form in cross-section, extending through said guideway, and also having an oblong head at the forward end of the shank, and a swivel head at the rear end thereof, and further having equidistant grooves in the shank, each groove comprising a forward straight portion and a rear spiral portion, and straight sub-grooves, each connected with and extending forward from the spiral portion of one groove and arranged in alinement with the straight portion of the groove behind said first-named groove; a follower guided on the said rib of the casing and having a bifurcated forward end connected to the swivel head of the bolt and also having beveled teeth on its forward edge and a shoulder at its lower edge; a tumbler pivoted near one end in the casing and arranged above the follower and having beveled teeth opposed to those of the follower and also having a skirt that hangs in front of the follower; and a spring that is put under tension by forward movement of the follower and subsequently serves to move said follower rearward.

2. In a lock, the combination of a casing containing a guideway, of circular form in cross-section, a pin extending into said guideway, a suitable bolt, of circular form in cross-section, extending through said guideway and having grooves the forward portions of which are straight and the rear portions spiral and also having sub-grooves, each connected with and extending forward from the spiral portion of one groove and arranged in alinement with the straight portion of the groove behind said first-named groove, a follower connected in a swiveled manner to the bolt and having a portion for the engagement of a key and also having beveled teeth on its upper edge, a tumbler located above the follower and having beveled teeth opposed to those of the follower and also having a skirt that hangs in front of the follower for the engagement of the said key, and a spring cooperating with the follower.

3. In a lock, a suitable bolt, means for imparting an initial longitudinal and forward movement thereto by the turning of a key, means for subsequently rotating the bolt about its axis by a further turning of the key, and a spring that is put under tension by forward movement of the bolt and serves, subsequently to the turning of the bolt and the release of the same, to retract said bolt.

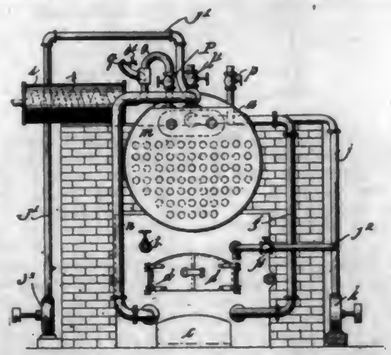
4. In a lock, a suitable bolt, means for imparting an initial longitudinal and forward movement thereto by the turning of a key, means for subsequently rotating

the bolt about its axis by a further turning of the key, yielding means for subsequenty retracting the bolt after the turning and release thereof, and means for again rotating the bolt about its axis by a further turning of the key in the same direction.

5. In a lock, the combination of a bolt, a follower connected therewith and having a portion for the engagement of a key and also having beveled teeth on its upper edge, and a tumbler located above the follower and having beveled teeth opposed to those of the follower and also having a skirt that hangs in front of the follower and is designed for the engagement of the key.

[Claims 6 and 7 not printed in the Gazette.]

973,991. SMOKE-PREVENTING AND FUEL-ECONOMIZING APPLIANCE. WILLIAM JOHN STOREY and GILBERT STOREY, Albert Park, near Melbourne, Victoria, Australia. Filed July 20, 1908. Serial No. 444,526.

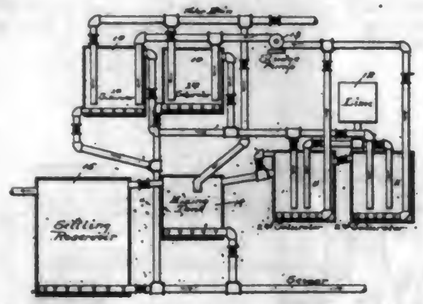


1. The combination with a steam boiler and a furnace therefor including an ash pit, a fire box, and a back flue, of a pipe passing through the boiler and communicating at its rear end with the back flue and discharging at its front end into the ash pit, an injector communicating with said pipe and with the atmosphere, a pump communicating with the injector to force the products of combustion from the back flue to the ash pit through said pipe and to mix air with the products of comustion, a valve mounted in the injector and providing means by which communication between the atmosphere and the injector may be controlled, another pipe communicating with the pump and discharging into the fire box, and a valve in said last named pipe.

2. The combination with a steam boiler and a furnace therefor including an ash pit, a fire box, a back flue, and a smoke box, of a pipe passing through the boiler and communicating at its rear end with the back flue and discharging at its front end into the ash pit, an injector communicating with said pipe and with the atmosphere, a pump communicating with the injector to force the products of combustion from the back flue to the ash pit through said pipe and to mix air with the products of combustion, a valve mounted in the injector and providing means by which communication between the atmosphere and the injector may be controlled, a pipe communicating at one end with the smoke box and discharging at its other end into the fire box, and a pump communicating with said last named pipe to force the products of combustion from the smoke box to the fire box through said pipe and to mix air with the products of combustion.

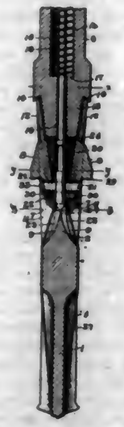
973,992. PROCESS FOR PRODUCING SATURATED LIME-WATER. HARRY H. SUTRO, New York, N. Y. Filed Apr. 12, 1907. Serial No. 367,839.

1. The process of treating water consisting in employing a plurality of saturators, treating the water in one saturator with lime in excess of saturation to cause a precipitation, withdrawing the sludge from the saturator with the excess lime, conveying it to the other saturator, introducing fresh water to the last-mentioned saturator to dissolve the lime remaining in the sludge, conveying the partially saturated water to the first-mentioned saturator for further saturation by fresh lime, and discharging the sludge from the saturator which receives the raw water.



2. The process of treating water consisting in introducing water into a saturator, treating the water in such saturator with a mixture of sludge and unconsumed lime to partially saturate the water, conveying the partially saturated water to a second saturator, and treating the water in the second saturator to lime in excess of that required for saturation.

973,993. UNDER BIT AND REAMER. JOHN C. SWAN, Marietta, Ohio. Filed Sept. 24, 1909. Serial No. 519,474.



1. A reaming bit having a tail piece extending below the plane of the cutting edge and provided with a perforation, the portion above the plane of the cutting edge being imperforate.

2. In a tool for enlarging a drilled hole, a reamer body having a wedge shaped portion, reaming bits arranged to be movable on the faces of the wedge and having tail pieces extending below the plane of their cutting edges, a slot extending through the wedge parallel with the axis of the reamer body at right angles to the faces of the wedge, a cross bar movable in said slot engaging the tail pieces of the reaming bits and means for moving the cross-bar toward the upper end of the wedge.

3. In a tool for enlarging a drilled hole, a reamer body having a wedge shaped portion having abutments formed at the upper ends of the faces of the wedge, reaming bits arranged to be movable on the faces of the wedge each having a tail piece extending below the plane of its cutting edge, a slot extending through the wedge parallel with the axis of the reamer body at right angles to the faces of the wedge, said slot terminating at its upper end at a distance from said abutments not less than the distance from the upper end of a reaming bit to its cutting edge, a cross bar movable in said slot engaging the tail pieces of the reaming bits, and means for moving the cross bar toward the upper end of the slot.

4. In a tool for enlarging a drilled hole, a reamer body having a wedge shaped portion having abutments formed at the uppper ends of the faces of the wedge, reaming bits arranged to be movable on the faces of the wedge each having a tail piece extending below the plane of its cutting edge, a slot extending through the wedge parallel with the axis of the reamer body at right angles to the faces of the wedge, said slot terminating at its upper end at a distance from said abutments not less than the distance from the upper end of a reaming bit to its cutting edge, a cross bar movable in and fitting said slot and engaging the tail pieces of the reaming bits immediately below the cutting edges so that when the reaming bits are against the abutments, the cross bar will close the slot against entrance of solid material present in the drilled hole, and means for moving the cross bar toward the upper end of the slot.

5. In a tool for enlarging a drilled hole, a reamer body having a wedge shaped portion, abutments at the upper ends of the faces of the wedge, reaming bits movable on the faces of the wedge each having its portion above its cutting edge imperforate, a central bore extending substantially to the lower end of the wedge, a slot extending through the wedge parallel with the axis of the reamer body and at right angles to the faces of the wedge and communicating with said central bore, said slot terminating at its upper end at a distance from the upper end of the wedge not substantially less than the distance from the upper end of a reaming bit to the plane of its cutting edge, a spring rod movable in said central bore, a cross bar carried by said spring rod, fitting said slot and extending therethrough into engagement with the reaming bits below the plane of their cutting edges, said cross bar being adapted to close the upper end of the slot when the reaming bits are against the abutments.

[Claims 6 to 21 not printed in the Gazette.]

973,994. CASING-PERFORATOR. JOHN C. SWAN, Marietta, Ohio. Filed Oct. 20, 1909. Serial No. 523,706.



1. In a casing perforator the combination of a tool body provided with a wedge shaped portion having the thin end of the wedge downward, main slips movable on the faces of the wedge shaped portion having portions thereof wedge shaped with the thin end of the wedge upward, means adapted to contact with the casing mounted to be freely movable on the wedge shaped portions of the main slips, yielding means for forcing the main slips upward on the faces of the wedge shaped portion of the tool body, and perforating means carried by the main slips.

2. In a casing perforator the combination of a tool body provided with a wedge shaped portion having the thin end of the wedge downward, main slips movable on the faces of said wedge shaped portion having portions thereof wedge shaped with the thin end of the wedge upward, guard slips movable on the wedge shaped portions of the main slips and adapted to contact with the walls of the casing, perforating means carried by the main slips, and yielding means for forcing the main slips upward on the faces of the wedge shaped portion of the tool body.

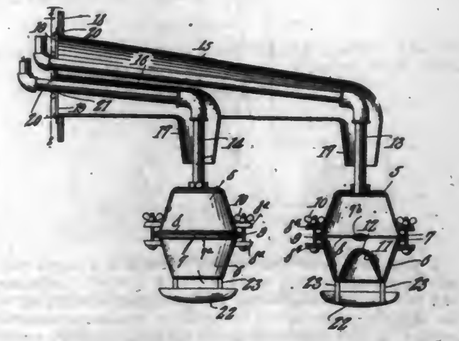
3. In a casing perforator the combination of a tool body having in its lower portion a wedge having its thin end downward, and having a longitudinal slot formed in it, main slips movable on the faces of the wedge having their upper portions wedge shaped with the thin end of the wedge upward, perforating wheels carried by the lower portions of the main slips extending into the slot of the wedge, and yielding means for forcing the main slips upward on the faces of the wedge.

4. In a casing perforator the combination of a tool body having in its lower portion a wedge having its thin end downward, and having a longitudinal slot formed in it, main slips movable on the faces of the wedge having their upper portions wedge shaped with the thin end of the wedge upward, perforating wheels carried by the lower portions of the main slips extending into the slot of the wedge, guard slips movable on the upper portions of the main slips, and yielding means for forcing the main slips upward on the faces of the wedge.

5. In a casing perforator the combination of a tool body having in its lower portion a wedge having its thin end downward, main slips movable on the faces of the wedge having their upper portions wedge shaped with the thin end of the wedge upward, perforating means carried by the lower portions of the main slips, guard slips movable on the upper portions of the main slips having their lower ends adapted to extend outward beyond the outer edge of the perforating means, and yielding means for forcing the main slips upward on the faces of the wedge.

[Claims 6 to 10 not printed in the Gazette.]

973,995. LIQUID-FUEL BURNER. CHARLES A. SWARTZ and SAM FINLEY, Frederick, Okla. Filed Feb. 15, 1910. Serial No. 543,926.

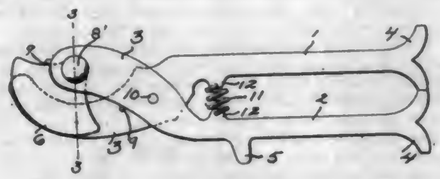


1. In a liquid fuel burner, a closed chamber having a vapor outlet, and a raised bottom to form a spreader on the inside of the chamber, a perforated bar extending across the chamber above the raised bottom, and a fuel supply pipe entering the chamber, and discharging on the perforated bar.

2. In a liquid fuel burner, a vaporizing chamber comprising upper and lower portions, a bar extending between

said upper and lower portions and spacing the same apart to provide a vapor outlet, the lower portion of the vaporizing chamber having a raised bottom to form a spreader, and the aforesaid bar being perforated and located above said raised bottom, and a fuel supply pipe entering the chamber through the upper portion thereof, and discharging on the perforated bar.

973,996. PRUNING-SHEARS. SAMUEL C. TAYLOR, League City, Tex. Filed Aug. 5, 1909. Serial No. 511,328.



In a pair of shears, the combination with two pivoted cross members, of a sectoral blade pivoted at its minor end to the forward portion of one of the members for movement longitudinally of the said member, and a pair of stops carried by the said member at opposite sides of the pivot point of the blade, said stops being located in the path of movement of the blade to limit the movement thereof in both directions, said sectoral blade extending toward the forward portion of the other member and being arranged for movement thereover when the forward portions of the two members are brought toward each other.

973,997. METHOD OF OPERATING VAPOR ELECTRIC DEVICES. PERCY H. THOMAS, Montclair, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Original application filed Jan. 27, 1905, Serial No. 242,862. Divided and this application filed Apr. 12, 1905. Serial No. 255,082.



1. The method of insuring the starting of a vapor electric apparatus having a plurality of positive electrodes and two negative electrodes, which consists in applying to the positive electrodes an alternating electro-motive-force capable of traversing the apparatus under normal conditions of operation through either negative electrode, affecting the negative electrodes by an inferior alternating electro-motive-force sufficient to locally break down the negative electrode reluctance on each separation of the negative electrodes and causing such separation.

2. The method of keeping alive a vapor electric device requiring the storing and periodic delivery of energy to the device, and in which a plurality of leads connect different points of a source of electrical energy to a plurality of positive electrodes, which consists in passing energy from the source to the device through the several leads, storing energy at a common point by the passage of current in any anode lead and discharging said energy in the same direction through any anode lead.

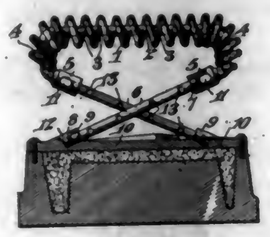
3. The method of keeping alive a vapor electric device requiring the storing and periodic delivery of energy to the device, and in which a plurality of leads connect the different points of a source of electrical energy to a plurality of positive electrodes, which consists in storing energy at a common point on the flow of current from the source in each anode lead and discharging said energy in the same direction through any anode lead.

4. In a vacuum vapor electric apparatus subject to periodic and momentary instants of deficiency in electrical supply and adapted to operate through a plurality of positive electrodes connected to different points in the supply and having suitable connections for completing the circuits of the positive electrodes, the method of operation which consists in initially storing energy at a common point from each of the supply impulses passing through the apparatus, discharging this energy from storage to any of said electrodes as conditions may require and renewing the energy at the common storage point after each discharge.

5. In a system of electrical distribution in which is inserted a vacuum vapor electric apparatus including an exhausted container and suitable positive and negative electrodes therein and adapted to be started during any alternation, said apparatus being supplied from an alternating current source and its negative electrode starting reluctance being overcome by the breaking of a current carrying contact within the vacuum, the method of operation which consists in providing alternative normal operating paths for rectified current, utilizing said paths coöperatively, together with alternating current from the source, for overcoming the negative electrode reluctance and simultaneously impressing the normal operating electromotive force upon the system.

[Claims 6 and 7 not printed in the Gazette.]

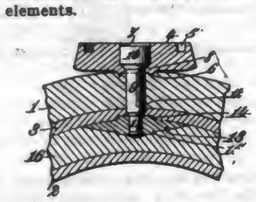
973,998. SAD-IRON HANDLE. JOHN HAMILTON THROOP, Evansville, Ind. Filed Aug. 9, 1909. Serial No. 511,927.



The combination with a sad iron body provided at the top with oppositely inclined front and rear sockets, of a horizontal tubular handle member provided at intervals with openings and having downwardly and inwardly extended terminals provided with inclined front and rear sockets, and crossed inclined tubular supporting members provided at intervals with openings and having their terminals secured in the said sockets and connecting the handle with the sad iron body, said supporting members leaving open spaces between the tubular handle and the sad iron body at the front and back thereof.

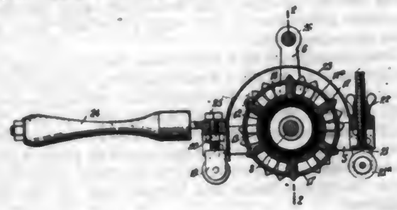
973,999. PROTECTIVE TREAD FOR PNEUMATIC TIRES. CHARLES E. TITUS, Springfield, Mass. Filed Sept. 14, 1908. Serial No. 452,942.

1. The combination with a tire casing, of a plurality of tread elements, each embodying a head, a shank, and a retaining washer, the latter having a ribbed face, the head bearing against the tread of the tire casing, the shank passing through the tire casing, and the washer being disposed within the tire casing, and a cushioning strip confined within the casing and held against the inner face thereof, the cushioning strip being forced by the pressure of the air in the casing against the ribbed face of the washers and in turn holding the latter against the inner face of the casing, the ribs of the washers thereby being anchored in the cushioning strip to prevent side shifting of the tread elements.



2. The combination with a tire casing, of a plurality of tread elements, each embodying a head, a shank and a washer having a ribbed face for engagement in the material of the casing, the shank having a reduced lower end portion affording a stop shoulder, and the washer surrounding the reduced lower end portion bearing against the stop shoulder and being held thereby determinately spaced from the head.

974,000. SHIP-HULL CLEANER. JOHN MACK TOWNE and PAUL ERNEST GIBSON, Tampa, Fla. Filed Feb. 4, 1910. Serial No. 542,001.



1. In a machine for cleaning a surface of scale, barnacle and other crusts, a frame, a crustacean cutter carried by the frame, and a wheel supporting the frame in advance of the cutter, having a cutting edge to cut into the crusts.

2. In a machine for cleaning a surface of scale, barnacles and other crusts, a wheel-supported frame adapted to be moved over the surface to be cleaned, a cylinder journaled on the frame, having a series of cutters slidable therein, and an elastic tube on which the cutters seat, arranged within the cylinder.

3. In a machine for cleaning a surface of scale, barnacles and other crusts, a frame, a rotary crustacean cutter carried by the frame, and wheels supporting the frame, adapting the cutter to be moved over the said surface, with one of said wheels arranged at the front of the cutter and constructed with a cutting edge to cut into the crusts and maintain the cutter at substantially a uniform distance from the said surface.

4. In a machine for cleaning a surface of scale, barnacle and other crusts, a rectangular frame, a rotary crustacean cutter journaled within the frame, wheels supporting the frame at both the front and rear of the cutter, a handle extending from the frame rearwardly, arms extending upwardly from each side of the frame at the axis of the cutter, a handle connected to the arms, and a casing connected to the frame and curved about the upper portion of the cutter underneath the last-named handle.

5. In a machine for cleaning a surface of scale, barnacles and other crusts, a cylinder having a series of cutters, having longitudinally-extending cutting edges and arranged in oblique or spiral rows, with the cutters of one row arranged in the intervals of the cutters of an adjacent row.

[Claims 6 and 7 not printed in the Gazette.]

974,001. PROCESS OF MANUFACTURE OF FUEL-BLOCKS. ERNST TRAINER, Dresden, Germany, assignor to Gewerkschaft Pionier, Walsum-on-the-Rhine, Germany. Filed June 3, 1910. Serial No. 564,782.

1. A process for the manufacture of blocks, which consists in adding to the concentrated waste lye from the sulfite-cellulose process, an aldehyde and a substance having an acid reaction, heating the mixture to gelatinization of the lye, and adding the mass to the block material and then drying the product thoroughly by heat as set forth.

2. A process for the manufacture of fuel blocks, which consists in adding to the concentrated waste lye from the sulfite cellulose process an aldehyde and a substance having an acid reaction, heating the mixture to gelatinization of the lye, and adding the mass to the fuel, and then drying the product thoroughly by heat, as set forth.

974,002. SHINGLE-MOLD. EDGAR M. WALTON, Kansas City, Mo. Filed Oct. 13, 1909. Serial No. 522,487.

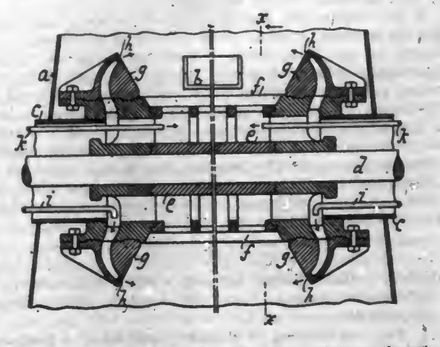


1. In a shingle mold, the combination of a base bar having longitudinal slots and an upturned edge flange extending parallel with said slots, and a dividing arm having a head adapted to overlay the base bar, said head being provided with a transverse slot adapted for receiving the bar flange and with an aperture adapted for registration with the bar slots when the parts are assembled, substantially as and for the purpose set forth.

2. Shingle molds for use on buildings, said molds comprising narrow dividing members, mold members detachably attached to said first members and extending at an angle thereto, said second mold members having longitudinal slots, and bolts passing through said slots and the ends of said first members.

3. Shingle molds for use on buildings, said molds comprising narrow dividing members, mold members extending at an angle to said first members, and formed with longitudinal flanges, said first members being formed with recesses adapted to be engaged by said flanges, and attaching means between said members.

974,003. APPARATUS FOR GRANULATING BLAST-FURNACE SLAG. WILLIAM R. WARREN, New York, N. Y. Filed Feb. 11, 1910. Serial No. 543,389.



1. A device of the kind described comprising a housing with an entrance, a rotary body comprising a drum, and face portions having an outlet orifice.

2. A device of the kind described comprising a housing with an entrance, a rotary body comprising a slitted drum and face portions having an outlet orifice, said face portions being located at each side of the drum so as to supply solvent to material thrown from the drum.

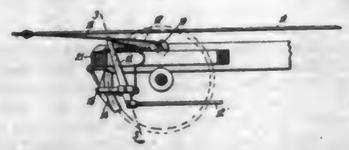
3. A device of the kind described comprising a housing with an entrance, a rotary body comprising a drum and face portions having an outlet orifice, said face portions being located at each side of the drum so as to supply solvent to material thrown from the drum and said drum having corrugations to project such material.

4. A device of the kind described comprising a housing with an entrance, a rotary body comprising a drum and a face portion having outlet orifices at suitable angle to supply solvent from each side to material coming from the drum.

5. A device of the kind described comprising a housing with an entrance, a rotary body comprising a slitted drum, and a face portion having outlet orifices, said face portion having the outlet portion suitably directed to cause material coming from the drum and material from the outlets to come effectively into contact.

[Claims 6 and 7 not printed in the Gazette.]

974,004. AUTOMATIC BRAKE-ADJUSTER. JOHN SHAVER WASHBURN, Albany, N. Y. Filed Nov. 19, 1909. Serial No. 528,863.



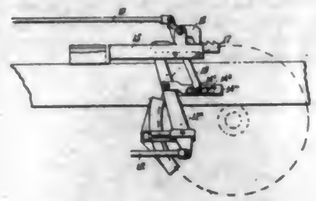
1. The combination of a brake rod, a brake beam having brake shoes, a brake lever fulcrumed intermediate its length and operatively connected at one side of its fulcrum to the brake rod, a sheave, a connection between the lever at the opposite side of its fulcrum and the opposite end of the brake rod passing around the sheave, and means independent of the said connection to lock the lever against movement in one direction in successive positions to compensate for the wearing of the brake shoes.

2. The combination of a brake mechanism having brake shoes and provided with a brake lever with which it is operatively connected at one side of the lever's fulcrum, a sheave, means operatively connecting the lever at the opposite side of its fulcrum to the brake mechanism and passing around the sheave, and a pawl member and a ratchet member to lock the lever against movement in one direction in the successive positions in which it is drawn in the opposite direction by the last mentioned means to compensate for the wearing of the brake shoes, with one of said members carried by the lever.

3. In combination with a car truck, a brake beam having brake shoes, a brake lever fulcrumed intermediate its length to the brake beam, a brake-operating mechanism operatively connected to the lever at one side of its fulcrum, a brake adjusting device operatively connected to the brake lever at the opposite side of its fulcrum, and a connection between that side of the brake lever having the brake adjusting device and the brake-operating mechanism, having a definite working length and arranged to automatically actuate the adjusting device and draw this portion of the lever in a direction to force the shoes to the wheels when the brakes are applied.

974,005. AUTOMATIC BRAKE-ADJUSTER. JOHN S. WASHBURN, Albany, N. Y. Filed Apr. 1, 1910. Serial No. 552,852.

1. The combination of a brake beam lever, a brake-operating mechanism, a ratchet adjusting device to take up the slack in the brake mechanism, operatively connected to the upper portion of the lever, a lever fulcrumed intermediate its length and operatively connected to the brake lever at an intermediate point of the latter, and a brake rod operatively connecting the brake operating mechanism to the last-named lever.



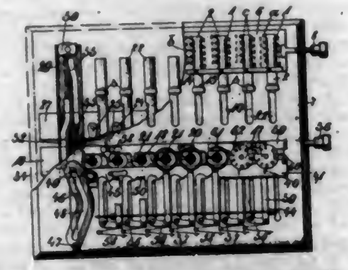
2. The combination of a brake beam lever, a ratchet bar connected to the lever, a brake-operating mechanism, a pawl arranged to engage the ratchet bar, a brake rod connected to the brake-operating mechanism, and a lever fulcrumed intermediate its length and positively connected at one side of its fulcrum to the brake rod and at the opposite side of its fulcrum operatively connected to the brake beam lever intermediate the brake beam and ratchet bar.

3. The combination of a brake beam lever, a pawl and ratchet adjusting device coöperatively arranged with respect to the lever, a brake-operating mechanism, a brake rod connected to said mechanism, and a lever fulcrumed intermediate its length and connected at one side of its fulcrum to the brake rod and at the opposite side of its fulcrum having an adjustable connection with the brake beam lever intermediate the brake beam and pawl and ratchet adjusting device.

4. The combination of a brake beam lever, a ratchet bar connected to the lever, a brake-operating mechanism, a pawl arranged to engage the ratchet bar, a brake rod connected to the brake-operating mechanism, a lever fulcrumed intermediate its length, operatively connected at one side of its fulcrum to the brake rod, and a link having a ratchet take-up, connecting the brake beam lever intermediate the brake beam and ratchet bar, to the last-named lever.

5. The combination of a brake-beam lever, a ratchet adjusting device coöperatively arranged with respect to the upper portion of the lever, a brake-operating mechanism, and a lever fulcrumed intermediate its length and connected at one side of its fulcrum to an intermediate point of the brake-beam lever, and at the opposite side of its fulcrum to the brake-operating mechanism.

974,006. CONTROLLING APPARATUS. NIKOLAUS WHALE, Stuttgart, Germany, assignor of one-half to Alois Salcher, Innsbruck, Austria-Hungary. Filed Apr. 1, 1909. Serial No. 487,323.



1. In a calculating machine, a series of reciprocating racks arranged parallel with one another; means for temporarily retaining said racks in the positions into which they may be moved; means for automatically returning said racks to their initial positions; a graduated scale; a pointer connected with each of said racks and movable adjacent said scale; a reciprocating bar arranged transverse to said racks; a series of number wheels, one for each rack, carried by said bar and each of which has a pinion, said pinions being normally out of engagement with said racks but adapted to be brought into engagement therewith by a movement of said bar; means for moving said bar to move said pinions into engagement with said racks; and means acting upon the temporary retaining means aforesaid for releasing said racks.

2. In a calculating machine, a series of reciprocating racks arranged parallel with one another; a spring for each of said racks, the tendency of which is to return the rack to its initial position after it has been moved therefrom; a graduated scale; a pointer connected with each of said racks and movable adjacent said scale; a reciprocating bar arranged transverse to said racks; a series of number wheels, one for each rack, carried by said bar and each of which has a pinion, said pinions being normally out of engagement with said racks but adapted to be brought into engagement therewith by a movement of said bar; a second reciprocating bar arranged transverse to said racks; a series of pawls, one for each rack, carried by said second bar and said pawls being normally in engagement with said racks but adapted to be disengaged therefrom by a movement of said second bar; means for moving said first mentioned bar to move said pinions into engagement with said racks; and means for moving said second bar to move said pawls out of engagement with said racks.

3. In a calculating machine, a series of reciprocating racks arranged parallel with one another; a spring for each of said racks, the tendency of which is to return the rack to its initial position after it has been moved therefrom; a graduated scale; a pointer connected with each of said racks and movable adjacent said scale; a reciprocating bar arranged transverse to said racks; a series of number wheels, one for each rack, carried by said bar and each of which has a pinion, said pinion being normally out of engagement with said racks but adapted to be brought into engagement therewith by a movement of said bar; a second reciprocating bar arranged transverse to said racks; a series of pawls, one for each rack, carried by said second bar and said pawls being normally in engagement with said racks but adapted to be disengaged therefrom by a movement of said second bar; a reciprocating operating slide having two cam slots; a pin carried by said first mentioned bar and adapted to engage one of the cam slots of said operating slide; and a pin carried by said second bar and adapted to engage the other cam slot of said operating slide.

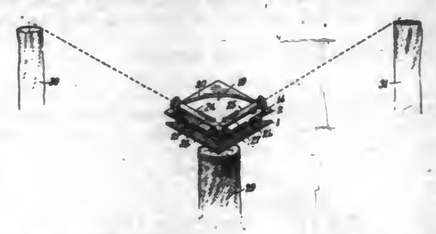
4. In a calculating machine, a plurality of adjustable slides, each of which is provided with two pointers arranged one upon either side thereof; and a number plate having two columns of figures for each of said slides the same being arranged one upon either side of each slide and over which the pointers of said slide move, one of said columns being made up of even and the other of odd numbers.

5. In a calculating machine, a plurality of adjustable slides, each of which is provided with two pointers arranged one upon either side thereof; a movable number plate having four columns of figures for each of said slides, two being for use in addition and two in subtraction operations, the columns being so arranged that the addition or the subtraction columns will be one upon either side of each slide and over which two columns the pointers of said slide move, and each individual column being made up of even or of odd numbers; and means for moving said number plate so as to bring all the addition or all the subtraction columns beneath said pointer.

[Claims 6 to 11 not printed in the Gazette.]

974,007. COMBINATION LEVEL AND SQUARE. GUY WALTER WOLCOTT, Healdsburg, Cal. Filed Mar. 2, 1910. Serial No. 546,779.

1. The combination with a plurality of sight tubes extending in fixed relation with respect to each other and having their lines of sight intersecting, of a pin connected to said sight tubes having its point exposed and projecting downwardly and corresponding to the projection of the point of intersection of the lines of sight of said sight tubes and adapted to be inserted in an extraneous support to locate the position of said sight tubes.



2. The combination with a plurality of sight tubes extending in fixed relation with respect to each other and having their lines of sight intersecting, of a pin connected to said sight tubes and having an exposed point projecting downwardly and corresponding to the projection of the point of intersection of the lines of sight of said sight tubes and adapted to be inserted in an extraneous support to locate the position of said sight tubes, and means for pivotally connecting said sight tubes to said pin.

3. The combination with a table, of a frame pivotally connected to said table, a plurality of sight tubes connected to said frame and secured to each other in a given fixed relation, and means for indicating the relative movement of said sight tubes with respect to said table.

4. The combination with a table, of a frame pivotally connected to said table, a plurality of sight tubes connected to said frame and secured to each other in a given fixed relation, means for indicating the relative movement of said sight tubes with respect to said table, and means for adjusting the level of said table.

5. The combination with a base, of a table, means for adjustably securing said table to said base, a frame adjustably secured to said table, a plurality of sight tubes secured to each other in a given fixed relation, and a pin adjustably connected to said table and adapted to locate the position of said sight tubes.

[Claims 6 to 9 not printed in the Gazette.]

974,008. ELECTRODE. RAPHAEL H. WOLFF, New York, N. Y. Filed Jan. 14, 1910. Serial No. 538,018.



1. The preparation of an electrode which consists in forming several parts of the electrode so that one part can be inserted into another to be retained therein and filling the spaces or interstices with suitable material, substantially as described.

2. As a new article of manufacture an electrode of several parts each formed of carbonaceous mixture and placed one within another and having the spaces filled with suitable binding material.

3. A new article of manufacture consisting of a number of electrode parts of carbonaceous mixture suitably formed and placed one within another, the inner part being formed of several pieces and the outer part being made to confine the inner one, said electrode having the space between the parts filled with binding material.

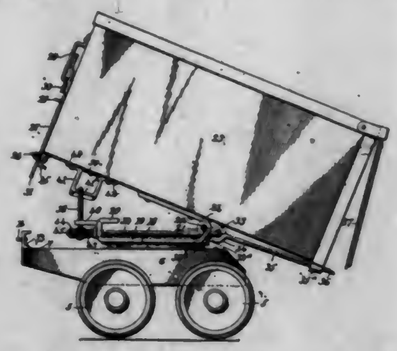
4. The process of making combination electrodes, consisting in previously made electrode parts so formed that the interior electrode part can be inserted into the exterior

part and all spaces filled with a suitable material, to produce a uniformly solid combination electrode, substantially as described.

5. A new article of manufacture produced by forming two electrode parts of carbonaceous mixture an interior and an exterior and inserting the interior electrode part into the exterior part and then filling the open spaces with a suitable binding material, to make one solid uniform electrode.

[Claim 6 not printed in the Gazette.]

974,009. AUTOMATIC DUMPING-CAR. BURT LINCOLN WORTHEN, Tucson, Ariz. Filed Oct. 22, 1907. Serial No. 398,565.



1. The combination of a vehicle body, a frame supported thereover, a rocking shaft mounted within said frame and provided with an eye, a rod provided with an eye engaging said eye of said rocking shaft, said rod being free to swing in a plane and upon said first-mentioned eye as a center, said rod being provided with a hook, a door to be engaged by said hook, a car body to be closed by said door, said car body being mounted to tilt, and means controllable by the tilting of said car body for turning said rocking shaft.

2. A device of the character described, comprising a frame, a rocking shaft mounted thereupon, an arcuate arm connected with said rocking shaft, a car body for turning said arcuate arm in one direction, a stirrup mounted upon said car body and adapted to turn said arm in the opposite direction, said stirrup being larger than said arm for the purpose of allowing a limited play of said stirrup relatively to said arm before turning the latter, a door to be locked and unlocked, and a member connected with said rocking shaft and controllable by tilting of said car body for engaging and disengaging said door.

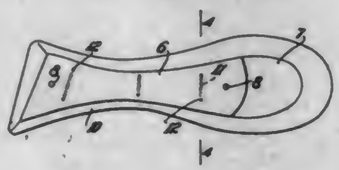
3. In a device of the character described, the combination of a frame, a vehicle body journaled thereupon and adapted to tilt for the purpose of ejecting a load, a door mounted upon said vehicle body and adapted to open and close, means including a rocking shaft and controllable by tilting movements of said vehicle body for releasing said door, so as to allow it to open, an arm normally rigid in relation to said rocking shaft for actuating the same, and a stirrup mounted upon said vehicle body and provided with a portion for turning said arm should the latter accidentally become loose relatively to said rocking shaft.

4. A device of the character described, comprising a frame supported upon wheels, a car body mounted upon said frame and adapted to tilt relatively thereto, a door for said car body, a rod provided with a hook for engaging said door so as to normally keep the latter closed, said rod being journaled relatively to said car body, a rod journaled upon said frame, said last-mentioned rod being connected with said rod first mentioned by a joint, and means controllable by the tilting of said car body for turning the rod journaled upon said frame.

5. The combination of a frame provided with wheels whereby it is supported, a vehicle body journaled upon said frame and adapted to tilt, a door for said vehicle body, a rod provided with a hook for engaging said door, said rod being revoluble for the purpose of releasing said hook from said door, and a joint connecting said rod with said frame, said joint being located at a point concentric to the point where said vehicle body is journaled for the purpose of disengaging said hook from said door when said vehicle body is tilted.

[Claims 6 to 9 not printed in the Gazette.]

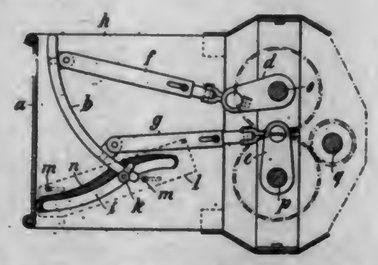
974,010. SHOE. EMERIK ANDERSON, Newburyport, Mass. Filed Jan. 31, 1910. Serial No. 540,980.



1. In a shoe the combination, at its shank, of an outer sole, an inner sole and a thin sheet of metal between them, the metal comprising a plate concave inward and convex outward in transverse cross section, the outer sole being bent around the convex side thereof, pins having heads between the inner sole and the metal, running into the outer sole on the sides of the curve and securing it on the plate; the inner sole filling the concavity of the metal and gradually becoming thinner from its middle toward its edges, the shank thus constructed having a shape in transverse section conforming interiorly to a foot and rounded exteriorly.

2. In a shoe, the combination of a shank plate concave inward and convex outward in transverse cross section, an outer sole bent around the convex side thereof, and pins running from the inner side of the plate into the outer sole, securing the latter in said bended form parallel with the plate's convex side; combined with an inner sole having a thick middle filling the concavity in the plate and gradually becoming thinner toward its edges.

974,011. MILKING-MACHINE. GUSTAF EMIL ANDERSON, Stockholm, Sweden. Filed Feb. 19, 1910. Serial No. 544,778.



1. In a milking machine, the combination of clamping members one of which has a curved form, means for imparting a reciprocating and swinging movement to the said curved clamping member, and a curved path for the said clamping member adapted to support and guide the same during its reciprocating and swinging movement in such a manner as to cause the same to first press on the udder and move along the same in contact therewith and to thereupon roll along the teat so as to compress the same from the root downward, substantially as and for the purpose set forth.

2. In a milking machine, the combination of clamping members one of which has a curved form, means for imparting a reciprocating and swinging movement to the said curved clamping member, and a curved supporting path for the said clamping member having a part of its length in the form of the involute of the curve formed by the clamping surface of the said clamping member, substantially as and for the purpose set forth.

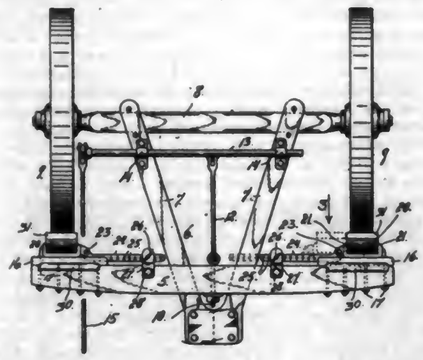
3. In a milking machine, the combination of a substantially straight clamping member, an arc-shaped clamping member coöperating with the former, means for imparting to the said arc-shaped clamping member a reciprocating and swinging movement, and a curved supporting path for the said clamping member having a part of its length in the form of the involute of the curve formed by the clamping surface of the said clamping member, substantially as and for the purpose set forth.

4. In a milking machine, the combination of a substantially straight clamping member, a second clamping member having the form of a circular arc, means for imparting to the said arc-shaped clamping member a reciprocating and swinging movement, and a curved supporting path for the said clamping member having a part of its length in the form of the cycloid of the circular arc of the said clamping member.

5. In a milking machine, the combination of clamping members one of which has a curved form, cranks and connecting-rods connected to the said clamping member for imparting a reciprocating and swinging movement thereto, and a curved path for the said clamping member adapted to support and guide the same during its reciprocating and swinging movement in such a manner as to cause the same to first press on the udder and move along the same in contact therewith, and to thereupon roll along the teat so as to compress the same from the root downward, substantially as and for the purpose set forth.

[Claims 6 to 10 not printed in the Gazette.]

974,012. ADJUSTABLE VEHICLE-BRAKE-BLOCK HOLDER. LAWRENCE J. BADGLEY, Florissant, Colo., assignor of one-half to Henrietta L. Redecker, Denver, Colo. Filed Jan. 3, 1910. Serial No. 536,047.



1. The combination with a brake beam, of a brake-block holder adjustable in a direction transverse to the plane of the wheel, an arm pivotally connected to the brake-block holder and extending longitudinally of the brake beam, and means for locking the said arm to the brake beam for holding the brake-block holder in the adjusted position, substantially as described.

2. The combination with a brake beam, of a brake block holder adjustable longitudinally of the beam and transversely to the plane of the wheel, an arm pivotally connected to the holder and extending longitudinally with the beam, and means carried by the brake beam for interlocking with the said arm for holding the brake-block holder in the adjusted position, substantially as described.

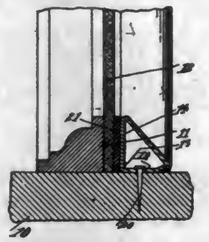
3. The combination with a brake beam, of a bracket secured thereto and provided with a dovetailed groove, a brake-block holder having a tongue adapted to enter the groove of the bracket and freely slidable therein, and an arm connected with the holder and having a series of openings adapted to receive a locking key for the purpose set forth.

4. The combination with a brake beam, of a bracket secured to the beam and having a dovetailed groove, bolts for securing the bracket to the beam, the heads of the bolts being countersunk in the bracket at the bottom of the groove, a brake-block holder having a counterpart tongue engaging the groove of the bracket and freely slidable therein, and an arm pivoted to the holder and extending longitudinally of the beam for the purpose set forth.

5. The combination with a brake beam, of a bracket having a horizontally disposed flange adapted to engage the top of the beam, the top of the bracket engaging the edge of the beam and having a dovetailed groove, a brake-block holder having a counterpart tongue engaging the groove, the tongue being freely movable in a groove for adjusting purposes, and an arm connected with the holder and having a series of openings adapted to receive a locking key or bolt for retaining the holder in the desired position of adjustment.

[Claim 6 not printed in the Gazette.]

974,013. WINDOW-GLASS-Ssecuring STRIP. ARTHUR R. BAIR, Stickney, S. D. Filed June 14, 1910. Serial No. 566,839.

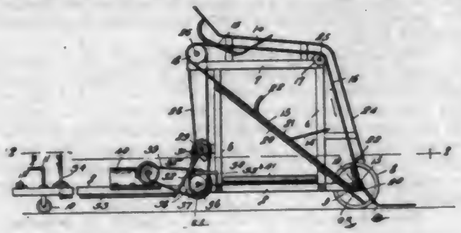


1. As an article of manufacture, a window glass securing device comprising a metallic strip having a pair of spaced longitudinally disposed fold lines providing a central portion and two lateral portions, one of said lateral portions forming the base portion and the other a cover portion, said base portion extending at right angles to the central portion and having a slightly upturned edge, and said cover portion having a channel shaped edge to engage over the upturned edge of the base when the device is in position.

2. As an article of manufacture, a window glass securing device comprising a metallic strip having a pair of spaced longitudinally disposed fold lines providing a central portion and two lateral portions, one of said lateral portions forming the base portion and the other a cover portion, said base portion extending at right angles to the central portion and having a slightly upturned edge, said cover portion having a channel shaped edge to engage over the upturned edge of the base when the device is in position, and an elastic packing strip secured to the side of the central portion away from the base portion.

3. The combination with a window sash provided with a glass receiving rabbet, and a glass positioned in said rabbet; of a securing device for said glass comprising a metallic strip having a pair of spaced longitudinally disposed fold lines providing a central portion and two lateral portions, one of said lateral portions constituting a base and resting on the rabbet, said base being secured to the sash by a series of nails, the central portion upstanding from the edge of the base adjacent the glass, an elastic packing strip between said central portion and glass, the remaining lateral portion constituting a cover extending from the upper edge of the central portion to the free edge of the base portion, and said edges being interlocked.

974,014. SHOCK-LOADER. FRANK BALCH, Cleveland. N. D. Filed Oct. 16, 1909. Serial No. 523,038.



1. In a machine of the character described, the combination of a portable frame, an endless carrier, forks pivotally mounted on the carrier, straight, upwardly and rearwardly inclined tracks in the frame, angular tracks arranged on the frame above said straight tracks and having substantially horizontal intermediate portions, substantially vertical front portions and upwardly and rearwardly inclined rear cam portions, means carried by the forks to engage said straight tracks as the forks are elevated, whereby they will be prevented from tilting from normal position until said means disengages said straight tracks, and means carried by said forks for engaging the second mentioned angular tracks, whereby the forks will be returned to normal position after they have dumped their contents and will be maintained in substantially normal position while being lowered.

2. In a machine of the character described, the combination of a portable frame, an endless carrier, forks pivotally mounted on the carrier, guide arms arranged on opposite sides of the forks adjacent their pivots and having straight portions and curved portions, the latter being provided with projections, tracks to receive the straight portions of said guide arms and support the forks against pivotal movement as they are elevated, and cam tracks to be engaged by said projections on the curved ends of the guide arms, whereby the forks will be returned to normal position and maintained in such position as they are lowered.

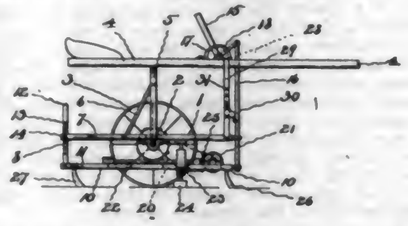
3. In a machine of the character described, the combination of a portable frame, an endless carrier, forks pivotally mounted on the carrier, guide arms arranged on opposite sides of the forks adjacent their pivots and having straight portions and curved portions, the latter being provided with projections, tracks to receive the straight portions of said guide arms and support the forks against pivotal movement as they are elevated, cam tracks to be engaged by said projections on the curved ends of the guide arms, whereby the forks will be returned to normal position and retained in such position as they are lowered, and an endless conveyer arranged beneath the first mentioned tracks to receive the bundles and shocks discharged from said forks.

4. In a machine of the character described, the combination of a portable frame, an endless carrier, forks pivotally mounted on the carrier, guide arms arranged on opposite sides of the forks adjacent their pivots and having straight portions and curved portions, the latter being provided with projections, tracks to receive the straight portions of said guide arms and support the forks against pivotal movement as they are elevated, cam tracks to be engaged by said projections on the curved ends of the guide arms, whereby the forks will be returned to normal position and retained in such position as they are lowered, a transversely moving endless conveyer arranged beneath the first mentioned tracks to receive the bundles and shocks dropped by the forks, a laterally extending endless elevator to receive the shocks and bundles from said conveyer, and means for actuating the carrier, the conveyer and the elevator.

5. In a machine of the character described, the combination of a portable frame having an open upright portion, an endless elevator consisting of chains united by pivotally mounted forks, the latter having at their ends guide arms provided with straight portions and curved portions terminating in outwardly extending projections, sprocket wheels arranged in triangular relation adjacent the opposite sides of the frame for supporting and guiding the chains of the carrier, straight tracks arranged in the frame and inclined upwardly and rearwardly, said tracks being adapted to be engaged by the straight portions of the arms on the forks, whereby the latter will be supported as they are elevated, irregular shaped cam tracks mounted on top of the frame and adapted to be engaged by the projections on the curved ends of the guide arms of the forks, whereby said forks will be returned to normal position and retained in such position as they are lowered, a transverse endless conveyer arranged in the lower portion of the upright part of the frame and adapted to receive the shocks or bundles discharged by the forks, and means for actuating said conveyer and carrier.

[Claims 6 and 7 not printed in the Gazette.]

974,015. COTTON CHOPPER AND CULTIVATOR. WILLIAM BAUMAN, Cheyenne, Okla. Filed Oct. 22, 1909. Serial No. 524,055.

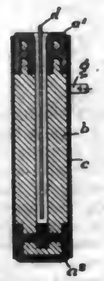


1. In a cotton-chopper and cultivator, a supporting frame, said frame having a rearwardly-extended slotted portion, an axle journaled on the frame, traction-wheels secured to said axle, a draft-beam secured to said supporting-frame, an adjustable frame having a rod pivotally secured to its rear end and engaging said slotted extension of the supporting frame and adjustably secured therein, a lever fulcrumed on the draft-beam, a rod connecting said lever and the front end of the adjustable frame, a shaft journaled transversely of the adjustable frame and geared to the axle aforesaid, a shaft journaled longitudinally of the adjustable frame and geared to the transverse shaft, and a cutting-wheel secured to said longitudinal shaft, substantially as shown and described.

2. A cotton chopper and cultivator comprising a frame having a Y-shaped rear end with the extreme end of the frame having parallel sides forming a slot, an axle journaled on said frame, traction-wheels secured to said axle, an arch-shaped bar secured to the frame, a draft-beam secured to said bar, a cross-bar secured to said draft-beam, vertical bars connecting the ends of said cross-bar and the sides of the frame, an adjustable frame having a rod pivotally secured to its rear end, said rod engaging the slotted extension of the first-mentioned frame and adjustably secured therein, a lever fulcrumed on the draft-beam, a rod connecting said lever and the front end of the adjustable frame, a shaft journaled transversely of the adjustable frame and geared to the axle aforesaid, a shaft journaled longitudinally of the adjustable frame and geared to the transverse shaft, and a cutting-wheel secured to said longitudinal shaft, substantially as shown and described.

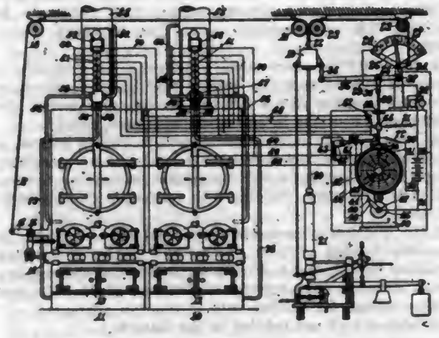
974,016. HOLLOW CARBON ELECTRODE FOR GALVANIC ELEMENTS. STEPHAN BENKÖ, Budapest, Austria-Hungary, assignor to Company Limited for Exploitation of Inventions by Stephen Benkö, Budapest, Austria-Hungary. Original application filed Jan. 19, 1909, Serial No. 473,047. Divided and this application filed Mar. 25, 1910. Serial No. 551,567.

1. A galvanic element comprising a hollow porous negative electrode provided with perforations extending completely therethrough, a positive electrode inserted in the hollow of said negative electrode, an electrolyte containing a depolarizing gas, a metal rim attached to the negative electrode by being compressed into said perforations, an acid-resisting casing carried by said rim and completely inclosing the outer surface of the negative electrode, but being situated a small distance from said surface so as to form an inclosed space therearound, means opening into said space for admitting the electrolyte containing the depolarizing gas, and means for passing said electrolyte and depolarizing gas simultaneously from the said space through the pores of the negative electrode to the positive electrode.



2. A galvanic element comprising a hollow porous negative electrode provided with perforations extending completely therethrough, a positive electrode inserted in the hollow of said negative electrode, an electrolyte containing a depolarizing gas, a metal rim attached to each end of the negative electrode by being compressed into said perforations, an acid resisting casing carried by said rims and completely inclosing the outer surface of the negative electrode, but being situated a small distance from said surface so as to form an inclosed space therearound, means opening into said space for admitting the electrolyte containing the depolarizing gas, and means for passing said electrolyte and depolarizing gas simultaneously from the said space through the pores of the negative electrode to the positive electrode.

974,017. FIRING INDICATOR AND RECORDER. ASA WHITE KENNEY BILLINGS, Habana, Cuba. Original application filed May 20, 1909, Serial No. 497,365. Divided and this application filed Aug. 4, 1909. Serial No. 511,245.



1. In an apparatus of the class described, the combination with a plurality of heating devices provided with a device for regulating the rate of combustion common to all; of a movable electric contact operated by the movement of said regulating device; a plurality of fixed contacts adapted to be engaged by said movable contact; a plurality of electrically operated signals on each heating device, each of which signals is provided with characters designating the required rate of supply of fuel to the said heating device; a wire from each set of corresponding signals to one of said fixed contacts; a clock mechanism; and means operable by said clock mechanism for selecting the set of signals in which a particular signal is adapted to be operated by said regulating mechanism at each predetermined firing interval.

2. In an apparatus of the class described, the combination with a plurality of heating devices provided with a device for regulating the rate of combustion common to all; of a movable electric contact operated by the movement of said regulating device; a plurality of fixed contacts adapted to be engaged by said movable contact; a plurality of electrically operated signals on each heating device, each of which signals is provided with characters designating the required rate of supply of fuel to the said heating device; a wire from each set of corresponding signals to one of the said fixed contacts; a clock mechanism; an audible signal; and a make and break device operated by said clock mechanism for operating said audible signal at predetermined intervals.

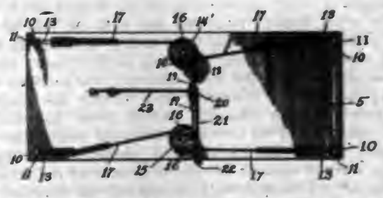
3. In an apparatus of the class described, the combination with a plurality of heating devices provided with a device for regulating the rate of combustion common to all; of a plurality of visual signals on each heating device; a clock mechanism for operating one of said signals on each of said heating devices at stated intervals; and means operable by said regulating mechanism for selecting the particular signal to be operated.

4. In an apparatus of the class described, the combination with a plurality of heating devices provided with a device for regulating the rate of combustion common to all; of a plurality of visual signals on each heating device; a clock mechanism for operating one of said signals on each of said heating devices at stated intervals; means operable by said regulating mechanism for selecting the particular signal to be operated; and an audible signal adapted to be operated by said clock mechanism when said visual signal is displayed.

5. In an apparatus of the class described, the combination with a plurality of heating devices provided with a device for regulating the rate of combustion common to all; of a movable electric contact operated by the movement of said regulating device; a plurality of fixed contacts adapted to be engaged by said movable contact; a plurality of electrically operated signals on each heating device, each of which signals is provided with characters designating the required rate of supply of fuel to the said heating device; a wire from each set of corresponding signals to one of said fixed contacts; an electric circuit for each heating device including its indicating signals; and automatic means for completing the circuit of one of said heating devices at the end of each predetermined firing interval.

[Claims 6 to 10 not printed in the Gazette.]

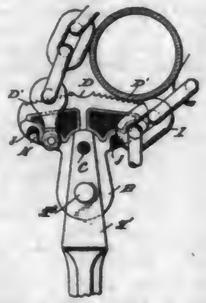
974,018. ADJUSTABLE PIANO-BENCH. WILLIAM C. BINCKLEY, Jasper, Ind. Filed May 13, 1910. Serial No. 561,121.



In an adjustable piano bench, the combination with the legs and a stationary body supported thereby, of a vertically movable top provided with depending rack bars, a plurality of bolts slidably fitted on the body and in position to engage said rack bars, a pair of oppositely disposed disks, rods connecting said bolts to said disks, a bar connecting said disks and provided with spaced bushings, and

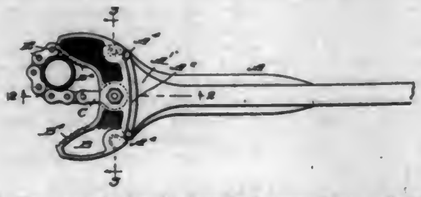
a spring pressed operating rod having its inner end portion slidably fitted on that portion of the bar between said bushings and adapted to simultaneously move said disks to slide said bolts from engagement with the rack bars.

974,019. PIPE-WRENCH. LAWRENCE R. BLACKMORE, McKeesport, Pa. Filed June 5, 1909. Serial No. 500,328.



The improvement in wrenches herein described comprising a handle having a head tapering toward its extremity and provided with a transverse bolt hole, and at its opposite sides with projecting studs extending in a direction parallel to the axis of the bolt hole, jaw sections recessed in their inner faces to fit said tapered head, and provided with openings to receive the lateral studs thereof, and with bolt holes registering, when the parts are applied, with the bolt hole of the head, the said jaw sections having jaw faces and provided in their inner edges with curved seats adapted to receive the rounded ends of open links, and having in said seats notches adapted to receive lateral studs, and a chain coöperating with the said jaws, substantially as set forth.

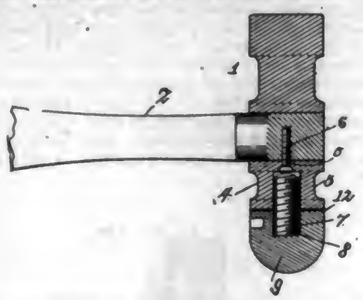
974,020. PIPE-WRENCH. LAWRENCE R. BLACKMORE, McKeesport, Pa. Filed June 5, 1909. Serial No. 500,329.



1. The wrench herein described comprising a handle provided with a wrench head having a concave seat, and a stem projecting beyond the same and provided on its opposite sides with lateral bosses, and with a transverse opening through the same, a chain having connecting links fitting over said bosses, duplex jaw sections fitting at their inner edges the said concave seat of the wrench head, and provided with sockets receiving the ends of the lateral bosses of the stem, the said jaws fitting against the connecting links and retaining the same on the bosses, and a bolt passing through the same and the jaw sections and securing the same to the stem, each of said jaw sections being provided with opposite toothed faces and having on its inner face at its rear edge seats for engagement by the chain, and having its rear edge shouldered to engage with the wrench head at the opposite ends of the concave seat thereof, all substantially as and for the purposes set forth.

2. The combination of a wrench head having a stem provided with lateral bosses, a chain having connecting links fitting on said bosses, jaw sections fitting at their inner faces over the ends of the bosses and retaining the connecting links thereon, and a bolt securing the jaw sections, substantially as set forth.

974,021. HAMMER. WASHINGTON L. BLAKE, Fitchburg, Mass. Filed May 8, 1908. Serial No. 431,625.



The combination with a handle having a threaded aperture adjacent one of its ends, a head for the handle, said head having a threaded aperture or bore, the inner wall of the bore being provided with a reduced opening alining with the threaded opening in the handle, a removable screw positioned within the opening and engaging the threaded aperture of the handle to secure the head to the handle, an enlarged threaded element for the threaded bore of the head and projecting a suitable distance therefrom, said enlarged threaded element protecting and preventing accidental removal of the screw, a tip member also provided with a threaded bore adapted to engage the projection of the threaded element, and a cushioning washer between the head and the tip.

974,022. SEPARABLE LOCKING-RACK FOR DRIVING MECHANISM. BERTRAM F. BREWSTER, Burrton, Kans., assignor of two-thirds to Walter Scott Wilson, Fort Worth, Tex. Original application filed June 9, 1908, Serial No. 437,487. Divided and this application filed Mar. 1, 1909. Serial No. 480,731.



1. In a driving mechanism provided with a pinion, a separable locking rack for driving said pinion comprising a locking section and a driving section coöperating therewith and separable therefrom.

2. In a driving mechanism provided with a pinion, a separable locking rack for driving said pinion comprising a locking section and a driving section held yieldingly in contact with said locking section but separable therefrom.

3. In a driving mechanism provided with a pinion, a separable locking rack for driving said pinion comprising a locking section and a driving section and means for holding said sections in alinement with each other.

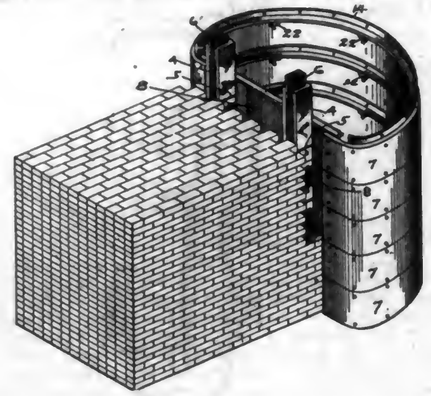
4. In a driving mechanism provided with a pinion, a separable locking rack for driving said pinion comprising a locking section and a driving section, means for holding said driving section yieldingly in contact with said locking section.

5. In a driving mechanism provided with a pinion, a separable locking rack for driving said pinion comprising a locking section and a driving section, and a rod running loosely through said driving section and rigid with said locking section for holding said sections in alinement.

[Claims 6 to 9 not printed in the Gazette.]

974,023. METHOD OF AND APPARATUS FOR BUILDING MASONRY WALLS IN SHIFTING SOILS. JOHN B. CAMPBELL, San Francisco, Cal. Filed Mar. 30, 1910. Serial No. 552,374.

1. The process of placing in position foundation walls below the level of the ground which consists in sinking a suitable caisson and excavating within the same, building up a section of wall within the caisson, attaching guides to the unfinished ends of the wall drawing up the first caisson, sinking the caisson in place alongside the unfinished end, extending the wall into the second caisson and continuing the operation until the wall is finished.



2. The process of building foundation walls below the level of the ground which consists in building a pier the width of the wall, attaching guides to the ends of the pier from which the wall is to be extended, sinking caissons in contact with the guides removing the part of the side of the caisson adjacent to the wall, carrying the masonry work into the caisson, affixing guides to the now unfinished end and raising the caisson as the work progresses upward.

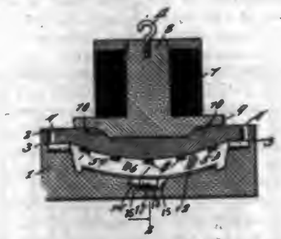
3. The process of building foundation walls below the level of the ground, which consists of sinking a caisson, excavating the material therefrom and building a pier the width of the wall to the required height, leaving the ends of the pier from which the wall is to be extended unfinished, attaching temporary guides to said unfinished ends and drawing the caisson up as the work progresses upward, sinking a caisson in line with the unfinished end and alining it by the temporary guides, excavating within the caisson as it progresses downward until the required depth is reached, removing the lower part of the side of the caisson lying against the guides, thereby exposing the unfinished end of the wall, carrying the masonry work forward into the caisson, attaching guides to the now unfinished end, drawing the caisson up as the work progresses upward and repeating the operation until the entire wall is completed.

4. The process of building foundation walls below the level of the ground which consists in sinking caisson sections, adding sections to the top of the caisson as the excavation and the caisson progress downward, building the wall within the caisson, drawing up the caisson as the work progresses upward, and removing the sections as the caisson is brought up.

5. The process of building foundation walls below the level of the ground, which consists in building a pier of the required width and height, leaving the ends to be extended in an unfinished state and attaching temporary guides to said ends, sinking caisson sections in contact with the guides, excavating within the caisson and adding sections to the top of the caisson as the excavation and caisson progress downward, removing the sides adjacent to the guides from the lower sections, carrying the work forward into the caisson, attaching temporary guides to the now unfinished end, and drawing up the caisson as the work progresses upward, removing the sections from the upper end as the caisson is raised and again sinking the caisson in contact with the lastly placed guides.

[Claims 6 to 9 not printed in the Gazette.]

974,024. METAL-FOUNDING. CHARLES B. CARTER, Chicago, Ill. Filed Aug. 24, 1910. Serial No. 578,800.



1. The method of making castings containing inserts of magnetizable metal, which consists in holding the inserts in place in the mold by magnetic action, pouring the molten metal into the mold, and allowing it to cool and harden about the inserts thus held, substantially as described.

2. The method of making castings containing inserts of magnetizable metal, which consists in supporting the inserts in the mold against the attraction of gravitation by magnetic action, pouring the molten metal into the mold, and maintaining the magnetic action until the molten metal has solidified sufficiently to maintain the inserts in place, substantially as described.

3. The method of making castings containing inserts of magnetizable metal in a mold of magnetic material which consists in magnetizing the inserts, placing the magnetizing inserts in proper position against the interior surface of the metal mold to be retained there by their magnetic action, and pouring the molten metal into the mold to inclose the inserts, substantially as described.

4. The method of making castings containing inserts of magnetizable metal in a mold of magnetic material, which consists in magnetizing either element, placing them in contact with each other so as to be held in place by magnetic attraction, and pouring the molten metal into the mold around the inserts thus held, substantially as described.

5. The method of making castings which consists in clamping the parts of the mold together by magnetic action, pouring the molten metal into the mold, and maintaining the magnetic action until the molten metal has solidified, substantially as described.

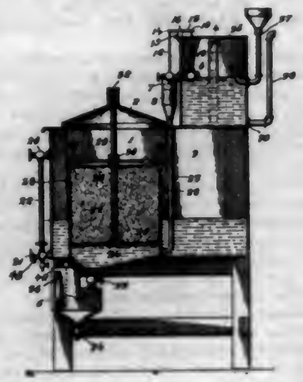
[Claims 6 to 12 not printed in the Gazette.]

974,025. FILTER. LUCIUS R. CLARK and DWIGHT G. KREUL, Davenport, Iowa. Filed Feb. 3, 1910. Serial No. 541,797.

1. In an oil filter, a receiving chamber, an inlet pipe let into the receiving chamber midway of its depth, the end of the inlet pipe bent to form an upturned L, a valve leading from the receiving chamber and disposed midway of its depth, a gravity pipe surmounted by a funnel and open to the air coöperating with the valve to take oil from the receiving chamber a settling chamber below the level of the receiving chamber, rigid connection between the lower end of the gravity pipe and the settling chamber a filter chamber formed with the settling chamber and adapted to receive oil upwardly from the settling chamber, a hollow threaded adjusting rod, disks adapted to receive the adjusting rod centrally, coarse perforations on the disks, a filtering medium between the disks, a clamp threaded to the adjusting rod, levers integral with the clamp to adjust clamp on rod, an air vent pipe removably connected to the adjusting rod to afford an outlet for air from the first settling chamber, a chamber for the reception of the purified oil, means for withdrawal of the purified oil.

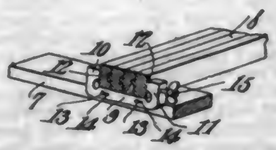
2. In an oil filter, the combination with an upper receiving tank an inlet pipe let into the receiving chamber midway of its depth, a ground union at the lower part of the receiving chamber, a pipe leading from the chamber, rotatably attached to the ground union and bent to form an L, means for adjusting said pipe to the withdrawal

of water from the receiving chamber, an outlet pipe in the receiving chamber midway of its depth, an angle valve at the outer termination of the outlet pipe, a valve at the inner terminus of the outlet pipe, a funnel open to the air beneath the angle valve, a float chamber integral with the funnel, free communication between the funnel and the float chamber, a hollow polyhedral float within the float chamber, a swivel interiorly disposed and fastened to the base of the polyhedral float, a support attached to the top wall of the receiving chamber at a point conveniently above the discharge pipe, a lever pivoted to this support, a rod swiveled to the outer end of this lever and the base of the float, a rod swiveled to the inner end of said lever and the valve on the inlet pipe to coöperate with the float and prevent an overflow from the funnel, a gravity pipe attached to the funnel, means for conducting oil upwardly through a filtering medium and means for the withdrawal of the pure oil.



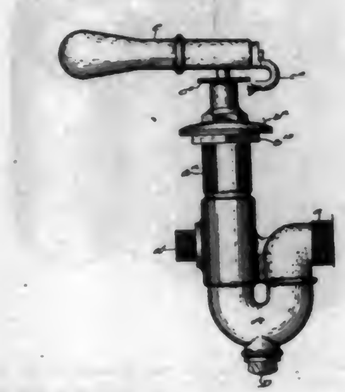
3. In a filter of the class specified, an upper receiving tank, a conducting pipe, a settling chamber at the lower extremity of the conducting pipe, a filtering medium above the settling chamber, a pure oil chamber disposed about the filtering medium, means for automatically adjusting the supply of oil from the receiving chamber to a given tension of the filtering medium, means for regulation of the tension of the medium, means for withdrawal of water from the receiving tank, means for withdrawing air from the settling chamber, means for withdrawing pure oil from the main chamber, a secondary settling chamber opening into the first settling chamber, a valve between the settling chambers, an angular air space formed in the upper part of the secondary settling chamber an air vent within said chamber opening through the upper wall of the angular air space, a cock at the outer extremity of the air vent, means for withdrawal of solid sediment from the secondary chamber, sight glasses on receiving chamber pure oil chamber and secondary settling chamber.

974,026. CLAMP FOR TABLES. WALTER E. CLARK, Hughesville, Pa., assignor to J. K. Rishel Furniture Co., Williamsport, Pa. Filed Feb. 15, 1910. Serial No. 543,916.



1. The combination with an extension table and its slides, of a U-shaped clamp mounted on one of the table sections, and engageable with the slides for locking the same together edgewise, the intermediate portion of the clamp being slotted, and fastening means passing through said slots whereby the clamp is loosely mounted and free to yield in a direction transverse of the slides.

974,027. COCK. DAVID CRAIG, Melrose, Mass. Filed Feb. 13, 1909. Serial No. 477,697.



1. A cock comprising a valve casing having therein a valve seat and valve, a rod to operate said valve movable endwise and projecting through said valve casing, a projection upon said casing, an operating lever engaging said rod adapted to move the same endwise, and a projection upon said lever extending downward and engaging the under side of the projection on the casing, the point of engagement between said projections constituting the fulcrum of said lever.

2. A cock comprising a valve casing having therein a valve seat and valve, a rod to operate said valve movable endwise and projecting through said valve casing, a flange upon said casing, an operating lever engaging said rod adapted to move the same endwise and also to be swung angularly with relation to said casing, and a projection upon said lever extending downward and engaging the under side of said flange, the point of engagement between said projection and said flange constituting a fulcrum for said lever in any angular position of said lever.

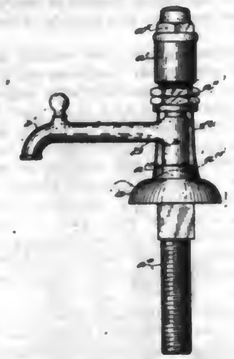
3. A cock comprising a valve casing having therein a valve seat and valve, a rod to operate said valve movable endwise and projecting through said valve casing, a disk-like flange upon said casing, an operating lever engaging said rod adapted to move the same endwise and also to be swung angularly with relation to said casing, and a pair of opposed hooks upon said lever each extending around the edge of said flange at opposite sides thereof and engaging the under side of the flange, whereby the valve will be opened either by pressing the lever toward or away from the casing.

4. A cock comprising a valve casing having therein a valve seat and valve, a rod movable endwise to operate said valve, an operating lever engaging said rod and adapted to be swung in planes both parallel with and transverse of said rod, and means whereby movement of said lever in any of said planes will operate said valve through said rod.

5. A cock comprising a valve casing having therein a valve seat and valve, an operating lever connected with said valve adapted to be swung in two or more planes with relation to said casing, and means whereby movement of said lever in any of its planes of movement will operate said valve.

[Claims 6 to 9 not printed in the Gazette.]

974,028. FAUCET. DAVID CRAIG, Melrose, Mass. Filed Feb. 13, 1909. Serial No. 477,698.



1. A faucet comprising a yoke-like frame having an inlet passage therethrough, a valve chamber in said frame into which said inlet passage opens, an outlet passage leading from said valve chamber, a valve in said valve chamber controlling said outlet passage, and a spout swiveled between the ends of said yoke-like frame, communicating with said outlet passage and controlling said valve.

2. A faucet comprising a yoke-like frame, having an inlet passage therethrough, a valve chamber in said frame into which said inlet passage opens, an outlet passage leading from said valve chamber, a valve in said valve chamber controlling said outlet passage, a spout swiveled between the ends of said yoke-like frame, communicating with said outlet passage and controlling said valve, and means normally and yieldingly to urge said spout toward, and hold it in position to close said valve.

3. A faucet comprising a yoke-like frame having an inlet passage therethrough, a valve chamber in the upper end of said frame into which said inlet passage opens, an outlet passage leading from said valve chamber, a valve in said valve chamber controlling said outlet passage, and a spout swiveled between the ends of said yoke-like frame, communicating with said outlet passage and controlling the operation of said valve.

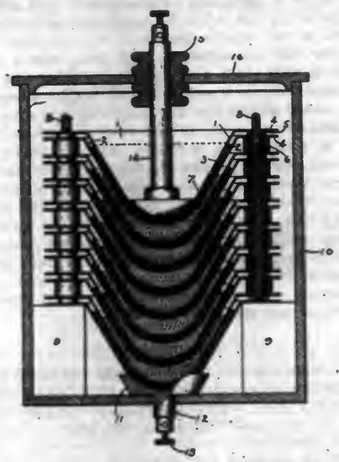
4. A faucet comprising a yoke-like frame having an inlet passage therethrough, a valve chamber in the upper end of said frame into which said inlet passage opens, an outlet passage leading from said valve chamber, a valve in said valve chamber controlling said outlet passage, and a spout communicating with said outlet passage, swiveled between the ends of said yoke-like frame, means to move said spout longitudinally of its axis when it is swung laterally, and connection between said spout and valve whereby such movement of the spout longitudinally of its axis will control the opening and closing of said valve.

5. A faucet comprising a yoke-like frame having an inlet passage therethrough, a valve chamber in the upper end of said frame into which said inlet passage opens, an outlet passage leading from said valve chamber, a valve in said valve chamber controlling said outlet passage, a spout communicating with said inlet passage, swiveled between the ends of said yoke-like frame, cam surfaces upon said spout and frame respectively adapted to move said spout longitudinally of its axis when it is swung laterally, and connections between said spout and valve whereby such movement of the spout longitudinally of its axis will control the opening and closing of said valve.

[Claims 6 to 10 not printed in the Gazette.]

974,029. ELECTROLYTIC CONDENSER. ELMER E. F. CREIGHTON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 26, 1907. Serial No. 399,272.

1. A compound plate for an electrolytic lightning arrester, consisting of two aluminum plates, and insulation interposed between their central portions only, having their edges free to be electrically connected.



2. A compound plate for an electrolytic lightning arrester, consisting of two aluminum plates, insulation interposed between their central portions only, and metallic washers between their edge portions.

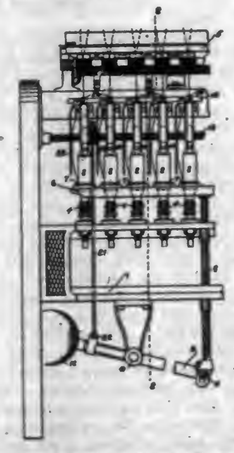
3. An electrolytic cell comprising an electrolyte, aluminum plates mounted in contact with the electrolyte to form electrodes, and insulating supports for engaging the edges of said plates to hold them in definite relation to one another and out of metallic contact.

4. An electrolytic lightning arrester, consisting of a plurality of compound plates each composed of two aluminum cones with an interposed backing of insulation, flanges on said plates, aluminum washers between the flanges of each compound plate, and insulating supporting and spacing blocks between the flanges of adjacent compound plates.

5. In an electrolytic lightning arrester, the combination of a plurality of fluid-containing trays each having a smooth convex center and a flanged edge.

[Claims 6 to 12 not printed in the Gazette.]

974,030. SPINNING-MACHINE. FREDERICK S. CULVER and LEON J. MORIN, Taunton, Mass. Filed Mar. 31, 1909. Serial No. 486,990.

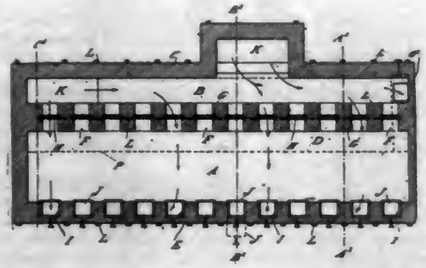


1. A spinning machine thread feeding mechanism, comprising, in combination with the machine frame, a ver-

tically reciprocatory thread guide rail, a series of vertical racks depended therefrom, a rock shaft, a series of gears secured to said shaft and engaged with said racks for reciprocating the latter, an oscillatory arm operatively connected to the builder motion of the machine, a chain having one end connected to said arm, and a segment mounted on said shaft and having the other end of said chain trained thereover and fastened thereto, whereby said shaft is rocked during the movements of said arm.

2. A spinning machine thread feeding mechanism, comprising, in combination with the machine frame, a vertically reciprocatory thread guide rail, a rock shaft, connections between the rail and said shaft for reciprocating the former during the rocking movements of the latter, an oscillatory arm operatively connected to the builder motion of the machine, a chain having one end connected to said arm, and a segment mounted on said shaft and having the other end of said chain trained thereover and fastened thereto, whereby said shaft is rocked during the movements of said arm.

974,031. COMBINED HORIZONTAL FURNACE FOR HEATING STEEL OR IRON PLATES, ANGLE-IRONS, AND THE LIKE. EDWARD CURRAN, Cardiff, England. Filed July 29, 1910. Serial No. 574,471.



1. A multiple furnace adapted for heating steel or iron plates and angle irons or the like, comprising a plurality of hearths ranged alongside each other and combined in a single structure and having a party wall, a fuel combustion space in the furnace structure, a series of openings being provided in the party wall between adjacent hearths, dampers controlling said openings, a main flue communicating with the chimney, flues leading from the respective hearths to the main flue and dampers controlling the said flues, whereby the path of the hot gases through the hearths as well as their supply thereto can be controlled, substantially as described.

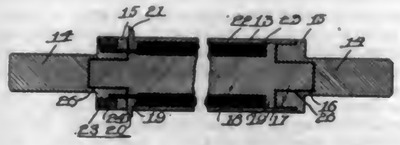
2. A multiple furnace adapted for heating steel or iron plates and angle irons or the like, comprising a plurality of hearths ranged alongside each other and combined in a single structure and having a party wall, a plurality of fuel combustion spaces in the furnace structure, a series of openings being provided in the party wall between adjacent hearths, dampers controlling said openings, a main flue running longitudinally of the furnace structure and communicating with the chimney, transverse flues leading from the respective hearths to the said main flue, and dampers controlling said transverse flues, whereby the path of the hot gases through the hearths as well as their supply thereto can be controlled, substantially as described.

3. A furnace adapted for heating steel or iron plates and angle irons or the like comprising two hearths ranged alongside each other and combined in a single structure and having a party wall, a fuel combustion space in the said structure communicating directly with one of said hearths, a series of openings being provided in the party wall between the two hearths, dampers controlling said openings, a main flue running longitudinally of the furnace structure, a transverse flue leading from that hearth which is in direct communication with the combustion space to the main flue, said transverse flue being controlled by a damper, and a series of flues leading from the other hearth to the main flue, said flues being controlled by dampers and being formed in the wall opposite the party wall between the two hearths, substantially as described.

4. A double furnace adapted to heating steel or iron plates and angle irons or the like comprising a comparatively narrow and a comparatively wide hearth combined in one structure and divided by a party wall having a series of openings distributed along its length, dampers controlling said openings, a main flue running longitudinally of the furnace structure, a fuel combustion space at one end of the narrow hearth, an opening at the other end of the said hearth controlled by a damper and connected by a transverse flue with the main flue, a series of flues formed in the outer wall of the wide hearth disposed opposite to the openings in the party wall and leading to the main flue, and dampers controlling said flues, substantially as described.

5. A double furnace adapted for heating steel or iron plates and angle irons or the like, comprising a comparatively narrow and a comparatively wide hearth combined in one structure and divided by a party wall, a fuel combustion space at one end of the narrow hearth, a second fuel combustion space at an intermediate point and a gas outlet at the other end thereof, a main flue running longitudinally under the floor of the furnace structure, a transverse flue connecting the said gas outlet with the gas main flue, a damper controlling said gas outlet, a series of openings being provided in the party wall equally distributed along the length thereof, dampers controlling said openings, a series of flues in the outer wall of the wide hearth opposite to the party wall, said flues leading to the main flue and corresponding in number and disposition with the openings in the party wall, and dampers controlling the said series of flues, substantially as described.

974,032. BURNISHING-MACHINE. WILLIAM G. DALTON, Lake Forest, Ill. Filed Feb. 5, 1910. Serial No. 542,311.



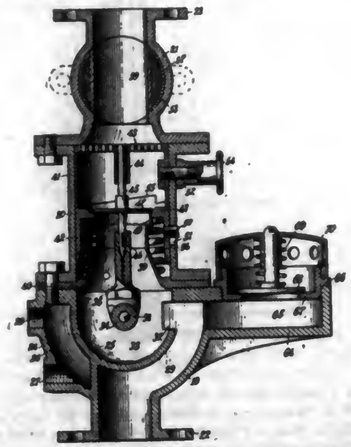
1. In a burnishing machine, an interiorly heated roll comprising an interior core having flanges at each end, said core provided with bearings at each end from which it is electrically insulated, an electric coil surrounding said core between said flanges, a surface shell inclosing said coil and directly engaging said flanges and means for rotating said roll.

2. In a burnishing machine, a burnishing roll provided with an internal electrical heating coil, insulated rings carried by said heating roll, connected with the terminals of the coil, a flange interposed between the burnishing surface of said roll, and said rings; brushes for supplying current to said rings, and a pressure roll, and means for driving said rolls.

3. In a burnishing machine, a pressure roll, a burnishing roll mounted above said pressure roll comprising a hollow burnishing shell, and an electrical coil within said shell, rings connected with the terminals of said coil beyond the burnishing shell, a beveled flange between the shell and rings, a frame supporting said burnishing and pressure rolls, distributing brushes for the rings mounted on said frame, and means for driving the rolls.

4. In a burnishing machine, a pressure roll, a burnishing roll mounted above said pressure roll comprising a core, a coil thereover, a hollow shell, and a beveled flange at one end of the roll, rings connected with the terminals of said shell outside of said flange, distributing brushes for the rings, means for supporting the brushes, and a housing surrounding the rings, brushes, and supporting means, extending close to the outer surface of the flange of the burnishing roll.

974,033. CARBURETER. PAUL DANIEL, Perth Amboy, N. J., assignor to Adam C. King, New York, N. Y. Filed Apr. 12, 1910. Serial No. 554,968.



1. A carbureter having a passage therethrough and a valve and valve seat within said passage, said valve being movable in one direction by the delivery of gas to the engine and said valve seat being movable away from said valve upon the passage of gas in case of back fire.

2. A carbureter having a gas nozzle, a spray nozzle extending longitudinally thereof, a needle valve controlling said spray nozzle, a valve stem for said needle valve and extending lengthwise of said passage, a valve plate carried by said valve stem and substantially closing said passage, and a valve seat adjacent said first-mentioned valve and movable in respect thereto upon the return flow of gas through the carbureter.

3. A carbureter having a gas nozzle, a spray nozzle extending longitudinally thereof, a needle valve controlling said spray nozzle, a valve stem for said needle valve and extending lengthwise of said passage, a valve plate carried by said valve stem adjacent said first-mentioned valve and movable in respect thereto upon the return flow of gas through the carbureter, and a valve-controlled emergency gas outlet from said carbureter.

4. A carbureter having a substantially cylindrical casing section, a spray nozzle extending longitudinally thereof, a sleeve within said section and having a valve seat, a needle valve controlling said spray nozzle and having a valve stem extending lengthwise of the passage, a disk carried by said valve stem and disposed adjacent said seat, a spring for moving said sleeve longitudinally to bring the valve seat toward the valve, and manually-controlled means for moving said sleeve against the action of the spring.

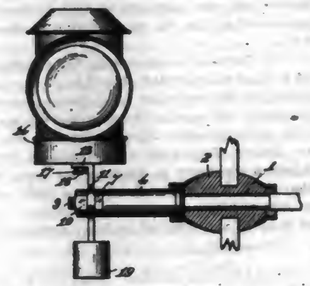
5. A carbureter having a cylindrical casing section, a sleeve longitudinally movable therein and having a valve seat, an air nozzle within the casing section and extending longitudinally thereof, a spring intermediate said nozzle and said sleeve and tending to move said sleeve in one direction, and a valve supported adjacent said seat but independent thereof.

[Claims 6 to 14 not printed in the Gazette.]

974,034. VEHICLE-LANTERN. FRED EUSTACE DAVIS, Bessemer, Ala. Filed Feb. 26, 1910. Serial No. 546,120.

1. An attachment for vehicles comprising a member adapted to be threaded upon the end of an axle of a vehicle to extend in alinement with said axle and means for securing a lamp on said member, substantially as described.

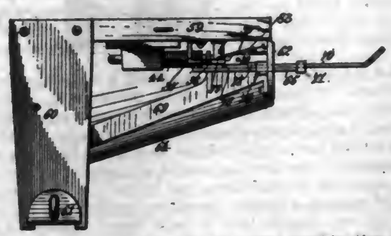
2. An attachment for vehicles comprising a member adapted to be threaded upon the end of the axle and means for detachably and rotatably mounting a lamp thereon, substantially as described.



3. An attachment for vehicles comprising a member adapted to be threaded upon the end of the axle, an arm pivotally mounted on said member, a lamp attached to one end of said arm and a counterweight on the other end of said arm, substantially as described.

4. An attachment for vehicles comprising a tubular member internally threaded and adapted to be secured upon the end of an axle, a bearing member threaded in the outer end of said tubular member, an arm pivotally mounted on said bearing member, means for detachably and rotatably securing a lamp to one end of said arm and a counterweight on the opposite end of said arm, substantially as described.

974,035. COIN-CONTROLLED MECHANISM. GEORGE HOWLETT DAVIS, New York, N. Y. Filed Nov. 22, 1909. Serial No. 37,334.



1. In a coin operated mechanism, the combination with a lever provided with means for supporting one edge of a coin, of a manually operated slide arranged to push a coin into said supporting means, and means for temporarily supporting the opposite edge of the coin, the arrangement being such that when the slide is moved in the proper direction the coin is moved into engagement with the lever and actuates the latter.

2. In a coin-operated mechanism, the combination with a lever, of a fixed support for one edge of the coin, a movable support for the opposite edge of the coin carried by the lever, and a manually operated slide to deliver a coin onto said supports, said slide when moved in the proper direction operating to force the coin against the lever and actuate the latter.

3. In a coin-operated mechanism, the combination with a lever, of a fixed support for one edge of the coin, a movable support for the opposite edge of the coin carried by the lever, and a manually operated slide provided with means for delivering a coin onto said supports, said slide when moved in the proper direction operating to force the coin against the lever and actuate the same, the distance between the supports being such that when the coin has actuated the lever the said coin will have been moved from off the fixed support and will drop by gravity.

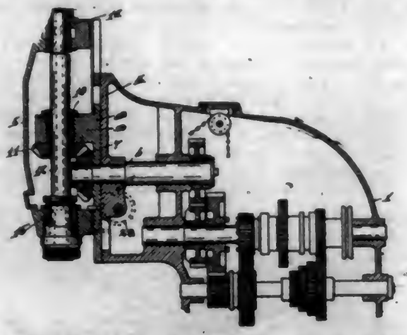
4. In a coin-operated mechanism, the combination with a lever, of a fixed support for one edge of the coin, a movable support for the opposite edge of the coin carried by the lever, a manually operated slide provided with means

for delivering a coin onto said supports, said slide when moved in the proper direction operating to force the coin against the lever and actuate the latter, and means for returning the lever to its normal position, the distance between the fixed and movable supports being such that if a coin of inferior size be delivered to said supports said coin will be unable to bridge the same and will therefore drop by gravity.

5. In a coin-operated mechanism, the combination with a lever, of a fixed support for one edge of the coin, a movable support for the opposite edge thereof carried by the lever, a manually operated slide provided with a receptacle for the coin and operating when moved in the proper direction to deliver said coin onto the two supports and force it against the lever to actuate the lever, and means arranged to prevent the opertion of the slide when a coin of inferior size is inserted in the receptacle.

[Claims 6 to 15 not printed in the Gazette.]

974,036. MILLING-MACHINE. ADOLPH L. DE LEEUW, Hamilton, Ohio, assignor to The Cincinnati Milling Machine Company, Cincinnati, Ohio, a Corporation. Filed Sept. 11, 1908. Serial No. 452,684.



In a machine of the class described, a vertical column, a horizontal driving shaft therein horizontally projected through the column, a plate centered on the horizontal driving shaft and angularly adjustable relative thereto on the vertical face of the column, said plate having a bearing sleeve for the driving gear of the spindle, a head slidably mounted on said plate and in vertical ways formed in said column, a spindle journaled in said head, a driving gear on the spindle held in said sleeve bearing of said plate and splined to the spindle, a gear on the projecting end of the driving shaft engaging said spindle gear, and means for vertically feeding said head on said plate, substantially as described.

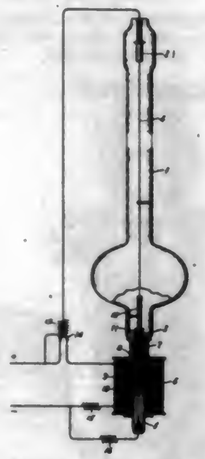
974,037. MERCURY-VAPOR LAMP. LEONARD E. DEMPSTER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 27, 1905. Serial No. 252,177.

1. In a vapor electric apparatus, an evacuated chamber, a mercury electrode therein, a stationary high resistance filament in said chamber, a conducting body electrically connected to said filament but insulated from said electrode, and means for automatically establishing electrical connection between said conducting body and said electrode.

2. In a vapor electric apparatus, an evacuated chamber, a mercury electrode therein, a filament in said chamber, a body of mercury electrically connected to said filament but separated from said electrode by an insulator, and automatic means for moving said body of mercury into electrical connection with said mercury electrode.

3. In a vapor electric apparatus, a mercury electrode, a plunger floating in said mercury electrode, a body of conducting liquid carried by said plunger and insulated from said mercury electrode, a filament dipping in said conducting liquid, and means for moving said plunger.

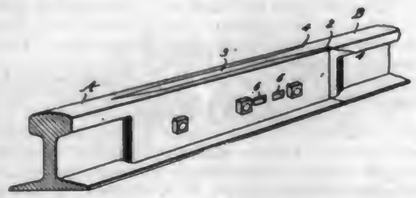
4. The combination of an evacuated envelop, electrodes therein, means within said envelop for establishing a direct connection between said electrodes through a solid conductor, and means for severing said connection between surfaces of vaporizable material.



5. In a vapor electric apparatus, a mercury electrode, a plunger of insulating material floating in said mercury electrode, a body of conducting material carried by said plunger, and automatic means for producing a momentary contact between said mercury electrode and said body of conducting material.

[Claims 6 to 22 not printed in the Gazette.]

974,038. RAIL-JOINT. LUTHER DIXON and GREENLEAF DIXON, Comanche, Tex. Filed Apr. 26, 1910. Serial No. 557,734.

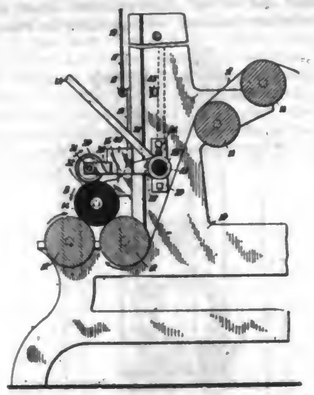


A rail joint comprising a rail end provided with a recess, the extremities of said rail having vertical inwardly tapered extremities, a rail provided with a projection fitting into said recess and having vertical inwardly inclined recesses adapted to engage said tapered extremities of the first named rail, the projection or tongue of the second named rail being provided on one side with a plurality of recesses, and one side of the first named recess provided with a plurality of openings adapted to register with said recesses for the purposes herein set forth.

974,039. SLITTING ATTACHMENT FOR PAPER-MACHINES. WILLIAM JAMES DOLAN, Rhinelander, Wis., assignor of one-fifth to Rhinelander Iron Co. and one-fifth to Bennett Larsen, Rhinelander, Wis. Filed Sept. 14, 1909. Serial No. 517,592.

1. A slitting attachment for paper machines, comprising a shaft, arms mounted to swing loosely upon said shaft and having cutters, and separate stops carried by said shaft for limiting the movements of said arms, whereby said arms can be swung independently of one another, and whereby said shaft is operable to swing said arms simultaneously.

2. A slitting attachment for paper machines, comprising a shaft having a lever, whereby said shaft can be rocked, a counterweight for said shaft, said shaft being slidably mounted, and arms mounted to swing loosely upon said shaft, and having cutters, said shaft having stops for limiting the movements of said arms in one direction.



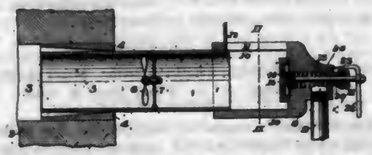
3. The combination, with a paper machine of a rock-shaft, an arm mounted to swing upward freely upon said shaft, means for holding said arm against movement longitudinally of said shaft, and a stop for limiting the downward swinging movement of said arm, whereby said arm can be thrown out of operation by rocking said shaft.

4. The combination, with a paper machine having sliding bearings, of a rock shaft journaled in said bearings, a counterweight operatively connected with said shaft, a lever carried by said shaft, whereby it can be manually rocked, arms mounted to swing upon said shaft, and collars secured upon said shaft and adjustable longitudinally thereof, said collars serving to limit the movements of said arms along said shafts, and having stops, said arms having parts adapted to engage said stops, whereby said stops serve to limit the swinging movements of said arms.

5. The combination with a paper machine, of a shaft journaled thereon, an arm mounted to swing upon said shaft, adjustable collars carried by said shaft and positioned at opposite sides of said arms, one of said collars having a lug, said arm having a lug adapted to engage said above-mentioned lug to limit the movement of said arm, means for securing said arm in operation, and a cutter carried at the free end of said arm.

[Claims 6 and 7 not printed in the Gazette.]

974,040. GAS-BURNER. WILLIAM DONLEY and CLYDE PAUL, Washington, Pa.; said Paul assignor to said Donley. Filed June 4, 1910. Serial No. 565,082.

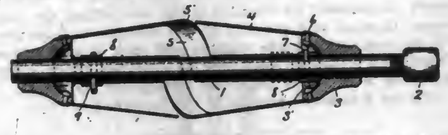


1. A gas burner, comprising a head having a gas admission chamber therein, and a valve controlling the discharge from said chamber, said valve having two relatively movable members, each of which has a plurality of gas discharge perforations therethrough and disposed around the center of the burner, said perforations being arranged in series of different sizes, and means for moving one of said members relatively to the other to bring different series of perforations into register and thus provide for different effective areas of said perforations, substantially as described.

2. A gas burner comprising a head having a gas admission chamber therein, and a valve controlling the discharge from said chamber, said valve having two relatively movable members, each of which has a plurality of gas discharge perforations therethrough and disposed around the center of the burner, said perforations being arranged in series of different sizes, and means for moving one of said members relatively to the other to bring different series of perforations into register and thus provide for different effective areas of said perforations, together with means whereby a controllable amount of air may be mixed with the gas subsequent to its discharge from the said perforations, substantially as described.

3. A gas burner, comprising a head having a gas admission chamber therein, and a valve controlling the discharge from said chamber, said valve having two relatively movable members, each of which has therein series of perforations of different sizes, said perforations being disposed around the center of the burner, a mixing space forward of said valve and into which the valve discharges, said space having lateral air inlet openings, and a member movable longitudinally toward and away from the gas discharge to vary the area of said openings or to close them entirely; substantially as described.

974,041. TUBE-CLEANER. PARMER DORSEY, Hutchinson, Kans., assignor to The Standard Supply and Manufacturing Company, Hutchinson, Kans., a Corporation of Kansas. Filed Jan. 24, 1910. Serial No. 539,770.

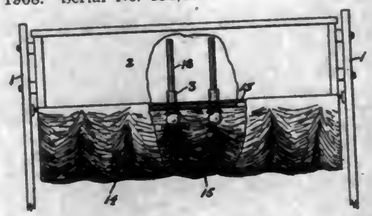


1. In a tube cleaner, a shaft, a pair of heads movable on the shaft, separate blades connecting said heads, said blades being bowed longitudinally and having offset central portions provided with cutting edges, and means on said shaft for engaging said heads.

2. In a tube cleaner, a shaft, a pair of heads movable on the shaft, separate blades connecting said heads, each of said blades being of spring metal and bowed toward its center, the central portions of said blades being extended diagonally to the end portions and provided with cutting edges.

3. In a tube cleaner, a shaft, a pair of heads movable on the shaft, separate resilient blades each having its ends fixed on opposite heads in offset relation to each other and having a diagonally extending section connecting the end parts, the blades being bowed and the edges of the diagonally extending sections being sharpened, substantially as set forth.

974,042. APPARATUS FOR APPLYING SOLUTIONS TO ANIMALS. FRANK R. DRESBACK, Kansas City, Mo., and EDWIN M. RECKARDS, Ozawkie, Kans. Filed Sept. 24, 1908. Serial No. 454,606.



1. An apparatus of the class described, comprising a tank having outlets, valves adapted to close said outlets and provided with means for yieldingly urging the same toward open position, a flexible, trough-shaped apron located beneath said outlets, and a weight member having connection with all of said valves, and adapted to hold said valves in closed position, said weight member being positioned to lift with said apron, for the purpose set forth.

2. An apparatus of the class described comprising a tank, having discharge ports in its bottom, valves adapted

for closing said ports, an apron suspended beneath said tank, means located in said apron whereby said valves are normally retained in their closing position, and means for opening said valves when they are relieved from the tension of the closing means.

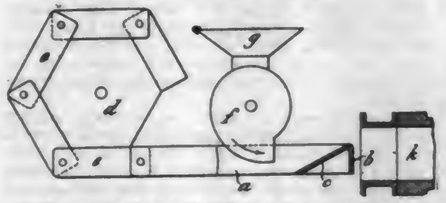
3. An apparatus of the class described comprising a tank having outlet ports, valves adapted to close said ports but provided with means for yieldingly tensioning the same away from said ports, an apron located beneath said ports, and a weight member connected with each of said valves and adapted for retaining the same in closed position, said weight member being adapted to be lifted upon the lifting of said apron, for the purpose set forth.

4. An apparatus of the class described comprising an apron, a tank having ports adapted for discharge into said apron, valves adapted for closing said ports, a flexible weight member extending longitudinally through the lower portion of said apron, means connecting said weight member with each of said valves whereby said valves are yieldingly retained in their closed position, and means whereby said valves are rocked from their closed position when relieved of the tension of said weight member.

5. An apparatus of the class described comprising a flexible apron, a solution tank located above and having ports adapted for discharge into said apron at various points throughout its length, valves controlling the discharge through said ports, a weight member and connection between said weight member and each of said valves whereby an adjacent valve may be operated singly when the apron is raised at any point throughout its length.

[Claims 6 to 9 not printed in the Gazette.]

974,043. MACHINE FOR DISCHARGING AND CHARGING GAS-RETORTS OR COKE-OVENS. ARTHUR McDOUGALL DUCKHAM, Walden, Little Bookham, England. Filed Aug. 20, 1910. Serial No. 578,187.



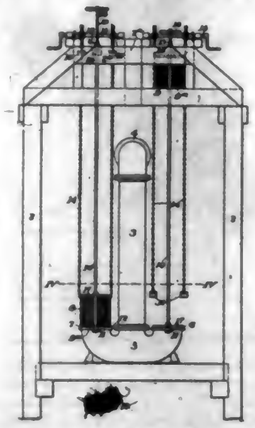
1. In combination with a device for projecting coal into a horizontal gas retort, a discharging device comprising a ram adapted to enter the retort and to allow the coal to be projected into the retort while within the retort, and a head to the said ram adapted to discharge coke from the retort while the ram is entering the retort and to allow coal to pass over it as the ram is withdrawn from the retort.

2. In combination with a device for projecting coal into a horizontal gas retort, plates adapted to enter the retort and to allow the coal to be projected into the retort and a head to the said plates adapted to discharge coke from the retort while the plates are entering the retort and to allow coal to pass over it as the plates are withdrawn from the retort.

3. In combination, a ram adapted to enter a horizontal retort, a framework, means carried by the said framework for pushing the said ram into and withdrawing the said ram from the retort, means carried by the said framework for projecting coal into the retort and adapted to retain permanently its charging position relatively to the means for operating the ram, and a head to the said ram adapted to discharge coke from the retort as it enters the retort and to allow coal to pass over it as it is withdrawn from the retort.

974,044. STRAINER. WILLIAM S. ELLIOTT, Pittsburg, Pa. Filed Feb. 10, 1910. Serial No. 543,059.

1. In strainer apparatus of the character described, a branched intake, and a strainer element arranged to seat over the inlet port of each branch of the intake, means for separately raising and lowering the strainer elements, and a valve member for each strainer element which in one position closes the inlet port in that branch of the intake and in the other position closes the upper end of the strainer element, substantially as described.



2. In strainer apparatus of the character described, a branched intake, and a strainer element arranged to seat over the inlet port of each branch of the intake, means for separately raising and lowering the strainer elements, and a valve member for each strainer element which in one position closes the inlet port in that branch of the intake and in the other position closes the upper end of the strainer element, said valve member being movable through the strainer element, and means for actuating said member, substantially as described.

3. In strainer apparatus of the character described, a suitable support adapted to be submerged in a body of water, an offtake pipe having a branched intake connection at its lower end, a plurality of strainer elements adapted to seat over the inlet port of one of the branches of the intake connection, means for separately raising and lowering the strainer elements mounted upon the upper portion of the support, guides for the strainer elements, and valve means arranged to alternately close each inlet port and the upper end of the corresponding strainer element, substantially as described.

4. In strainer apparatus of the character described, an intake having an inlet port, a valve seat around said port, a strainer element arranged to seat around and over the port, means for raising and lowering said element, and a valve member adapted to close the top of the strainer element in one position and to close the inlet port in another position, substantially as described.

974,045. ABDOMINAL SUPPORTER. MURRAY W. FRARIS, South Orange, N. J. Filed Dec. 8, 1909. Serial No. 532,031.

1. An abdominal supporter, comprising an abdominal pad, hip pieces united at the back and connected with the sides of the said pad, and crossing back straps terminating in shoulder loops and attached to the lower portions of the sides of the abdominal pad, the said back straps crossing at the back of the wearer and their shoulder loops engaging opposite shoulders, the said back straps extending obliquely, upwardly and rearwardly from the lower portions of the sides of the said abdominal pad and passing over the said hip pieces, the said straps exerting a rearward and upward pull on the lower portion of the abdominal pad from the opposite shoulders of the wearer.

2. An abdominal supporter, comprising an abdominal pad made in sections fastened together at the front, hip pieces laced to the sides of the said pad sections and fastened together at the back, and crossing back straps secured to the lower side portions of the sections of the pad and extending rearwardly and upwardly over the said hip pieces, the said back straps terminating in shoulder loops for engagement with the wearer's shoulders.

3. An abdominal supporter, comprising an abdominal pad made in sections fastened together at the front, hip pieces laced to the sides of the said pad sections and laced together at the back, the said hip pieces being extended downward beyond the sides of the pad sections, and crossing back straps secured to the lower side portions of the pad sections, adjacent to the lacing connection with the hip pieces, and extending rearwardly and upwardly over the said lacing connection and said hip pieces, the said back straps terminating in shoulder loops for engagement with the wearer's shoulders.



4. An abdominal supporter, comprising an abdominal pad made in sections fastened together at the front, hip pieces laced to the sides of the said pad and secured together at the back, and crossing back straps secured to the lower side portions of the pad and extending rearwardly and upwardly over the said hip pieces, the said back straps crossing each other at the back of the wearer and terminating in shoulder loops for engagement with the wearer's shoulders, and the said back straps being made in sections laced together.

5. An abdominal supporter consisting of front pad sections having fastening devices for securing them together at the front, the lower portion of the pad sections extending inward to properly fit the lower portion of the abdomen, hip pieces laced to the side edges of the pad sections and adapted to be secured together at the back of the wearer, the said hip pieces extending downward at the front below the lower ends of the sides of the pad sections, and back straps secured to the lower portion of the front pad sections at the sides thereof, and extending obliquely rearward and upward, the said straps crossing the lacing connections between the pad sections and the hip pieces and passing across the said hip pieces, the said back straps crossing the waist line of the wearer at the sides and crossing each other at the back of the wearer and terminating in shoulder loops.

974,046. METALLIC TIRE. ALBERT JOHN FORTESCUE, Arncliffe, near Sydney, New South Wales, Australia. Filed Aug. 31, 1909. Serial No. 515,474.



1. The combination with a wheel felly of a metal tire surrounding the same and having a peripherally elongated opening in an end thereof, and a securing bolt passed through the felly and having a head which conformably fits in the said opening and a shank which is not disposed in the opening, the head having an end portion at one side of the shank of greater length than the end portion at the opposite side of the shank, and means for connecting the other end of the tire and the felly.

2. The combination with a wheel felly of a metal tire surrounding the same and having a peripherally elongated opening in an end thereof, the opening having opposite walls thereof oppositely beveled in inwardly convergent relation, a securing bolt passed through the felly and having a head which is shaped to conformably fit in the opening and a shank which is not disposed in the opening, the head having an end portion at one side of the shank of greater length than the end portion at the opposite side of the shank and means for connecting the other end of the tire and the felly.

974,047. LIFTING-MAGNET. CLAYTON E. FREDERICKSON, San Francisco, Cal., assignor of twenty-five per cent. to Gordon S. Chamberlin and thirty-seven and one-half per cent. to Earl D. McCaddam, San Francisco, Cal. Filed June 11, 1910. Serial No. 566,368.



1. A lifting magnet that includes a core tube, a pair of coils wound to present a consequent pole intermediate the ends of the magnet, an outer tube and end closure rings to form a housing for said coils.

2. A lifting magnet that includes a core tube, a pair of coils, an outer tube and end closure rings to form a housing for said coils.

3. A lifting magnet that includes a core tube, a pair of coils wound to present a consequent pole intermediate the ends of the magnet, an outer tube, end closure rings to form a housing for said coils, and means for securing said rings to said tube to effect water-tight joints.

4. A lifting magnet that includes a core tube, a pair of coils, an outer tube, end closure rings to form a housing for said coils, and means for securing said rings to said tube to effect water-tight joints.

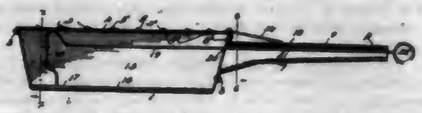
5. A lifting magnet that includes a core tube, a pair of coils wound to present a consequent pole intermediate the ends of the magnet, an outer tube, end closure rings to form a housing for said coils, said tubes and said heads being seamed together and secured to effect water-tight joints.

[Claims 6 to 12 not printed in the Gazette.]

974,048. CORN-POPPER. CHARLES GABEL, Hawkeye, Iowa. Filed Feb. 18, 1909. Serial No. 478,727.

In a corn popper, the combination of a receptacle having oppositely arranged grooves formed in its sides near the bottom, a lid for the receptacle, a hollow handle con-

nected to and in communication with the interior of the receptacle, a strip reciprocatingly mounted in said grooves, and a rod mounted in the hollow handle and engaging



said strip for operating the strip, said rod having its outer end provided with a handle, which is at all times exterior of the outer end of the hollow handle.

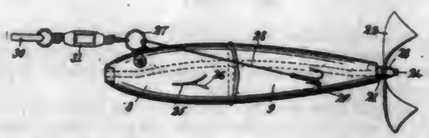
974,049. LIFTING-JACK. JOHN W. GADDIS, Princeton, Ind. Filed July 11, 1910. Serial No. 571,355.



1. A lifting jack comprising a substantially inverted U-shaped supporting member, a lifting lever fulcrumed to the cross bar of said supporting member composed of a heavy metal rod bent intermediately of its ends to form an article engaging member, and an operating handle having eyes for pivotal engagement with said cross bar.

2. A lifting jack comprising an inverted U-shaped member, a lifting lever composed of a rod bent intermediately of its ends and having the terminals thereof intertwined to form a handle with eyes formed intermediately of the ends of said lever and pivotally engaged with the cross bar of said supporting member, and an article engaging member formed at the bent end of said lever.

974,050. ARTIFICIAL BAIT. GEORGE H. GARRISON, Olympia, Wash. Filed Dec. 28, 1908. Serial No. 469,568.



1. The combination of a flexible body member, a revoluble shaft provided with a crank for bending said flexible body member, and a vane connected with said shaft and having generally the form of a fish's tail, said vane being bent spirally for the purpose of turning said shaft when dragged through the water.

2. The combination of a flexible body member, mechanism including a revoluble vane for periodically bending said flexible body member so as to simulate the motions of an animal in swimming, and fins mounted upon said body member, one of said fins being inclined at a different angle from another for the purpose of offsetting the tendency of said body member as a whole to turn with said vane.

974,051. SMOKING-PIPE. BENJAMIN THOMAS GENTHNER, Foxcroft, Me. Filed July 6, 1910. Serial No. 570,527.

1. A smoking pipe, comprising a bowl of plastic material, a socket formed of a wire coil having its convolutions embedded in the said plastic material, and a pipe stem engaging the opening in the said socket.

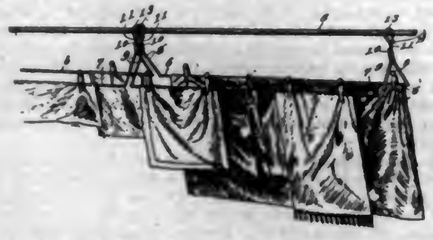
2. A smoking pipe, comprising a bowl of a plastic material, a socket formed of a wire coil having its convolutions embedded in the said plastic material, the opening in the coil extending from the outer face of the bowl to the inside thereof, and a pipe stem engaging the said socket opening.



3. A smoking pipe, comprising a bowl of a plastic material, a socket formed of a wire coil having its convolutions embedded in the said plastic material, the opening in the coil extending from the outer face of the bowl to the inside thereof, the ends of the coil terminating in arms completely embedded in the plastic material, and a pipe stem engaging the said socket opening.

4. A smoking pipe, comprising a bowl of a plastic material, a socket formed of a wire coil having its convolutions embedded in the said plastic material, the opening in the coil extending from the outer face of the bowl to the inside thereof, the ends of the coil terminating in arms extending in opposite directions from the coil and completely embedded in the plastic material, and a pipe stem engaging the said socket opening.

974,052. CLOTHES-DRYING FRAME. EUGENE RICHARD GREINER, Brantford, Ontario, Canada. Filed July 23, 1910. Serial No. 573,494.



A device of the class described, comprising a clothes supporting frame including parallel side wires terminating at their opposite ends in upwardly bent end wires of unequal lengths, the said end wires inclining toward each other and twisted one around the other for portions of their lengths, the longer of each of said end wires at a point beyond the twist having a straight portion constituting a shank alining with the longitudinal median line of the frame, the said shank terminating in a laterally curved hook, the end portion of the bill of which curves outwardly and bears on the said shank, the space bounded by the side and bill of said hook being sufficient to loosely receive a supporting wire and the side portion of a hook of an adjacent clothes supporting frame.

974,053. BANJO-BRIDGE. ELIAS L. GRIFFIS, Pearson, Ga. Filed May 13, 1910. Serial No. 561,107.

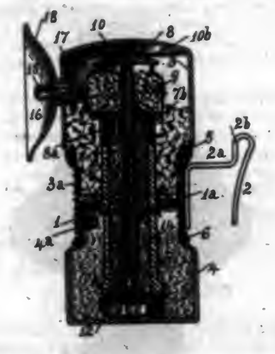


1. A bridge for stringed musical instruments comprising an elliptical supporting frame provided on its upper surface with a pair of oppositely disposed slots, and a cross bar of triangular cross section extending in the direction of the long axis of the frame and having its opposite ends removably secured in said slots.

2. A bridge for stringed musical instruments comprising a substantially annular supporting frame, a cross bar extending transverse the frame and having its opposite ends secured to the upper side of said frame.

3. A bridge for stringed musical instruments comprising a substantially annular supporting frame provided on its upper surface with oppositely disposed slots, a cross bar extending transverse the frame and having a portion of its surface extending above the plane of the upper side of the frame, and its opposite ends arranged in said slots.

974,054. ACETYLENE-LAMP. FRANK GUY, Springfield, Ill. Filed Jan. 20, 1910. Serial No. 539,010.



1. In a lamp, the combination of a tubular body provided with a diaphragm; a wick tube centrally mounted on the diaphragm of said body; a water reservoir detachably connected with said body; a carbid box detachably connected with said body and equipped with a burner; a perforated hood detachably connected with said wick tube and adapted to contain fibrous material contacting with the carbid in the carbid box; a perforated inner tube connected with said hood and extending through said wick tube into the water reservoir, a nut screwing onto said inner tube; a compressible pad between said nut and the end of said wick tube; fibrous material in said hood; and a wick in said wick tube contacting with the fibrous material in said hood and with said compressible pad.

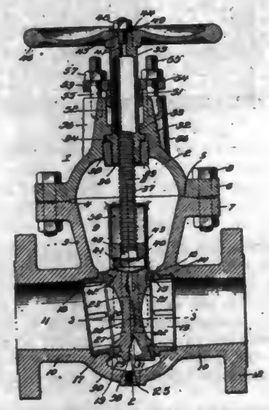
2. In an acetylene lamp; the combination of a wick tube provided with vents; an inner tube central to said wick tube; a hood on said wick tube; and fibrous material within said hood and said wick tube ineffective to prevent flow of gas at normal pressure through said wick tube and adapted to permit gas under excessive pressure to discharge through the vents in said wick tube.

3. The combination of a central body internally screw-threaded and having a diaphragm, a carbid box having an extension screwing into said body; a water reservoir having extension screwing into said body; a wick tube centrally mounted on the diaphragm of said body and extending into said carbid box and said water reservoir; a hood screwing onto said wick tube; a perforated central tube connected with said hood and extending downward through said wick tube; a compressible pad surrounding said inner tube; and means for compressing said compressible pad.

974,055. STRAIGHTWAY VALVE. JOHN L. HALYBURTON, Hampton, N. J. Filed May 4, 1909. Serial No. 493,780.

1. The combination with a valve casing having a runway, seats located in the runway and disposed at an angle to each other, a movable stem carried by said casing, a gate comprising disks of concavo-convex form operatively connected with said stem and having their convex backs frictionally engaged with each other, and rings carried by the disks and disposed at an angle to each other and at the sides of the axial line of the stem.

2. A valve comprising a casing having a runway, a movable stem, a perpendicular valve seat arranged in the runway, a seat opposing the first named seat and disposed diagonally to the axial line, and disks of concavo-convex form having their convex backs arranged in opposing relation and adapted for frictional engagement with each other, said disks being adapted to be engaged with the seats to close the runway and connected with the stem so that they can be moved simultaneously upon operation of the latter.



3. A valve comprising a casing having a runway therein, a movable stem, a perpendicular valve seat arranged in the runway, a seat arranged diametrically opposite the first named seat and disposed diagonally to the axial line of the stem, disks of concavo-convex form having their convex backs arranged in opposing relation and adapted for frictional engagement with each other, said disks being adapted to be engaged with the seats to close the runway and connected with the stem so that they can be moved simultaneously in movement of the latter, and downwardly extending lips upon the disks and disposed below the runway when the disks are in their closed positions.

4. A valve comprising a casing having a runway, a movable stem, a perpendicular valve seat arranged in the runway, a seat opposing the first named seat and disposed diagonally to the axial line of the stem, disks having frictionally engaged back portions and having portions formed to coöperate with the said seats, the said casing being formed to provide a chamber below the runway and at a point directly below the disks, and lips upon the disks and extending downwardly into the said chamber.

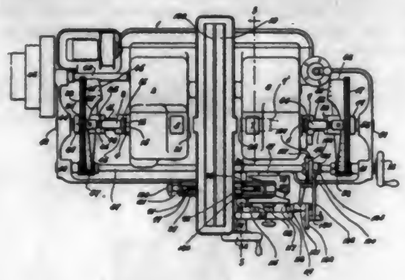
974,056. METAL-WORKING MACHINE. BENGT M. W. HANSON, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Feb. 24, 1908. Serial No. 417,558.

1. The combination of a reciprocatory carriage, a pair of rotary, endwise movable spindles at opposite sides of said carriage, a ratchet-wheel, a pawl for operating the ratchet-wheel, means for causing the pawl to operate the ratchet wheel at the ends of the strokes of the carriage, and means for transferring the effect of said ratchet-wheel to both spindles to advance the same.

2. The combination of a reciprocatory carriage, a pair of rotary, endwise movable spindles at opposite sides of said carriage, a pair of devices to impart an endwise thrust to said spindles to advance the same, a shaft, means for transferring the effect of said shaft to both said devices, a ratchet-wheel fastened to said shaft, a pawl, and means for causing said pawl to operate said ratchet-wheel at the ends of the carriage strokes.

3. The combination with a machine-frame, a carriage mounted thereon and tool-spindles journaled on opposite sides of said carriage, of means for reciprocating said car-

riage; cams for producing longitudinal movement of the tool-spindles; means in connection with the carriage reciprocating mechanism for intermittently advancing said cams; and means for varying the amount of the intermittent advance thereof.

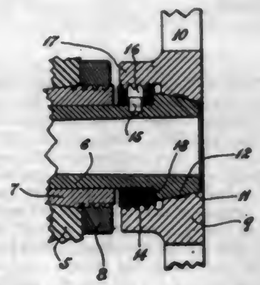


4. The combination of a carriage, a pair of rotary, endwise movable tool spindles mounted at opposite sides of said carriage, said carriage being reciprocatory in a direction transverse to the axes of movement of the spindles, mechanism for reciprocating said carriage, independently adjustable cams for varying the amount of movement of the spindles, and means actuated by the carriage reciprocating mechanism for turning said cams to feed the spindles.

5. The combination with a machine-frame, a carriage mounted thereon and tool-spindles journaled on opposite sides of said carriage, of power driven mechanism for reciprocating the carriage; means for manually operating the carriage reciprocating mechanism; mechanism in connection with the carriage reciprocating mechanism for causing the longitudinal movement of the tool-spindles; and means for manually operating a portion of said last mentioned mechanism to cause the longitudinal movement of the tool-spindles independently of the carriage reciprocating mechanism.

[Claims 6 to 16 not printed in the Gazette.]

974,057. FACE-PLATE-HOLDING MEANS. BENOT M. W. HANSON, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Oct. 4, 1909. Serial No. 520,778.



1. The combination of a spindle having a tapered portion, a work holding device having a tapered opening to adjustably receive said tapered portion, and means located at the rear of the front face of said work holding device for drawing the latter onto said tapered portion.

2. The combination of a spindle having a tapered portion, a work holding device having a tapered opening to adjustably receive said tapered portion, and threaded means located at the rear of the front face of said work holding device for drawing the latter onto said tapered portion.

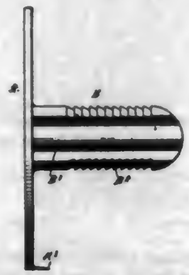
3. The combination of a spindle having a tapered portion, a work-holding device having a tapered opening to adjustably receive said tapered portion, and a collar loosely fitted on the spindle, non-rotative therewith and also immovable in the direction of the axis of the spindle, said collar having a threaded connection with said work-holding device and being adapted on the turning of said work-holding device to draw the latter onto said spindle.

974,058. SOCK. JAMES R. HAYDEN, Latouche, Alaska. Filed Mar. 25, 1910. Serial No. 551,499.



The herein described knitted sock comprising a leg portion and a foot portion knitted integrally together along their center lines and along their outer portions, said outer portions being shaped to constitute oppositely disposed heels, the leg portions between the center and outer portions having the longitudinal rows of stitches outwardly curved to form flaps, said flaps being united to the foot portions by seams at right angles to the longitudinal rows of stitches in the flaps and parallel to the longitudinal rows of stitches in the heel portions of the foot which come opposite the ends of the said flaps.

974,059. EMBLEM-FASTENER. DAVISON S. HAYNES, Evansville, Ind. Filed June 19, 1909. Serial No. 503,124.



1. A fastener comprising a head having a central shank provided with a plurality of longitudinal series of spaced notches, a retaining device slidable on the shank, said device comprising a plurality of members each of said members having an opening for receiving the shank, and having cut out portions adapted to register with the series

of notches when said holder is in certain positions, the members being rotatable with respect to each other whereby to engage the edges of the opening with the notches to hold the retaining device in place.

2. A fastener, comprising a head having an integral shank provided with lengthwise-extending grooves and transverse notches, and a retaining device mounted to slide on the said shank and having a turnable locking member and a non-turnable member, the latter being in the form of a plate having a central aperture for engagement with the shank, the wall of the aperture having projections extending into the shank grooves to hold the said plate against turning on the shank, the said locking member being in the form of a cup mounted to turn on the said plate and having a central aperture, the wall of which is adapted to engage the said notches on turning the cup, and a spring interposed between the said cup and plate and having projections, the plate having spaced recesses for engagement by the projections on the said spring.

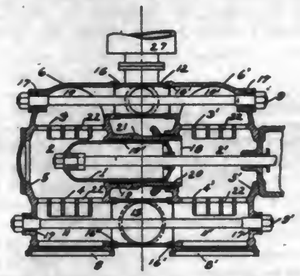
3. A fastener, comprising a head having a shank grooved lengthwise and provided with transverse notches, and a retaining device for slidable engagement with the said shank and having a locking member capable of being turned on the shank to engage and disengage the said notches, and a non-turnable member held against turning on the shank, a spring interposed between the said members, and a spring fixed on the inner face of the said non-turnable member for engaging the article upon which the fastener is to be secured.

974,060. HEATER FOR STOCK-WATERING TANKS. OLIVER HEBERT, Oswego, Ill. Filed Nov. 22, 1909. Serial No. 529,268.

1. A tank heater comprising a casing, a perforated cover for the casing, a heating lamp mounted in the bottom of the casing, air conducting tubes communicating with the bottom of the casing, a supporting frame for the lamp comprising a vertical bail shaped member and a heat deflecting and radiating device adjustably mounted on the bail shaped member of the lamp supporting frame above the lamp.

2. A tank heater comprising a casing, a perforated cover for the casing, a heating lamp mounted in the bottom of the casing, air conducting tubes communicating with the bottom of the casing, a supporting frame for the lamp comprising a vertical bail shaped member and a heat deflecting and radiating device adjustably mounted on the bail shaped member of the lamp supporting frame above the lamp, said heat deflecting and radiating member comprising an approximately disk shaped top portion formed with peripheral notches and of less diameter than the interior diameter of the casing and a depending cone-shaped portion.

974,061. PUMP. CHARLES L. HEISLER, St. Marys, Ohio. Filed Mar. 4, 1907. Serial No. 360,590.



1. The combination in a pump, of a casing having end sections containing pulsating chambers, valve decks in said sections, a cylinder extending between said chambers, a plunger reciprocating in said cylinder, intermediate sections located between the end sections and above and below said cylinder, said intermediate sections being provided with inlet and outlet necks, and tie bolts extending through the intermediate and end sections and above and below said valve decks for clamping said sections and cylinder together.

2. The combination in a pump, of a casing having end sections containing pulsating chambers, valve decks in said sections, a cylinder having a part connected to one of said end sections and coöperating with the other end section, a plunger reciprocating in said cylinder, intermediate sections located between the end sections and above and below said cylinder, said intermediate sections being provided with inlet and outlet necks, and tie bolts extending through the intermediate and end sections and above and below said valve decks for clamping said sections and cylinder together.

3. The combination in a pump, of a casing having end sections containing pulsating chambers, valve decks in said sections, a cylinder having a part connected to one of said end sections and adjustably connected with the other end section, a plunger reciprocating in said cylinder, intermediate sections located between the end sections and above and below said cylinder, said intermediate sections being provided with inlet and outlet necks, and tie bolts extending through the intermediate and end sections and above and below said valve decks for clamping said sections and cylinder together.

4. The combination in a pump, of a casing having end sections containing pulsating chambers, valve decks in said sections, a cylinder having a part cast integral with one of said end sections and coöperating with the other section, a plunger reciprocating in said cylinder, intermediate sections located between the end sections and above and below said cylinder, said intermediate sections being provided with inlet and outlet necks, and tie bolts extending through the intermediate and end sections and above and below said valve decks for clamping said sections and cylinder together.

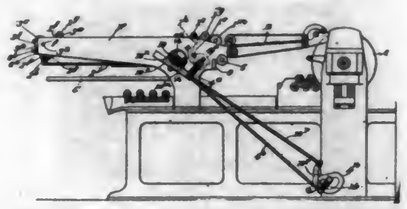
5. The combination in a pump, of a casing having end sections containing pulsating chambers, valves in said sections, a cylinder having a part cast integral with one of the sections and coöperating with a part on the other section, a plunger working in the cylinder, separate intermediate sections provided with inlet and outlet necks respectively, and tie bolts for clamping all of said parts together.

[Claims 6 to 12 not printed in the Gazette.]

974,062. SHEET-DELIVERY MECHANISM FOR PRINTING-PRESSES. CARL HENDERSON, Oak Park, Ill., assignor to Miehle Printing Press and Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 18, 1910. Serial No. 550,230.

1. In sheet delivery mechanism the combination of side frames, parallel transverse bars supported on said frames

and provided with racks, a pair of laterally adjustable sheet carrier supports mounted on said bars, pinions on said supports meshing with the racks, means for operating the pinions to adjust the supports on the bars, sheet carriers on each support, and means for operating the carriers.



2. In sheet delivery mechanism for printing presses, a pair of laterally adjustable castings, transverse bars supporting said castings, pinions rotatably mounted on the castings and engaging teeth on said bars to adjust the castings laterally, upper and lower endless sheet carriers mounted on said castings, and means for driving said carriers in any operative positions of the castings.

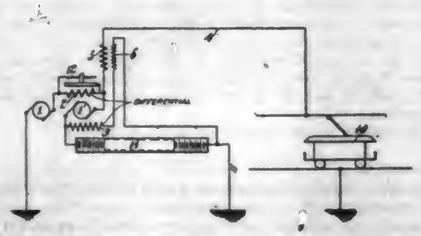
3. In sheet delivery mechanism, the combination of opposite adjustable supports, transverse toothed bars, pinions rotatably mounted on the supports and engaging teeth on said bars to adjust the supports laterally, a pair of parallel sheet carriers mounted on each support and adapted to engage the margins of a sheet, means for causing the carriers to release the sheet, means for retracting the lower carriers from beneath the edges of the sheet after it is released, and means for driving the carriers.

4. In sheet delivery mechanism for printing presses, the combination of opposite adjustable castings, transverse bars supporting said castings, pinions rotatably mounted on the castings and engaging teeth on said bars to adjust the castings laterally, a pair of parallel sheet carriers mounted on each casting and adapted to engage the margins of a sheet, means for raising the upper carriers to release the sheet, means for retracting the lower carriers from beneath the edges of the sheet after it is released, and means for driving the carriers.

5. In sheet delivery mechanism for printing presses, the combination of a laterally adjustable casting, a vertically movable bar on said casting, a sheet carrier mounted on said bar, and a parallel sheet carrier mounted on the casting beneath the first carrier and adapted to co-act therewith.

[Claims 6 to 28 not printed in the Gazette.]

974,063. SYSTEM OF ELECTRICAL DISTRIBUTION. ALBERT S. HUBBARD, Greenwich, Conn., assignor to Gould Storage Battery Company, a Corporation of New York. Original application filed Feb. 20, 1902, Serial No. 94,914. Divided and this application filed July 22, 1903. Serial No. 166,582.



1. The combination of a distribution circuit, a storage battery in operative relation thereto, means for regulating the battery action responsive to electrical fluctuations on the distribution circuit, and an induction device responsive to electrical fluctuations on the distribution circuit and arranged to cause similar fluctuations in the battery.

2. A system of electrical distribution, comprising a distribution circuit therefor, a storage battery in operative relation thereto, a transformer connected to have its primary responsive to electrical fluctuations on the distribution circuit, and means whereby the transformer may cause the charge or discharge of the battery responsive to said fluctuations.

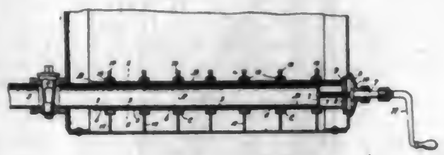
3. A system of electrical distribution comprising a distribution circuit and its source, a storage battery connected therewith, a booster in the battery connection, means for causing the booster to respond to electrical fluctuations on the distribution circuit, and an induction means responsive to load fluctuations on the distribution circuit and connected with the booster field to cause the booster to respond to said fluctuations.

4. A system of electrical distribution comprising a distribution circuit and its source, a storage battery connected therewith, a booster in the battery connection, means for causing the booster to respond to electrical fluctuations on the distribution circuit, and a transformer connected to have its primary responsive to electrical fluctuations on the distribution circuit, for causing the charge or discharge of the battery responsive to said fluctuations.

5. A system of electrical distribution, comprising a generator, a distribution circuit, a storage battery connected therewith, a booster in the battery connection, field windings for said booster, one of said windings in series with the generator, and an induction device responsive to load fluctuations in the distribution circuit, and connected with the other of said booster field windings.

[Claims 6 to 27 not printed in the Gazette.]

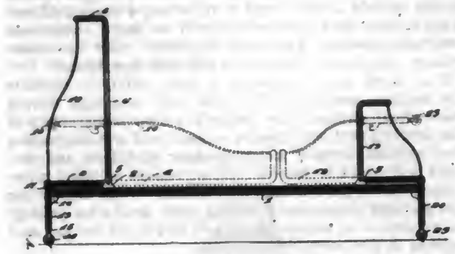
974,064. SEDIMENT-REMOVER FOR STEAM-BOILERS. MIKE HUFFMAN, Gibson City, Ill., assignor of one-half to Leslie A. Cranston, Gibson City, Ill. Filed July 7, 1910. Serial No. 570,760.



1. The combination with a boiler, of a sediment remover comprising a fixed inner pipe having a cut-off valve located exterior to the boiler, and an outer pipe which is slidable thereon lengthwise, the same being arranged near the bottom of the boiler and both provided in the under side with openings which are adapted to register, the openings of one of the pipes being at progressively greater distances from each other, and those of the other pipe being arranged equidistantly, whereby the openings register successively when the outer pipe is slided on the inner, and a screw-shaft attached to the closed head of the inner pipe and arranged in a threaded opening in the head of the outer pipe, for adjusting the latter in the manner described.

2. The combination with a boiler and a fixed pipe and an outer pipe slidable lengthwise thereon and both provided with openings adapted to register successively, of a series of scrapers comprising portions adapted to work on the bottom of the boiler and having hubs that are adjustable along the outer pipe, and clamp-screws for securing the scrapers in any required adjustment, substantially as described.

974,065. WALL-BED. HARRY A. JAVINS, Burlingame, Cal., assignor to Javins Manufacturing Company, a Corporation of Arizona. Filed Dec. 28, 1909. Serial No. 535,291.



1. A bed comprising a main frame, foldable foot and end frames pivotally connected thereto, pendent slotted tubs carried by said head and foot frames, a caster shaft slidable in each tube and provided with an outstanding lug that projects through the slotted portion of said tubes and normally engages with said main frame, and means carried by said main frame adapted for pivotal engagement with wall pivots.

2. A bed comprising a main frame, a foot frame and a head frame pivotally connected thereto, pendent tubes projecting from said foot and head frames, said tubes being longitudinally slotted, and a caster shaft slidably mounted in each tube and having an outstanding lug that projects through the slotted portion of said tube and normally engages with said main frame.

3. A bed comprising a main frame provided with pivot ears adjacent each end, a head frame and a foot frame pivotally mounted in the respective end ears of said main frame, said head and foot frames provided with an outwardly projected lower portion that extends beyond the end of said main frame, tubes projecting from the outer extended portion of said frames, and a caster shaft slidable in each tube and provided with means for normally engaging the said main frame.

4. A bed comprising a main frame, a foot frame and a head frame pivotally connected to the end portions thereof, pendent tubes projecting from said frames, said tubes being longitudinally slotted, a caster shaft slidable in each tube and provided with a laterally projecting lug having an end lip that normally engages said main frame, and a caster carried by each shaft.

5. A bed comprising a main frame, foldable head and foot frames pivotally connected thereto, supporting means projecting from said foot and head frames and normally engaging said main frame, and means carried by said main frame adapted for pivotal engagement with wall pivots to permit said bed to be rocked to an upright position.

[Claim 6 not printed in the Gazette.]

974,066. CUE-CHALKER. ALFRED L. JAY, St. Joseph, Mo. Filed May 7, 1910. Serial No. 560,073.



1. A device of the character described comprising a yieldingly held chalk holder adapted for longitudinal movement, means for rotating said holder during such movement when pressure is applied thereon and for preventing its rotation when the pressure is released and the holder returns to its normal position.

2. A device of the character described comprising a yieldingly held chalk holder, a longitudinally movable shaft adapted to be moved by pressure upon the chalk, and means engaging with said shaft to rotate said chalk while pressure is applied thereto and to prevent such rotation when the pressure is released and the shaft is returned to its normal position.

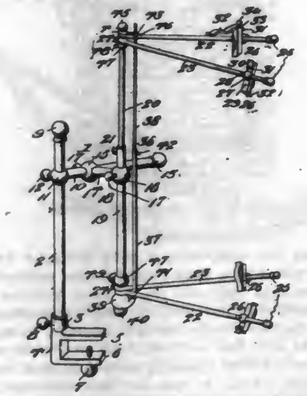
3. A device of the character described comprising a casing, a shaft mounted in said casing for longitudinal movement, a chalk holding head fixed upon one end of the shaft, means yieldingly holding said shaft against longitudinal movement, and means arranged within the casing engaging with said shaft to rotate the shaft in one direction of its longitudinal movement and to prevent its rotation in the other direction of such movement.

4. A device of the character described comprising a casing having one of its ends closed, bracing plates centrally arranged in the casing, a shaft longitudinally movable through said plates, a chalk holding head fixed upon one end of the shaft, a plurality of springs arranged in the casing yieldingly holding said shaft and head against movement, and means arranged between said bracing plates adapted to rotate said shaft as it is moved longitudinally in one direction and to prevent such rotation during its reverse longitudinal movement.

5. A device of the character described comprising a casing having a closed and an open end, spaced bracing plates arranged within the casing, stop bars secured in the open end of the casing, longitudinally extending rods secured to said bars and the closed end of the casing, a shaft supported within said casing upon said rods and bracing plates for longitudinal movement, a chalk holding head fixed upon one end of the shaft, and means arranged between said plates to rotate said shaft in one direction of its longitudinal movement and prevent its rotation in the reverse direction of such movement.

[Claims 6 to 10 not printed in the Gazette.]

974,067. BOOK AND NEWSPAPER HOLDER. MICHAEL J. JOHNSON, Portland, Oreg. Filed Nov. 17, 1909. Serial No. 528,529.



1. In a holder of the class described, the combination with slidable and rotatable securing arms, of a holding member comprising a pair of telescopic elements, means for retaining the telescopic elements in parallel relation with each other, swinging arms secured to the elements, and slidable catch members upon the swinging arms.

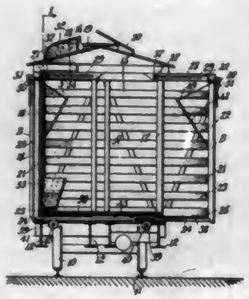
2. In combination with slidable and rotatable securing arms, of a holding member comprising a pair of telescopic elements, swinging arms secured to the elements, slidable catch members upon the arms, and a hinged telescopic member connected with the first telescopic members and adapted to be sustained in parallel relation thereto.

3. In a holder of the class described, the combination with slidable and rotatable securing arms, of a holding

member connected with the arms, said holding member comprising a pair of telescopic members, swinging arms loosely mounted upon the members, means for sustaining the arms upon the members, sliding clips upon the arms, means for sustaining the clips in adjusted position upon the arms, and a pivoted back supporting element comprising a pair of telescopic members normally sustained in parallel relation with the main telescopic members.

4. In combination with a support, of a holding device for newspapers or the like, a standard, means for connecting the standard with the support, a holding device slidably and rotatably connected with the standard, means for sustaining the holding device in an adjusted position in relation to the standard, said holding device comprising a pair of pipe members one slidable within the other, a threaded member upon the larger pipe adapted to contact the smaller pipe to regulate the said smaller pipe in its adjusted position, a slidable collar mounted upon both the smaller and the lower pipes, a threaded member for each of these collars, a pair of swinging arms upon each of the pipes, securing elements carried by the arms for regulating the swing of the said arms, slidable and rotatable spring catch members for each of the arms, retaining elements for these spring catch members, a back holding device pivotally connected with the lower pipe, said device comprising a pair of pipe sections, one slidably mounted within the other, a regulating screw for the pipe members, the main pipe member being provided above the swinging arms with a collar, a bail pivotally connected with the collar and adapted to be swung to engage the upper pipe member of the back holding device, and removable headed elements for the extremities of the main telescopic pipe members.

974,068. STOCK-CAR. JEREMIAH CONKLIN JONES, Woodson, Tex., assignor of one-fourth to Winn Broyles, Woodson, Tex. Filed Feb. 1, 1910. Serial No. 541,364.



1. A stock car, comprising a body having a fixed floor, fixed end walls, and a fixed roof, columns supporting said roof intermediate said end walls, floor sections slidably mounted under said floor and movable transversely thereof, and having slots receiving said columns, to permit the movement of said floor sections, rack bars rigid with said floor sections, pinions engaging said rack bars, means for operating said pinions to slide said floor sections, and side walls rigid with said floor sections.

2. A stock car, comprising a body having a fixed floor, fixed end walls, and a fixed roof, guide rods extending longitudinally of said body, floor sections slidably mounted under said floor, side walls and end walls rigid with said floor sections, said side walls having slotted guide members movably receiving said guide rods, and means for moving said floor sections transversely of said body.

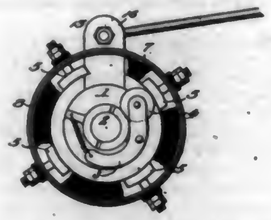
3. A stock car, comprising a body having a fixed floor, fixed end walls, and a fixed roof, guide rods extending longitudinally of said body, floor sections slidably mounted under said floor, side walls and end wall sections rigid with said floor sections, said side walls having slotted guide members movably receiving said guide rods, rack bars rigid with said floor sections, shafts arranged under said floor and having pinions in engagement with said rack bars, and means for manually operating said shafts.

4. A stock car, comprising a body, and laterally movable side sections associated with said body, said body having longitudinal girders, and floor beams arranged transversely of said girders, said body having a floor, said sections having floor sections movably mounted under said floor, and provided with slots to permit their movement without interference on the part of said floor beams.

5. A stock car, comprising a body, laterally movable side sections associated with said body, said body having longitudinal girders, floor beams arranged transversely of said girders, said body having a floor, said sections having floor sections movably mounted under said floor, and provided with slots to permit their movement without interference on the part of said floor beams, means for moving said sections transversely of said body, means for guiding the movement of said sections, and means for locking said sections in predetermined positions.

[Claims 6 and 7 not printed in the Gazette.]

974,069. TIMER FOR AUTOMOBILES. WILLIAM S. JONES, Ossining, N. Y. Filed Feb. 25, 1910. Serial No. 545,968.

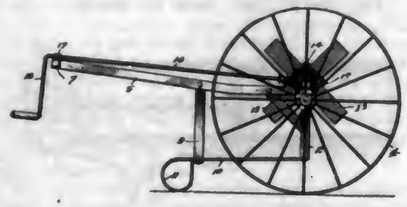


1. An automobile timer timing ring including a main section formed with a half bearing and with an opening extending from the bearing, and an adjusting section fitting in said opening and carrying a half bearing to cooperate with the half bearing of the main section.

2. An automobile timer timing ring including a main section formed with a half bearing and with an opening extending from the bearing, an adjusting section fitting in said opening and carrying a half bearing to coöperate with the half bearing of the main section, and a control rod engaging ear carried by the adjusting section.

3. An automobile timer timing ring including a main section formed with a half bearing and with an opening extending from the bearing, an adjusting section fitting in said opening and carrying a half bearing to coöperate with the half bearing of the main section, and means for removably connecting said main and adjusting sections.

974,070. REEL FOR BARB-WIRE. WILLIAM P. KASSULKE, New Germany, Minn. Filed Aug. 17, 1909. Serial No. 513,237.



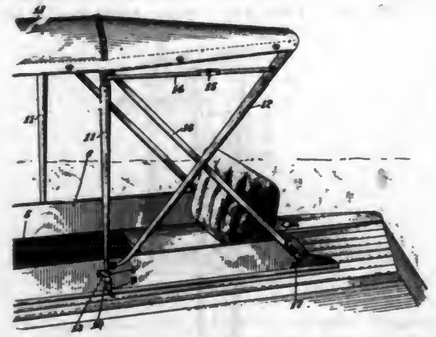
In a reel of the class described, a drop frame embodying a bottom bar and upstanding spaced side bars, wheel-supporting spindles carried by the said side bars and located near the upper ends thereof, a reel revolubly supported on said drop frame, a horizontal frame extending rearwardly of the said drop frame and having side bars connected at their forward ends with the side bars of the said drop frame, a handle bar connecting the rear ends of the said side bars of the said horizontal frame, a depending frame secured to the said horizontal frame and located directly at the rear of the said drop frame, and a longitudinal brace member secured at its forward end to the bottom bar of the drop frame and secured near its rear end to the said depending frame and having its terminal bent to form a supporting foot.

974,071. HOSE-SUPPORTER. CHARLES KAUFMANN and WILLIAM H. THOMAS, Oshkosh, Wis. Filed Feb. 28, 1910. Serial No. 546,546.



A hose supporter of the class described, comprising an elastic and a hose engaging member consisting of an open supporting frame, having a lower cross bar and a clamping member comprising a pair of hinged sections, one of which is formed with a clamping jaw adapted to engage the lower cross piece of the supporting frame and clamp a portion of the garment therebetween, and an extension on the upper section of the clamping member adapted to engage the other section thereof and form a stop which limits the swinging movement of the two sections of the clamping member inwardly.

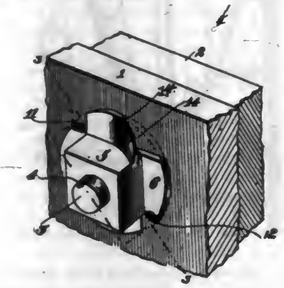
974,072. BOAT-CANOPY. ROY L. KENYON, La Crosse, Wis. Filed July 10, 1909. Serial No. 506,895.



1. In combination with a boat having a cockpit, a canopy over the boat, having supporting stanchions and provided with an end extension arranged over one end of the cockpit, said extension having a bow pivotally supported at the ends of its arms and inclining upwardly and outwardly, adapting the extension to be folded inwardly to uncover the cockpit, and straps extending from the upper portions of the stanchions adjacent to the bow and detachably connected to the boat at points outwardly of said stanchions, whereby the folding and extending of the said extension unaffects the remaining portion of the canopy.

2. In combination with a boat having a cockpit, a canopy over the boat having supporting bows and provided with an end extension arranged over one end of the cockpit, said extension having a supporting bow fulcrumed at the ends of its arms and inclining upwardly and outwardly, adapting the extension to be folded inwardly to uncover the cockpit, with the longitudinal center of the extension, when the extension is extended, inclining downwardly and outwardly.

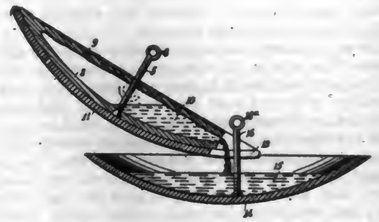
974,073. NUT-LOCK. ALBERT KESBERGS, Burdette, S. D. Filed Apr. 9, 1910. Serial No. 554,544.



1. A nut and bolt lock comprising a washer provided with oppositely disposed parallel inwardly projecting slots which form pointed work-engaging spurs and with an inwardly projecting slot arranged at right angles to the first mentioned slots and forming a nut engaging lip, said washer also provided with bolt-engaging means.

2. A nut and bolt lock comprising a washer provided with work-engaging means, bolt engaging means, and a nut engaging lip, said lip having its under surface cut away to permit a prying tool to be inserted beneath the same.

974,074. METHOD OF HANDLING MATTE. WILLIAM DOUGLAS KILBOURN, Murray, Utah. Filed Feb. 25, 1910. Serial No. 545,821.

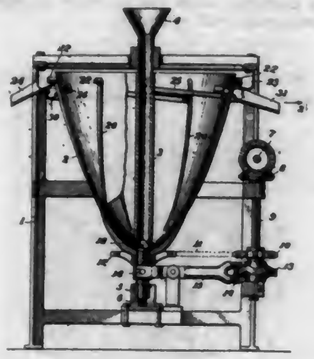


1. The method of handling matte, consisting in pouring molten matte into a cooling pan to form a containing shell; then bleeding the interior of said shell of the molten mass therein; and then cooling the said shell at a rate to fracture the same.

2. The method of handling matte, consisting in pouring molten matte into cooling receptacles to form a continuous solid shell having a molten center; then bleeding the said shell of the said molten center by drawing the said molten center into shallow receptacles to form a thin cake; and then rapidly cooling the said shell and said cake to fracture the same.

3. The method of handling matte, consisting in pouring molten matte into shallow cooling receptacles to form a thin edged button; then removing a section of the edge of said button to form an opening to expose the molten mass contained within the center thereof; then decanting the said molten mass through the said opening; and then rapidly cooling the shell to cause automatic fracture thereof.

974,075. ORE-CONCENTRATOR. WILLIAM O. KING, Mountain Home, Idaho. Filed Mar. 7, 1910. Serial No. 547,801.



1. In an ore concentrator of the type described, a separating bowl parabolic in section and provided near its top with discharge openings for the concentrates and means to conduct the same thereto, and also provided with discharge openings for the tailings, located in a plane below that of the discharge openings for the concentrates, and independent transverse obstructing means located between each pair of discharge openings for the concentrates to conduct the tailings to their discharge openings.

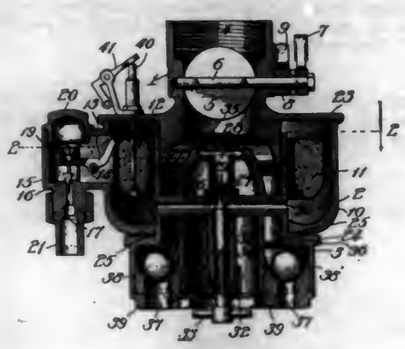
2. In an ore concentrator of the type described, a separating bowl in the wall of which are provided a series of equidistant substantially vertical grooves, increasing in depth from near the bottom of the bowl to near its top and communicating there with discharge openings, and an equal number of substantially horizontal tubes, located near the top of the bowl below the level of said discharge openings, each tube extending throughout substantially one-and-one-half times the space between adjacent grooves and the lower half of each tube being cut away in that portion of it which extends from one groove to the next, the other ends of said tubes communicating with discharge openings located midway between but slightly below the discharge openings of said grooves.

3. In an ore concentrator of the type described the combination of a hollow vertical shaft, a parabolic bowl secured thereto, said shaft having openings in its wall communicating with said bowl near its bottom, and means to rotate and reciprocate said shaft, said bowl having a series of substantially vertical grooves communicating with discharge openings for the concentrates near the top of the bowl, and with substantially horizontal means located between each pair of said grooves near the top thereof to arrest and catch the tailings, substantially horizontal tubes communicating with said means and with a second series of discharge openings located intermediate of said first mentioned openings, and stationary means surrounding said bowl to receive the concentrates and tailings respectively.

4. In an ore concentrator of the type described, a centrifugal bowl, the wall of which is provided internally with a series of equidistant longitudinal grooves communicating near their tops with discharge openings in said wall, an equal number of independent transverse obstructing means located between said grooves near their tops, an equal number of independent tubes communicating with said obstructing means and with another series of discharge openings intermediate of said first mentioned openings, and means to rotate and reciprocate said bowl.

974,076. CARBURETER. FRANK L. KINGSTON, Kokomo, Ind. Filed Jan. 29, 1909. Serial No. 474,929.

1. In a carbureter, a spray nozzle, a passage surrounding said spray nozzle for the normal admission of air, a passage surrounding said normal air passage for the admission of air at high engine speeds, a series of valves for admitting air into said high speed passage, each of said valves consisting of an individually removable valve seat having an opening therethrough, and a ball for normally closing said opening, substantially as described.



2. In a carbureter, a spray nozzle, a passage surrounding said spray nozzle for the normal admission of air, a passage surrounding said normal air passage for the admission of air at high engine speeds, a series of valves for admitting air into said high speed passage, each of said valves consisting of an individually removable valve seat having an opening therefor, and a ball for normally closing said opening, the balls of all of said valves being uniform in size and weight.

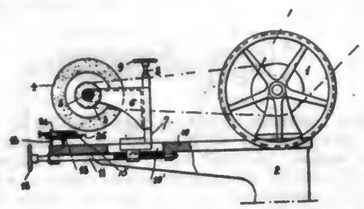
3. In a carbureter, an auxiliary passage for the admission of air at high engine speeds, a series of valves for the admission of air into said auxiliary passage, said valves being provided with individually removable seats having openings therethrough for the admission of air and with balls for normally closing said openings.

974,077. PLANT-SETTER. JOHN J. KLEEBERGER, San Benito, Tex. Filed May 7, 1910. Serial No. 559,928.



A transplanting implement of the character described comprising two members, each consisting of a blade having an upwardly extending arm, said arms being secured upon the limbs of a V-shaped spring which is interposed therebetween, and said blades having each a spoon-shaped extremity and an upwardly extending flange at one edge, the flanged edge of each member being slightly overlapped by the spoon-shaped extremity of the opposite member when the parts are removed.

974,078. KNIFE-SHARPENER FOR MOWING-MACHINES. JAKOB KNECHT, Zurich, Switzerland. Filed Aug. 26, 1909. Serial No. 514,782.

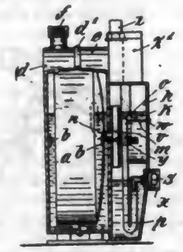


1. A knife sharpener for mowing machine knives comprising in combination a rotary grinding wheel, a guide having means for reception of the knife bar and means for supporting said guide comprising a pin thereon and a plate having an angular slot corresponding to the angle between the knives of the knife bar.

2. A knife sharpener for mowing machine knives comprising in combination a rotary grinding wheel, a guide having means for reception of the knife bar, and means for supporting said guide comprising a pin thereon and a plate having an angular slot corresponding to the angle between the knives of the knife bar, and means permitting of partial rotation of said knife bar guide about said pin.

3. A knife sharpener for mowing machine knives comprising in combination a rotary grinding wheel, means for vertically and horizontally adjusting said grinding wheel, a guide having means for reception of the knife bar, and means for supporting said guide comprising a pin thereon and a plate having an angular slot corresponding to the angle between the knives of the knife bar.

974,079. DRUM GAS-METER. SAMUEL KOŹMINSKI, Charlottenburg, Germany, assignor to The Firm of Vesta-Apparate- & Metallwarenfabrik G. M. B. H., Charlottenburg, near Berlin, Germany. Filed Mar. 1, 1909. Serial No. 480,618.



1. In combination with a wet drum gas-meter, of a sealing liquid consisting of light mineral oil of the nature of solar and spindle oils.

2. In combination with a wet drum gas-meter, of a sealing liquid having substantially a constant level and comprising a mineral oil having a specific weight of 0.8 to 0.9, a freezing point of below minus 25° Celsius and a viscosity according to Engler of 1.2 to 2.0 at 20° centigrade.

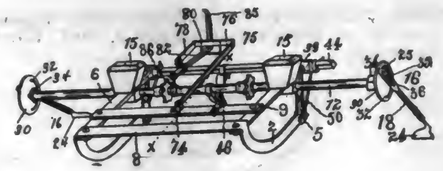
3. A gas-meter comprising in combination a case, an axle mounted revolubly in said case, a drum on said axle, counting mechanism driven by said axle, a sealing liquid consisting of light mineral oil of the nature of solar and spindle oils, a box arranged on the front of said case, a receptacle arranged under said box, and an adjusting pipe opening within said box at the level of the sealing liquid and passing U-shaped through the front box and the receptacle located under the latter and opening at the front wall of said receptacle.

4. A gas-meter comprising in combination a case, an axle mounted in the latter, a drum on said axle, counting mechanism driven by the axle, a sealing liquid consisting of light mineral oil of the nature of solar and spindle oils, a front box arranged on the front wall of said case, a receptacle located under said box, an adjusting pipe opening within said box at the level of the sealing liquid and passing U-shaped through the front box and the receptacle located under the latter and opening at the front wall of said receptacle, said adjusting pipe consisting of flexible metal, and a wire soldered to the upper part of said pipe, said wire being soldered to the wall of the front box at a suitable height after the gas-meter has been adjusted.

5. A gas-meter comprising in combination a case, an axle mounted in the latter, a drum on said axle, counting mechanism driven by the axle, a sealing liquid consisting of light mineral oil of the nature of solar and spindle oils, a front box arranged on the front wall of said case, a receptacle located under said box, an adjusting pipe opening within said box at the level of the sealing liquid and passing U-shaped through the front box and the receptacle located under the latter and opening at the front wall of said receptacle, said receptacle having an outlet close to the outlet of said adjusting pipe, and a detachable closure for closing both outlets in common.

[Claims 6 and 7 not printed in the Gazette.]

974,080. CHECK-ROWER FOR CORN-PLANTERS. FRANK J. KRIVACHEK and MATTHEW A. KRIVACHEK, Fort Atkinson, Iowa. Filed Apr. 9, 1909. Serial No. 488,991.



1. In a device of the class described a frame, a shaft mounted to rotate in the frame and extending beyond the frame, a marker arm rotatably adjustable on the end of the shaft, and a spring actuated spade secured to the marker arm.

2. In a device of the class described a frame, a shaft mounted on the frame and adapted for rotation, a marker adjustably secured to the end of the shaft, and means for adjusting the marker to engage the ground at different points on the rotation of the shaft.

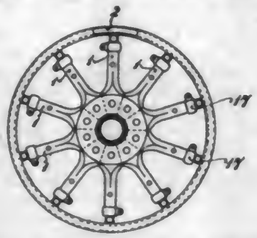
3. In a device of the class described a frame, a shaft mounted on the frame and extending beyond the frame at both sides, a marker arm adjustably secured to the ends of the shaft, a spring actuated spade secured to the marker arm, and means for rotatably adjusting the marker arm.

4. In a device of the class described, a frame provided with boxes adapted to hold the grain to be dropped provided with mechanism for dropping the grain, a shaft mounted for rotation in the frame and connected with the dropping mechanism, a marker arm rotatable on the end of the shaft, means for securing the marker in adjusted position to the shaft and a spring actuated spade secured to the marker arm.

5. In a device of the class described, a frame provided with boxes for holding the grain to be dropped and with selecting mechanism, a shaft mounted in said frame and connected to the selecting mechanism and extending beyond the sides of the frame, a marker arm rotatable on but normally fixed to the end of the shaft, a spring-actuated spade secured to the marker arm, and means for securing the marker arm in its different adjusted positions.

[Claims 6 to 16 not printed in the Gazette.]

974,081. AUTOCAR-WHEEL. RUDOLF KRONENBERG, Ohligs, Germany. Filed Oct. 1, 1909. Serial No. 520,570.



1. An autocar wheel comprising in combination a removable rim, slotted hollow spokes 1, a supporting body 3 in the interior of each hollow spoke having inclined surfaces and flat surfaces, bolts 8 adapted to coöperate with said supporting bodies provided with corresponding inclined surfaces and flat surfaces and clamping rings 17 placed around the ends of the said spokes, substantially as set forth.

2. Improved autocar wheel comprising in combination a removable rim, the hollow spokes 1 having inclined slots 15, a supporting body 3 in the interior of each hollow spoke, a series of bolts 8 each bolt resting against one of the said supporting bodies, both parts having coöperating inclined surfaces and flat surfaces respectively, screws 13 fixed in the said bolts 8 and adapted to slide in the said inclined slots 15, substantially as set forth.

974,082. LADY'S HAT AND HAIR FASTENER. JOSEPH LEITHEM, St. Louis, Mo. Filed June 8, 1910. Serial No. 565,834.



1. A hat-fastener having an artificial-crown curved to conform to the curve of the hat-crown and adapted to be secured to the hair upon the wearer's head, and provided with means for securing the hat upon said artificial-crown by frictional-contact.

2. The herein-described hat-fastener, comprising a hair-fixture adapted to be concealed by the hair, an artificial crown curved to conform to the curve of the hat-crown and adapted to be secured upon said hair-fixture, and means for fastening the hat by frictional-contact with said artificial-crown, so that the hat may be removed and replaced without disturbing the artificial-crown or the hair-fixture.

3. The herein-described ladies' hat and hair fastener, having a hair-fixture adapted to be concealed within the hair, a hat-fixture in the form of an artificial-crown curved to conform to the curve of the hat-crown and upon which the hat is adapted to be held by frictional-contact of its crown with said artificial-crown, and suitable locking-means for locking said artificial-crown temporarily to said hair-fixture.

974,083. SAFETY-RAZOR. CHARLES HENRY LIKEWISE, Brooklyn, N. Y., assignor of one-third to Nicholas A. Schneider, Brooklyn, N. Y. Filed Dec. 7, 1909. Serial No. 531,874.

1. The combination with a comb having a channel extending longitudinally along one face thereof, of a holder, a blade, means on said holder to retain said blade thereto, said holder coöperating with said comb and a portion of said holder being in engagement with said channel the teeth of said comb serving as a guard for said blade.



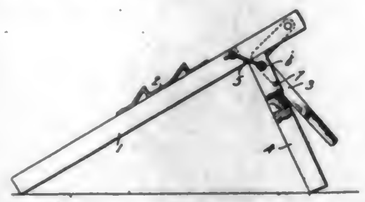
2. The combination with a holder having a lateral flange thereon and a blade carried by said holder; of a handle member for said holder having a longitudinal groove therein for the reception of said flange, said handle being also provided with teeth to serve as a guard for said blade, said handle with the teeth thereon also serving as a comb when unattached to said holder.

3. The combination with a holder having parallel spaced apart sides, one of said sides being provided with a lateral flange a blade, and means on the opposite side of said holder for retaining said blade thereto; of a handle member slidably mounted between the sides of said holder, said handle having a longitudinal groove therein for the reception of said flange, said handle being also provided with teeth serving as a guard for said blade.

4. In a device of the character described, the combination with a handle member having a longitudinal groove in one face thereof; of a holder sliding on said handle member, said holder being provided with an inwardly extending flange for engagement with said groove, a blade, and means on said holder to carry said blade, said handle member being provided with teeth coöperating with said blade, for the purpose described.

5. In a device of the character described, the combination with a handle member having a longitudinal groove in one face thereof; of a holder sliding on said handle member, said holder having one wall thereof provided with an inwardly extending flange for engagement with said groove, a blade, and means on the opposite wall of said holder to engage and carry said blade, said handle being provided with teeth coöperating with said blade, for the purpose described.

974,084. WAGON-JACK. CARL J. LIND, Statelevee, Miss. Filed Apr. 29, 1910. Serial No. 558,354.

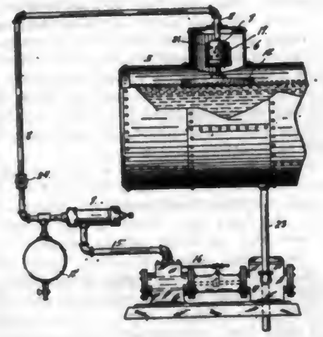


1. A jack comprising an elevating bar, a fulcrum bar, an operating lever pivotally connected to said bars, and a hasp connected to said elevating bar and adapted to engage any one of a plurality of pins on said fulcrum bar for retaining said fulcrum bar in rigid relations to said elevating bar.

2. A jack comprising an elevating bar, a fulcrum bar, an operating lever pivotally connecting said bars, and a hasp connected to said elevating bar and adapted to engage anyone of a plurality of pins on said fulcrum bar, one of said pins being formed integral with the pivotal connection of said operating lever and fulcrum bar as set forth.

3. A jack comprising an elevating bar, a fulcrum bar, an operating lever pivotally connecting said bars, a toothed bar detachably secured to said elevating bar, and a hasp connected to said elevating bar adapted to engage one of a plurality of pins on said fulcrum bar, one of said pins being an extension of the means pivotally connecting said fulcrum bar and operating lever as set forth.

974,085. AUTOMATIC WATER-CONTROLLER FOR BOILERS. CARL E. LINDGREN, Denver, Colo., assignor of three-fourths to Ruth B. Alberson, one-eighth to Frederick A. Douglass, and one-eighth to George M. Thorp, Denver, Colo. Filed Mar. 2, 1910. Serial No. 546,954.



1. The combination with a boiler, a pump, and a connection between the boiler and the pump for supplying water to the former, of a perforated casing located in the steam space of the boiler above the water level, the said casing having a shoulder formed on its lower extremity, a pipe connection between the said casing and the pump, a hood surrounding the said casing and vertically movable thereon, the said hood having a flange surrounding the upper extremity of the hood and adapted to come into engagement with the shoulder formed on the casing to limit the downward movement of the hood, and a float connected with the hood, and arranged to rise and fall as the water level fluctuates in the boiler, for the purpose set forth.

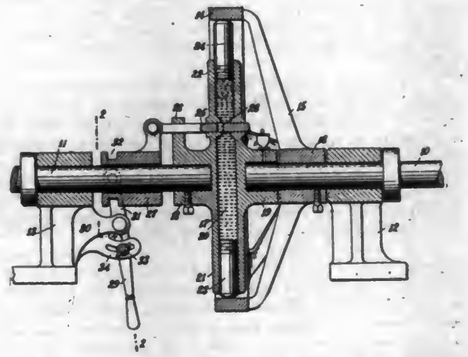
2. The combination with a boiler and a pump connected with the boiler to supply water thereto, of a perforated casing located in the dome of the boiler, a pipe connection between the casing and the pump, a cylinder interposed in the pipe leading from the casing to the pump, a spring-actuated piston therein normally arranged to cut off communication between the said pipe connection and the pump, a trap interposed between the said casing and the cylinder for catching the water of condensation between the cylinder and the casing, and a float-actuated hood located in the boiler connected in operative relation with the perforated casing, whereby as the water rises and falls in the boiler the entrance of steam to the casing is automatically regulated.

3. The combination with a boiler, a pump, and a pipe connection between them for supplying steam to the pump, and a connection between the pump and boiler for supplying water to the latter, of a perforated casing located in the steam space of the boiler above the water level and in communication with the pipe connection between the boiler and pump, the said casing having a shoulder on its lower extremity, and float actuated hood located in the boiler slidably supported on the casing for regulating the passage of steam to the perforated casing as the water level fluctuates in the boiler, the said hood having a flange surrounding the said upper extremity of the hood and adapted to come into engagement with the shoulder formed on the casing to limit the downward movement of the hood, for the purpose set forth.

4. The combination with a boiler, a pump, and a connection between the pump and boiler for supplying water to the latter, of a perforated casing located in the boiler above the water level, float-actuated means adapted to open and close the perforations of the said casing as the water fluctuates in the boiler, a pipe leading from the said casing, a cylinder with which said pipe communicates, a piston in said cylinder, a spring acting on the piston, a follower engaging the spring, a tension screw arranged to act on the follower for regulating the spring's tension, and a pipe leading from the cylinder to the pump, the construction being such that the piston when in its normal position cuts off the passage of steam from the cylinder to the pump, while when the piston is acted on by the steam pressure of the boiler, the piston is moved against the tension of the spring to permit the passage of steam to the pump, substantially as described.

5. The combination with a boiler, a pump, and a connection between the pump and the boiler for supplying water to the latter, of a perforated casing located in the steam space of the boiler, a float-actuated hood having a telescopic connection with the perforated casing, a pipe connection between the said casing and the pump, and a spring-actuated piston interposed in the said pipe connection, a spring acting on the piston, a follower engaging the spring, a tension screw acting on the follower for regulating the tension of the spring to hold the piston in a position to normally cut off the steam from the pump until the pressure becomes sufficient to operate the pump.

974,086. CLUTCH. HARRY WILLIAM LLOYD, Jacksonville, Fla. Filed Apr. 23, 1910. Serial No. 557,154.



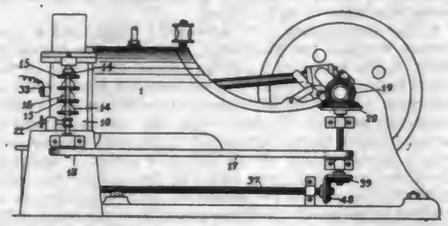
1. A device of the class described, comprising two clutch members, one of said members having a chamber extending diametrically thereacross and having the opposite ends of the chamber constituting cylinders, a valve plate movable transversely across the said chamber intermediate the ends thereof and having an aperture for establishing communication between the cylinders when said valve plate is in a predetermined position, a radially-movable piston in each of said cylinders, and a second clutch member having an overhanging rim encircling said chambers and pistons and provided with an eccentrically-disposed surface in engagement with the outer ends of said pistons.

2. A device of the class described, comprising two shafts in alinement with each other and spaced apart, a clutch member between said shafts and having sockets in opposite sides thereof to receive the ends of said shafts, said member being rigidly secured to one of said shafts, a chamber extending diametrically through said member, a valve member for controlling communication between opposite ends of said chamber, pistons within said opposite ends, and a clutch member secured to the other of said shafts and having a rim encircling said first-mentioned member and pistons and presenting an eccentrically-disposed inner surface in engagement with the outer ends of the pistons.

974,087. CHARGE-FORMING ARRANGEMENT FOR USE IN INTERNAL-COMBUSTION ENGINES AND TURBINES. ARCHIBALD MONTGOMERY LOW, London, England. Filed Jan. 9, 1909. Serial No. 471,424.

1. In charge forming means for use in internal combustion engines and turbines the combination with a cylinder of a combustion chamber in communication there-

with, a gas generating chamber, traversing said combustion chamber, means for feeding fuel to said generating chamber, a liquid seal into which one end of the generating chamber extends, and means for conveying the gas generated in said latter chamber to said cylinder.



2. In charge forming means for use in internal combustion engines and turbines, the combination with a cylinder of a combustion space in communication therewith, a chamber through which the exhaust gases from said cylinder pass, a gas generating chamber traversing said combustion space and exhaust chamber, means for feeding fuel to said generating chamber, a liquid seal into which one end of the generating chamber extends, and means for conveying the gas from said generating chamber to said cylinder.

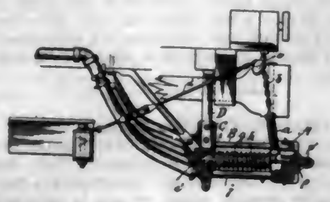
3. In charge forming means for use in internal combustion engines and turbines, the combination with a cylinder of a combustion space in communication therewith, a plurality of tubular gas generating chambers traversing said combustion space, means for feeding fuel to said generating chambers, a vessel containing liquid into which one end of said generating vessels extend, and means for conveying the gas from said generating chambers through the liquid containing vessel to said cylinder.

4. In charge forming means for use in internal combustion engines and turbines, the combination with a cylinder of a combustion space in communication therewith, a gas generating chamber traversing said combustion space means for feeding fuel to said generating chamber, a liquid seal into which one end of the generating chamber extends, means for conveying the gas generated in the generating chamber to the cylinder and controllable for the introduction of a gas of different composition to the generating chamber.

5. In charge forming means for use in internal combustion engines and turbines, the combination with a cylinder having a water jacket, of a combustion space in communication with said cylinder, a gas generating chamber traversing said combustion space, means for feeding fuel to said generating chamber, a liquid seal into which one end of said generating chamber extends, means for conveying the gas generated in the generating chamber to the cylinder, and controllable means for the introduction of steam from the cylinder jacket to said generating chamber

[Claims 6 to 10 not printed in the Gazette.]

974,088. TRAIN-PIPE COUPLING. JAMES E. MARBLE, Albany, N. Y., assignor of one-third to John J. Layden, Albany, N. Y. Filed Jan. 13, 1908. Serial No. 410,637.



1. In a coupler for train pipes, a collapsible supporting frame extending longitudinally of the car body and comprising a fixed part hung from the vehicle, a movable part having an extension guided by the fixed part, and a spring interposed between said parts to advance the movable part; a plurality of rigid connecting pipes for the train pipes sliding in and guided by the fixed and movable parts of the frame, and an individual spring for advancing each connecting pipe interposed between the movable part of the frame and such pipe; substantially as described.

2. In a coupler for train-pipes, a collapsible supporting frame comprising a fixed part hung from the vehicle on a universal joint, a coupler-head having an extension sliding in a guide in the fixed part, a spring interposed between the head and the fixed part to advance the head, and rigid connecting-pipes extending from the head through guides in the fixed part and outside of the guiding extension; substantially as described.

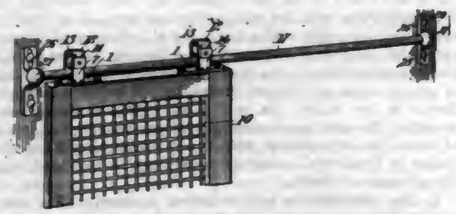
3. In a coupler for train-pipes, a collapsible supporting frame comprising a fixed part hung from the vehicle on a universal joint, a coupler head having an extension sliding in a guide in the fixed part, and a spring interposed between the head and the fixed part to advance the head, and rigid connecting pipes extending from the head through guides in the fixed part, said pipes sliding in the head and being provided with an individual spring for advancing each pipe interposed between the head and an abutment on such pipe; substantially as described.

4. In a coupler for train pipes, a supporting frame comprising a fixed part hung from the vehicle on a universal joint, a chambered coupler-head having a central tubular extension sliding in a guide in the stationary part, and a compression-spring surrounding said extension and interposed between the fixed part and the head; rigid connecting pipes for the train-pipes supported in said frame, a head on each connecting pipe sliding within the appropriate chamber in the coupler-head, and a spring interposed between the head on each pipe and the rear wall of its chamber for advancing the individual pipes with respect to the coupler-head; substantially as described.

5. In a coupler for train-pipes, a supporting frame comprising a fixed part *f* hung from the frame on a universal joint, a chambered coupler-head A having a central tubular extension *g* sliding in a guide in the fixed part *f*, and a compression spring *h* surrounding the extension *g* and interposed between the fixed part and the head; connecting pipes *i*, *i'* and *j* supported in the frame, a cupped head *k* having a gasket *l* on each pipe sliding within an appropriate chamber in the coupler-head A, and a spring *k'* between the cupped head on each pipe and the rear wall of its chamber for advancing the individual pipes with respect to the coupler-head; substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

974,089. DOOR-HANGER. CHARLES OSCAR MARX, Brooklyn, N. Y., assignor of one-half to Bernard Spitzfaden, Brooklyn, N. Y. Filed June 25, 1909. Serial No. 504,335.

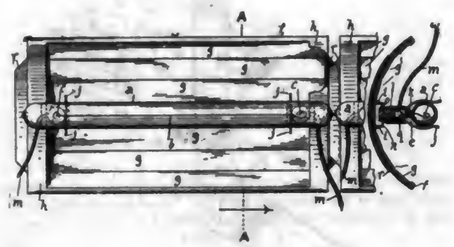


1. The combination of a door-hanger-frame, a convex track, a convex roller rotatably mounted in said hanger-frame, and brackets having projecting members adapted for rotatably seating said track therein.

2. The combination with a door-hanger frame, of a convex-roller journaled in said frame, and a convex track for said roller, rotatably seated in end supporting brackets, said hanger frame being constructed with depending sides spaced apart to aline the centers of said roller and track parallel with said depending sides.

3. The combination with a door hanger frame, provided with parallel depending sides, and a convex track, of a roller rotatably mounted in said frame and constructed with a cylindrical tread adapted to travel on said track, the said depending sides of the hanger frame being spaced apart to aline the centers of the roller and track parallel with the said depending sides.

974,090. LAMP AND REFLECTOR THEREFOR. DENNIS JOSEPH O'BRIEN, San Francisco, Cal., assignor, by mesne assignments, to Straight Filament Lamp Company, a Corporation of New York. Filed Nov. 16, 1903. Serial No. 181,429. Renewed Nov. 20, 1909. Serial No. 529,098.



1. The combination with a lamp having a casing or bulb translucent throughout, and provided with a filament the conductors of which extend laterally to the length of the lamp, of a reflector, and means for engaging the side of the bulb adjacent to the reflector, said means terminating short of the circumference of the bulb.

2. A reflector having laterally-projecting conductors, and a lamp having laterally-projecting conductors, and means for engaging the side of the lamp adjacent to the reflector and which terminates short of the circumference of the lamp.

3. The combination with a lamp translucent throughout its length and at each end, the lamp being provided with a filament the ends of which extend laterally out through the lamp body, of a reflector, means carried by the end portion of the reflector for removably connecting the end of the filament with a source of electrical energy, and separate resilient means supported by the first named means for clasping the lamp body and which terminates short of the circumference thereof.

4. The combination with a filament lamp translucent throughout its length and at the ends, the same being provided with contacts located laterally of the filament therein, of a reflector open at each end, an insulated support on the reflector located directly beneath the lamp, a yielding contact carried by the support and adapted to engage the lamp contact, and separate means also carried by the support and insulated from the contact for clasping the lamp and which terminates short of the circumference thereof.

5. The combination, in a filament lamp the contacts of which are located laterally of the filament and in alinement with the longitudinal axis of the lamp, of a reflector open at each end, supports carried by the reflector at points beneath and within a space equal to the length of the lamp, contacts carried by the supports and engaging the lamp contacts, and clasping means independent of the contacts, said means carried by and insulated from the supports and embracing the lamp, the contacts and supports being located between the lamp body and the reflector.

[Claims 6 to 13 not printed in the Gazette.]

974,091. COVER FOR ATHLETIC GROUNDS. JOHN L. O'DONNELL, St. Louis, Mo. Filed Oct. 13, 1909. Serial No. 522,432.



1. In combination with an athletic grounds having drains and an inclined surface between said drains, winding devices located in said drains, flexible water-proof covers carried by said winding devices and means for actuating the winding devices.

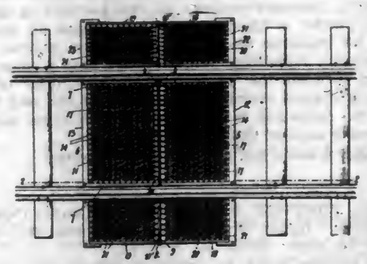
2. In combination with a flexible, water-proof covering for athletic grounds, separate means for drawing the cover to positions covering or uncovering the grounds, means for securing the margins against being blown from the grounds, of drains for inclosing the means whereby the flexible cover is moved and for conveying the water from said grounds.

3. In combination with an athletic grounds having drains, of winding devices located in said drains and flexible waterproof covers carried by said winding devices.

4. In combination with an athletic grounds having drains, of winding devices located in said drains, flexible waterproof covers arranged on said winding devices, and means for actuating the winding devices whereby the covers may be drawn to positions either covering or uncovering the grounds and means for securing the margins of the cover within said drains.

5. In combination with an athletic grounds having drains, provided with movable padded covers, of winding devices located in said drains, a plurality of flexible waterproof coverings arranged on said winding devices, means whereby the winding devices may be moved either separately or collectively for drawing the flexible covers to positions either covering or uncovering the grounds and means for securing all of the margins of all of the flexible covers beneath the ground surface and in said drains.

974,092. CATTLE-GUARD. CONWELL P. REED, Bridgeport, Tex., assignor of one-half to Samuel J. Culwell, Bridgeport, Tex. Filed Sept. 27, 1909. Serial No. 519,718.

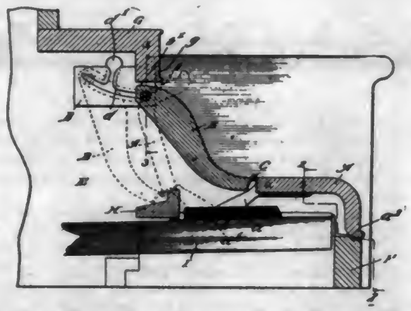


A cattle guard consisting of a pair of frames having spaced overlapping hinge lugs at their meeting ends, a single pintle passed through the spaced hinge lugs and hingedly connecting the frames together, spaced shafts having their ends journaled in the sides of the frames, and overlapping rollers arranged on said shafts in staggered relation.

974,093. FALL-BOARD FOR PIANOS, ORGANS, OR OTHER INSTRUMENTS. CHARLES F. REEPS, Chicago, Ill. Filed Sept. 17, 1909. Serial No. 518,219.

1. The combination with a musical instrument case, of a fall-board composed entirely of two portions hinged together, a pivot fixed to the case for supporting the outer portion, the hinge being in front of said pivot when the

fall-board is closed, a pair of guides, and means at each end of the inner portion of the fall-board for engaging said guides to support the board.



2. The combination with a musical instrument case, of a fall-board composed of united sections, a pair of inwardly and upwardly extending guides attached to the case, means on the upper section of the fall-board slidingly engaging said guides, whereby upon opening the fall-board said upper section will move bodily inwardly and upwardly, and means for pivoting the lower outer section of the fall-board to swing about a horizontal stationary axis.

3. The combination with a musical instrument case, of a fall-board, a pair of slotted guides attached to the case, means on the fall-board engaging said guides, said guides inclined upwardly to slightly raise the upper edge of the board when opened, a hinge connection for folding said board, disposed about midway between vertical lines struck from the inner and outer edges of the fall-board, when the board is closed, and pivoted arms rigid with the fall-board, said guides being disposed at opposite ends of the fall-board.

4. The combination with a musical instrument case, of a fall-board, a hinge connection to permit folding of the board, pivoted arms for causing said connection to move upward and then downward when the board is opened, and sliding connections serving at all times to support the upper portion of said board, said sliding connections including means on the case and on said upper portion of the board.

5. The combination with a musical instrument case, of a fall-board composed entirely of two portions, a pair of slotted guides or plates on the case, means on the fall-board for engaging the slots of said plates, pivoted arms for movably supporting the fall-board, and a hinge connection between the upper and lower portions of said board, said arms extending rearwardly of the said hinge, when the fall-board is closed, said guides being disposed at opposite ends of the fall-board.

[Claims 6 and 7 not printed in the Gazette.]

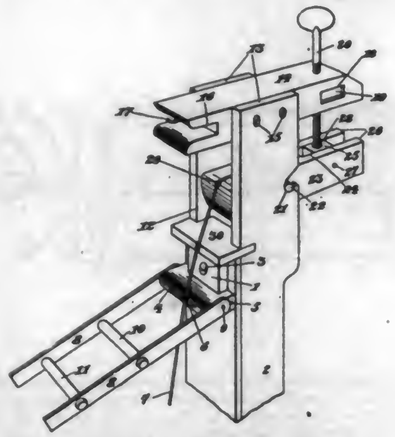
974,094. FRETTING DEVICE FOR STRINGED INSTRUMENTS. HENRY SCHLEMMER, Effingham, Ill. Filed Sept. 30, 1909. Serial No. 520,267.

1. A fretting device for stringed instruments, comprising, in combination, a support, a member pivoted upon said support and adapted to be rocked into engagement with a string, means pivoted upon said member whereby the latter is controlled, a slotted element carried by said support adapted to receive the free end of said controlling means and spring means for retaining said free end in said element.

2. A fretting device for stringed instruments, comprising, in combination, a support, a pivot block carried by said support, a fretting element pivoted to the sides of said block and adapted to be carried into engagement with said string, means for controlling said fretting element pivotally secured to the sides of the latter, and mounted to rock above a string and a locking means carried by said support and adapted to have a resilient engagement with said controlling means.

3. A fretting device for stringed instruments, comprising, in combination, a support, a pivot block carried by said support, a fretting element pivoted to said block, controlling means pivotally carried by said fretting element and adapted to project in front of a string, and a locking device adapted to resiliently clasp said controlling means to lock said fretting element in engagement with a string.

4. A fretting device for stringed instruments, comprising, in combination, a support, a pivot block carried by said support, a fretting element pivoted to said block, controlling means pivotally carried by said fretting element and adapted to project above a string, and a slotted projection carried by said support into which the free end of said controlling means is adapted to lock to maintain said fretting device in engagement with the string.



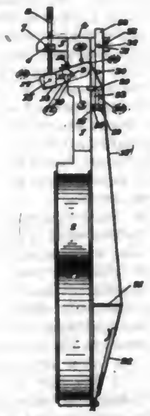
5. The combination of a support, a block secured thereto, a string, a member pivoted to said block and adapted to be rotated into engagement with said string, a pair of arms fastened to said member and adapted to hold said member in engagement with said string, a spacing-rod connecting said arms, and means formed at the upper end of said support and having a slot therein, said slot being adapted to receive and hold said spacing-rod when the member is in engagement with the string, whereby said arms are held in place.

[Claim 6 not printed in the Gazette.]

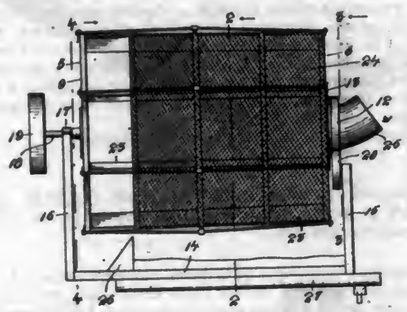
974,095. TUNING DEVICE FOR STRINGED INSTRUMENTS. HENRY SCHLEMMER, Effingham, Ill. Filed Sept. 30, 1909. Serial No. 520,269.

1. The combination, with a slotted support; of a tuning lever pivoted intermediate its ends in said slot for rocking movement and having one end thereof bifurcated; a string fastened to the opposite end of said lever; means for securing the opposite end of said string; a block pivoted in the bifurcation in said lever for movement relative to the latter, said block having a seat formed in its upper face; a member rigidly secured in said slot above said lever and having one end overhanging the bifurcated end of the lever, and a thumb screw threaded through the overhanging end of said member and having its lower end received in said seat, for rocking said lever to tension said string.

2. The combination, with a support formed with a slot and having the side walls of said slot formed with alining notches, of a rocking tuning lever extending through said slot and provided at opposite sides with centrally located pivot pins removably received in said notches to permit the withdrawal of the lever, said lever having one end thereof bifurcated; a string fastened to the opposite end of said lever; means for securing the opposite end of said string; a block pivoted in the bifurcation in said lever for movement relative to the latter, said block having a seat formed in its upper face, a member rigidly secured in said slot above said lever and having one end overhanging the bifurcated end of the lever; and a thumb screw threaded through the overhanging end of said member and having its lower end removably engaged in said seat.



974,096. BAG-CLEANER. WILLIAM SCOTT, Siegfried, Pa. Filed May 24, 1910. Serial No. 563,213.

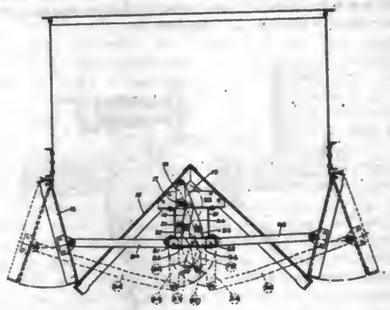


1. In a bag cleaner the combination with a support; of a drum having oppositely positioned end pieces one of which is provided with a shaft journaled on one end of the support and the opposite of said end pieces having a central opening, a flat annulus secured to the said opposite end and surrounding said opening and bearing on the adjacent end of said support, for the purposes described.

2. In a bag cleaner the combination with a support; of a substantially frusto-conical drum having oppositely positioned end members, one of which is provided with a shaft journaled on one end of said support and the opposite of said end members having a central opening, a flat annulus secured to the said opposite end member and surrounding the said opening and bearing on the opposite end of the support, and a screen encircling a portion of said drum.

974,097. DUMP-CAR. FREDERICK SEABERG, Chicago, Ill., assignor, by mesne assignments, to Spencer Otis, Chicago, Ill. Filed Mar. 12, 1908. Serial No. 420,649.

1. In a dump car, doors on both sides thereof, a single operating shaft extending lengthwise of the car, intermediate mechanism directly below said shaft and pivoted to a fixed part of the car, and positive link connections from the shaft through said mechanism to the said doors.



2. In a dump car, pendent side doors adapted to swing outwardly, a longitudinal shaft under the car, a crank projecting from said shaft, and door operating mechanism extending from the end of said crank to the doors on both sides of the car.

3. In a dump car, a longitudinal shaft, a crank projecting therefrom, a link connected to the end thereof, a branch link connected to an intermediate point on the aforesaid link, and operating connections from the ends of the two links to the respective doors on opposite sides of the car.

4. In a dump car, a floor sloping downwardly from the center to each side, pendent doors at the sides, a shaft under the center of the floor, mechanism directly below the shaft and connected thereto, and links from said mechanism to the doors.

5. In a dump car, a dumping door, a center sill, a longitudinal shaft supported above the center sill, and mechanism extending from said shaft down through the center sill, and thence to the said door.

[Claims 6 and 7 not printed in the Gazette.]

974,098. SIDE HARROW FOR CULTIVATORS. HENRY THOMAS SMITH, De Leon, Tex. Filed Dec. 30, 1909. Serial No. 535,612.

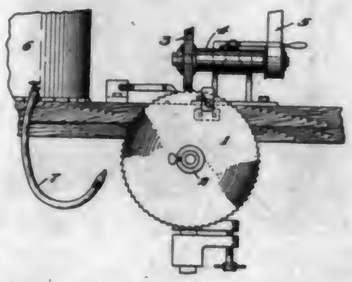


A side harrow for cultivators consisting of a bar having an indented portion at its center, containing a slot longitudinal with the bar, a plurality of harrow teeth clamped to said bar, and a resilient bar secured to one extremity of the bar at the rear thereof and extending rearwardly and toward the center of the bar, a slot being provided at the other extremity of said resilient bar, and attaching means engaged in said slots.

974,099. METHOD OF TEMPERING STEEL. ANDREW M. SUNDBORG, Dorchester, Mass. Filed Mar. 22, 1910. Serial No. 550,820.

1. The process of tempering which consists in holding stationary the body to be tempered; applying continuously to a minor part thereof the friction of a body moving in contact with the surface of such part till heated to a suitable temperature, the adjacent parts being relatively cool, and then suddenly cooling the part so heated by friction.

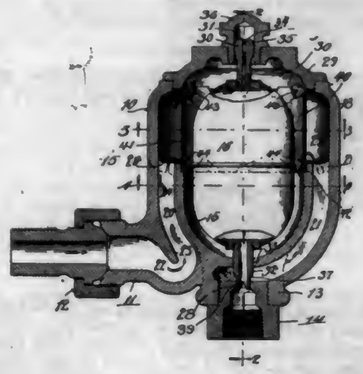
2. A process of tempering steel which consists in rubbing a dull abrasive material on the surface of the steel, thereby producing friction and heat in the steel adjacent to said surface, the body of the piece being relatively cool, and then applying a cooling fluid, thereby suddenly cooling said heated portion; said rubbing being applied continuously on the part to be tempered.



3. The herein described process of tempering saws which consists in concentrating heat upon a tooth separately by the application of friction, the body of the saw remaining relatively cool, the heating of a tooth being followed by the sudden application of cooling means.

4. The herein described process of tempering saws which consists in applying to the teeth successively a dull abrasive material producing friction concentrated continuously on a tooth individually and thereby heating the tooth to which it is applied, the body of the saw remaining relatively cool, such application to a tooth being followed by the sudden application of cooling means.

974,100. STEAM, AIR, AND WATER TRAP VALVE. JOHN E. BOZOZN, Berwyn, Ill., assignor to Iroquois Engineering Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 7, 1910. Serial No. 547,632.



1. In a valve of the class described, the combination with a valve casing having a central float chamber which is closed at its bottom, and an annular chamber in direct communication therewith and surrounding the same solely above the line of flotation, said casing being provided with inlet and discharge passages opening into said annular chamber, of a float within the float chamber having a valve for controlling the discharge passage and being provided with an air discharge passage communicating with said annular chamber.

2. In a valve of the class described, the combination with a valve casing having a central float chamber, and an annular chamber in communication therewith, and surrounding the same solely above the line of flotation, said casing being provided with inlet and discharge passages opening into the annular chamber approximately on a level with the line of flotation, of a float within said float chamber having a valve stem for controlling the discharge passage and being provided with an air discharge passage communicating with said annular chamber.

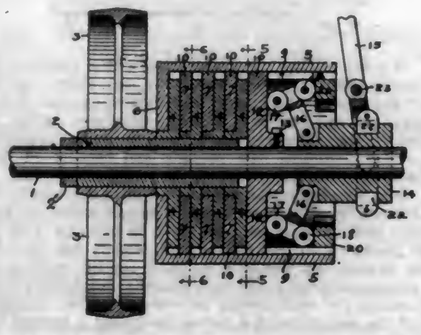
3. In a valve of the class described, the combination with a valve casing having a central float bowl, a chamber above the same of greater diameter than the float bowl, and inlet and discharge passages leading to said upper chamber, of a perforated cylindrical wall extending upward from the float bowl to provide an annular chamber in said chamber of greater diameter which is in communication with the interior of the chamber within the cylindrical wall, and a float in said float bowl having a valve stem for controlling the discharge passage, and being provided with an air discharge passage communicating with the chamber of greater diameter.

4. In a valve of the class described, the combination with a valve casing provided with a float chamber having a closed bottom, and inlet and discharge passages communicating with the float chamber, said discharge passage leading to a vertical discharge aperture below the float chamber, of a float in the float chamber having a valve stem projecting into the discharge aperture to close the same, and having a downwardly flaring port in its side which extends up from its lower edge, said float operating when lifted sufficiently by the rise of water in the float chamber, to wholly withdraw the valve stem from the discharge aperture substantially as and for the purpose set forth.

5. In a valve of the class described, the combination with a valve casing having a float chamber, closed at the bottom, and inlet and outlet passages communicating therewith, said discharge passage leading below the float chamber and terminating in a vertical discharge aperture, of a float guided in said float chamber and actuated by the rise and fall of water in the float chamber to rise and fall therewith, and a valve stem secured to the float and projecting down through a central opening in the bottom of the float chamber and closing the same, and sliding in and out of said discharge aperture to wholly close and open the same, said valve stem being provided with a lateral port at its lower end for affording a restricted discharge port when said valve stem is raised slightly from the closed position.

[Claims 6 to 10 not printed in the Gazette.]

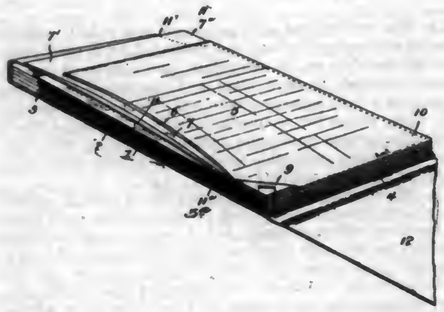
974,101. MULTIPLE-DISK FRICTION-CLUTCH. JOSEPH A. MCGEE, Big Spring, Ind. Filed Apr. 28, 1910. Serial No. 558,199.



1. In a clutch, a shaft, a sleeve loosely mounted on the shaft, disks mounted upon and rotating with the sleeve and adjustable longitudinally thereof, a cylindrical shell surrounding said disk having inside longitudinal grooves, a cylinder-head at one end and inwardly projecting flanges at the other end of said cylindrical shell, other disks between said first disks said last disks having peripheral lugs entering the grooves of the cylindrical shell, a fixed head mounted in a fixed manner on the shaft between which and said cylinder-head all of said disks are impinged by a longitudinal movement of said cylindrical shell, a sleeve slidingly mounted on the shaft, T-shaped levers having their stems pivoted to the sleeve and an end of each of the cross-arms thereof bearing against the fixed head and the other end against said inwardly projecting flanges of the cylindrical shell.

2. In a clutch, a shaft, a sleeve loosely mounted on the shaft, disks mounted upon and rotating with the sleeve and adjustable longitudinally thereof, a cylindrical shell surrounding said disk having inside longitudinal grooves, a cylinder-head at one end and inwardly projecting flanges at the other end of said cylindrical shell, other disks between said first disks said last disks having peripheral lugs entering the grooves of the cylindrical shell, a fixed head mounted in a fixed manner on the shaft between which and said cylinder-head all of said disks are impinged by a longitudinal movement of said cylindrical shell, a sleeve slidingly mounted on the shaft, T-shaped levers having their stems pivoted to the sleeve and an end of each of the cross-arms thereof bearing against the fixed head and the other end against said inwardly projecting flanges of the cylindrical shell, and friction rollers mounted in the ends of said cross-arms.

974,102. MANIFOLDING BOOK OR PAD. BERT C. MAXWELL, Canton, Ohio, assignor to Julius Whiting, Jr., trustee, Canton, Ohio. Filed Feb. 7, 1908. Serial No. 414,783.



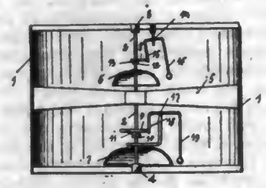
1. A manifolding pad comprising a series of superposed sets of slips, each set of slips formed from a single sheet of paper folded transversely intermediate of its ends to make at least two slips, one of which is longer than, and at its free end extends beyond the adjacent end of the slip which is connected to it, means for binding said sets of slips together arranged adjacent to the line of connection between the uppermost slip of each set of slips and the other slip of the said set having the extended end, the under surface of the uppermost slip in each set of slips being coated with a suitable transfer substance, and a separator connected with the pad arranged to be inserted between the sets of slips and having a cut away portion to expose the extended ends of the long slips.

2. A manifolding pad comprising a series of superposed sets of slips, each set of slips formed from a single sheet of paper folded transversely intermediate of its ends to make at least two slips, one of which is longer than, and at its free end extends beyond the adjacent end of the slip which is connected to it, means for binding said sets of slips together arranged adjacent to the line of connection between the longer slip of each set and the slip conneced thereto, the under surface of the uppermost slip in each set of slips being coated with a suitable transfer substance, and a separator arranged to be inserted between the sets of slips, and having a portion cut away to expose at one corner the extended free ends of the long slips, in each set of slips.

3. A manifolding book comprising a series of sets of slips, each slip formed from a single sheet of paper twice folded transversely intermediate of its ends and having the slip formed from one end of said sheet of paper extending beyond the other two slips of the set, the under surfaces of the two uppermost slips of each set of slips being coated with a suitable transfer substance, and means for binding said sets of slips together in book form arranged to engage the uppermost and lowermost slip of each set of slips at the end opposite the said extended portion.

4. A manifolding book comprising a series of sets of slips, each set formed from a single sheet of paper twice folded transversely intermediate its ends and having the slip formed from one end of the said sheet of paper extended beyond the other two slips of the set, the under surfaces of the two uppermost slips of each set being coated with a suitable transfer substance, and means engaging one corner of all of the slips at the end opposite the extensions for binding all the slips together, all of the slips being weakened on a line extending across the said corner adjacent to the said binding means.

974,103. SIGNALING APPARATUS FOR AIRSHIPS AND THE LIKE. PHILIPP LENTZ, Gross-Lichterfelde, near Berlin, Germany. Filed Apr. 5, 1910. Serial No. 553,644.



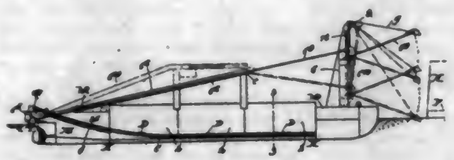
1. Signaling apparatus for continuously indicating whether an air ship is rising or descending, consisting of a vane wheel adapted to be rotated by the vertical movement of the air ship in either one or the other direction depending upon whether the air ship is rising or descending, signaling bells, and means for causing the rotation of the wheel to actuate said signaling bells in accordance with the rising or descending movement of the air ship, said signaling bells being tuned to different keys whereby an audible signal is given to indicate whether the air ship is rising or descending.

2. Signaling apparatus for continuously indicating whether an air ship is rising or descending, consisting of a rotatable spindle, a vane wheel secured thereto and adapted to be rotated by the vertical movement of the air ship in either one or the other direction depending upon whether the air ship is rising or descending, cam disks loosely mounted upon said spindle, oppositely disposed coupling means operatively associated with said spindles and said cams, whereby one or the other of said cams will be actuated according to the direction of rotation of said wheel, and signaling means operatively associated with said cams and adapted to be actuated thereby.

974,104. DISCHARGING APPARATUS FOR NAVIGABLE VESSELS. CHARLES D. DOXFORD, Sunderland, England. Filed Nov. 7, 1908. Serial No. 461,535.

1. A vessel having an engine room or machinery compartment, a traveling conveyer leading upwardly from the hold through said compartment, the conveyer passing through the machinery compartment on the slant, a second fore and aft traveling conveyer leading from the discharge

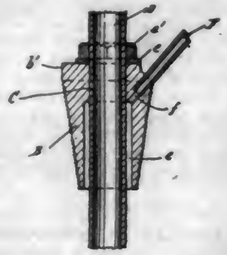
end of the first mentioned conveyer, an adjustable receiving and discharge device at the extremity of the second conveyer, and a third traveling conveyer leading from the discharge end of the second conveyer and adjustable to bring its discharge end to different levels and to different lateral positions; substantially as described.



2. In a navigable vessel, the combination of walls bounding a space containing the propelling or other controlling mechanism for the vessel, a moving conveyer extending from the hold upward a slant through said space, a second traveling conveyer extending from the first conveyer and having its discharge end remote from the first conveyer, a receiving device at the discharge end of the second conveyer, a third traveling conveyer leading from the receiving device at the discharge end of the second conveyer, the receiving device having an opening for discharging the material to the third conveyer, means for adjusting the height of the discharge end of the second conveyer and the receiving end of the third conveyer, and means for adjusting the height of the discharging end of the third conveyer; substantially as described.

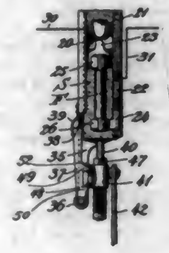
3. In a navigable vessel, the combination of walls bounding a space containing the propelling or other controlling mechanism for the vessel, a moving conveyer extending from the hold upward aslant through said space, a second traveling conveyer extending from the first conveyer and having its discharge end remote from the first conveyer, a receiving device at the discharge end of the second conveyer, a third traveling conveyer leading from the receiving device at the discharge end of the second conveyer, the receiving device having an opening for discharging the material to the third conveyer, means for adjusting the height of the discharge end of the second conveyer and the receiving end of the third conveyer, means for adjusting the height of the discharging end of the third conveyer, and means for adjusting the discharge end of the third conveyer laterally with relation to the receiving end; substantially as described.

974,105. LIQUID-DISCHARGING DEVICE. EARL PAGETT, Coffeyville, Kans. Filed Feb. 26, 1910. Serial No. 546,224.



The combination, with a barrel provided with a bung hole, of a tapered plug screwed into the said bung hole and having a screw-threaded hole in its upper part and a chamber in its lower part, a single longitudinally adjustable outlet-pipe provided with screwthreads for the greater portion of its length and engaging with the screwthreaded hole, a packing-washer bearing against the larger end of the plug, a jam-nut screwed on the outlet-pipe and bearing on the said washer, and a pressure pipe secured to the upper part of the plug and communicating with the interior of the barrel through the said chamber.

974,106. ELECTRICAL SWITCH. ALBOURNE F. FURBUSH, Cliftondale, Mass., assignor to himself, and Charles W. Hale, Hartford, Conn. Filed July 7, 1910. Serial No. 570,752.



1. The combination with a base-plate, a pair of contact-points stationary thereon and insulated from each other, a slide movable on the base-plate, and a pair of contact-points carried by said slide and insulated from each other, of a fuse-member connecting the contact-points of the slide, means for reciprocating said slide, and a device normally locking said slide against movement and operable to release such slide during and by the final movement of the reciprocating means.

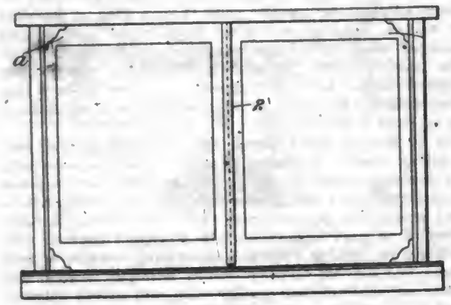
2. The combination with a base-plate, a pair of contact-points stationary thereon and insulated from each other, a movable switch-member, and a pair of contact-points carried thereby and insulated from each other, of a fuse-member connecting the contact-points of the movable switch-member, means for reciprocating the switch-member, a mechanism for locking said switch-member against movement during the initial movement of the actuating mechanism and for releasing said movable switch member near the end of the movement of said actuating mechanism.

3. The combination with a base-plate, a pair of contact-points stationary thereon and insulated from each other, a movable switch-member, a pair of contact-points carried thereby and insulated from each other, of a fuse-member connecting the contact-points of the movable switch-member, means for reciprocating the switch-member, a mechanism for locking said switch-member against movement during the initial movement of the actuating mechanism and for releasing said movable switch member near the end of the movement of said actuating mechanism, and a spring for moving said switch-member subsequent to the release thereof.

4. The combination with a base-plate, a pair of contact-points stationary thereon and insulated from each other, a movable switch-member, a pair of contact-points carried thereby and insulated from each other, of a fuse-member connecting the contact-points of the movable switch-member, means for reciprocating the switch-member, a dog pivoted on the base-plate for normally locking said switch-member against movement, a collar having a cam-projection adapted to engage said dog to release the movable switch member during the end of the collar movement, a spring interposed between said collar and slide, and means for actuating said collar.

REISSUES.

13,160. WINDOW. HENRY JOCELYN DAVISON, Bexhill, England, assignor to James Augustine Davis, San Francisco, Cal. Filed Apr. 8, 1910. Serial No. 554,291. Original No. 883,177, dated Mar. 31, 1908, Serial No. 390,183.



1. In a window, the combination of two sashes and means hinging them together, a window frame with guiding grooves at the top and bottom thereof, sliding pieces pivotally attached to the sashes near their free ends and working in the grooves, and a bar in the groove at the bottom of the frame adapted to be raised into locking engagement with the lower sliding members or to be lowered away from said members to leave them free for movement in the adjustment of the window.

2. In a window, the combination of two sashes and means hinging them together, a window frame with guiding grooves at the top and bottom thereof, sliding pieces pivotally attached to the sashes near their free ends and working in the grooves, rack teeth on the lower sliding member of each sash, and a locking rack in the window frame with means for raising it into locking engagement with the sliding members and for lowering it out of engagement with said members.

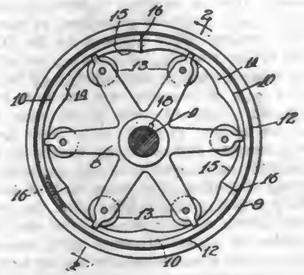
3. In a window, the combination of two sashes and means hinging them together, a window frame with guiding grooves at the top and bottom thereof, sliding pieces pivotally attached to the sashes near their free ends and working in the grooves, rack teeth on the lower sliding member of each sash, a locking rack mounted in the lower groove beneath the sliding members, said rack being free to make a small longitudinal motion, a set of stationary cross pins over which inclined surfaces on the rack bar are adapted to work, and means for pushing the bar longitudinally, whereby it is caused to slide up over the cross pins and to come into engagement with the teeth on the sliding members.

4. In a window, the combination of two sashes and means hinging them together, a window frame with guiding grooves at the top and bottom thereof, sliding pieces pivotally attached to the sashes near their free ends and working in the grooves, rack teeth on the lower sliding member of each sash, a rack bar mounted with freedom for a small longitudinal movement in the lower groove of the window frame, means adapted to cause said bar to rise when moved longitudinally in one direction and to fall when moved in the other direction, a lever and means for supporting it upon the window frame and connecting means between the lever and the rack bar.

5. In a window, the combination of two sashes, and means hinging them together, a window frame, sliding members at the top and bottom of said frame, means for movably guiding said sliding members in a direction transversely to said frame, means for connecting said sashes near their free ends to said sliding members, whereby said sashes may be swung on their hinged connection to a position at an angle to each other, a locking bar extending transversely across said frame and adapted to be moved into engagement with said sliding members at one end of said frame in all of the adjustments of said sliding members, and means for moving said bar to lock and release said sashes.

6. In a window, the combination of two sashes and means hinging them together, a window frame, sliding members at the top and bottom of said frame, means movably guiding said sliding members in a direction transversely to said frame, means for connecting said sashes near their free ends to said sliding members, whereby said sashes may be swung on their hinged connections to a position at an angle to each other, said sliding members at the bottom of the frame having projecting teeth, a toothed locking bar adapted to coöperate with the teeth on said sliding member to lock the sashes in adjusted positions, and means for moving said locking bar to lock or release said sashes.

13,161. FRICTION DRIVING-CLUTCH. AXEL R. LE MOON, Chicago, Ill., assignor to Le Moon Driving Clutch Company, a Corporation of South Dakota. Filed July 13, 1908. Serial No. 443,379. Original No. 880,084, dated Feb. 25, 1908, Serial No. 367,646.



1. The combination of a driving member and a driven member separately journaled to rotate about the same axis, a friction shoe loosely mounted between said members and having thereon two curved cam surfaces located in different angular positions with respect to the axis of said members, one of said members having thereon a pair of projections angularly spaced with respect to said axis to correspond with the angular spacing of said cam surfaces, said cam surfaces and projections being adapted to urge said shoe toward said driven member through the relative rotation of said shoe and driving member.

2. The combination of a driving member and a driven member separately journaled to rotate about the same axis, a friction shoe loosely mounted between said members and having thereon two curved cam surfaces located in different angular positions with respect to the axis of said members, one of said members having thereon a pair of projections angularly spaced with respect to said axis to correspond with the angular spacing of said cam surfaces, said cam surfaces being exactly alike and being similarly disposed with respect to said axis and to the adjacent surface of said driven member, and said projections being alike and equally distant from said axis and adapted to coact with said cam surfaces to urge said shoe toward said driven member through the relative rotation of said shoe and driving member.

3. The combination of a driven member having an inner

annular friction surface, a driving member journaled concentrically within said driven member and having thereon a pair of projections angularly spaced with respect to the axis of said members, a friction shoe having its outer periphery shaped to fit said friction surface of said driven member and having a pair of concave cam surfaces on its inner surface spaced angularly to correspond with the angular spacing of said projections, said cam surfaces and projections being adapted to coact with each other to force said shoe into frictional contact with said friction surface through the rotation of said driving member in either direction with respect to said shoe, and means normally urging said shoe out of engagement with said friction surface.

4. The combination of a driven member having an internal annular friction surface, a driving member journaled concentrically within said friction surface, a pair of anti-friction rollers journaled on said member on axes parallel with the axis of said members and angularly spaced with respect to said axis, a friction shoe interposed between the friction surface on said driven member and said rollers, the outer surface of said shoe being shaped to fit said friction surface and the inner surface of said shoe comprising two concave cam surfaces angularly spaced to coact respectively with said anti-friction rollers and suitably shaped to cause said shoe to be urged into gripping contact with the friction surface on said driven member through the rotation of said driving member in either direction with respect to said shoe, and means normally urging said shoe out of engagement with said friction surface.

5. The combination of a driven member having an internal annular friction surface, a driving member journaled concentrically within said surface, an annular series of segmental friction shoes opposed to the friction surface on said driven member, each having an outer surface fitting said friction surface and having an inner surface comprising a pair of concave cam surfaces respectively located adjacent to opposite ends of the shoe, a plurality of anti-friction rollers, two for each shoe, journaled on said driving member and angularly spaced to correspond with the angular spacing of said cam surfaces, said cam surfaces being so shaped as to cause each of said shoes to be urged into gripping engagement with the friction surface on said driven member through the rotation of said driving member in either direction with respect to said series of shoes, and means normally urging said shoes out of such gripping engagement.

6. The combination of a driving shaft, a wheel loosely journaled thereon and having rigid thereon an internal annular friction surface, a driving member rigidly mounted on said shaft and located within said friction surface, a shoe interposed between said friction surface and driving member, having its outer surface fitting said friction surface and having its inner surface comprising a pair of cam surfaces respectively located adjacent to opposite ends of said shoe, a pair of anti-friction rollers journaled on said driving member and spaced apart angularly to correspond with the spacing of said cam surfaces, said cam surfaces being so formed as to cause said shoe to be urged into contact with said friction surface through the relative rotation of said driving member and shoe, and means normally urging said shoe out of engagement with said friction surfaces.

7. The combination of a driving axle, a wheel loosely journaled thereon, an annular flange rigidly secured to said wheel and having an internal cylindrical friction surface, a driving member rigidly secured to said axle within said flange, an annular series of segmental friction shoes interposed between said flange and driving member, each having an outer surface fitting the friction surface of said flange and having an inner surface comprising a pair of cam surfaces spaced apart angularly toward opposite ends of such shoe, a plurality of rollers journaled on said driving member and angularly spaced to correspond with the spacing of said cam surfaces, means normally urging said friction shoes out of engagement with the friction surface of said flange, and said shoes and driven member having parts overlapping each other and adapted to prevent the removal of said shoes while said driving member is in its normal position within said flange.

8. The combination of a driven axle, a wheel loosely journaled thereon and having an internal annular friction surface, a member rigid on said axle and located concentrically inward of said friction surface, an annular series of friction shoes interposed between said friction surface and said member, each having an outer surface fitting said friction surface and each having an inner surface comprising a pair of similar cam surfaces respectively located adjacent to opposite ends of such shoe, a plurality of rollers, two for each shoe, journaled on said driving member, being spaced apart angularly to correspond with the relative spacing of said cam surfaces, said driving member having parts overlapping said shoes at each side thereof and adapted to prevent said shoes from shifting in an axial direction.

9. A driving clutch, comprising a driving member and a driven member journaled to rotate about the same axis, an annular series of friction shoes interposed between said driving and driven members, coacting cam surfaces and projections between said shoes and driving member adapted to urge said shoes into frictional contact with said driven member through the relative rotation of said shoes and driving member, means normally urging said shoes out of frictional contact with said driven member, said cam surfaces and projections being so disposed relatively of each other as to prevent accidental tilting of said shoes when out of frictional contact with said driven member.

10. A friction clutch, comprising driving and driven members journaled to rotate about a common axis and a series of friction shoes interposed between said driving and driven members, coacting cam surfaces and projections between said shoes and driving member and so arranged as to provide two angularly spaced supports for each shoe, and means normally urging said shoes inward against said supports.

11. A frictional clutch, comprising a driven member, a driving member, a series of friction shoes interposed between said driving and driven members, coacting cam surfaces and projections between said shoes and driving member adapted to force the shoes into gripping engagement with the driven member through the relative rotation of said shoes and driving member, and means normally urging said shoes out of such engagement, said cam surfaces and projections being arranged to provide stable support and avoid endwise tilting of said shoes when said shoes are out of driving engagement with said driven member.

12. A driving clutch, comprising a driving member and a driven member journaled to rotate about the same axis, an annular series of friction shoes interposed between said driving and driven members, coacting cam surfaces and projections between said shoes and driving member adapted to urge said shoes into frictional contact with said driven member through the relative rotation of said shoes and driving member in either direction, means normally urging said shoes out of frictional contact with said driven member, said cam surfaces and projections being so disposed relatively of each other as to prevent accidental tilting of said shoes when out of frictional contact with said driven member.

13,162. PHOTOGRAPHIC EMULSION. YORK SCHWARTZ, Hanover, Germany, assignor to Synoloids Limited, London, England. Filed Aug. 26, 1910. Serial No. 579,120½. Original No. 710,019, dated Sept. 30, 1902, Serial No. 111,227. Reissue No. 13,144, dated Aug. 16, 1910, Serial No. 540,472.

A photographic emulsion, containing an emulsifying agent, silver-phosphate, silver chlorate, and a silver salt of an organic acid, substantially as described.

DESIGNS.

40,951. BADGE. CHARLES B. PEMBERTON, Whittier, Cal. Filed June 23, 1909. Serial No. 503,968. Term of patent 3½ years.



The ornamental design for a badge as shown.

40,952. CAN. EMMA R. LEE THAYER, Hastings-upon-Hudson, N. Y., assignor to Bruguier Chemical Co., Newark, N. J., a Corporation of New Jersey. Filed July 16, 1910. Serial No. 572,385. Term of patent 14 years.



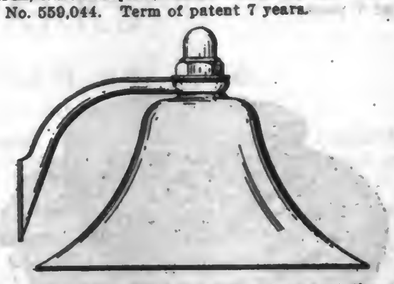
The ornamental design for a can as shown and described.

40,953. JAR. EMMA R. LEE THAYER, Hastings-upon-Hudson, N. Y., assignor to Bruguier Chemical Co., Newark, N. J., a Corporation of New Jersey. Filed July 16, 1910. Serial No. 572,386. Term of patent 14 years.



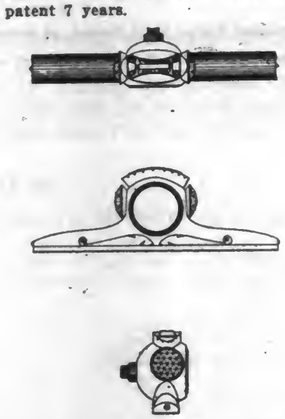
The ornamental design for a jar as shown and described.

40,954. BELL AND SUPPORT THEREFOR. MAYO S. PURPLE, East Hampton, Conn. Filed May 2, 1910. Serial No. 559,044. Term of patent 7 years.



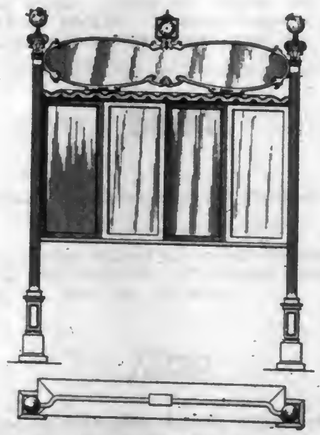
The ornamental design for a bell and support therefor, as shown and described.

40,955. AUTOMOBILE-LAMP. FREDERICK S. STAFFORD, Dallas, Tex. Filed July 25, 1910. Serial No. 573,816. Term of patent 7 years.



The ornamental design for an automobile lamp as shown.

40,956. SIGN-BOARD. FERMIN CESTERO, Habana, Cuba. Filed July 13, 1910. Serial No. 571,859. Term of patent 7 years.



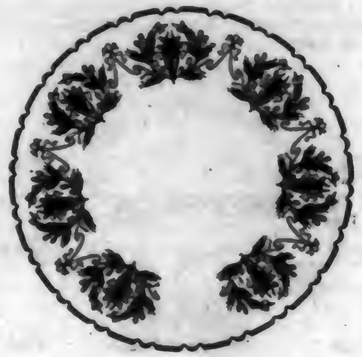
The ornamental design for a sign board as shown.

40,957. BONNET. WILSON R. BLOUGH, Harrisburg, Pa. Filed June 25, 1910. Serial No. 568,943. Term of patent 7 years.



The ornamental design for a bonnet, as shown.

40,958. DOILY. ROBERT GAIR, New York, N. Y. Filed Aug. 26, 1910. Serial No. 579,190. Term of patent 3½ years.



The ornamental design for a doily, as shown.

TRADE-MARKS

PUBLISHED OCTOBER 25, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 40,890. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) FRANK P. IANNARONE, Far Rockaway, N. Y. Filed Mar. 2, 1909.



Particular description of goods.—A Preparation for Cleaning and Polishing Silver, Gold, and Plated Ware.

Ser. No. 40,974. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) J. T. MCMILLAN COMPANY, St. Paul, Minn. Filed Mar. 6, 1909. Used ten years.

PARAGON

Particular description of goods.—The Following Kinds of Meats: Fresh Hams, Bellies, Sides, Picnics, Shoulders, Backs, Plates, Loins, and Tenderloins; Sweet-Pickled Tongues, Hams, Bellies, Picnics, and Shoulders, and Dried Salted Plates, Backs, Sides, Bellies, Hams, Bacon, Picnics, and Shoulders.

Ser. No. 42,374. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RICH, SCHUBERT & Co., Weinböhla, near Dresden, Germany. Filed May 12, 1909.

Rino

Particular description of goods.—Ointments to be Used in Cases of Herpes, Eczema, and Similar Diseases of the Skin.

Ser. No. 43,182. (CLASS 39. CLOTHING.) EDOUARD LEURENT, Tourcoing, France. Filed June 22, 1909.

Securitas.

Particular description of goods.—Flannel Under and Outer Shirts, Pajamas, Collars, Jackets, Drawers, Chemises, Camisoles, Dressing-Gowns, Petticoats, Blouses, Sporting-Skirts, Dresses for Women's and Girls' Wear, Robes and Baby-Linen for Young Children's Wear.

Ser. No. 47,994. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) PATRICIUS ANGELUS MARIA CRAMER, Amsterdam, Netherlands. Filed Feb. 24, 1910.

BACNO

Particular description of goods.—Sterilized Milk.

Ser. No. 48,319. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) THOMPSON EHLERS CO., Chicago, Ill. Filed Mar. 10, 1910.

TECO

Particular description of goods.—Shoe-Laces, Shoe-Eyelets, and Shoe-Closure Fastenings.

Ser. No. 48,714. (CLASS 37. PAPER AND STATIONERY.) DISTRICT OF COLUMBIA PAPER MANUFACTURING COMPANY, Alexandria, Va., and Washington, D. C. Filed Mar. 29, 1910.

WHITE HOUSE

Particular description of goods.—Paper, Comprising Blotting and Coated Blotting, Book and Coated Book, Cover and Coated Cover, Bond, Writing, and Ledger Papers.

Ser. No. 48,715. (CLASS 37. PAPER AND STATIONERY.) DISTRICT OF COLUMBIA PAPER MANUFACTURING COMPANY, Alexandria, Va., and Washington, D. C. Filed Mar. 29, 1910.

CABINET

Particular description of goods.—Paper, Comprising Blotting and Coated Blotting, Book and Coated Book, Cover and Coated Cover, Bond, Writing, and Ledger Papers.

Ser. No. 48,718. (CLASS 37. PAPER AND STATIONERY.) DISTRICT OF COLUMBIA PAPER MANUFACTURING COMPANY, Alexandria, Va., and Washington, D. C. Filed Mar. 29, 1910.

JUDICIAL

Particular description of goods.—Paper, Comprising Blotting and Coated Blotting, Book and Coated Book, Cover and Coated Cover, Bond, Writing, and Ledger Papers.

Ser. No. 48,776. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) THE AMERICAN FABRIC BELTING CO., Cleveland, Ohio. Filed Mar. 31, 1910.

"NESTOR"

Particular description of goods.—Woven Belting.

Ser. No. 49,013. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) THE CINCINNATI SHEET METAL & ROOFING COMPANY, Cincinnati, Ohio. Filed Apr. 11, 1910.



Particular description of goods.—Sheet Metal.

Ser. No. 49,486. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ALLCOCK MANUFACTURING COMPANY, Ossining and New York, N. Y. Filed May 3, 1910. Used ten years.

Brandreth

Particular description of goods.—Pills, Medicinal Tablets, Medicinal Wafers, Medicinal Tonics, Liniments, and Medicinal Plasters.

Ser. No. 50,002. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) NORTHERN CHEMICAL COMPANY, Cleveland, Ohio. Filed May 31, 1910.

SOLVENTENE

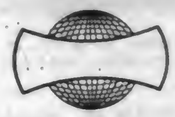
Particular description of goods.—A Water-Purifying Compound for Use in Steam-Boilers.

Ser. No. 50,339. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) ERNST STOLL, Markneukirchen, Germany. Filed June 16, 1910.

KUBELIK

Particular description of goods.—Strings for Musical Instruments.

Ser. No. 50,373. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) STOLLWERCK BROTHERS, INC., Stamford, Conn. Filed June 17, 1910.



Particular description of goods.—Cocoa, Chocolate, and Candy.

Ser. No. 50,389. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE WINDSOR PRINT WORKS, North Adams, Mass. Filed June 17, 1910. Used ten years.

WINDSOR

CRETONNE

FINE



Particular description of goods.—Plain White, Dyed, and Printed Cretonne.

Ser. No. 50,565. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CROWN CHOCOLATE CO., McKeesport, Pa. Filed June 24, 1910.



Particular description of goods.—Candies, Chocolates, and Sweetened Popcorn.

Ser. No. 50,678. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HARRY H. BAUM, Chicago, Ill. Filed July 2, 1910.

COPPER KING

Particular description of goods.—Tea.

Ser. No. 50,808. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) GRINNELL WILLIS & CO., New York, N. Y. Filed July 13, 1910.

WELCOME

Particular description of goods.—Cotton Piece Goods.

Ser. No. 50,816. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) DIAMOND CRYSTAL SALT COMPANY, St. Clair, Mich. Filed July 13, 1910.



Which shows a fanciful picture of the conception "Shaker."

Particular description of goods.—Salt.

Ser. No. 50,912. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE RUSSELL EMBROIDERING CO., New York, N. Y. Filed July 19, 1910.

Storkenest

Particular description of goods.—Flannels in the Piece.

Ser. No. 51,022. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) STANLEY CLAGUE, Chicago, Ill. Filed July 23, 1910.

Yours Truly

Particular description of goods.—Straight Whisky, Brandy, Gin, Cocktails, Cognac, and Cordial.

Ser. No. 51,128. (CLASS 2. RECEPTACLES.) JAMES A. ULLMAN, New York, N. Y. Filed July 28, 1910.

GUARDOMETER

Particular description of goods.—Storage-Tanks.

Ser. No. 51,161. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) HARRY W. MCCLURE, Ann Arbor, Mich. Filed July 27, 1910.

DAN PATCH

Particular description of goods.—Hobby-Horses, Hobby-Carts, and Toys.

Ser. No. 51,231. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) MERCHANT & EVANS COMPANY, Philadelphia, Pa. Filed Aug. 2, 1910.



Particular description of goods.—Ventilators.

Ser. No. 51,242. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) TROPICAL PHARMACAL COMPANY, New York, N. Y. Filed Aug. 2, 1910.



Particular description of goods.—Tocological Medicine.

Ser. No. 51,257. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) "THE 'BRITELITE' COMPANY," Wilmington, Del., and New York, N. Y. Filed Aug. 4, 1910.

KOMAR

Particular description of goods.—Gas, Kerosene, and Gasolene Mantles and Gas, Kerosene, and Gasolene Burners.

Ser. No. 51,269. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) DANIEL ALEX. CARLYLE, Alba, Mo. Filed Aug. 5, 1910.

D A Carlyle

Being a facsimile of my signature.
Particular description of goods.—Remedies for Piles.

Ser. No. 51,382. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FRANCIS H. LEGGETT & CO., New York, N. Y. Filed Aug. 12, 1910.

NABOB

Particular description of goods.—Cracker-Dust.

Ser. No. 51,388. (CLASS 50. MERCHANDISE NOT OTHERWISE CLASSIFIED.) W. S. ROTHBAND & CO., Cheetham, Manchester, England. Filed Aug. 13, 1910.

W.S.R.M.

Consists of the letters "W. S. R. M."
Particular description of goods.—Waterproof Bed-Sheeting Composed Principally of India-Rubber or Similar Mixing.

Ser. No. 51,400. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DOWD & SCALLY, Fort Dodge, Iowa. Filed Aug. 15, 1910.

X Y Z

Particular description of goods.—Teas, Coffees, Cocoa, and Chocolate.

Ser. No. 51,434. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE ELMER MANUFACTURING COMPANY, St. Louis, Mo. Filed Aug. 17, 1910.

TEMCO

Particular description of goods.—Ticket Printing and Delivering Machines.

Ser. No. 51,458. (CLASS 17. TOBACCO PRODUCTS.) NATIONAL CIGARETTE COMPANY, New York, N. Y. Filed Aug. 19, 1910.

RAMADO

Particular description of goods.—Cigarettes.

Ser. No. 51,469. (CLASS 38. PRINTS AND PUBLICATIONS.) MEISSNER & BUCH, Leipzig, Germany. Filed Aug. 20, 1910.

M&B

Particular description of goods.—Lithographic Prints.

Ser. No. 51,488. (CLASS 3. BAGGAGE, HORSE EQUIPMENTS, PORTFOLIOS, AND POCKET-BOOKS.) WILLARD H. ELDRED, Battle Creek, Mich. Filed Aug. 22, 1910.

E

Particular description of goods.—Harness, Saddlery, Bridles, Lines, Breast-Collars, Traces, Saddles, Belly-Bands, Shaft-Tugs, Breechings, Turnbacks, Side Straps, Horse-Blankets, Lap-Dusters.

Ser. No. 51,512. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THEODORE CHARLES DUSENBERG, Philadelphia, Pa. Filed Aug. 23, 1910.

MENTHOLETTES

Particular description of goods.—Candy.

Ser. No. 51,538. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SULPHUME COMPANY, Boston, Mass. Filed Aug. 25, 1910.

Diazalia

Particular description of goods.—Hair-Tonic, Face-Powder, and Cold-Cream.

Ser. No. 51,854. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) ELY & WALKER DRY GOODS CO., St. Louis, Mo. Filed Sept. 16, 1910. Used ten years.

JOHNSON

Particular description of goods.—Percale.

Ser. No. 51,880. (CLASS 12. CONSTRUCTION MATERIALS.) BARRETT MANUFACTURING COMPANY, New York, N. Y. Filed Sept. 19, 1910.

TROPICO

Particular description of goods.—Ready Felt Roofing.

Ser. No. 51,881. (CLASS 12. CONSTRUCTION MATERIALS.) BARRETT MANUFACTURING COMPANY, New York, N. Y. Filed Sept. 19, 1910.

MEXOID

Particular description of goods.—Ready Felt Roofing.

Ser. No. 51,909. (CLASS 27. HOROLOGICAL INSTRUMENTS.) THE WESTERN CLOCK MFG. CO., Peru, Ill. Filed Sept. 21, 1910.

SLEEPMETER

Particular description of goods.—Clocks and Watches.

Ser. No. 51,910. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) FRANK BISHOP, St. Louis, Mo. Filed Sept. 21, 1910.



Particular description of goods.—Automobile Horn-Reed.

Ser. No. 51,914. (CLASS 39. CLOTHING.) DANVILLE KNITTING MILLS, Danville, Va. Filed Sept. 22, 1910.

BUFFALO



Particular description of goods.—Hosiery.

Ser. No. 51,919. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) NEW YORK BELTING & PACKING COMPANY LTD., New York, N. Y., and Passaic, N. J. Filed Sept. 22, 1910.

JUBILEE

Particular description of goods.—Hose Composed of Rubber, Fabric and Rubber, and Rubber Combined with Metallic Reinforcing and Protecting Parts.

Ser. No. 51,952. (CLASS 43. THREAD AND YARN.) MEYER, MARTIN & DANDA, New York, N. Y. Filed Sept. 24, 1910.

AMERICAN BEAUTY



Particular description of goods.—Embroidery-Flosses.

Ser. No. 51,976. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CORN PRODUCTS REFINING COMPANY, Jersey City, N. J., and New York, N. Y. Filed Sept. 27, 1910.

REX

Particular description of goods.—Laundry Starch.

Ser. No. 51,981. (CLASS 39. CLOTHING.) HECHT & CAMPE, INC., New York, N. Y. Filed Sept. 27, 1910.

Snobak

Particular description of goods.—Knit Undershirts and Knit Drawers.

Ser. No. 51,995. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RICHARD J. PARRETT, Elkhart, Ind. Filed Sept. 27, 1910.



Being a portrait of myself.
Particular description of goods.—A Remedy for Diseases of the Blood, Kidneys, and Liver, a Laxative, and a Nerve-Tonic.

Ser. No. 52,074. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) POSTUM CEREAL CO., LIMITED, Battle Creek, Mich. Filed Oct. 3, 1910.

GRAPE-NUTS

Particular description of goods.—Prepared Wheat and Barley Breakfast Foods.

Ser. No. 52,075. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) POSTUM CEREAL CO., LIMITED, Battle Creek, Mich. Filed Oct. 3, 1910.

TOASTIES

Particular description of goods.—Prepared Corn Breakfast Foods.

TRADE-MARKS

REGISTERED OCTOBER 25, 1910.

79,949. METAL RECEPTACLES FOR COMPRESSED OR LIQUEFIED GAS. AERATORS LIMITED, London, England.
Filed February 7, 1910. Serial No. 47,633. PUBLISHED AUGUST 23, 1910.

79,950. MILK-MODIFIER, COMPOSED CHIEFLY OF GRAIN. ADA M. ALBERTY, Seattle, Wash.
Filed March 22, 1910. Serial No. 48,595. PUBLISHED AUGUST 23, 1910.

79,951. ANTISEPTIC SHEETS FOR MEDICINAL AND SURGICAL USE. VICTOR VON ALPENBURG, West Hoboken, N. J.
Filed April 21, 1910. Serial No. 49,227. PUBLISHED AUGUST 23, 1910.

79,952. JUTE BAGGING FOR BALING COTTON. THE AMERICAN MANUFACTURING COMPANY, New York, N. Y.
Filed June 19, 1909. Serial No. 43,111. PUBLISHED AUGUST 23, 1910.

79,953. DISTRIBUTING-CARTS AND DUMPING-WAGONS. AMERICAN ROAD MACHINE COMPANY, Kennett Square, Pa.
Filed April 27, 1910. Serial No. 49,319. PUBLISHED AUGUST 23, 1910.

79,954. SPOOL-COTTON, SEWING-COTTON, THREAD, AND COTTON YARN. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed August 2, 1910. Serial No. 51,227. PUBLISHED AUGUST 23, 1910.

79,955. SPOOL-COTTON, SEWING-COTTON, THREAD, AND COTTON YARN. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed August 2, 1910. Serial No. 51,228. PUBLISHED AUGUST 23, 1910.

79,956. TEA. ASMUS BROTHERS, Detroit, Mich.
Filed July 13, 1910. Serial No. 50,820. PUBLISHED AUGUST 23, 1910.

79,957. ENVELOPS, TABLETS, AND BLANK BOOKS. J. C. BLAIR COMPANY, Huntingdon, Pa.
Filed June 17, 1908. Serial No. 35,515. PUBLISHED AUGUST 23, 1910.

79,958. BOOTS AND SHOES AND SLIPPERS OF LEATHER OR TEXTILE MATERIAL. EDWIN C. BURT COMPANY, New York, N. Y.
Filed May 2, 1910. Serial No. 49,429. PUBLISHED AUGUST 23, 1910.

79,959. IMITATION VANILLA FLAVORING. THE CABELL COMPANY, Baltimore, Md.
Filed June 20, 1910. Serial No. 50,458. PUBLISHED AUGUST 23, 1910.

79,960. WHEAT-FLOUR. J. B. CAMORS & CO., New Orleans, La.
Filed June 22, 1910. Serial No. 50,515. PUBLISHED AUGUST 23, 1910.

79,961. BOYS' AND GIRLS' STOCKINGS. CENTRAL KNITTING COMPANY, St. Louis, Mo.
Filed July 18, 1910. Serial No. 50,880. PUBLISHED AUGUST 23, 1910.

79,962. CERTAIN CHEMICALS. STANLEY CLAGUE, Chicago, Ill.
Filed July 23, 1910. Serial No. 51,019. PUBLISHED AUGUST 23, 1910.

79,963. REMEDY FOR ALL LAXED CONDITIONS OF THE BOWELS. SIDNEY E. COSSON, Morristown, Tenn.
Filed July 2, 1910. Serial No. 50,685. PUBLISHED AUGUST 23, 1910.

79,964. CANNED SARDINES. P. DUFF & SONS, Pittsburg, Pa.
Filed March 6, 1909. Serial No. 40,969. PUBLISHED AUGUST 23, 1910.

79,965. SMOKELESS POWDER. E. I. DU PONT DE NEMOURS POWDER COMPANY, Hoboken, N. J., and Wilmington, Del.
Filed July 18, 1910. Serial No. 50,900. PUBLISHED AUGUST 23, 1910.

79,966. SHAMPOO-POWDER. R. G. EDWARDS, London, England.
Filed July 12, 1910. Serial No. 50,801. PUBLISHED AUGUST 23, 1910.

79,967. TEA AND SPICES. MILTON L. EPPSTEIN, Fort Worth, Tex.
Filed December 27, 1909. Serial No. 46,730. PUBLISHED AUGUST 23, 1910.

79,968. WEEKLY PUBLICATION. EXAMINER PRINTING COMPANY, San Francisco, Cal.
Filed June 24, 1909. Serial No. 43,237. PUBLISHED JULY 19, 1910.

79,969. REMEDY FOR CERTAIN DISEASES. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed February 23, 1909. Serial No. 40,734. PUBLISHED AUGUST 23, 1910.

79,970. PERIODICAL FINANCIAL PUBLICATIONS. CORNELIA KNOWLES FITCH, New York, N. Y.
Filed April 25, 1910. Serial No. 49,286. PUBLISHED AUGUST 23, 1910.

79,971. ROMPERS, BLOUSES, PAJAMAS, AND NIGHT-ROBES. FRANK-KLINE-STEWART CO., New York, N. Y.
Filed February 11, 1910. Serial No. 47,744. PUBLISHED MARCH 22, 1910.

79,972. HOSE-SUPPORTERS AND GARTERS. GEORGE FROST COMPANY, Boston, Mass.
Filed April 7, 1910. Serial No. 48,888. PUBLISHED AUGUST 23, 1910.

79,973. UMBRELLAS. GANS BROS., Baltimore, Md.
Filed September 9, 1909. Serial No. 44,592. PUBLISHED AUGUST 23, 1910.

79,974. WIRE NAILS AND TACKS. GLOBE TAUNTON NAIL COMPANY, Taunton, Mass.
Filed June 30, 1910. Serial No. 50,643. PUBLISHED AUGUST 23, 1910.

79,975. EDGERS AND TRIMMERS. THE GORDON HOLLOW BLAST GRATE COMPANY, Greenville, Mich.
Filed July 12, 1910. Serial No. 50,803. PUBLISHED AUGUST 23, 1910.

79,976. OINTMENT. THOMAS HOLLOWAY, London, England.
Filed February 12, 1910. Serial No. 47,759. PUBLISHED AUGUST 23, 1910.

79,977. SALVES AND OINTMENTS. ELLA VIRGINIA MACGILL, Philadelphia, Pa.
Filed April 14, 1910. Serial No. 49,095. PUBLISHED JULY 5, 1910.

79,978. CERTAIN MUSICAL INSTRUMENTS. FRANK HOLTON & CO., Chicago, Ill.
Filed January 3, 1910. Serial No. 46,846. PUBLISHED AUGUST 23, 1910.

79,979. HORSEWHIPS. THE HORSEWHIP COMPANY, Westfield, Mass.
Filed July 13, 1910. Serial No. 50,823. PUBLISHED AUGUST 23, 1910.

79,980. MECHANICAL IMPACT FLY-KILLERS. IDEAL MANUFACTURING COMPANY, Sanford, Me.
Filed March 9, 1910. Serial No. 48,285. PUBLISHED AUGUST 23, 1910.

79,981. INTERNAL-COMBUSTION ENGINES. IOWA DAIRY SEPARATOR COMPANY, Waterloo, Iowa.
Filed July 20, 1910. Serial No. 50,932. PUBLISHED AUGUST 23, 1910.

79,982. INTERNAL-COMBUSTION ENGINES. IOWA DAIRY SEPARATOR COMPANY, Waterloo, Iowa.
Filed July 20, 1910. Serial No. 50,933. PUBLISHED AUGUST 23, 1910.

79,983. INTERNAL-COMBUSTION ENGINES. IOWA DAIRY SEPARATOR COMPANY, Waterloo, Iowa.
Filed July 20, 1910. Serial No. 50,934. PUBLISHED AUGUST 23, 1910.

79,984. REMEDY FOR HEMORRHOIDS. EDWARD KIRCHNER, Waukegan, Ill.
Filed July 19, 1910. Serial No. 50,920. PUBLISHED AUGUST 23, 1910.

79,985. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed June 30, 1910. Serial No. 50,641. PUBLISHED AUGUST 23, 1910.

79,986. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed July 1, 1910. Serial No. 50,664. PUBLISHED AUGUST 23, 1910.

79,987. LIQUID PREPARATIONS FOR TREATING THE COMPLEXION. MARY M. LE BLANC, Oxford, Nebr.
Filed June 20, 1910. Serial No. 50,450. PUBLISHED AUGUST 23, 1910.

79,988. CERTAIN FOODS. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed June 1, 1910. Serial No. 50,036. PUBLISHED AUGUST 23, 1910.

79,989. STRAINED HONEY. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,728. PUBLISHED AUGUST 23, 1910.

79,990. PEANUT-BUTTER. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,729. PUBLISHED AUGUST 23, 1910.

79,991. SWEET MANGOES. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,731. PUBLISHED AUGUST 23, 1910.

79,992. CRANBERRY SAUCE. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,734. PUBLISHED AUGUST 23, 1910.

79,993. VINEGAR. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,735. PUBLISHED AUGUST 23, 1910.

79,994. WRITING-PAPER, ENVELOPS, AND VISITING-CARDS. JAMES MCCREERY & COMPANY, New York, N. Y.
Filed July 11, 1910. Serial No. 50,784. PUBLISHED AUGUST 23, 1910.

79,995. PORTER, ALE, AND STOUT. J. & A. MCKECHNIE BREWING CO., Canandaigua, N. Y.
Filed June 25, 1910. Serial No. 50,579. PUBLISHED AUGUST 23, 1910.

79,996. COFFEE. E. B. MILLAR & CO., Chicago, Ill.
Filed April 13, 1910. Serial No. 49,054. PUBLISHED AUGUST 23, 1910.

79,997. BOTH PLAIN AND GEARED WEIGHT-CARRYING TROLLEYS. NEW JERSEY FOUNDRY & MACHINE CO., Plainfield, N. J., and New York, N. Y.
Filed March 1, 1910. Serial No. 48,098. PUBLISHED AUGUST 23, 1910.

79,998. CHEWING-GUM. RELIABLE VENDING CO., New York, N. Y.
Filed July 18, 1910. Serial No. 50,890. PUBLISHED AUGUST 23, 1910.

79,999. CERTAIN PIECE GOODS. THE SALT'S TEXTILE MANUFACTURING COMPANY, Bridgeport, Conn.
Filed March 28, 1910. Serial No. 48,701. PUBLISHED AUGUST 23, 1910.

80,000. PREPARATIONS FOR CLEANSING AND PRESERVING THE TEETH AND MOUTH. K. K. LANDESPRIV. MILLY-KERZEN-, SEIFEN-UND GLYCERIN-FABRIK VON F. A. SARG'S SOHN & CIE., Vienna, Austria-Hungary.
Filed March 7, 1910. Serial No. 48,233. PUBLISHED AUGUST 23, 1910.

80,001. TOOTH-PASTE, TOOTH-CREAM, TOOTH-POWDER, AND LOTION. K. K. LANDESPRIV. MILLY-KERZEN-, SEIFEN-UND GLYCERIN-FABRIK VON F. A. SARG'S SOHN & CO., Vienna, Austria-Hungary.
Filed April 20, 1910. Serial No. 49,209. PUBLISHED AUGUST 23, 1910.

80,002. ROASTED COFFEE. JULIUS J. SCHOTTEN, St. Louis, Mo.
Filed July 11, 1910. Serial No. 50,787. PUBLISHED AUGUST 23, 1910.

80,003. DOUBLE-BOTTOM ATTACHMENTS FOR WASHBOILERS. SIDNEY L. SMITH, St. Louis, Mo.
Filed June 9, 1910. Serial No. 50,207. PUBLISHED AUGUST 23, 1910.

80,004. CERTAIN METAL ARTICLES. STAR EXPANSION BOLT COMPANY, New York, N. Y.
Filed July 9, 1910. Serial No. 50,770. PUBLISHED AUGUST 23, 1910.

80,005. BORAX AND POWDERED BORAX. STERLING BORAX COMPANY, Los Angeles, Cal., and Chicago, Ill.
Filed June 29, 1910. Serial No. 50,623. PUBLISHED AUGUST 23, 1910.

80,006. ICE-CREAM, CHOCOLATES, AND CANDIES. SWETLAND & SON, Portland, Oreg.
Filed June 10, 1910. Serial No. 50,248. PUBLISHED AUGUST 23, 1910.

80,007. DRY POULTICE. THERMO-CHEMICALS COMPANY, New York, N. Y.
Filed July 11, 1910. Serial No. 50,794. PUBLISHED AUGUST 23, 1910.

80,008. MONTHLY MAGAZINES. ELIZABETH TOWNE, Holyoke, Mass.
Filed March 12, 1910. Serial No. 48,374. PUBLISHED AUGUST 23, 1910.

80,009. MEDICINAL PREPARATION CONTAINING ALBUMEN. TROPON WORKS, New York, N. Y.
Filed July 2, 1910. Serial No. 50,684. PUBLISHED AUGUST 23, 1910.

80,010. FELT ROOFING MATERIALS. UNITED ROOFING & MANUFACTURING COMPANY, Philadelphia, Pa.
Filed July 19, 1910. Serial No. 50,917. PUBLISHED AUGUST 23, 1910.

80,011. CERTAIN JEWELRY. WAITE, THRESHER COMPANY, Providence, R. I.
Filed April 25, 1910. Serial No. 49,291. PUBLISHED AUGUST 23, 1910.

80,012. PROJECTING APPARATUS. H. C. WHITE CO., North Bennington, Vt.
Filed June 30, 1910. Serial No. 50,647. PUBLISHED AUGUST 23, 1910.

80,013. HAIR-TONICS. THOMAS ZANETTI, New York, N. Y.
Filed March 30, 1910. Serial No. 48,748. PUBLISHED AUGUST 23, 1910.

80,014. BLENDED COFFEE AND COCOA. SAMUEL ZECHNOWITZ, New York, N. Y.
Filed August 25, 1909. Serial No. 44,342. PUBLISHED AUGUST 23, 1910.

TRADE-MARKS CANCELED.

79,298. PREPARED WHEAT AND BARLEY BREAKFAST FOODS. POSTUM CEREAL CO., LIMITED, Battle Creek, Mich.
Registered August 23, 1910. Canceled October 1, 1910.

79,297. PREPARED CORN BREAKFAST FOODS. POSTUM CEREAL CO., LIMITED, Battle Creek, Mich.
Registered August 23, 1910. Canceled October 1, 1910.

LABELS

15,371.—*Title:* "LA PLUMA." (For Cigars.) C. B. HENSCHEL MFG. CO., Milwaukee, Wis. Filed October 3, 1910.

15,372.—*Title:* "HURWITZ'S LARGE HAVANA STOGIES." (For Stogies.) ALBERT HURWITZ, Pittsburg, Pa. Filed July 22, 1910.

15,373.—*Title:* "OZARK QUEEN." (For Sweet Scuppernong Wine.) STONE HILL WINE CO., St. Louis, Mo. Filed September 15, 1910.

15,374.—*Title:* "SALTED PEANUTS SKYSCRAPER BRAND." (For Salted Peanuts.) HUYLER'S, New York, N. Y. Filed September 28, 1910.

15,375.—*Title:* "B R K GERMICIDE." (For a Germicide.) BERTHA R. KUNZ, Newark, N. J. Filed September 28, 1910.

PRINTS

2,652.—*Title:* "INTERWOVEN." (For Hosiery.) INTERWOVEN STOCKING COMPANY, New Brunswick, N. J. Filed September 17, 1910.

2,653.—*Title:* "GAS HEATER." (For Gas-Heaters.) SEED FILTER & MFG. COMPANY, New York, N. Y. Filed August 29, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE THE CENTRAL BRASS MFG. CO.

Decided October 14, 1910.

TRADE-MARKS—"QUICK-PRESSION" AS APPLIED TO COCKS, FAUCETS, ETC.—DESCRIPTIVE.

The word "Quick-Pression" as applied to cocks and faucets *Held* descriptive within the meaning of section 5 of the Trade-Mark Act and its registration properly refused.

ON APPEAL.

TRADE-MARK FOR VALVES, COCKS, FAUCETS, ETC.

Mr. Jesse B. Fay for the applicant.

MOORE, *Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing to register the words "Quick-Pression" as a trade-mark for valves, cocks, faucets, and bibs, the tail of the "Q" being in the form of a curved arrow terminating beneath the letter "k."

The ground on which registration was refused is that the words are descriptive of the goods to which they are applied. Applicant contends that the word is wholly fanciful and that "pression" alone has no significance apart from its use in connection with the Cartesian philosophy and is obsolete. He states that the word "Quick-Pression" was derived from "compression" by the substitution of "Quick" for the first syllable thereof, "compression" being a term applied by the trade to certain classes of cocks, faucets, etc., particularly those operated by a screw.

Applicant has advertised the goods in question under this trade-mark in current magazines, and the burden of these advertisements is that the faucets open and close quickly, only a quarter-turn of the handle being necessary to fully open or close the valve.

It is believed that this is the idea immediately suggested to the mind when the words "Quick-Pression Faucet" are uttered. *The Century Dictionary*, moreover, defines "pression" as meaning "the act of pressing; pressure" and does not indicate the word as obsolete.

Whether "pression" is considered as a word by itself or as a contraction of the word "compression" as used in the plumbing trade, I am of the opinion that the mark presented is clearly descriptive of the goods within the meaning of section 5 of the Act of February, 1905, and the registration was properly refused.

The decision of the Examiner of Trade-Marks is affirmed.

ROLFE *v.* LEEPER.

Decided September 30, 1910.

1. INTERFERENCE—REOPENING—RESTORING JURISDICTION OF EXAMINER OF INTERFERENCES—SHOWING REQUIRED.

"Motions to reopen an interference and take further testimony should generally be heard and determined in the first instance by the Examiner of Interferences; but it is well settled that in order to justify restoring the jurisdiction of the Examiner of Interferences to consider such a motion the moving party should make out a *prima facie* case."

2. SAME—SAME—SAME.

Where a junior party to an interference, who had taken no testimony but his own, brought a motion, after the time set for taking testimony had expired, to extend the time for final hearing, which the Examiner of Interferences denied, and two months later he brought a motion to restore the jurisdiction of the Examiner of Interferences to consider a motion to reopen the interference, *Held* that in the absence of any showing why a motion for an extension of time was not brought in the first instance and of any excuse for the delay after the decision of the Examiner of Interferences jurisdiction would not be restored.

ON MOTION.

THERMO-ELECTRIC CIRCUIT-BREAKER.

Mr. A. Miller Belfield for Rolfe.

Mr. Frank B. Cook and *Messrs. Jones, Addington, Ames & Seibold* for Leeper.

BILLINGS, *First Assistant Commissioner:*

This case comes up on a renewed motion by Rolfe to restore the jurisdiction of the Examiner of Interferences for the purpose of considering a motion to reopen such interference.

This interference was decided in favor of Leeper on March 15, 1910, on the ground that Rolfe, the junior party, had failed to print any testimony. Appeal from that decision to the Board of Examiners-in-Chief was filed by Rolfe on April 4, 1910. On May 21, 1910, a motion to restore the jurisdiction of the Examiner of Interferences to consider a motion to reopen the interference was denied by the Assistant Commissioner. The present motion is a renewal of that motion.

As stated in the case of *Robinson* v. *Townsend* v.

Copeland, (106 O. G., 997,) motions to reopen an interference and take further testimony should generally be heard and determined in the first instance by the Examiner of Interferences; but it is well settled that in order to justify restoring the jurisdiction of the Examiner of Interferences to consider such a motion the moving party should make out a *prima facie* case. (*Estes* v. *Gause*, 88 O. G., 1336; *Otis* v. *Ingoldsby and Bowling*, 143 O. G., 1346.) In considering whether a *prima facie* case has been made out it must appear that the motion is brought in good faith, and if there has been delay a sufficient excuse for that delay must be offered. (*Beckert* v. *Currier*, 104 O. G., 2439; *Newell* v. *Clifford* v. *Rose*, 122 O. G., 730.)

The record of the present case clearly shows that no such *prima facie* case has been made out. This interference was declared on October 12, 1908. A motion to dissolve by Rolfe was denied on January 27, 1909. Proceedings were then resumed and final hearing set for July 14, 1909. In pursuance of stipulations filed times for taking testimony were extended, and final hearing was set for March 15, 1910. No testimony was filed on behalf of Rolfe, except a deposition of Rolfe himself, which was filed on June 10, 1909, and this was never printed. It appears that this deposition was taken at Redlands, Cal., but was not completed, adjournment having been taken to Chicago. On March 12, 1910, a motion was filed by Rolfe to extend the time for final hearing. This motion was denied by the Examiner of Interferences, who pointed out that Rolfe had not printed his testimony and had filed no testimony, except his own, which under the well-settled practice was insufficient to establish that he was the prior inventor. He further stated that if any extension was desired by Rolfe it was an extension of his time for taking testimony, which had expired nearly four months prior to the bringing of the motion to extend the time for final hearing. Appeal was taken from this decision of the Examiner of Interferences, and on April 21, 1910, I refused to disturb the decision of the Examiner. On May 19, 1910, Rolfe filed a motion to reopen the interference and set times for taking testimony, which motion was denied by the Assistant Commissioner on May 21, 1910. The present motion was filed June 16, 1910.

The excuse offered for the delay is clearly insufficient. It consists largely of statements by counsel for Rolfe and certain parties interested in the Rolfe application that negotiations were entered into between the parties looking to the amicable settlement of the interference; but no reason whatever is given for the failure to bring a motion in the first instance for an extension of the time for taking testimony rather than for a mere extension of the time for final hearing, which, as correctly pointed out by the Examiner of Interferences, was futile; nor has any excuse been given for the failure to promptly bring a motion to reopen after the decision of the Examiner of Interferences of March 15, 1910.

Under the rulings of the decisions above quoted it must be held that no such *prima facie* case has been made out as will justify restoring the jurisdiction of the Examiner of Interferences to consider the motion to reopen.

The motion is denied.

EX PARTE JOHNSON.

Decided July 15, 1910.

PATENTABILITY — DESIGNS — FEATURES OF MECHANICAL UTILITY.

A design which is distinguished from the prior art only by features of mechanical utility *Held* not patentable.

APPEAL from Examiners-in-Chief.

DESIGN FOR SOUND-CONVEYING TUBES FOR TALKING-MACHINES.

Mr. Horace Pettit for the applicant.

TENNANT, *Assistant Commissioner:*

This is an appeal from the decision of the Examiners-in-Chief affirming the action of the Examiner rejecting an application for a design patent upon a sound-conveying tube for talking-machines.

The design is described by the applicant as follows:

The design consists essentially of a tapering amplifying-tube, the two parts of which extend in slightly-diverging planes and are united by substantially curved portion forming an elbow. The smaller end of the said tapering tube terminates in a substantially U-shaped tube arranged transversely to the adjacent portion of said tapering tube, and the outer end of said U-shaped tube is adapted to be attached to a sound-box.

The Examiner and also the Examiners-in-Chief held that the subject-matter involved is not a proper subject for a design patent, that the features forming the design were planned with reference to their mechanical utility, and that in so far as they contribute to the general appearance of the device as an entity they involve no invention in the design field. Certain patents were also referred to as illustrating sound-conveying devices of the same general type.

The references cited are as follows: Lee, October 30, 1888, No. 392,040; Brunt, March 15, 1904, No. 754,918; British patent to Lake, No. 8,401 of 1903.

In my opinion the decision of the Examiners-in-Chief is clearly right. The device shown in the applicant's drawing apparently illustrates a connection to a phonograph and a tapering tube with an upturned end formed with a swivel-joint from which extends another tapering or flaring horn. The mechanical utility of this device is obvious. The swivel-joint would permit the bell of the horn to be turned about a vertical axis in any direction, while the first member would remain stationary in respect to the phonograph-disk. The tapering-formed tube adapted to convey sound is old, as is illustrated in the patent to Lee, and is also common in wind instruments, such as trumpets, horns, etc. In sound-conveyers of this character it is customary to curve the tapered tube as desired, in some instances the same being flexible for that purpose—as, for example, in the patent to Lee. Obviously the tube disclosed in this patent could easily be bent in the same general shape as that illustrated in the applicant's

drawing. The only thing which would remain to distinguish it from the Lee construction thus bent around would be the swivel-joint, which, as pointed out, is for the purpose of mechanical utility.

The decision of the Examiners-in-Chief is affirmed.

EX PARTE INTER-STATE MILLING COMPANY.

Decided September 6, 1910.

TRADE-MARK—RETURN OF FEE.

The fact that applicant at the time he applied for registration of a trade-mark believed that such a mark could be registered before being actually used forms no ground for the return of the fee.

ON PETITION.

TRADE-MARK FOR GROUND MIXED FEED OF HAY, CORN, OATS, ETC.

Messrs. Mason, Fenwick & Lawrence for the applicant.

TENNANT, *Acting Commissioner:*

This is a petition that the filing fee in this application be returned on the ground that the applicant intended to file an application for copyright registration rather than for the registration of a trade-mark.

The application presented is in all respects a formal application for the registration of a trade-mark and was accepted and examined as such. The fact that the applicant was laboring under a legal mistake in believing that a trade-mark must be registered before being used forms no sufficient ground for returning the fee forming part of the application for registration, it being well settled that merely an error in judgment or law will not warrant the return of the fee.

The petition is denied.

EX PARTE NEWMAN.

Decided September 30, 1910.

1. TRADE-MARKS—CHANGE OF DRAWING.

Application was made for registration of a trade-mark consisting of the words "La Vona." Registration was refused in view of the registered mark "Larona." An amendment was therefore filed directing the cancelation of the word "La" and asserting that "Vona" was the mark claimed by applicant. *Held* that this change should not be permitted.

2. SAME—IDENTITY—"LA VONA" and "LARONA."

A mark consisting of the words "La Vona" *Held* so similar to the registered mark "Larona" that its registration is prohibited by section 5 of the Trade-Mark Act.

ON APPEAL.

TRADE-MARK FOR CIGARS.

Messrs. Taylor & Hulse and *Messrs. Steuart & Steuart* for the applicant.

TENNANT, *Assistant Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing registration of the mark "Vona" for cigars in view of the prior registered trade-mark of the Hautzenroeder Co., No. 74,013, June 8, 1909, which consists of the word "Larona."

It appears from the record of this case that the mark originally shown in the drawing consisted of the words "La Vona." Registration of the mark thus presented was refused upon the ground that it so nearly resembled the registered trade-mark above referred to as to cause confusion in the mind of the public and deceive purchasers. Thereafter an amendment was filed by the attorney for the applicant directing the cancelation of the word "La" and asserting that the word "Vona" was the mark claimed by the applicant.

It was urged at the hearing that in view of the decision of the Court of Appeals of the District of Columbia in *in re Standard Underground Cable Co.* (123 O. G., 656; 27 App. D. C., 320) and *Johnson* v. *Brandau* (139 O. G., 732; 32 App. D. C., 348) applicant is entitled to thus select the feature, disclosed in the specimens filed, which he considers to be his trade-mark.

This contention is not believed to be well founded. In the present case the specimens filed show the words "La Vona," and the drawing as originally filed conformed with the specimens in this respect. The statement of the original application sets forth that the applicant has—

adopted and used the trade-mark shown in the accompanying drawing for cigars—

and it is averred by the applicant in the declaration that—

the drawing presented truly represents the trade-mark sought to be registered; and that the specimens show the trade-mark as actually used upon the goods.

In view of these facts, in my opinion, the modification of the drawing should not have been permitted.

Neither of the decisions cited by the applicant are in point. In the case in *in re Standard Underground Cable Co.*, *supra*, the applicant had presented two arbitrary features, and it was held by the court of appeals that he had the right to select the feature which he believed to be his trade-mark. In the case of *Johnson* v. *Brandau*, *supra*, the word "Asbestos" was included in the applicant's trade-mark; but it was held by the court that this word was merely descriptive of the goods to which it was applied and that the Commissioner should have refused registration of the mark as presented, and required that the unregistrable feature be eliminated.

In the present case it is urged that the word "La" is merely the Spanish word corresponding to the English article "the" and is therefore immaterial; but it appears that as originally claimed the combination of words was asserted to be the real trade-mark used, and the elimination of an essential part of the mark should not have been permitted for the purpose of securing registration over another mark consisting of a single word which the composite mark so closely resembles in appearance and sound.

In my opinion there is such similarity between the applicant's mark and the registered trade-mark as to be likely to cause confusion in the mind of the public, and its registration is therefore prohibited by the provisions of section 5 of the act of 1905.

The decision of the Examiner of Trade-Marks is affirmed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

IN RE THE SAFETY REMEDY COMPANY.

Decided May 26, 1910.

TRADE-MARK—INTERFERENCE—RES ADJUDICATA.

Where in an interference between Planten and the Canton Pharmacy Company the Commissioner held that the marks of both parties were descriptive and no appeal was taken by the latter, *Held* that the decision of the Commissioner was *res adjudicata* and that registration of the mark under the ten-years clause was properly refused to the successor in business of the Canton Pharmacy Company.

Mr. A. S. Pattison for the appellant.

Mr. R. F. Whitehead for the Commissioner of Patents.

BARNARD, *J.*:

The appellant applied for the registration of a trade-mark, consisting of the words "Black Caps," to be used in the form of a label on medicine, and the case was heard before the Examiner of Trade-Marks and Designs, and the registration was refused by him, the mark not being entitled to registry under the ten-year clause of the act of February 20, 1905.

The appellant thereupon appealed to the Commissioner, who affirmed the decision of the Examiner, and from that decision, appeal was taken to this court.

The principal contention of counsel for the appellant is, that as successor to the Canton Pharmacy Company, it is entitled to have this trade-mark registered, under the ten-year clause of the act; and that the decision of this court in the case of *Planten* v. *Canton Pharmacy Company* (33 App. D. C., 268) is authority for such registry. That decision seems to us to support the ruling of the Commissioner, in refusing registry in this case. "Black Caps" are words which are understood in the trade to be equivalent to "Black Capsules," and they are held in said case to be descriptive of the goods, and counsel does not now ask for registration of said words as a technical trade-mark, but only as one entitled to registry under the ten-year clause, claiming the same to have been used exclusively by the applicant and its predecessors, for the statutory period of ten years before the passage of the Trade-Mark Act.

That question, we think, cannot now be raised by the applicant. Registration was refused to the Canton Pharmacy Company, under whom the applicant claims title, in the interference between Planten and said company, No. 27,610 trade-mark interferences, on all grounds, and from the decision of the Commissioner in that case, the said company took no appeal. Planten alone appealed, and this court affirmed the decision of the Commissioner.

We think there is no answer to the argument of counsel for the Commissioner in this case, that the decision of the Commissioner in said cause No. 27,610 is *res adjudicata*.

To allow the assignee of said Canton Pharmacy Company to have the right to raise the same questions again that were decided in that case, would make a continuous performance, and there could never be an end of litigation, provided new assignees might be found willing to receive title and to renew the application in their names.

The decision of the Commissioner in this case will therefore be affirmed.

ADJUDICATED PATENTS.

The Morford patent, No. 490,034, for electric insulators, construed and *Held* not infringed. *Simplex Electric Heating Co.* v. *Leonard*, (C. C.,) 180 Fed. Rep., 763.

The Wagner patent, No. 523,698, and the Wagner and Wagner patent, No. 559,345, both for improvements in type-writing machines, construed and *Held* not infringed. *Underwood Typewriter Co.* v. *Typewriter Inspection Co.*, (C. C. A.,) 180 Fed. Rep., 726.

The Short patent, No. 546,560, for an electric locomotive, construed and *Held* not infringed. *Westinghouse Electric & Mfg. Co.* v. *Allis-Chalmers Co.*, (C. C.,) 180 Fed. Rep., 751.

The Gorton patent, No. 552,470, for a hose-supporter, construed and *Held* infringed. *George Frost Co.* v. *Samstag*, (C. C. A.,) 180 Fed. Rep., 739.

The Parson patent, No. 573,480, for a steam-blower, construed and *Held* not infringed. *Parson Mfg. Co.* v. *Coe*, (C. C.,) 180 Fed. Rep., 742.

The Schmid patent, No. 609,977, for an electric railway-motor, *Held* valid and infringed by defendant. *Westinghouse Electric & Mfg. Co.* v. *Allis-Chalmers Co.*, (C. C.,) 180 Fed. Rep., 751.

The Dearborn patents, Nos. 639,669, 679,553, and 705,326, relating to blindstitch sewing-machines, construed and each *Held* infringed. *Acme-Keystone Mfg. Co.* v. *Dearborn*, (C. C.,) 180 Fed. Rep., 766.

The Bavier & Hawkes patent, No. 658,102, for improvements in pneumatic-despatch systems, *Held* valid and infringed. *American Pneumatic Service Co.* v. *Snyder*, (C. C. A.,) 180 Fed. Rep., 712.

The Cottrell patent, No. 698,820, for a ticket-punch, *Held* valid and infringed. *Sayre* v. *Bonney Vehslage Tool Co.*, (C. C.,) 180 Fed. Rep., 772.

The Parson patent, No. 702,585, for a grate-bar, *Held* void for anticipation and lack of invention in view of the prior art. *Parson Mfg. Co.* v. *Coe*, (C. C.,) 180 Fed. Rep., 742.

The Mayr patent, No. 705,857, for a curtain-stretcher, construed and *Held* not infringed. *State Bank of Chicago* v. *Hillmans*, (C. C. A.,) 180 Fed. Rep., 732.

The Frazer patent, No. 811,211, for an amusement-railway, *Held* not infringed. *Frazer* v. *Rohr*, (C. C.,) 180 Fed. Rep., 773.

The Parson reissue patent, No. 12,072, (original No. 681,457,) for a smoke-consuming furnace, claim 2 *Held* void and claim 1 not infringed. *Parson Mfg. Co.* v. *Coe*, (C. C.,) 180 Fed. Rep., 742.

The Bertels reissue patent, No. 12,629, (original No. 802,677,) *Held* void in view of the prior art. *Trethaway* v. *W. B. Bertels & Son Co.*, (C. C. A.,) 180 Fed. Rep., 730.

Changes in Classification.

(ORDER No. 1,876.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 1, 1910.

The following corrections in the printed classification of inventions, as revised July 1, 1908, are hereby ordered:

In Division VII, class 208, Velocipedes, subclass 79, Props, Pivoted, One leg, Extension hinged, should be numbered *76*.

In Division XXIII, class 58, Horology, subclass 41, Clocks, Electric, Self, the word "Self" should be set in one space, in order to read under "Winding—."

The following corrections in Classification Bulletin No. 24 are hereby ordered:

Page 4, Order No. 1,843, paragraph 6, the numeral "87" to definition-title "Motors, Wheel" should be *287*.

Page 16, paragraph 2, last line, the period after the words "Cores and holders" should be replaced by a comma.

Page 16, paragraph 5, subclass 93, Reels, Receptacle arm, should read—

Reels—
93. Retractile arm.

Page 8, in the list of class 92, Paper Making and Fiber Liberation, the number of subclass 3, Stock treatment, Combined grinding and digesting, should be changed to *6*.

The following changes in the classification of inventions are hereby directed, to take effect immediately:

In Division IV, class 193, Conveyers, establish subclasses—

Endless—
Belt—
26. Belt structure,
27. Troughing rollers,
Bucket—
28. Bucket structure.

In Division XXV, class 83, Mills, establish the following subclasses:

Ore and coal—
Placer mining—
76. Excavating and dredging,
77. Hydraulic,
78. Thermal and solvent,
Separators—
Jiggers—
79. Piston movement,
80. Sieve movement,
Washers—
81. Agitators and conveyer,
82. Classifying and separating tanks,
Ore and coal—
Separators—
Washers—
83. Endless apron,
84. Processes—
85. Buoyant,
86. Rotary drums, horizontal axis,
87. Rotary pans and stirrers, vertical axis,
88. Shaking tables,
89. Stationary troughs and tables.

In Division XXIX, class 20, Wooden Buildings, establish the following subclass and definition:

Windows—
40.5. Condensation preventing.

In Division XXXI, class 48, Gas, Heating and Illuminating, establish the following subclasses and definitions:

Acetylene—
Generators—
Carbid feed—
Pop-valve—
53.1. Bell-operated—
53.2. Bell and holder combined,
53.3. Diaphragm-operated,
53.4. Float-operated.

In Division XXXIII, class 30, Cutlery, establish the following subclass:

Razors—
25. Blade holders.

In Division XXXVII, class 175, Electricity, General Applications, establish subclass—

Applications, special—
311. Biological.

EDWARD B. MOORE,
Commissioner.

Disclaimer.

910,201.—*Merrill L. Jenkins*, Harvey, Ill. RAILROAD TRACK-CAR. Patent dated January 19, 1909. Disclaimer filed October 13, 1910, by inventor and assignee, *Buda Foundry and Manufacturing Company*.

Enters this disclaimer—

"To claims 1 and 10 in said specification, which are in the following words, to wit:

"1. In a machine for working upon railroad tracks, in combination, a car, a motor, and tools at each side of each end of the car, all so arranged that a plurality of operations may be carried on at each end of the car.

"10. In a motor car, a longitudinal tool shaft projecting from the opposite ends of the car, means for driving the shaft from the motor, and means for attaching tools to both ends of the shaft."

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 20, 1910.

Frederick M. Hall, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Maine Manufacturing Company, of Nashua, N. H., and the application of the Grand Rapids Refrigerator Company, 17 to 27 Ottawa street and 20 to 50 Clyde Park avenue, Grand Rapids, Mich., for registration of trade-marks and trade-mark registrations No. 36,235, dated April 9, 1901, to Christian Schmidt, 157 and 159 Springfield avenue, Newark, N. J., and No. 12,637, dated October 13, 1885, to Frederick M. Hall, 71 Randolph street, Chicago, Ill., and the notice sent by registered mail to the said Frederick M. Hall at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Frederick M. Hall, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Edward A. Donaldson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the National Cleanser Mfg. Co., 347 Greenwich street, New York, N. Y., for registration of a trade-mark and trade-mark registration No. 23,634, dated September 19, 1893, to Edward A. Donaldson, of Galesburg, Ill., and the notice of such declaration sent by registered mail to the said Edward A. Donaldson at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Edward A. Donaldson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Union Tubing Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Pennsylvania Flexible Metallic

Tubing Company, 1305 Arch street, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 10,115, dated March 13, 1883, to the Union Tubing Company, of New York, N. Y., and the notice of such declaration sent by registered mail to the said Union Tubing Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Union Tubing Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 20, 1910.

George A. Knox, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of The Voegeli Brothers Drug Company, of No. 2 Washington avenue south, Minneapolis, Minn., for registration of a trade-mark and the trade-mark registration to George A. Knox, of Rochester, N. Y., and the notice of such declaration sent by registered mail to the said George A. Knox at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George A. Knox, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Harry W. Russell, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Beall Brothers, of Alton, Ill., for registration of a trade-mark and the trade-mark registration to Harry W. Russell, of Huntsville, Ala., and the notice of such declaration sent by registered mail to the said Harry W. Russell at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Harry W. Russell, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Amman Iron Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Th. Goldschmidt, 16 Salkenberge Weg, Essen a. d. Ruhr, German Empire, for registration of a trade-mark and the trade-mark registration of the Amman Iron Co., of Swansea, county of Glamorgan, Wales, and the notice of such declaration sent by registered mail to the said Amman Iron Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Amman Iron Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Theo. Noel Company, of Chicago, Ill., for registration of a trade-mark and the trade-mark registration of Samuel J. Brinkerhoff and George D. Brinkerhoff, of Minneapolis, Minn., and the notice of such declaration sent by registered mail to the said Samuel J. Brinkerhoff and George D. Brinkerhoff at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 23, 1910.

Charles C. Brooks, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Wehrman Medicine Company, 1209 Michigan avenue, Columbus, Ohio, and the application of G. H. Mullen, of Guyandotte, W. Va., for the registration of a trade-mark; the trade-mark registration of the Good Samaritan Ointment Company, 222 Broadway, Camden, N. J.; the trade-mark registrations of Samuel A. Richmond, of Tuscola, Ill.; and the trade-mark registration of Charles C. Brooks, of Waverly, N. Y., and the notice of such declaration sent by registered mail to the said Charles C. Brooks at the address given has been returned by the post-office as undeliverable.

Notice is therefore given to the said Charles C. Brooks, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Newell Coal Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Hokkaido Tanko Kisen (Kabushiki) Kaisha, of Mororan, Japan, for registration of a trade-mark and the trade-mark registration of the Newell Coal Company, of Peoria, Ill., and the notice of such declaration sent by registered mail to the said Newell Coal Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Newell Coal Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

James E. Blauvelt, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Edward Wright Dodes, No. 714 Washington Boulevard, Fort Wayne, Ind., for registration of a trade-mark and the trade-mark registration of James E. Blauvelt, No. 6 South Broadway, Nyack, N. Y., and the notice of such declaration sent by registered mail to the said James E. Blauvelt at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said James E. Blauvelt, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

INDEX

TO THE

DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS.

OCTOBER, 1910.

[Decisions of the Court of Appeals of the District of Columbia are indicated by a star (*) and of the United States Circuit Court of Appeals by the letter [d].]

TABLE OF CASES.

	Page.
Beaumont Manufacturing Company. *Ex parte*	491
[d]Bossert Electric Const. Co. *v.* Pratt Chuck Co	747
[d]Bossert Electric Const. Co. *v.* Sprague Electric Co	747
Boving. *Ex parte*	490
Central Brass Mfg. Co., The. *Ex parte*	991
Foster *v.* Bell	241
Hardinge. *Ex parte*	241
Inter-State Milling Company. *Ex parte*	993
Johnson. *Ex parte*	992
Landau *v.* Spitzenberg	242
Langhaar. *Ex parte*	747
Lester H. Greene Company, The, *v.* Scott & Bowne	242
Mastaglio. *Ex parte*	489
Newman. *Ex parte*	993
Pfautz. *Ex parte*	489
Rolfe *v.* Leeper	991
*Safety Remedy Company, The. *In re*	994
Vanderveld *v.* Smith	490
[d]Wilson Trolley Catcher Company *v.* Frank Ridlon Company *et al*	244

SUBJECT-MATTER INDEX.

	Page.
Abandonment of application from lack of proper prosecution, *ex parte* Mastaglio	489
Amendment under Rule 78 presenting unpatentable claims not to be entered, *ex parte* Langhaar	747
*Construction of patents, rules of, Bossert Electric Const. Co. *v.* Pratt Chuck Co. *et al*	747
Section 4897, Revised Statutes, *ex parte* Hardinge	241
Design, distinguished by mechanical utility only, not patentable, *ex parte* Johnson	992
Drawings, limited to as few sheets as will give a clear showing of the invention, *ex parte* Pfautz	489
Examination of applications, requirement by Examiner of new specification and drawings not met by the filing of a substitute specification and a blue-print imperfectly lettered, *ex parte* Mastaglio	489
Interference, jurisdiction of Examiner of Interferences, motion to restore, Rolfe *v.* Leeper	991
Motion to dissolve on ground of non-patentability should point out pertinency of references, Vanderveld *v.* Smith	490
Extend time for final hearing, showing required, Rolfe *v.* Leeper	991
Reopen to take further testimony, Rolfe *v.* Leeper	991
Motion to dissolve interference based on matter arising from testimony, showing must be so clear that no question can be raised, Foster *v.* Bell	241
Transmission refused, Vanderveld *v.* Smith	490
[d]Patentability, claim broader than invention disclosed in specification, patent void, Wilson Trolley Catcher Company *v.* Frank Ridlon Company *et al*	244
Renewal of forfeited applications, fee cannot be accepted when petition is not filed within statutory period, *ex parte* Hardinge	241
Petition for renewal must accompany the fee to comply with requirements of statute, *ex parte* Hardinge	241
Testimony, party not to be excused from printing unless by reason of poverty it is impossible, Landau *v.* Spitzenberg	242
Trade-marks, cancelation of the word "La" involving change of the drawing not permitted, *ex parte* Newman	993
Construction of section 5 of the Trade-Mark Act, *ex parte* The Central Brass Mfg. Co	991
Fact that the applicant believed that a trade-mark must be registered before being used not ground for returning fee, *ex parte* Inter-State Milling Company	993
"Family Liniment" and "Crude Oil, a remedy for skin diseases," goods of same descriptive properties, *ex parte* Boving	490
Goods of same descriptive properties, *ex parte* Beaumont Manufacturing Company	491
*Interference, both marks descriptive, *in re* The Safety Remedy Company	994
Intervening rights, The Lester H. Greene Company *v.* Scott & Bowne	242
Proceedings as evidence of adoption and use, The Lester H. Greene Company *v.* Scott & Bowne	242
Plurality of marks, well established that party may use several marks on a single article, The Lester H. Greene Company *v.* Scott & Bowne	242
*Registration under ten-years clause refused to assignee as successor in business, *in re* The Safety Remedy Company	994
Representation of spinning-wheel for bleached sheetings refused on a spinning-wheel, a woman running it, and the interior of a room, for linen fabrics, *ex parte* Beaumont Manufacturing Company	491
Return of fee where application was intended for copyright rather than trade-mark registration refused, *ex parte* Inter-State Milling Company	993
The compound word "Quick-Pression," for cocks and faucets, refused registration as a descriptive term, *ex parte* The Central Brass Mfg. Co	991
The words "La Vona," for cigars, refused registration on the word "Lerona," *ex parte* Newman	993

DIGEST

OF THE

DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS.

OCTOBER, 1910.

[Decisions of the Court of Appeals of the District of Columbia are indicated by a star (*) and of the United States Circuit Court of Appeals by the letter d.]

ACTION BY THE EXAMINER.

(See Prosecution of Application.)

AMENDMENT.

(See Trade-Marks, 9.)

UNDER RULE 78—PRACTICE.
Where the Examiner reports that certain claims contained in an amendment presented under Rule 78 are not patentable, such amendment will not be entered. [*Ex parte* Langhaar, 747.

ANTICIPATION.

(See Particular Patents, 1; Trade-Marks, 1, 5.)

APPLICATIONS.

(See Amendment; Designs; Drawings; Prosecution of Application; Renewal of Forfeited Applications.)

ASSIGNEES.

(See Trade-Marks, 11.)

BLUE-PRINTS.

(See Prosecution of Applications.)

CLAIMS.

(See Amendment; Construction of Specifications and Patents.)

CONSTRUCTION OF RULES.

(See Amendment; Drawings; Prosecution of Applications.)

CONSTRUCTION OF SPECIFICATIONS AND PATENTS.

(See Particular Patents.)

PATENTS—RULES OF.
Patents are grants made in consideration of discoveries which "promote the progress of science and the useful arts," (Const., art. 1, sec. 8,) and they are to be construed liberally, so as to effect their real intent, subject to the settled rule that inventors be held to the form of claim which they have accepted under objections from the Patent Office.
[d Bossert Electric Const. Co. *v.* Pratt Chuck Co. Bossert Electric Const. Co. *v.* Sprague Electric Co., 747.

CONSTRUCTION OF STATUTES.

(See Construction of Specifications and Patents; Renewal of Forfeited Applications.)

CONSTRUCTION OF TRADE-MARK STATUTES.

(See Trade-Marks, 7, 10.)

DECISION OF COMMISSIONER OF PATENTS.

(See Trade-Marks, 11.)

DELAY IN BRINGING MOTION.

(See Motion to Reopen Interference to Take Testimony, 2.)

DESCRIPTION.

(See Particular Patents, 2.)

DESCRIPTIVE TERMS.

(See Trade-Marks, 1, 7, 11.)

DESIGNS.

PATENTABILITY—FEATURES OF MECHANICAL UTILITY.
A design which is distinguished from the prior art only by features of mechanical utility *Held* not patentable.
[*Ex parte* Johnson, 392.

DRAWINGS.

(See Prosecution of Applications; Trade-Marks, 9.)

SHOULD BE LIMITED TO AS FEW SHEETS AS POSSIBLE.
"There are two principal reasons for the rule requiring drawings to be limited to as few sheets as possible consistent with a clear showing of the invention; one is that it has now come to be a serious problem to find space for the storage of drawings, whether they form a part of a patent or of an abandoned application, and the other is that it is a useless expense to photolithograph an unnecessary number of sheets of drawings for the purpose of attaching the same to patents." [*Ex parte* Plants, 459.

EXAMINATION OF APPLICATIONS.

(See Designs; Drawings; Prosecution of Application.)

EXAMINER OF INTERFERENCES.

(See Motion to Reopen Interference to Take Testimony.)

EXTENSION OF TIME FOR FINAL HEARING.

(See Motion to Reopen Interference to Take Testimony, 2.)

FEES.

(See Renewal of Forfeited Applications; Trade-Marks, 8.)

FEES IN TRADE-MARK CASES.

(See Trade-Marks, 8.)

FINAL HEARING.

(See Motion to Reopen Interference to Take Testimony, 2.)

GOODS OF THE SAME DESCRIPTIVE PROPERTIES.

(See Trade-Marks, 4, 5, 6.)

INFRINGEMENT.

(See Particular Patents, 1.)

INTERFERENCE.

(See Motion to Dissolve Interference; Motion to Reopen Interference to Take Testimony; Testimony; Trade-Marks, 1, 2, 3, 11.)

INTERVENING RIGHTS.

(See Trade-Marks, 2.)

IRREGULARITY IN DECLARATION OF INTERFERENCE.

(See Motion to Dissolve Interference, 2.)

JURISDICTION OF THE EXAMINER OF INTERFERENCES.

(See Motion to Reopen Interference to Take Testimony.)

LIMITATION OF NUMBER OF SHEETS OF DRAWINGS.

(See Drawings.)

MOTION TO DISSOLVE INTERFERENCE.

1. FILED AFTER TAKING OF TESTIMONY—TRANSMISSION.
A motion to dissolve an interference based upon matters growing out of the testimony should not be transmitted unless the facts alleged to constitute a bar to the issue are so clear and apparent that the propriety of the dissolution of the interference as to the specified counts cannot be seriously questioned. [Foster *v.* Bell, 241.

2. SAME—SAME.
A motion to dissolve on the ground of irregularity in the declaration thereof based in part upon an alleged difference in the meaning of the counts as applied to the applications of the different parties and in part upon the alleged lack of right of one of the parties to make the claims *Held* properly refused transmission. [Vanderveld *v.* Smith, 490.

3. SAME—SAME.
A motion to dissolve on the ground of non-patentability which does not clearly point out the pertinency of the references relied upon should not be transmitted. [Id.

MOTION TO REOPEN INTERFERENCE TO TAKE TESTIMONY.

1. RESTORING JURISDICTION OF EXAMINER OF INTERFERENCES—SHOWING REQUIRED.
"Motions to reopen an interference and take further testimony should generally be heard and determined in the first instance by the Examiner of Interferences; but it is well settled that in order to justify restoring the jurisdiction of the Examiner of Interferences to consider such a motion the moving party should make out a *prima facie* case." [Rolfe *v.* Leeper, 991.

2. SAME—SAME.
Where a junior party to an interference, who had taken no testimony but his own, brought a motion, after the time set for taking testimony had expired, to extend the time for final hearing, which the Examiner of Interferences denied, and two months later he brought a motion to restore the jurisdiction of the Examiner of Interferences to consider a motion to reopen the interference, *Held* that in the absence of any showing why a motion for an extension of time was not brought in the first instance and of any excuse for the delay after the decision of the Examiner of Interferences jurisdiction would not be restored. [Id.

PARTICULAR PATENTS.

1. BOSSERT—571,297—ELECTRIC WALL-BOXES.
The Bossert patent, No. 571,297, for an improvement in electric wall-boxes which are constructed with holes already made in the bottom and sides, so as to accommodate the entrance of the conduits at any desired point, such holes being closed by plugs when not in use, *Held* not anticipated, valid, and infringed.
[4Bossert Electric Const. Co. *v.* Pratt Chuck Co. Bossert Electric Const. Co. *v.* Sprague Electric Co., 747.

2. LORD—548,071—TROLLEY-CONTROLLER.
The Lord patent, No. 548,074, for a trolley pole and rope controller, claim 4 is void, as broader in its terms than the real invention described in the specification.
[4Wilson Trolley Catcher Company *v.* Frank Ridlon Company *et al.*, 244.

PATENTABILITY.

(See Amendment; Designs; Motion to Dissolve Interference, 3; Particular Patents, 2.)

PATENTS.

(See Construction of Specifications and Patents; Particular Patents.)

PETITION FOR RENEWAL OF FORFEITED CASES.

(See Renewal of Forfeited Applications.)

PLURALITY OF TRADE-MARKS.

(See Trade-Marks, 3.)

POVERTY.

(See Testimony.)

PRACTICE IN THE PATENT OFFICE.

(See Amendment; Drawings.)

PRIMA FACIE CASE.

(See Motion to Reopen Interference to Take Testimony, 1.)

PRINTING TESTIMONY.

(See Testimony.)

PRIORITY OF ADOPTION AND USE.

(See Trade-Marks, 1, 3.)

PROSECUTION OF APPLICATIONS.

RESPONSIVE ACTION.
Where the Examiner required that the specification be rewritten and new drawings filed, *Held* that the filing of a substitute specification accompanied by blue-prints in which many of the reference-numerals of the original drawings were omitted was not such proper prosecution of the case as required by the rules. [*Ex parte* Mastaglio, 489.

REFERENCES.

(See Motion to Dissolve Interference, 3.)

REGISTRABILITY.

(See Trade-Marks, 2, 5, 7, 8, 9, 10, 11.)

RENEWAL FEES.

(See Renewal of Forfeited Applications.)

RENEWAL OF FORFEITED APPLICATIONS.

PETITION NECESSARY—PAYMENT OF FEE.
The mere filing of a fee with an assistant treasurer of the United States does not constitute a "second application" within the meaning of section 4897, Revised Statutes, and the Office has no authority to accept such a fee where the petition was not filed within the statutory period. [*Ex parte* Hardinge, 241.

RES ADJUDICATA.

(See Trade-Marks, 11.)

RESPONSIVE ACTION BY THE APPLICANT

(See Prosecution of Applications.)

RETURN OF TRADE-MARK FEES.

(See Trade-Marks, 8.)

RIGHT TO MAKE CLAIMS.

(See Motion to Dissolve Interference, 2.)

SIMILARITY OF MARKS.

(See Trade-Marks, 1, 2, 5, 9, 10.)

SPECIFICATIONS.

(See Particular Patents, 2; Prosecution of Applications.)

STATE OF THE ART.

(See Designs.)

SUCCESSORS IN BUSINESS.

(See Trade-Marks, 11.)

TEN-YEARS CLAUSE.

(See Trade-Marks, 11.)

TESTIMONY.

(See Motion to Dissolve Interference; Motion to Reopen Interference to Take Testimony; Trade-Marks, 1.)

PRINTING—INTERFERENCE—POVERTY.
A party should not be excused from printing testimony unless it appears that because of poverty it is practically impossible for him to meet the additional charge. [Landau *v.* Spitzenberg, 242.

TRADE-MARKS.

1. INTERFERENCE—PRIOR REGISTRATION AS EVIDENCE OF ADOPTION—DIFFERENCE IN MARKS.
Where the mark in interference is a triangle inclosing the letters "P. P. P." and an antedating registration to one of the parties is in evidence, consisting of a triangle inclosing the letters "P. P. P." and the words "Scott's Emulsion," *Held*, in the absence of other testimony, that the evidence is sufficient to establish priority of adoption and use for that party, inasmuch as the marks differ only by the presence of the descriptive words "Scott's Emulsion" in one and are therefore the same in substance.
[The Lester H. Greene Company *v.* Scott & Bowne, 242.

2. SAME—INTERVENING RIGHTS.
"If it be once granted that the first to adopt and use a trade-mark is the owner thereof, a second party who adopts a trade-mark so nearly identical therewith as to be likely to cause confusion in the mind of the public, cannot acquire a right to register that trade-mark to the exclusion of the first to adopt the mark." [Id.

3. SAME—USE OF A PLURALITY OF TRADE-MARKS.
Held that the fact that an applicant may use upon his label or wrapper other trade-marks than the one he is seeking to register is immaterial to the question of priority, and that his failure to file the complete wrapper, or the failure of the Office to require it, constitutes no error, as it is well established that a party may use several trade-marks upon a single article if he so desires. [Id.

4. GOODS OF THE SAME DESCRIPTIVE PROPERTY.
A "family liniment" and crude oil to be used as a "remedy for skin diseases" *Held* to constitute merchandise of the same descriptive properties. [*Ex parte* Boving, 490.

5. ANTICIPATION—REPRESENTATION OF A SPINNING-WHEEL.
Where a registered trade-mark consisted of the representation of a spinning-wheel, *Held* that registration was properly refused of a mark applied to goods of the same descriptive properties which showed a spinning-wheel, a woman running it, and the interior of a room, since the salient feature of both is the spinning-wheel. [*Ex parte* Beaumont Manufacturing Company, 491.

6. GOODS OF SAME DESCRIPTIVE PROPERTIES.
Bleached sheetings and linen fabrics *Held* goods of the same descriptive properties. [Id.

7. "QUICK-PRESSION" AS APPLIED TO COCKS, FAUCETS, ETC.—DESCRIPTIVE.
The word "Quick-Pression" as applied to cocks and faucets *Held* descriptive within the meaning of section 5 of the Trade-Mark Act and its registration properly refused.
[*Ex parte* The Central Brass Mfg. Co., 991.

8. RETURN OF FEE.
The fact that applicant at the time he applied for registration of a trade-mark believed that such a mark could be registered before being actually used forms no ground for the return of the fee. [*Ex parte* Inter-State Milling Company, 993.

9. CHANGE OF DRAWING.
Application was made for registration of a trade-mark consisting of the words "La Vona." Registration was refused in view of the registered mark "Larona." An amendment was therefore filed directing the cancelation of the word "La" and asserting that "Vona" was the mark claimed by applicant. *Held* that this change should not be permitted. [*Ex parte* Newman, 993.

10. IDENTITY—"LA VONA" AND "LARONA."
A mark consisting of the words "La Vona" *Held* so similar to the registered mark "Larona" that its registration is prohibited by section 5 of the Trade-Mark Act. [Id.

11. INTERFERENCE—RES ADJUDICATA.
Where in an interference between Planten and the Canton Pharmacy Company the Commissioner held that the marks of both parties were descriptive and no appeal was taken by the latter, *Held* that the decision of the Commissioner was *res adjudicata* and that registration of the mark under the ten-years clause was properly refused to the successor in business of the Canton Pharmacy Company. [**In re* The Safety Remedy Company, 994.

TRANSMISSION OF MOTIONS.

(See Motion to Dissolve Interference.)

UTILITY.

(See Designs.)

VALID PATENTS.

(See Particular Patents, 1.)

VOID PATENTS.

(See Particular Patents, 2.)

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED DURING THE MONTH OF OCTOBER, 1910.

[Abbreviations: "Sp."=Monthly Volume of Specifications; "Gaz."=Official Gazette.]

A. Kimball Company. (See Baum, Louis, assignor.)

A. V. Manning's Sons. (See Meyer, Ernest D., assignor.)

Aagaard, August, Elgin, Ill. Fish-hook. No. 973,246; Oct. 18; Sp. p. 3837; Gaz. vol. 159; p. 656.

Aalborg, Christian, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Coil for electromagnets. No. 973,838; Oct. 25; Sp. p. 5086; Gaz. vol. 159; p. 883.

Aarons, Alexander A., New York, N. Y. Automatic piano-player. No. 973,839; Oct. 25; Sp. p. 5087; Gaz. vol. 159; p. 884.

Abbott, Edward J., Mission City, British Columbia, Canada. Stamp-affixing mechanism. No. 973,465; Oct. 25; Sp. p. 4301; Gaz. vol. 159; p. 755.

Abbott, John D., Eastbourne, England. Change-speed and reversing gearing. No. 972,672; Oct. 11; Sp. p. 2529; Gaz. vol. 159; p. 431.

Abbott, William W., Ingram, Pa. Globe, shade, and chimney holder. No. 972,089; Oct. 4; Sp. p. 1249; Gaz. vol. 159; p. 212.

Ablett, William F., Pittsburg, Pa. Vending-machine. No. 973,332; Oct. 18; Sp. p. 4012; Gaz. vol. 159; p. 686.

Abrams, John A., Wadsworth, Ohio. Pressure-regulating valve for gas-burners. No. 973,609; Oct. 25; Sp. p. 4614; Gaz. vol. 159; p. 803.

Acetylene Lamp Company. (See Harris, William W., assignor.)

Acker, Finley, Philadelphia, Pa. Screen and absorber for cigars. No. 972,428; Oct. 11; Sp. p. 1974; Gaz. vol. 159; p. 346.

Acker, Julius J., Horton, Kans., assignor of twenty-four and one-half one-hundredths to C. L. Bundy, Jersey City, N. J., and fifty-one one-hundredths to W. P. Murphy, St. Louis, Mo. Car-door fastener. No. 972,978; Oct. 18; Sp. p. 3243; Gaz. vol. 159; p. 564.

Acme Staple Company. (See Michener, Elwood H., assignor.)

Adam, Antoine, assignor to The Electric Storage Battery Company, Philadelphia, Pa. Means for protecting bolts, nuts, &c. No. 972,140; Oct. 4; Sp. p. 1354; Gaz. vol. 159; p. 228.

Adam, Fredrick B., assignor to Frank Adam Electric Company, St. Louis, Mo. Plug-switch. No. 973,096; Oct. 18; Sp. p. 3496; Gaz. vol. 159; p. 603.

Adams, Harry A., assignor, by mesne assignments, to E. E. Pryor, Reading, Pa. Oscillating motor. No. 973,400; Oct. 18; Sp. p. 4167; Gaz. vol. 159; p. 710.

Adams, Harry E., Toledo, Ohio, assignor to The Monroe Electrical Manufacturing Company, Monroe, Mich. Ground-clamp. No. 972,489; Oct. 11; Sp. p. 2107; Gaz. vol. 159; p. 367.

Adams, James D., Monessen, assignor to W. H. Rowe, Pittsburg, Pa. Machine for piercing billets. No. 971,512; Oct. 4; Sp. p. 1; Gaz. vol. 159; p. 3.

Adams & Westlake Company, The. (See Newpher, Alfred H., assignor.)

Adamson, George D., Indianapolis, Ind. Machine for sharpening and honing razors. No. 972,979; Oct. 18; Sp. p. 3246; Gaz. vol. 159; p. 565.

Adding Typewriter Company. (See Dysart, Birney, assignor.)

Adding Typewriter Company. (See Raber, Joseph, assignor.)

Adt, Leo F., Troy, N. Y. Mounting for eyeglasses. No. 972,980; Oct. 18; Sp. p. 3247; Gaz. vol. 159; p. 565.

Aerial Amusement Construction Company. (See Budge, George A., assignor.)

Affelder, William L., Brownfield, Pa. Railway-crossing. No. 973,904; Oct. 25; Sp. p. 5233; Gaz. vol. 159; p. 907.

Agrell, Frans G., Stockholm, Sweden. Device for controlling the consecutive operation of electromagnets. No. 973,737; Oct. 25; Sp. p. 4881; Gaz. vol. 159; p. 848.

Aktiesselskabet Stavanger Bilktrykkeri og Maskinvaerksted. (See Johansen, Andreas, assignor.)

Alberson, Ruth B., *et al.* (See Lindgren, Carl E., assignor.)

Alcott, George J. (See Jordan, George H., assignor.)

Alefs, Henry, Milwaukee, Wis. Fleshing, unhairing, working-out, and setting machine. No. 972,792; Oct. 18; Sp. p. 2779; Gaz. vol. 159; p. 497.

Alexander, James C., Roseburg, Oreg. Tube and header connection. No. 973,610; Oct. 25; Sp. p. 4616; Gaz. vol. 159; p. 803.

Alexander, Jesse J. W., Raymond, Wash. Rotary cutter-head. No. 971,812; Oct. 4; Sp. p. 628; Gaz. vol. 159; p. 110.

Alexander, John W., Spartanburg, S. C. Adding apparatus. No. 973,905; Oct. 25; Sp. p. 5236; Gaz. vol. 159; p. 907.

Allen, Ernest, Los Angeles, Cal. Repeating burglar-alarm. No. 971,813; Oct. 4; Sp. p. 630; Gaz. vol. 159; p. 110.

Allen, Frank B., Salt Lake City, Utah. Transmission-gear. No. 972,143; Oct. 11; Sp. p. 1361; Gaz. vol. 159; p. 249.

Allen, Frank B., Salt Lake City, Utah. Transmission-gear. No. 972,144; Oct. 11; Sp. p. 1364; Gaz. vol. 159; p. 249.

Allen, James M., assignor to M. Fellhauer, St. Louis, Mo. Centrifugal casting-machine. No. 971,957; Oct. 4; Sp. p. 998; Gaz. vol. 159; p. 166.

Allis-Chalmers Company *et al.* (See Behrend, Bernard A., assignor.)

Allis-Chalmers Company. (See Cheney, Herbert W., assignor.)

Allis-Chalmers Company. (See Gray, Alexander M., assignor.)

Allis-Chalmers Company. (See Patitz, Johann F. M., assignor.)

Allis-Chalmers Company. (See Search, Charles E., assignor.)

Allis-Chalmers Company. (See Williamson, Robert B., assignor.)

Allison, Elwood C., New York, N. Y. Engine-starter. No. 973,738; Oct. 25; Sp. p. 4883; Gaz. vol. 159; p. 848.

Allison, George R., Indianola, Iowa. Guard for disk harrows. No. 971,874; Oct. 4; Sp. p. 774; Gaz. vol. 159; p. 134.

Allred, Charles E., Oakland, Cal. Mortar-feeding device. No. 972,793; Oct. 18; Sp. p. 2784; Gaz. vol. 159; p. 497.

Altenburgh, Wilford G., National City, Cal. Automatic cut-off and stop for sound-reproducing machines. No. 972,794; Oct. 18; Sp. p. 2786; Gaz. vol. 159; p. 498.

Alvergnat, Georges P. O., Paris, France, assignor to Societe de la Pompe Vadam, Neuilly-sur-Seine, France. Air-compressor. No. 973,739; Oct. 25; Sp. p. 4885; Gaz. vol. 159; p. 849.

American Air Cleaning Company. (See Matchette, Gordon, and Moukos, assignors.)

American Automatic Telephone Company, The. (See Bruce, William M., Jr., assignor.)

American Can Company. (See Jones, Harry W., assignor.)

American Clay Machinery Co., The. (See Cunningham, William R., assignor.)

American Folding Machine Company, The. (See Pejauo, Albert D., assignor.)

American Gas Light Company. (See Maas, Joseph, assignor.)

American Lithographic Company, The. (See Pancoast, George E., assignor.)

American Mason Safety Tread Company. (See Davis, Augustin I., assignor.)

American Optical Company. (See Willmott, Francis J., assignor.)

American Securities Company. (See Smith, Curtis M., assignor.)

American Spiral Pipe Works. (See Taylor, James H., assignor.)

American Steel Foundries. (See Floyd, George G., assignor.)

American Steel Foundries. (See MacGregor, Walter, assignor.)

American Steel and Wire Company, The. (See Cocker, John A., assignor.)

American Stove Company. (See Blackford, Atwell J., assignor.)

American Stove Company. (See Harvey, John G., assignor.)

Ammen, Francis D. (See Strause, Edmund A., assignor.)

Andersen, Paul, Pinole, Cal. Hydraulic motor. No. 972,981; Oct. 18; Sp. p. 3250; Gaz. vol. 159; p. 565.
Anderson, Charles H., Seattle, Wash. Hand-brake mechanism. No. 973,097; Oct. 18; Sp. p. 3499; Gaz. vol. 159; p. 604.
Anderson, Elmer E., Boswell, Ind. Stove. No. 972,490; Oct. 11; Sp. p. 2109; Gaz. vol. 159; p. 367.
Anderson, Emerik, Newburyport, Mass. Shoe. No. 974,010; Oct. 25; Sp. p. 5451; Gaz. vol. 159; p. 944.
Anderson, Fred E. (See Peterson, Lars C., assignor.)
Anderson, Gustaf E., Stockholm, Sweden. Milking-machine. No. 974,011; Oct. 25; Sp. p. 5451; Gaz. vol. 159; p. 944.
Anderson, Harold B. (See Winton and Anderson.)
Anderson, Houston R., Chattanooga, Okla. Track-joint. No. 972,673; Oct. 11; Sp. p. 2530; Gaz. vol. 159; p. 431.
Anderson, James G. (See Anderson, William D. and J. G.)
Anderson, Nels J., Denver, Colo. Spring-gear for vehicles. No. 972,145; Oct. 11; Sp. p. 1367; Gaz. vol. 159; p. 250.
Anderson, William D. and J. G., Milwaukee, Wis. Brush-cleaner for sieves and bolters. No. 971,715; Oct. 4; Sp. p. 425; Gaz. vol. 159; p. 74.
Andrade, Cipriano, Jr., New York, N. Y. Windlass. No. 971,716; Oct. 4; Sp. p. 426; Gaz. vol. 159; p. 74.
Andrade, Cipriano, Jr., New York, N. Y. Windlass. No. 972,982; Oct. 18; Sp. p. 3251; Gaz. vol. 159; p. 566.
Andrews, Charles, Jr., assignor to Andrews Wire & Iron Works, Rockford, Ill. Flour-sifter. No. 971,875; Oct. 4; Sp. p. 775; Gaz. vol. 159; p. 135.
Andrews, Louis J. (See Morrison and Andrews.)
Andrews, Martin, Chicago, Ill. Automatic fire-extinguisher. No. 971,814; Oct. 4; Sp. p. 631; Gaz. vol. 159; p. 111.
Andrews, Mary, Stratton, Nebr. Egg-tester. No. 972,592; Oct. 11; Sp. p. 2371; Gaz. vol. 159; p. 404.
Andrews, Thomas, Rockaway, N. J. Tube-cleaner. No. 973,740; Oct. 25; Sp. p. 4886; Gaz. vol. 159; p. 849.
Andrews Wire & Iron Works. (See Andrews, Charles, Jr., assignor.)
Ann Arbor Machine Company. (See Hanson, Hans J., assignor.)
Anrep, Aleph, Helsingborg, Sweden. Cable-traction system for shiftable endless tracks. No. 971,654; Oct. 4; Sp. p. 301; Gaz. vol. 159; p. 54.
Anschütz-Kaempfe, Hermann, Kiel, Germany. Gyroscope. No. 973,611; Oct. 25; Sp. p. 4617; Gaz. vol. 159; p. 803.
Anson, Warren J., El Paso, Tex., assignor of one-third to H. C. Hucker and one-third to F. W. Bacon, Los Angeles, Cal. Dust and wind guard. No. 973,840; Oct. 25; Sp. p. 5090; Gaz. vol. 159; p. 884.
Apple, Vincent G., Dayton, Ohio. Battery-carrier. No. 971,876; Oct. 4; Sp. p. 776; Gaz. vol. 159; p. 135.
Appleby, John F., Chicago, Ill. Cotton-picking machine. No. 972,795; Oct. 18; Sp. p. 2788; Gaz. vol. 159; p. 498.
Appleton, Alford C., Dayton, Ohio, assignor to The Hayner Distilling Company. No. 972,402; Oct. 11; Sp. p. 2112; Gaz. vol. 159; p. 368.
Appleton, Alford C., Dayton, Ohio, assignor to The Hayner Distilling Company. Bottle-stopper. No. 972,403; Oct. 11; Sp. p. 2115; Gaz. vol. 159; p. 368.
Appliance and Electric Device Company. (See Shoenberg and Marsh, assignors.)
Archer-Burton, Mary E., Berlin, Md. Skirt-evener. No. 972,593; Oct. 11; Sp. p. 2372; Gaz. vol. 159; p. 405.
Armstead, Michael J., Lowell, assignor to Draper Company, Hopedale, Mass. Fork-grid clearer for looms. No. 973,741; Oct. 25; Sp. p. 4887; Gaz. vol. 159; p. 849.
Armstrong, James E. (See Eddleman and Armstrong.)
Arnold, Henry A., Lake Geneva, Wis. Manure-spreader. No. 973,742; Oct. 25; Sp. p. 4889; Gaz. vol. 159; p. 850.
Arnold, Henry W. (See Hanson and Arnold.)
Arrant, William E., Tampa, Fla. Mop attachment. No. 973,612; Oct. 25; Sp. p. 4621; Gaz. vol. 159; p. 803.
Arrenbrecht, John, Salem, Ohio. Nut-lock. No. 972,796; Oct. 18; Sp. p. 2789; Gaz. vol. 159; p. 498.
Arthur, Richard S., Newark, N. J., assignor of one-half to L. R. Lentz, Wyalusing, Pa. Dilator. No. 972,983; Oct. 18; Sp. p. 3255; Gaz. vol. 159; p. 566.
Ash, William M. (See Morgan, Atwater, Crowther, and Ash.)
Askegren, Carl M., Goulding, Fla. Apparatus for loading ships at sea. No. 973,906; Oct. 25; Sp. p. 5237; Gaz. vol. 159; p. 908.
Asaman, Abelina C., Chicago, Ill. Nozzle for fire-extinguishers. No. 973,333; Oct. 18; Sp. p. 4015; Gaz. vol. 159; p. 687.
Atwater, Archibald L. (See Morgan, Atwater, Crowther, and Ash.)
Atwood, Harry O., West Philadelphia, Pa. Roller-bearing for printing-presses. No. 973,098; Oct. 18; Sp. p. 3500; Gaz. vol. 159; p. 604.
Atwood, Winfield A., Schenectady, N. Y., assignor to General Electric Company. Circuit-controller. No. 973,613; Oct. 25; Sp. p. 4622; Gaz. vol. 159; p. 804.
Auer, John, San Francisco, Cal. Saw-clamp. No. 971,815; Oct. 4; Sp. p. 633; Gaz. vol. 159; p. 111.
Ault, William S., assignor of one-half to H. L. Gray, Wabash, Ind. Hinge. No. 972,000; Oct. 4; Sp. p. 1250; Gaz. vol. 159; p. 212.
Aurora Automatic Machinery Company. (See Levedahl, Axel, assignor.)
Austin, John D., Tampa, Fla. Automatic dumping device for elevated carriers. No. 973,247; Oct. 18; Sp. p. 3838; Gaz. vol. 159; p. 656.
Automatic Coin-Wrapping Machine Company. (See Batdorf, Charles S., assignor.)
Automatic Platen Press Company. (See Beyer, Otto S., assignor.)
Automatic Rove-Stop Company. (See Sharp, Peter, assignor.)
Automatic Unloading Car Company. (See Rakowsky, Gustav A., assignor.)
Automatic Vending-Machines Company, The. (See Craig and Coffman, assignors.)
Averill, Minnie, Joplin, Mo. Toy beehive. No. 972,147; Oct. 11; Sp. p. 1369; Gaz. vol. 159; p. 250.
Avery, Freeman, Larned, Kans. Cultivator. No. 973,614; Oct. 25; Sp. p. 4625; Gaz. vol. 159; p. 804.
Avery, Henry W., and W. S. Judd, Cleveland, Ohio. Sheet-metal barrel. No. 972,797; Oct. 18; Sp. p. 2790; Gaz. vol. 159; p. 498.
Avisus, Leopold, Chicago, Ill. Piano-action. No. 973,841; Oct. 25; Sp. p. 5092; Gaz. vol. 159; p. 884.
Ayers, Robert M., Quanah, Tex. Cotton-gatherer. No. 971,513; Oct. 4; Sp. p. 3; Gaz. vol. 159; p. 3.
B. F. Sturtevant Company. (See Balcome, Herbert A., assignor.)
Babb, Caleb W., Weiser, Idaho. Wire-stretcher. No. 972,049; Oct. 4; Sp. p. 1177; Gaz. vol. 159; p. 198.
Babcock, Fales J., Syracuse, N. Y. Centrifugal separator. No. 973,248; Oct. 18; Sp. p. 3839; Gaz. vol. 159; p. 657.
Babcock & Wilcox Company, The. (See Bell, John E., assignor.)
Babcock & Wilcox Company, The. (See Sneddon, James P., assignor.)
Babington, Thomas J., *et al.* (See Lemons, William D., assignor.)
Babington, William D., *et al.* (See Lemons, William D., assignor.)
Bacon, Frank W., *et al.* (See Anson, Warren J., assignor.)
Bacon, Gilbert and M. L., Antigo, Wis. Rail-joint. No. 972,148; Oct. 11; Sp. p. 1370; Gaz. vol. 159; p. 250.
Bacon, Milton L. (See Bacon, Gilbert and M. L.)
Badger Brass Mfg. Co., The. (See Welles, Richard H., assignor.)
Badgley, Lawrence J., Florissant, assignor of one-half to H. L. Redecker, Denver, Colo. Adjustable vehicle-brake-block holder. No. 974,012; Oct. 25; Sp. p. 5454; Gaz. vol. 159; p. 945.
Baehr, George, McKeesport, Pa. Spark-plug. No. 972,798; Oct. 18; Sp. p. 2793; Gaz. vol. 159; p. 499.
Bagley, William W., New York, N. Y. Tubular receptacle. No. 971,958; Oct. 4; Sp. p. 1000; Gaz. vol. 159; p. 167.
Baguley, George T., assignor of one-half to W. J. Lytle, Toronto, Ontario, Canada. Fruit-jar holder. No. 972,091; Oct. 4; Sp. p. 1252; Gaz. vol. 159; p. 212.
Bailey, Carroll H., North Troy, N. Y. Vehicle-wheel. No. 973,249; Oct. 18; Sp. p. 3842; Gaz. vol. 159; p. 657.
Bailey, Frank R., Kalamazoo, Mich. Pen-extractor. No. 972,146; Oct. 11; Sp. p. 1368; Gaz. vol. 159; p. 250.
Bailey, Samuel R., Amesbury, Mass. Wood-bending machine. No. 973,401; Oct. 18; Sp. p. 4160; Gaz. vol. 159; p. 711.
Bair, Arthur R., Stickney, S. D. Window-glass-securing strip. No. 974,013; Oct. 25; Sp. p. 5456; Gaz. vol. 159; p. 945.
Baird, Albert D., Bridgeport, Conn. Trace and backer loop. No. 971,655; Oct. 4; Sp. p. 304; Gaz. vol. 159; p. 54.
Baird, Albert H., Delta, Colo. Composition toothpick. No. 973,842; Oct. 25; Sp. p. 5096; Gaz. vol. 159; p. 885.
Baird, James B., Canton, Ohio. Chill. No. 972,429; Oct. 11; Sp. p. 1075; Gaz. vol. 159; p. 346.
Baker, Charles E., Chicago, Ill. Treating ores. No. 972,149; Oct. 11; Sp. p. 1372; Gaz. vol. 159; p. 251.
Baker, Erle K. (See Hawley and Baker.)
Baker, Jessie L., *et al.* (See Peddy, Thomas T., assignor.)
Baker, William N., Salem, Ohio. Window-pane fastener. No. 971,816; Oct. 4; Sp. p. 635; Gaz. vol. 159; p. 112.
Balch, Frank, Cleveland, N. D. Shock-loader. No. 974,014; Oct. 25; Sp. p. 5457; Gaz. vol. 159; p. 946.
Balcome, Herbert A., Jamaica Plain, assignor to B. F. Sturtevant Company, Boston, Mass. Brush-holder for dynamo-electric machines. No. 972,799; Oct. 18; Sp. p. 2795; Gaz. vol. 159; p. 499.
Baldwin, William D., New York, and A. Sundh, Yonkers, N. Y. Indicator for cars. No. 973,334; Oct. 18; Sp. p. 4016; Gaz. vol. 159; p. 687.
Ball Bearing Coupler Company. (See Buchanan, William A., assignor.)
Ball Brothers Glass Manufacturing Company. (See Bingham, Alvah L., assignor.)
Ball, Frank B., assignor to Manhattan Rubber Manufacturing Company, Passaic, N. J. Bucket attachment for conveyers. No. 972,317; Oct. 11; Sp. p. 1745; Gaz. vol. 159; p. 306.
Ball, William R., Bryan, Tex. Tool of the pliers type. No. 971,582; Oct. 4; Sp. p. 154; Gaz. vol. 159; p. 28.
Ballou, George F., New York, assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 971,959; Oct. 4; Sp. p. 1001; Gaz. vol. 159; p. 167.
Ballou, George F., New York, assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 971,960; Oct. 4; Sp. p. 1007; Gaz. vol. 159; p. 167.

Balthrop, Edward S., Jackson, Tenn. Inhaler. No. 972,318; Oct. 11; Sp. p. 1746; Gaz. vol. 159; p. 307.
Bambauer, Edward, Volta, Cal. Punching-machine. No. 971,514; Oct. 4; Sp. p. 4; Gaz. vol. 159; p. 3.
Barberton Novelty Company, The. (See Buckingham, Roswell H., assignor.)
Barbour-Stockwell Company. (See Glynn, Charles N., assignor.)
Barcus, Harvey C., Dayton, Ohio. Switch. No. 971,817; Oct. 4; Sp. p. 636; Gaz. vol. 159; p. 112.
Bard, Grace L., Bay Ridge, N. Y. Shield for corset steels and bones. No. 972,984; Oct. 18; Sp. p. 3257; Gaz. vol. 159; p. 567.
Barker, England J., Morgan Park, Ill. Autographic-register stand for type-writing machines. No. 971,877; Oct. 4; Sp. p. 777; Gaz. vol. 159; p. 135.
Barker, James, Philadelphia, Pa. Molding-flask. No. 973,907; Oct. 25; Sp. p. 5238; Gaz. vol. 159; p. 908.
Barker, John T., Wallingford, Conn. Apparatus for holding and discharging collapsible tubes. No. 971,818; Oct. 4; Sp. p. 638; Gaz. vol. 159; p. 112.
Barlow, Arthur E., assignor to Wright Wire Company, Worcester, Mass. Wire-netting. No. 971,656; Oct. 4; Sp. p. 305; Gaz. vol. 159; p. 54.
Barner, Ernest B., Elkhorn, Oreg. Non-refillable bottle. No. 973,099; Oct. 18; Sp. p. 3501; Gaz. vol. 159; p. 604.
Barnes, Charles A. (See Jones and Barnes.)
Barnes, Charles A., Sr., Greenfield, Ind. Telephone-receiver stand for type-writing machines. No. 971,961; Oct. 4; Sp. p. 1013; Gaz. vol. 159; p. 168.
Barnes, John S., Rockford, Ill., assignor to W. F. & John Barnes Company, Rockford Ill. Drilling-machine. No. 973,843; Oct. 25; Sp. p. 5097; Gaz. vol. 159; p. 885.
Barnett, George W., Louise, Tex. Side-delivery excavator. No. 973,402; Oct. 18; Sp. p. 4173; Gaz. vol. 159; p. 711.
Barnett, Isaac, New York, N. Y. Bill-fold. No. 972,494; Oct. 11; Sp. p. 2119; Gaz. vol. 159; p. 369.
Barnett, Otto R. (See Bodkin, John A., assignor.)
Barney, Edwin E., assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 973,844; Oct. 25; Sp. p. 5100; Gaz. vol. 159; p. 886.
Barnfather, Robert, Croydon, England. Tire-inflating device. No. 972,050; Oct. 4; Sp. p. 1178; Gaz. vol. 159; p. 198.
Baron, René J. F. S., Paris, France. Cable-controller for electrical apparatus. No. 972,319; Oct. 11; Sp. p. 1747; Gaz. vol. 159; p. 307.
Barr, Luther O., Mount Andrew, Ala. Removable umbrella-cover. No. 973,100; Oct. 18; Sp. p. 3502; Gaz. vol. 159; p. 605.
Barrett, Glenn J., Syracuse, N. Y., assignor to Burroughs Adding Machine Company, Detroit, Mich. Combined type-writing and amount-listing machine. No. 972,150; Oct. 11; Sp. p. 1373; Gaz. vol. 159; p. 251.
Barrett, Nettie, Mount Sterling, Ohio. Canning device. No. 972,800; Oct. 18; Sp. p. 2797; Gaz. vol. 159; p. 500.
Barrick, Christopher C., Canton, Ohio. Column. No. 973,615; Oct. 25; Sp. p. 4626; Gaz. vol. 159; p. 804.
Barricklow, Irvin E., Antioch, Cal. Electric fuse. No. 973,250; Oct. 18; Sp. p. 3843; Gaz. vol. 159; p. 657.
Barrickman, Sylvester A., Richwood, W. Va. Steam-locomotive. No. 972,790; Oct. 11; Sp. p. 2768; Gaz. vol. 159; p. 471.
Barry, John, and M. L. Shaughnessy, Westphalia, Kans. Lace-reel. No. 972,745; Oct. 11; Sp. p. 2687; Gaz. vol. 159; p. 456.
Barry-Wehmiller Machinery Company. (See Dawson, Joseph W., assignor.)
Bartell, Charles F. (See Clark and Bartell.)
Bartholomew, John B., Peoria, Ill. Automobile. No. 973,251; Oct. 18; Sp. p. 3845; Gaz. vol. 159; p. 658.
Bastian, Charles L., assignor to Bottlers Machinery Manufacturing Company, Chicago, Ill. Bottle-filling machine. No. 971,962; Oct. 4; Sp. p. 1014; Gaz. vol. 159; p. 168.
Bafchelor, Raymond C., Baltimore, Md. Sealing-strap for shipping-packages. No. 972,504; Oct. 11; Sp. p. 2373; Gaz. vol. 159; p. 405.
Batdorf, Charles S., Brooklyn, assignor to Automatic Coin-Wrapping Machine Company, New York, N. Y. Automatic stop mechanism. No. 973,335; Oct. 18; Sp. p. 4020; Gaz. vol. 159; p. 688.
Bates, Arthur C., Brownsville, assignor of one-half to A. Kahn, San Francisco, Cal. Portable lock for doors and windows. No. 971,717; Oct. 4; Sp. p. 430; Gaz. vol. 159; p. 75.
Bates, Thomas O., Liverpool, England. Manufacture of cup, cornet, and like biscuits. No. 972,985; Oct. 18; Sp. p. 3258; Gaz. vol. 159; p. 567.
Batty, Richard B. (See Todd and Batty.)
Baum, Louis, Harrisburg, Pa., assignor to A. Kimball Company, New York, N. Y. Pin-ticket. No. 972,791; Oct. 11; Sp. p. 2769; Gaz. vol. 159; p. 471.
Bauman, William, Cheyenne, Okla. Cotton chopper and cultivator. No. 974,015; Oct. 25; Sp. p. 5460; Gaz. vol. 159; p. 946.
Baumgartner, Joseph, St. Louis, Mo. Mail-box register. No. 973,156; Oct. 18; Sp. p. 3633; Gaz. vol. 159; p. 325.
Bayer, William F., assignor to The Chase & Baker Company, Buffalo, N. Y. Key-lock for autopianos. No. 971,657; Oct. 4; Sp. p. 306; Gaz. vol. 159; p. 55.
Beach, Benjamin W., Georgetown Station, N. Y. Combined rinser and sterilizer. No. 972,746; Oct. 11; Sp. p. 2688; Gaz. vol. 159; p. 456.
Beadle, George W., East Orange, N. J., assignor to Westinghouse Lamp Company. Machine for manufacturing incandescent lamps. No. 971,515; Oct. 4; Sp. p. 9; Gaz. vol. 159; p. 4.
Beal, Alpha R., and A. Hettel, Rochester, N. Y.; said Hettel assignor to said Beal. Dish-washing machine. No. 972,747; Oct. 11; Sp. p. 2690; Gaz. vol. 159; p. 457.
Beale, Arthur M., *et al.*, administrators. (See Beale, Joseph H.)
Beale, Joseph H., *et al.*, administrators. (See Beale, Joseph H.)
Beale, Joseph H., deceased, Boston; J. H. Beale, Cambridge, and A. M. Beale, Boston, Mass., administrators. Lining and pad for stair-carpetings. No. 971,819; Oct. 4; Sp. p. 640; Gaz. vol. 159; p. 113.
Beard, Murry, *et al.* (See Paar, Henry, assignor.)
Beattie Manufacturing Company of Cohoes, The. (See Beattie, Walter J., assignor.)
Beattie Manufacturing Company of Cohoes, The. (See Smith, George W., assignor.)
Beattie, Walter J., Cohoes, N. Y., assignor, by mesne assignments, to The Beattie Manufacturing Company of Cohoes. Folding-machine. No. 972,320; Oct. 11; Sp. p. 1748; Gaz. vol. 159; p. 307.
Beattie, Walter J., Cohoes, N. Y., assignor, by mesne assignments, to The Beattie Manufacturing Company of Cohoes. Folding-machine. No. 972,495; Oct. 11; Sp. p. 2119; Gaz. vol. 159; p. 369.
Beaucourt, Hugues, Lyon, France. Device for sounding motor-car horns. No. 973,845; Oct. 25; Sp. p. 5104; Gaz. vol. 159; p. 886.
Beaudoin, Pierre. (See Paul, Francis, Jr., assignor.)
Beaudry, J. S. (See Kessler, Louis, assignor.)
Beaver, Isaac K., assignor of one-half to E. E. Straub, Wilburton, Pa. Nozzle. No. 971,516; Oct. 4; Sp. p. 11; Gaz. vol. 159; p. 4.
Beck, Ernest L., assignor, by mesne assignments, to The Dodge and Dent Mfg. Co., Inc., New York, N. Y. Bottle-stopper. No. 973,616; Oct. 25; Sp. p. 4628; Gaz. vol. 159; p. 805.
Beck, H. A. (See Martin, Elisha E. A., assignor.)
Becker, Charles, *et al.* (See Gant, Kenneth W., assignor.)
Beckett, James A., and G. W. Willis; said Beckett assignor to Walter A. Wood Mowing and Reaping Machine Co., Hoosick Falls, N. Y. Reel-adjusting mechanism for mowing-machines. No. 972,321; Oct. 11; Sp. p. 1752; Gaz. vol. 159; p. 308.
Beckman, John W., Niagara Falls, Ontario, Canada. Producing metal salts and metals. No. 973,336; Oct. 18; Sp. p. 4023; Gaz. vol. 159; p. 688.
Beegen, Georg R., Detroit, Mich. Stovepipe-clamp. No. 973,466; Oct. 25; Sp. p. 4304; Gaz. vol. 159; p. 755.
Beggs, Thomas R., assignor to The Thomas R. Beggs Faucet and Valve Company, Englewood, N. J. Valve. No. 972,430; Oct. 11; Sp. p. 1976; Gaz. vol. 159; p. 347.
Beggs, Thomas R., assignor to The Thomas R. Beggs Faucet and Valve Company, Englewood, N. J. Valve or faucet. No. 972,431; Oct. 11; Sp. p. 1978; Gaz. vol. 159; p. 347.
Behrend, Bernard A., Norwood, Ohio, assignor to Allis-Chalmers Company and The Bullock Electric Manufacturing Company. Coil-support for dynamo-electric machines. No. 971,820; Oct. 4; Sp. p. 643; Gaz. vol. 159; p. 113.
Behrend, Samuel K., Denver, Colo. Apparatus for separating minerals from their ores. No. 973,467; Oct. 25; Sp. p. 4305; Gaz. vol. 159; p. 755.
Beiter, Frank, *et al.* (See Jump, Walter H., assignor.)
Beiter, John, *et al.* (See Jump, Walter H., assignor.)
Békefi, Vendel L., Cleveland, Ohio. Armor for automobile-wheels. No. 972,322; Oct. 11; Sp. p. 1754; Gaz. vol. 159; p. 308.
Belart, Hans, Huddersfield, England. Preparation of eugenol and albumin. No. 973,908; Oct. 25; Sp. p. 5240; Gaz. vol. 159; p. 908.
Beleznay, Ambrosius. (See Tóth, Beleznay, and Liptak.)
Bell, Benjamin, Philadelphia, Pa. Pneumatic spring. No. 971,583; Oct. 4; Sp. p. 155; Gaz. vol. 159; p. 29.
Bell, Francis M., Morrilton, Ark. Grappling-hook. No. 973,252; Oct. 18; Sp. p. 3849; Gaz. vol. 159; p. 658.
Bell, John E., assignor to The Babcock & Wilcox Company, New York, N. Y. Independently-fired superheater. No. 973,743; Oct. 25; Sp. p. 4890; Gaz. vol. 159; p. 850.
Belles, Reuben O., Pittsburg, Pa. Counterbalanced stairway or ladder. No. 972,595; Oct. 11; Sp. p. 2374; Gaz. vol. 159; p. 405.
Belleville Baler Company. (See Wehrenberg, Charles E., assignor.)
Bendel, Josef, Kronstadt, Austria-Hungary. Tailpiece for violins, violas, and the like. No. 973,846; Oct. 25; Sp. p. 5105; Gaz. vol. 159; p. 886.
Benitez, Carlos F., Guadalajara, Mexico. Fluid-motor. No. 971,517; Oct. 4; Sp. p. 13; Gaz. vol. 159; p. 4.
Benjamin, Allison B., Syracuse, N. Y. Regulator. No. 972,496; Oct. 11; Sp. p. 2122; Gaz. vol. 159; p. 369.
Benjamin Electric Manufacturing Company. (See Benjamin, Reuben B., assignor.)
Benjamin, Reuben B., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill. Plural lamp-socket. No. 972,986; Oct. 18; Sp. p. 3261; Gaz. vol. 159; p. 567.

Benjamin, Reuben B., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill. Plural lamp-socket. No. 972,987; Oct. 18; Sp. p. 3264; Gaz. vol. 159; p. 568.

Benjamin, Robert D., Cumberland, Md. Saw-set. No. 972,497; Oct. 11; Sp. p. 2123; Gaz. vol. 159; p. 370.

Benkö, Stephan, assignor to Company Limited for Exploitation of Inventions by Stephen Benkö, Budapest, Austria-Hungary. Hollow carbon electrode for galvanic elements. No. 974,016; Oct. 25; Sp. p. 5461; Gaz. vol. 159; p. 946.

Bennett, Arthur E., Buffalo, and J. H. Hunter, Williamsville, assignors of one-third to G. W. Post, Kenmore, N. Y. Carpet-beater. No. 973,847; Oct. 25; Sp. p. 5106; Gaz. vol. 159; p. 887.

Bennett, Delbert F. (See Vestal and Bennett.)

Benoliel, Solomon D., Niagara Falls, N. Y. Saw filing and setting machine. No. 971,718; Oct. 4; Sp. p. 432; Gaz. vol. 159; p. 75.

Benson, Henry A., Scranton, Pa. Weighing-machine. No. 973,909; Oct. 25; Sp. p. 5240; Gaz. vol. 159; p. 908.

Bentley Single-and-Stop Motion Company. (See Bentley, Thomas, assignor.)

Bentley Single-and-Stop-Motion Company. (See Paige, Van R., assignor.)

Bentley, Thomas, Dracut Center, Mass., assignor to Bentley Single-and-Stop Motion Company, Augusta, Me. Device for preventing singles in roving and similar frames. No. 971,963; Oct. 4; Sp. p. 1015; Gaz. vol. 159; p. 168.

Berge, Torje N., Hoboken, N. J. Building docks. No. 971,964; Oct. 4; Sp. p. 1019; Gaz. vol. 159; p. 160.

Bergens, William J., assignor to National Vacuum Devices Company, Pittsburg, Pa. Cleaning device. No. 971,518; Oct. 4; Sp. p. 16; Gaz. vol. 159; p. 5.

Bergström, Carl J. O., Alingsås, Sweden. Dish-washer. No. 971,658; Oct. 4; Sp. p. 308; Gaz. vol. 159; p. 55.

Bering, Delo H., Pittsburg, Pa. Incandescent lamp. No. 973,157; Oct. 18; Sp. p. 3635; Gaz. vol. 159; p. 626.

Berlin Machine Works, The. (See Thorsby, Axel, assignor.)

Berlinger, Theodore L., Soldiers Home, Cal. Flower-holder and insect-trap. No. 972,092; Oct. 4; Sp. p. 1253; Gaz. vol. 159; p. 212.

Berreyesa, Abe E., Oakland, Cal. Ink-distributer. No. 971,821; Oct. 4; Sp. p. 645; Gaz. vol. 159; p. 113.

Berry, James R., Jonesboro, Tenn. Saw-guide. No. 973,848; Oct. 25; Sp. p. 5107; Gaz. vol. 159; p. 887.

Berthel, Katherine, New York, N. Y. Ear-bandage. No. 973,158; Oct. 18; Sp. p. 3637; Gaz. vol. 159; p. 626.

Berthold, Edward E., and H. Horstmann, Chicago, Ill. Combined work-bench drawer and portable tool-chest. No. 971,584; Oct. 4; Sp. p. 158; Gaz. vol. 159; p. 29.

Besselman, Frank W. (See Ritchay and Besselman.)

Best, Ergenia M., Salina, Kans. Window-glass holder. No. 973,744; Oct. 25; Sp. p. 4802; Gaz. vol. 159; p. 850.

Bethards, Lonzo B., Chicago, Ill. Store-service apparatus. No. 972,432; Oct. 11; Sp. p. 1980; Gaz. vol. 159; p. 348.

Bethlehem Steel Company. (See Wilson and Lynch, assignors.)

Bettington, Claude A., Johannesburg, Transvaal. Steam-boiler. No. 973,468; Oct. 25; Sp. p. 4307; Gaz. vol. 159; p. 756.

Beugnot, Jules C. (See Humbert and Beugnot.)

Bewsic, William W., Red Bank, N. J. Undergarment. No. 971,659; Oct. 4; Sp. p. 310; Gaz. vol. 159; p. 56.

Beyer, Otto S., East Rutherford, N. J., assignor to Automatic Platen Press Company, New York, N. Y. Counterbalancing device. No. 971,585; Oct. 4; Sp. p. 159; Gaz. vol. 159; p. 29.

Bick, Harry, Yonkers, N. Y. Cheese-cutter. No. 973,849; Oct. 25; Sp. p. 5108; Gaz. vol. 159; p. 887.

Biddle, Henry L., Dayton, Ohio. Door-hanger. No. 971,586; Oct. 4; Sp. p. 161; Gaz. vol. 159; p. 30.

Bidwill, William E., *et al.* (See Castle, Frank, assignor.)

Billhime, Fred M., Espy, Pa. Car-seat. No. 971,822; Oct. 4; Sp. p. 648; Gaz. vol. 159; p. 114.

Billings, Asa W. K., Habana, Cuba. Firing indicator and recorder. No. 974,017; Oct. 25; Sp. p. 5462; Gaz. vol. 159; p. 947.

Billstone, Frank A., Findlay, Ohio. Nail or screw case. No. 971,965; Oct. 4; Sp. p. 1020; Gaz. vol. 159; p. 170.

Binckley, William C., Jasper, Ind. Adjustable piano-bench. No. 974,018; Oct. 25; Sp. p. 5467; Gaz. vol. 159; p. 947.

Bingham, Alvah L., assignor to Ball Brothers Glass Manufacturing Company, Muncie, Ind. Glass-working machine. No. 971,587; Oct. 4; Sp. p. 163; Gaz. vol. 159; p. 30.

Bingham-Cameron Company. (See Bingham, George W., assignor.)

Bingham, George W., Brooklyn, N. Y., assignor to Bingham-Cameron Company. Moving-picture machine. No. 971,588; Oct. 4; Sp. p. 167; Gaz. vol. 159; p. 31.

Bingham, George W., Brooklyn, N. Y., assignor to Bingham-Cameron Company. Moving-picture machine. No. 971,589; Oct. 4; Sp. p. 171; Gaz. vol. 159; p. 31.

Bishop, Erastus A., Wallowa, Oreg. Spark-arrester. No. 971,823; Oct. 4; Sp. p. 649; Gaz. vol. 159; p. 114.

Biswell, William H., Fayette, Mo. Coffin-mold. No. 973,910; Oct. 25; Sp. p. 5243; Gaz. vol. 159; p. 909.

Blackford, Atwell J., Cleveland, Ohio, assignor to American Stove Company, St. Louis, Mo. Gasolene-stove. No. 972,051; Oct. 4; Sp. p. 1180; Gaz. vol. 159; p. 199.

Blackman, Elmer E., Lincoln, Nebr. Composition of matter. No. 972,801; Oct. 18; Sp. p. 2799; Gaz. vol. 159; p. 500.

Blackmore, Lawrence R., Arlington, N. J. Apparatus for making glass tiling. No. 972,433; Oct. 11; Sp. p. 1982; Gaz. vol. 159; p. 348.

Blackmore, Lawrence R., McKeesport, Pa. Pipe-wrench. No. 974,019; Oct. 25; Sp. p. 5468; Gaz. vol. 159; p. 948.

Blackmore, Lawrence R., McKeesport, Pa. Pipe-wrench. No. 974,020; Oct. 25; Sp. p. 5469; Gaz. vol. 159; p. 948.

Blair, Frank E., Methuen, Mass. Counter-guard for heel-trimming machines. No. 972,151; Oct. 11; Sp. p. 1898; Gaz. vol. 159; p. 251.

Blake, Jesse E. (See Lucke and Blake.)

Blake, Washington L., Fitchburg, Mass. Hammer. No. 974,021; Oct. 25; Sp. p. 5471; Gaz. vol. 159; p. 948.

Blanchard, George L., Montgomery, Ala. Apparatus for removing fiber from cotton-seed. No. 973,150; Oct. 18; Sp. p. 3638; Gaz. vol. 159; p. 626.

Blaw Collapsible Steel Centering Company. (See Blaw, Jacob B., assignor.)

Blaw, Jacob B., assignor to Blaw Collapsible Steel Centering Company. Pittsburg, Pa. Removable supporting-form for concrete. No. 972,802; Oct. 18; Sp. p. 2800; Gaz. vol. 159; p. 500.

Blaw, Jacob B., assignor to Blaw Collapsible Steel Centering Company, Pittsburg, Pa. Concrete-retaining wall. No. 972,803; Oct. 18; Sp. p. 2802; Gaz. vol. 159; p. 501.

Blickensderfer, George C., Stamford, Conn. Type-writing machine. No. 972,152; Oct. 11; Sp. p. 1400; Gaz. vol. 159; p. 251.

Blizzard, William A., assignor to Dillon Plow & Novelty Works, Dillon, S. C. Plow. No. 973,745; Oct. 25; Sp. p. 4892; Gaz. vol. 159; p. 851.

Bloch, Julius, *et al.* (See Müller, Georg, assignor.)

Blomberg, Oscar, Muskegon, Mich. Valve-spring retainer. No. 972,434; Oct. 11; Sp. p. 1985; Gaz. vol. 159; p. 348.

Blower, Joseph W., Columbus, Ohio. Railway-track construction. No. 971,590; Oct. 4; Sp. p. 174; Gaz. vol. 159; p. 32.

Bluff, John T., assignor of one-half to F. F. Hayes, Butte, Mont. Non-refillable bottle. No. 972,094; Oct. 4; Sp. p. 1254; Gaz. vol. 159; p. 213.

Blumenberg, Julius R., Chicago, Ill. Cored quad. No. 973,469; Oct. 25; Sp. p. 4314; Gaz. vol. 159; p. 756.

Blythe, James H., Denver, Colo. Indicating means for party-line telephones. No. 972,988; Oct. 18; Sp. p. 3266; Gaz. vol. 159; p. 568.

Bodal, Elias. (See Kruse, Emil, assignor.)

Bodkin, John A., New York, N. Y., assignor to O. R. Barnett, Glencoe, Ill. Rail-anchor. No. 973,160; Oct. 18; Sp. p. 3642; Gaz. vol. 159; p. 627.

Boegen, John E., Berwyn, assignor to Iroquois Engineering Company, Chicago, Ill. Steam, air, and water trap valve. No. 974,100; Oct. 25; Sp. p. 5617; Gaz. vol. 159; p. 974.

Boes & Co., Dr. (See Rode, Wilhelm, assignor.)

Bogen, Andrew N., Denver, Colo. Follower for traveling-cases. No. 972,323; Oct. 11; Sp. p. 1755; Gaz. vol. 159; p. 309.

Bogle, William L., Columbus, Miss. Railway-track bolt. No. 973,470; Oct. 25; Sp. p. 4315; Gaz. vol. 159; p. 757.

Bohland, Carl P., and J. J. Connelly, deceased, Superior, Wis.; A. M. Connelly, administratrix. Molding-machine. No. 972,781; Oct. 11; Sp. p. 2747; Gaz. vol. 159; p. 468.

Böhm, Conrad R., assignor to Cerofirm-Gesellschaft m. b. H., Berlin, Germany. Producing incandescent mantles. No. 973,253; Oct. 18; Sp. p. 3850; Gaz. vol. 159; p. 658.

Boling, Samuel M., assignor to Standard Computing Wagon Scales Company, Chandler, Okla. Computing device. No. 973,403; Oct. 18; Sp. p. 4174; Gaz. vol. 159; p. 711.

Bolles, William B., Cleveland, Ohio. Measured feed apparatus. No. 972,804; Oct. 18; Sp. p. 2803; Gaz. vol. 159; p. 501.

Bolz, Christian, Budapest, Austria-Hungary. Apparatus for opening or closing the discharge-openings of vertical retorts. No. 972,674; Oct. 11; Sp. p. 2531; Gaz. vol. 159; p. 431.

Bolze, Heinrich A., Hanover, Germany. Hot-water heating apparatus. No. 971,966; Oct. 4; Sp. p. 1022; Gaz. vol. 159; p. 170.

Bond, James E., Globe, Ariz. Adjustable post-support. No. 972,989; Oct. 18; Sp. p. 3268; Gaz. vol. 159; p. 569.

Bonnet, Joseph, Paris, and J. L. Muller, Sannois, France. Machine for calcining mantles. No. 973,161; Oct. 18; Sp. p. 3645; Gaz. vol. 159; p. 627.

Bonney, Charles S., Irvington, N. J. Tool-holder. No. 973,254; Oct. 18; Sp. p. 3852; Gaz. vol. 159; p. 658.

Booth, James E., Des Moines, Iowa. Harrow. No. 971,591; Oct. 4; Sp. p. 175; Gaz. vol. 159; p. 32.

Booth, Thomas C., New Rochelle, assignor to The Consolidated Fruit Jar Company, New York, N. Y. Compressible tube. No. 972,095; Oct. 4; Sp. p. 1255; Gaz. vol. 159; p. 213.

Borden, Moro M., Collingswood, assignor to Simplex Valve and Meter Company, Camden, N. J. Liquid-gage. No. 973,101; Oct. 18; Sp. p. 3503; Gaz. vol. 159; p. 605.

Borden, Robert A. (See Stratton, Joseph R., assignor.)

Bordo, Lambert J., Philadelphia, Pa. Boiler water-glass. No. 973,337; Oct. 18; Sp. p. 4024; Gaz. vol. 159; p. 688.

Borgen, Ole C., Sharon, N. D. Detachable boiler-flue. No. 973,471; Oct. 25; Sp. p. 4316; Gaz. vol. 159; p. 757.

Borman, Herman C., Metropolis, Ill. Display-case. No. 971,719; Oct. 4; Sp. p. 435; Gaz. vol. 159; p. 76.

Bornkessel, Paul, Mellenbach, Germany. Burner for glass-blowing apparatus. No. 972,153; Oct. 11; Sp. p. 1404; Gaz. vol. 159; p. 252.

Boston Braiding Company. (See Fredenburgh, George A., assignor.)

Bottle, Edward K., assignor to The Carter-Crume Co., Limited, Niagara Falls, N. Y. Manifolding-pad. No. 972,805; Oct. 18; Sp. p. 2804; Gaz. vol. 159; p. 501.

Bottle, Edward K., assignor to The Carter-Crume Co., Limited, Niagara Falls, N. Y. Manifolding sales-book. No. 973,746; Oct. 25; Sp. p. 4893; Gaz. vol. 159; p. 851.

Bottlers Machinery Manufacturing Company. (See Bastian, Charles L., assignor.)

Bottlers Machinery Manufacturing Company. (See Jaeger, Ludwig, assignor.)

Boucher, Joseph J., assignor to Sterling Vehicle Company, Harvey, Ill. Shaft-packing. No. 973,850; Oct. 25; Sp. p. 5109; Gaz. vol. 159; p. 887.

Boulieu, John, assignor of one-half to J. R. Ryan, Sault Ste. Marie, Mich. Wrench. No. 972,052; Oct. 4; Sp. p. 1182; Gaz. vol. 159; p. 190.

Boulio, Henry, *et al.* (See Hawley, Adelbert, assignor.)

Bounds, John W., and J. C. Ellenburg, Kannapolis, N. C., assignors to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Warp stop mechanism. No. 973,102; Oct. 18; Sp. p. 3505; Gaz. vol. 159; p. 605.

Bourne, Theodore F., trustee. (See Waterhouse, Addison G., assignor.)

Bowditch, Nathaniel, Aurora, Ill. Manually-operated cotton-picker. No. 972,324; Oct. 11; Sp. p. 1756; Gaz. vol. 159; p. 309.

Bowers, James A., Lancaster, Pa. Engraver's block. No. 973,617; Oct. 25; Sp. p. 4629; Gaz. vol. 159; p. 805.

Bowie, John C., Cardiff, England, and J. H. Phelps, Yokohama, Japan. Apparatus for lighting miners' safety-lamps. No. 972,675; Oct. 11; Sp. p. 2533; Gaz. vol. 159; p. 431.

Bowman, Lloyd, Fort Worth, Tex. Matrices and blanks for making tablets. No. 973,851; Oct. 25; Sp. p. 5112; Gaz. vol. 159; p. 888.

Boyd, Edward L., Cashmere, Wash. Ladder. No. 973,103; Oct. 18; Sp. p. 3507; Gaz. vol. 159; p. 606.

Boyd, James T., Springville, Miss. Combination plow and harrow. No. 971,592; Oct. 4; Sp. p. 177; Gaz. vol. 159; p. 32.

Boyd, Lawrence V., and F. W. Kramer, Philadelphia, Pa. Toy house. No. 972,498; Oct. 11; Sp. p. 2125; Gaz. vol. 159; p. 370.

Boyd, Robert E., Birmingham, England. Rimless eye-glasses and spectacles. No. 972,053; Oct. 4; Sp. p. 1183; Gaz. vol. 159; p. 199.

Boye, James H., assignor to Boye Needle Company, Chicago, Ill. Commodity-cabinet. No. 972,499; Oct. 11; Sp. p. 2127; Gaz. vol. 159; p. 370.

Boye Needle Company. (See Boye, James H., assignor.)

Boyer, George F., Spencerville, Ohio. Egg-turning tray for incubators. No. 973,104; Oct. 18; Sp. p. 3508; Gaz. vol. 159; p. 606.

Brabrook, George H., Taunton, Mass. Coating or facing molds. No. 972,325; Oct. 11; Sp. p. 1758; Gaz. vol. 159; p. 309.

Brabrook, George H., Taunton, Mass. Asbestos mold. No. 972,990; Oct. 18; Sp. p. 3270; Gaz. vol. 159; p. 569.

Bradbury, Frederick G., administrator. (See Brainard, Julius D.)

Brady, Thomas H., New Britain, Conn. Pull-socket. No. 973,747; Oct. 25; Sp. p. 4895; Gaz. vol. 159; p. 851.

Brady, Thomas M., Clifton Forge, Va. Trace-tug. No. 973,255; Oct. 18; Sp. p. 3854; Gaz. vol. 159; p. 659.

Brainard, Julius D., deceased, (F. G. Bradbury, administrator,) assignor of one-half to F. E. Stivers, St. Paul, Minn. Flame draft-link. No. 973,338; Oct. 18; Sp. p. 4026; Gaz. vol. 159; p. 680.

Bramham, Wilfred, Beverly, Mass. Spring attachment. No. 972,806; Oct. 18; Sp. p. 2806; Gaz. vol. 159; p. 502.

Brandon, James, New York, N. Y. Cotton-gin. No. 971,720; Oct. 4; Sp. p. 437; Gaz. vol. 159; p. 76.

Brannen, Charles A., Newton, Kans. Hair-holder. No. 971,519; Oct. 4; Sp. p. 17; Gaz. vol. 159; p. 5.

Brant, John S., assignor to Cory & Reynolds Company, Providence, R. I. Gem-setting. No. 972,807; Oct. 18; Sp. p. 2807; Gaz. vol. 159; p. 502.

Brazier, Joseph, and H. Watson, Melbourne, Victoria, assignors of one-third to R. R. Grundy, Brunswick, Australia. Means for lighting and extinguishing a system of gas-lamps at prearranged times from a given station. No. 972,500; Oct. 11; Sp. p. 2130; Gaz. vol. 159; p. 370.

Breder, Frederick W., and J. H. Loyd; said Loyd assignor to M. O. Brixey, Springfield, Mo. Artificial bait. No. 972,748; Oct. 11; Sp. p. 2691; Gaz. vol. 159; p. 457.

Brengel, Andrew A., Jersey City, N. J. Amusement device. No. 973,616; Oct. 25; Sp. p. 4631; Gaz. vol. 159; p. 805.

Brennan, James P., assignor of one-half to H. J. Weidemann, Columbus, Wis. Potato-harvester. No. 973,852; Oct. 25; Sp. p. 5114; Gaz. vol. 159; p. 888.

Brent, John F., Marseilles, Ill. Hinge for display-boxes. No. 972,326; Oct. 11; Sp. p. 1760; Gaz. vol. 159; p. 309.

Brewer, Alonzo G., assignor to The Wire Goods Company, Worcester, Mass. Wire coat and hat hook. No. 972,501; Oct. 11; Sp. p. 2133; Gaz. vol. 159; p. 371.

Brewer, George W., Add, Ky. Automatic wagon-brake. No. 972,808; Oct. 18; Sp. p. 2809; Gaz. vol. 159; p. 502.

Brewster, Bertram F., Burrton, Kans., assignor of two-thirds to W. S. Wilson, Fort Worth, Tex. Separable locking-rack for driving mechanism. No. 974,022; Oct. 25; Sp. p. 5471; Gaz. vol. 159; p. 948.

Brewster Engineering Co. (See Brewster, Percy D., assignor.)

Brewster, Percy D., East Orange, assignor to Brewster Engineering Co., Hoboken, N. J. Rotary pressure-blower. No. 971,660; Oct. 4; Sp. p. 311; Gaz. vol. 159; p. 56.

Breyfogle, John W., assignor to Gearless Transmission Co., Rochester, N. Y. Transmission mechanism. No. 973,339; Oct. 18; Sp. p. 4028; Gaz. vol. 159; p. 689.

Briault, Fernand, Villemomble, France. Apparatus for automatically raising vehicles. No. 972,502; Oct. 11; Sp. p. 2134; Gaz. vol. 159; p. 371.

Bridgham, Arthur L., Boston, Mass. Smoke-conveyer for locomotives. No. 973,256; Oct. 18; Sp. p. 3855; Gaz. vol. 159; p. 659.

Bridgman, Robert W., Dayton, Ohio. Nut-lock. No. 973,853; Oct. 25; Sp. p. 5115; Gaz. vol. 159; p. 888.

Brien, Auguste, Dijon, France. Motor-driven tool-carrier. No. 972,327; Oct. 11; Sp. p. 1762; Gaz. vol. 159; p. 310.

Briggs, George H. (See Crossland, George, assignor.)

Briggs, Joseph D., Fresno, Cal. Range. No. 971,520; Oct. 4; Sp. p. 18; Gaz. vol. 159; p. 5.

Briggs, William C. (See Williams and Briggs.)

Brixey, Marshall O. (See Breder and Loyd, assignors.)

Broadbent, Thomas, Schenectady, N. Y., assignor to General Electric Company. Turbine-nozzle. No. 973,472; Oct. 25; Sp. p. 4317; Gaz. vol. 159; p. 757.

Brock, William E., North Plainfield, N. J. Building material. No. 971,967; Oct. 4; Sp. p. 1023; Gaz. vol. 159; p. 170.

Brooke, John T., Seattle, Wash. Credit-account apparatus. No. 792,154; Oct. 11; Sp. p. 1405; Gaz. vol. 159; p. 252.

Brooks, Hiram H., Nashville, Tenn. Street-sweeper. No. 971,661; Oct. 4; Sp. p. 314; Gaz. vol. 159; p. 56.

Brooks, Reginald W., Denver, Colo. Adjustable trace-support and pad-loop. No. 971,521; Oct. 4; Sp. p. 20; Gaz. vol. 159; p. 6.

Bropson, James, Cleveland, Ohio. Sink-strainer. No. 972,676; Oct. 11; Sp. p. 2535; Gaz. vol. 159; p. 432.

Brouquière, Eugène, Salechan, France. Method of and means for removing ashes on board ship. No. 972,991; Oct. 18; Sp. p. 3271; Gaz. vol. 159; p. 569.

Brower, Bloomfield, New York, N. Y. Form for paper currency. No. 973,610; Oct. 25; Sp. p. 4634; Gaz. vol. 159; p. 806.

Brower, William W., Harmattan, Alberta, Canada, assignor to The Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic stacker. No. 973,748; Oct. 25; Sp. p. 4897; Gaz. vol. 159; p. 852.

Brown, Alexander T., Syracuse, N. Y. Type-writing machine. No. 971,721; Oct. 4; Sp. p. 440; Gaz. vol. 159; p. 77.

Brown, Arnold V., assignor to Kabo Corset Company, Chicago, Ill. Adjustable supporting device. No. 971,878; Oct. 4; Sp. p. 779; Gaz. vol. 159; p. 136.

Brown, Charles G., Athens, Pa. Socket for twist-drills. No. 972,155; Oct. 11; Sp. p. 1406; Gaz. vol. 159; p. 252.

Brown, Charles L., *et al.* (See Gedeon, James, assignor.)

Brown, Ernest C., New York, N. Y., assignor to Rotary Meter Company. Port-plate for rotary meters. No. 972,156; Oct. 11; Sp. p. 1408; Gaz. vol. 159; p. 253.

Brown, James A., and F. E. Sutherland, assignors to The Radial Power Hammer Company, Los Angeles, Cal. Power-hammer. No. 973,620; Oct. 25; Sp. p. 4636; Gaz. vol. 159; p. 806.

Brown, Leonard L., assignor of one-fourth to G. T. Sigler, Clifton Forge, Va., and three-fourths to W. T. Sigler. Lock for journal-box lids. No. 972,749; Oct. 11; Sp. p. 2694; Gaz. vol. 159; p. 457.

Brown, Leslie A., Bedford, Ind. Railway-joint. No. 973,021; Oct. 25; Sp. p. 4639; Gaz. vol. 159; p. 806.

Brown, Michael F., Seattle, Wash. Raft appliance. No. 972,054; Oct. 4; Sp. p. 1185; Gaz. vol. 159; p. 199.

Brown, Peabody A., Denver, Colo. Electrically-operated valve. No. 971,722; Oct. 4; Sp. p. 445; Gaz. vol. 159; p. 77.

Brown, Richard R., assignor to National Sewing Machine Company, Belvidere, Ill. Hinge. No. 971,723; Oct. 4; Sp. p. 449; Gaz. vol. 159; p. 78.

Brown, Ulysses S., Logansport, Ind. Rotary cultivator. No. 972,503; Oct. 11; Sp. p. 2136; Gaz. vol. 159; p. 371.

Brown, Walter F., Worcester, Mass. Continuous-combustion heat-engine. No. 972,504; Oct. 11; Sp. p. 2138; Gaz. vol. 159; p. 372.

Brown, William F., Oakland, Cal. Plate-lifter. No. 972,055; Oct. 4; Sp. p. 1187; Gaz. vol. 159; p. 200.

Browne Apparatus Company. (See Browne, Ralph C., assignor.)

Browne, Ralph C., assignor to Browne Apparatus Company, Salem, Mass. Indicating-switch. No. 973,257; Oct. 18; Sp. p. 3858; Gaz. vol. 159; p. 660.

Browne, William H., Brooklyn, N. Y. Lighting apparatus. No. 972,328; Oct. 11; Sp. p. 1764; Gaz. vol. 159; p. 310.

Broyles, Winn. (See Jones, Jeremiah C., assignor.)

Bruce, Alexander, Waltham, Mass. Milking appliance. No. 972,596; Oct. 11; Sp. p. 2375; Gaz. vol. 159; p. 405.

Bruce, William M., Jr., Springfield, Ohio, assignor, by mesne assignments, to The American Automatic Telephone Company, Rochester, N. Y. Lock-out device for party-line telephones. No. 972,329; Oct. 11; Sp. p. 1766; Gaz. vol. 159; p. 310.

Brun, August, Chicago, Ill. Life-boat apparatus. No. 972,809; Oct. 18; Sp. p. 2812; Gaz. vol. 159; p. 503.

Brünler, Oscar H. U., Brussels, Belgium. Steam-generator with water-immersed flame. No. 971,724; Oct. 4; Sp. p. 452; Gaz. vol. 159; p. 78.

Brunson, Elmer E., Chicago, Ill. Manifolding device. No. 971,725; Oct. 4; Sp. p. 453; Gaz. vol. 159; p. 78.

Brunst, Henry C., and L. R. Roland, Covington, Ky. Chalk-holder. No. 972,157; Oct. 11; Sp. p. 1410; Gaz. vol. 159; p. 253.

Bryant Electric Company, The. (See Seeley, Frank E., assignor.)

Bryant, Frederic J., New York, N. Y. Game-table. No. 971,726; Oct. 4; Sp. p. 459; Gaz. vol. 159; p. 79.

Bryant, Richard S., Columbus, assignor, by mesne assignments, to The United Rim Company, Akron, Ohio. Tire-retaining flange for wheel-rims. No. 973,162; Oct. 18; Sp. p. 3057; Gaz. vol. 159; p. 628.

Bryant, William A., assignor of one-third to J. A. Lancaster and J. R. Gamble, Wetumpka, Ala. Station-indicator. No. 973,749; Oct. 25; Sp. p. 4898; Gaz. vol. 159; p. 852.

Bryers, Joseph, Chicago, Ill. Cooking utensil. No. 971,727; Oct. 4; Sp. p. 463; Gaz. vol. 159; p. 79.

Buchanan, William A., Asheville, N. C., assignor to Ball Bearing Coupler Company. Thill-coupling. No. 972,096; Oct. 4; Sp. p. 1257; Gaz. vol. 159; p. 213.

Büchler, Hans, assignor to Stanwerke A. G., Zurich, Switzerland. Automatic valve or gate for weirs or the like. No. 972,992; Oct. 18; Sp. p. 3273; Gaz. vol. 159; p. 570.

Buck, Philip, Rugby, Tenn. Bottle and lamp-chimney cleaner. No. 973,911; Oct. 25; Sp. p. 5245; Gaz. vol. 159; p. 900.

Buck, Vertrude P., assignor to Shawmut Machinery Company, Boston, Mass. Polishing-machine for use in repairing cracks in patent-leather. No. 973,912; Oct. 25; Sp. p. 5247; Gaz. vol. 159; p. 909.

Buck, William F., Chicago, Ill., and H. W. Jacobs, Topeka, Kans. Superheater. No. 971,522; Oct. 4; Sp. p. 22; Gaz. vol. 159; p. 6.

Buckham, George T. (See Dawson and Buckham.)

Buckingham, Roswell H., assignor to The Barberton Novelty Company, Barberton, Ohio. Garment-support. No. 973,750; Oct. 25; Sp. p. 4900; Gaz. vol. 159; p. 852.

Buckland, Warren L., Rochester, N. Y. Rail-joint. No. 972,993; Oct. 18; Sp. p. 3275; Gaz. vol. 159; p. 570.

Buckman, Walter L. (See Morrison, Sylvanus S., assignor.)

Bucknam, Ezra S., assignor to The J. G. Brill Company, Philadelphia, Pa. Operating device for car-fare registers. No. 971,968; Oct. 4; Sp. p. 1024; Gaz. vol. 159; p. 170.

Buckner, Augustus N., Birmingham, Ala. Transit. No. 971,523; Oct. 4; Sp. p. 25; Gaz. vol. 159; p. 7.

Bucyrus Company, The. (See Ferris, Walter, assignor.)

Buda Foundry & Manufacturing Company. (See Jenkins, Merrill L., assignor.)

Budd, Edward G., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa. Metallic sheathing. No. 973,622; Oct. 25; Sp. p. 4640; Gaz. vol. 159; p. 807.

Budd, Edward G., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa. Metallic door. No. 973,751; Oct. 25; Sp. p. 4901; Gaz. vol. 159; p. 852.

Budge, George A., Berkeley, Cal., assignor, by mesne assignments, to Aerial Amusement Construction Company, Phoenix, Ariz. Amusement apparatus. No. 972,750; Oct. 11; Sp. p. 2694; Gaz. vol. 159; p. 458.

Buehrle, German B. (See Lamb, Edwin, assignor.)

Buffalo Forge Company. (See Carrier, Willis H., assignor.)

Buffalo Pitts Company. (See Vraalstad, Edward J., assignor.) (Reissue.)

Buffum Tool Company. (See Mann, Miles H., assignor.)

Bullis, Roy H., Winnebago, Minn. Device for stretching furs or skins. No. 971,060; Oct. 4; Sp. p. 1026; Gaz. vol. 159; p. 171.

Bullock, Edwin P. (See Cook and Bullock.)

Bullock Electric Manufacturing Company, The, *et al.* (See Behrend, Bernard A., assignor.)

Bullock, William M., Grand Rapids, Mich. Advertising-sign. No. 973,623; Oct. 25; Sp. p. 4643; Gaz. vol. 159; p. 807.

Bundy, Cyrus L., *et al.* (See Acker, Julius J., assignor.)

Bunnell, Walter A. (See Miller and Bunnell.)

Bunner, Charles E., Grafton, W. Va. Natural-gas burner. No. 972,056; Oct. 4; Sp. p. 1188; Gaz. vol. 159; p. 200.

Buquo, George C., Fletcher, N. C. Speed-indicator. No. 972,158; Oct. 11; Sp. p. 1411; Gaz. vol. 159; p. 253.

Burbank, Louis S., assignor to Draper Company, Hopedale, Mass. Loom harness mechanism. No. 972,810; Oct. 18; Sp. p. 2816; Gaz. vol. 159; p. 503.

Burge, James, Lincoln, Nebr. Ringing-machine. No. 973,340; Oct. 18; Sp. p. 4031; Gaz. vol. 159; p. 690.

Burger, John P. (See Leilich and Burger.)

Burhorn, Edwin, Hoboken, N. J. Cooling-tower. No. 973,163; Oct. 18; Sp. p. 3660; Gaz. vol. 159; p. 628.

Burke, Lawrence A. (See Hoyt and Burke.)

Burke, Richard H., Lexington, Mass. Ash-sifter. No. 971,825; Oct. 4; Sp. p. 652; Gaz. vol. 159; p. 114.

Burke, Wilbur B., Cleveland, Ohio. Valve. No. 972,677; Oct. 11; Sp. p. 2536; Gaz. vol. 159; p. 432.

Burkett, Harry T. (See Reagan, Edward S., assignor.)

Burkhardt, George J., Burlingame, Cal. Toilet. No. 971,826; Oct. 4; Sp. p. 654; Gaz. vol. 159; p. 115.

Burkheiser, Karl, Aix-la-Chapelle, Germany. Obtaining ammonium salts from gas. No. 973,164; Oct. 18; Sp. p. 3661; Gaz. vol. 159; p. 628.

Burley, Millis B., Philadelphia, Pa. Locking device for milk-can covers. No. 973,624; Oct. 25; Sp. p. 4644; Gaz. vol. 159; p. 808.

Burmeister, John. (See Shattuck, William P., assignor.)

Burnett, John W., assignor of one-half to W. K. Mason, Cambridge, Mass. Cigar-lighter. No. 972,811; Oct. 18; Sp. p. 2818; Gaz. vol. 159; p. 504.

Burns, Albert J., assignor of one-half to F. D. H. Cobb and one-half to Cobb Preserving Company, Rochester, N. Y. Fruit-coring machine. No. 972,812; Oct. 18; Sp. p. 2821; Gaz. vol. 159; p. 504.

Burns, John. (See Gibson and Burns.)

Burridge, Lee S., New York, N. Y. Type-writing machine. No. 973,341; Oct. 18; Sp. p. 4032; Gaz. vol. 159; p. 690.

Burroughs Adding Machine Company. (See Barrett, Glenn J., assignor.)

Burrows, Jarvis R., Chicago, Ill. Air-compressor. No. 972,813; Oct. 18; Sp. p. 2824; Gaz. vol. 159; p. 505.

Burrows Lock Nut & Bolt Company. (See Johnson, Clarence H., assignor.)

Burrows, William R., Newark, N. J., assignor to General Electric Company. Exhausting-machine. No. 973,625; Oct. 25; Sp. p. 4646; Gaz. vol. 159; p. 808.

Busenbenz, Jacob J., Chicago, Ill. Clock. No. 973,854; Oct. 25; Sp. p. 5116; Gaz. vol. 159; p. 888.

Buswell, Eugene, and T. Cascaden, Jr., Waterloo, Iowa; said Buswell assignor to said Cascaden. Conveyer-apron for fertilizer-distributers. No. 971,662; Oct. 4; Sp. p. 315; Gaz. vol. 159; p. 57.

Butler, James L., Alliance, Ohio. Gas and air valve for open-hearth furnaces. No. 972,435; Oct. 11; Sp. p. 1986; Gaz. vol. 159; p. 348.

Butterworth, George H., and E. Veevers, Liverpool, England. Flash-light signaling apparatus. No. 973,913; Oct. 25; Sp. p. 5249; Gaz. vol. 159; p. 909.

Button, Theodore E. (See Hewlett and Button.)

Byl, George, assignor of one-third to F. B. Dilts, Jersey City, N. J., and one-third to H. I. Dilts, Long Island City, N. Y. Game apparatus. No. 972,597; Oct. 11; Sp. p. 2377; Gaz. vol. 159; p. 406.

C. G. Sargent's Sons Corporation. (See Sargent, Frederick G., assignor.)

Cadell, John F., Baltimore, Md., assignor, by mesne assignments, to The North Electric Company, Cleveland, Ohio. Electrical relay. No. 972,814; Oct. 18; Sp. p. 2830; Gaz. vol. 159; p. 505.

Caffery, Robert L., Boston, Mass. Faucet. No. 973,914; Oct. 25; Sp. p. 5250; Gaz. vol. 159; p. 910.

Cahill, John R., San Francisco, Cal. Concrete-slab construction. No. 973,165; Oct. 18; Sp. p. 3664; Gaz. vol. 159; p. 629.

Cahn, Carl, and E. Seeberger, Aachen, Germany. Laying conduits. No. 973,752; Oct. 25; Sp. p. 4903; Gaz. vol. 159; p. 853.

Cairns, Robert, Toronto, Ontario, Canada. Hydraulic pump. No. 973,473; Oct. 25; Sp. p. 4318; Gaz. vol. 159; p. 757.

Caldwell, Charles H., Portland, Oreg. Square. No. 972,330; Oct. 11; Sp. p. 1768; Gaz. vol. 159; p. 311.

Cameron, Francis J., New York, N. Y. Drip-pan. No. 973,474; Oct. 25; Sp. p. 4321; Gaz. vol. 159; p. 758.

Campbell, Argyle, assignor to Enterprise Railway Equipment Company, Chicago, Ill. Dump-car. No. 973,753; Oct. 25; Sp. p. 4904; Gaz. vol. 159; p. 853.

Campbell, Henry A., Rolette, N. D. Harrow. No. 972,057; Oct. 4; Sp. p. 1190; Gaz. vol. 159; p. 201.

Campbell, John, Harrisburg, Pa. Bedclothes-holder. No. 972,159; Oct. 11; Sp. p. 1414; Gaz. vol. 159; p. 254.

Campbell, John B., San Francisco, Cal. Method of and apparatus for building masonry walls in shifting soils. No. 974,023; Oct. 25; Sp. p. 5473; Gaz. vol. 159; p. 948.

Campbell, John H., Ripley, Ohio. Insulator. No. 972,994; Oct. 18; Sp. p. 3276; Gaz. vol. 159; p. 570.

Campbell, John W., Colorado Springs, Colo. Buffer. No. 971,970; Oct. 4; Sp. p. 1027; Gaz. vol. 159; p. 171.

Campbell, William R. (See Frink and Campbell.)

Candle, Melven A., Dawson, N. Mex. Mail-receiving device. No. 973,166; Oct. 18; Sp. p. 3665; Gaz. vol. 159; p. 629.

Canfield, Lee, Sparta, Wis. Reversing-gearing. No. 973,915; Oct. 25; Sp. p. 5252; Gaz. vol. 159; p. 910.

Canham, Victor H., Guelph, Ontario, Canada. Spool-holder. No. 972,160; Oct. 11; Sp. p. 1415; Gaz. vol. 159; p. 254.

Canham, Victor H., Guelph, Ontario, Canada. Hemmer-guide. No. 972,995; Oct. 18; Sp. p. 3277; Gaz. vol. 159; p. 570.

Cannon, Edward F., Portland, Oreg. Tree-felling saw. No. 973,258; Oct. 18; Sp. p. 3859; Gaz. vol. 159; p. 660.

Cannon, Percival C., assignor to M. S. Napier and S. F. Edge, London, England. Carbureter. No. 973,855; Oct. 25; Sp. p. 5118; Gaz. vol. 159; p. 889.

Canton Culvert Company, The. (See Schlafly, Julius H., assignor.)

Canton Foundry and Machine Company. (See Slentz, Albertus O., assignor.)

Capen, Joseph S., Stoughton, Mass. Rubber shoe. No. 972,996; Oct. 18; Sp. p. 3278; Gaz. vol. 159; p. 571.

Capwell, Vernon L., assignor to The Rotary Engine and Valve Developing Company, Dorranceton, Pa. Rotary engine. No. 972,598; Oct. 11; Sp. p. 2378; Gaz. vol. 159; p. 406.

Carlson, Charles A., Kokomo, Ind. Needle-awl. No. 971,663; Oct. 4; Sp. p. 317; Gaz. vol. 159; p. 57.

Carpenter, Allan O., Franklin, Pa., assignor to Chicago Pneumatic Tool Company, Chicago, Ill. Air-compressor. No. 972,161; Oct. 11; Sp. p. 1416; Gaz. vol. 159; p. 254.

Carpenter, Chalmer, Pittsburg, Pa. Wheel. No. 973,916; Oct. 25; Sp. p. 5253; Gaz. vol. 159; p. 911.

Carpenter, Henry M. (See Hollister, Orange E., assignor.)

Carpenter, John C., Houston Heights, Tex. Speed-regulating mechanism. No. 972,815; Oct. 18; Sp. p. 2832; Gaz. vol. 159; p. 506.

Carr, James A. (See Lawrenz, William F., assignor.)

Carr, William C., Buffalo, N. Y. Transportation system. No. 972,997; Oct. 18; Sp. p. 3280; Gaz. vol. 159; p. 571.

Carrier, Willis H., assignor to Buffalo Forge Company, Buffalo, N. Y. Gas-washing machine. No. 973,626; Oct. 25; Sp. p. 4649; Gaz. vol. 159; p. 808.

Carroll, Thomas, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 973,754; Oct. 25; Sp. p. 4907; Gaz. vol. 159; p. 854.

Carroll, Timothy, Anaheim, Cal. Hopper. No. 972,678; Oct. 11; Sp. p. 2538; Gaz. vol. 159; p. 432.

Carroll, William P. (See Drew and Carroll.)

Carson, Alexander A., Braintree, Mass. Ball-cock. No. 972,331; Oct. 11; Sp. p. 1769; Gaz. vol. 159; p. 311.

Carson, Hugh J. (See Frits and Carson.)

Carter, Charles B., Chicago, Ill. Metal-founding. No. 974,024; Oct. 25; Sp. p. 5476; Gaz. vol. 159; p. 940.

Carter, Chester C., Wawaka, Tex. Combined cotton chopper and cultivator. No. 972,332; Oct. 11; Sp. p. 1771; Gaz. vol. 159; p. 311.

Carter-Crume Co. (See Clark, Robert, assignor.)

Carter-Crume Co., The. (See Bottle, Edward K., assignor.)

Carter, Robert A., Jr., New York, N. Y. Smokeless briquet and making the same. No. 972,333; Oct. 11; Sp. p. 1773; Gaz. vol. 159; p. 312.

Carter, William C., St. Louis, Mo. Carbureter. No. 973,755; Oct. 25; Sp. p. 4913; Gaz. vol. 159; p. 854.

Carter, William C., St. Louis, Mo. Liquid-fuel strainer. No. 973,756; Oct. 25; Sp. p. 4915; Gaz. vol. 159; p. 855.

Casassa, Joseph, Malden, Mass. Reclining-chair. No. 972,334; Oct. 11; Sp. p. 1776; Gaz. vol. 159; p. 312.

Cascaden, Thomas, Jr. (See Buswell and Cascaden.)

Casey, James P., assignor to E. N. Gilfillan, Syracuse, N. Y. Cutter for pencil-sharpeners. No. 971,728; Oct. 4; Sp. p. 464; Gaz. vol. 159; p. 80.

Casey, Judson R., *et al.* (See McLaughlin, John, assignor.)

Cassedy, Hiram, Sr., and R. S. Purser, Brookhaven, Miss. Charge-forming device for internal-combustion engines. No. 971,971; Oct. 4; Sp. p. 1028; Gaz. vol. 159; p. 171.

Cassidy, Miles, Ardmore, Pa. Clevis. No. 972,998; Oct. 18; Sp. p. 3283; Gaz. vol. 159; p. 571.

Castle, Frank, Auckland, assignor of two-fifths to E. J. Riddiford, Wellington, two-fifths to W. E. Bidwill, Featherston, and one-tenth to L. L. McDermott, Auckland, New Zegland. Electrical alarm system. No. 973,627; Oct. 25; Sp. p. 4653; Gaz. vol. 159; p. 809.

Caswell, Frederick K., Los Angeles, Cal., assignor to Paul Dickinson (Incorporated), Chicago, Ill. Automatic brake-shoe machine. No. 973,167; Oct. 18; Sp. p. 3667; Gaz. vol. 159; p. 629.

Caswell, Frederick K., Los Angeles, Cal., assignor to Paul Dickinson (Incorporated), Chicago, Ill. Making brake-shoes. No. 973,168; Oct. 18; Sp. p. 3673; Gaz. vol. 159; p. 630.

Caswell, Frederick K., Los Angeles, Cal., assignor to Paul Dickinson (Incorporated), Chicago, Ill. Brake-shoe machine. No. 973,169; Oct. 18; Sp. p. 3678; Gaz. vol. 159; p. 630.

Catton, Ira C. (See Catton, Rado B. and I. C.)

Catton, Rado B. and I. C., Brimfield, Ill. Grain-door. No. 972,505; Oct. 11; Sp. p. 2148; Gaz. vol. 159; p. 375.

Cavanagh, John F., assignor of three-fourths to Lindsley and Allen Electric Company, Providence, R. I. Electric reversing-switch. No. 972,999; Oct. 18; Sp. p. 3284; Gaz. vol. 159; p. 571.

Caverno, Albert D., Windsor Locks, Conn. Automatic swaging and sizing machine. No. 972,599; Oct. 11; Sp. p. 2381; Gaz. vol. 159; p. 406.

Century Electric Company. (See Pillsbury, Edwin S., assignor.)

Ceramic Machinery Company, The. (See Goldsmith, Frederick E., assignor.)

Ceramic Machinery Company, The. (See Scovill, James P., assignor.)

Cerofirm-Gesellschaft M. B. H. (See Böhm, Conrad R., assignor.)

Chadwick, Arthur H., Hamilton, Ontario, Canada. Seal-lock for loose-leaf binders and the like. No. 972,817; Oct. 18; Sp. p. 2836; Gaz. vol. 159; p. 506.

Chamberlain, Wilson P., Jr., assignor of one-half to B. F. McConnell, Kane, Pa. Amusement apparatus. No. 973,105; Oct. 18; Sp. p. 3509; Gaz. vol. 159; p. 606.

Chamberlin, Gordon S., *et al.* (See Frederickson, Clayton E., assignor.)

Chambless, James, Evansville, Ind. Motor attachment for motion-picture exhibitors. No. 973,917; Oct. 25; Sp. p. 5255; Gaz. vol. 159; p. 911.

Champ, Joseph H., Cleveland, Ohio. Beer-reclaimer. No. 973,757; Oct. 25; Sp. p. 4916; Gaz. vol. 159; p. 855.

Champion Manufacturing Company. (See Wright, Norman A., assignor.)

Chandlee, George H., Chevy Chase, Md. Automobile attachment. No. 973,856; Oct. 25; Sp. p. 5120; Gaz. vol. 159; p. 889.

Chapin, Henry K., *et al.* (See Pillsbury, Alice A., assignor.)

Chapin, Homer C., *et al.* (See Pillsbury, Alice A., assignor.)

Chapman, Eleanor M., Dallas, Tex. Buckle-fastening. No. 973,918; Oct. 25; Sp. p. 5257; Gaz. vol. 159; p. 912.

Chapman, James W., assignor to Manning, Bowman & Company, Meriden, Conn. Tea or coffee pot. No. 973,758; Oct. 25; Sp. p. 4919; Gaz. vol. 159; p. 855.

Chapman, William B., assignor to W. B. Hopping, trustee, New York, N. Y. Means for cleaning gas-flues. No. 973,759; Oct. 25; Sp. p. 4921; Gaz. vol. 159; p. 856.

Chappell, George H., New York, N. Y. Burglar-alarm. No. 971,729; Oct. 4; Sp. p. 465; Gaz. vol. 159; p. 80.

Chase & Baker Company, The. (See Bayer, William F., assignor.)

Chase, Grant. (See Stevens, Sidney M., assignor.)

Chatham, Edwin C., Oakland, Cal. Antifriction-bearing. No. 973,170; Oct. 18; Sp. p. 3682; Gaz. vol. 159; p. 631.

Cheek, Henry M., assignor of one-half to J. A. Fretwell, Little Rock, Ark. Irrigating apparatus. No. 971,879; Oct. 4; Sp. p. 781; Gaz. vol. 159; p. 136.

Chemical Products Company. (See Mork, Harry S., assignor.)

Chemische Fabrik Griesheim Elektron. (See Hoffmann, Berthold, assignor.)

Chemische Fabrik Griesheim Elektron. (See Laska, August L., assignor.)

Cheney, Herbert W., Milwaukee, Wis., assignor to Allis-Chalmers Company. Resistance-grid. No. 973,000; Oct. 18; Sp. p. 3287; Gaz. vol. 159; p. 572.

Chicago Pneumatic Tool Company. (See Carpenter, Allan O., assignor.)

Chisholm, Daniel A., Gilby, N. D. Track-weeder. No. 972,058; Oct. 4; Sp. p. 1192; Gaz. vol. 159; p. 201.

Christensen, Christ, Indianapolis, Ind., assignor, by mesne assignments, to Empire Voting Machine Company, Rochester, N. Y. Counter-support for voting-machines. No. 972,506; Oct. 11; Sp. p. 2149; Gaz. vol. 159; p. 373.

Christensen, Christ, Indianapolis, Ind., assignor, by mesne assignments, to Empire Voting Machine Company, Rochester, N. Y. Actuator cut-off for voting-machines. No. 972,507; Oct. 11; Sp. p. 2152; Gaz. vol. 159; p. 373.

Christenson, Algot L., Stockholm, Sweden. Blue-milk outlet in centrifugal separators. No. 971,593; Oct. 4; Sp. p. 180; Gaz. vol. 159; p. 33.

Christoph, Emil A., Chicago, Ill. Safety-razor. No. 971,827; Oct. 4; Sp. p. 655; Gaz. vol. 159; p. 115.

Church, Edmund S., Dayton, Ohio, assignor to Hayner Distilling Company. Bottle-stopper. No. 972,508; Oct. 11; Sp. p. 2153; Gaz. vol. 159; p. 373.

Church, May E., Boston, Mass. Educational game device. No. 972,335; Oct. 11; Sp. p. 1777; Gaz. vol. 159; p. 312.

Church, William, Northampton, England. Device for measuring feet, lasts, and the like. No. 973,475; Oct. 25; Sp. p. 4322; Gaz. vol. 159; p. 758.

Churchill, Durand, Chicago, Ill. Lock for locker-doors. No. 973,001; Oct. 18; Sp. p. 3288; Gaz. vol. 159; p. 572.

Cincinnati Milling Machine Company, The. (See De Leeuw, Adolph L., assignor.)

Cincinnati Planer Company, The. (See Meier and Langen, assignors.)

Cirves, Herman R., Madison, Wis. Pliers. No. 973,760; Oct. 25; Sp. p. 4923; Gaz. vol. 159; p. 856.

Claflin, Charles A., Medford, Mass. Valve. No. 972,336; Oct. 11; Sp. p. 1779; Gaz. vol. 159; p. 313.

Clark, Arnold, Latty, Ohio. Railway-tie. No. 972,818; Oct. 18; Sp. p. 2841; Gaz. vol. 159; p. 506.

Clark, Charles C., East Orange, N. J. Hair-pin. No. 973,404; Oct. 18; Sp. p. 4177; Gaz. vol. 159; p. 711.

Clark, Edward C., Nutley, N. J., assignor to The Oscar Barnett Foundry Company. Chain grate. No. 972,751; Oct. 11; Sp. p. 2695; Gaz. vol. 159; p. 458.

Clark, James M., 3rd, Providence, R. I. Target-practice apparatus. No. 971,828; Oct. 4; Sp. p. 657; Gaz. vol. 159; p. 116.

Clark, Lucius B., and D. G. Kreul, Davenport, Iowa. Filter. No. 974,025; Oct. 25; Sp. p. 5479; Gaz. vol. 159; p. 949.

Clark, Osroe A., Newark, N. J. Making blades with soft centers. No. 972,436; Oct. 11; Sp. p. 1988; Gaz. vol. 159; p. 349.

Clark, Otis O., assignor of one-half to J. Fuest, Liberal, Kans. Animal-poke. No. 971,594; Oct. 4; Sp. p. 181; Gaz. vol. 159; p. 33.

Clark, Robert, Walthamstow, England, assignor to Carter-Crume Co., Limited, Niagara Falls, N. Y. Manifolding-pad. No. 972,819; Oct. 18; Sp. p. 2842; Gaz. vol. 159; p. 507.

Clark Sales Company, The. (See Smith, Ernest L., assignor.)

Clark, Sawyer D., and C. F. Bartell, Boulder, Colo. Vacuum-producing device. No. 973,405; Oct. 18; Sp. p. 4178; Gaz. vol. 159; p. 712.

Clark, Stuart J., Auburn, Ill. Folding umbrella. No. 973,406; Oct. 18; Sp. p. 4179; Gaz. vol. 159; p. 712.
Clark, Walter E., Hughesville, assignor to J. K. Rishel Furniture Co., Williamsport, Pa. Clamp for tables. No. 974,026; Oct. 25; Sp. p. 5481; Gaz. vol. 159; p. 950.
Clarke, Matthew, Wilkes-Barre, Pa. Compound measuring instrument. No. 973,117; Oct. 18; Sp. p. 3531; Gaz. vol. 159; p. 611.
Clarke, Thomas C., New York, N. Y. Temporary wall. No. 972,059; Oct. 4; Sp. p. 1196; Gaz. vol. 159; p. 202.
Clausen, Fritz M., Goldfield, Iowa. Net-weight scale-beam. No. 971,829; Oct. 4; Sp. p. 664; Gaz. vol. 159; p. 116.
Clavel, Alexander, assignor to Färberei- & Appretür-Gesellschaft (vormals A. Clavel & Fritz Lindenmeyer), Basel, Switzerland. Apparatus for smoothing hanks of textile materials. No. 972,060; Oct. 4; Sp. p. 1198; Gaz. vol. 159; p. 202.
Clawson, Charles F., Mount Pleasant, Iowa. Rail-anchor. No. 972,061; Oct. 4; Sp. p. 1200; Gaz. vol. 159; p. 203.
Clawson, Danial A., Waynesville, Ill. Wire fence. No. 971,972; Oct. 4; Sp. p. 1031; Gaz. vol. 159; p. 172.
Clay, Harry C., assignor to Reeves & Company, Columbus, Ind. Mechanical movement. No. 972,162; Oct. 11; Sp. p. 1419; Gaz. vol. 159; p. 254.
Cleis, John C., South Bend, Ind. Buffer attachment for closet-seats. No. 972,820; Oct. 18; Sp. p. 2844; Gaz. vol. 159; p. 507.
Clemenson, Clemens J. (See Dunton, Addis J., assignor.)
Clemm, Adolf, Mannheim, Germany. Treating barium chlorid and strontium chlorid for producing chlorin and hydroxid of the said metals. No. 973,171; Oct. 18; Sp. p. 3684; Gaz. vol. 159; p. 631.
Cleveland Steel Tool Company, The. (See Siegrist, Charles F., assignor.)
Cleveland, Stephen J., Mansfield, Pa. Combined door hanger and track. No. 972,679; Oct. 11; Sp. p. 2541; Gaz. vol. 159; p. 433.
Clewell, Eva M., Canton, Ohio. Combination brace-waist. No. 971,524; Oct. 4; Sp. p. 28; Gaz. vol. 159; p. 7.
Clifton, Archer E., and W. W. Preston, Connersville, Ind., assignors to United Vacuum Appliance Company, New York, N. Y. Vacuum-cleaner. No. 971,505; Oct. 4; Sp. p. 183; Gaz. vol. 159; p. 33.
Clifton, Ray H., East Peru, Iowa. Cranking device. No. 972,097; Oct. 4; Sp. p. 1258; Gaz. vol. 159; p. 213.
Cline, Alva, Lima, Ohio. Latch. No. 973,919; Oct. 25; Sp. p. 5258; Gaz. vol. 159; p. 912.
Cline, Charles A., Jr., West Branch, Mich. Attachment for motor-vehicles. No. 972,821; Oct. 18; Sp. p. 2845; Gaz. vol. 159; p. 507.
Cline, Robert F., Los Angeles, Cal. Spice-mill. No. 973,761; Oct. 25; Sp. p. 4924; Gaz. vol. 159; p. 857.
Cloud, Arthur D. (See Latimer and Cloud.)
Clough, George W., Cleveland, Ohio. Portable vulcanizer. No. 973,476; Oct. 25; Sp. p. 4327; Gaz. vol. 159; p. 758.
Coale, George O. G., trustee. (See Palmer, Roderick M., assignor.)
Coates, Leonard R., Baltimore, Md. Manufacture of fertilizer. No. 971,830; Oct. 4; Sp. p. 665; Gaz. vol. 159; p. 117.
Cobb, Frederick D. H., *et al.* (See Burns, Albert J., assignor.)
Cobb Preserving Company *et al.* (See Burns, Albert J., assignor.)
Cocker, John A., Joliet, Ill., assignor to The American Steel and Wire Company, Pittsburg, Pa. Crimping-machine. No. 973,477; Oct. 25; Sp. p. 4328; Gaz. vol. 159; p. 759.
Cockerell, Andrew J., Chillicothe, Ohio. Cleaner for third rails. No. 972,600; Oct. 11; Sp. p. 2385; Gaz. vol. 159; p. 407.
Cockings, George E. (See Michael and Cockings.)
Coffey, Barton H., Boston, Mass. Vibrating propeller. No. 972,337; Oct. 11; Sp. p. 1782; Gaz. vol. 159; p. 313.
Coffey, Irven E., Lawton, Okla. Resistance-coil. No. 971,525; Oct. 4; Sp. p. 29; Gaz. vol. 159; p. 7.
Coffman, Albert. (See Craig and Coffman.)
Cohen, George. (See Seaman and Cohen.)
Cohen, Hyman, New York, N. Y. Foot-support. No. 971,973; Oct. 4; Sp. p. 1032; Gaz. vol. 159; p. 172.
Cohen, Jacob, New York, N. Y. Garment. No. 971,664; Oct. 4; Sp. p. 317; Gaz. vol. 159; p. 57.
Colburn, Irving W., assignor to Colburn Machine Glass Company, Franklin, Pa. Machine for drawing sheet-glass. No. 973,002; Oct. 18; Sp. p. 3291; Gaz. vol. 159; p. 572.
Colburn Machine Glass Company. (See Colburn, Irving W., assignor.)
Cole, Albert L., Auburndale, assignor to F. C. Parmenter, Gloucester, Mass. Packing. No. 972,680; Oct. 11; Sp. p. 2543; Gaz. vol. 159; p. 433.
Cole, George W., Buffalo, N. Y. Steam-trap, boiler-feed, and water-meter. No. 971,831; Oct. 4; Sp. p. 667; Gaz. vol. 159; p. 117.
Coleman, John, *et al.* (See McLaughlin, Charles H., assignor.)
Coleman, John J., *et al.* (See McLaughlin, Charles H., assignor.)
Collar, Adoniram J., Yreka, Cal. Flood and feed gate. No. 973,106; Oct. 18; Sp. p. 3513; Gaz. vol. 159; p. 607.
Collar, Adoniram J., Yreka, Cal. Ditch-gate. No. 973,172; Oct. 18; Sp. p. 3685; Gaz. vol. 159; p. 631.
Collin, George W., Bridgeport, Conn. Automatic steam-cut-off valve. No. 972,338; Oct. 11; Sp. p. 1785; Gaz. vol. 159; p. 313.
Collins, William R., Georgetown, Colo. Tunneling-machine. No. 973,107; Oct. 18; Sp. p. 3515; Gaz. vol. 159; p. 607.
Collis, Alfred, London, England. Sheet-delivering apparatus. No. 973,250; Oct. 18; Sp. p. 3861; Gaz. vol. 159; p. 660.
Colorado Pressed Steel Company, The. (See Lees, James R., assignor.)
Comeau, Moses P., and J. F. Walsh, Chicopee Falls, Mass. Hat-holder. No. 973,173; Oct. 18; Sp. p. 3688; Gaz. vol. 159; p. 632.
Comey, Robert H., assignor to R. H. Comey Company, Camden, N. J. Dyeing-machine. No. 972,822; Oct. 18; Sp. p. 2846; Gaz. vol. 159; p. 508.
Compagnie Generale Radio-Telegraphique Carpentier. (See Rochefort, Octave, assignor.)
Company Alexanderwerk A. vonder Nahmer Aktien-Gesellschaft. (See Otto, Friedrich A., assignor.)
Company Limited for Exploitation of Inventions by Stephen Benkö. (See Benkö, Stephan, assignor.)
Comstock, Henry W., Chicago, Ill. Salt and pepper holder. No. 972,339; Oct. 11; Sp. p. 1788; Gaz. vol. 159; p. 314.
Conard, David W., Unionville, Ind. Shoe-tie. No. 972,062; Oct. 4; Sp. p. 1202; Gaz. vol. 159; p. 203.
Connell, Terrence, Haverford, Pa. Rock-drilling bit. No. 973,407; Oct. 18; Sp. p. 4181; Gaz. vol. 159; p. 712.
Connell, William H., Pittsburg, Pa. Casting ingots. No. 971,832; Oct. 4; Sp. p. 670; Gaz. vol. 159; p. 118.
Connelly, Anna D. (See Thompson-Meares, Mary, assignor.)
Connelly, Anna M., administratrix. (See Bohland and Connelly.)
Connelly, Joseph J. (See Bohland and Connelly.)
Conner, George F., Port Huron, Mich., assignor to The Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic stacker. No. 972,437; Oct. 11; Sp. p. 1980; Gaz. vol. 159; p. 349.
Connolly, Joseph A., Everett, Mass. Brooder. No. 973,174; Oct. 18; Sp. p. 3680; Gaz. vol. 159; p. 632.
Conroe, Charles A. and R., Newark, N. J. Hat-fastener. No. 972,438; Oct. 11; Sp. p. 1901; Gaz. vol. 159; p. 349.
Conroe, Ray. (See Conroe, Charles A. and R.)
Consoli, Frank, Brooklyn, N. Y. Finger-board for musical instruments. No. 973,719; Oct. 25; Sp. p. 4847; Gaz. vol. 159; p. 843.
Consolidated Fruit Jar Company, The. (See Booth, Thomas C., assignor.)
Conzelman, John E., St. Louis, Mo., assignor to Unit Construction Company, Wilmington, Del. Concrete construction. No. 971,665; Oct. 4; Sp. p. 319; Gaz. vol. 159; p. 57.
Coo, Thomas J., Toronto, Ontario, Canada, assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 973,342; Oct. 18; Sp. p. 4034; Gaz. vol. 159; p. 690.
Coo, Thomas J., Toronto, Ontario, Canada, assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 973,628; Oct. 25; Sp. p. 4654; Gaz. vol. 159; p. 809.
Coogan, Edward D., Ratcliff, Ark. Grapple. No. 972,340; Oct. 11; Sp. p. 1789; Gaz. vol. 159; p. 314.
Cook, Henry E., and E. P. Bullock, Bozeman, Mont. Mouthpiece for musical instruments. No. 972,823; Oct. 18; Sp. p. 2848; Gaz. vol. 159; p. 508.
Cooke, Frank L., New York, N. Y., assignor to Pittsburg Fire Extinguisher Company. Chemical fire-extinguisher. No. 973,557; Oct. 25; Sp. p. 5123; Gaz. vol. 159; p. 890.
Cookson, Thomas J., Cincinnati, Ohio. Feed-water heater and purifier. No. 972,824; Oct. 18; Sp. p. 2849; Gaz. vol. 159; p. 509.
Coolidge, Charles A., Portland, Oreg. Track instrument. No. 973,478; Oct. 25; Sp. p. 4331; Gaz. vol. 159; p. 759.
Cooney, Sebern A., assignor of one-half to John A. Roebling's Sons Co., Trenton, N. J. Curve for double-rope tramways. No. 972,509; Oct. 11; Sp. p. 2155; Gaz. vol. 159; p. 374.
Cooney, Sebern A., assignor of one-half to John A. Roebling's Sons Co., Trenton, N. J. Cableway-carriage. No. 972,825; Oct. 18; Sp. p. 2851; Gaz. vol. 159; p. 509.
Cooper, Charles F., Detroit, Mich. Fish-hook. No. 973,479; Oct. 25; Sp. p. 4332; Gaz. vol. 159; p. 759.
Cooper, George D. (See McGeorge, William C., assignor.)
Cooper, Henry S. (See Johnson, Horace G., assignor.)
Cooper Hewitt Electric Company. (See Thomas, Percy H., assignor.)
Cooper, James O., Canadian, Tex. Washboiler. No. 972,341; Oct. 11; Sp. p. 1790; Gaz. vol. 159; p. 314.
Cooper, John. (See Cooper, Leonard and J.)
Cooper, Leonard and J., Adel, Ga. Bicycle-shade. No. 972,063; Oct. 4; Sp. p. 1203; Gaz. vol. 159; p. 203.
Cooper, M. A. (See Pearson, James H., assignor.)
Cooper, William J., Stockton, Cal. Postal-card-display device. No. 971,596; Oct. 4; Sp. p. 185; Gaz. vol. 159; p. 34.
Coover, Amos J., Medway, assignor of one-half to A. B. Mumma, Dayton, Ohio. Sickle. No. 972,098; Oct. 4; Sp. p. 1260; Gaz. vol. 159; p. 214.
Corbin Cabinet Lock Company, The. (See Johnson, Charles E., assignor.)
Corcoran, John C., St. Paul, Minn. Denture. No. 973,343; Oct. 18; Sp. p. 4037; Gaz. vol. 159; p. 691.

Corcoran, John C., St. Paul, Minn. Dental apparatus. No. 973,408; Oct. 18; Sp. p. 4182; Gaz. vol. 159; p. 712.
Cordley, Henry G., Glen Ridge, N. J., and G. R. Long, Waterbury, Conn., assignors to Scoville Manufacturing Company. Faucet. No. 972,826; Oct. 18; Sp. p. 2854; Gaz. vol. 159; p. 509.
Cornell, Elmer W., Traverse City, Mich. Cultivator attachment. No. 973,480; Oct. 25; Sp. p. 4333; Gaz. vol. 159; p. 760.
Cornillie, Charles P. (See Cornillie, Edward A. and C. P.)
Cornillie, Edward A. and C. P., Milwaukee, Wis. Refrigerator. No. 971,526; Oct. 4; Sp. p. 32; Gaz. vol. 159; p. 8.
Cornwell, Obadiah M., Plattsburg, Miss. Churn-dasher. No. 972,827; Oct. 18; Sp. p. 2856; Gaz. vol. 159; p. 510.
Corrigan, Patrick D., Wellsville, N. Y. Window. No. 972,681; Oct. 11; Sp. p. 2544; Gaz. vol. 159; p. 433.
Cory & Reynolds Company. (See Brant, John S., assignor.)
Cosby, Clarence, Richmond, Va. Can-shearing machine. No. 972,828; Oct. 18; Sp. p. 2858; Gaz. vol. 159; p. 510.
Cosset, Constant M., Paris, France. Pivoted lug for the back forks of bicycles. No. 972,510; Oct. 11; Sp. p. 2162; Gaz. vol. 159; p. 375.
Coughlin, James P., Chicago, Ill. Advertising device. No. 973,003; Oct. 18; Sp. p. 3296; Gaz. vol. 159; p. 573.
Coursen, George L., Newark, N. J. Photographer's printing-frame. No. 973,629; Oct. 25; Sp. p. 4656; Gaz. vol. 159; p. 810.
Coursey, John W., Agudo, N. Mex. Horse-detacher. No. 971,974; Oct. 4; Sp. p. 1034; Gaz. vol. 159; p. 172.
Cowper-Smith, Mervyn G., Toronto, Ontario, Canada. Automatic controlling apparatus for lighting systems. No. 972,752; Oct. 11; Sp. p. 2697; Gaz. vol. 159; p. 459.
Crabb, Roy W. H., Battle Creek, Mich. Apparatus for use in making candy. No. 972,511; Oct. 11; Sp. p. 2163; Gaz. vol. 159; p. 375.
Crabbe, Edward, Seattle, Wash. Insulated hanger. No. 973,409; Oct. 18; Sp. p. 4185; Gaz. vol. 159; p. 713.
Craft, Edward B., assignor to Western Electric Company, Chicago, Ill. Selector-switch. No. 973,762; Oct. 25; Sp. p. 4927; Gaz. vol. 159; p. 857.
Crago, Felix H., Townsend, Mont. Current-motor. No. 973,004; Oct. 18; Sp. p. 3298; Gaz. vol. 159; p. 573.
Craig, David, Melrose, Mass. Cock. No. 974,027; Oct. 25; Sp. p. 5482; Gaz. vol. 159; p. 950.
Craig, David, Melrose, Mass. Faucet. No. 974,028; Oct. 25; Sp. p. 5485; Gaz. vol. 159; p. 951.
Craig, Edward E., Kansas City, Mo. Electrical indicator. No. 972,682; Oct. 11; Sp. p. 2546; Gaz. vol. 159; p. 434.
Craig, Robert B., and A. Coffman, Dayton, Ohio, assignors to The Automatic Vending Machines Company, Kansas City, Mo. Coin-controlled mechanism. No. 973,763; Oct. 25; Sp. p. 4931; Gaz. vol. 159; p. 858.
Craige, Edmund T., Philadelphia, Pa. Necktie-holder. No. 973,005; Oct. 18; Sp. p. 3300; Gaz. vol. 159; p. 573.
Cramp, Richard, East Ham, assignor to Cramp's Patent Reversible Turbine, Limited, London, England. Reversible turbine. No. 971,730; Oct. 4; Sp. p. 467; Gaz. vol. 159; p. 80.
Cramp's Patent Reversible Turbine. (See Cramp, Richard, assignor.)
Crandall, Arthur F., Beresford, S. D. Bed for invalids. No. 972,100; Oct. 4; Sp. p. 1264; Gaz. vol. 159; p. 214.
Crandall, Arthur F., assignor of one-half to A. M. Strand, Beresford, S. D. Bed. No. 972,099; Oct. 4; Sp. p. 1261; Gaz. vol. 159; p. 214.
Crandell, George T., Leavenworth, Kans. Curtain for berths. No. 973,006; Oct. 18; Sp. p. 3301; Gaz. vol. 159; p. 574.
Crane, Walter L., Denver, Colo. Air-compressor. No. 972,163; Oct. 11; Sp. p. 1420; Gaz. vol. 159; p. 255.
Cranston, Leslie A. (See Huffman, Mike, assignor.)
Creighton, Elmer E. F., Schenectady, N. Y., assignor to General Electric Company. Electrolytic condenser. No. 974,029; Oct. 25; Sp. p. 5487; Gaz. vol. 159; p. 951.
Creighton, Nelson B., New York, N. Y. Fuse-valve. No. 973,260; Oct. 18; Sp. p. 3864; Gaz. vol. 159; p. 661.
Creveling, John L., New York, N. Y., assignor to Safety Car Heating and Lighting Company. Hose-coupling. No. 972,829; Oct. 18; Sp. p. 2861; Gaz. vol. 159; p. 510.
Crichton, Arthur M. (See Fogal, Crichton, and Mowry.)
Crompton & Knowles Loom Works. (See Ryon, Eppa H., assignor.)
Cronk, William, Montour Falls, N. Y. Tang No. 972,753; Oct. 11; Sp. p. 2700; Gaz. vol. 159; p. 459.
Cross, Frank L., Mystic, Conn. Paper-feeding machine. No. 971,975; Oct. 4; Sp. p. 1036; Gaz. vol. 159; p. 173.
Crossland, George, Watertown, assignor to G. H. Briggs, Amesbury, Mass. Pile fabric. No. 971,527; Oct. 4; Sp. p. 34; Gaz. vol. 159; p. 8.
Crossley, James S., assignor to Pass & Seymour, Inc., Solvay, N. Y. Securing means for electric-lamp sockets and the like. No. 971,976; Oct. 4; Sp. p. 1038; Gaz. vol. 159; p. 173.
Crouse, Nessa, Moab, Utah. Safety-stirrup. No. 973,410; Oct. 18; Sp. p. 4185; Gaz. vol. 159; p. 713.
Crown Optical Company. (See Fisk, Joshua T., assignor.)
Crowther, Benjamin A. (See Morgan, Atwater, Crowther, and Ash.)
Crozier, John M., Minneapolis, Minn. Detachable boiler-flue. No. 972,164; Oct. 11; Sp. p. 1421; Gaz. vol. 159; p. 255.
Crutchfield, James C., Greensboro, N. C. Trace-fastener. No. 973,630; Oct. 25; Sp. p. 4660; Gaz. vol. 159; p. 810.
Cuda, Frank J., New York, assignor of one-half to J. A. Zibell, Tappan, N. Y. Cigar. No. 972,601; Oct. 11; Sp. p. 2387; Gaz. vol. 159; p. 407.
Cuenot, Paul A., Steelton, assignor to The Pennsylvania Steel Company, Philadelphia, Pa. Testing-machine. No. 973,858; Oct. 25; Sp. p. 5126; Gaz. vol. 159; p. 890.
Culley, Albert E. (See Murphy and Culley.)
Culver, Frederick S., and L. J. Morin, Taunton, Mass. Spinning-machine. No. 974,030; Oct. 25; Sp. p. 5488; Gaz. vol. 159; p. 951.
Culwell, Samuel J. (See Reed, Conwell P., assignor.)
Cunneen, John F., Chicago, Ill. Furnace-grate. No. 973,481; Oct. 25; Sp. p. 4334; Gaz. vol. 159; p. 760.
Cunniff, John V., Fall River, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Let-off mechanism for looms. No. 973,344; Oct. 18; Sp. p. 4038; Gaz. vol. 159; p. 691.
Cunningham, William R., assignor to The American Clay Machinery Co., Bucyrus, Ohio. Conveying system. No. 973,007; Oct. 18; Sp. p. 3303; Gaz. vol. 159; p. 574.
Cunningham, William R., assignor to The American Clay Machinery Co., Bucyrus, Ohio. Off-bearing attachment for brick-presses. No. 973,411; Oct. 18; Sp. p. 4186; Gaz. vol. 159; p. 713.
Cunninghame, Wilton, assignor to S. Simon, Chicago, Ill. Decorative structure. No. 972,754; Oct. 11; Sp. p. 2701; Gaz. vol. 159; p. 459.
Curlett, William, San Francisco, Cal. Knob and spindle connection. No. 973,412; Oct. 18; Sp. p. 4193; Gaz. vol. 159; p. 714.
Curran, Edward, Cardiff, England. Combined horizontal furnace for heating steel or iron plates, angle-irons, and the like. No. 974,031; Oct. 25; Sp. p. 5490; Gaz. vol. 159; p. 952.
Curry, Harry W., Hudson Heights, N. J. Nose-bag. No. 973,175; Oct. 18; Sp. p. 3691; Gaz. vol. 159; p. 632.
Curtain Supply Company, The. (See Hopkins, Charles L., assignor.)
Curtain Supply Company, The. (See Whitmore, Edward E., assignor.)
Curtis, John F., Macclenny, Fla. Photoprinting-frame. No. 973,764; Oct. 25; Sp. p. 4932; Gaz. vol. 159; p. 858.
Curtis-Leger Fixture Company. (See Hotchkin and Morgan, assignors.)
Curtis, Theodore H., Louisville, Ky., assignor to J. G. Talmage, Cleveland, Ohio. Locomotive ash-pan. No. 973,765; Oct. 25; Sp. p. 4934; Gaz. vol. 159; p. 858.
Curtwright, Henry T. (See Paul, William L., assignor.)
Curwen, Samuel M., Haverford, assignor to The J. G. Brill Company, Philadelphia, Pa. Means for operating the steps of passenger-cars. No. 973,261; Oct. 18; Sp. p. 3865; Gaz. vol. 159; p. 661.
Cushman, James S., New York, N. Y. Moistener. No. 973,631; Oct. 25; Sp. p. 4663; Gaz. vol. 159; p. 811.
Custer, Edgar A., assignor to Custer Sandless Casting Company, Philadelphia, Pa. Sash-weight. No. 973,176; Oct. 18; Sp. p. 3692; Gaz. vol. 159; p. 632.
Custer Sandless Casting Company. (See Custer, Edgar A., assignor.)
Cutler, Fannie B., Ronald township, Ionia county, Mich. Monkey-wrench. No. 972,342; Oct. 11; Sp. p. 1792; Gaz. vol. 159; p. 314.
Cutler, William F., Suffern, N. Y. Garment-hanger. No. 972,439; Oct. 11; Sp. p. 1992; Gaz. vol. 159; p. 350.
Cuzner, Alfred. (See Schroeder, Frederick W., assignor.)
Cyr, Charles, Munising, Mich. Belt-stretcher. No. 973,008; Oct. 18; Sp. p. 3306; Gaz. vol. 159; p. 575.
D. H. Burrell & Company. (See Feldmeier, Harvey, assignor.)
D'Arsi, Fortunato M. (See Stanton, D'Arsi, and Munzer.)
D'Ercole, Anassagora, Rome, Italy. Granulating commercial calcium-cyanamid powder. No. 973,019; Oct. 18; Sp. p. 3327; Gaz. vol. 159; p. 578.
Dahlstrom, Carl A., Mountpleasant, Tenn. Sand-washer. No. 971,528; Oct. 4; Sp. p. 35; Gaz. vol. 159; p. 8.
Daimler Motorengesellschaft. (See Daimler and Vischer, assignors.)
Daimler, Paul, and A. Vischer, assignors to Daimler Motorengesellschaft, Untertürkheim-Stuttgart, Germany. Starting-gear of internal-combustion motors. No. 972,512; Oct. 11; Sp. p. 2166; Gaz. vol. 159; p. 376.
Dale, John H. (See Holden, Delos, assignor.)
Dalton, Joseph A., assignor of one-half to P. J. Quinn, Pawtucket, R. I. Drill-chuck. No. 973,345; Oct. 18; Sp. p. 4040; Gaz. vol. 159; p. 691.
Dalton, William G., Lake Forest, Ill. Burnishing-machine. No. 974,032; Oct. 25; Sp. p. 5492; Gaz. vol. 159; p. 952.
Daniel, Paul, Perth Amboy, N. J., assignor to A. C. King, New York, N. Y. Carbureter. No. 973,262; Oct. 18; Sp. p. 3867; Gaz. vol. 159; p. 661.
Daniel, Paul, Perth Amboy, N. J., assignor to A. C. King, New York, N. Y. Carbureter. No. 974,033; Oct. 25; Sp. p. 5494; Gaz. vol. 159; p. 953.
Daniels, John J., Rockford, Ill. Folding umbrella or parasol. No. 973,350; Oct. 25; Sp. p. 5120; Gaz. vol. 159; p. 891.
Darapsky, Ludwig H., assignor to Deseniss & Jacobi Aktiengesellschaft, Hamburg, Germany. Apparatus for freeing water from its contained iron in a continuous circuit. No. 973,263; Oct. 18; Sp. p. 3870; Gaz. vol. 159; p. 662.
Darby, John, Summit, N. J. Lamp-socket. No. 972,343; Oct. 11; Sp. p. 1793; Gaz. vol. 159; p. 315.

Darling, Richard S., New York, N. Y. Sanitary garbage-can receptacle. No. 971,781; Oct. 4; Sp. p. 474; Gaz. vol. 159; p. 82.

Davey, John F., Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass. Pegging-machine. No. 973,009; Oct. 18; Sp. p. 3307; Gaz. vol. 159; p. 575.

Davidson, Nils O., Macoun, Saskatchewan, Canada. Smoke-house. No. 973,010; Oct. 18; Sp. p. 3311; Gaz. vol. 159; p. 575.

Davies, Alfred H., Akron, Ohio. Gas-heated sad-iron. No. 973,011; Oct. 18; Sp. p. 3312; Gaz. vol. 159; p. 575.

Davies, Richard, San Francisco, Cal. Trousers hanger and stretcher. No. 972,602; Oct. 11; Sp. p. 2387; Gaz. vol. 159; p. 407.

Davis, Augustin I., Lowell, Mass., assignor to American Mason Safety Tread Company, Saco, Me. Safety-tread for stairs and steps. No. 973,346; Oct. 18; Sp. p. 4041; Gaz. vol. 159; p. 602.

Davis, Cleland, U. S. Navy. Gyroscopically-controlled torpedo-firing apparatus. No. 972,064; Oct. 4; Sp. p. 1204; Gaz. vol. 159; p. 204.

Davis, Emry, Brooklyn, N. Y. Ventilating device for sleeping-cars. No. 973,413; Oct. 18; Sp. p. 4195; Gaz. vol. 159; p. 714.

Davis, Ernest W., assignor to E. R. Dull, Chicago, Ill. Moving-picture toy. No. 972,344; Oct. 11; Sp. p. 1796; Gaz. vol. 159; p. 315.

Davis, Fred E., Bessemer, Ala. Vehicle-lantern. No. 974,034; Oct. 25; Sp. p. 5497; Gaz. vol. 159; p. 953.

Davis, George F. (See Kelley, Matthews, and Davis.)

Davis, George H., New York, N. Y. Coin-controlled mechanism. No. 974,035; Oct. 25; Sp. p. 5498; Gaz. vol. 159; p. 953.

Davis, George W. (See Fisher, Charles E., assignor.)

Davis, Irwin W. (See Nourse, Rupert A., assignor.)

Davis, James A. (See Davison, Henry J., assignor.) (Reissue.)

Davis, John M., McGraw, assignor of one-half to C. A. Metzler, Binghamton, N. Y. Aeroplane. No. 973,632; Oct. 25; Sp. p. 4664; Gaz. vol. 159; p. 811.

Davis, John W., San Antonio, Tex. Lineman's chair. No. 973,633; Oct. 25; Sp. p. 4666; Gaz. vol. 159; p. 812.

Davis, Lester R., Riverside, Cal. Cooking apparatus. No. 972,603; Oct. 11; Sp. p. 2389; Gaz. vol. 159; p. 408.

Davis, Parley W. (See Davis and McCready.)

Davis, Samuel F., Clearmont, Mo. Saw-tooth fastening. No. 971,732; Oct. 4; Sp. p. 475; Gaz. vol. 159; p. 82.

Davis, Spurgeon J., P. W. Davis, and C. McCready, Eureka, Cal. Pulley-block. No. 973,177; Oct. 18; Sp. p. 3693; Gaz. vol. 159; p. 633.

Davison, Henry J., Bexhill, England, assignor to J. A. Davis, San Francisco, Cal. Window. (Reissue.) No. 13,160; Oct. 25; Sp. p. 5631; Gaz. vol. 159; p. 977.

Dawson, Arthur T., and G. T. Buckham, Westminster, assignors to Vickers Sons & Maxim, Limited, London, England. Firing mechanism of breech-loading guns. No. 973,482; Oct. 25; Sp. p. 4337; Gaz. vol. 159; p. 760.

Dawson, Joseph W., assignor to Barry-Wehmiller Machinery Company, St. Louis, Mo. Bottle-brushing machine. No. 973,178; Oct. 18; Sp. p. 3695; Gaz. vol. 159; p. 633.

Dayfield, Charles. (See Odien and Dayfield.)

Dayton, Reuben C., Rhinelander, Wis. Gage-table. No. 972,101; Oct. 4; Sp. p. 1266; Gaz. vol. 159; p. 215.

De Bay, George C., Tarentum, assignor of one-half to J. Heidenkamp, Springdale, Pa. Making polished glass. No. 972,165; Oct. 11; Sp. p. 1422; Gaz. vol. 159; p. 255.

De Bay, George C., Tarentum, assignor of one-half to J. Heidenkamp, Springdale, Pa. Apparatus for making polished glass. No. 972,166; Oct. 11; Sp. p. 1425; Gaz. vol. 159; p. 255.

De Bay, George C., Tarentum, assignor of one-half to J. Heidenkamp, Springdale, Pa. Glass-annealing leer. No. 972,167; Oct. 11; Sp. p. 1429; Gaz. vol. 159; p. 256.

De Bay, George C., Tarentum, assignor of one-half to J. Heidenkamp, Springdale, Pa. Making polished glass. No. 972,168; Oct. 11; Sp. p. 1431; Gaz. vol. 159; p. 256.

De Canio, Victor A., Union Hill, N. J. Mortuary refrigerator. No. 972,755; Oct. 11; Sp. p. 2703; Gaz. vol. 159; p. 460.

De Forest, Lee, New York, N. Y., assignor, by mesne assignments, to De Forest Radio Telephone Co. Aerophone. No. 973,644; Oct. 25; Sp. p. 4694; Gaz. vol. 159; p. 815.

De Forest Radio Telephone Co. (See De Forest, Lee, assignor.)

De Good, Joseph L., Detroit, Mich., assignor to H. N. White, Cleveland, Ohio. Trombone. No. 971,833; Oct. 4; Sp. p. 672; Gaz. vol. 159; p. 118.

De Laney, Charles W., Hammond, Ind. Label and ticket cabinet. No. 972,683; Oct. 11; Sp. p. 2548; Gaz. vol. 159; p. 434.

De Lany, Edwin H., Cleveland, Tenn., assignor to De Lany Separator Company, New York, N. Y. Distilling system. No. 971,668; Oct. 4; Sp. p. 332; Gaz. vol. 159; p. 59.

De Lany Separator Company. (See De Lany, Edwin H., assignor.)

De Laval Steam Turbine Company. (See Guy, Albert E., assignor.)

De Leeuw, Adolph L., Hamilton, assignor to The Cincinnati Milling Machine Company, Cincinnati, Ohio. Milling-machine. No. 973,766; Oct. 25; Sp. p. 4937; Gaz. vol. 159; p. 859.

De Leeuw, Adolph L., Hamilton, assignor to The Cincinnati Milling Machine Company, Cincinnati, Ohio. Milling-machine. No. 974,036; Oct. 25; Sp. p. 5502; Gaz. vol. 159; p. 954.

De Pree, Cornelius, A. Leenhouts, and J. J. Mersen, Holland, Mich. Fumigating apparatus. No. 973,634; Oct. 25; Sp. p. 4669; Gaz. vol. 159; p. 812.

De Vasher, Marion A. (See Padden, Robert W., assignor.)

De Vaul, Chester A., Laings, Ohio. Wrench. No. 972,604; Oct. 11; Sp. p. 2391; Gaz. vol. 159; p. 408.

De Voe, Albert H., Elizabeth, N. J., assignor to The Singer Manufacturing Company. Tool-kit. No. 972,830; Oct. 18; Sp. p. 2862; Gaz. vol. 159; p. 511.

De Wolf, Roger D., Pittsburg, Pa. Electric sign-flasher. No. 972,516; Oct. 11; Sp. p. 2188; Gaz. vol. 159; p. 377.

Dean Electric Company, The. (See Dean, William W., assignor.)

Dean Electric Company, The. (See Libby, Albion D. T., assignor.)

Dean, James H., Chicago, Ill., assignor, by mesne assignments, to Empire Voting Machine Company. Voting-machine. No. 971,666; Oct. 4; Sp. p. 320; Gaz. vol. 159; p. 58.

Dean, James H., Chicago, Ill., assignor, by mesne assignments, to Empire Voting Machine Company. Voting-machine. No. 972,513; Oct. 11; Sp. p. 2169; Gaz. vol. 159; p. 376.

Dean, William W., assignor to The Dean Electric Company, Elyria, Ohio. Electrical condenser. No. 971,667; Oct. 4; Sp. p. 330; Gaz. vol. 159; p. 58.

Decker Electrical Manufacturing Company. (See Decker, Frank A., assignor.)

Decker, Frank A., Philadelphia, Pa., assignor to Decker Electrical Manufacturing Company, Wilmington, Del. Battery-tank system. No. 971,597; Oct. 4; Sp. p. 187; Gaz. vol. 159; p. 34.

Deeg, Charles F. (See Paquette and Deeg.)

Degoumois, Charles, assignor to C. Degoumois, Berne, Switzerland, and Sté Seghers et Paradis, Paris, France. Device for braking tram-cars and electric-railway carriages. No. 972,514; Oct. 11; Sp. p. 2182; Gaz. vol. 159; p. 377.

Deinet, Joseph, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Dyeing and product thereof. No. 972,065; Oct. 4; Sp. p. 1206; Gaz. vol. 159; p. 204.

Deinet, Joseph, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Dyeing and product thereof. No. 972,066; Oct. 4; Sp. p. 1207; Gaz. vol. 159; p. 204.

Delasson, Eugène. (See Michaud and Delasson.)

Delaveau, Louis J. M., Grenoble, France. System for closing boots by means of spring-buttons. No. 972,012; Oct. 18; Sp. p. 3314; Gaz. vol. 159; p. 576.

Delphos Manufacturing Company, The. (See Leilich and Burger, assignors.)

Demandre, Georges, Paris, France. Necktie-holder. No. 972,440; Oct. 11; Sp. p. 1994; Gaz. vol. 159; p. 350.

Dempster, Leonard E., Schenectady, N. Y., assignor to General Electric Company. Mercury-vapor lamp. No. 974,037; Oct. 25; Sp. p. 5504; Gaz. vol. 159; p. 954.

Dennison Manufacturing Co. (See Thompson, Frank H., assignor.)

Denny, Rubin J., Beverly, Ark. Theatrical appliance. No. 971,834; Oct. 4; Sp. p. 673; Gaz. vol. 159; p. 118.

Denton, William A. (See Hunsicker and Denton.)

Desenius & Jacobi Aktiengesellschaft. (See Darapsky, Ludwig H., assignor.)

Desmarais, Charles, Hull, Quebec, Canada. Rock-extractor for drill-holes. No. 973,013; Oct. 18; Sp. p. 3315; Gaz. vol. 159; p. 576.

Dettmann, Alexander, Judson, N. D. Nail-extractor. No. 971,835; Oct. 4; Sp. p. 675; Gaz. vol. 159; p. 119.

Detzner, Karl, Newark, N. J. Umbrella-stand. No. 971,977; Oct. 4; Sp. p. 1040; Gaz. vol. 159; p. 173.

Devan, Andrew, Sandpoint, Idaho, assignor of one-half to T. R. Lynch, Drummond, Mont. Ladder. No. 972,684; Oct. 11; Sp. p. 2550; Gaz. vol. 159; p. 435.

Development and Funding Company, The. (See Townsend, Clinton P., assignor.)

Devlin, Thomas F., Philadelphia, Pa. Sifter, strainer, and masher. No. 972,515; Oct. 11; Sp. p. 2185; Gaz. vol. 159; p. 377.

Deycke, Georg, Constantinople, Turkey, assignor to Kalle and Company Aktiengesellschaft, Biebrich, Germany. Preparation of a fat-like substance from the bodies of bacteria. No. 972,345; Oct. 11; Sp. p. 1797; Gaz. vol. 159; p. 316.

Diamond Steel Truck Company. (See Kenyon, Bertrand P., assignor.)

Diamond, Thomas, Waukesha, Wis., and W. P. Diamond, Cleveland, Ohio. Ice-harvester. No. 972,517; Oct. 11; Sp. p. 2189; Gaz. vol. 159; p. 378.

Diamond, William P. (See Diamond, Thomas and W. P.)

Dickey, William T. S., Mineral Bluff, Ga. Locking-bolt. No. 972,067; Oct. 4; Sp. p. 1208; Gaz. vol. 159; p. 204.

Dickinson, Joseph H., Montclair, N. J., and W. A. Gilchrist, Memphis, Tenn., assignors to Lidgerwood Manufacturing Company. Logging system. No. 972,831; Oct. 18; Sp. p. 2865; Gaz. vol. 159; p. 511.

Dickinson, Samuel L., New York, N. Y. Player-piano. No. 972,346; Oct. 11; Sp. p. 1798; Gaz. vol. 159; p. 316.

Dickson, Myron, Martinsville, Ind. Try-square. No. 971,529; Oct. 4; Sp. p. 37; Gaz. vol. 159; p. 9.

Diehl, Fred G., Selden, Kans. Lock. No. 973,920; Oct. 25; Sp. p. 5259; Gaz. vol. 159; p. 912.

Diehl Manufacturing Company. (See Zabriskie, Henry L., assignor.)

Dill, John M., Artesia, N. Mex. Tanning compound. No. 972,518; Oct. 11; Sp. p. 2192; Gaz. vol. 159; p. 378.

Dillingham, Frederick A., assignor to The Troy Carriage Sun Shade Company, Troy, Ohio. Ball-and-socket joint. No. 973,635; Oct. 25; Sp. p. 4674; Gaz. vol. 159; p. 812.

Dillon Plow & Novelty Works. (See Blizzard, William A., assignor.)

Dilts, Frank B., *et al.* (See Byl, George N., assignor.)

Dilts, Henry L., *et al.* (See Byl, George N., assignor.)

Dimm, Chandos R. (See Petrikin and Dimm.)

Dittrich, Joseph, New York, N. Y. Piston-packing. No. 971,978; Oct. 4; Sp. p. 1041; Gaz. vol. 159; p. 174.

Divine, Charles A., Franklin, N. C. Combined log-scale, tree-calipers, and staff. No. 973,636; Oct. 25; Sp. p. 4676; Gaz. vol. 159; p. 813.

Dixon, George A., San Francisco, Cal. Siphon-filler. No. 973,264; Oct. 18; Sp. p. 3871; Gaz. vol. 159; p. 662.

Dixon, Greenleaf. (See Dixon, Luther and G.)

Dixon, Luther and G., Comanche, Tex. Rail-joint. No. 974,038; Oct. 25; Sp. p. 5506; Gaz. vol. 159; p. 954.

Doan, Arthur, Elmhurst, Cal. Air-brake system. No. 973,179; Oct. 18; Sp. p. 3697; Gaz. vol. 159; p. 633.

Dodd, Louis C., Buffalo, N. Y. Alloy and making same. No. 971,669; Oct. 4; Sp. p. 334; Gaz. vol. 159; p. 59.

Dodge and Dent Mfg. Co., The. (See Beck, Ernest L., assignor.)

Dodge, James M., Philadelphia, Pa. Conveyer. No. 973,021; Oct. 25; Sp. p. 5262; Gaz. vol. 159; p. 912.

Dodge, James M., Philadelphia, Pa., assignor to Link-Belt Company, Chicago, Ill. Chain-link. No. 973,922; Oct. 25; Sp. p. 5263; Gaz. vol. 159; p. 913.

Dodwell, Malby G. C., Wellington, New Zealand. Resilient tire. No. 972,756; Oct. 11; Sp. p. 2706; Gaz. vol. 159; p. 460.

Doehler, Herman H., New York, N. Y. Art of and apparatus for casting fluid metal. No. 973,483; Oct. 25; Sp. p. 4339; Gaz. vol. 159; p. 760.

Dolan, William J., assignor of one-fifth to Rhinelander Iron Co. and one-fifth to B. Larsen, Rhinelander, Wis. Slitting attachment for paper-machines. No. 974,039; Oct. 25; Sp. p. 5507; Gaz. vol. 159; p. 954.

Donaldson, Francis. (See Dravo and Donaldson.)

Donat, Gustavo, Passaic, N. J. Braiding-machine. No. 973,637; Oct. 25; Sp. p. 4678; Gaz. vol. 159; p. 813.

Donauer, Georg, assignor to Erste Triester Reisschäl-Fabriks-Aktien-Gesellschaft, Triest, Austria-Hungary. Manufacture of sizing or finishing mediums. No. 972,068; Oct. 4; Sp. p. 1209; Gaz. vol. 159; p. 205.

Donley, William, and C. Paul, Washington, Pa.; said Paul assignor to said Donley. Gas-burner. No. 974,040; Oct. 25; Sp. p. 5509; Gaz. vol. 159; p. 955.

Donnelly, Daniel B., Pittsburg, Pa. Core for paper-rolls. No. 973,923; Oct. 25; Sp. p. 5265; Gaz. vol. 159; p. 913.

Donovan, Richard J., Ambridge, Pa. Barge. No. 973,860; Oct. 25; Sp. p. 5129; Gaz. vol. 159; p. 891.

Dooley, Martin H., North Adams, Mass. Cattle-stanchion. No. 972,069; Oct. 4; Sp. p. 1211; Gaz. vol. 159; p. 205.

Doolittle, Perry E., Toronto, Ontario, Canada, assignor, by mesne assignments, to Doolittle Rim Co., Ltd. Electric-lamp fixture. No. 973,014; Oct. 18; Sp. p. 3316; Gaz. vol. 159; p. 576.

Doolittle Rim Co. (See Doolittle, Perry E., assignor.)

Dorsey, Charles J., Baltimore, Md. Game apparatus. No. 973,484; Oct. 25; Sp. p. 4350; Gaz. vol. 159; p. 761.

Dorsey, Charles J., Baltimore, Md. Toy figure. No. 973,485; Oct. 25; Sp. p. 4352; Gaz. vol. 159; p. 761.

Dorsey, Elmer F., Kansas City, Mo. Changeable price and commodity exhibitor. No. 973,638; Oct. 25; Sp. p. 4684; Gaz. vol. 159; p. 814.

Dorsey, Parmer, assignor to The Standard Supply and Manufacturing Company, Hutchinson, Kans. Tube-cleaner. No. 974,041; Oct. 25; Sp. p. 5511; Gaz. vol. 159; p. 955.

Doty, Charles H. (See Stansill, Doty, and Hubbard.)

Doubledee, Melvin, Joplin, Mo. Ore-concentrating jig. No. 973,180; Oct. 18; Sp. p. 3699; Gaz. vol. 159; p. 634.

Douglass, Frederick A., *et al.* (See Lindgren, Carl E., assignor.)

Dow, James C., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Circuit-breaker. No. 973,924; Oct. 25; Sp. p. 5266; Gaz. vol. 159; p. 913.

Dowdy, Ewell M., Water Valley, Tex. Plow attachment. No. 972,109; Oct. 11; Sp. p. 1434; Gaz. vol. 159; p. 256.

Downey, David H., Basalt, Colo. Pressure-regulator for air-brakes. No. 972,347; Oct. 11; Sp. p. 1801; Gaz. vol. 159; p. 316.

Downey, William H. J., Wilmington, Del. Sanitary shaving-cup. No. 973,925; Oct. 25; Sp. p. 5268; Gaz. vol. 159; p. 914.

Doxford, Charles D., Sunderland, England. Discharging apparatus for navigable vessels. No. 974,104; Oct. 25; Sp. p. 5626; Gaz. vol. 159; p. 975.

Draeseke, Charles G., Dundas, Ontario, Canada, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Car-wheel lathe. No. 972,348; Oct. 11; Sp. p. 1804; Gaz. vol. 159; p. 317.

Draper, Clare H., *et al.*, executors. (See Bounds and Ellenburg.)

Draper, Clare H., *et al.*, executors. (See Cunniff, John V.)

Draper, Clare H., *et al.*, executors. (See Draper, William F.)

Draper, Clare H., *et al.*, executors. (See Northrop, Jonas.)

Draper, Clare H., *et al.*, executors. (See Wood, Everett S.)

Draper Company. (See Armstead, Michael J., assignor.)

Draper Company. (See Burbank, Louis S., assignor.)

Draper Company. (See Dunaway, Lyszander, assignor.)

Draper Company. (See King, John G., assignor.)

Draper Company. (See Littlefield, Charles A., assignor.)

Draper Company. (See Osgood and Rhoades, assignors.)

Draper Company. (See Rhoades, Alonzo E., assignor.)

Draper Company. (See Stimpson, Edward S., assignor.)

Draper Company. (See Stone, Melville L., assignor.)

Draper, John F., assignor of one-half to J. J. Taglauer, Albia, Iowa. Animal-trap. No. 971,530; Oct. 4; Sp. p. 39; Gaz. vol. 159; p. 9.

Draper, William F. (See Bounds and Ellenburg, assignors.)

Draper, William F. (See Cunniff, John V., assignor.)

Draper, William F. (See Northrop, Jonas, assignor.)

Draper, William F. (See Wood, Everett S., assignor.)

Draper, William F. (See Wood and Northrop, assignors.)

Draper, William F., deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Filling-replenishing loom. No. 973,265; Oct. 18; Sp. p. 3873; Gaz. vol. 159; p. 663.

Dravo, Ralph M., Edgeworth, Pa., and F. Donaldson, Davenport, Iowa. Lining for shafts. No. 971,733; Oct. 4; Sp. p. 477; Gaz. vol. 159; p. 82.

Dravo, Ralph M., Edgeworth, Pa., and F. Donaldson, Davenport, Iowa. Lining for shafts. No. 971,734; Oct. 4; Sp. p. 478; Gaz. vol. 159; p. 82.

Dresback, Frank R., Kansas City, Mo., and E. M. Reckards, Osawkie, Kans. Apparatus for applying solutions to animals. No. 974,042; Oct. 25; Sp. p. 5512; Gaz. vol. 159; p. 955.

Drew, Herbert E., and W. P. Carroll, Portland, Me. Adjustable support for hanging lamps. No. 972,170; Oct. 11; Sp. p. 1436; Gaz. vol. 159; p. 257.

Drew, Herbert W., Chicago, Ill. Grain-door for freight-cars. No. 973,486; Oct. 25; Sp. p. 4353; Gaz. vol. 159; p. 761.

Drum, George E., and J. H. Skitt, assignors to said Drum and R. P. Smith, Philadelphia, Pa. Dyeing-machine. No. 973,487; Oct. 25; Sp. p. 4355; Gaz. vol. 159; p. 762.

Drury, William H., Waltham, Mass. Mechanism for weaving. No. 972,349; Oct. 11; Sp. p. 1806; Gaz. vol. 159; p. 316.

Du Belle, Charles S., Williamsport, Pa. Type-writer. No. 972,832; Oct. 18; Sp. p. 2870; Gaz. vol. 159; p. 511.

Duckham, Arthur M., Walden, Little Bookham, England. Machine for discharging and charging gas-retorts or coke-ovens. No. 974,043; Oct. 25; Sp. p. 5514; Gaz. vol. 159; p. 956.

Duffy, James S., Seattle, Wash. Combined cutting-tool and gage. No. 972,757; Oct. 11; Sp. p. 2707; Gaz. vol. 159; p. 460.

Dugar, Delano H., Wilkinsburg, Pa., assignor to The Westinghouse Machine Company. Blade-tie. No. 973,639; Oct. 25; Sp. p. 4686; Gaz. vol. 159; p. 814.

Dull, Egbert R. (See Davis, Ernest W., assignor.)

Dunaway, Lyszander, Scottdale, Ga., assignor to Draper Company, Hopedale, Mass. Thin-place detector for filling-replenishing looms. No. 972,833; Oct. 18; Sp. p. 2873; Gaz. vol. 159; p. 512.

Dunkle, George S., and M. M. Tawney, Harrisburg, Pa. Lock-nut. No. 973,640; Oct. 25; Sp. p. 4687; Gaz. vol. 159; p. 814.

Dunlavy, Thoron F. (See Reese and Dunlavy.)

Dunlop, Robert R., Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company. Electric brake. No. 973,926; Oct. 25; Sp. p. 5269; Gaz. vol. 159; p. 914.

Dunn, Joseph B., Baltimore, Md. Tile. No. 972,519; Oct. 11; Sp. p. 2194; Gaz. vol. 159; p. 379.

Dunton, Addis J., assignor of one-half to C. J. Clemensson, Ketchikan, Alaska. Automatic clutch and releasing mechanism for cables. No. 972,685; Oct. 11; Sp. p. 2551; Gaz. vol. 159; p. 435.

Duplex Metals Company. (See Monnot, John F., assignor.)

Duplex Rubber Company, The. (See Kussart, Jacob, assignor.)

Dupont, Louis H., Nashville, Tenn. Combination-padlock. No. 972,171; Oct. 11; Sp. p. 1437; Gaz. vol. 159; p. 257.

Dupont, Louis H., Nashville, Tenn. Vending-machine. No. 972,350; Oct. 11; Sp. p. 1812; Gaz. vol. 159; p. 318.

Dupuis, Eugene A., New York, N. Y. Stop-watch. No. 972,520; Oct. 11; Sp. p. 2194; Gaz. vol. 159; p. 379.

Durdin, Augustus C., Jr., assignor to Thomas & Smith, Chicago, Ill. Valve for cellar-drainers. No. 972,441; Oct. 11; Sp. p. 1995; Gaz. vol. 159; p. 350.

Dyett, Frank J., Ilion, N. Y. Type-writing machine. No. 973,015; Oct. 18; Sp. p. 3318; Gaz. vol. 159; p. 577.

Dysart, Birney, assignor to Adding Typewriter Company, St. Louis, Mo. Spring-tension regulator. No. 973,641; Oct. 25; Sp. p. 4688; Gaz. vol. 159; p. 814.

Dyson, Alfred H., Chicago, Ill., assignor, by mesne assignments, to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y. Telephone system. No. 971,598; Oct. 4; Sp. p. 188; Gaz. vol. 159; p. 34.

E. Kirstein Sons & Co. (See Hoffman, William W., assignor.)

Eagle Pencil Company. (See Kaiser, Charles, assignor.)
Eagle White Lead Company, The. (See Merrill, Robert A., assignor.)
Earnest, David C. (See Wilderspin, Anderson, assignor.)
Eastham, Charles L., Medora, Ill. Bag-holder. No. 973,414; Oct. 18; Sp. p. 4197; Gaz. vol. 159; p. 714.
Eaves, Joseph W., Blackpool, England. Shooting game. No. 973,488; Oct. 25; Sp. p. 4360; Gaz. vol. 159; p. 762.
Eberhardt, Frederick L., assignor to Gould & Eberhardt, Newark, N. J. Shaping-machine. No. 973,415; Oct. 18; Sp. p. 4198; Gaz. vol. 159; p. 715.
Ebert, Henry D., Baldwinsville, Mass. Stamp or ticket vending machine. No. 971,531; Oct. 4; Sp. p. 41; Gaz. vol. 159; p. 10.
Eddleman, Dudley E., and J. E. Armstrong, assignors of one-half to said Eddleman and one-half to E. A. Frantz, Weatherford, Tex. Buckle for bale-ties. No. 972,834; Oct. 18; Sp. p. 2877; Gaz. vol. 159; p. 512.
Eddy, Charles F. A., Los Angeles, Cal. Box. No. 973,927; Oct. 25; Sp. p. 5271; Gaz. vol. 159; p. 914.
Eddy, Ray L., Chicago, Ill. Smoke-recording apparatus. No. 971,670; Oct. 4; Sp. p. 335; Gaz. vol. 159; p. 59.
Edey, Charles E. C., Tacoma, Wash. Lock. No. 973,928; Oct. 25; Sp. p. 5273; Gaz. vol. 159; p. 915.
Edge, Selwyn F., *et al.* (See Cannon, Percival C., assignor.)
Edler, Albert S., Chicago, Ill. Portable power-operated drill. No. 972,351; Oct. 11; Sp. p. 1815; Gaz. vol. 159; p. 319.
Edmonson, Alva T., Chicago, Ill. Pressure-regulated valve. No. 973,016; Oct. 18; Sp. p. 3321; Gaz. vol. 159; p. 577.
Edwards & Co. (See Lungen, Adam, assignor.)
Edwards, Simpson, Bloomington, Ill. Lunch-pail. No. 971,735; Oct. 4; Sp. p. 479; Gaz. vol. 159; p. 83.
Edwards, Victor E., and J. R. George, assignors to Morgan Construction Company, Worcester, Mass. Feeding mechanism for gas-producers. No. 972,172; Oct. 11; Sp. p. 1441; Gaz. vol. 159; p. 258.
Edwin Harrington, Son & Co. (See Scott, Robert F., assignor.)
Eiche, Frederick, Lincoln, Nebr. Clothes-line reel. No. 973,266; Oct. 18; Sp. p. 3877; Gaz. vol. 159; p. 663.
Eichmann, Henry P. A. A., assignor of one-half to C. F. Lehman, Corona, N. Y. Hollow fireproof door. No. 972,102; Oct. 4; Sp. p. 1270; Gaz. vol. 159; p. 215.
Eidam, Marie J., Chicago, Ill. Spool-holder. No. 973,861; Oct. 25; Sp. p. 5130; Gaz. vol. 159; p. 801.
Eilhauer, Oskar, Neustadt-on-the-Orla, Germany. Lay-motion. No. 972,835; Oct. 18; Sp. p. 2878; Gaz. vol. 159; p. 512.
Einstein, Max, Hamburg, Germany. Type-writer attachment. No. 971,736; Oct. 4; Sp. p. 481; Gaz. vol. 159; p. 83.
Eklund, Paul J., Minneapolis, Minn. Garment-supporter. No. 973,017; Oct. 18; Sp. p. 3324; Gaz. vol. 159; p. 578.
Ekström̈er, Melcher, Cambridge, assignor to J. C. Kent, trustee, Boston, Mass. Vent-tube for storage batteries. No. 971,737; Oct. 4; Sp. p. 481; Gaz. vol. 159; p. 83.
El Buen Tono S. A. (See Puglbet, Ernest, assignor.)
Elder, Thomas J., Pilot Point, Tex. Ice-box. No. 973,416; Oct. 18; Sp. p. 4200; Gaz. vol. 159; p. 715.
Eldridge, Hilliary. (See Rockey and Eldridge.)
Electric Boat Company. (See Spear, Lawrence Y., assignor.)
Electric Storage Battery Company, The. (See Adam, Antoine, assignor.)
Electric Storage Battery Company, The. (See Entz, Justus B., assignor.)
Electro-Magnetic Tool Company. (See Rowe, George H., assignor.)
Elektrochemische Werke G. m. b. H. (See Wiens, Arnold, assignor.)
Elgin Eyeglass Reel Co. (See Wedell, Otto B., assignor.)
Ellenburg, James C. (See Bounds and Ellenburg.)
Elliott, David J., and W. W. Reilly, Monte Vista, Colo. Locking device for automobile steering-wheels. No. 972,605; Oct. 11; Sp. p. 2392; Gaz. vol. 159; p. 408.
Elliott, John, Barnsley, England. Device for paying out paper to and winding up paper from adding and like machines. No. 973,018; Oct. 18; Sp. p. 3325; Gaz. vol. 159; p. 578.
Elliott, William E., Liverpool, England, assignor, by mesne assignments, to Mergenthaler Linotype Company, New York, N. Y. Linotype-machine. No. 973,181; Oct. 18; Sp. p. 3701; Gaz. vol. 159; p. 635.
Elliott, William S., Pittsburg, Pa. Strainer. No. 974,044; Oct. 25; Sp. p. 5516; Gaz. vol. 159; p. 956.
Ellis, Axel E., assignor to Steel Cushion Tire Company, Boston, Mass. Vehicle-wheel. No. 972,606; Oct. 11; Sp. p. 2393; Gaz. vol. 159; p. 409.
Ellis, Frank R. (See Prescott, Ellis, and Jensen.)
Elphick, Thomas A., Castlenau, England. Ironing-machine. No. 972,521; Oct. 11; Sp. p. 2197; Gaz. vol. 159; p. 379.
Ely, Benjamin, and A. Rollason, Pye Bridge, England. Treatment of coke. No. 972,452; Oct. 11; Sp. p. 1818; Gaz. vol. 159; p. 319.
Empire Novelty Company, The. (See Ferguson, Harry C., assignor.)
Empire Rubber Manufacturing Company. (See Bonner, William T., assignor.)
Empire Voting Machine Company. (See Christensen, Christ, assignor.)
Empire Voting Machine Company. (See Dean, James H., assignor.)
Empire Voting Machine Company. (See Gillespie and Lausterer, assignors.)
Empire Voting Machine Company. (See Myers, Jacob H., assignor.)
Engisch, Gustav, Berlin, Germany. Turbine. No. 973,929; Oct. 25; Sp. p. 5275; Gaz. vol. 159; p. 915.
English, Peter, Sathers Station, assignor to The Hydraulic Clutch Company, San Francisco, Cal. Clutch. No. 973,767; Oct. 25; Sp. p. 4939; Gaz. vol. 159; p. 859.
Engström, Axel E., Huskvarna, Sweden. Folding chair. No. 971,738; Oct. 4; Sp. p. 482; Gaz. vol. 159; p. 84.
Enterprise Railway Equipment Company. (See Campbell, Argyle, assignor.)
Entz, Justus B., assignor to The Electric Storage Battery Company, Philadelphia, Pa. System of electrical distribution. No. 972,782; Oct. 11; Sp. p. 2740; Gaz. vol. 159; p. 468.
Enyart, Ralph C. (See Hicks and Enyart.)
Eppler, Andrew, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Form for shoe-turning machines. No. 973,182; Oct. 18; Sp. p. 3720; Gaz. vol. 159; p. 635.
Erdbrügger, Gustav, Anderten, Germany, assignor by mesne assignments, to Reliefograph Company. Apparatus for producing sculptures. No. 972,173; Oct. 11; Sp. p. 1443; Gaz. vol. 159; p. 258.
Erdbruegger, Gustav, Anderten, Germany, assignor to Reliefograph Company. Producing sculptures. No. 972,174; Oct. 11; Sp. p. 1443; Gaz. vol. 159; p. 258.
Ermentrout, William H., and S. S. Miller, Reading, Pa. Stocking-blank. No. 972,442; Oct. 11; Sp. p. 1997; Gaz. vol. 159; p. 351.
Erste Triester Reisschäl-Fabriks-Aktien-Gesellschaft. (See Donauer, Georg, assignor.)
Eskridge, Poe W., Rutherfordton, N. C. Fire-alarm switch. No. 972,353; Oct. 11; Sp. p. 1819; Gaz. vol. 159; p. 319.
Ety, David J., Ross township, Allegheny county, Pa. Fan attachment for chairs. No. 973,267; Oct. 18; Sp. p. 3878; Gaz. vol. 159; p. 663.
Evans, Henry O., Detroit, Mich. Chuck for machine-work. No. 971,979; Oct. 4; Sp. p. 1043; Gaz. vol. 159; p. 174.
Evans, Major A., Ewell, Md. Crab-float. No. 972,175; Oct. 11; Sp. p. 1444; Gaz. vol. 159; p. 258.
Evans, Thomas W., Jersey City, N. J. Nozzle-stopper for bottles and other receptacles. No. 972,522; Oct. 11; Sp. p. 2198; Gaz. vol. 159; p. 380.
Everitt, William R., Muscatine, Iowa. Coupling for hay rakes and loaders. No. 973,417; Oct. 18; Sp. p. 4202; Gaz. vol. 159; p. 715.
Everitt, William R., Muscatine, Iowa. Conveyer device for hay rakes and loaders. No. 973,418; Oct. 18; Sp. p. 4203; Gaz. vol. 159; p. 716.
Evers, Ferdinand, Dusseldorf, Germany. Making tobacco supple. No. 973,768; Oct. 25; Sp. p. 4942; Gaz. vol. 159; p. 860.
Evon, Henry J., Chicago, Ill. Envelop-opener. No. 973,347; Oct. 18; Sp. p. 4042; Gaz. vol. 159; p. 692.
F. B. Zieg Manufacturing Company. (See Hanna, Samuel C., assignor.)
Fachmann, Hermann W., Indianapolis, Ind. Game. No. 971,532; Oct. 4; Sp. p. 40; Gaz. vol. 159; p. 10.
Fachs, Albert, New York, N. Y. Moistening-roll. No. 972,607; Oct. 11; Sp. p. 2396; Gaz. vol. 159; p. 409.
Fahrenholtz, Heye E. (See Long, William H., assignor.)
Fanning, John T., Minneapolis, Minn. Pressure-regulating surge-tank. No. 973,183; Oct. 18; Sp. p. 3721; Gaz. vol. 159; p. 635.
Farbenfabriken vorm. Friedr. Bayer & Co. (See Deinet, Joseph, assignor.)
Farbenfabriken vorm. Friedr. Bayer & Co. (See Runkel and Herzberg, assignors.)
Farbenfabriken vorm. Friedr. Bayer & Co. (See Volkmann, Paul, assignor.)
Färberei- & Appretur-Gesellschaft (vormals A. Clavel & Fritz Lindenmeyer). (See Clavel, Alexander, assignor.)
Farley, Fred E., assignor to Goodell-Pratt Company, Greenfield, Mass. Drill. No. 973,489; Oct. 25; Sp. p. 4362; Gaz. vol. 159; p. 763.
Farley, John P., Kansas City, Mo. Self-closing faucet. No. 971,739; Oct. 4; Sp. p. 483; Gaz. vol. 159; p. 84.
Farrell, Philip H., Flushing, N. Y. Envelop-making machine. No. 972,176; Oct. 11; Sp. p. 1445; Gaz. vol. 159; p. 259.
Fawcus, Thomas, Pittsburg, Pa. Double helical gear-wheel. No. 971,980; Oct. 4; Sp. p. 1045; Gaz. vol. 159; p. 174.
Fawell, Joseph, Pittsburg, Pa. Manipulator for rolling-mills. No. 971,740; Oct. 4; Sp. p. 487; Gaz. vol. 159; p. 84.
Fay, Lamartine B. (See Paquette and Deeg, assignors.)
Feder, Max, Cleveland, Ohio. Mouthpiece or stem for smokers' articles. No. 973,490; Oct. 25; Sp. p. 4364; Gaz. vol. 159; p. 763.
Feldmeier, Harvey, assignor to D. H. Burrell & Company, Little Falls, N. Y. Apparatus for pasteurizing milk. No. 972,608; Oct. 11; Sp. p. 2398; Gaz. vol. 159; p. 409.
Fellhauer, Martin. (See Allen, James M., assignor.)
Felton, Thomas W., San Gabriel, Tex. Cotton-chopper. No. 972,836; Oct. 18; Sp. p. 2879; Gaz. vol. 159; p. 513.
Fenn, George M., Charlotte, Mich. Post-hole auger. No. 971,880; Oct. 4; Sp. p. 782; Gaz. vol. 159; p. 136.

Ferguson, George P. (See White, William L., assignor.)
Ferguson, Harry C., assignor to The Empire Novelty Company, Canton, Ohio. Embroidery-hoop. No. 973,642; Oct. 25; Sp. p. 4690; Gaz. vol. 159; p. 814.
Ferguson, William S., Leesville, La. Feed-water heater. No. 971,500; Oct. 4; Sp. p. 195; Gaz. vol. 159; p. 35.
Ferranti, Sebastian Z. de, Grindleford Bridge, near Sheffield, England. Swaging-machine. No. 972,837; Oct. 18; Sp. p. 2880; Gaz. vol. 159; p. 513.
Ferranti, Sebastian Z. de, Grindleford Bridge, near Sheffield, England. Electric welding-machine. No. 972,838; Oct. 18; Sp. p. 2882; Gaz. vol. 159; p. 513.
Ferris, Henry L. and H. J., assignors to Hunt Helm Ferris & Company, Harvard, Ill. Hay-carrier. No. 971,741; Oct. 4; Sp. p. 489; Gaz. vol. 159; p. 85.
Ferris, Howard J. (See Ferris, Henry L. and H. J.)
Ferris, Murray W., South Orange, N. J. Abdominal supporter. No. 974,045; Oct. 25; Sp. p. 5517; Gaz. vol. 159; p. 956.
Ferris, Walter, assignor to The Bucyrus Company, South Milwaukee, Wis. Ballast-unloader. No. 972,070; Oct. 4; Sp. p. 1212; Gaz. vol. 159; p. 205.
Ferris, William D., Sterling, Ill. Door-catch. No. 972,177; Oct. 11; Sp. p. 1447; Gaz. vol. 159; p. 259.
Ferris, Zachariah C., Caldor, Cal. Water-wheel. No. 973,419; Oct. 18; Sp. p. 4206; Gaz. vol. 159; p. 716.
Ferry, Gilbert E., Omaha, Nebr. Corner-piece for screen-frames. No. 973,643; Oct. 25; Sp. p. 4692; Gaz. vol. 159; p. 815.
Fifield, Warren, Sauk Rapids, Minn., assignor of one-third to A. J. Weber, Castle Rock, Wash. Nut-lock. No. 972,758; Oct. 11; Sp. p. 2709; Gaz. vol. 159; p. 461.
Figge, Conrad, Jersey City Heights, N. J., and A. Zebro, West New York, N. Y. Carousel. No. 973,184; Oct. 18; Sp. p. 3722; Gaz. vol. 159; p. 636.
Finical, Noah, Gallon, Ohio. Automatic fire-extinguisher. No. 973,185; Oct. 18; Sp. p. 3725; Gaz. vol. 159; p. 636.
Fink, John W., Pittsburg, Pa. Match-box. No. 973,930; Oct. 25; Sp. p. 5277; Gaz. vol. 159; p. 916.
Finkler, Dittmar, Bonn, Germany. Grinding bran. No. 972,103; Oct. 4; Sp. p. 1272; Gaz. vol. 159; p. 216.
Finley, Sam. (See Swartz and Finley.)
Finn, J. M. (See Harwood, Sumpter L., assignor.)
Firm, Joseph L., Berwyn, assignor to The Goss Printing Press Company, Chicago, Ill. Printing-machine. No. 971,533; Oct. 4; Sp. p. 47; Gaz. vol. 159; p. 11.
Firm, Joseph L., Berwyn, assignor to The Goss Printing Press Company, Chicago, Ill. Printing-machine. No. 971,534; Oct. 4; Sp. p. 48; Gaz. vol. 159; p. 11.
Firth & Sons, Thomas. (See Strange, Harry, assignor.)
Fischer, Alexander, Jr., Cheviot, Ohio. Combined mop head and wringer. No. 973,491; Oct. 25; Sp. p. 4366; Gaz. vol. 159; p. 764.
Fischer, Ernst, Gronau, near Hanover, Germany. Iron-albumin-glycerophosphate and making same. No. 972,523; Oct. 11; Sp. p. 2200; Gaz. vol. 159; p. 380.
Fishburne, George R. (See Newberry, Spencer B., assignor.)
Fisher, Charles E., San Francisco, assignor of one-half to G. W. Davis, Haywards, Cal. Educational and amusement device. No. 973,186; Oct. 18; Sp. p. 3727; Gaz. vol. 159; p. 636.
Fisk, Joshua T., assignor to Crown Optical Company, Rochester, N. Y. Photographic shutter. No. 973,020; Oct. 18; Sp. p. 3328; Gaz. vol. 159; p. 579.
Fisk, Joshua T., assignor to Crown Optical Company, Rochester, N. Y. Photographic shutter. No. 973,021; Oct. 18; Sp. p. 3338; Gaz. vol. 159; p. 579.
Fisk, Willard C., and H. L. White, Orofino, Idaho. Telephone attachment. No. 972,839; Oct. 18; Sp. p. 2886; Gaz. vol. 159; p. 514.
Fitch, John H., Ludington, Mich. Explosive-engine. No. 972,071; Oct. 4; Sp. p. 1217; Gaz. vol. 159; p. 205.
Fite, Less T., Nashville, Tenn. Calculating-machine. No. 972,072; Oct. 4; Sp. p. 1218; Gaz. vol. 159; p. 206.
Fitzgerald, Edmond B., Rosedale, Miss. Seeder. No. 972,178; Oct. 11; Sp. p. 1451; Gaz. vol. 159; p. 259.
Fitzpatrick, James, Fort Dodge, Iowa. Drain-tile outlet. No. 973,022; Oct. 18; Sp. p. 3348; Gaz. vol. 159; p. 580.
Flade, George F. (See Reith and Flade.)
Flatau, Louis S., assignor to Rabok Manufacturing Co., St. Louis, Mo. Railway-tie. No. 972,609; Oct. 11; Sp. p. 2400; Gaz. vol. 159; p. 410.
Fleming, Howard C., Watertown, Mass. Coin-controlled mechanism for automatic vending-machines. No. 973,492; Oct. 25; Sp. p. 4367; Gaz. vol. 159; p. 764.
Fletcher, Alfred W., Brooklyn, N. Y. Construction of chimneys. No. 973,023; Oct. 18; Sp. p. 3349; Gaz. vol. 159; p. 580.
Fletcher, Joseph, Brick School, N. C. Adjustable bench-dog. No. 972,610; Oct. 11; Sp. p. 2401; Gaz. vol. 159; p. 410.
Flewell, Walter H., Mountain Home, Idaho. Cattle-stanchion. No. 971,981; Oct. 4; Sp. p. 1046; Gaz. vol. 159; p. 175.
Flexible Bolt Company. (See Thompson, George S., assignor.)
Flindall, John, Chicago, Ill. Foot-rest. No. 972,073; Oct. 4; Sp. p. 1220; Gaz. vol. 159; p. 206.
Flint, Edgar, Toronto, Ontario, Canada. Vacuo despatch system. No. 973,931; Oct. 25; Sp. p. 5278; Gaz. vol. 159; p. 916.
Flint, William P., Pittsburg, Pa., assignor to The Westinghouse Machine Company. Gas-engine-exhaust-valve water connection. No. 971,881; Oct. 4; Sp. p. 784; Gaz. vol. 159; p. 136.
Flower, James H., Ashtabula, Ohio. Blowpipe. No. 972,759; Oct. 11; Sp. p. 2710; Gaz. vol. 159; p. 461.
Floyd, George G., Granite City, Ill., assignor to American Steel Foundries, New York, N. Y. Car-truck. No. 973,024; Oct. 18; Sp. p. 3351; Gaz. vol. 159; p. 580.
Fogal, John E. W., A. M. Crichton, and A. C. Mowry, assignors to Quincy Elevator Gate Company, Quincy, Ill. Fire-alarm. No. 972,840; Oct. 18; Sp. p. 2889; Gaz. vol. 159; p. 514.
Fogg, Charles E., Kennett Square, Pa. Internal-combustion engine. No. 973,268; Oct. 18; Sp. p. 3880; Gaz. vol. 159; p. 663.
Fonda, Shepherd T., Schenectady, N. Y., assignor to General Electric Company. Machine for cutting turbine buckets or vanes. No. 973,025; Oct. 18; Sp. p. 3352; Gaz. vol. 159; p. 580.
Fonner, Okey, Terra Alta, W. Va. Holdfast device. No. 973,269; Oct. 18; Sp. p. 3881; Gaz. vol. 159; p. 664.
Forbes, John S., Philadelphia, Pa. Apparatus for heating water, milk, and other liquids for sterilizing or other purposes. No. 973,270; Oct. 18; Sp. p. 3883; Gaz. vol. 159; p. 664.
Ford, Norman D., Ansley, Nebr. Brooder. No. 973,420; Oct. 18; Sp. p. 4207; Gaz. vol. 159; p. 716.
Ford, Thomas P., New York, N. Y. Pressure-reducing valve. No. 971,982; Oct. 4; Sp. p. 1047; Gaz. vol. 159; p. 175.
Forgrove Machinery Company, The. (See Grover, Frederick, assignor.)
Formentos, Vincente L., Manila, Philippine Islands. Refrigerator. No. 972,074; Oct. 4; Sp. p. 1221; Gaz. vol. 159; p. 206.
Fornoff, Henry G., and H. C. Klages, St. Louis, Mo. Loose-leaf binder. No. 973,932; Oct. 25; Sp. p. 5280; Gaz. vol. 159; p. 917.
Forrest, John W., Blytheville, Ark. Saw set and jointer. No. 972,354; Oct. 11; Sp. p. 1820; Gaz. vol. 159; p. 319.
Forschner, Richard H., New York, N. Y. Scale. No. 972,443; Oct. 11; Sp. p. 1998; Gaz. vol. 159; p. 351.
Forster, Frank T., Schenectady, N. Y., assignor to General Electric Company. Lightning-arrester. No. 973,645; Oct. 25; Sp. p. 4695; Gaz. vol. 159; p. 816.
Fort Pitt Bedding Company. (See Weppner, William F., assignor.)
Fortescue, Albert J., Arncliffe, near Sydney, New South Wales, Australia. Metallic tire. No. 974,046; Oct. 25; Sp. p. 5519; Gaz. vol. 159; p. 957.
Fortin, Philip L., Clyde, Kans. Manure-spreader for wagons. No. 971,836; Oct. 4; Sp. p. 676; Gaz. vol. 159; p. 119.
Fortin, Philip L., Clyde, Kans. Manure-spreader for wagons. No. 971,837; Oct. 4; Sp. p. 681; Gaz. vol. 159; p. 120.
Fortune, John R. (See Haigh and Fortune.)
Foss, Clarence M., assignor to The Seagrave Company, Columbus, Ohio. Clutch-brake. No. 973,187; Oct. 18; Sp. p. 3730; Gaz. vol. 159; p. 637.
Foster, Albert D., Chicago, Ill. Applicator. No. 972,686; Oct. 11; Sp. p. 2554; Gaz. vol. 159; p. 435.
Foster, Charles W., New Haven, Conn. Internal-combustion engine. No. 972,841; Oct. 18; Sp. p. 2894; Gaz. vol. 159; p. 514.
Foster, George M., Bryson, Tex. Fender for cultivators. No. 972,842; Oct. 18; Sp. p. 2896; Gaz. vol. 159; p. 515.
Foster, Rolon E., and P. W. Pratt, assignors to Foster Rubber Company, Boston, Mass. Elastic heel. No. 973,026; Oct. 18; Sp. p. 3360; Gaz. vol. 159; p. 581.
Foster Rubber Company. (See Foster and Pratt, assignors.)
Fowler, Alfred B., Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Buffing-machine. No. 972,843; Oct. 18; Sp. p. 2897; Gaz. vol. 159; p. 515.
Fowler, Fred D., Glens Falls, assignor to International Paper Company, New York, N. Y. Screen for paper-stock. No. 973,493; Oct. 25; Sp. p. 4371; Gaz. vol. 159; p. 764.
Fox, Richard M., Bluefield, W. Va., assignor of one-half to J. P. Hunt, Chatham, Va. Car-brake. No. 973,933; Oct. 25; Sp. p. 5284; Gaz. vol. 159; p. 917.
Fox, Rosalie A. W., assignor of one-half to E. J. Wylde, Seattle, Wash. Window-grille. No. 973,027; Oct. 18; Sp. p. 3361; Gaz. vol. 159; p. 581.
Fox, Warren C., Kansas City, Mo. Bit-holder. No. 972,179; Oct. 11; Sp. p. 1452; Gaz. vol. 159; p. 259.
Frahlich, John, Arlington, Ky. Auger. No. 972,611; Oct. 11; Sp. p. 2403; Gaz. vol. 159; p. 410.
Frampton, Reynolds C., Swissvale, Pa. Controlling apparatus for water-heaters. No. 973,647; Oct. 25; Sp. p. 4698; Gaz. vol. 159; p. 816.
Frampton, Reynolds C., assignor to Pittsburg Water Heater Company, Allegheny, Pa. Instantaneous water-heater. No. 973,646; Oct. 25; Sp. p. 4697; Gaz. vol. 159; p. 816.
Francis, William H., Cherryvale, Kans. Brick-kiln and process of burning bricks. No. 972,524; Oct. 11; Sp. p. 2201; Gaz. vol. 159; p. 380.
Francisco, Dudley M., Kalamazoo, Mich. Stalk-puller. No. 973,188; Oct. 18; Sp. p. 3731; Gaz. vol. 159; p. 637.

Francisco, Ferris L. R., Jersey City, N. J. Hanger. No. 972,525; Oct. 11; Sp. p. 2205; Gaz. vol. 159; p. 380.
Frank Adam Electric Company. (See Adam, Fredrick B., assignor.)
Frank Holton & Company. (See Holton, Frank, assignor.)
Frantz, Ezra A., *et al.* (See Eddleman and Armstrong, assignors.)
Franzmeier, Louis, Newton, Wis. Mower attachment. No. 973,421; Oct. 18; Sp. p. 4209; Gaz. vol. 159; p. 717.
Fredenburgh, George A., Pawtucket, R. I., assignor to Boston Braiding Company. Finishing threads or yarns from warp-beams. No. 972,760; Oct. 11; Sp. p. 2712; Gaz. vol. 159; p. 401.
Frederick, Charles W. H., Melrose, Mass. Car-seat. No. 971,983; Oct. 4; Sp. p. 1050; Gaz. vol. 159; p. 176.
Frederick, John H., Tiffin, Ohio. Bracket for ironing-boards. No. 972,355; Oct. 11; Sp. p. 1822; Gaz. vol. 159; p. 320.
Fredericks, Elmer. (See Jones, Chesney L., assignor.)
Frederickson, Clayton E., assignor of twenty-five one-hundredths to G. S. Chamberlin and thirty-seven and one-half one-hundredths to E. D. McCaddam, San Francisco, Cal. Lifting-magnet. No. 974,047; Oct. 25; Sp. p. 5520; Gaz. vol. 159; p. 957.
Freeman, Edgar H., Trenton, N. J. Adjustable casing for lamp-sockets. No. 972,526; Oct. 11; Sp. p. 2206; Gaz. vol. 159; p. 381.
Freeman, George M., Seattle, Wash. Cream-collecting-pump. No. 972,075; Oct. 4; Sp. p. 1222; Gaz. vol. 159; p. 207.
Freeman, John W., Joplin, Mo. Hoisting-engine. No. 973,028; Oct. 18; Sp. p. 3362; Gaz. vol. 159; p. 581.
Freeman, Richard. (See Promenshenkel and Freeman.)
Freese, Etson L., New York, N. Y. Apparatus for felling trees. No. 971,600; Oct. 4; Sp. p. 197; Gaz. vol. 159; p. 35.
Frelinger, Margaret. (See Stockmann, Fred B., assignor.)
Fremont Mitten and Glove Company, The. (See Zimmerman, Harry, assignor.)
Fretwell, John A. (See Cheek, Henry M., assignor.)
Freund, Erwin O., assignor to G. Freund, Chicago, Ill. Machine for cleaning intestines. No. 973,348; Oct. 18; Sp. p. 4044; Gaz. vol. 159; p. 692.
Freund, Gustav. (See Freund, Erwin O., assignor.)
Friday, Marion, Bluffs, Ill. Wire-splicer. No. 972,844; Oct. 18; Sp. p. 2900; Gaz. vol. 159; p. 516.
Friedlund, Charles, Mountain, Wis. Bark-rossing device. No. 973,494; Oct. 25; Sp. p. 4372; Gaz. vol. 159; p. 765.
Frink, Fred J. (See Frink, Robert L. and F. J.)
Frink, Robert L., Cleveland, Ohio. Method of and apparatus for drawing glass. No. 972,613; Oct. 11; Sp. p. 2406; Gaz. vol. 159; p. 411.
Frink, Robert L., Cleveland, Ohio. Regulation of air-supply in drawing glass cylinders. No. 972,614; Oct. 11; Sp. p. 2410; Gaz. vol. 159; p. 412.
Frink, Robert L., Lancaster, Ohio. Bait for drawing glass. No. 972,615; Oct. 11; Sp. p. 2413; Gaz. vol. 159; p. 412.
Frink, Robert L., Belle Vernon, assignor to Window Glass Machine Company, Pittsburg, Pa. Bait for drawing glass. No. 973,934; Oct. 25; Sp. p. 5285; Gaz. vol. 159; p. 917.
Frink, Robert L., Cleveland, and W. R. Campbell, Lancaster, Ohio. Flattening-oven. No. 972,612; Oct. 11; Sp. p. 2404; Gaz. vol. 159; p. 411.
Frink, Robert L. and F. J., Lancaster, Ohio. Drawing glass. No. 972,616; Oct. 11; Sp. p. 2417; Gaz. vol. 159; p. 412.
Frink, Robert L. and F. J., Lancaster, Ohio. Bait for drawing glass. No. 972,687; Oct. 11; Sp. p. 2555; Gaz. vol. 159; p. 435.
Fritchle Automobile and Battery Company, The. (See Fritchle, Oliver P., assignor.)
Fritchle, Oliver P., assignor to The Fritchle Automobile and Battery Company, Denver, Colo. Safety-brake and lock-switch mechanism for electric automobiles. No. 972,845; Oct. 18; Sp. p. 2902; Gaz. vol. 159; p. 516.
Fritz, Emil A., and H. J. Carson, Fairfax, Minn. Portable elevator. No. 973,495; Oct. 25; Sp. p. 4373; Gaz. vol. 159; p. 765.
Froese, Minna, New York, N. Y. Ash can or barrel. No. 973,029; Oct. 18; Sp. p. 3363; Gaz. vol. 159; p. 582.
Frogue, Arthur J., Kansas City, Mo., and M. A. Weber, La Crosse, Wis. Spring-wheel. No. 973,769; Oct. 25; Sp. p. 4943; Gaz. vol. 159; p. 860.
Frost, Anton. (See Printz and Frost.)
Frye, Charles R., East St. Louis, Ill. Device to fasten grain-doors in freight-cars. No. 972,688; Oct. 11; Sp. p. 2562; Gaz. vol. 159; p. 436.
Frye, Lee E., San Francisco, Cal. Bed. No. 973,108; Oct. 18; Sp. p. 3518; Gaz. vol. 159; p. 608.
Fuest, Joe. (See Clark, Otis O., assignor.)
Fugazzi, Constantino, West Philadelphia, Pa. Safety appliance for ships. No. 972,180; Oct. 11; Sp. p. 1454; Gaz. vol. 159; p. 260.
Fuller, Albert. (See Hiering and Fuller.)
Fülöp, Frank, and S. Nagy, Hooversville, Pa. Milk-can lock. No. 973,271; Oct. 18; Sp. p. 3886; Gaz. vol. 159; p. 665.
Fulton Company, The. (See Fulton, Weston M., assignor.)
Fulton, Weston M., assignor to The Fulton Company, Knoxville, Tenn. Making tubular metal walls. No. 971,838; Oct. 4; Sp. p. 684; Gaz. vol. 159; p. 120.
Funk, Henry W., Hagerstown, Md. Ironing-board. No. 972,356; Oct. 11; Sp. p. 1823; Gaz. vol. 159; p. 320.
Funk, Louis E., Chicago, Ill. Tongs. No. 973,862; Oct. 25; Sp. p. 5131; Gaz. vol. 159; p. 891.
Furbush, Albourne F., Cliftondale, Mass., assignor to himself, and C. W. Hale, Hartford, Conn. Electrical switch. No. 974,106; Oct. 25; Sp. p. 5629; Gaz. vol. 159; p. 976.
Fusch, Gustav, Hanover, Germany, assignor to Schutte und Koerting Company, Philadelphia, Pa. Injector. No. 972,846; Oct. 18; Sp. p. 2903; Gaz. vol. 159; p. 516.
Gabel, Charles, Hawkeye, Iowa. Corn-popper. No. 974,048; Oct. 25; Sp. p. 5521; Gaz. vol. 159; p. 957.
Gaddis, John W., Princeton, Ind. Lifting-jack. No. 974,049; Oct. 25; Sp. p. 5522; Gaz. vol. 159; p. 958.
Gage, Burt O., Warren, Mass., assignor to Warren Steam Pump Company. Pumping-engine. No. 972,357; Oct. 11; Sp. p. 1824; Gaz. vol. 159; p. 320.
Gaide, Albert, Chicago, Ill. Safety system for refrigerating apparatus. No. 971,984; Oct. 4; Sp. p. 1053; Gaz. vol. 159; p. 176.
Gallagher, Darius, New York, N. Y. Fountain-pen. No. 971,742; Oct. 4; Sp. p. 491; Gaz. vol. 159; p. 85.
Gallagher, George F., *et al.* (See Peddy, Thomas T., assignor.)
Gallagher, Richard D., Jr., assignor to Standard Coupler Company, New York, N. Y. Railway-car coupling. No. 971,882; Oct. 4; Sp. p. 785; Gaz. vol. 159; p. 137.
Gallagher, Richard D., Jr., assignor to Standard Coupler Company, New York, N. Y. Buffing mechanism for railway-cars. No. 971,985; Oct. 4; Sp. p. 1058; Gaz. vol. 159; p. 177.
Galt, Robert B., *et al.*, trustees. (See Smith, Arthur K., assignor.)
Gamble, John R., *et al.* (See Bryant, William A., assignor.)
Gant, Kenneth W., assignor of ten one-hundredths to H. B. Warren and fifty one-hundredths to C. Becker, Indianapolis, Ind. Change-speed mechanism. No. 971,883; Oct. 4; Sp. p. 787; Gaz. vol. 159; p. 137.
Garrison, George H., Olympia, Wash. Artificial bait. No. 974,050; Oct. 25; Sp. p. 5523; Gaz. vol. 159; p. 958.
Garvy Company, The. (See Hauser, Theodore, assignor.)
Gates, Benjamin L., Chicago, Ill. Massage apparatus. No. 973,770; Oct. 25; Sp. p. 4945; Gaz. vol. 159; p. 860.
Gatrell, Isaac N., *et al.* (See Scott, Samuel J., assignor.)
Gaunt, Forest G., Fort Wayne, Ind. Feeding device. No. 972,761; Oct. 11; Sp. p. 2714; Gaz. vol. 159; p. 402.
Gayraud, José, Buenos Ayres, Argentina. Feeder for threshing-machines. No. 973,496; Oct. 25; Sp. p. 4374; Gaz. vol. 159; p. 765.
Gearless Transmission Co. (See Breyfogle, John W., assignor.)
Geary, William H., Newport, Ark. Portable support for weighing-scales. No. 973,771; Oct. 25; Sp. p. 4946; Gaz. vol. 159; p. 860.
Gedeon, James, assignor of one-third to C. L. Brown and one-third to R. D. Mansfield, Cleveland, Ohio. Vessel-loading alarm. No. 973,772; Oct. 25; Sp. p. 4947; Gaz. vol. 159; p. 861.
Gee, Albert, assignor of one-half to W. P. Moore, Philadelphia, Pa. Automatic yarn-changing mechanism for knitting-machines. No. 971,986; Oct. 4; Sp. p. 1061; Gaz. vol. 159; p. 177.
Gee, Samuel, *et al.* (See Tingley, Lloyd M., assignor.)
Geer, George T., Denver, Colo. Rotary engine. No. 971,671; Oct. 4; Sp. p. 339; Gaz. vol. 159; p. 59.
Geer, Harrison. (See Kendrick, Karl A., assignor.)
Geessels, Guillaume, Brussels, Belgium. Device for increasing the draft of chimneys and for obtaining draft with bad chimneys. No. 972,847; Oct. 18; Sp. p. 2905; Gaz. vol. 159; p. 517.
Geiger, Walter H. (See Rickards and Geiger.)
Geisenhöner, Henry, Schenectady, N. Y., assignor to General Electric Company. Machine for cutting turbine vanes or buckets. No. 972,848; Oct. 18; Sp. p. 2907; Gaz. vol. 159; p. 517.
General Electric Company. (See Atwood, Winfield A., assignor.)
General Electric Company. (See Broadbent, Thomas, assignor.)
General Electric Company. (See Burrows, William R., assignor.)
General Electric Company. (See Creighton, Elmer E. F., assignor.)
General Electric Company. (See Dempster, Leonard E., assignor.)
General Electric Company. (See Fonda, Shepherd T., assignor.)
General Electric Company. (See Forster, Frank T., assignor.)
General Electric Company. (See Geisenhöner, Henry, assignor.)
General Electric Company. (See Halvorson, Cromwell A. B., Jr., assignor.)
General Electric Company. (See Hewlett and Button, assignors.)
General Electric Company. (See Peek, Frank W., Jr., assignor.)
General Electric Company. (See Peterson, Charles F., assignor.)
General Electric Company. (See Potter, William B., assignor.)
General Electric Company. (See Riest, Henry G., assignor.)

General Electric Company. (See Robertson, Thomas E., assignor.)
General Electric Company. (See Samuelson, Frederick, assignor.)
General Electric Company. (See Slichter, Walter I., assignor.)
General Electric Company. (See Steinmetz, Charles P., assignor.)
General Electric Company. (See Tritle, John F., assignor.)
General Electric Company. (See Van Aller, Tycho, assignor.)
General Fire Extinguisher Company. (See Meloon, Jonathan C., assignor.)
General Manifold and Printing Company. (See Lewis, Edward Z., assignor.)
Genossenschaft für Textilpatente. (See Koechlin, Albert G., assignor.)
Genthner, Benjamin T., Foxcroft, Me. Smoking-pipe. No. 974,051; Oct. 25; Sp. p. 5525; Gaz. vol. 159; p. 958.
George, Frank S., Hopkins, Minn. Pocket check-protector. No. 971,601; Oct. 4; Sp. p. 201; Gaz. vol. 159; p. 36.
George, Jerome H. (See Edwards and George.)
George, Lemuel L., assignor of one-half to H. C. Miller, York, Pa. Bat-and-ball game device. No. 973,935; Oct. 25; Sp. p. 5286; Gaz. vol. 159; p. 917.
Gerald, Eugene E., Baltimore, Md. Automatic gas-igniter and safety device. No. 973,030; Oct. 18; Sp. p. 3364; Gaz. vol. 159; p. 582.
Gerencier, Charles, Northampton, Pa. Cuspidor. No. 973,189; Oct. 18; Sp. p. 3732; Gaz. vol. 159; p. 637.
Germain, Edward J. (See Rohr, Richard, assignor.)
Gessler, Samuel, Chicago, Ill. Cigar. No. 973,497; Oct. 25; Sp. p. 4377; Gaz. vol. 159; p. 766.
Geurink, Bernard A., East Cleveland, assignor to The Trenkamp Stove & Manufacturing Company, Cleveland, Ohio. Gas-burner. No. 973,498; Oct. 25; Sp. p. 4377; Gaz. vol. 159; p. 766.
Geverts, Frank J. (See Lisch, Jacob J., assignor.)
Gewerkschaft Pionier. (See Trainer, Ernst, assignor.)
Gibbon, Robert J., Chicago, Ill. Storage-receptacle. No. 971,987; Oct. 4; Sp. p. 1062; Gaz. vol. 159; p. 178.
Gibbs, Bryce P., Los Angeles, Cal. Typewriter attachment. No. 972,358; Oct. 11; Sp. p. 1830; Gaz. vol. 159; p. 321.
Gibbs, Harry A., Princeton, Ill. Machine for forming eaves-trough hangers. No. 973,648; Oct. 25; Sp. p. 4701; Gaz. vol. 159; p. 817.
Gibson, Calder C., Buffalo, N. Y. Rubber stamp. No. 972,359; Oct. 11; Sp. p. 1831; Gaz. vol. 159; p. 321.
Gibson, Edwin, and J. Burns, Hornell, N. Y. Gasket-tool. No. 971,672; Oct. 4; Sp. p. 342; Gaz. vol. 159; p. 60.
Gibson, Paul E. (See Towne and Gibson.)
Gibson, William A., Peoria, Ill. Water heater and purifier. No. 973,773; Oct. 25; Sp. p. 4948; Gaz. vol. 159; p. 861.
Giesecke, Julius, B. F. Nebergall, and G. F. Oheim, New Braunfels, Tex. Bookbinder's gluing-press. No. 972,617; Oct. 11; Sp. p. 2422; Gaz. vol. 159; p. 413.
Giffen, James F. (See Neffen and Giffen.)
Gifford, John H., Milwaukee, Wis. Shoe-sole-drying machine. No. 973,422; Oct. 18; Sp. p. 4211; Gaz. vol. 159; p. 717.
Gifford, Robert I. (See Nistle and Gifford.)
Gilbert, Joseph N., Chicago, Ill. Gate-valve. No. 971,673; Oct. 4; Sp. p. 343; Gaz. vol. 159; p. 60.
Gilbert, Royal H., Lakewood, Ohio. Driving-gearing. No. 973,031; Oct. 18; Sp. p. 3365; Gaz. vol. 159; p. 582.
Gilchrist, Benjamin W. (See Rice and Gilchrist.)
Gilchrist, William A. (See Dickinson and Gilchrist.)
Gilfillan, Essington N. (See Casey, James P., assignor.)
Gillespie, Alfred J., Atlantic, Iowa, and W. J. Lausterer, Jamestown, N. Y., assignors, by mesne assignments, to Empire Voting Machine Company, Rochester and Jamestown, N. Y. Controlling mechanism for voting-machines. No. 972,527; Oct. 11; Sp. p. 2208; Gaz. vol. 159; p. 381.
Gillespie, James, Chicago, Ill. Riveting-machine. No. 972,689; Oct. 11; Sp. p. 2562; Gaz. vol. 159; p. 430.
Gillette Safety Razor Company. (See Nickerson, William E., assignor.)
Gin, Gustave, Paris, France. Device for singeing textile fabrics. (Reissue.) No. 13,154; Oct. 4; Sp. p. 1359; Gaz. vol. 159; p. 229.
Gladding, Samuel E., Jersey City, N. J. Faucet attachment. No. 971,602; Oct. 4; Sp. p. 202; Gaz. vol. 159; p. 36.
Glass, Max, Vienna, Austria-Hungary. Turbine. No. 972,762; Oct. 11; Sp. p. 2715; Gaz. vol. 159; p. 462.
Glass, Max, Vienna, Austria-Hungary. Means for increasing tension of gaseous propellants for torpedoes. No. 973,774; Oct. 25; Sp. p. 4952; Gaz. vol. 159; p. 861.
Globe-Wernicke Company, The. (See Senge, Liborius, assignor.)
Glor, Robert M., Attica, N. Y. Stanchion. No. 972,849; Oct. 18; Sp. p. 2913; Gaz. vol. 159; p. 518.
Gluck, David L. (See Meyerheim, Max, assignor.)
Glynn, Charles N., Philadelphia, Pa., assignor to Barbour-Stockwell Company. Switch structure. No. 972,104; Oct. 4; Sp. p. 1273; Gaz. vol. 159; p. 216.
Gober, Richard, Alameda, Cal. Vacuum-sweeper. No. 971,743; Oct. 4; Sp. p. 403; Gaz. vol. 159; p. 85.
Goble, Christopher C., Byron, Nebr. Machine for shearing metal. No. 973,032; Oct. 18; Sp. p. 3368; Gaz. vol. 159; p. 583.
Goble, Frank, Fairpoint, Ohio. Currycomb. No. 972,690; Oct. 11; Sp. p. 2564; Gaz. vol. 159; p. 436.
Godeau, Pierre L. M., Paris, France. Change-speed gear. No. 971,744; Oct. 4; Sp. p. 494; Gaz. vol. 159; p. 86.
Gohring, Herman C., Spokane, Wash. Sausage-linking machine. No. 972,181; Oct. 11; Sp. p. 1461; Gaz. vol. 159; p. 260.
Goldfield, Abraham T., New York, N. Y. Toy. No. 972,691; Oct. 11; Sp. p. 2566; Gaz. vol. 159; p. 437.
Goldsmith, Frederick E., Middletown, assignor to The Ceramic Machinery Company, Hamilton, Ohio. Apparatus for coating. No. 973,649; Oct. 25; Sp. p. 4702; Gaz. vol. 159; p. 817.
Goldstein, Robert, New York, N. Y. Photographic camera. No. 973,272; Oct. 18; Sp. p. 3888; Gaz. vol. 159; p. 665.
Goodell-Pratt Company. (See Farley, Fred E., assignor.)
Goodnow, Russell J. (See Symonds and Goodnow.)
Goodrich, Luman L., Jr., San Antonio, Tex. Spark-arrester. No. 973,775; Oct. 25; Sp. p. 4953; Gaz. vol. 159; p. 862.
Goodrow, William. (See Kaufman, Frank, assignor.)
Goodwin, John M., Mount Vernon, N. Y. Dumping-car. No. 971,603; Oct. 4; Sp. p. 203; Gaz. vol. 159; p. 36.
Goppelt, Frederick A., Jr., Waterbury, Conn. Window-shade bracket. No. 971,988; Oct. 4; Sp. p. 1063; Gaz. vol. 159; p. 178.
Gordon, Charles. (See Matchette, Gordon, and Moukos.)
Goss Printing Press Company, The. (See Firm, Joseph L., assignor.)
Gough, Jacob C., Cleveland, Ohio, assignor of one-half to M. D. Gough, Curwensville, Pa., and one-half to A. L. Lawrence, Cleveland, Ohio. Protective system and apparatus for safeguarding vaults, safes, and the like. No. 973,033; Oct. 18; Sp. p. 3369; Gaz. vol. 159; p. 583.
Gough, Margaret D., *et al.* (See Gough, Jacob C., assignor.)
Gould & Eberhardt. (See Eberhardt, Frederick L., assignor.)
Gould & Eberhardt. (See Zimmermann, William F., assignor.)
Gould, Frank I., Hallebury, Ontario, Canada. Bed-frame construction. No. 973,340; Oct. 18; Sp. p. 4048; Gaz. vol. 159; p. 693.
Gould Storage Battery Company. (See Hubbard, Albert S., assignor.)
Gowdy, George E., New York, N. Y. Machine for forming plastic material. No. 971,884; Oct. 4; Sp. p. 790; Gaz. vol. 159; p. 138.
Goyette, Trephile B., Chicopee Falls, Mass. Action for firearms. No. 972,076; Oct. 4; Sp. p. 1224; Gaz. vol. 159; p. 207.
Graber Calculating Machine Company, The. (See Graber, Julius, assignor.)
Graber, Julius, assignor to The Graber Calculating Machine Company, New York, N. Y. Calculating-machine. No. 972,360; Oct. 11; Sp. p. 1833; Gaz. vol. 159; p. 322.
Grabs, Virgil T., King, N. C. Log-turning device. No. 973,423; Oct. 18; Sp. p. 4214; Gaz. vol. 159; p. 717.
Graham, Charles L., Ashley, N. D. Wire-fence stretcher. No. 973,034; Oct. 18; Sp. p. 3372; Gaz. vol. 159; p. 584.
Graham, Tilghman, Fort Worth, Tex. Post-card. No. 972,361; Oct. 11; Sp. p. 1838; Gaz. vol. 159; p. 322.
Grahn, Henry. (See Marten and Grahn.)
Grand Rapids Show Case Company. (See Vanderveld, Anthony, assignor.)
Granges, Louis, Paris, France. Self-closing joint for vessels. No. 971,989; Oct. 4; Sp. p. 1064; Gaz. vol. 159; p. 178.
Grantham, Charles J. (See Roberts and Grantham.)
Grantham, James M., Wauwatosa, Wis. Seeder. No. 971,990; Oct. 4; Sp. p. 1065; Gaz. vol. 159; p. 178.
Grauel, Edwin L., assignor to Troy Telephone Specialty Company, Troy, N. Y. Fuse-supporting connection. No. 972,362; Oct. 11; Sp. p. 1839; Gaz. vol. 159; p. 322.
Graves, Edwin B. (See Graves, Henry R. and E. B.)
Graves, Henry R. and E. B., Reno, Nev. Electric-cable retriever. No. 972,077; Oct. 4; Sp. p. 1226; Gaz. vol. 159; p. 208.
Graves, John N. (See Tidnam and Graves.)
Graves, Willard, Pontiac, Mich. Shield. No. 973,936; Oct. 25; Sp. p. 5287; Gaz. vol. 159; p. 918.
Gray, Alexander M., Milwaukee, Wis., assignor to Allis-Chalmers Company. Rotary field member of dynamo-electric machines. No. 972,850; Oct. 18; Sp. p. 2914; Gaz. vol. 159; p. 518.
Gray, Harry L. (See Ault, William S., assignor.)
Green, Thomas W., Philadelphia, Pa. Rotary blower and exhauster. No. 973,190; Oct. 18; Sp. p. 3733; Gaz. vol. 159; p. 638.
Green, William W., Niles, Mich. Railway-tie. No. 972,444; Oct. 11; Sp. p. 2001; Gaz. vol. 159; p. 352.
Greenawalt, William E., Denver, Colo. Extracting metals from their ores. No. 973,776; Oct. 25; Sp. p. 4955; Gaz. vol. 159; p. 862.
Greenleaf, George E., Plainfield, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Metal-planer. No. 972,363; Oct. 11; Sp. p. 1841; Gaz. vol. 159; p. 322.
Gregson, Lewis, assignor to Morse Twist Drill & Machine Company, New Bedford, Mass. Tool-socket. No. 972,105; Oct. 4; Sp. p. 1274; Gaz. vol. 159; p. 216.
Greiner, Eugene R., Brantford, Ontario, Canada. Clothes-drying frame. No. 974,052; Oct. 25; Sp. p. 5526; Gaz. vol. 159; p. 958.

Grenelle, Edward A., assignor to The West Tire Setter Company, Rochester, N. Y. Tire-setter. No. 973,035; Oct. 18; Sp. p. 3374; Gaz. vol. 159; p. 584.

Greshner, J. H. (See Wertz, Harvey C., assignor.)

Greth, John C. W., assignor to Wm. B. Scaife & Sons Company, Pittsburg, Pa. Water-purifying apparatus. No. 973,424; Oct. 18; Sp. p. 4216; Gaz. vol. 159; p. 718.

Grevillius, Carl G. O., Stockholm, Sweden. Firearm. No. 972,364; Oct. 11; Sp. p. 1843; Gaz. vol. 159; p. 323.

Grima, Elias L., Pearson, Ga. Banjo-bridge. No. 974,053; Oct. 25; Sp. p. 5527; Gaz. vol. 159; p. 958.

Grimth, Jacob K., Latrobe, Pa. Mold for casting car-wheels. No. 971,604; Oct. 4; Sp. p. 210; Gaz. vol. 159; p. 37.

Grimth, Jacob K., Latrobe, Pa. Mold for casting car-wheels. No. 971,605; Oct. 4; Sp. p. 211; Gaz. vol. 159; p. 37.

Grimes, George L., Detroit, Mich. Molding-machine. No. 972,851; Oct. 18; Sp. p. 2916; Gaz. vol. 159; p. 518.

Griner, Alvah A., Chicago, Ill. Stair structure. No. 973,109; Oct. 18; Sp. p. 3520; Gaz. vol. 159; p. 608.

Grissom, Joseph, Birmingham, Ala. Flue-base. No. 973,777; Oct. 25; Sp. p. 4963; Gaz. vol. 159; p. 863.

Groff, Floyd B., St. Johnsville, N. Y. Teat-cup. No. 973,036; Oct. 18; Sp. p. 3375; Gaz. vol. 159; p. 584.

Grohmann, Carl L., assignor to Pratt & Whitney Company, Hartford, Conn. Milling-machine. No. 971,885; Oct. 4; Sp. p. 793; Gaz. vol. 159; p. 138.

Gross, Joseph, Chicago, Ill. Corn-planter. No. 973,409; Oct. 25; Sp. p. 4379; Gaz. vol. 159; p. 766.

Grotenhuis, William J., Elkhart, Ind., assignor to Sanitary Steel Couch Company, Chicago, Ill. Bed or couch. No. 973,778; Oct. 25; Sp. p. 4963; Gaz. vol. 159; p. 863.

Grover, Frederick, assignor to The Forgrove Machinery Company, Limited, Leeds, England. Wrapping-machine. No. 973,863; Oct. 25; Sp. p. 5133; Gaz. vol. 159; p. 892.

Gruber, Joseph, Tampa, Fla. Stove. No. 973,650; Oct. 25; Sp. p. 4705; Gaz. vol. 159; p. 818.

Grundy, Rothwell R. (See Brazier and Watson, assignors.)

Guett, Monroe, assignor to The Hart & Hegeman Manufacturing Company, Hartford, Conn. Electric switch. No. 972,365; Oct. 11; Sp. p. 1844; Gaz. vol. 159; p. 323.

Gulbransen, Axel G., assignor to Gulbransen, Dickinson Company, Chicago, Ill. Pedal mechanism for pneumatically-operated pianos. No. 972,182; Oct. 11; Sp. p. 1463; Gaz. vol. 159; p. 261.

Gulbransen, Dickinson Company. (See Gulbransen, Axel G., assignor.)

Güngerich, Paul, assignor to M. Jahr, G. m. b. H., Gera, Germany. Washing and cleaning machine for textile fabrics and the like. No. 971,745; Oct. 4; Sp. p. 497; Gaz. vol. 159; p. 86.

Günther, Johann, Haaren, Germany. Violin-case. No. 973,500; Oct. 25; Sp. p. 4386; Gaz. vol. 159; p. 767.

Gunstrum, Carl, New York, N. Y. Air-filter. No. 972,183; Oct. 11; Sp. p. 1467; Gaz. vol. 159; p. 261.

Guntrum, Carl, Brooklyn, N. Y. Air-filter. No. 972,184; Oct. 11; Sp. p. 1468; Gaz. vol. 159; p. 262.

Gustafson, Bernhard, Jamaica Plain, Mass. Registering device. No. 971,991; Oct. 4; Sp. p. 1068; Gaz. vol. 159; p. 179.

Guy, Albert E., Trenton, N. J., assignor to De Laval Steam Turbine Company, New York, N. Y. Centrifugal pump. No. 972,366; Oct. 11; Sp. p. 1845; Gaz. vol. 159; p. 324.

Guy, Albert E., Trenton, N. J., assignor to De Laval Steam Turbine Company, New York, N. Y. Rotor for high-frequency alternating-current machines. No. 973,037; Oct. 18; Sp. p. 3376; Gaz. vol. 159; p. 584.

Guy, Frank, Springfield, Ill. Acetylene-lamp. No. 974,054; Oct. 25; Sp. p. 5528; Gaz. vol. 159; p. 959.

Guzowski, Joseph, Chicago, Ill. Cutting apparatus. No. 972,852; Oct. 18; Sp. p. 2919; Gaz. vol. 159; p. 519.

Gwinn, William A. (See Hobb and Gwinn.)

H. L. Judd Company. (See Lathrop, Frank L., assignor.)

H. W. Johns-Manville Company. (See Wardell, Henry R., assignor.)

Haag, Anthony, New York, N. Y. Plumbing apparatus for concrete-wall molds. No. 972,618; Oct. 11; Sp. p. 2426; Gaz. vol. 159; p. 413.

Haas, Hanna, New York, N. Y. Furnace. No. 973,273; Oct. 18; Sp. p. 3391; Gaz. vol. 159; p. 666.

Haberkorn, Theodore H., Fort Wayne, Ind. Internal-combustion engine. No. 973,651; Oct. 25; Sp. p. 4707; Gaz. vol. 159; p. 818.

Hadaway, John B., Brockton, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Welt-reinforcing machine. No. 971,674; Oct. 4; Sp. p. 344; Gaz. vol. 159; p. 60.

Hadaway, John B., Brockton, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Impression or imitation stitch machine. No. 973,038; Oct. 18; Sp. p. 3378; Gaz. vol. 159; p. 585.

Hazelehjian, Joseph, Bridgeport, Conn. Self-cleaning comb. No. 973,039; Oct. 18; Sp. p. 3380; Gaz. vol. 159; p. 585.

Hagman, William J., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Slotting-machine. No. 972,367; Oct. 11; Sp. p. 1848; Gaz. vol. 159; p. 324.

Hagman, William J., assignor to Niles-Bement-Pond Company, Philadelphia, Pa. Steam-hammer. No. 972,368; Oct. 11; Sp. p. 1848; Gaz. vol. 159; p. 324.

Hahnemann, Paul R., assignor to Max Ams Machine Co., Mount Vernon, N. Y. Power-press. No. 972,369; Oct. 11; Sp. p. 1850; Gaz. vol. 159; p. 325.

Haigh, Gilbert R., and J. R. Fortune, assignors to Murphy Iron Works, Detroit, Mich. Furnace. No. 973,652; Oct. 25; Sp. p. 4711; Gaz. vol. 159; p. 819.

Haines, William E., Cheltenham, England. Carbureter. No. 973,937; Oct. 25; Sp. p. 5288; Gaz. vol. 159; p. 918.

Halász, Ákos, Maros-Illye, Austria-Hungary. Paper-adjusting device for writing-machines. No. 972,445; Oct. 11; Sp. p. 2002; Gaz. vol. 159; p. 352.

Hale, Charles W. (See Furbush, Albourne F., assignor.)

Hale-Kilburn Metal Company. (See Budd, Edward G., assignor.)

Hale-Kilburn Metal Company. (See Hoffman, Jacob K., assignor.)

Hall, George F., Providence, R. I. Floor-dressing machine. No. 972,446; Oct. 11; Sp. p. 2003; Gaz. vol. 159; p. 352.

Hall, Robert F., Moseley, near Birmingham, England. Magneto-machine for use in connection with the ignition systems of internal-combustion engines. No. 972,692; Oct. 11; Sp. p. 2566; Gaz. vol. 159; p. 437.

Haller, Pearl M. (See Wintera, George, assignor.)

Halloran, Arthur H., San Francisco, Cal. Type-measuring device. No. 972,528; Oct. 11; Sp. p. 2210; Gaz. vol. 159; p. 381.

Halvorsen, Emanuel G., Brooklyn, N. Y. Automatic alarm. No. 973,425; Oct. 18; Sp. p. 4217; Gaz. vol. 159; p. 718.

Halvorson, Cromwell A. B., Jr., Saugus, Mass., assignor to General Electric Company. Arc-lamp. No. 973,653; Oct. 25; Sp. p. 4712; Gaz. vol. 159; p. 819.

Halvorson, John O. (See Orgaard, Carl, assignor.)

Halyburton, John L., Hampton, N. J. Straightway valve. No. 974,055; Oct. 25; Sp. p. 5529; Gaz. vol. 159; p. 959.

Hambry, Harold H., and G. McCans, Donora, Pa. Milk-can lock. No. 972,853; Oct. 18; Sp. p. 2921; Gaz. vol. 159; p. 519.

Hamilton, Frank P., Cleveland, Ohio. Blow-off valve. No. 972,370; Oct. 11; Sp. p. 1851; Gaz. vol. 159; p. 325.

Hamilton, James. (See Hebig, Harry C., assignor.)

Hammel, Charles A. (See Rogers, William A., assignor.)

Hammel, Charles A., Los Angeles, Cal. Oil-burning steam-boiler. No. 973,110; Oct. 18; Sp. p. 3521; Gaz. vol. 159; p. 608.

Hammel, Charles A., Los Angeles, Cal. Steam-boiler. No. 973,111; Oct. 18; Sp. p. 3523; Gaz. vol. 159; p. 609.

Hammel, Charles A., Los Angeles, Cal. Oil-burning locomotive-furnace. No. 973,112; Oct. 18; Sp. p. 3525; Gaz. vol. 159; p. 609.

Hammerstein, Oscar, New York, N. Y. Cigar-banding machine. No. 972,185; Oct. 11; Sp. p. 1469; Gaz. vol. 159; p. 262.

Hammett, Isaac E. (See Huffman and Hammett.)

Hammett, Walter A., Corsicana, Tex. Playing-cards. No. 972,371; Oct. 11; Sp. p. 1852; Gaz. vol. 159; p. 325.

Hampton, Emma C., New York, N. Y. Bed-robe. No. 971,992; Oct. 4; Sp. p. 1071; Gaz. vol. 159; p. 179.

Hamrick, Fred H., Shawnee, Okla. Corn-popper. No. 972,854; Oct. 18; Sp. p. 2923; Gaz. vol. 159; p. 520.

Hand, Alfred. (See Kulp, Joseph, assignor.)

Handy Manufacturing Company, The. (See Loeber, Edgar O., assignor.)

Hanks, Gardner C. (See Nelson and Hanks.)

Hanna, Samuel C., Shelby, assignor to F. B. Zieg Mfg. Co., Fredericktown, Ohio. Grading-machine. No. 972,763; Oct. 11; Sp. p. 2717; Gaz. vol. 159; p. 462.

Hannaford, Alfred, Chicago, Ill. Hog-hoisting machine. No. 972,186; Oct. 11; Sp. p. 1474; Gaz. vol. 159; p. 262.

Hannan, Thomas F., Schenectady, N. Y. Beam-compass. No. 972,106; Oct. 4; Sp. p. 1275; Gaz. vol. 159; p. 216.

Hansell, Robert C., Muskogee, Okla. Concrete construction. No. 973,501; Oct. 25; Sp. p. 4386; Gaz. vol. 159; p. 767.

Hansen, Amund, Christiania, assignor to H. Stub, Christiania, and T. Qviller, Lilleströmmen, Norway. Clamping device. No. 973,654; Oct. 25; Sp. p. 4715; Gaz. vol. 159; p. 820.

Hansen, John P., Suring, Wis. Ratchet-wrench. No. 973,779; Oct. 25; Sp. p. 4966; Gaz. vol. 159; p. 863.

Hanson, Bengt M. W., assignor to Pratt & Whitney Company, Hartford, Conn. Turret-lathe. No. 971,886; Oct. 4; Sp. p. 796; Gaz. vol. 159; p. 139.

Hanson, Bengt M. W., assignor to Pratt & Whitney Company, Hartford, Conn. Metal-working machine. No. 971,887; Oct. 4; Sp. p. 807; Gaz. vol. 159; p. 139.

Hanson, Bengt M. W., assignor to Pratt & Whitney Company, Hartford, Conn. Metal-working machine. No. 974,056; Oct. 25; Sp. p. 5532; Gaz. vol. 159; p. 959.

Hanson, Bengt M. W., assignor to Pratt & Whitney Company, Hartford, Conn. Face-plate-holding means. No. 974,057; Oct. 25; Sp. p. 5536; Gaz. vol. 159; p. 960.

Hanson, Christ. (See Hassell and Hanson.)

Hanson, Fred P., San Francisco, and H. W. Arnold, Sacramento, Cal., assignors to The United States Stone Saw Company, Tucson, Ariz. Stone-saw. No. 971,746; Oct. 4; Sp. p. 499; Gaz. vol. 159; p. 87.

Hanson, Gustaf W., Marquette, Kans. Broom-corn knife. No. 972,187; Oct. 11; Sp. p. 1477; Gaz. vol. 159; p. 263.

Hanson, Hans J., assignor to Ann Arbor Machine Company, Ann Arbor, Mich. Baling-press. No. 971,606; Oct. 4; Sp. p. 214; Gaz. vol. 159; p. 37.

Harbour, John L. (See Smith, James O., assignor.)

Harding, John, Jr., assignor to J. T. Landis, Nashville, Tenn. Clutch mechanism. No. 972,693; Oct. 11; Sp. p. 2571; Gaz. vol. 159; p. 437.

Harding, Simon J., Harrisburg, Pa. Washing-machine. No. 971,993; Oct. 4; Sp. p. 1071; Gaz. vol. 159; p. 179.

Harding, Thomas, San Jose, Cal. Hose-clamp. No. 972,372; Oct. 11; Sp. p. 1855; Gaz. vol. 159; p. 326.

Hardinge, Henry H., assignor to Wiebking, Hardinge & Co., Chicago, Ill. Providing nick projections on type-mold body-blocks. No. 973,191; Oct. 18; Sp. p. 3736; Gaz. vol. 159; p. 638.

Harkness, Louis T., Jamestown, N. Y. Hair-pin. No. 971,994; Oct. 4; Sp. p. 1074; Gaz. vol. 159; p. 180.

Harley-Davidson Motor Company. (See Harley, William S., assignor.)

Harley, William S., assignor to Harley-Davidson Motor Company, Milwaukee, Wis. Belt-tightener for motorcycles. No. 973,426; Oct. 18; Sp. p. 4218; Gaz. vol. 159; p. 718.

Harlow, Harry B. (See McPike and Harlow.)

Harper, Robert E., Nashville, Tenn. Display-rack for chairs. No. 972,447; Oct. 11; Sp. p. 2010; Gaz. vol. 159; p. 353.

Harriman, Edward H., Arden, N. Y., and W. R. McKeen, Jr., assignors, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr. Car-window. No. 973,502; Oct. 25; Sp. p. 4388; Gaz. vol. 159; p. 767.

Harriman, John E., Jr., Brookline, Mass. Flying-machine. No. 972,448; Oct. 11; Sp. p. 2011; Gaz. vol. 159; p. 353.

Harris, Albert M., South Bend, assignor to The Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic stacker. No. 973,113; Oct. 18; Sp. p. 3527; Gaz. vol. 159; p. 609.

Harris, Arthur, Sylvania, Ga. Gas-generator. No. 972,188; Oct. 11; Sp. p. 1478; Gaz. vol. 159; p. 263.

Harris, Ford W., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Circuit-interrupter. No. 973,938; Oct. 25; Sp. p. 5292; Gaz. vol. 159; p. 918.

Harris, Irvin F., Forreston, Tex. Vending-machine. No. 973,939; Oct. 25; Sp. p. 5293; Gaz. vol. 159; p. 919.

Harris, William W., Bridgeport, Conn., assignor to Acetylene Lamp Company, New York, N. Y. Acetylene-gas generator. No. 972,855; Oct. 18; Sp. p. 2925; Gaz. vol. 159; p. 520.

Harrison, Sallie R., Martinsburg, W. Va. Culinary article. No. 972,078; Oct. 4; Sp. p. 1229; Gaz. vol. 159; p. 208.

Harry, Owen K., Dallas, Tex. Metallic culvert. No. 973,503; Oct. 25; Sp. p. 4391; Gaz. vol. 159; p. 767.

Hart & Hegeman Manufacturing Company, The. (See Guett, Monroe, assignor.)

Harter, Charles, Barberton, Ohio, and J. W. Small, Los Angeles, Cal. Stay-bolt breaker. No. 972,856; Oct. 18; Sp. p. 2930; Gaz. vol. 159; p. 520.

Hartford Machine Screw Company, The. (See Witherell, Seward, and Mason, assignors.)

Hartmann, George H. (See Lilly and Hartmann.)

Hartmann, Hermann, and W. Klehe, New York, N. Y. Aeroplane. No. 971,535; Oct. 4; Sp. p. 50; Gaz. vol. 159; p. 11.

Hartmann, Joseph, Chicago, Ill. Biscuit-cutter. No. 973,192; Oct. 18; Sp. p. 3738; Gaz. vol. 159; p. 638.

Hartness, James, Springfield, Vt. Washbasin. No. 971,839; Oct. 4; Sp. p. 688; Gaz. vol. 159; p. 121.

Harton, Thomas J., Dallas, Tex. Ice-cream freezer. No. 971,888; Oct. 4; Sp. p. 811; Gaz. vol. 159; p. 140.

Hartwick, Adam J., Clarks Summit, Pa. Safety-guard for jointers. No. 971,607; Oct. 4; Sp. p. 215; Gaz. vol. 159; p. 38.

Hartwick, John D. (See Roberts and Hartwick.)

Harvey, John G., Chicago, Ill., assignor to American Stove Company, St. Louis, Mo. Lighter for burners of gas-stove ovens. No. 972,619; Oct. 11; Sp. p. 2429; Gaz. vol. 159; p. 414.

Harvey, Josiah H., Scranton, Pa. Nut-lock. No. 971,675; Oct. 4; Sp. p. 348; Gaz. vol. 159; p. 61.

Harvey, Moses W., Forestbill, W. Va. Hoof-plane. No. 973,780; Oct. 25; Sp. p. 4963; Gaz. vol. 159; p. 863.

Harwood, Sumpter L., assignor of one-half to J. M. Finn, Dublin, Ga. Shearing device. No. 972,180; Oct. 11; Sp. p. 1479; Gaz. vol. 159; p. 263.

Hasbrouck, John J. C., New York, N. Y. Wood flooring. No. 972,520; Oct. 11; Sp. p. 2212; Gaz. vol. 159; p. 382.

Hasper, Arend, Westfield, N. D. Grain-stacker. No. 971,995; Oct. 4; Sp. p. 1075; Gaz. vol. 159; p. 180.

Hassel, Nels H., Los Angeles, Cal. Resilient tire. No. 973,781; Oct. 25; Sp. p. 4969; Gaz. vol. 159; p. 864.

Hassell, Lars K., and C. Hanson, Grand Forks, N. D. Railway mail delivering and receiving apparatus. No. 972,530; Oct. 11; Sp. p. 2213; Gaz. vol. 159; p. 382.

Handenschild, Harry, assignor of one-half to G. C. Smith, Toledo, Ohio. Coil-shield. No. 973,114; Oct. 18; Sp. p. 3528; Gaz. vol. 159; p. 610.

Hauser, Theodore, Chicago, Ill., assignor to The Garvy Company. Leaf-support. No. 971,747; Oct. 4; Sp. p. 500; Gaz. vol. 159; p. 87.

Hauser, Theodore, assignor to The Garvy Company, Chicago, Ill. Leaf-support. No. 971,840; Oct. 4; Sp. p. 690; Gaz. vol. 159; p. 121.

Hausler, August H., South Chicago, Ill. Steam-boiler furnace. No. 971,996; Oct. 4; Sp. p. 1077; Gaz. vol. 159; p. 180.

Hawk, Ross C., Pittsburg, Pa. Gas-burner. No. 973,040; Oct. 18; Sp. p. 3380; Gaz. vol. 159; p. 585.

Hawley, Adelbert, Elmira Heights, assignor of one-fourth to L. E. Hawley, Bath, N. Y., and one-fourth to H. Boulio, Potter Brook, Pa. Railway-tie. No. 972,694; Oct. 11; Sp. p. 2573; Gaz. vol. 159; p. 438.

Hawley, Charles G., and E. K. Baker, Chicago, Ill. Muffler. No. 972,190; Oct. 11; Sp. p. 1481; Gaz. vol. 159; p. 264.

Hawley, L. Estelle, *et al.* (See Hawley, Adelbert, assignor.)

Hawthorne, Thomas, assignor of one-half to G. S. Trudell, London, Ontario, Canada. Core-box for forming globe-valve cores. No. 973,504; Oct. 25; Sp. p. 4393; Gaz. vol. 159; p. 768.

Hayden, George D. (See York and Hayden.)

Hayden, James R., Latouche, Alaska. Sock. No. 974,058; Oct. 25; Sp. p. 5538; Gaz. vol. 159; p. 960.

Hayes, Frank F. (See Bluff, John T., assignor.)

Hayes, James P., Meriden, Conn. Breech mechanism for firearms. No. 973,655; Oct. 25; Sp. p. 4716; Gaz. vol. 159; p. 820.

Hayes, Jesse W., assignor of one-half to L. Steppacher, Baltimore, Md. Combined pencil-holder and inhaler. No. 973,427; Oct. 18; Sp. p. 4221; Gaz. vol. 159; p. 719.

Hayner Distilling Company. (See Church, Edmund S., assignor.)

Hayner Distilling Company, The. (See Appleton, Alford C., assignor.)

Haynes, Davison S., Evansville, Ind. Emblem-fastener. No. 974,059; Oct. 25; Sp. p. 5539; Gaz. vol. 159; p. 960.

Haynes, Rousseau F., Lowell, Mass. Magazine-holder. No. 972,531; Oct. 11; Sp. p. 2215; Gaz. vol. 159; p. 383.

Hayton, Thomas R., Mount Vernon, Wash. Centrifugal force-pump. No. 973,782; Oct. 25; Sp. p. 4970; Gaz. vol. 159; p. 864.

Heacock, Stewart L., Springfield, Nebr. Union suit. No. 973,274; Oct. 18; Sp. p. 3893; Gaz. vol. 159; p. 666.

Heaton, Arthur, Whitehall, Ill. Vending apparatus. No. 972,532; Oct. 11; Sp. p. 2216; Gaz. vol. 159; p. 383.

Hebert, Oliver, Oswego, Ill. Heater for stock-watering tanks. No. 974,060; Oct. 25; Sp. p. 5540; Gaz. vol. 159; p. 961.

Hebig, Harry C., New York, N. Y., assignor to J. Hamilton, East Orange, N. J. Photographic apparatus. No. 972,373; Oct. 11; Sp. p. 1856; Gaz. vol. 159; p. 326.

Hedfeldt, Axel T., Chicago, Ill. Cleaning and separating grains. No. 971,609; Oct. 4; Sp. p. 219; Gaz. vol. 159; p. 39.

Hedfeldt, Axel T., Chicago, Ill., assignor to Hedfeldt Company. Cleaning and separating machine. No. 971,608; Oct. 4; Sp. p. 217; Gaz. vol. 159; p. 38.

Hedfeldt Company. (See Hedfeldt, Axel T., assignor.)

Hedwig, Charles, New York, N. Y. Window. No. 971,610; Oct. 4; Sp. p. 221; Gaz. vol. 159; p. 39.

Heedwell, Gothard, and W. F. McNew, Boone, Iowa. Portable rotatable hay-stacker. No. 972,695; Oct. 11; Sp. p. 2574; Gaz. vol. 159; p. 438.

Heeter, Thomas E. (See Sarles and Heeter.)

Heidenkamp, Joseph. (See De Bay, George C., assignor.)

Heinonen, John, Brush Prairie, Wash. Railway-tie. No. 972,857; Oct. 18; Sp. p. 2935; Gaz. vol. 159; p. 521.

Heising, Olof, Sandhem, Sweden. Rail-joint. No. 973,193; Oct. 18; Sp. p. 3739; Gaz. vol. 159; p. 639.

Heisler, Charles L., St. Marys, Ohio. Pump. No. 974,061; Oct. 25; Sp. p. 5542; Gaz. vol. 159; p. 961.

Heller, William C., assignor to The W. C. Heller & Co. Inc., Montpelier, Ohio. Box. No. 972,449; Oct. 11; Sp. p. 2015; Gaz. vol. 159; p. 353.

Henderson, Carl, Oak Park, assignor to Miehle Printing Press and Manufacturing Company, Chicago, Ill. Sheet-delivery apparatus. No. 973,428; Oct. 18; Sp. p. 4222; Gaz. vol. 159; p. 719.

Henderson, Carl, Oak Park, assignor to Miehle Printing Press and Manufacturing Company, Chicago, Ill. Sheet-delivery mechanism for printing-presses. No. 974,062; Oct. 25; Sp. p. 5544; Gaz. vol. 159; p. 961.

Heninger, William H., Xenia, Ill. Hay-stacker. No. 971,611; Oct. 4; Sp. p. 222; Gaz. vol. 159; p. 39.

Hennessey, James, Marion, Ind. Fastening means for laces. No. 972,620; Oct. 11; Sp. p. 2431; Gaz. vol. 159; p. 414.

Henning, Nathan W., Lock No. 4, Pa. Ladder. No. 971,997; Oct. 4; Sp. p. 1079; Gaz. vol. 159; p. 181.

Henrich, Peter, Hoquiam, Wash. Berry-box. No. 972,696; Oct. 11; Sp. p. 2575; Gaz. vol. 159; p. 438.

Henris, John E., San Francisco, Cal. Air-brake. No. 973,194; Oct. 18; Sp. p. 3741; Gaz. vol. 159; p. 639.

Herbert, Fred, Coshocton, Ohio. Apparatus for use in casting pipes. No. 972,107; Oct. 4; Sp. p. 1276; Gaz. vol. 159; p. 216.

Herbert, Fred, Coshocton, Ohio. Pipe-foundry plant. No. 972,108; Oct. 4; Sp. p. 1280; Gaz. vol. 159; p. 217.

Herndon, Emmett H., assignor of one-half to R. H. Whitner, Sanford, Fla. Tire. No. 972,764; Oct. 11; Sp. p. 2720; Gaz. vol. 159; p. 463.

Herring-Hall-Marvin Safe Company. (See Prindle, Edwin J., assignor.)

Hertzberg, Harry. (See Wohl and Hertzberg.)

Hertzberg, Harry, Brooklyn, A. A. Low, Horseshoe, and M. J. Wohl, New York, N. Y., assignors to themselves as trustees. Semisubmerged submarine gunboat and torpedo-boat. No. 971,676; Oct. 4; Sp. p. 350; Gaz. vol. 159; p. 61.

Herzberg, Martin. (See Runkel and Herzberg.)

Herzog, Joseph L., New York, N. Y. Cuff-button. No. 973,864; Oct. 25; Sp. p. 5139; Gaz. vol. 159; p. 893.

Hess, George. (See Smith, George E., assignor.)
Hess, George L., La Junta, Colo. Metallic flume. No. 973,656; Oct. 25; Sp. p. 4718; Gaz. vol. 159; p. 820.
Hess, John M., *et al.* (See Pitts, Edward L., assignor.)
Hesselbarth, Hugo, Greifswald, Germany. Badge. No. 973,041; Oct. 18; Sp. p. 3382; Gaz. vol. 159; p. 586.
Hettel, Anton. (See Beal and Hettel.)
Heuser, John H., Chicago, Ill. Photographic-printing frame. No. 973,783; Oct. 25; Sp. p. 4972; Gaz. vol. 159; p. 864.
Heusermann, Herman T., Peoria, Ill. Floor-dressing machine. No. 972,533; Oct. 11; Sp. p. 2217; Gaz. vol. 159; p. 383.
Hewlett, Edward M., and T. E. Button, Schenectady, N. Y., assignors to General Electric Company. High-potential switch. No. 973,657; Oct. 25; Sp. p. 4720; Gaz. vol. 159; p. 820.
Heyser, William, Baltimore, Md. Oyster-pail. No. 971,998; Oct. 4; Sp. p. 1080; Gaz. vol. 159; p. 181.
Hibbert, Irving H. (See Hibbert, John E. and I. H.)
Hibbert, John E. and I. H., Sterling City, Cal. Band-saw tensioning and moving machine. No. 971,841; Oct. 4; Sp. p. 693; Gaz. vol. 159; p. 122.
Hick, Harry J., assignor to The McCaskey Register Company, Alliance, Ohio. Filing appliance. No. 973,195; Oct. 18; Sp. p. 3744; Gaz. vol. 159; p. 639.
Hickey, John, Buffalo, N. Y. Dust-arrester. No. 972,534; Oct. 11; Sp. p. 2219; Gaz. vol. 159; p. 384.
Hicks, Clara K., Louisville, Ky. Curtain-stretcher. No. 973,196; Oct. 18; Sp. p. 3747; Gaz. vol. 159; p. 640.
Hicks, George C., Jr., and R. C. Enyart, assignors to The P. H. & F. M. Roots Company, Connersville, Ind. Fluid-pressure governor. No. 973,197; Oct. 18; Sp. p. 3748; Gaz. vol. 159; p. 640.
Hicks, James A., Atlanta, Ga. Crossover connection for fluid-pressure brake systems. No. 973,042; Oct. 18; Sp. p. 3383; Gaz. vol. 159; p. 586.
Hicks, James A., Atlanta, Ga. Crossover connection for fluid-pressure-brake pipes. No. 973,043; Oct. 18; Sp. p. 3385; Gaz. vol. 159; p. 586.
Hiering, Christian, and A. Fuller, assignors to The J. E. Mergott Company, Newark, N. J. Bag-fastener. No. 972,765; Oct. 11; Sp. p. 2721; Gaz. vol. 159; p. 463.
Higgin, Henry, assignor to The Higgin Manufacturing Company, Newport, Ky. Reach for vehicles. No. 972,191; Oct. 11; Sp. p. 1484; Gaz. vol. 159; p. 264.
Higgin Manufacturing Company, The. (See Higgin, Henry, assignor.)
Hill, Charles W., Birmingham, Ala. Apparatus for moving material. No. 973,784; Oct. 25; Sp. p. 4974; Gaz. vol. 159; p. 865.
Hill, George E., New York, N. Y. Die for cutting threads. No. 971,748; Oct. 4; Sp. p. 504; Gaz. vol. 159; p. 87.
Hill, Vilentia J., Bloomer, Wis. Derrick. No. 973,115; Oct. 18; Sp. p. 3529; Gaz. vol. 159; p. 610.
Hill, Volney P. (See Young, Lorenzo H., assignor.)
Hilleke, August F., Ensley, Ala., assignor to Semet-Solvay Company, Syracuse, N. Y. Operating retort coke-ovens. No. 973,044; Oct. 18; Sp. p. 3387; Gaz. vol. 159; p. 586.
Hilliker, John A., Evanston, Ill. Fruit-case. No. 973,429; Oct. 18; Sp. p. 4225; Gaz. vol. 159; p. 720.
Hillsdale Screen Company, The. (See Sprague, Frank, assignor.)
Hines, John F., Pittsburg, Pa. Telephone-receiver holder. No. 973,198; Oct. 18; Sp. p. 3750; Gaz. vol. 159; p. 640.
Hinton, Henry L., New York, N. Y. Skewback for hollow-tile arches. No. 971,740; Oct. 4; Sp. p. 505; Gaz. vol. 159; p. 88.
Hinton, Henry L., New York, N. Y. Fireproof building construction. No. 971,750; Oct. 4; Sp. p. 506; Gaz. vol. 159; p. 88.
Hirshberg, Leonard K., Baltimore, Md. Separable fastener. No. 973,430; Oct. 18; Sp. p. 4227; Gaz. vol. 159; p. 720.
Hitchcock, Lucien R. (See Morden and Hitchcock.)
Hitz, Jesse L., Chicago, Ill. Brush. No. 973,865; Oct. 25; Sp. p. 5140; Gaz. vol. 159; p. 893.
Hix, Ira A. (See Wood, Henry A., assignor.)
Hobb, Thomas W., and W. A. Gwinn, Middlesboro, Ky. Mainspring-winder. No. 973,045; Oct. 18; Sp. p. 3388; Gaz. vol. 159; p. 587.
Hochgürtel, Peter, Koblenz, Germany. Mechanism for counting and wrapping coins. No. 973,658; Oct. 25; Sp. p. 4727; Gaz. vol. 159; p. 821.
Hodge, Howard D., Bridgeport, Conn., assignor to Nobel's Explosives Company, Limited, Glasgow, Scotland. Cartridge-shell-feeding machine. No. 971,999; Oct. 4; Sp. p. 1081; Gaz. vol. 159; p. 181.
Hodge, Howard D., Waltham Abbey, England, assignor to Nobel's Explosives Company, Limited, Glasgow, Scotland. Polishing-machine. No. 973,350; Oct. 18; Sp. p. 4048; Gaz. vol. 159; p. 693.
Hodge, Robert O., Buffalo, N. Y. Boiler-flue cleaner. No. 972,374; Oct. 11; Sp. p. 1857; Gaz. vol. 159; p. 326.
Hodges, Samuel F., and W. H. Lee, Nocona, Tex. Apparatus for generating acetylene gas. No. 972,858; Oct. 18; Sp. p. 2937; Gaz. vol. 159; p. 521.
Hoenk, Frederick H., Evansville, Ind. Tension-indicator for sewing-machines. No. 971,842; Oct. 4; Sp. p. 696; Gaz. vol. 159; p. 122.
Hofer, Louis, Pittsburg, Pa. Milk-can lock. No. 972,000; Oct. 4; Sp. p. 1083; Gaz. vol. 159; p. 182.
Hoff, Charles, assignor of one-half to F. Hofmann, Cincinnati, Ohio. Gas-burner. No. 972,697; Oct. 11; Sp. p. 2577; Gaz. vol. 159; p. 439.
Hoff, Olaf, New York, N. Y. Apparatus for subaqueous pile-driving. No. 972,192; Oct. 11; Sp. p. 1485; Gaz. vol. 159; p. 264.
Hoffman-Corr Manufacturing Company. (See McBride, William J., assignor.)
Hoffman, George, Buffalo, N. Y. Automatic drainer for cellars, &c. No. 973,351; Oct. 18; Sp. p. 4050; Gaz. vol. 159; p. 693.
Hoffman, Gustav, St. Paul, Minn. Press for making brick, tile, and building-blocks. No. 972,375; Oct. 11; Sp. p. 1861; Gaz. vol. 159; p. 326.
Hoffman, Jacob K., assignor to Hale-Kilburn Metal Company, Philadelphia Pa. Wall construction. No. 973,659; Oct. 25; Sp. p. 4731; Gaz. vol. 159; p. 821.
Hoffman, William W., assignor to E. Kirstein Sons & Co., Rochester, N. Y. Eyeglass connection. No. 973,660; Oct. 25; Sp. p. 4734; Gaz. vol. 159; p. 822.
Hoffmann, Albert H., Fitchburg, Mass. Hacksaw. No. 973,431; Oct. 18; Sp. p. 4228; Gaz. vol. 159; p. 720.
Hoffmann, Berthold, Griesheim, assignor to Chemische Fabrik Griesheim Elektron, Frankfort-on-the-Main, Germany. Autogenous welding, cutting, or soldering metals. No. 972,079; Oct. 4; Sp. p. 1231; Gaz. vol. 159; p. 209.
Hofmann, Frederick. (See Hoff, Charles, assignor.)
Hoglund, Gustav E., assignor to Selig Polyscope Company, Chicago, Ill. Apparatus for preparing moving-picture films. No. 971,889; Oct. 4; Sp. p. 812; Gaz. vol. 159; p. 140.
Hoglund, Gustav E., assignor to Selig Polyscope Company, Chicago, Ill. Producing colored films for animated pictures. No. 971,890; Oct. 4; Sp. p. 814; Gaz. vol. 159; p. 140.
Hoglund, Gustave E., assignor to Selig Polyscope Company, Chicago, Ill. Moving-picture machine. No. 971,891; Oct. 4; Sp. p. 815; Gaz. vol. 159; p. 141.
Holden, Delos, Upper Montclair, N. J., assignor to J. H. Dale, New York, N. Y. Cluster-socket. No. 973,199; Oct. 18; Sp. p. 3751; Gaz. vol. 159; p. 640.
Holdorf, Robert and W., La Grange, Ill. Ladder attachment. No. 972,001; Oct. 4; Sp. p. 1084; Gaz. vol. 159; p. 182.
Holdorf, William. (See Holdorf, Robert and W.)
Holdridge, Ransom A., Virginia, Minn. Ladder-bracket. No. 971,677; Oct. 4; Sp. p. 353; Gaz. vol. 159; p. 62.
Holliday, William C., Columbus, Ohio. Apparatus for forcing fluids from wells. No. 971,612; Oct. 4; Sp. p. 224; Gaz. vol. 159; p. 40.
Hollister, Orange E., assignor of one-half to H. M. Carpenter, Hastings, Nebr. Tent. No. 971,613; Oct. 4; Sp. p. 226; Gaz. vol. 159; p. 40.
Holm, Peter J., assignor to Holm's Machine Manufacturing Company, Sparta, Mich. Governor. No. 973,505; Oct. 25; Sp. p. 4393; Gaz. vol. 159; p. 768.
Holmberg, Anders G., Långgruvan, Sweden. Magnetic ore-separator. No. 972,109; Oct. 4; Sp. p. 1287; Gaz. vol. 159; p. 217.
Holm's Machine Manufacturing Company. (See Holm, Peter J., assignor.)
Holstein, Paul W., and G. C. Horst, Columbus, Ohio, assignors to The Jeffrey Manufacturing Company. Carhaul. No. 971,614; Oct. 4; Sp. p. 228; Gaz. vol. 159; p. 40.
Holton, Frank, assignor to Frank Holton & Company, Chicago, Ill. Drumhead-tightener. No. 973,661; Oct. 25; Sp. p. 4735; Gaz. vol. 159; p. 822.
Honold, Gottlob, Stuttgart, Germany. Sparking plug. No. 972,560; Oct. 11; Sp. p. 2277; Gaz. vol. 159; p. 393.
Hood, Herbert, Toledo, Ohio. Lever-lock for automobiles. No. 972,193; Oct. 11; Sp. p. 1487; Gaz. vol. 159; p. 264.
Hoover, John B., Elizabeth, N. J. Lock. No. 972,535; Oct. 11; Sp. p. 2220; Gaz. vol. 159; p. 384.
Hopkins, Charles L., Chicago, Ill., assignor to The Curtain Supply Company, Newark, N. J. Curtain-holding device. No. 972,450; Oct. 11; Sp. p. 2016; Gaz. vol. 159; p. 354.
Hopping, Walter B., trustee. (See Chapman, William B., assignor.)
Hormel, August, New York, N. Y. Antiskidding device for automobiles. No. 972,766; Oct. 11; Sp. p. 2723; Gaz. vol. 159; p. 463.
Horn, Samuel J. (See Schwartz, Mendel, assignor.)
Hornung, Anton N., Chicago, Ill. Adjustable chair. No. 972,859; Oct. 18; Sp. p. 2938; Gaz. vol. 159; p. 521.
Horst, George C. (See Holstein and Horst.)
Horstmann, Hermann. (See Berthold and Horstmann.)
Horting, Levi W., assignor of one-third to C. F. Stauffer and one-third to B. G. Stauffer, Lancaster, Pa. Electric switch. No. 971,843; Oct. 4; Sp. p. 697; Gaz. vol. 159; p. 123.
Horton, Cathrine L., Des Moines, Iowa. Dress-form. No. 972,376; Oct. 11; Sp. p. 1866; Gaz. vol. 159; p. 327.
Horton, Frederic L., Bridgeport, Conn. Carbonized fabric. No. 972,110; Oct. 4; Sp. p. 1288; Gaz. vol. 159; p. 217.
Horwood, Charles S., Hoboken, N. J. Garment. No. 973,432; Oct. 18; Sp. p. 4230; Gaz. vol. 159; p. 720.
Hoskins Manufacturing Company. (See Marsh, Albert L., assignor.)
Hospital Supply Company, The. (See Thorner, Bernard D., assignor.)
Hotchkin, Paul M., and A. J. Morgan, assignors to Curtis-Leger Fixture Company, Chicago, Ill. Swinging-door hanger. No. 972,877; Oct. 11; Sp. p. 1868; Gaz. vol. 159; p. 327.

Hoteling, William, Oblong, Ill. Drain-pipe inlet. No. 972,800; Oct. 18; Sp. p. 2941; Gaz. vol. 159; p. 522.
Howard, Thomas J., New Orleans, La. Sugar-cane loader. No. 973,433; Oct. 18; Sp. p. 4232; Gaz. vol. 159; p. 720.
Howe, John B., Nashville, Tenn. Ice-making apparatus. No. 973,434; Oct. 18; Sp. p. 4235; Gaz. vol. 159; p. 721.
Howe, William F., Chicago, Ill. Dredge. No. 973,866; Oct. 25; Sp. p. 5142; Gaz. vol. 159; p. 894.
Howell, Charles W., Newark, N. J. Type-writing machine. No. 973,352; Oct. 18; Sp. p. 4052; Gaz. vol. 159; p. 693.
Hoyer, Anton, Chicago, Ill. Music-leaf turner. No. 972,861; Oct. 18; Sp. p. 2943; Gaz. vol. 159; p. 522.
Hoyt, Charles C., Brookline, Mass. Display device. No. 971,751; Oct. 4; Sp. p. 508; Gaz. vol. 159; p. 88.
Hoyt, Damon, and L. A. Burke, Brockton, Mass. Moccasin. No. 972,194; Oct. 11; Sp. p. 1488; Gaz. vol. 159; p. 265.
Hoyt, Eugene W., Decorah, Iowa. Sliding gate-valve. No. 973,435; Oct. 18; Sp. p. 4237; Gaz. vol. 159; p. 721.
Hradilek, Henry, Cleveland, Ohio. Building-block. No. 973,785; Oct. 25; Sp. p. 4976; Gaz. vol. 159; p. 865.
Hubbard, Albert S., Belleville, N. J., assignor to Gould Storage Battery Company. Electrical system of distribution. No. 972,536; Oct. 11; Sp. p. 2222; Gaz. vol. 159; p. 384.
Hubbard, Albert S., Greenwich, Conn., assignor to Gould Storage Battery Company. System of electrical distribution. No. 974,063; Oct. 25; Sp. p. 5551; Gaz. vol. 159; p. 962.
Hubbard, Fred W. (See Stansill, Doty, and Hubbard.)
Hubers, Albert W., Baltimore, Md. Lock for elevator-doors. No. 973,275; Oct. 18; Sp. p. 3894; Gaz. vol. 159; p. 666.
Hubert, Louis J. F., Leipzig, Germany. Collar-stud. No. 973,506; Oct. 25; Sp. p. 4395; Gaz. vol. 159; p. 768.
Huberth, Alexander, Hammond, Ind. Skate. No. 973,786; Oct. 25; Sp. p. 4978; Gaz. vol. 159; p. 865.
Hucker, Henry C., *et al.* (See Anson, Warren J., assignor.)
Hudson, Zeno, Chicago, Ill. Combination pocket-case. No. 971,892; Oct. 4; Sp. p. 818; Gaz. vol. 159; p. 141.
Hnebsch, Joseph, Milwaukee, Wis. Hosiery form and holder. No. 971,844; Oct. 4; Sp. p. 700; Gaz. vol. 159; p. 123.
Huey, Robert C., Hortons, Pa. Grafting. No. 971,536; Oct. 4; Sp. p. 52; Gaz. vol. 159; p. 12.
Huff Electrostatic Separator Company. (See MacGregor, Frank S., assignor.)
Huff, Russell, assignor, by mesne assignments, to Packard Motor Car Company, Detroit, Mich. Hydrocarbon-engine ignition system. No. 973,507; Oct. 25; Sp. p. 4396; Gaz. vol. 159; p. 769.
Huffman, Mike, assignor of one-half to L. A. Cranston, Gibson City, Ill. Sediment-remover for steam-boilers. No. 974,064; Oct. 25; Sp. p. 5555; Gaz. vol. 159; p. 962.
Huffman, Thadeus E., and I. E. Hammett, Hamlin, Tex. Stack-pipe protector. No. 972,378; Oct. 11; Sp. p. 1870; Gaz. vol. 159; p. 328.
Hughes, Anthony. (See Loftus, John, assignor.)
Hulbert, John L., Holland Patent, N. Y. Milking-machine. No. 971,837; Oct. 4; Sp. p. 53; Gaz. vol. 159; p. 12.
Hull, Lorain T., Ada, Ohio. Leveling and grading instrument. No. 971,752; Oct. 4; Sp. p. 510; Gaz. vol. 159; p. 88.
Humbert, Charles, and J. C. Beugnot, Paris, France. Vehicle-wheel. No. 973,436; Oct. 18; Sp. p. 4238; Gaz. vol. 159; p. 722.
Humphries, Smith C., Denver, Colo. Separable square. No. 971,615; Oct. 4; Sp. p. 230; Gaz. vol. 159; p. 41.
Hunsicker, Allan D., and W. A. Denton, Shawnee, Okla. Level. No. 973,437; Oct. 18; Sp. p. 4239; Gaz. vol. 159; p. 722.
Hunt Helm Ferris & Company. (See Ferris, Henry L. and H. J., assignors.)
Hunt, John P. (See Fox, Richard M., assignor.)
Hunt, Osman E., Eagle Grove, Iowa. Commutator-truing machine. No. 971,753; Oct. 4; Sp. p. 513; Gaz. vol. 159; p. 89.
Hunter, James H. (See Bennett and Hunter.)
Hurley, Thomas F. (See Lynch, James F., assignor.)
Husted, Highland E., Galesburg, Ill. Registering-punch. No. 971,538; Oct. 4; Sp. p. 57; Gaz. vol. 159; p. 12.
Hutchinson, Ira R., assignor to Hutchinson Mailer Manufacturing Company, Fresno, Cal. Machine for wrapping newspapers. No. 971,893; Oct. 4; Sp. p. 819; Gaz. vol. 159; p. 141.
Hutchinson Mailer Manufacturing Company. (See Hutchinson, Ira R., assignor.)
Hutchison, John K. (See Moore and Hutchison.)
Hutchison, William A., Buchanan, Mich. Ice-cream cutter. No. 972,621; Oct. 11; Sp. p. 2432; Gaz. vol. 159; p. 415.
Huyck, Francis P., Toledo, Ohio. Adjustable shaft-engaging means. No. 972,787; Oct. 11; Sp. p. 2760; Gaz. vol. 159; p. 460.
Huysmans, Georges, Brussels, Belgium. Spare wheel for motor-cars and the like. No. 972,080; Oct. 4; Sp. p. 1232; Gaz. vol. 159; p. 209.
Hydraulic Clutch Company, The. (See English, Peter, assignor.)
I. E. Palmer Co., The. (See Palmer, Isaac E., assignor.)
Ihlder, John D., New York, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Potential switch. No. 973,508; Oct. 25; Sp. p. 4397; Gaz. vol. 159; p. 769.
Improved Paper Machinery Company. (See Parker, Howard, assignor.)
Indiana Manufacturing Company, The. (See Brower, William W., assignor.)
Indiana Manufacturing Company, The. (See Connor, George F., assignor.)
Indiana Manufacturing Company, The. (See Harris, Albert M., assignor.)
Indiana Manufacturing Company, The. (See Sharpe, Joseph K., Jr., assignor.)
Industrial Equipment Company. (See Roth, Harry L., assignor.)
Inglis, Edward, assignor of one-third to M. M. Mendenhall, Kofa, Ariz. Screening apparatus. No. 973,787; Oct. 25; Sp. p. 4979; Gaz. vol. 159; p. 866.
Ingoldsby Automatic Car Company, The. (See Ingoldsby, Frank S., assignor.)
Ingoldsby, Frank S., assignor to The Ingoldsby Automatic Car Company, St. Louis, Mo. Car. No. 973,788; Oct. 25; Sp. p. 4980; Gaz. vol. 159; p. 866.
Ingram, Oscar L., Walla Walla, Wash., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 972,862; Oct. 18; Sp. p. 2946; Gaz. vol. 159; p. 522.
Inokuty, Ariya, Tokyo, Japan. Valveless pump. No. 973,353; Oct. 18; Sp. p. 4054; Gaz. vol. 159; p. 694.
International Oil Gas Producer Company. (See McPherson, George J., assignor.)
International Paper Company. (See Fowler, Fred D., assignor.)
Iron City Sanitary Manufacturing Company. (See Lose, William H., assignor.)
Iroquois Engineering Company. (See Boegen, John E., assignor.)
Ison, Enoch, Central Lake, Mich. Adjustable ladder-base. No. 973,509; Oct. 25; Sp. p. 4402; Gaz. vol. 159; p. 769.
Israel, Homer W., Waukesha, Wis., assignor to Modern Steel Structural Company. Back-motion clutch for hoists. No. 972,451; Oct. 11; Sp. p. 2019; Gaz. vol. 159; p. 354.
J. E. Mergott Company, The. (See Hiering and Fuller, assignors.)
J. G. Brill Company, The. (See Bucknam, Ezra S., assignor.)
J. G. Brill Company, The. (See Curwen, Samuel M., assignor.)
J. K. Rishel Furniture Co. (See Clark, Walter E., assignor.)
J. P. Seeburg Piano Company. (See Nelson, Oscar, assignor.)
Jackson, George E., Newton, Iowa. Baling-press. No. 971,616; Oct. 4; Sp. p. 231; Gaz. vol. 159; p. 41.
Jacob, Heinrich, assignor to Optische Anstalt C. P. Goerz Aktiengesellschaft, Friedenau, near Berlin, Germany. Stereotelescope. No. 972,622; Oct. 11; Sp. p. 2432; Gaz. vol. 159; p. 415.
Jacobs, Henry W. (See Buck and Jacobs.)
Jacobs, Henry W., Topeka, Kans. Flanging-press. No. 972,195; Oct. 11; Sp. p. 1489; Gaz. vol. 159; p. 265.
Jacobs, Henry W., Topeka, Kans. Steam-superheater. No. 973,662; Oct. 25; Sp. p. 4736; Gaz. vol. 159; p. 822.
Jacobs, Henry W., Topeka, Kans. Blow-off valve. No. 973,663; Oct. 25; Sp. p. 4739; Gaz. vol. 159; p. 823.
Jaeger, Ludwig, assignor to Bottlers Machinery Manufacturing Company, Chicago, Ill. Filling-machine. No. 971,894; Oct. 4; Sp. p. 824; Gaz. vol. 159; p. 142.
Jahr G. m. b. H., Moritz. (See Güngerich, Paul, assignor.)
Jakab, Ladislaus, South Bend, Ind. Cuspidor. No. 972,081; Oct. 4; Sp. p. 1233; Gaz. vol. 159; p. 209.
James, John B., Ely, England. Collapsible stand for lifting barrels, boxes, and the like. No. 972,863; Oct. 18; Sp. p. 2948; Gaz. vol. 159; p. 523.
James, William S., Altoona, Pa. Mail-bag delivery and catching apparatus. No. 973,510; Oct. 25; Sp. p. 4403; Gaz. vol. 159; p. 770.
Jamison, Robert G., assignor to The Liberty Manufacturing Company, Pittsburg, Pa. Rotary tube-cleaner. No. 973,046; Oct. 18; Sp. p. 3391; Gaz. vol. 159; p. 587.
Janda, Thomas J., Pittsburg, Pa. Attachment for optical instruments. No. 973,438; Oct. 18; Sp. p. 4240; Gaz. vol. 159; p. 722.
Janes, Lyell Y., Tularosa, N. Mex. Bridle-bit. No. 973,276; Oct. 18; Sp. p. 3895; Gaz. vol. 159; p. 667.
Janson, Carl G., Berkeley, Cal. Sidewalk-elevator door. No. 971,754; Oct. 4; Sp. p. 516; Gaz. vol. 159; p. 89.
Javins, Harry A., Burlingame, Cal., assignor to Javins Manufacturing Company. Wall-bed. No. 974,065; Oct. 25; Sp. p. 5556; Gaz. vol. 159; p. 963.
Javins Manufacturing Company. (See Javins, Harry A., assignor.)
Jay, Alfred L., St. Joseph, Mo. Cue-chalker. No. 974,066; Oct. 25; Sp. p. 5558; Gaz. vol. 159; p. 963.
Jeffcott, Lewis B., New York, N. Y. Folding bed. No. 972,537; Oct. 11; Sp. p. 2226; Gaz. vol. 159; p. 385.
Jeffery, Charles T., *et al.*, executors. (See Purdy, Frederick.)
Jeffery, Harold W., *et al.*, executors. (See Purdy, Frederick.)
Jeffery, Kate E., *et al.*, executors. (See Purdy, Frederick.)

Jeffery, Thomas B. (See Purdy, Frederick, assignor.)
Jeffrey Manufacturing Company, The. (See Dunlop, Robert R., assignor.)
Jeffrey Manufacturing Company, The. (See Holstein and Horst, assignors.)
Jeffrey Manufacturing Company, The. (See Sessions, Frank L., assignor.)
Jenkins, Charles F., Washington, D. C. Explosion-motor. No. 972,379; Oct. 11; Sp. p. 1871; Gaz. vol. 159; p. 328.
Jenkins, Charles F., Washington, D. C. Explosion-engine. No. 972,380; Oct. 11; Sp. p. 1873; Gaz. vol. 159; p. 328.
Jenkins, Charles F., Washington, D. C. Paper-box machinery. No. 972,767; Oct. 11; Sp. p. 2724; Gaz. vol. 159; p. 463.
Jenkins, Merrill L., Harvey, assignor to Buda Foundry & Manufacturing Company, Chicago, Ill. Railway track car. No. 973,664; Oct. 25; Sp. p. 4741; Gaz. vol. 159; p. 823.
Jenkins, Thomas W. (See Kenan, John J. W., assignor.)
Jennings, Chester S., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Pneumatic-despatch-tube apparatus. No. 972,381; Oct. 11; Sp. p. 1874; Gaz. vol. 159; p. 329.
Jensen, Christian. (See Prescott, Ellis, and Jensen.)
Jeroiaman, Theodore, Belleville, N. J. Ear for pail and bucket bails. No. 971,678; Oct. 4; Sp. p. 354; Gaz. vol. 159; p. 62.
Jeter, Theodore, Champaign, Ill. Ellipsograph. No. 973,047; Oct. 18; Sp. p. 3392; Gaz. vol. 159; p. 587.
Jewett, Edmund G., Bellingham, Wash. Producing gas. No. 972,864; Oct. 18; Sp. p. 2949; Gaz. vol. 159; p. 523.
Joedicke, Urban, St. Louis, Mo. Dust-collector. No. 971,895; Oct. 4; Sp. p. 830; Gaz. vol. 159; p. 142.
Johansen, Andreas, assignor to Aktieselskabet Stavanger Bliktrykkeri og Maskinvaerksted, Stavanger, Norway. Closing device for preserve-tins. No. 973,354; Oct. 18; Sp. p. 4056; Gaz. vol. 159; p. 694.
John A. Roebling's Sons Co. (See Cooney, Sebern A., assignor.)
Johnsen, Aksel P., Chicago, Ill. Ratchet drilling device. No. 971,755; Oct. 4; Sp. p. 517; Gaz. vol. 159; p. 90.
Johnson, B. F. (See Risbridger, William C. and M. W., assignors.)
Johnson, Charles A., Jr., East Orange, N. J. Plumber's pot. No. 973,867; Oct. 25; Sp. p. 5146; Gaz. vol. 159; p. 894.
Johnson, Charles E., assignor to Muskegon Motor Specialties Company, Muskegon, Mich. Micrometer. No. 972,196; Oct. 11; Sp. p. 1495; Gaz. vol. 159; p. 265.
Johnson, Charles E., assignor to The Corbin Cabinet Lock Company, New Britain, Conn. Lock. No. 972,865; Oct. 18; Sp. p. 2951; Gaz. vol. 159; p. 523.
Johnson, Clarence H., Beverly, assignor to Burrows Lock Nut & Bolt Company, West Gloucester, Mass. Nut-lock. No. 973,665; Oct. 25; Sp. p. 4743; Gaz. vol. 159; p. 824.
Johnson, Cyrus C., Taylorville, Ill. Railway-switch. No. 972,866; Oct. 18; Sp. p. 2953; Gaz. vol. 159; p. 523.
Johnson, Cyrus C., Taylorville, Ill. Lock for switch-operating mechanisms. No. 972,867; Oct. 18; Sp. p. 2957; Gaz. vol. 159; p. 524.
Johnson, Cyrus C., Taylorville, Ill. Switch. No. 972,868; Oct. 18; Sp. p. 2959; Gaz. vol. 159; p. 524.
Johnson, Fritz, Racine, Wis. Flat-iron. No. 972,452; Oct. 11; Sp. p. 2020; Gaz. vol. 159; p. 354.
Johnson, Horace G., assignor of one-half to H. S. Cooper, Kenosha, Wis. Garment. No. 973,200; Oct. 18; Sp. p. 3753; Gaz. vol. 159; p. 641.
Johnson, James N. and J. H., Flomaton, Ala. Motor-wheel. No. 972,453; Oct. 11; Sp. p. 2022; Gaz. vol. 159; p. 355.
Johnson-Jervis, George, New York, N. Y. Game apparatus. No. 972,382; Oct. 11; Sp. p. 1876; Gaz. vol. 159; p. 329.
Johnson, John H. (See Johnson, James N. and J. H.)
Johnson, John N., assignor to M. E. Layne, Houston, Tex. Wire-winding machine. No. 972,623; Oct. 11; Sp. p. 2434; Gaz. vol. 159; p. 415.
Johnson, John P. (See Ryder and Johnson.)
Johnson, Michael J., Portland, Oreg. Book and newspaper holder. No. 974,067; Oct. 25; Sp. p. 5561; Gaz. vol. 159; p. 963.
Johnson, Nelson B., Webster, Mass. Supply-valve. No. 973,511; Oct. 25; Sp. p. 4406; Gaz. vol. 159; p. 770.
Johnson, Oscar, Chicago, Ill. Compressed-air system for railway-cars. No. 971,896; Oct. 4; Sp. p. 832; Gaz. vol. 159; p. 143.
Johnson, Walter J. O., Chicago, Ill. Internal-combustion engine. No. 973,048; Oct. 18; Sp. p. 3395; Gaz. vol. 159; p. 588.
Jones, Albert M., assignor of one-fourth to G. C. Snyder and one-fourth to O. M. Snyder, Hagerstown, Md. Railway trip device. No. 972,111; Oct. 4; Sp. p. 1290; Gaz. vol. 159; p. 218.
Jones, Belden D. (See Ricker, Adolph J., assignor.)
Jones, Charles S., Marion, Ind. Nozzle. No. 973,040; Oct. 25; Sp. p. 5296; Gaz. vol. 159; p. 919.
Jones, Chesney L., Haskell, assignor of one-half to E. Fredericks, Wanaque, N. J. Clothes-line prop. No. 973,666; Oct. 25; Sp. p. 4746; Gaz. vol. 159; p. 824.
Jones, Edward F. (See Jones, Gerry, assignor.)
Jones, Evan F., and C. A. Barnes, Chicago, Ill. Ash-box. No. 971,845; Oct. 4; Sp. p. 702; Gaz. vol. 159; p. 123.
Jones, Everett R., and W. A. Yockey, Spokane, Wash. Dumping-wagon. No. 973,277; Oct. 18; Sp. p. 3896; Gaz. vol. 159; p. 667.
Jones, Frank S., Pasadena, Cal. Motor-cycle gearing. No. 971,756; Oct. 4; Sp. p. 519; Gaz. vol. 159; p. 90.
Jones, Gerry, assignor to E. F. Jones, Binghamton, N. Y. Corner-bracket for pitless wagon-scales. No. 971,757; Oct. 4; Sp. p. 521; Gaz. vol. 159; p. 91.
Jones, Gerry, assignor to E. F. Jones, Binghamton, N. Y. Reinforced-concrete pit for wagon-scales. No. 971,758; Oct. 4; Sp. p. 523; Gaz. vol. 159; p. 91.
Jones, Harry W., assignor to American Can Company, New York, N. Y. Sifter-container. No. 973,116; Oct. 18; Sp. p. 3530; Gaz. vol. 159; p. 610.
Jones, Jeremiah C., assignor of one-fourth to W. Broyles, Woodson, Tex. Stock-car. No. 974,068; Oct. 25; Sp. p. 5563; Gaz. vol. 159; p. 964.
Jones, Moses, Jr., Greenwich, N. J. Whip-socket. No. 973,941; Oct. 25; Sp. p. 5297; Gaz. vol. 159; p. 920.
Jones, Richard E., Hagerstown, Md. Self-tightening twin latch for doors and the like. No. 973,049; Oct. 18; Sp. p. 3390; Gaz. vol. 159; p. 588.
Jones, Walter, White Castle, La. Conveyer-cleat. No. 972,698; Oct. 11; Sp. p. 2578; Gaz. vol. 159; p. 439.
Jones, William A., West New Brighton, N. Y. Explosion-engine. No. 972,869; Oct. 18; Sp. p. 2963; Gaz. vol. 159; p. 525.
Jones, William S., Ossining, N. Y. Timer for automobiles. No. 974,069; Oct. 25; Sp. p. 5565; Gaz. vol. 159; p. 964.
Jonesku, Peter, Chicago, Ill. Ironing and pressing machine. No. 973,789; Oct. 25; Sp. p. 4982; Gaz. vol. 159; p. 866.
Jordan, George H., assignor of one-third to G. J. Alcott, Bridgewater, Mass. Heating-stove. No. 973,201; Oct. 18; Sp. p. 3754; Gaz. vol. 159; p. 641.
Judd, Wallace S. (See Avery and Judd.)
Jump, Walter H., assignor of one-third to F. Beiter and one-third to J. Beiter, Carroll, Iowa. Grain-door. No. 971,617; Oct. 4; Sp. p. 235; Gaz. vol. 159; p. 41.
Kabo Corset Company. (See Brown, Arnold V., assignor.)
Kahn, Albert. (See Bates, Arthur C., assignor.)
Kahre, William, Wharton, N. J. Dobby for looms. No. 971,846; Oct. 4; Sp. p. 703; Gaz. vol. 159; p. 124.
Kahrs, Christen H., Christiania, Norway. Fishing-net. No. 972,383; Oct. 11; Sp. p. 1878; Gaz. vol. 159; p. 329.
Kaiser, Charles, Brooklyn, assignor to Eagle Pencil Company, New York, N. Y. Lead-pencil. No. 972,624; Oct. 11; Sp. p. 2437; Gaz. vol. 159; p. 415.
Kalle and Company Aktiengesellschaft. (See Deycke, Georg, assignor.)
Kaminski, John, Hilliards, Mich. Farm-wagon bracket. No. 972,082; Oct. 4; Sp. p. 1234; Gaz. vol. 159; p. 209.
Kandlbinder, Emelia F., Shreveport, La. Sack-holder. No. 972,870; Oct. 18; Sp. p. 2965; Gaz. vol. 159; p. 525.
Karapetoff, Vladimir, Ithaca, N. Y. Maximum-demand meter. No. 972,538; Oct. 11; Sp. p. 2228; Gaz. vol. 159; p. 385.
Karp, Samuel, New York, N. Y. Garment-sleeve. No. 971,539; Oct. 4; Sp. p. 58; Gaz. vol. 159; p. 13.
Kassulker, William P., New Germany, Minn. Reel for barb-wire. No. 974,070; Oct. 25; Sp. p. 5566; Gaz. vol. 159; p. 964.
Katzinger, Edward, Chicago, Ill. Furnace. No. 972,112; Oct. 4; Sp. p. 1292; Gaz. vol. 159; p. 218.
Katzinger, Edward, Chicago, Ill. Dies for making pans. No. 972,113; Oct. 4; Sp. p. 1295; Gaz. vol. 159; p. 219.
Kaufman, Frank, assignor to W. Goodrow, Chicago, Ill. Machine for making paper wrappers. No. 973,202; Oct. 18; Sp. p. 3755; Gaz. vol. 159; p. 641.
Kaufmann, Charles, and W. H. Thomas, Oshkosh, Wis. Hose-supporter. No. 974,071; Oct. 25; Sp. p. 5568; Gaz. vol. 159; p. 965.
Keefer, Samuel H., Plainfield, N. J. Motor-controlling apparatus. No. 972,625; Oct. 11; Sp. p. 2438; Gaz. vol. 159; p. 416.
Keegan, John G. (See Mayer and Keegan.)
Keenan, Charles R., Bloomington, Ill. Vacuum-seal for jars. No. 973,512; Oct. 25; Sp. p. 4410; Gaz. vol. 159; p. 770.
Keith, John F., Naples, N. Y. Crank-pin connection for well-drilling machinery. No. 971,897; Oct. 4; Sp. p. 836; Gaz. vol. 159; p. 143.
Keith, Simeon C., Jr., Somerville, Mass. Bubbling drinking-fountain. No. 973,790; Oct. 25; Sp. p. 4984; Gaz. vol. 159; p. 866.
Kellar, George E., and E. O. Thomason, assignors to Kellar-Thomason Manufacturing Company, Covina, Cal. Hydrant. No. 972,384; Oct. 11; Sp. p. 1879; Gaz. vol. 159; p. 330.
Kellar-Thomason Manufacturing Company. (See Kellar and Thomason, assignors.)
Keller, George S. (See Thiesen and Keller.)
Keller, Gottlieb, New York, N. Y. Lamp. No. 973,050; Oct. 18; Sp. p. 3401; Gaz. vol. 159; p. 586.
Keller, Jeremiah, assignor to The Selig Polyscope Company, Chicago, Ill. Moving-picture machine. No. 971,898; Oct. 4; Sp. p. 837; Gaz. vol. 159; p. 143.
Kelley, Howard T., G. N. Matthews, and G. F. Davis, Silver Valley, Tex. Animal-poke. No. 971,618; Oct. 4; Sp. p. 238; Gaz. vol. 159; p. 42.
Kelling, John, Milwaukee, Wis. Lawn-mower attachment. No. 973,667; Oct. 25; Sp. p. 4747; Gaz. vol. 159; p. 824.
Kellogg, George W., Rochester, N. Y. Cam-driven multiple-cylinder pump apparatus. No. 973,668; Oct. 25; Sp. p. 4748; Gaz. vol. 159; p. 825.
Kellogg Switchboard & Supply Company. (See Weiss, Alfred H., assignor.)

Kellogg Switchboard and Supply Company. (See Winston, Charles S., assignor.)
Kelman, Joseph N., Los Angeles, Cal. Switch and circuit-breaker for high-potential circuits. No. 971,847; Oct. 4; Sp. p. 706; Gaz. vol. 159; p. 124.
Kelton, John M. (See Wright, James E., assignor.)
Kemper, Trellis R., Weldon, Iowa. Folding crib attachment for beds. No. 973,439; Oct. 18; Sp. p. 4242; Gaz. vol. 159; p. 722.
Kempshall, Iva B., Boston, Mass. Tire. No. 973,278; Oct. 18; Sp. p. 3897; Gaz. vol. 159; p. 667.
Kempski, Alfred A., Wilmington, Del. Car-ventilator. No. 973,513; Oct. 25; Sp. p. 4412; Gaz. vol. 159; p. 771.
Kenan, John J. W., assignor to T. W. Jenkins, Philadelphia, Pa. Feed-chute. No. 972,454; Oct. 11; Sp. p. 2026; Gaz. vol. 159; p. 355.
Kendall, Edward P., Bowdoinham, Me. Bag-holder. No. 973,355; Oct. 18; Sp. p. 4057; Gaz. vol. 159; p. 604.
Kendrick, Karl A., assignor of one-half to H. Geer, Detroit, Mich. Power-transmission mechanism. No. 972,385; Oct. 11; Sp. p. 1882; Gaz. vol. 159; p. 330.
Kendrick, Karl A., assignor of one-half to H. Geer, Detroit, Mich. Driving mechanism for motor-vehicles. No. 972,455; Oct. 11; Sp. p. 2028; Gaz. vol. 159; p. 355.
Kennedy, Cyrus C., South Rock Island, Ill. Extensible electric-light chandelier. No. 971,899; Oct. 4; Sp. p. 839; Gaz. vol. 159; p. 144.
Kennedy, Guy L., assignor to National Carbonated Liquid Co., San Francisco, Cal. Rotary filter. No. 973,791; Oct. 25; Sp. p. 4986; Gaz. vol. 159; p. 867.
Kennedy, William T., and G. C. Pettit, Lonerock, Iowa. Adjustable door-vise. No. 973,942; Oct. 25; Sp. p. 5299; Gaz. vol. 159; p. 920.
Kenney, Richard M., Clinton, Okla. Double rake. No. 972,639; Oct. 11; Sp. p. 2234; Gaz. vol. 159; p. 386.
Kent, Joseph C. (See Ekström, Melcher, assignor.)
Kent, Robert S., Brooklyn, N. Y. Kiln for revivifying char. No. 972,002; Oct. 4; Sp. p. 1086; Gaz. vol. 159; p. 182.
Kenyon, Bertrand P., assignor to Diamond Steel Truck Company, Grand Rapids, Mich. Furniture-caster. No. 972,871; Oct. 18; Sp. p. 2966; Gaz. vol. 159; p. 525.
Kenyon, Bertrand P., assignor to Diamond Steel Truck Company, Grand Rapids, Mich. Caster-socket. No. 973,514; Oct. 25; Sp. p. 4413; Gaz. vol. 159; p. 771.
Kenyon, Bertrand P., assignor to Diamond Steel Truck Company, Grand Rapids, Mich. Tubular axle for casters. No. 973,515; Oct. 25; Sp. p. 4414; Gaz. vol. 159; p. 771.
Kenyon, Roy L., La Crosse, Wis. Boat-canopy. No. 974,072; Oct. 25; Sp. p. 5569; Gaz. vol. 159; p. 965.
Kercher, Leroy, Roann, Ind. Excavating and loading machine. No. 971,540; Oct. 4; Sp. p. 59; Gaz. vol. 159; p. 13.
Kerwick, Morgan, Cincinnati, Ohio. Receptacle. No. 972,456; Oct. 11; Sp. p. 2030; Gaz. vol. 159; p. 356.
Kesberger, Albert, Burdette, S. D. Nut-lock. No. 974,073; Oct. 25; Sp. p. 5570; Gaz. vol. 159; p. 965.
Kessler, Louis, assignor to J. S. Beaudry, Chicago, Ill. Storage-tank for explosive liquids. No. 973,440; Oct. 18; Sp. p. 4243; Gaz. vol. 159; p. 722.
Keystone Furnace Construction Company. (See Knox, Luther L., assignor.)
Kilbourn, William D., Murray, Utah. Handling matte. No. 974,074; Oct. 25; Sp. p. 5570; Gaz. vol. 159; p. 965.
Kilbourne and Jacobs Manufacturing Company, The. (See Stansill, Doty, and Hubbard, assignors.)
Kimbell, John H., Whitesburg, Ga. Bending-machine. No. 973,279; Oct. 18; Sp. p. 3899; Gaz. vol. 159; p. 667.
Kimberly-Clark Company. (See Thom, Peter R., assignor.)
King, Adam C. (See Daniel, Paul, assignor.)
King, Bert W., assignor to Standard Computing Scale Company, Limited, Detroit, Mich. Scale. No. 973,669; Oct. 25; Sp. p. 4749; Gaz. vol. 159; p. 825.
King, Edward C., Charlottesville, Va. Fire-door opener. No. 973,051; Oct. 18; Sp. p. 3402; Gaz. vol. 159; p. 589.
King, John G., Burlington, N. C., assignor to Draper Company, Hopedale, Mass. Weft-replenishing loom. No. 972,872; Oct. 18; Sp. p. 2967; Gaz. vol. 159; p. 525.
King, Julian, Tuxedo, Tex. Stalk-chopper. No. 972,197; Oct. 11; Sp. p. 1497; Gaz. vol. 159; p. 266.
King, William O., Mountain Home, Idaho. Ore-concentrator. No. 974,075; Oct. 25; Sp. p. 5572; Gaz. vol. 159; p. 966.
Kingston, Frank L., Kokomo, Ind. Carbureter. No. 974,076; Oct. 25; Sp. p. 5573; Gaz. vol. 159; p. 966.
Kinnear, William R., New Castle, Pa. Metallic pole. No. 973,670; Oct. 25; Sp. p. 4751; Gaz. vol. 159; p. 825.
Kinsey, Stephen C., Ogden, Utah. Registering mechanism. No. 972,198; Oct. 11; Sp. p. 1498; Gaz. vol. 159; p. 266.
Kinyon, Robert D., Chicago, Ill. Painting appliance. No. 973,356; Oct. 18; Sp. p. 4059; Gaz. vol. 159; p. 605.
Kinzel, Edward, Albany, N. Y. Safety base-ball-shoe plate. No. 972,540; Oct. 11; Sp. p. 2236; Gaz. vol. 159; p. 386.
Kipp, George E., Niverville, N. Y. Detachable wheel-rim. No. 972,541; Oct. 11; Sp. p. 2237; Gaz. vol. 159; p. 386.
Kirby, Frank A., Detroit, Mich. Attachment for drilling, boring, and similar machines. No. 971,679; Oct. 4; Sp. p. 356; Gaz. vol. 159; p. 62.
Kistner, Henry N., Zion City, assignor to R. F. Mueller, Chicago, Ill. Mandrel for phonographs. No. 973,203; Oct. 18; Sp. p. 3758; Gaz. vol. 159; p. 642.
Kittle, Charles R., Los Angeles, Cal. Seat for motor-cycles and other self-propelled vehicles. No. 971,848; Oct. 4; Sp. p. 718; Gaz. vol. 159; p. 124.
Klages, Henry C. (See Fornoff and Klages.)
Kleeberger, John J., San Benito, Tex. Plant-setter. No. 974,077; Oct. 25; Sp. p. 5576; Gaz. vol. 159; p. 966.
Klehe, Wilhelm. (See Hartmann and Klehe.)
Klett, William F., Mobile, Ala. Jail-bar. No. 971,900; Oct. 4; Sp. p. 840; Gaz. vol. 159; p. 144.
Kline, Mabel M., London, England. Catamenial skirt-protector. No. 971,680; Oct. 4; Sp. p. 353; Gaz. vol. 159; p. 63.
Klugh, John T., Madison, Mo. Insulator. No. 971,619; Oct. 4; Sp. p. 239; Gaz. vol. 159; p. 42.
Knapp, Arthur, Houma, La. Drill-chuck. No. 971,901; Oct. 4; Sp. p. 841; Gaz. vol. 159; p. 144.
Knecht, Jakob, Zurich, Switzerland. Knife-sharpener for mowing-machines. No. 974,078; Oct. 25; Sp. p. 5577; Gaz. vol. 159; p. 967.
Kneuper, George M., Brooklyn, N. Y. Filter. No. 973,868; Oct. 25; Sp. p. 5148; Gaz. vol. 159; p. 894.
Knight, Edward M., New York, N. Y. Apparatus for felting fibrous materials. No. 973,280; Oct. 18; Sp. p. 3901; Gaz. vol. 159; p. 668.
Knobel, Fred, Odessa, Nebr. Cross-line buckle. No. 971,759; Oct. 4; Sp. p. 525; Gaz. vol. 159; p. 91.
Knolle, Frederick, Milwaukee, Wis. Hoop. No. 973,671; Oct. 25; Sp. p. 4754; Gaz. vol. 159; p. 826.
Knopf, Samuel, Vienna, Austria-Hungary. Making artificial ointment-bases. No. 971,681; Oct. 4; Sp. p. 359; Gaz. vol. 159; p. 63.
Knowles, Camden E., assignor to Webb City & Carterville Foundry & Machine Works, Webb City, Mo. Ore-jigger. No. 973,281; Oct. 18; Sp. p. 3905; Gaz. vol. 159; p. 668.
Knox, Luther L., Avalon, assignor to Keystone Furnace Construction Company, Pittsburg, Pa. Furnace. No. 973,943; Oct. 25; Sp. p. 5300; Gaz. vol. 159; p. 920.
Knu Light Heat and Power Company. (See Wiggins, Edward J., assignor.)
Koch, Henry, assignor to The Regina Company, Rahway, N. J. Mercury-switch. No. 972,542; Oct. 11; Sp. p. 2239; Gaz. vol. 159; p. 386.
Koch, William E. (See Lutz, Alexander T., assignor.)
Kochersperger, Elsie A., Brooklyn, N. Y. Hat-pin holder. No. 972,199; Oct. 11; Sp. p. 1501; Gaz. vol. 159; p. 266.
Koczwara, Ludwig, Prague-Kgl. Weinberge, Austria-Hungary. Oil-burning furnace. No. 971,902; Oct. 4; Sp. p. 842; Gaz. vol. 159; p. 145.
Koechlin, Albert G., Steinen, Germany, assignor, by mesne assignments, to Genossenschaft für Textilpatente, Basel, Switzerland. Spool-changing apparatus for looms. No. 971,541; Oct. 4; Sp. p. 67; Gaz. vol. 159; p. 13.
Koehler, Ernest F., London, England. Igniter. No. 972,386; Oct. 11; Sp. p. 1884; Gaz. vol. 159; p. 331.
Koelbien, John B., Milwaukee, Wis. Water-meter. No. 972,200; Oct. 11; Sp. p. 1502; Gaz. vol. 159; p. 266.
Köhler, Willy, Bremen, Germany. Electrically-propelled vehicle. No. 972,457; Oct. 11; Sp. p. 2031; Gaz. vol. 159; p. 356.
Köhler, Willy, Bremen, Germany. Current-collector for electrically-propelled vehicles. No. 973,672; Oct. 25; Sp. p. 4755; Gaz. vol. 159; p. 826.
Kolb, Henry. (See Lovell, Robert M., assignor.)
Koltonski, Stanislaw A., Boston, Mass. Snap-switch. No. 972,387; Oct. 11; Sp. p. 1886; Gaz. vol. 159; p. 331.
Kootz, William, Milwaukee, Wis. Shock-absorber for vehicles. No. 973,516; Oct. 25; Sp. p. 4415; Gaz. vol. 159; p. 772.
Kootz, William, Milwaukee, Wis. Vehicle-frame. No. 973,517; Oct. 25; Sp. p. 4416; Gaz. vol. 159; p. 772.
Kossow, Henry C., Milwaukee, Wis. Fly-trap sash attachment. No. 972,873; Oct. 18; Sp. p. 2971; Gaz. vol. 159; p. 526.
Kozminski, Samuel, assignor to Vesta-Apparate- & Metallwarenfabrik G. M. B. H., Charlottenburg, near Berlin, Germany. Drum gas-meter. No. 974,079; Oct. 25; Sp. p. 5578; Gaz. vol. 159; p. 967.
Krakau, Harry T., assignor to The National Malleable Castings Company, Cleveland, Ohio. Bolster. No. 972,768; Oct. 11; Sp. p. 2726; Gaz. vol. 159; p. 464.
Kramer, Francis W. (See Boyd and Kramer.)
Krell Auto-Grand Piano Co. of America. (See Welin, Peter, assignor.)
Kreul, Dwight G. (See Clark and Kreul.)
Krick, Kay C. (See Renick and Krick.)
Krieger, Adolph O., St. Louis, Mo. Bookkeeper's loose-sheet holder. No. 971,542; Oct. 4; Sp. p. 60; Gaz. vol. 159; p. 14.
Krivachek, Frank J. and M. A., Fort Atkinson, Iowa. Check-rower for corn-planters. No. 974,080; Oct. 25; Sp. p. 5581; Gaz. vol. 159; p. 967.
Krivachek, Matthew A. (See Krivachek, Frank J. and M. A.)
Krogh, Carl A. (See Krogh, Ferdinand W. and C. A.)
Krogh, Ferdinand W., San Francisco, Cal. Centrifugal pump. No. 971,851; Oct. 4; Sp. p. 724; Gaz. vol. 159; p. 126.
Krogh, Ferdinand W., San Francisco, Cal. Centrifugal pump. No. 971,852; Oct. 4; Sp. p. 725; Gaz. vol. 159; p. 126.
Krogh, Ferdinand W. and C. A., San Francisco, Cal. Centrifugal pump. No. 971,849; Oct. 4; Sp. p. 714; Gaz. vol. 159; p. 125.
Krogh, Ferdinand W. and C. A., San Francisco, Cal. Centrifugal pump. No. 971,850; Oct. 4; Sp. p. 719; Gaz. vol. 159; p. 125.

Kronenberg, Rudolf, Ohligs, Germany. Autocar-wheel. No. 974,081; Oct. 25; Sp. p. 5584; Gaz. vol. 159; p. 968.
Kroyer, John M., assignor to Samson Iron Works, Stockton, Cal. Gas-engine. No. 973,118; Oct. 18; Sp. p. 3533; Gaz. vol. 159; p. 611.
Krupowsas, Michael, St. Petersburg, Russia. Heat-exchanging device. No. 972,626; Oct. 11; Sp. p. 2442; Gaz. vol. 159; p. 416.
Kruse, Emil, Tokio, assignor of one-half to E. Bodal, Fort Totten, N. D. Smoke-retarding device. No. 973,944; Oct. 25; Sp. p. 5302; Gaz. vol. 159; p. 921.
Kügelgen, Franz von, Holcombe Rock, Va., and G. O. Seward, East Orange, N. J., assignors, by mesne assignments, to Tin Products Company, New York, N. Y. Detinning. No. 972,135; Oct. 4; Sp. p. 1340; Gaz. vol. 159; p. 226.
Kugelmann, Bernhard, Bad Kissengen, Germany. Self-acting telephonic line-connecting system. No. 972,874; Oct. 18; Sp. p. 2972; Gaz. vol. 159; p. 527.
Kugler, Frank G., Newark, N. J. Apparatus for handling photographic films. No. 971,543; Oct. 4; Sp. p. 73; Gaz. vol. 159; p. 14.
Kuhn, Emil, Zorich, Switzerland. Electromagnetic sparking plug. No. 971,544; Oct. 4; Sp. p. 76; Gaz. vol. 159; p. 15.
Kulp, Joseph, Jersey City, N. J., assignor of one-half to A. Hand, Scranton, Pa. Safety device for elevators. No. 973,518; Oct. 25; Sp. p. 4417; Gaz. vol. 159; p. 772.
Kummero, Albert O., Toledo, Ohio. Metal wheel. No. 971,620; Oct. 4; Sp. p. 241; Gaz. vol. 159; p. 43.
Kuntzsch, Charles A., assignor of one-third to D. J. Kuntzsch and one-third to W. J. Kuntzsch, Syracuse, N. Y. Lock-nut. No. 973,673; Oct. 25; Sp. p. 4756; Gaz. vol. 159; p. 826.
Kuntzsch, Daniel J., *et al.* (See Kuntzsch, Charles A., assignor.)
Kuntzsch, William J., *et al.* (See Kuntzsch, Charles A., assignor.)
Kurowski, Alfred G. F., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 973,519; Oct. 25; Sp. p. 4421; Gaz. vol. 159; p. 773.
Kurze, Wilhelm, Wilhelmshütte, Neustadt-on-the-Rübenberge, Germany. Manufacture of hollow castings. No. 972,875; Oct. 18; Sp. p. 2977; Gaz. vol. 159; p. 527.
Kusanrt, Jacob, assignor to The Duplex Rubber Company, Greeley, Colo. Syringe. No. 972,201; Oct. 11; Sp. p. 1504; Gaz. vol. 159; p. 267.
Kwasnicski, Thomas M., Stamford, Conn. Lock. No. 972,543; Oct. 11; Sp. p. 2239; Gaz. vol. 159; p. 387.
La Société d'Exploitation de Procédés Evaporatories, Système Prache et Bouillon. (See Prache, Charles, assignor.)
Lacey, Elizabeth, Oakland township, Butler county, Pa. Folding box and crate. No. 971,903; Oct. 4; Sp. p. 843; Gaz. vol. 159; p. 145.
Lafitte, Paul O., Paris, France. Inking and inking-off mechanism for rotary printing-machines. No. 973,520; Oct. 25; Sp. p. 4423; Gaz. vol. 159; p. 773.
Lahmer, Alfred P., *et al.* (See Stocklmier, Matthias, assignor.)
Lain, David E. (See Maynard and Lain.)
Laing, Charles H., Racine, Wis. Penstock. No. 972,876; Oct. 18; Sp. p. 2978; Gaz. vol. 159; p. 527.
Lake, Christopher J., Bridgeport, Conn. Engine. No. 971,700; Oct. 4; Sp. p. 526; Gaz. vol. 159; p. 92.
Lamb, Edwin, assignor of one-half to G. B. Binehrle, Youngstown, Ohio. Slag-disintegrator. No. 971,853; Oct. 4; Sp. p. 726; Gaz. vol. 159; p. 127.
Lamson Consolidated Store Service Company. (See Jennings, Chester S., assignor.)
Lancaster, John A., *et al.* (See Bryant, William A., assignor.)
Landis, John T. (See Harding, John, Jr., assignor.)
Lane, John, Holly, Mich. Mold for fence-posts. No. 972,699; Oct. 11; Sp. p. 2579; Gaz. vol. 159; p. 439.
Lane, Oliver H., *et al.*, executors. (See Bounds and Ellenburg.)
Lane, Oliver H., *et al.*, executors. (See Cunniff, John V.)
Lane, Oliver H., *et al.*, executors. (See Draper, William F.)
Lane, Oliver H., *et al.*, executors. (See Northrop, Jonas.)
Lane, Oliver H., *et al.*, executors. (See Wood, Everett S.)
Lang, George R., Meadville, Pa. Tool-holder. No. 973,052; Oct. 18; Sp. p. 3404; Gaz. vol. 159; p. 589.
Langen, George. (See Meier and Langen.)
Langenohl, Ewald, Wermelskirchen, Germany. Apparatus for lasting boots and shoes. No. 973,521; Oct. 25; Sp. p. 4426; Gaz. vol. 159; p. 773.
Langford, Edwin R., assignor of one-half to J. R. Meskimons, Reno, Nev. Hoof-parer. No. 973,053; Oct. 18; Sp. p. 3405; Gaz. vol. 159; p. 590.
Langston, Robert H., *et al.* (See Strange, William H., assignor.)
Langton, George H., Los Angeles, Cal. Wheel. No. 973,054; Oct. 18; Sp. p. 3407; Gaz. vol. 159; p. 590.
Lanneau, Edgard de. (See Torchebeuf and Lanneau.)
Lannmark, Johannes K., Stockholm, Sweden. Corking-machine. No. 973,522; Oct. 25; Sp. p. 4428; Gaz. vol. 159; p. 774.
Lansdell, Frederick H., Atlanta, Ga. Electric-sign letter. No. 972,877; Oct. 18; Sp. p. 2980; Gaz. vol. 159; p. 528.
Lantz, Lester R. (See Arthur, Richard S., assignor.)
Lark, Gustave, Rossford, Ohio. Sash-lock. No. 972,760; Oct. 11; Sp. p. 2728; Gaz. vol. 159; p. 464.
Larsen, Bennett, *et al.* (See Dolan, William J., assignor.)
Larsen, Lars H. (See Rowland and Larsen.)
Laska, August L., Offenbach-on-the-Main, assignor to Chemische Fabrik Griesheim Elektron, Frankfort-on-the-Main, Germany. Yellow disazo dystuff for wool. No. 971,761; Oct. 4; Sp. p. 529; Gaz. vol. 159; p. 92.
Laska, August L., Offenbach-on-the-Main, assignor to Chemische Fabrik Griesheim Elektron, Frankfort-on-the-Main, Germany. Yellow azo dyestuff for wool. No. 971,762; Oct. 4; Sp. p. 531; Gaz. vol. 159; p. 93.
Lasterp G. W., *et al.* (See Tucker, Bedford, assignor.)
Laster, J. T., *et al.* (See Tucker, Bedford, assignor.)
Lathrop, Frank L., assignor to H. L. Judd Company, Wallingford, Conn. Connection for curtain-rods and the like. No. 972,544; Oct. 11; Sp. p. 2241; Gaz. vol. 159; p. 387.
Latimer, James B., and A. D. Cloud, Chicago, Ill.; said Cloud assignor, by mesne assignments, to W. K. Kemp Company. Rail-holding device. No. 972,545; Oct. 11; Sp. p. 2243; Gaz. vol. 159; p. 387.
Lauber, Simon C., Toledo, Ohio. Carrying-register. No. 972,546; Oct. 11; Sp. p. 2247; Gaz. vol. 159; p. 388.
Laurent, Thomas H., Nutley, N. J. Concrete post for clothes-lines. No. 971,904; Oct. 4; Sp. p. 844; Gaz. vol. 159; p. 145.
Lausterer, William J. (See Gillespie and Lausterer.)
Lavis, William K., La Grange, Ill. Grain-door for freight-cars. No. 971,621; Oct. 4; Sp. p. 242; Gaz. vol. 159; p. 43.
Law, George P., Lansing, Mich. Gas-engine. No. 972,547; Oct. 11; Sp. p. 2251; Gaz. vol. 159; p. 388.
Lawlor, James A., Prince Albert, Saskatchewan, Canada. Clay-screen. No. 973,441; Oct. 18; Sp. p. 4244; Gaz. vol. 159; p. 723.
Lawrence, Albert L., *et al.* (See Gough, Jacob C., assignor.)
Lawrence, Daniel F., Brandon, Vt. Motor. No. 971,854; Oct. 4; Sp. p. 727; Gaz. vol. 159; p. 127.
Lawrence, Harry W., Denver, Colo., assignor to The New England Electric Co. Lamp-receptacle. (Reissue.) No. 13,157; Oct. 11; Sp. p. 2775; Gaz. vol. 159; p. 473.
Lawrenz, William F., assignor to J. A. Carr, St. Louis, Mo. Dental casting-machine. No. 971,855; Oct. 4; Sp. p. 729; Gaz. vol. 159; p. 127.
Lawson, Harry C., McGregor, Tex. Ratchet-wrench. No. 972,627; Oct. 11; Sp. p. 2445; Gaz. vol. 159; p. 416.
Layden, John J. (See Marble, James E., assignor.)
Layne, Mahon E. (See Johnson, John N., assignor.)
Le Gore, Earl P., Philadelphia, Pa. Wagon-body-dumping mechanism. No. 973,055; Oct. 18; Sp. p. 3409; Gaz. vol. 159; p. 590.
Le Moon, Axel R., Chicago, Ill., assignor to Le Moon Driving Clutch Company. Friction driving-clutch. (Reissue.) No. 13,161; Oct. 25; Sp. p. 5624; Gaz. vol. 159; p. 977.
Le Moon Driving Clutch Company. (See Le Moon, Axel R., assignor.) (Reissue.)
Lea, Harry C. (See Voegtle, Lea, and Voegtle.)
Lee, William H. (See Hodges and Lee.)
Leech, Charles M., Lima, Ohio. Gas-engine. No. 973,792; Oct. 25; Sp. p. 4988; Gaz. vol. 159; p. 867.
Leech, Charles M., Lima, Ohio. Transmission-gear. No. 973,793; Oct. 25; Sp. p. 4992; Gaz. vol. 159; p. 868.
Leenhouts, Abraham. (See De Free, Leenhouts, and Mersen.)
Lees, James R., assignor to The Colorado Pressed Steel Company, Denver, Colo. Cover for beet-flumes. No. 973,442; Oct. 18; Sp. p. 4245; Gaz. vol. 159; p. 723.
Leet, Edward A., New York, N. Y. Horn. No. 972,003; Oct. 4; Sp. p. 1089; Gaz. vol. 159; p. 183.
Lehman, Charles F. (See Eichmann, Henry P. A. A., assignor.)
Leilich, Henry L., and J. P. Burger, assignors to The Delphos Manufacturing Company, Delphos, Ohio. Sheet-trimming and edge-folding machine. No. 971,905; Oct. 4; Sp. p. 845; Gaz. vol. 159; p. 145.
Leithem, Joseph, St. Louis, Mo. Lady's hat and hair fastener. No. 974,082; Oct. 25; Sp. p. 5585; Gaz. vol. 159; p. 968.
Lembke, Albert C. (See Wannenwetsch, Charles H. A., assignor.)
Lemons, William D., assignor of one-half to W. D. and T. J. Babington, Shelby, N. C. Combined seed-planter and fertilizer-distributer. No. 971,856; Oct. 4; Sp. p. 731; Gaz. vol. 159; p. 128.
Lens, G. John, *et al.* (See Stocklmier, Matthias, assignor.)
Lentz, Philipp, Gross-Lichterfelde, near Berlin, Germany. Signaling apparatus for airships and the like. No. 974,103; Oct. 25; Sp. p. 5625; Gaz. vol. 159; p. 975.
Leon, Bert, assignor of one-half to W. A. Sherer, Toledo, Ohio. Embalmer's injecting and aspirating apparatus. No. 972,878; Oct. 18; Sp. p. 2982; Gaz. vol. 159; p. 528.
Leonard, William C., Newark, N. J. Rack for boilers and the like. No. 972,879; Oct. 18; Sp. p. 2983; Gaz. vol. 159; p. 528.
Levedahl, Axel, assignor to Aurora Automatic Machinery Company, Aurora, Ill. Handle for pneumatic drills. No. 972,548; Oct. 11; Sp. p. 2252; Gaz. vol. 159; p. 389.
Levi, Alvan P., H. and M. Schlessinger, San Francisco, Cal. Telephone-mouthpiece attachment. No. 972,114; Oct. 4; Sp. p. 1297; Gaz. vol. 159; p. 219.
Lewis, Edward Z., assignor to The General Manifold and Printing Company, Franklin, Pa. Sales-check. No. 972,549; Oct. 11; Sp. p. 2253; Gaz. vol. 159; p. 389.

Lewis, Edward Z., assignor to The General Manifold and Printing Company, Franklin, Pa. Manifolding record-book. No. 972,550; Oct. 11; Sp. p. 2255; Gaz. vol. 159; p. 389.
Lewis, Edward Z., Chicago, Ill., assignor to The General Manifold and Printing Company, Franklin, Pa. Manifolding salesman's check. No. 972,551; Oct. 11; Sp. p. 2257; Gaz. vol. 159; p. 389.
Lewis, Robert S., and J. H. Moore, McGill, Nev. Settling-tank. No. 973,357; Oct. 18; Sp. p. 4061; Gaz. vol. 159; p. 695.
Lewis, Samuel W., New York, N. Y., assignor to Thomas Maddock's Sons Company, Trenton, N. J. Water-closet. No. 972,388; Oct. 11; Sp. p. 1890; Gaz. vol. 159; p. 332.
Lewis, Walter S., San Francisco, Cal. Hat-fastener. No. 972,552; Oct. 11; Sp. p. 2259; Gaz. vol. 159; p. 390.
Lewis, Willard I., Walpole, Mass. Automatic web-guiding device. No. 973,945; Oct. 25; Sp. p. 5303; Gaz. vol. 159; p. 921.
Libby, Albion D. T., assignor to The Dean Electric Company, Elyria, Ohio. Central telephone system. No. 972,628; Oct. 11; Sp. p. 2446; Gaz. vol. 159; p. 416.
Liberty Manufacturing Company, The. (See Jamison, Robert G., assignor.)
Lidgerwood Manufacturing Company. (See Dickinson and Gilchrist, assignors.)
Liers, Fritz, Rummelsburg, near Berlin, Germany. Lock. No. 971,763; Oct. 4; Sp. p. 532; Gaz. vol. 159; p. 93.
Liers, Fritz, Rummelsburg, near Berlin, Germany. Lock-strike. No. 973,358; Oct. 18; Sp. p. 4063; Gaz. vol. 159; p. 696.
Lightbody, Thomas, Youngstown, Ohio. Car-unloader. No. 972,700; Oct. 11; Sp. p. 2580; Gaz. vol. 159; p. 440.
Lightcap, Isaac, Rocksburg, N. J. Pipe-line system. No. 973,794; Oct. 25; Sp. p. 4995; Gaz. vol. 159; p. 868.
Likewise, Charles H., assignor of one-third to N. A. Schneider, Brooklyn, N. Y. Safety-razor. No. 974,083; Oct. 25; Sp. p. 5587; Gaz. vol. 159; p. 968.
Lilley, Lial, Stratford, New Zealand. Angle-bracket. No. 973,674; Oct. 25; Sp. p. 4756; Gaz. vol. 159; p. 827.
Lillie, Samuel M., Philadelphia, Pa. Evaporating apparatus. No. 972,880; Oct. 18; Sp. p. 2985; Gaz. vol. 159; p. 529.
Lilly, George E., and G. H. Hartmann, New York, N. Y. Ironing-board. No. 971,857; Oct. 4; Sp. p. 734; Gaz. vol. 159; p. 128.
Lima, Arne, Hannaford, N. D. Device for destroying bugs. No. 973,359; Oct. 18; Sp. p. 4064; Gaz. vol. 159; p. 696.
Lima, Manuel, Melrose, Cal. Door-hanger. No. 971,906; Oct. 4; Sp. p. 855; Gaz. vol. 159; p. 146.
Lind, Carl J., Statelevee, Miss. Wagon-jack. No. 974,084; Oct. 25; Sp. p. 5589; Gaz. vol. 159; p. 968.
Lindau, William E., Napoleon, Ohio. Cement roofing-tile. No. 973,946; Oct. 25; Sp. p. 5305; Gaz. vol. 159; p. 921.
Lindgren, Carl E., assignor of three-fourths to R. B. Alberson, one-eighth to F. A. Douglass, and one-eighth to G. M. Thorp, Denver, Colo. Automatic water-controller for boilers. No. 974,085; Oct. 25; Sp. p. 5590; Gaz. vol. 159; p. 969.
Lindsley and Allen Electric Company *et al.* (See Cavanagh, John F., assignor.)
Link, Alexander, Phoenix, Ariz. Saw-set. No. 973,282; Oct. 18; Sp. p. 3907; Gaz. vol. 159; p. 668.
Link-Belt Company. (See Dodge, James M., assignor.)
Liptak, John. (See Tóth, Beleznay, and Liptak.)
Lisch, Jacob J., assignor of one-half to F. J. Geverts, Bellevue, Ky. Automatic fish-hook. No. 973,119; Oct. 18; Sp. p. 3534; Gaz. vol. 159; p. 611.
Littlefield, Charles A., Lowell, assignor to Draper Company, Hopedale, Mass. Filling-supplying mechanism for automatic filling-replenishing looms. No. 972,881; Oct. 18; Sp. p. 2988; Gaz. vol. 159; p. 529.
Lloyd, Ernest F., Detroit, Mich. Gas-scrubber. No. 973,120; Oct. 18; Sp. p. 3535; Gaz. vol. 159; p. 612.
Lloyd, Harry W., Jacksonville, Fla. Clutch. No. 974,086; Oct. 25; Sp. p. 5592; Gaz. vol. 159; p. 969.
Locke, Fred M., assignor to The Locke Insulator Manufacturing Company, Victor, N. Y. Insulating system for high-potential electric conductors. No. 973,204; Oct. 18; Sp. p. 3761; Gaz. vol. 159; p. 642.
Locke Insulator Manufacturing Company, The. (See Locke, Fred M., assignor.)
Lockwood, David D., Bridgeport, Conn. Electric lamp. (Reissue.) No. 13,158; Oct. 18; Sp. p. 4290; Gaz. vol. 159; p. 731.
Loeber, Edgar O., assignor to The Handy Manufacturing Company, Cleveland, Ohio. Combined mop and brush holder. No. 972,458; Oct. 11; Sp. p. 2033; Gaz. vol. 159; p. 356.
Loef, John C. (See Youngreen and Loef.)
Loftin, William H., assignor of one-half to W. H. Taylor, Jacksonville, Fla. Adjustable crutch. No. 973,283; Oct. 18; Sp. p. 3909; Gaz. vol. 159; p. 669.
Loftus, John, Albany, N. Y., assignor of one-half to A. Hughes, Philadelphia, Pa. Smoke-consuming apparatus for locomotives. No. 973,947; Oct. 25; Sp. p. 5306; Gaz. vol. 159; p. 922.
Logan, Martin, New York, N. Y. Tide-water motor. No. 973,860; Oct. 25; Sp. p. 5150; Gaz. vol. 159; p. 895.
London, William J. A., Hartford, Conn., assignor to The Westinghouse Machine Company. Elastic-fluid turbine. No. 972,788; Oct. 11; Sp. p. 2763; Gaz. vol. 159; p. 470.
Long, George R. (See Cordley and Long.)
Long, Spalding K. (See Pierce, Alfred L., assignor.)
Long, William H., assignor of one-half to H. E. Fahrenholtz, Harvel, Ill. Attachment for vehicles. No. 973,360; Oct. 18; Sp. p. 4065; Gaz. vol. 159; p. 696.
Lookabaugh, Frank H., Leechburg, Pa. Rail-joint. No. 973,948; Oct. 25; Sp. p. 5310; Gaz. vol. 159; p. 922.
Loomis, Burdett, Hartford, Conn., assignor to Loomis Utilization Company. Apparatus for manufacturing gas. No. 971,858; Oct. 4; Sp. p. 736; Gaz. vol. 159; p. 128.
Loomis Utilization Company. (See Loomis, Burdett, assignor.)
Lorimer, George W., Piqua, assignor, by mesne assignments, to The Sand Mixing Machine Company, Greenfield, Ohio. Sand-cutting machine. No. 973,523; Oct. 25; Sp. p. 4430; Gaz. vol. 159; p. 774.
Lose, William H., Zelienople, assignor to Iron City Sanitary Manufacturing Company, Pittsburg, Pa. Molding apparatus. No. 971,907; Oct. 4; Sp. p. 856; Gaz. vol. 159; p. 146.
Lovell, Robert M., assignor of one-half to H. Kolb, Baltimore, Md. Burner for gas-stoves. No. 972,882; Oct. 18; Sp. p. 2995; Gaz. vol. 159; p. 530.
Low, Abbot A. (See Hertzberg, Low, and Wohl.)
Low, Abbot A., *et al.*, trustees. (See Wohl and Hertzberg, assignors.)
Low, Abbot A., Horseshoe, N. Y. Economizer. No. 971,682; Oct. 4; Sp. p. 360; Gaz. vol. 159; p. 63.
Low, Archibald M., Brook Green, London, England. Electric ignition appliance. No. 971,908; Oct. 4; Sp. p. 858; Gaz. vol. 159; p. 147.
Low, Archibald M., London, England. Charge-forming arrangement for use in internal-combustion engines and turbines. No. 974,087; Oct. 25; Sp. p. 5593; Gaz. vol. 159; p. 969.
Lowry, Robert C., and L. F. Winter, New York, N. Y.; said Winter assignor to said Lowry. Bundling-machine. No. 972,389; Oct. 11; Sp. p. 1891; Gaz. vol. 159; p. 332.
Lowry, William D., St. Louis, Mo. Side frame for car-trucks. No. 972,770; Oct. 11; Sp. p. 2730; Gaz. vol. 159; p. 464.
Loyd, John H. (See Breder and Loyd.)
Lucas, Roy G., Plover, Iowa. Wagon-tongue support. No. 973,524; Oct. 25; Sp. p. 4435; Gaz. vol. 159; p. 775.
Lucas, William B., Chicago, Ill. Motor-controller. No. 973,525; Oct. 25; Sp. p. 4436; Gaz. vol. 159; p. 775.
Lucke-d'Aix, Fritz C., New York, N. Y. Line-casting machine. No. 972,591; Oct. 11; Sp. p. 2368; Gaz. vol. 159; p. 404.
Lucke, William F., Champlain, N. Y., and J. E. Blake, Beverly, Mass., assignors to T. W. and C. B. Sheridan Company. Roll for leather-dressing machines. No. 973,675; Oct. 25; Sp. p. 4756; Gaz. vol. 159; p. 827.
Ludwig, Nicholas, Denver, Colo. Beer-carbonating device. No. 972,883; Oct. 18; Sp. p. 2996; Gaz. vol. 159; p. 530.
Ludy, Jacob E., *et al.* (See Pitts, Edward L., assignor.)
Luebben, Ummo F., assignor to Patent Holding Company, Lincoln, Nebr. Baling-press. No. 972,884; Oct. 18; Sp. p. 2999; Gaz. vol. 159; p. 531.
Lukan, Frank. (See Pachinger, Frank, assignor.)
Lummus, Walter E., Lynn, Mass. Boiling-cap. No. 973,795; Oct. 25; Sp. p. 4996; Gaz. vol. 159; p. 869.
Lundy, Lundy S., Niagara Falls South, Ontario, Canada. Transplanting-pot. No. 971,909; Oct. 4; Sp. p. 859; Gaz. vol. 159; p. 147.
Lungen, Adam, New York, N. Y., assignor to Edwards & Co., Inc. Annunciator. No. 973,676; Oct. 25; Sp. p. 4761; Gaz. vol. 159; p. 827.
Luttrell, William J., Honey Grove, Tex. Cultivator attachment. No. 973,284; Oct. 18; Sp. p. 3910; Gaz. vol. 159; p. 669.
Lutz, Alexander T., assignor of one-half to W. E. Koch, York, Pa. Ironing-board. No. 973,949; Oct. 25; Sp. p. 5311; Gaz. vol. 159; p. 922.
Lutz, Theodore E., Galion, Ohio. Adjustable crank attachment. No. 971,764; Oct. 4; Sp. p. 533; Gaz. vol. 159; p. 93.
Lynch, Adolphus R., Danville, Ill. Automobile cultivator. No. 973,677; Oct. 25; Sp. p. 4762; Gaz. vol. 159; p. 828.
Lynch, Adolphus R., Danville, Ill. Automobile plow. No. 973,678; Oct. 25; Sp. p. 4763; Gaz. vol. 159; p. 828.
Lynch, James F., Swampscott, assignor of one-half to T. F. Hurley, Lynn, Mass. Comb. No. 973,361; Oct. 18; Sp. p. 4066; Gaz. vol. 159; p. 696.
Lynch, Michael A. (See Wilson and Lynch.)
Lynch, Thomas R. (See Devan, Andrew, assignor.)
Lynch, William A., Los Angeles, Cal. Gas-furnace. No. 971,859; Oct. 4; Sp. p. 739; Gaz. vol. 159; p. 129.
Lytle, William J. (See Baguley, George T., assignor.)
Maas, Joseph, assignor to American Gas Light Company, Kalamazoo, Mich. Incandescent gas-lamp. No. 973,950; Oct. 25; Sp. p. 5313; Gaz. vol. 159; p. 923.
Maas & Waldstein Company, The. (See Walker, Henry V., assignor.)
MacGregor, Frank S., Hyde Park, assignor to Huff Electrostatic Separator Company, Boston, Mass. Separation of ingredients of mixed solid materials. No. 972,459; Oct. 11; Sp. p. 2035; Gaz. vol. 159; p. 357.
MacGregor, Walter, Indiana Harbor, Ind., assignor to American Steel Foundries, New York, N. Y., Multiple tapping-spout. No. 972,885; Oct. 18; Sp. p. 3016; Gaz. vol. 159; p. 531.

MacNaughton, Eliza E. A., Yonkers, N. Y. Egg-cup. No. 971,910; Oct. 4; Sp. p. 860; Gaz. vol. 159; p. 147.
Machen & Mayer Electrical Manufacturing Company. (See Mayer, Walter S., assignor.)
Machlet, Fritz W., Elizabeth, N. J. Pump, &c. No. 973,670; Oct. 25; Sp. p. 4764; Gaz. vol. 159; p. 828.
Mackintosh, Ernest K., and E. A. Smith, Washington, D. C. Electric switch. No. 973,362; Oct. 18; Sp. p. 4067; Gaz. vol. 159; p. 696.
Macklin, Athol B., Ottawa, and H. J. Waddle, Hamilton, Ontario, Canada. Nut-lock. No. 972,460; Oct. 11; Sp. p. 2038; Gaz. vol. 159; p. 357.
Macomber, Isaac B., Portsmouth, R. I. Trousers-stretcher. No. 973,443; Oct. 18; Sp. p. 4247; Gaz. vol. 159; p. 724.
Macomber, Isaac B., Portsmouth, R. I. Trousers-stretcher. No. 973,444; Oct. 18; Sp. p. 4249; Gaz. vol. 159; p. 724.
Maddock, Frederick R., Newark, N. J. Enameled rubber cloth and making the same. No. 972,553; Oct. 11; Sp. p. 2260; Gaz. vol. 159; p. 390.
Mader, Nicholas P., Sun Prairie, Wis. Carbureter-valve. No. 973,056; Oct. 18; Sp. p. 3410; Gaz. vol. 159; p. 591.
Mader, Nicholas P., Sun Prairie, Wis. Mixer. No. 973,057; Oct. 18; Sp. p. 3413; Gaz. vol. 159; p. 591.
Maeder, William R., Chicago, Ill. Knockdown bin. No. 973,796; Oct. 25; Sp. p. 4998; Gaz. vol. 159; p. 869.
Main, William J., Westport, Conn., assignor, by mesne assignments, to R. Hoe and Co., New York, N. Y. Inking device for printing-machines. No. 971,765; Oct. 4; Sp. p. 535; Gaz. vol. 159; p. 94.
Major, Edmund, Maitland, S. D. Separator and classifier. No. 973,363; Oct. 18; Sp. p. 4070; Gaz. vol. 159; p. 697.
Makinson, Oral A., Pratt, Kans. Oil vaporizer and burner. No. 973,526; Oct. 25; Sp. p. 4438; Gaz. vol. 159; p. 775.
Malachowski, Hermann. (See Rühling, Waldemar, assignor.)
Malcolm, Charles A., Minden, W. Va. Brake-shoe. No. 972,202; Oct. 11; Sp. p. 1507; Gaz. vol. 159; p. 268.
Malmedie, Charles H., assignor to Morse Twist Drill & Machine Company, New Bedford, Mass. Adjustable reamer. No. 972,115; Oct. 4; Sp. p. 1298; Gaz. vol. 159; p. 219.
Malmedie, Charles H., assignor to Morse Twist Drill & Machine Company, New Bedford, Mass. Adjustable reamer. No. 972,116; Oct. 4; Sp. p. 1299; Gaz. vol. 159; p. 220.
Malmedie, Charles H., assignor to Morse Twist Drill & Machine Company, New Bedford, Mass. Adjustable reamer. No. 972,117; Oct. 4; Sp. p. 1300; Gaz. vol. 159; p. 220.
Maloy, Lewis J., Copperhill, Tenn. Lubricator. No. 972,701; Oct. 11; Sp. p. 2581; Gaz. vol. 159; p. 440.
Maloy, Lewis J., Copperhill, Tenn. Nut-lock. No. 972,702; Oct. 11; Sp. p. 2585; Gaz. vol. 159; p. 441.
Malton, Frank, assignor to Warne, Wright & Rowland Limited, Birmingham, England. Machine for cutting out articles from metal sheets or bars. No. 972,203; Oct. 11; Sp. p. 1509; Gaz. vol. 159; p. 268.
Manhattan Rubber Manufacturing Company. (See Ball, Frank B., assignor.)
Mann, Miles H., assignor to Buffum Tool Company, Louisiana Mo. Card-printing machine. No. 972,554; Oct. 11; Sp. p. 2261; Gaz. vol. 159; p. 390.
Mann, Miles H., assignor to Buffum Tool Company, Louisiana, Mo. Card-printing machine. No. 972,554; Oct. Oct. 11; Sp. p. 2263; Gaz. vol. 159; p. 391.
Manning, Bowman & Company. (See Chapman, James W., assignor.)
Manning, Frank, Philadelphia, Pa. Attachment for typewriters. No. 973,058; Oct. 18; Sp. p. 3415; Gaz. vol. 159; p. 592.
Mansfield, Robert D., et al. (See Gedeon, James, assignor.)
Mantelet, Alexis, Fils, Paris, France. Breast-douche apparatus. No. 973,445; Oct. 18; Sp. p. 4251; Gaz. vol. 159; p. 724.
Marble, James E., assignor of one-third to J. J. Layden, Albany, N. Y. Train-pipe coupling. No. 974,088; Oct. 25; Sp. p. 5596; Gaz. vol. 159; p. 970.
Marinsky, Davis, New York, N. Y. Waist-belt. No. 971,766; Oct. 4; Sp. p. 537; Gaz. vol. 159; p. 94.
Markel, Harley R., Columbus, Ohio. Insulator. No. 971,683; Oct. 4; Sp. p. 362; Gaz. vol. 159; p. 63.
Markey, David J., Frederick, Md. Shoe-tree. No. 971,622; Oct. 4; Sp. p. 244; Gaz. vol. 159; p. 43.
Märksch, Paul, Vohwinkel, assignor to W. & G. Vogel, Elberfeld, Germany. Combined hinge and door-check. No. 973,680; Oct. 25; Sp. p. 4768; Gaz. vol. 159; p. 829.
Marriott, Robert H., Brooklyn, assignor to The United Wireless Telegraph Company, New York, N. Y. Antenna. No. 972,004; Oct. 4; Sp. p. 1090; Gaz. vol. 159; p. 183.
Marsh, Albert L., assignor to Hoskins Manufacturing Company, Detroit, Mich. Thermo-electric couple. No. 971,767; Oct. 4; Sp. p. 538; Gaz. vol. 159; p. 94.
Marsh, George T. (See Shoenberg and Marsh.)
Marsh, John H., London, England. Sash-fastener. No. 973,285; Oct. 18; Sp. p. 3911; Gaz. vol. 159; p. 669.
Marsh, Lawrence E. (See Marsh, Lester E. and L. E.)
Marsh, Lester E. and L. E., Black Lick, Pa. Churn. No. 972,556; Oct. 11; Sp. p. 2265; Gaz. vol. 159; p. 391.
Marten, Albert S., East Orange, N. J., assignor to The Tea Tray Company of Newark, N. J. Horn-crane. No. 972,886; Oct. 18; Sp. p. 3018; Gaz. vol. 159; p. 532.
Marten, Henry F., and H. Grahn, San Francisco, Cal. Barrel-sanding apparatus. No. 973,059; Oct. 18; Sp. p. 3419; Gaz. vol. 159; p. 592.
Martin, Elisha E. A., assignor of one-half to H. A. Beck, Union City, Tenn. Grain-door for cars. No. 973,060; Oct. 18; Sp. p. 3421; Gaz. vol. 159; p. 592.
Martin, Louis A., Stevens Point, Wis. Elevated carrier. No. 972,557; Oct. 11; Sp. p. 2267; Gaz. vol. 159; p. 391.
Martin, Robert W., Buhl, Minn. Ventilator. No. 972,005; Oct. 4; Sp. p. 1093; Gaz. vol. 159; p. 183.
Martin, Simon H., Webster Park, Mo. Attachment for automobiles. No. 971,768; Oct. 4; Sp. p. 539; Gaz. vol. 159; p. 94.
Martinek, Johann, Viersen, Germany. Thread-cutting device for automatic weft-replenishing looms. No. 972,118; Oct. 4; Sp. p. 1301; Gaz. vol. 159; p. 220.
Marvin, Arthur, El Paso, Ill. Truck. No. 973,797; Oct. 25; Sp. p. 5000; Gaz. vol. 159; p. 869.
Marx, Charles O., assignor of one-half to B. Spitzfaden, Brooklyn, N. Y. Door-hanger. No. 974,089; Oct. 25; Sp. p. 5599; Gaz. vol. 159; p. 970.
Mason, Francis C., assignor of one-half to L. M. Shanahan, Grand Rapids, Mich. Ignition-timer for internal-combustion engines. No. 971,545; Oct. 4; Sp. p. 77; Gaz. vol. 159; p. 15.
Mason, George L. (See Witherell, Seward, and Mason.)
Mason, Theron O. (See Spikes, Richard B., assignor.)
Mason, William K. (See Burnett, John W., assignor.)
Masters, James L., Littles, Ind. Axle-lubricator. No. 972,006; Oct. 4; Sp. p. 1094; Gaz. vol. 159; p. 183.
Matchette, Frank J., C. Gordon, and C. Moukos, assignors to American Air Cleaning Company, Milwaukee, Wis. Pneumatic cleaning apparatus. No. 973,446; Oct. 18; Sp. p. 4253; Gaz. vol. 159; p. 725.
Mathern, Alphonse, Berlin, Germany. Smoothing apparatus for the manufacture of pneumatic tires. No. 973,061; Oct. 18; Sp. p. 3422; Gaz. vol. 159; p. 593.
Matson, Andrew E., Eureka, Cal. Tobacco-pipe. No. 973,870; Oct. 25; Sp. p. 5153; Gaz. vol. 159; p. 895.
Matthews, George N. (See Kelley, Matthews, and Davis.)
Matthias, William C., Reading, Pa. Fire-alarm. No. 971,684; Oct. 4; Sp. p. 363; Gaz. vol. 159; p. 64.
Mauck, Victor, and J. E. Wentling, Conshohocken, Pa. Molding-machine. No. 972,771; Oct. 11; Sp. p. 2732; Gaz. vol. 159; p. 465.
Maupin, Frank L., Port, Tex. Window-weight. No. 972,887; Oct. 18; Sp. p. 3020; Gaz. vol. 159; p. 532.
Max Ams Machine Co. (See Hahnemann, Paul R., assignor.)
Maxwell, Bert C., assignor to J. Whiting, Jr., trustee, Canton, Ohio. Manifolding book or pad. No. 973,527; Oct. 25; Sp. p. 4439; Gaz. vol. 159; p. 775.
Maxwell, Bert C., assignor to J. Whiting, Jr., trustee, Canton, Ohio. Manifolding book or pad. No. 974,102; Oct. 25; Sp. p. 5622; Gaz. vol. 159; p. 975.
Maxwell, John C., Rensselaer, Ind. Cultivator. No. 972,204; Oct. 11; Sp. p. 1512; Gaz. vol. 159; p. 269.
May, Augustus, New Orleans, La. Automatic danger-signal and intermittently-illuminating advertiser for electric cars. No. 972,007; Oct. 4; Sp. p. 1095; Gaz. vol. 159; p. 184.
May, Robert B., assignor of one-half to R. M. Ware, Stockdale, Tex. Pindal or peanut planter. No. 972,205; Oct. 11; Sp. p. 1513; Gaz. vol. 159; p. 269.
Mayer, Edward R., and J. G. Keegan, assignors of one-third to A. E. Wilson, Denver, Colo. Pilot-light for gas-stoves. No. 971,769; Oct. 4; Sp. p. 540; Gaz. vol. 159; p. 95.
Mayer, Frederick L., Milwaukee, Wis. Vegetable-cutter. No. 971,546; Oct. 4; Sp. p. 79; Gaz. vol. 159; p. 15.
Mayer, Oswald R., and J. W. Schoettle, assignors to Mayer, Schoettle & Schairer Company, Ann Arbor, Mich. Loose-leaf binder. No. 973,528; Oct. 25; Sp. p. 4441; Gaz. vol. 159; p. 776.
Mayer, Schoettle & Schairer Company. (See Mayer and Schoettle, assignors.)
Mayer, Walter S., assignor to The Machen & Mayer Electrical Manufacturing Company, Philadelphia, Pa. Electric switch. No. 971,623; Oct. 4; Sp. p. 245; Gaz. vol. 159; p. 43.
Maynard, Theodore, and D. E. Lain, Bellingham, Wash. Fruit-jar cover. No. 972,206; Oct. 11; Sp. p. 1515; Gaz. vol. 159; p. 269.
Maynes, Hyla F., Gaines, Pa. Lantern. No. 973,529; Oct. 25; Sp. p. 4442; Gaz. vol. 159; p. 776.
Mayo, Benjamin F., Salem, Mass. Optical instrument. No. 973,062; Oct. 18; Sp. p. 3423; Gaz. vol. 159; p. 593.
Mayo, Junius B., Dallas, Tex. Necktie-supporter. No. 973,871; Oct. 25; Sp. p. 5159; Gaz. vol. 159; p. 896.
Mays, James M., Pittsburg, Pa. Adjustable shade-bracket. No. 972,888; Oct. 18; Sp. p. 3020; Gaz. vol. 159; p. 533.
Mays, Shelby J., Belleview, Tenn. Fruit-picker. No. 971,547; Oct. 4; Sp. p. 81; Gaz. vol. 159; p. 16.
McAfee, Herbert W., Columbus, Ga. Disappearing door. No. 972,466; Oct. 11; Sp. p. 2046; Gaz. vol. 159; p. 359.
McBride, Joseph H., Philadelphia, Pa. Coin-controlled apparatus. No. 973,364; Oct. 18; Sp. p. 4074; Gaz. vol. 159; p. 697.
McBride, William J., Philadelphia, Pa., assignor to Hoffman-Corr Manufacturing Company. Stand for hammocks, couches, and the like. No. 972,783; Oct. 11; Sp. p. 2755; Gaz. vol. 159; p. 468.
McCabe, Edward P. (See Miley, Annie C., assignor.)

McCabe, Patrick J., Madison Lake, Minn. Heating-tank for incubators. No. 973,681; Oct. 25; Sp. p. 4769; Gaz. vol. 159; p. 829.
McCaddam, Earl D., et al. (See Frederickson, Clayton E., assignor.)
McCallister, Clarence A., Marietta, Wash. Nautical instrument. No. 972,889; Oct. 18; Sp. p. 3022; Gaz. vol. 159; p. 533.
McCans, George. (See Hambry and McCans.)
McCarty, H. C. (See McLaughlin, Milton P., assignor.)
McCaskey Register Company, The. (See Hick, Harry J., assignor.)
McClure, Edward, assignor of one-half to F. P. Smith, Chicago, Ill. Automatic door-closing device. No. 972,681; Oct. 11; Sp. p. 2458; Gaz. vol. 159; p. 418.
McConnell, Benjamin F. (See Chamberlain, Wilson P., Jr., assignor.)
McCoole, Gabriel W., Little Rock, Ark. Sprinkling apparatus. No. 972,396; Oct. 11; Sp. p. 1907; Gaz. vol. 159; p. 335.
McCord & Company. (See Randel, Ivar A., assignor.)
McCormack, Harry S., New Rochelle, assignor to Underwood Typewriter Company, New York, N. Y. Typewriting machine. No. 972,009; Oct. 4; Sp. p. 1098; Gaz. vol. 159; p. 184.
McCormack, Harry S., New Rochelle, assignor to Underwood Typewriter Company, New York, N. Y. Typewriting machine. No. 972,566; Oct. 11; Sp. p. 2306; Gaz. vol. 159; p. 396.
McCormack, Harry S., New Rochelle, assignor to Underwood Typewriter Company, New York, N. Y. Typewriting machine. No. 972,706; Oct. 11; Sp. p. 2501; Gaz. vol. 159; p. 442.
McCormick, Thomas E., Canton, Ohio. Railway-tie. No. 972,890; Oct. 18; Sp. p. 3024; Gaz. vol. 159; p. 534.
McCready, Clifford. (See Davis and McCready.)
McCreary, Elijah R., Bush, La. Water-motor. No. 972,010; Oct. 4; Sp. p. 1102; Gaz. vol. 159; p. 184.
McCreavy, William T., Philadelphia, Pa. Metal-shaping apparatus. No. 973,682; Oct. 25; Sp. p. 4771; Gaz. vol. 159; p. 829.
McCullagh, George. (See Primeau and McCullagh.)
McDaniel, James, Seattle, Wash. Sleve. No. 971,770; Oct. 4; Sp. p. 542; Gaz. vol. 159; p. 95.
McDermott, Leslie L., et al. (See Castle, Frank, assignor.)
McDonald, Thomas, Dublin, Tex. Pneumatic cotton-seed separator and cleaner. No. 972,212; Oct. 11; Sp. p. 1523; Gaz. vol. 159; p. 271.
McDonnell, Milton E. (See Pease and McDonnell.)
McElhone, Francis J., Jersey City, N. J. Electroplating. No. 973,051; Oct. 25; Sp. p. 5016; Gaz. vol. 159; p. 923.
McElroy, George E. (See Woodruff and McElroy.)
McElroy, John H., Chicago, Ill. Voting-machine. No. 972,213; Oct. 11; Sp. p. 1524; Gaz. vol. 159; p. 271.
McElroy, John H., Chicago, Ill. Voting-machine. No. 972,214; Oct. 11; Sp. p. 1537; Gaz. vol. 159; p. 272.
McElroy, John H., Chicago, Ill. Voting-machine. No. 972,215; Oct. 11; Sp. p. 1547; Gaz. vol. 159; p. 273.
McFarland, William H., East Orange, N. J. Computing and recording machine. No. 973,683; Oct. 25; Sp. p. 4773; Gaz. vol. 159; p. 830.
McGee, Joseph A., Big Spring, Ind. Multiple-disk friction-clutch. No. 974,101; Oct. 25; Sp. p. 5621; Gaz. vol. 159; p. 974.
McGee, Richmond M., Dallas, Tex. Automatic street-calling device. No. 972,397; Oct. 11; Sp. p. 1908; Gaz. vol. 159; p. 335.
McGeorge, William C., assignor of one-half to G. D. Cooper, Oakland, Cal. Gas burner and grate. No. 972,775; Oct. 11; Sp. p. 2738; Gaz. vol. 159; p. 466.
McGilvary, Evander B., Madison, Wis. Attachment for type-writers. No. 972,776; Oct. 11; Sp. p. 2739; Gaz vol. 159; p. 466.
McGinnis, John, Scranton, Pa. Stop-motion. No. 971,911; Oct. 4; Sp. p. 862; Gaz. vol. 159; p. 148.
McGranahan, Charles, et al. (See Paar, Henry, assignor.)
McGuire, William H., Hobart, Okla. Furnace. No. 971,548; Oct. 4; Sp. p. 82; Gaz. vol. 159; p. 16.
McHugh, Edward T., Holyoke, Mass. Rocking-bar furnace-grate. No. 972,707; Oct. 11; Sp. p. 2599; Gaz. vol. 159; p. 443.
McKane, Calvert T., Beaver Falls, Pa. Folding and guiding attachment for sewing-machines. No. 973,530; Oct. 25; Sp. p. 4444; Gaz. vol. 159; p. 776.
McKee, Arthur G., Cleveland, Ohio. Blast-furnace chimney-valve. No. 973,798; Oct. 25; Sp. p. 5002; Gaz. vol. 159; p. 870.
McKeen Motor Car Company. (See Harriman and McKeen, assignors.)
McKeen Motor Car Company. (See McKeen, William R., Jr., assignor.)
McKeen, William R., Jr., assignor, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr. Car-frame. No. 972,467; Oct. 11; Sp. p. 2047; Gaz. vol. 159; p. 359.
McKeen, William R., Jr., assignor to McKeen Motor Car Company, Omaha, Nebr. Car structure. No. 972,708; Oct. 11; Sp. p. 2601; Gaz. vol. 159; p. 443.
McKeen, William R., Jr., assignor, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr. Power-transmitting apparatus. No. 973,365; Oct. 18; Sp. p. 4076; Gaz. vol. 159; p. 698.
McKeen, William R., Jr., assignor, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr. Car-body construction. No. 973,366; Oct. 18; Sp. p. 4085; Gaz. vol. 159; p. 638.
McKeen, William R., Jr., assignor, by mesne assignments, to McKeen Motor Car Company, Omaha, Nebr. Truck construction. No. 973,531; Oct. 25; Sp. p. 4446; Gaz. vol. 159; p. 777.
McKibben, Charles R., Pittsburg, Pa. Pipe-joint. No. 972,119; Oct. 4; Sp. p. 1303; Gaz. vol. 159; p. 221.
McKinley, Patrick J., Denver, Colo. Game device. No. 973,799; Oct. 25; Sp. p. 5004; Gaz. vol. 159; p. 870.
McKinney, Charles Z., Canton, Ohio. Brush. No. 972,011; Oct. 4; Sp. p. 1103; Gaz. vol. 159; p. 185.
McKinney, William M., Crows Landing, Cal. Spur. No. 973,367; Oct. 18; Sp. p. 4092; Gaz. vol. 159; p. 699.
McKinnon, Donald J., assignor of two-thirds to K. F., R. B., J. G., and R. S. McKinnon, and E. W. Oliver, Toronto, Canada, and W. A. McKinnon, Birmingham, England. Internal-combustion motor. No. 973,800; Oct. 25; Sp. p. 5006; Gaz. vol. 159; p. 870.
McKinnon, John G., et al. (See McKinnon, Donald J., assignor.)
McKinnon, K. F., et al. (See McKinnon, Donald J., assignor.)
McKinnon, Ronald S., et al. (See McKinnon, Donald J., assignor.)
McKinnon, Rosa B., et al. (See McKinnon, Donald J., assignor.)
McKinnon, William A., et al. (See McKinnon, Donald J., assignor.)
McLaughlin, Charles H., assignor of one-third to J. Coleman and one-third to J. J. Coleman, Williamsport, Pa. Automatic spring take-up collar. No. 972,216; Oct. 11; Sp. p. 1559; Gaz. vol. 159; p. 273.
McLaughlin, John, Ottawa, Ontario, Canada. Lumber-kiln. No. 973,872; Oct. 25; Sp. p. 5161; Gaz. vol. 159; p. 896.
McLaughlin, John, assignor of one-third to J. R. Casey and one-third to J. W. Shaver, Bellefontaine, Ohio. Display-rack. No. 971,912; Oct. 4; Sp. p. 864; Gaz. vol. 159; p. 148.
McLaughlin, Milton P., Wakefield, Mass., assignor of forty-five one-hundredths to H. C. McCarty, Williamsport, Pa. Hose-clamp. No. 973,532; Oct. 25; Sp. p. 4452; Gaz. vol. 159; p. 777.
McManus, Frank. (See Wilson and McManus.)
McMenamin, Francis J., Philadelphia, Pa. Bin. No. 973,368; Oct. 18; Sp. p. 4093; Gaz. vol. 159; p. 699.
McMichael, James G., Chicago, Ill. Rail-joint. No. 973,952; Oct. 25; Sp. p. 5317; Gaz. vol. 159; p. 923.
McNatt, Daniel W., Ridge, Tex. Draft-equalizer. No. 972,012; Oct. 4; Sp. p. 1105; Gaz. vol. 159; p. 185.
McNew, William F. (See Heedwell and McNew.)
McNulty, Harry B., East Cleveland, assignor, by mesne assignments, to The United States Phonograph Company, Cleveland, Ohio. Phonograph-reproducer. No. 972,013; Oct. 4; Sp. p. 1106; Gaz. vol. 159; p. 185.
McPherson, George J., Salt Lake City, Utah, assignor to International Oil Gas Producer Company. Hydrocarbon-burner. No. 972,014; Oct. 4; Sp. p. 1109; Gaz. vol. 159; p. 186.
McPike, Henry G., Jr. (See McPike and Harlow.)
McPike, John H., Alton, Ill. Corrugated-paper-board machine. No. 972,120; Oct. 4; Sp. p. 1304; Gaz. vol. 159; p. 221.
McPike, John H., H. G., Jr., and H. B. Harlow, Alton, Ill.; said Harlow and H. G. McPike, Jr., assignors to said John H. McPike. Corrugated-paper-board machine. No. 972,121; Oct. 4; Sp. p. 1306; Gaz. vol. 159; p. 221.
McQuown, Thomas H., Cambridge, assignor, by mesne assignments, to Monitor Manufacturing Company, Boston, Mass. Timer and distributer. No. 973,447; Oct. 18; Sp. p. 4257; Gaz. vol. 159; p. 725.
Mechanical Dust Suction Company. (See Moorhead, Albert E., assignor.) (Reissue.)
Medved, Paul, assignor of one-half to T. Medved, Milwaukee, Wis. Machine for cutting leather strips. No. 973,448; Oct. 18; Sp. p. 4260; Gaz. vol. 159; p. 726.
Medved, Thomas. (See Medved, Paul, assignor.)
Meeker, William P., Maplewood, N. J. Glass tile. No. 972,461; Oct. 11; Sp. p. 2040; Gaz. vol. 159; p. 357.
Meer, Gustav ter, Hanover, Germany. Centrifugal machine. No. 973,121; Oct. 18; Sp. p. 3538; Gaz. vol. 159; p. 612.
Meier, Charles, and G. Langen, assignors to The Cincinnati Planer Company, Cincinnati, Ohio. Belt-gearing. No. 973,801; Oct. 25; Sp. p. 5009; Gaz. vol. 159; p. 871.
Meisel, Francis, assignor to Meisel Press & Mfg. Co., Boston, Mass. Slitting and rewinding machine. No. 972,891; Oct. 18; Sp. p. 3025; Gaz. vol. 159; p. 534.
Meisel Press & Mfg. Co. (See Meisel, Francis, assignor.)
Meloon, Jonathan C., Providence, R. I., assignor to General Fire Extinguisher Company, New York, N. Y. Clamping mechanism. No. 971,771; Oct. 4; Sp. p. 545; Gaz. vol. 159; p. 95.
Melton, Edward R., Washington, D. C. Cooling apparatus for inking-rollers. No. 973,122; Oct. 18; Sp. p. 3539; Gaz. vol. 159; p. 612.
Mendenhall, M. M. (See Inglis, Edward, assignor.)
Menly, Herman. (See Pierson, Marian B., assignor.)
Mergenthaler, Eugene G., Baltimore, Md. Safety-razor. No. 973,533; Oct. 25; Sp. p. 4454; Gaz. vol. 159; p. 778.

Mergenthaler Linotype Company. (See Elliott, William E., assignor.)

Mergenthaler Linotype Company. (See Muehleisen, Carl, assignor.)

Mergenthaler Linotype Company. (See Rogers, John R., assignor.)

Merithew, William H., Carterville, Mo. Water-hose reel and spray. No. 973,286; Oct. 18; Sp. p. 3912; Gaz. vol. 159; p. 669.

Merrill, Calvin H., Shenandoah, Iowa. Air-pumping attachment for water-pumps. No. 972,390; Oct. 11; Sp. p. 1895; Gaz. vol. 159; p. 332.

Merrill, Nathan C., Chicago, Ill. Leg-mounting for uptilting beds. No. 972,462; Oct. 11; Sp. p. 2040; Gaz. vol. 159; p. 357.

Merrill, Robert A., Cincinnati, Ohio. Tool for making ferrules. No. 972,122; Oct. 4; Sp. p. 1309; Gaz. vol. 159; p. 222.

Merrill, Robert A., assignor to The Eagle White Lead Company, Cincinnati, Ohio. Making plumbers' ferrules. No. 973,802; Oct. 25; Sp. p. 5010; Gaz. vol. 159; p. 871.

Merrow, Charles E. A., Hyde Park, Mass. Illusion apparatus. No. 973,449; Oct. 18; Sp. p. 4262; Gaz. vol. 159; p. 726.

Mersen, John J. (See De Pree, Leenhouts, and Mersen.)

Mershon, Edward C., Saginaw, Mich. Stock-guide for band-saws. No. 971,685; Oct. 4; Sp. p. 365; Gaz. vol. 159; p. 64.

Mesinger, Frederick, New York, N. Y. Speed varying and reversing mechanism. No. 972,391; Oct. 11; Sp. p. 1898; Gaz. vol. 159; p. 333.

Meskimons, James R. (See Langford, Edwin R., assignor.)

Messmer, Eduard, Gratz, Austria-Hungary. Dental air-pump. No. 971,913; Oct. 4; Sp. p. 866; Gaz. vol. 159; p. 149.

Metropolitan Sewing Machine Company. (See Weis, John P., assignor.)

Metzler, Clarence A. (See Davis, John M., assignor.)

Meyer, Ernest D., assignor to A. V. Manning's Sons, Trenton, N. J. Display mechanism. No. 972,123; Oct. 4; Sp. p. 1311; Gaz. vol. 159; p. 222.

Meyer, William, Chicago, Ill. Rectifier. No. 972,892; Oct. 18; Sp. p. 3028; Gaz. vol. 159; p. 534.

Meyerheim, Max, assignor to D. L. Gluck, New York, N. Y. Ruling device. No. 973,534; Oct. 25; Sp. p. 4456; Gaz. vol. 159; p. 778.

Michael, Charles C., and G. E. Cockings, Bristol, Conn. Hoisting apparatus. No. 971,680; Oct. 4; Sp. p. 367; Gaz. vol. 159; p. 64.

Michaud, Georges, and E. Delasson, Montreuil, Seine, France. Manufacture of filaments for illuminating and heating purposes. No. 972,893; Oct. 18; Sp. p. 3030; Gaz. vol. 159; p. 535.

Michaud, Georges, and E. Delasson, Montreuil-sous-Bois, France. Manufacturing filaments and the filament produced thereby. No. 973,535; Oct. 25; Sp. p. 4457; Gaz. vol. 159; p. 778.

Michener, Elwood H., Camden, N. J., assignor to Acme Staple Company, Limited, Philadelphia, Pa. Machine for forming and attaching tags. No. 973,369; Oct. 18; Sp. p. 4095; Gaz. vol. 159; p. 699.

Michener, Elwood H., Camden, N. J., assignor to Acme Staple Company, Limited, Philadelphia, Pa. Stapling-machine. No. 973,370; Oct. 18; Sp. p. 4100; Gaz. vol. 159; p. 700.

Middlebrook, Thomas, Sault Ste. Marie, Mich. Mail delivering and collecting apparatus. No. 971,914; Oct. 4; Sp. p. 867; Gaz. vol. 159; p. 140.

Middendorf, John N., Covington, Ky. Water-heater. No. 973,536; Oct. 25; Sp. p. 4459; Gaz. vol. 159; p. 778.

Miehle Printing Press and Manufacturing Company. (See Henderson, Carl, assignor.)

Miley, Annie C., assignor of one-half to E. P. McCabe, Philadelphia, Pa. Adjustable head and back rest. No. 973,371; Oct. 18; Sp. p. 4105; Gaz. vol. 159; p. 700.

Millar, James D., Milwaukee, Wis. Safety-razor. No. 971,772; Oct. 4; Sp. p. 547; Gaz. vol. 159; p. 96.

Miller, Charles H., and W. A. Bunnell, Decatur, Tex. Non-freezing connection for tanks. No. 973,450; Oct. 18; Sp. p. 4263; Gaz. vol. 159; p. 726.

Miller, Conda, Woodbury, Pa. Saw-guide. No. 973,953; Oct. 25; Sp. p. 5318; Gaz. vol. 159; p. 924.

Miller, George C., Fitchburg, Mass. Feed-water heater and smoke-consumer. No. 972,772; Oct. 11; Sp. p. 2735; Gaz. vol. 159; p. 465.

Miller, George H., Norwalk, Ohio. Auger-deflector. No. 973,537; Oct. 25; Sp. p. 4460; Gaz. vol. 159; p. 779.

Miller, George M., and S. R. Slaymaker, Lancaster, Pa., assignors to The Slaymaker Lock Manufacturing Corporation. Padlock. No. 973,538; Oct. 25; Sp. p. 4461; Gaz. vol. 159; p. 779.

Miller, Harry C. (See George, Lemuel L., assignor.)

Miller, Henry, Brooklyn, N. Y. Cigar advertising and lighting device. No. 973,372; Oct. 18; Sp. p. 4106; Gaz. vol. 159; p. 701.

Miller, Henry C., Waterford, N. Y. Machine for dampening the extra-thick end seams of collars. No. 972,084; Oct. 4; Sp. p. 1237; Gaz. vol. 159; p. 210.

Miller, Henry C., Waterford, N. Y. Machine for dampening collars. No. 972,124; Oct. 4; Sp. p. 1313; Gaz. vol. 159; p. 222.

Miller, Henry C., Waterford, N. Y. Dampening-machine. No. 972,125; Oct. 4; Sp. p. 1318; Gaz. vol. 159; p. 223.

Miller, Holla W. (See Schaal, Ernest A., assignor.)

Miller, Hubert L., Cumberland, Md. Draft-gearing. No. 973,451; Oct. 18; Sp. p. 4265; Gaz. vol. 159; p. 727.

Miller, Jesse E., Knoxville, Tenn. Sewing-machine. No. 973,123; Oct. 18; Sp. p. 3541; Gaz. vol. 159; p. 613.

Miller, John B., Mount Pleasant Mills, Pa. Spike-puller. No. 971,915; Oct. 4; Sp. p. 869; Gaz. vol. 159; p. 149.

Miller, Marshall E., Walker, Mo. Auger apparatus. No. 972,392; Oct. 11; Sp. p. 1899; Gaz. vol. 159; p. 333.

Miller, Solomon S. (See Ermentrout and Miller.)

Miller, Walter L., Santa Fe, N. Mex. Changeable-speed gearing. No. 973,287; Oct. 18; Sp. p. 3914; Gaz. vol. 159; p. 670.

Miller, William, Wellington, England. Crucible-furnace. No. 972,703; Oct. 11; Sp. p. 2586; Gaz. vol. 159; p. 441.

Miller, William H., Indianola, Iowa. Adjustable cement-mold. No. 972,015; Oct. 4; Sp. p. 1111; Gaz. vol. 159; p. 186.

Miller, William V., Toronto, Ontario, Canada, assignor, by mesne assignments, to The Singer Manufacturing Company, New York, N. Y. Sewing-machine. No. 972,894; Oct. 18; Sp. p. 3031; Gaz. vol. 159; p. 535.

Milliken, Elmer E., Bridgewater, Me. Potato pick-up. No. 973,539; Oct. 25; Sp. p. 4463; Gaz. vol. 159; p. 780.

Milliken, Elmer E., Bridgewater, Me. Potato pick-up. No. 973,540; Oct. 25; Sp. p. 4464; Gaz. vol. 159; p. 780.

Mills, Jacob, Los Angeles, Cal. Nut-lock. No. 971,549; Oct. 4; Sp. p. 84; Gaz. vol. 159; p. 16.

Millsaps Company, The. (See Millsaps, Daniel W., assignor.)

Millsaps, Daniel W., assignor to The Millsaps Company, Marion, S. C. Handle for sliding doors. No. 972,773; Oct. 11; Sp. p. 2736; Gaz. vol. 159; p. 465.

Milner, Hans, Budapest, Austria-Hungary. Pump for comparatively incompressible liquids. No. 972,558; Oct. 11; Sp. p. 2260; Gaz. vol. 159; p. 302.

Miner, William H. (See O'Connor, John F., assignor.)

Mingo, William, Jr., Weimar, Tex. Automatic stopping mechanism for trains. No. 973,954; Oct. 25; Sp. p. 5320; Gaz. vol. 159; p. 924.

Minogue, Martin T., Philadelphia, Pa., assignor to The Superior Motor Specialty Company, New York, N. Y. Spark-plug for explosive-engines. No. 973,873; Oct. 25; Sp. p. 5163; Gaz. vol. 159; p. 897.

Minton, John S., assignor of one-half to D. Wort, Kearney, Nebr. Concrete-block machine. No. 973,288; Oct. 18; Sp. p. 3916; Gaz. vol. 159; p. 670.

Mishler, Melvin S., Littleriver, Fla. Acetylene-gas generator. No. 972,016; Oct. 4; Sp. p. 1112; Gaz. vol. 159; p. 186.

Missall, John, and A. Sommer, New York, N. Y. Non-refillable bottle. No. 971,916; Oct. 4; Sp. p. 872; Gaz. vol. 159; p. 150.

Mitchell, Garrett V., Bayonne, N. J. Hawser-securing device for scows. No. 972,895; Oct. 18; Sp. p. 3042; Gaz. vol. 159; p. 536.

Mitchell, Garrett V., Bayonne, N. J. Automatically-operating dumping-scow. No. 972,896; Oct. 18; Sp. p. 3043; Gaz. vol. 159; p. 536.

Mitchell, Preston C., Horner, Mich. Seed-hopper. No. 971,917; Oct. 4; Sp. p. 873; Gaz. vol. 159; p. 150.

Miyabara, Jiro, Tokyo, Japan. Water-tube boiler. No. 973,541; Oct. 25; Sp. p. 4466; Gaz. vol. 159; p. 780.

Moak, Eugene H. (See Sevison and Moak.)

Modern Steel Structural Company. (See Israel, Homer W., assignor.)

Moe, Eldor H., Salt Lake City, Utah. Ore-concentrator. No. 972,463; Oct. 11; Sp. p. 2041; Gaz. vol. 159; p. 358.

Moffatt, Ansil, Indianapolis, Ind. Pigment. No. 973,373; Oct. 18; Sp. p. 4108; Gaz. vol. 159; p. 701.

Moffatt, Ansil, Indianapolis, Ind. Making pigments. No. 973,374; Oct. 18; Sp. p. 4110; Gaz. vol. 159; p. 701.

Moffett, Thomas S., Spokane, Wash. Harness. No. 972,897; Oct. 18; Sp. p. 3048; Gaz. vol. 159; p. 536.

Mohlsick, Mary, Peekskill, N. Y. Skirt-gage. No. 973,955; Oct. 25; Sp. p. 5321; Gaz. vol. 159; p. 924.

Mohr, Edmund H. (See Schaefer, Albert, assignor.)

Molas, Jean, London, England. Fluid-pressure heat-engine. No. 973,289; Oct. 18; Sp. p. 3918; Gaz. vol. 159; p. 671.

Molloy, Joseph M., Lewiston, Idaho. Moistener. No. 973,375; Oct. 18; Sp. p. 4112; Gaz. vol. 159; p. 701.

Monarch Typewriter Company, The. (See Barney, Edwin E., assignor.)

Monarch Typewriter Company, The. (See Coo, Thomas J., assignor.)

Monarch Typewriter Company, The. (See Seib, George A., assignor.)

Monarch Typewriter Company, The. (See Steele, Herbert H., assignor.)

Monell, Ira F., Boulder, Colo. Ore-concentrator. No. 972,017; Oct. 4; Sp. p. 1115; Gaz. vol. 159; p. 187.

Monitor Manufacturing Company. (See McQuown, Thomas H., assignor.)

Monnot, John F., assignor to Duplex Metals Company, New York, N. Y. Hot-working metals. No. 972,559; Oct. 11; Sp. p. 2272; Gaz. vol. 159; p. 303.

Monnot, John F., assignor to Duplex Metals Company, New York, N. Y. Method of and apparatus for producing coated metal objects. No. 972,561; Oct. 11; Sp. p. 2279; Gaz. vol. 159; p. 303.

Monnot, John F., assignor to Duplex Metals Company, New York, N. Y. Method of and apparatus for producing coated metal objects. No. 972,629; Oct. 11; Sp. p. 2449; Gaz. vol. 159; p. 417.

Monnot, John F., assignor to Duplex Metals Company, New York, N. Y. Making compound metal bodies. No. 972,630; Oct. 11; Sp. p. 2454; Gaz. vol. 159; p. 417.

Monnot, John F., assignor to Duplex Metals Company, New York, N. Y. Process of and apparatus for cutting compound metal articles. No. 973,876; Oct. 18; Sp. p. 4113; Gaz. vol. 159; p. 702.

Monroe Electrical Manufacturing Company, The. (See Adams, Harry E., assignor.)

Monson, Jacob, Minneapolis, Minn. Combined punch and shear. No. 973,124; Oct. 18; Sp. p. 3545; Gaz. vol. 159; p. 613.

Montgomery, Robert J., Chicago, Ill. Brush. No. 972,898; Oct. 18; Sp. p. 3049; Gaz. vol. 159; p. 537.

Monti, Eudo, Turin, Italy. Apparatus for concentrating solutions in general. No. 973,290; Oct. 18; Sp. p. 3921; Gaz. vol. 159; p. 671.

Moody, James N., South Boston, Va. Ventilating-canopy. No. 972,207; Oct. 11; Sp. p. 1516; Gaz. vol. 159; p. 270.

Moon, William B., Dayton, Ohio. Total-adding weighing-scale. No. 972,394; Oct. 11; Sp. p. 1902; Gaz. vol. 159; p. 334.

Mooney, William L., Weston, W. Va. Tile-molding apparatus. No. 972,704; Oct. 11; Sp. p. 2587; Gaz. vol. 159; p. 441.

Moore, Charles B., Rochester, Ind. Vehicle-seat. No. 972,393; Oct. 11; Sp. p. 1900; Gaz. vol. 159; p. 333.

Moore, Daniel M., Newark, N. J., assignor to Moore Electrical Company, New York, N. Y. Artificial skylight. No. 973,085; Oct. 25; Sp. p. 4782; Gaz. vol. 159; p. 830.

Moore, David P., Washington, D. C. Tag forming and affixing machine. No. 973,377; Oct. 18; Sp. p. 4116; Gaz. vol. 159; p. 702.

Moore Electrical Company. (See Moore, Daniel M., assignor.)

Moore, George W., Weehawken, N. J., and J. K. Hutchison, New York, N. Y. Hat-pin. No. 972,208; Oct. 11; Sp. p. 1517; Gaz. vol. 159; p. 270.

Moore, John H. (See Lewis and Moore.)

Moore, John W., Bartow, Fla. Dump-car closure. No. 972,018; Oct. 4; Sp. p. 1116; Gaz. vol. 159; p. 187.

Moore, William, Marinette, Wis. Upright band-saw shingle-machine. No. 972,562; Oct. 11; Sp. p. 2282; Gaz. vol. 159; p. 394.

Moore, William P. (See Gee, Albert, assignor.)

Moorhead, Albert E., assignor to Mechanical Dust Suction Company, San Francisco, Cal. Pneumatic cleansing apparatus. (Reissue.) No. 13,155; Oct. 11; Sp. p. 2770; Gaz. vol. 159; p. 471.

Morand, Armand C., Boston, Mass. Automatic sheet-music rack. No. 973,803; Oct. 25; Sp. p. 5011; Gaz. vol. 159; p. 871.

Morden, Lucena M., Waterbury, and L. R. Hitchcock, Watertown, Conn.; said Hitchcock assignor to said Morden. Temporary binder. No. 973,452; Oct. 18; Sp. p. 4266; Gaz. vol. 159; p. 727.

Morden, Lucena M., Waterbury, and L. R. Hitchcock, Watertown, Conn.; said Hitchcock assignor to said Morden. Temporary binder. No. 973,453; Oct. 18; Sp. p. 4269; Gaz. vol. 159; p. 727.

Morgan, Arthur J. (See Hotchkin and Morgan.)

Morgan, Charles W., and C. L. Rice, Lumberton, Miss. Cleat attachment for conveyer-chains. No. 973,686; Oct. 25; Sp. p. 4785; Gaz. vol. 159; p. 831.

Morgan Construction Company. (See Edwards and George, assignors.)

Morgan Construction Company. (See Nye, Theodore H., assignor.)

Morgan Engineering Company, The. (See Taylor, Clarence L., assignor.)

Morgan Fare Register Company. (See Morgan, Frederick A., assignor.) (Reissue.)

Morgan, Frederick A., assignor to Morgan Fare Register Company, Indianapolis, Ind. Indicating and recording device. (Reissue.) No. 13,159; Oct. 18; Sp. p. 4292; Gaz. vol. 159; p. 731.

Morgan, Harry D., and H. Schoby, Plain City, Ohio. Tamping-machine. No. 972,563; Oct. 11; Sp. p. 2287; Gaz. vol. 159; p. 394.

Morgan, J. C. (See Washington, Dixon E., assignor.)

Morgan, Thomas R., A. L. Atwater, B. A. Crowther, Pittston, and W. M. Ash, Williamsport, Pa. Steam-turbine. No. 971,918; Oct. 4; Sp. p. 875; Gaz. vol. 159; p. 150.

Morin, Leon J. (See Culver and Morin.)

Moritz, John G., Millersburg, Ohio. Steamer. No. 973,956; Oct. 25; Sp. p. 5323; Gaz. vol. 159; p. 925.

Moritz, Samuel S., Dayton, Wash. Tailor's measuring apparatus. No. 972,705; Oct. 11; Sp. p. 2589; Gaz. vol. 159; p. 442.

Mork, Harry S., assignor to Chemical Products Company, Boston, Mass. Cellulose ester and treating same. No. 972,464; Oct. 11; Sp. p. 2043; Gaz. vol. 159; p. 358.

Morley, John H., Johnstown, Pa. Swiveling attachment device for electrical apparatus. No. 972,209; Oct. 11; Sp. p. 1518; Gaz. vol. 159; p. 270.

Morrill, George A. (See Thunen and Morrill.)

Morris, George R., Chicago, Ill. Gas-engine. No. 971,919; Oct. 4; Sp. p. 877; Gaz. vol. 159; p. 151.

Morrison, Ira D., and L. J. Andrews, Savannah, Ga. Car-brake. No. 972,899; Oct. 18; Sp. p. 3051; Gaz. vol. 159; p. 537.

Morrison, Sylvanus S., Newport, assignor of nine-twentieths to W. L. Buckman, Covington, Ky. Automatic balancing mechanism in flying-machines. No. 972,395; Oct. 11; Sp. p. 1904; Gaz. vol. 159; p. 334.

Morrissey, John J., White Bear Lake, Minn. Automatic check for phonographs. No. 973,205; Oct. 18; Sp. p. 3762; Gaz. vol. 159; p. 643.

Morse Twist Drill & Machine Company. (See Gregson, Lewis, assignor.)

Morse Twist Drill & Machine Company. (See Malmedie, Charles H., assignor.)

Morse Twist Drill & Machine Company. (See York and Hayden, assignors.)

Mosier, Harry L., Keller, Tex. Fruit-picker. No. 972,900; Oct. 18; Sp. p. 3052; Gaz. vol. 159; p. 537.

Motsinger Device Mfg. Co. (See Motsinger, Homer N., assignor.)

Motsinger, Homer N., assignor to Motsinger Device Mfg. Co., Pendleton, Ind. Storage-battery circuit controller and tester. No. 972,210; Oct. 11; Sp. p. 1520; Gaz. vol. 159; p. 271.

Mott, Kenneth. (See Paul, Christian F., Jr., assignor.)

Motter, Elmer E., Tippecanoe City, Ohio. Machine for cutting fat and other substances. No. 971,624; Oct. 4; Sp. p. 247; Gaz. vol. 159; p. 44.

Mouat, Thomas G., Bratenahl, Ohio. Radiator-fitting. No. 973,063; Oct. 18; Sp. p. 3427; Gaz. vol. 159; p. 593.

Moukos, Charles. (See Matchette, Gordon, and Moukos.)

Mowry, Archie C. (See Fogal, Crichton, and Mowry.)

Muehleisen, Carl, Berlin, Germany, assignor to Mergenthaler Linotype Company. Apparatus for effecting separation of matrices and space-bars in typographical composing-machines. No. 973,454; Oct. 18; Sp. p. 4272; Gaz. vol. 159; p. 728.

Muehleisen, Thomas, San Diego, Cal. Gas-generating oil-burner. No. 973,804; Oct. 25; Sp. p. 5014; Gaz. vol. 159; p. 872.

Muehlmatt, Adolph, Newport, Ky. Boring-head for lathes, milling-machines, and the like. No. 973,542; Oct. 25; Sp. p. 4468; Gaz. vol. 159; p. 780.

Mueller, Curt B., Cleveland, Ohio. Tennis-racket. No. 971,773; Oct. 4; Sp. p. 549; Gaz. vol. 159; p. 96.

Mueller, Herman J., Sugar Loaf township, St. Clair county, Ill. Self-feeder for feed-cutters. No. 972,465; Oct. 11; Sp. p. 2044; Gaz. vol. 159; p. 358.

Mueller, Robert F. (See Kistner, Henry N., assignor.)

Muir, Craig, New York, N. Y. Bouquet-holder. No. 971,774; Oct. 4; Sp. p. 552; Gaz. vol. 159; p. 96.

Müller, Carl A., Witzenhausen, Germany. Safety-lock. No. 973,455; Oct. 18; Sp. p. 4276; Gaz. vol. 159; p. 728.

Müller, Charles, and H. Reis, New York, N. Y. Fruit-stand. No. 973,125; Oct. 18; Sp. p. 3546; Gaz. vol. 159; p. 614.

Müller, Georg, Gmünd, assignor to J. Bloch, Pforzheim, and P. Rupp, Ellwangen, Germany. Screwed connection. No. 972,211; Oct. 11; Sp. p. 1521; Gaz. vol. 159; p. 271.

Müller, Jean, Lachen-Vonwyl, near St. Gallen, Switzerland. Concrete-mixing machine. No. 973,543; Oct. 25; Sp. p. 4471; Gaz. vol. 159; p. 781.

Muller, Jean L. (See Bonnet and Muller.)

Mullins, William H., Salem, Ohio. Automobile dust-pan. No. 971,550; Oct. 4; Sp. p. 85; Gaz. vol. 159; p. 16.

Multi Speed Shutter Company. (See Wallace, William H., assignor.)

Mumma, A. B. (See Coover, Amos J., assignor.)

Munn, Neil D., Dresden, Ontario, Canada. Nut-lock. No. 973,544; Oct. 25; Sp. p. 4473; Gaz. vol. 159; p. 781.

Munson, Corydon W., Toledo, Ohio, assignor, by mesne assignments, to M. O. Munson. Continuous-twyer furnace. No. 972,126; Oct. 4; Sp. p. 1326; Gaz. vol. 159; p. 223.

Munson, Mary O. (See Munson, Corydon W., assignor.)

Munzer, William F. (See Stanton, D'Arsi, and Munzer.)

Murphy Iron Works. (See Haigh and Fortune, assignors.)

Murphy, Walter P., *et al.* (See Acker, Julius J., assignor.)

Murphy, William J., Perry, Okla. Nut-lock. No. 971,775; Oct. 4; Sp. p. 554; Gaz. vol. 159; p. 97.

Murphy, William J., and A. E. Culley, Butte, Mont. Converter. No. 972,564; Oct. 11; Sp. p. 2290; Gaz. vol. 159; p. 395.

Murray, William, Philadelphia, Pa. Jar-cover-removing device. No. 972,774; Oct. 11; Sp. p. 2738; Gaz. vol. 159; p. 466.

Muskegon Motor Specialties Company. (See Johnson, Charles E., assignor.)

Myers, Jacob H., assignor, by mesne assignments, to Empire Voting Machine Company, Rochester, N. Y. Voting-machine. No. 972,565; Oct. 11; Sp. p. 2292; Gaz. vol. 159; p. 395.

Myers, Lewis, Newark, Mich. Burglar-alarm. No. 971,776; Oct. 4; Sp. p. 554; Gaz. vol. 159; p. 97.

Myles, Leon. (See Tompkins, Caroline B., assignor.)

Nabhan, Elias H., Lawrence, Mass. Picker-stick. No. 971,625; Oct. 4; Sp. p. 249; Gaz. vol. 159; p. 44.

Nacey, Henry J. (See Nacey, John T., assignor.)

Nacey, John T., assignor of one-half to H. J. Nacey, Superior, Wis. Hacksaw. No. 972,085; Oct. 4; Sp. p. 1243; Gaz. vol. 159; p. 210.

Nagy, Stiven. (See Fülöp and Nagy.)

Napier, Montague S., *et al.* (See Cannon, Percival C., assignor.)

National Acme Manufacturing Company, The. (See Smith, Oscar A., assignor.)

National Carbon Company. (See Shaw, William, assignor.)

National Carbonated Liquid Co. (See Kennedy, Guy L., assignor.)

National Cash Register Company, The. (See Carroll, Thomas, assignor.)
National Cash Register Company, The. (See Spangler, William I., assignor.)
National Dump Car Company. (See Neikirk, John O., assignor.)
National Malleable Castings Company, The. (See Krakau, Harry T., assignor.)
National Malleable Castings Company, The. (See Schmidt, Ernest H., assignor.)
National Sewing Machine Company. (See Brown, Richard R., assignor.)
National Vacuum Devices Company. (See Bergens, William J., assignor.)
National Vending Machine Company, The. (See Williams and Briggs, assignors.)
Naugle, Frederick S. (See Penfield and Naugle.)
Naugle, Joseph F., Meyersdale, Pa. Door-check. No. 972,019; Oct. 4; Sp. p. 1119; Gaz. vol. 159; p. 187.
Naylor, Paul B., Kansas City, Mo. Silo. No. 973,687; Oct. 25; Sp. p. 4786; Gaz. vol. 159; p. 831.
Nebergall, Ben F. (See Giesecke, Nebergall, and Oheim.)
Neely Compress and Cotton Co., The. (See Wood, James N., assignor.)
Neely, William B. (See White, Garrett, assignor.)
Neff, Miles P., Wayland, Iowa. Harrow. No. 973,805; Oct. 25; Sp. p. 5016; Gaz. vol. 159; p. 872.
Neff, Omar F., Milford, Ind. Attachment for automobiles. No. 972,020; Oct. 4; Sp. p. 1121; Gaz. vol. 159; p. 188.
Neff, Omar F., Milford, Ind. Head-rest. No. 973,957; Oct. 25; Sp. p. 5324; Gaz. vol. 159; p. 925.
Neffen, Paul H., Elkins, W. Va. Window-ventilator and shade-guard. No. 973,959; Oct. 25; Sp. p. 5327; Gaz. vol. 159; p. 926.
Neffen, Paul H., and J. F. Giffen, Elkins, W. Va.; said Giffen assignor to said Neffen. Window-ventilator and curtain-guard. No. 973,958; Oct. 25; Sp. p. 5325; Gaz. vol. 159; p. 925.
Neikirk, John O., Morgan Park, assignor to National Dump Car Company, Chicago, Ill. Dumping-door-operating mechanism. No. 973,874; Oct. 25; Sp. p. 5165; Gaz. vol. 159; p. 897.
Nellson, Francois, New York, N. Y. Device for balancing boats. No. 972,398; Oct. 11; Sp. p. 1912; Gaz. vol. 159; p. 336.
Nelson, Allan C., Flushing, N. Y. Ball game. No. 971,626; Oct. 4; Sp. p. 251; Gaz. vol. 159; p. 44.
Nelson, Edwin H., Detroit, Mich. Pad-holder. No. 972,709; Oct. 11; Sp. p. 2607; Gaz. vol. 159; p. 443.
Nelson, John and J. B., and G. C. Hanks, New Orleans, La. Safety-guard for railway-cars. No. 972,632; Oct. 11; Sp. p. 2460; Gaz. vol. 159; p. 418.
Nelson, John B. (See Nelson and Hanks.)
Nelson, Oscar, assignor to J. P. Seeburg Piano Company, Chicago, Ill. Rewinding and speed-regulating mechanism for pneumatic actions for pianos, &c. No. 972,633; Oct. 11; Sp. p. 2461; Gaz. vol. 159; p. 419.
Nelson, Santa E., Kennett, Cal. Rail-joint. No. 973,291; Oct. 18; Sp. p. 3926; Gaz. vol. 159; p. 672.
Neubecker, Belle T., Niagara Falls, N. Y. Foot-rest. No. 972,217; Oct. 11; Sp. p. 1561; Gaz. vol. 159; p. 273.
Neukirch, Otto, Cincinnati, Ohio. Tire-protector. No. 973,545; Oct. 25; Sp. p. 4474; Gaz. vol. 159; p. 782.
Neven, Frank A., Salt Lake City, Utah. Vaginal syringe. No. 973,456; Oct. 18; Sp. p. 4277; Gaz. vol. 159; p. 728.
New England Electric Co., The. (See Lawrence, Harry W., assignor.) (Reissue.)
New England Refrigerator Company, The. (See Noyes, Bernice J., assignor.)
Newberry, Spencer B., Baybridge, Ohio, assignor of one-half to G. R. Fishburne, Charleston, S. C. Fertilizer and making the same. No. 972,567; Oct. 11; Sp. p. 2310; Gaz. vol. 159; p. 396.
Newell, Alonzo L., Frost, Tex. Trap. No. 972,127; Oct. 4; Sp. p. 1328; Gaz. vol. 159; p. 223.
Newhall, Henry B. (See Pleister, Henry W., assignor.)
Newpher, Alfred H., assignor to The Adams & Westlake Company, Chicago, Ill. Window-sash. No. 973,546; Oct. 25; Sp. p. 4475; Gaz. vol. 159; p. 782.
Newpher, Alfred H., Chicago, Ill., assignor to The Adams & Westlake Company. Window-sash. No. 973,547; Oct. 25; Sp. p. 4476; Gaz. vol. 159; p. 782.
Nicholas, James F., Sullivan, Ind. Finishing-tool. No. 973,688; Oct. 25; Sp. p. 4787; Gaz. vol. 159; p. 831.
Nicholls, Moses, Sterling, Colo., assignor to Sax-Nicholls-Cohn Company, Ottumwa, Iowa. Gage for lock-mortising bits. No. 971,627; Oct. 4; Sp. p. 252; Gaz. vol. 159; p. 45.
Nickell, Kels P., Saratoga, Wyo. Ditching-plow. No. 973,689; Oct. 25; Sp. p. 4788; Gaz. vol. 159; p. 831.
Nickerson, William E., Cambridge, Mass. Grinding-machine. No. 971,860; Oct. 4; Sp. p. 740; Gaz. vol. 159; p. 129.
Nickerson, William E., Cambridge, Mass. Grinding-machine. No. 971,861; Oct. 4; Sp. p. 746; Gaz. vol. 159; p. 130.
Nickerson, William E., Cambridge, assignor to Gillette Safety Razor Company, Boston, Mass. Tempering. No. 971,628; Oct. 4; Sp. p. 253; Gaz. vol. 159; p. 46.
Nicola, Peter W. (See Tarnawski, Peter F., assignor.)
Nielsen, Iver, New Rochelle, N. Y. Vacuum-cleaner. No. 973,292; Oct. 18; Sp. p. 3920; Gaz. vol. 159; p. 672.
Nielsen, Jens C. (See Sivertsen and Nielsen.)
Niles-Bement-Pond Company. (See Draeseke, Charles G., assignor.)
Niles-Bement-Pond Company. (See Greenleaf, George E., assignor.)
Niles-Bement-Pond Company. (See Hagman, William J., assignor.)
Niles-Bement-Pond Company. (See Sears, Willard T., assignor.)
Nilsson, John W., Balfour, N. D. Attachment for telephones. No. 972,399; Oct. 11; Sp. p. 1913; Gaz. vol. 159; p. 336.
Nissen, Nikolaus A., Omaha, Nebr. Collar attachment for harness. No. 973,293; Oct. 18; Sp. p. 3930; Gaz. vol. 159; p. 673.
Nistle, George W., Muskegon, Mich., and R. L. Gifford, Chicago, Ill. Fluid-circulating apparatus. No. 971,920; Oct. 4; Sp. p. 878; Gaz. vol. 159; p. 151.
Nixon, Byron H., *et al.* (See Tingley, Lloyd M., assignor.)
Nobel's Explosives Company. (See Hodge, Howard D., assignor.)
Noble, Robert P., Smithfield, N. C. Steering device for bicycles. No. 973,806; Oct. 25; Sp. p. 5019; Gaz. vol. 159; p. 872.
Noonan, John E., New York, N. Y. Portable bowling-alley. No. 972,568; Oct. 11; Sp. p. 2311; Gaz. vol. 159; p. 396.
Norris, Almon E., Cambridge, Mass. Controlling device for pressure-fluid engines. No. 972,218; Oct. 11; Sp. p. 1563; Gaz. vol. 159; p. 274.
North, Charles H., assignor to The North Electric Company, Cleveland, Ohio. Electrical relay. No. 972,634; Oct. 11; Sp. p. 2463; Gaz. vol. 159; p. 419.
North Electric Company, The. (See Cadell, John F., assignor.)
North Electric Company, The. (See North, Charles H., assignor.)
Northey, John P., Toronto, Ontario, Canada. Sound-producing device. No. 973,960; Oct. 25; Sp. p. 5329; Gaz. vol. 159; p. 926.
Northrop, Jonas. (See Wood and Northrop.)
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Weft-fork mechanism. No. 973,126; Oct. 18; Sp. p. 3548; Gaz. vol. 159; p. 614.
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Filling-replenishing mechanism for looms. No. 973,127; Oct. 18; Sp. p. 3551; Gaz. vol. 159; p. 615.
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Shuttle-positioner. No. 973,128; Oct. 18; Sp. p. 3558; Gaz. vol. 159; p. 615.
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Thin-place preventer for looms. No. 973,129; Oct. 18; Sp. p. 3562; Gaz. vol. 159; p. 615.
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Shuttle-box. No. 973,130; Oct. 18; Sp. p. 3565; Gaz. vol. 159; p. 616.
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Filling-replenishing loom. No. 973,131; Oct. 18; Sp. p. 3569; Gaz. vol. 159; p. 616.
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Cushioning-stop for picker-sticks. No. 973,132; Oct. 18; Sp. p. 3572; Gaz. vol. 159; p. 617.
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Filling-replenishing mechanism. No. 973,133; Oct. 18; Sp. p. 3573; Gaz. vol. 159; p. 617.
Northrop, Jonas, assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Cloth-beam for looms. No. 973,134; Oct. 18; Sp. p. 3576; Gaz. vol. 159; p. 617.
Norwood, John E., Baltimore, Md. Vehicle-caster. No. 973,690; Oct. 25; Sp. p. 4789; Gaz. vol. 159; p. 832.
Nourse, Rupert A., assignor of one-half to I. W. Davis, Milwaukee, Wis. Door-hanger track and support. No. 971,629; Oct. 4; Sp. p. 254; Gaz. vol. 159; p. 45.
Noyes, Bernice J., Boston, Mass., assignor to The New England Refrigerator Company, Concord, N. H. Refrigerating apparatus. No. 973,548; Oct. 25; Sp. p. 4478; Gaz. vol. 159; p. 783.
Noyes, John B. (See Reily and Noyes.)
Nugent, Charles, Philadelphia, Pa. Extension embalming-couch. No. 971,921; Oct. 4; Sp. p. 881; Gaz. vol. 159; p. 152.
Nunamaker, Henry S., Cleveland, Ohio. Drafting and engraving machine. No. 972,569; Oct. 11; Sp. p. 2313; Gaz. vol. 159; p. 396.
Nuttall, George, Chester, Pa. Heddle-frame. No. 971,551; Oct. 4; Sp. p. 87; Gaz. vol. 159; p. 17.
Nuttall, George, Chester, Pa. Heddle-frame. No. 972,901; Oct. 18; Sp. p. 3053; Gaz. vol. 159; p. 538.
Nutting, Alfred B., Salisbury, Mass. Buffing and polishing machine. No. 973,135; Oct. 18; Sp. p. 3580; Gaz. vol. 159; p. 618.
Nye, Theodore H., assignor to Morgan Construction Company, Worcester, Mass. Guide for rolling-mills. No. 972,219; Oct. 11; Sp. p. 1565; Gaz. vol. 159; p. 274.
O'Brien, Dennis J., San Francisco, Cal., assignor, by mesne assignments, to Straight Filament Lamp Company. Lamp and reflector therefor. No. 974,090; Oct. 25; Sp. p. 5600; Gaz. vol. 159; p. 971.
O'Bryan, Francis L. (See Stone and O'Bryan.)

O'Bryant, William L., Republic, Mo. Compound. No. 973,549; Oct. 25; Sp. p. 4479; Gaz. vol. 159; p. 783.
O'Connor, John F., assignor, by mesne assignments, to W. H. Miner, Chicago, Ill. Roller side bearing for railway-cars. No. 972,902; Oct. 18; Sp. p. 3056; Gaz. vol. 159; p. 538.
O'Donnell, Anthony A., Springville, N. Y. Pipe-wrench. No. 972,903; Oct. 18; Sp. p. 3058; Gaz. vol. 159; p. 539.
O'Donnell, John L., St. Louis, Mo. Cover for athletic grounds. No. 974,091; Oct. 25; Sp. p. 5604; Gaz. vol. 159; p. 971.
O'Donoghue, John, Jersey City, N. J. Plant-bench for hothouses. No. 972,220; Oct. 11; Sp. p. 1567; Gaz. vol. 159; p. 275.
Oakley, Jesse R. (See Rishel, John A., assignor.)
Ocumpaugh, Charles H., Rochester, N. Y. Voting-machine. No. 973,550; Oct. 25; Sp. p. 4480; Gaz. vol. 159; p. 783.
Oczko, Marion, *et al.* (See Torrens, Scott, assignor.)
Odien, Ambrose F., and C. Dayfield, Turner, Mich. Horse-releaser. No. 972,635; Oct. 11; Sp. p. 2467; Gaz. vol. 159; p. 419.
Ogborn, Joseph B., San Mateo, Cal. Window-screen. No. 971,922; Oct. 4; Sp. p. 884; Gaz. vol. 159; p. 152.
Ogden, John E., Brooklyn, N. Y., assignor to The Patent Appliance Company. Door and means of operating the same. No. 973,691; Oct. 25; Sp. p. 4791; Gaz. vol. 159; p. 832.
Ogle, James W., Madison, Ill. Boring-machine. No. 973,136; Oct. 18; Sp. p. 3583; Gaz. vol. 159; p. 618.
Oheim, George F. (See Giesecke, Nebergall, and Oheim.)
Ohlson, Olof, Vancouver, Wash. Saw-handle. No. 972,710; Oct. 11; Sp. p. 2608; Gaz. vol. 159; p. 444.
Ohmer, John F., Dayton, Ohio. Operating mechanism for fare-registers. No. 971,630; Oct. 4; Sp. p. 256; Gaz. vol. 159; p. 46.
Oldham, Irwin M. (See Poorman, John C., assignor.)
Oliver, Ernest W., *et al.* (See McKinnon, Donald J., assignor.)
Oliver Tri-Chromatic Company, The. (See Oliver, William E., assignor.)
Oliver, William E., assignor to The Oliver Tri-Chromatic Company, Washington, D. C. Exhibiting motion-pictures in natural colors. No. 973,961; Oct. 25; Sp. p. 5330; Gaz. vol. 159; p. 926.
Oliver, William E., assignor to The Oliver Tri-Chromatic Company, Washington, D. C. Projecting photographic images in natural colors. No. 973,962; Oct. 25; Sp. p. 5332; Gaz. vol. 159; p. 927.
Olsen, Carl M., Birkerød, near Sandefjord, Norway. Steam-boiler. No. 973,692; Oct. 25; Sp. p. 4794; Gaz. vol. 159; p. 833.
Olus Manufacturing Co., The. (See Quigley, Edward J., assignor.)
Opie, Mary L., Philadelphia, Pa. Grater. No. 973,693; Oct. 25; Sp. p. 4795; Gaz. vol. 159; p. 833.
Optische Anstalt C. P. Goerz Aktiengesellschaft. (See Heinrich, Jacob, assignor.)
Orgaard, Carl, Wheelock, assignor of one-half to J. O. Halvorson, Williston, N. D. Lamp. No. 971,631; Oct. 4; Sp. p. 258; Gaz. vol. 159; p. 46.
Orsoni, Philippe, Paris, France. Machine for rectifying stereotype-plates. No. 973,807; Oct. 25; Sp. p. 5020; Gaz. vol. 159; p. 873.
Ortt, Kate, Sanborn, N. Y. Heater. No. 972,314; Oct. 11; Sp. p. 1742; Gaz. vol. 159; p. 306.
Osborne, Eugene F., assignor to Osborne Steam Engineering Company, Chicago, Ill. Apparatus for superheating steam. No. 971,777; Oct. 4; Sp. p. 556; Gaz. vol. 159; p. 97.
Osborne Steam Engineering Company. (See Osborne, Eugene F., assignor.)
Osborne, William L., Chicago, Ill. Quick-opening valve. No. 971,552; Oct. 4; Sp. p. 88; Gaz. vol. 159; p. 17.
Osborne, William L., Chicago, Ill. Valve. No. 973,551; Oct. 25; Sp. p. 4490; Gaz. vol. 159; p. 783.
Oscar Barnett Foundry Company, The. (See Clark, Edward C., assignor.)
Osgood, Edward D., and A. E. Rhoades, assignors to Draper Company, Hopedale, Mass. Weft-replenishing loom. No. 972,904; Oct. 18; Sp. p. 3060; Gaz. vol. 159; p. 539.
Otis Elevator Company. (See Ihlder, John D., assignor.)
Otis, Spencer. (See Seaberg, Frederick, assignor.)
Ott, Frederick, South Bethlehem, Pa. Loom. No. 971,632; Oct. 4; Sp. p. 259; Gaz. vol. 159; p. 46.
Otto, Friedrich A., assignor to Company Alexanderwerk A. vonder Nahmer Aktien-Gesellschaft, Remscheid, Germany. Pneumatic hammer. No. 973,378; Oct. 18; Sp. p. 4120; Gaz. vol. 159; p. 702.
Ozias, Albert N., Minneapolis, Minn. Temperature-indicating instrument. No. 973,963; Oct. 25; Sp. p. 5335; Gaz. vol. 159; p. 927.
P. H. & F. M. Roots Company, The. (See Hicks and Euyart, assignors.)
Paar, Henry, assignor, by mesne assignments, of one-fourth to M. Beard and J. W. Willis, Canton, Ohio, and one-fourth to C. McGranahan, Chicago, Ill. Horseshoe. No. 973,552; Oct. 25; Sp. p. 4492; Gaz. vol. 159; p. 784.
Pachinger, Frank, assignor of forty-five one-hundredths to F. Lukan, Cleveland, Ohio. Filing device for index-papers. No. 973,964; Oct. 25; Sp. p. 5338; Gaz. vol. 159; p. 928.
Packard Motor Car Company. (See Huff, Russell, assignor.)
Paddack, Truman G., Wyoming, assignor to The Stearns and Foster Company, Cincinnati, Ohio. Strip-severing machine. No. 972,221; Oct. 11; Sp. p. 1568; Gaz. vol. 159; p. 275.
Padden, Robert W., assignor to Marion A. De Vasher, Kansas City, Mo. Gearing. No. 971,633; Oct. 4; Sp. p. 261; Gaz. vol. 159; p. 47.
Paddock, Delbert M., assignor to The Sidney Tool Co., Sidney, Ohio. Planer attachment for jointers. No. 971,553; Oct. 4; Sp. p. 91; Gaz. vol. 159; p. 18.
Pafford, James B., Wray, Ga. Fire-screen. No. 972,636; Oct. 11; Sp. p. 2468; Gaz. vol. 159; p. 420.
Pagett, Earl, Coffeyville, Kans. Liquid-discharging device. No. 974,105; Oct. 25; Sp. p. 5629; Gaz. vol. 159; p. 976.
Paige, Van R., Hopkinton, N. H., assignor to Bentley Single-and-Stop-Motion Company, Augusta, Me. Device for preventing singles in roving and similar frames. No. 973,694; Oct. 25; Sp. p. 4797; Gaz. vol. 159; p. 834.
Palmer, Isaac E., Middletown, Conn. Apparatus for treating textile material in lengths. No. 971,778; Oct. 4; Sp. p. 559; Gaz. vol. 159; p. 98.
Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Adjustable couch-hammock. No. 972,711; Oct. 11; Sp. p. 2609; Gaz. vol. 159; p. 444.
Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Head and shoulder rest or support for couch and other hammocks. No. 972,712; Oct. 11; Sp. p. 2614; Gaz. vol. 159; p. 444.
Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Head and shoulder support for couch-hammocks, &c. No. 972,713; Oct. 11; Sp. p. 2619; Gaz. vol. 159; p. 445.
Palmer, Roderick M., assignor to G. O. G. Coale, trustee, Cambridge, Mass. Closed system of electrical distribution. No. 972,468; Oct. 11; Sp. p. 2058; Gaz. vol. 159; p. 359.
Palmer, Truman G., Chicago, Ill. Heater. No. 972,905; Oct. 18; Sp. p. 3062; Gaz. vol. 159; p. 539.
Pancoast, George E., Brooklyn, N. Y., assignor to The American Lithographic Company. Form-support for printing-presses. No. 972,906; Oct. 18; Sp. p. 3064; Gaz. vol. 159; p. 540.
Paquette, Exilias, Lowell, Mass., and C. F. Deeg, assignors to L. B. Fay, Elyria, Ohio. Stop device for knitting-machines and the like. No. 971,923; Oct. 4; Sp. p. 885; Gaz. vol. 159; p. 153.
Pardue, Joseph C., Willowton, W. Va. Mine-timbering machine. No. 971,779; Oct. 4; Sp. p. 563; Gaz. vol. 159; p. 98.
Paris, Henry M., Kingston, Tex. Cotton-chopper. No. 973,379; Oct. 18; Sp. p. 4121; Gaz. vol. 159; p. 703.
Parizek, Frank, assignor to Universal Wind Shield Company, Chicago, Ill. Wind-shield. No. 973,206; Oct. 18; Sp. p. 3764; Gaz. vol. 159; p. 643.
Parker, Fredrick, Wilmerding, Pa. Faucet. No. 973,294; Oct. 18; Sp. p. 3932; Gaz. vol. 159; p. 673.
Parker, Howard, assignor to Improved Paper Machinery Company, Nashua, N. H. Making press-rolls. No. 973,380; Oct. 18; Sp. p. 4122; Gaz. vol. 159; p. 703.
Parker, Howard, assignor to Improved Paper Machinery Company, Nashua, N. H. Multiple-color paper and pulp machine. No. 973,965; Oct. 25; Sp. p. 5339; Gaz. vol. 159; p. 928.
Parker, Walter, Neola, Iowa. Fence-post. No. 973,295; Oct. 18; Sp. p. 3933; Gaz. vol. 159; p. 673.
Parks, Dennis, St. Louis, Mo. Vise. No. 973,381; Oct. 18; Sp. p. 4124; Gaz. vol. 159; p. 703.
Parmenter, Frank C. (See Cole, Albert L., assignor.)
Parrish, Asa L., Elkhart, Ind. Making paper bags. No. 971,780; Oct. 4; Sp. p. 566; Gaz. vol. 159; p. 99.
Parsons, Charles A., Newcastle-upon-Tyne, England. Turbine. No. 972,907; Oct. 18; Sp. p. 3068; Gaz. vol. 159; p. 540.
Parsons, Charles A., Newcastle-upon-Tyne, England. Fluid-pressure turbine. No. 972,908; Oct. 18; Sp. p. 3077; Gaz. vol. 159; p. 540.
Parsons, Emory, Chicago, Ill. Signaling system. No. 973,808; Oct. 25; Sp. p. 5022; Gaz. vol. 159; p. 873.
Parsons, Loren F., Albion, N. Y. Mold. No. 971,554; Oct. 4; Sp. p. 95; Gaz. vol. 159; p. 18.
Parsons, William F., Irvine, Ky. Fume-arrester and smoke-purifier. No. 972,637; Oct. 11; Sp. p. 2469; Gaz. vol. 159; p. 420.
Partridge, Alwyn H., Denver, Colo. Dish-cleaner. No. 972,400; Oct. 11; Sp. p. 1917; Gaz. vol. 159; p. 337.
Paskowitz, Bernard, New York, N. Y. Sponging apparatus for tailors. No. 973,875; Oct. 25; Sp. p. 5167; Gaz. vol. 159; p. 897.
Pass & Seymour. (See Crossley, James S., assignor.)
Patent Appliance Company, The. (See Ogden, John E., assignor.)
Patent Holding Company. (See Luebben, Ummo, assignor.)
Paterson, Dugald S., Philadelphia, Pa. Nut-lock. No. 972,086; Oct. 4; Sp. p. 1245; Gaz. vol. 159; p. 211.
Patitz, Johann F. M., assignor to Allis-Chalmers Company, Milwaukee, Wis. Steam-turbine. No. 971,555; Oct. 4; Sp. p. 97; Gaz. vol. 159; p. 19.
Patterson, James B., Philadelphia, Pa. Suspension-couch. No. 973,382; Oct. 18; Sp. p. 4125; Gaz. vol. 159; p. 704.
Patton, William D., Dallas, Tex. Crude-oil burner. No. 972,401; Oct. 11; Sp. p. 1918; Gaz. vol. 159; p. 337.

Paul, Christian F., Jr., assignor of one-tenth to K. Mott, Peekskill, N. Y. Rotary engine. No. 973,064; Oct. 18; Sp. p. 3429; Gaz. vol. 159; p. 594.
Paul, Clyde. (See Donley and Paul.)
Paul Dickinson (Incorporated). (See Colwell, Frederick K., assignor.)
Paul, Francis, Jr., assignor to P. Beaudoin, Montreal, Quebec, Canada. Washing-machine. No. 972,714; Oct. 11; Sp. p. 2023; Gaz. vol. 159; p. 445.
Paul, William L., South Bend, Ind., assignor of one-half to H. T. Curtwright, St. Louis, Mo. Hose-reel. No. 972,222; Oct. 11; Sp. p. 1569; Gaz. vol. 159; p. 275.
Pawsat, Ewald F. and H., Sheboygan, Wis. Grip attachment for pedals. No. 973,065; Oct. 18; Sp. p. 3432; Gaz. vol. 159; p. 594.
Pawsat, Hermann. (See Pawsat, Ewald F. and H.)
Peacock, George J., Albuquerque, N. Mex. Automatic rewinding device for electric-light cords. No. 973,553; Oct. 25; Sp. p. 4493; Gaz. vol. 159; p. 784.
Pearce, Clara, Philadelphia, Pa. Coffee-pot. No. 971,781; Oct. 4; Sp. p. 567; Gaz. vol. 159; p. 99.
Pearson, James H., assignor to M. A. Cooper, West Plains, Mo. Rotary beater. No. 973,554; Oct. 25; Sp. p. 4494; Gaz. vol. 159; p. 784.
Pearson, William E., Boston, Mass. Fluid power transmission and controlling apparatus. No. 972,223; Oct. 11; Sp. p. 1570; Gaz. vol. 159; p. 275.
Pease, Charles F., Chicago, Ill. Blue-printing machine. No. 972,909; Oct. 18; Sp. p. 3080; Gaz. vol. 159; p. 541.
Pease, Frederick N., and M. E. McDonnell, Altoona, Pa. Metal-polish. No. 972,638; Oct. 11; Sp. p. 2471; Gaz. vol. 159; p. 420.
Pease, Herbert H., Port Williams, Wash. Slapping-glove. No. 972,224; Oct. 11; Sp. p. 1572; Gaz. vol. 159; p. 276.
Peddle, George H., Perry, N. Y. Surgeon's scissors. No. 973,296; Oct. 18; Sp. p. 3934; Gaz. vol. 159; p. 673.
Peddy, Thomas T., Bluenville, assignor of fifteen one-hundredths to J. L. Baker, Mount Lebanon, La., and thirty one-hundredths to G. F. Gallagher, Rochester, N. Y. Combined ventilator and deflector. No. 973,906; Oct. 25; Sp. p. 5341; Gaz. vol. 159; p. 929.
Peek, Frank W., Jr., Schenectady, N. Y., assignor to General Electric Company. Lightning-arrester. No. 973,555; Oct. 25; Sp. p. 4496; Gaz. vol. 159; p. 785.
Pejano, Albert D., assignor to The American Folding Machine Company, Cleveland, Ohio. Paper-folding machine. No. 972,469; Oct. 11; Sp. p. 2062; Gaz. vol. 159; p. 360.
Penfield, Raymond C., New York, and F. S. Naugle, Warner, N. Y. Brick-kiln. No. 972,570; Oct. 11; Sp. p. 2315; Gaz. vol. 159; p. 397.
Pennell, William, Berrien Springs, Mich. Scraping-tool. No. 972,225; Oct. 11; Sp. p. 1573; Gaz. vol. 159; p. 276.
Pennie, John C., *et al.* (See Wilkinson, John A., assignor.)
Pennsylvania Steel Company, The. (See Cuenot, Paul A., assignor.)
Penrod, Robert P., Pitcairn, Pa. Chisel-bar. No. 971,924; Oct. 4; Sp. p. 888; Gaz. vol. 159; p. 153.
Perkett, Charles H., Willsboro, N. Y. Cow-tail holder. No. 972,021; Oct. 4; Sp. p. 1122; Gaz. vol. 159; p. 188.
Perkins Electric Switch Mfg. Company, The. (See Willbillich, Anthony F., assignor.)
Perkins, Walter H., Cheshire, assignor to Waterbury Mfg. Co., Waterbury, Conn. Shade-holder. No. 973,876; Oct. 25; Sp. p. 5169; Gaz. vol. 159; p. 898.
Perret, Léon, Perm, Russia. Revolving screen for washing, &c. No. 972,128; Oct. 4; Sp. p. 1329; Gaz. vol. 159; p. 224.
Petersen, William A., Montreal, Quebec, Canada. Tool-holder. No. 971,556; Oct. 4; Sp. p. 101; Gaz. vol. 159; p. 19.
Peterson, Alfred J., Galesburg, Ill. Self-inking hand-stamp. No. 973,556; Oct. 25; Sp. p. 4498; Gaz. vol. 159; p. 785.
Peterson, Charles F., Schenectady, N. Y., assignor to General Electric Company. Insulating material. No. 973,557; Oct. 25; Sp. p. 4500; Gaz. vol. 159; p. 785.
Peterson, Lars C., assignor of one-half to F. E. Anderson, Osage City, Kans. Manure-scraper. No. 973,967; Oct. 25; Sp. p. 5342; Gaz. vol. 159; p. 929.
Peterson, Nels, Ostrander, Minn. Knife grinder and buffer. No. 973,457; Oct. 18; Sp. p. 4279; Gaz. vol. 159; p. 729.
Peterson, Peter R. (See Yates and Peterson.)
Petersson, Albert, Odda, Norway. Charging electric-resistance furnaces. No. 971,782; Oct. 4; Sp. p. 569; Gaz. vol. 159; p. 99.
Petertyl, Anthony J., Traverse City, Mich. Fruit-picker. No. 971,925; Oct. 4; Sp. p. 889; Gaz. vol. 159; p. 153.
Petrikin, Charles L., and C. R. Dimm, assignors to Robinson Manufacturing Company, Muncy, Pa. Sealing-ring for grinding-mills. No. 972,470; Oct. 11; Sp. p. 2069; Gaz. vol. 159; p. 360.
Petsche, Gustav B., assignor to The Southwark Foundry & Machine Company, Philadelphia, Pa. Reversing mechanism for steam-engines. No. 973,402; Oct. 11; Sp. p. 1919; Gaz. vol. 159; p. 337.
Petter, Adolph J., Los Angeles, Cal. Surgical appliance. No. 971,783; Oct. 4; Sp. p. 571; Gaz. vol. 159; p. 100.
Pettey, Richard M., Alexandria, Va. Word-counter for type-writers and similar machines. No. 972,226; Oct. 11; Sp. p. 1575; Gaz. vol. 159; p. 276.
Pettit, George C. (See Kennedy and Pettit.)
Pfiel, Josef E., Vienna, Austria-Hungary. Obtaining textile fibers. No. 972,403; Oct. 11; Sp. p. 1921; Gaz. vol. 159; p. 338.
Pfister, Charles, New York, N. Y. Nut-lock. No. 971,784; Oct. 4; Sp. p. 574; Gaz. vol. 159; p. 100.
Pfunder, Emil L., Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 972,022; Oct. 4; Sp. p. 1124; Gaz. vol. 159; p. 188.
Phelps, John H. (See Bowie and Phelps.)
Philadelphia Pipe Bending Company, The. (See Schneider, Leopold C., assignor.)
Philadelphia Steel & Wire Co. (See Wedmore, Daniel A., assignor.)
Philibert, Auguste, Paris, France. Device for tool-holders in cutting-engines. No. 973,695; Oct. 25; Sp. p. 4800; Gaz. vol. 159; p. 834.
Phillips, Nathan C., assignor to Russia Cement Company, Gloucester, Mass. Bottle for adhesive liquids. No. 973,066; Oct. 18; Sp. p. 3433; Gaz. vol. 159; p. 594.
Piana, Pietro S., New Rochelle, N. Y. Automatic door. No. 972,649; Oct. 11; Sp. p. 2472; Gaz. vol. 159; p. 420.
Pickard, Greenleaf W., Amesbury, Mass. Telephone receiving apparatus. No. 972,715; Oct. 11; Sp. p. 2624; Gaz. vol. 159; p. 446.
Pierce, Alfred L., Wallingford, Conn., assignor of one-half to S. K. Long, New York, N. Y. Tree-insulator. No. 971,785; Oct. 4; Sp. p. 575; Gaz. vol. 159; p. 100.
Pierce, Burt N., Indianapolis, Ind. Carbureter. No. 973,877; Oct. 25; Sp. p. 5170; Gaz. vol. 159; p. 898.
Pierce, Cecil R., Rainier, Wash. Saw-fitting device. No. 972,789; Oct. 11; Sp. p. 2764; Gaz. vol. 159; p. 470.
Pierce, Edwin F., Milwaukee, Wis. Adjustable joint for electric-light fixtures. No. 973,558; Oct. 25; Sp. p. 4501; Gaz. vol. 159; p. 786.
Pieritz, Johannes, Sievertshagen, Germany. Oar. No. 973,067; Oct. 18; Sp. p. 3434; Gaz. vol. 159; p. 595.
Pierson, Marian B., assignor of one-half to H. Menly, Corpus Christi, Tex. Resilient wheel. No. 971,557; Oct. 4; Sp. p. 104; Gaz. vol. 159; p. 20.
Pike, Charles F., Philadelphia, Pa. Trap for catching porpoises. No. 972,227; Oct. 11; Sp. p. 1577; Gaz. vol. 159; p. 277.
Pike, Charles F., Philadelphia, Pa. Trap for catching porpoises. No. 972,228; Oct. 11; Sp. p. 1579; Gaz. vol. 159; p. 277.
Pike, Charles F., Philadelphia, Pa. Trap for catching porpoises. No. 972,229; Oct. 11; Sp. p. 1581; Gaz. vol. 159; p. 277.
Pike, Charles F., Philadelphia, Pa. Trap for catching porpoises. No. 972,230; Oct. 11; Sp. p. 1582; Gaz. vol. 159; p. 278.
Pike, Charles F., Philadelphia, Pa. Trap for catching porpoises. No. 972,231; Oct. 11; Sp. p. 1584; Gaz. vol. 159; p. 278.
Pike, Charles F., Philadelphia, Pa. Fish-trap. No. 972,232; Oct. 11; Sp. p. 1585; Gaz. vol. 159; p. 278.
Pike, Charles F., Philadelphia, Pa. Trap for catching porpoises. No. 972,233; Oct. 11; Sp. p. 1586; Gaz. vol. 159; p. 279.
Pike, Charles F., Philadelphia, Pa. Trap for catching porpoises. No. 972,234; Oct. 11; Sp. p. 1588; Gaz. vol. 159; p. 279.
Pike, Charles F., Philadelphia, Pa. Trap for catching porpoises. No. 972,235; Oct. 11; Sp. p. 1589; Gaz. vol. 159; p. 279.
Pike, Edwin B., Pike, N. H. Box for sharpening-stones. No. 973,068; Oct. 25; Sp. p. 5343; Gaz. vol. 159; p. 929.
Pike, Robert G., Middletown, Conn. Combination spirit-level and folding rule. No. 973,468; Oct. 18; Sp. p. 4281; Gaz. vol. 159; p. 729.
Pillsbury, Edwin S., St. Louis, Mo., assignor to Century Electric Company. Electric motor. No. 973,878; Oct. 25; Sp. p. 5172; Gaz. vol. 159; p. 898.
Pilsbry, Alice A., assignor of one-third to H. C. Chapin and one-third to H. K. Chapin, Chicago, Ill. Reading-stand. No. 971,634; Oct. 4; Sp. p. 263; Gaz. vol. 159; p. 47.
Pinel, Walter P., Quincy, Mass. Non-breakable reticulated chimney. No. 972,640; Oct. 11; Sp. p. 2474; Gaz. vol. 159; p. 421.
Pippen, Henry L., Whitakers, N. C. Peanut-gleaner. No. 972,910; Oct. 18; Sp. p. 3081; Gaz. vol. 159; p. 541.
Piskorski, Abdon V., Jersey City, N. J. Automobile-horn No. 971,635; Oct. 4; Sp. p. 265; Gaz. vol. 159; p. 47.
Pitner, Henry B., Olean, N. Y. Curtain-fastener and the like. No. 973,800; Oct. 25; Sp. p. 5026; Gaz. vol. 159; p. 873.
Pitts, Edward L., assignor of one-third to J. E. Ludy and one-third to J. M. Hess, Yuma, Ariz. Car-sealing device. No. 972,716; Oct. 11; Sp. p. 2626; Gaz. vol. 159; p. 446.
Pittsburg Fire Extinguisher Company. (See Cooke, Frank L., assignor.)
Pittsburg Water Heater Company. (See Frampton, Reynolds C., assignor.)
Pittsburgh Valve Foundry and Construction Company, The. (See Tanner, Julius R., assignor.)
Pivny, Joseph, Wasta, S. D. Calf or colt weaner. No. 973,069; Oct. 25; Sp. p. 5345; Gaz. vol. 159; p. 930.
Plagman, Adolph, assignor to White Lily Manufacturing Company, Davenport, Iowa. Mechanical movement. No. 972,236; Oct. 11; Sp. p. 1590; Gaz. vol. 159; p. 280.
Plaisted, Frederic S., Penn Yan, N. Y. Ladder. No. 971,786; Oct. 4; Sp. p. 577; Gaz. vol. 159; p. 101.
Plank, Joseph J., Appleton, Wis. Dandy-roll. No. 971,787; Oct. 4; Sp. p. 579; Gaz. vol. 159; p. 101.

Pleister, Henry W., Westfield, assignor to H. B. Newhall, Plainfield, N. J. Expansion-bolt. No. 973,559; Oct. 25; Sp. p. 4503; Gaz. vol. 159; p. 786.
Poeppel, Emil, Chicago, Ill. Match-box. No. 973,297; Oct. 18; Sp. p. 3935; Gaz. vol. 159; p. 674.
Pogue, Henry W., Decatur, Ill. Spraying device for internal-combustion engines. No. 972,571; Oct. 11; Sp. p. 2319; Gaz. vol. 159; p. 397.
Pokorny, Frank, New York, N. Y. Folding umbrella. No. 973,207; Oct. 18; Sp. p. 3765; Gaz. vol. 159; p. 643.
Polk, Neal R., Greenville, Tex. Hoof-trimmer. No. 973,298; Oct. 18; Sp. p. 3936; Gaz. vol. 159; p. 674.
Pollard, Frédéric A., Paris, France. Apparatus for the automatic regulation of refrigerating-machines. No. 971,788; Oct. 4; Sp. p. 580; Gaz. vol. 159; p. 101.
Ponath, Edward F., St. Louis, Mo. Motor-driven hair-clipper. No. 973,696; Oct. 25; Sp. p. 4800; Gaz. vol 159; p. 834.
Pond, Linnaeus C., Los Angeles, Cal. Weeder. No. 972,404; Oct. 11; Sp. p. 1922; Gaz. vol. 159; p. 338.
Poole, Alfred W., Ozark, Ark. Worming-tool. No. 972,237; Oct. 11; Sp. p. 1593; Gaz. vol. 159; p. 280.
Poole, Edward, Kersley, England. Loom-strap. No. 972,641; Oct. 11; Sp. p. 2475; Gaz. vol. 159; p. 421.
Poorman, John C., Summerhill, assignor of one-third to I. M. Oldham, Portage, Pa. Clothes-line reel. No. 972,238; Oct. 11; Sp. p. 1594; Gaz. vol. 159; p. 280.
Porter, Alonzo E., deceased, (M. L. Porter, administratrix,) Pompton Lakes, N. J., and E. P. Searing, New York, N. Y.; said Searing assignor of one-fourth to said Porter. Fuse-battery. No. 972,141; Oct. 4; Sp. p. 1355; Gaz. vol. 159; p. 228.
Porter, Byron, Morgan, Utah. Seed-potato cutter. No. 972,911; Oct. 18; Sp. p. 3083; Gaz. vol. 159; p. 541.
Porter, Charles M., Fargo, N. D. Metal culvert. No. 971,558; Oct. 4; Sp. p. 106; Gaz. vol. 159; p. 20.
Porter, Mary L., administratrix. (See Porter and Searing.)
Portsmouth Machine & Casting Company, The. (See Simpson and Puckett, assignors.)
Post, Gerritt W. (See Bennett and Hunter, assignors.)
Postlethwait, David B., Onondaga, Pa. Metallic tie and rail-fastener. No. 973,459; Oct. 18; Sp. p. 4282; Gaz. vol. 159; p. 729.
Potter, Harry J., Watertown, Mass. Coating apparatus. No. 972,239; Oct. 11; Sp. p. 1596; Gaz. vol. 159; p. 281.
Potter, William B., Schenectady, N. Y., assignor to General Electric Company. Terminal for electrical apparatus. No. 973,560; Oct. 25; Sp. p. 4505; Gaz. vol. 159; p. 786.
Potterf, Orlystis M., Larned, Kans. Combination-garment. No. 973,299; Oct. 18; Sp. p. 3938; Gaz. vol. 159; p. 674.
Potts, Clyde, Morristown, N. J. Apparatus for screening sewage and other flowing matter. No. 973,697; Oct. 25; Sp. p. 4802; Gaz. vol. 159; p. 835.
Potts, Howard B., Jackson township, Guernsey county, Ohio. Trolley. No. 972,240; Oct. 11; Sp. p. 1598; Gaz. vol. 159; p. 281.
Powell, Ward B., Chant, Okla., assignor of one-half to W. W. Wingo, Hartford, Ark. Non-refillable bottle. No. 973,970; Oct. 25; Sp. p. 5347; Gaz. vol. 159; p. 930.
Powers, George G., assignor to Union Wire Mattress Co., Chicago, Ill. Folding couch. No. 973,561; Oct. 25; Sp. p. 4506; Gaz. vol. 159; p. 787.
Powers, George G., assignor to Union Wire Mattress Co., Chicago, Ill. Folding couch. No. 973,562; Oct. 25; Sp. p. 4509; Gaz. vol. 159; p. 787.
Prache, Charles, assignor to La Société d'Exploitation de Procédés Evaporatories, Système Prache et Bouillon, Paris, France. Evaporation-boiler with inclined tubes. No. 972,572; Oct. 11; Sp. p. 2320; Gaz. vol. 159; p. 397.
Praetz, John, New York, N. Y. Tag. No. 973,300; Oct. 18; Sp. p. 3939; Gaz. vol. 159; p. 674.
Pratt, Ernest L., Litchfield, Conn. Blind-fastener. No. 971,789; Oct. 4; Sp. p. 584; Gaz. vol. 159; p. 102.
Pratt, Philip W. (See Foster and Pratt.)
Pratt & Whitney Company. (See Grobmann, Carl L., assignor.)
Pratt & Whitney Company. (See Hanson, Bengt M. W., assignor.)
Prentice, George H., Painesville, Ohio. Tamping-bar for tamping railway-ballast. No. 973,563; Oct. 25; Sp. p. 4511; Gaz. vol. 159; p. 787.
Prentiss, Eliza R., *et al.*, executors. (See Prentiss, Henry S.)
Prentiss, George L., *et al.*, executors. (See Prentiss, Henry S.)
Prentiss, Henry S., deceased; G. L. Prentiss, New York, N. Y., and E. R. Prentiss, Elizabeth, N. J., executors. Watchman's time-detector. No. 973,383; Oct. 18; Sp. p. 4126; Gaz. vol. 159; p. 704.
Prescott, Charles F., Philadelphia, Pa. Valve-gear for engines. No. 973,137; Oct. 18; Sp. p. 3584; Gaz. vol. 159; p. 619.
Prescott, De Witt C., *et al.* (See Thurlow, Ira M., assignor.)
Prescott, Frank R., Meredith, N. H. Box-fastener. No. 971,790; Oct. 4; Sp. p. 586; Gaz. vol. 159; p. 102.
Prescott, George L., F. R. Ellis, and C. Jensen, Milwaukee, Wis. Fence-post. No. 972,912; Oct. 18; Sp. p. 3086; Gaz. vol. 159; p. 542.
Prescott, Loren L., *et al.* (See Thurlow, Ira M., assignor.)
Preston, Worth W. (See Clifton and Preston.)
Pribnow, John F., Mellen, Wis. Shaper. No. 972,913; Oct. 18; Sp. p. 3087; Gaz. vol. 159; p. 542.
Primeau, Mederic, and G. McCullagh, Winnipeg, Manitoba, Canada. Gas-lighting appliance. No. 973,971; Oct. 25; Sp. p. 5348; Gaz. vol. 159; p. 930.
Prindle, Edwin J., New York, N. Y., assignor to Herring-Hall-Marvin Safe Company, Hamilton, Ohio. Interchangeable-key lock. No. 972,241; Oct. 11; Sp. p. 1600; Gaz. vol. 159; p. 281.
Printz, Frederick M., and A. Frost, Chicago, Ill. Drafting appliance. No. 972,242; Oct. 11; Sp. p. 1602; Gaz. vol. 159; p. 282.
Prisk, John, Denver, Colo. Earth-hole-forming machine for weed-exterminating purposes. No. 971,791; Oct. 4; Sp. p. 588; Gaz. vol. 159; p. 103.
Pritchard, Albert R., Rochester, N. Y. Oil-can. No. 973,564; Oct. 25; Sp. p. 4512; Gaz. vol. 159; p. 788.
Probert, Edwin R., Norwood, Ohio. Metallic window-sash. No. 973,384; Oct. 18; Sp. p. 4128; Gaz. vol. 159; p. 704.
Promenshenkel, Jake, and R. Freeman, Crestline, Ohio. Furnace. No. 973,879; Oct. 25; Sp. p. 5174; Gaz. vol. 159; p. 899.
Prouty, Enoch, Pullman, Ill. Shock-absorber. No. 971,636; Oct. 4; Sp. p. 267; Gaz. vol. 159; p. 48.
Provost, Peter, Milwaukee, Wis. Apparatus for drying and steaming grain. No. 971,559; Oct. 4; Sp. p. 108; Gaz. vol. 159; p. 21.
Pryor, Edwin E. (See Adams, Harry A., assignor.)
Puckett, William D. (See Simpson and Puckett.)
Puglbet, Ernest, assignor to El Buen Tono, S. A., Mexico, Mexico. Cigarette machinery. No. 973,698; Oct. 25; Sp. p. 4806; Gaz. vol. 159; p. 835.
Purcell, William F., Brooklyn, N. Y. Packing for fluid-engines. No. 973,972; Oct. 25; Sp. p. 5350; Gaz. vol. 159; p. 931.
Purdham, Fountain T., Battle Creek, Mich. Lock. No. 973,301; Oct. 18; Sp. p. 3941; Gaz. vol. 159; p. 675.
Purdy, Frederick, assignor to T. B. Jeffery, deceased, Kenosha, Wis.; T. B., K. E., C. T., and H. W. Jeffery, executors. Apparatus for mixing and containing liquids. No. 972,243; Oct. 11; Sp. p. 1603; Gaz. vol. 159; p. 282.
Purser, Robert S. (See Cassedy and Purser.)
Putnam, Joseph W., Grand Rapids, Mich. Folding box. No. 973,068; Oct. 18; Sp. p. 3435; Gaz. vol. 159; p. 595.
Putnam, Mary V., New Orleans, La. Spoon. No. 972,244; Oct. 11; Sp. p. 1606; Gaz. vol. 159; p. 282.
Quigley, Edward J., Newark, N. J., assignor to The Olus Manufacturing Co., New York, N. Y. Garment. No. 973,699; Oct. 25; Sp. p. 4807; Gaz. vol. 159; p. 836.
Quincy, Charles F., Oconomowoc, Wis., assignor to Quincy, Manchester, Sargent Company, New York, N. Y. Insulated rail-joint. No. 972,471; Oct. 11; Sp. p. 2072; Gaz. vol. 159; p. 361.
Quincy Elevator Gate Company. (See Fogal, Crichton, and Mowry, assignors.)
Quincy, Manchester, Sargent Company. (See Quincy, Charles F., assignor.)
Quinn, Felix, assignor of one-half of P. J. Ridge, Buffalo, N. Y. Pattern or mold forming machine. No. 972,914; Oct. 18; Sp. p. 3089; Gaz. vol. 159; p. 542.
Quinn, Peter J. (See Dalton, Joseph A., assignor.)
Qviller, Theodor, *et al.* (See Hansen, Amund, assignor.)
R. Hoe and Co. (See Main, William J., assignor.)
R. E. Dietz Company. (See Thiel, Frank M., assignor.)
R. H. Comey Company. (See Comey, Robert H., assignor.)
Raber, Joseph, Poplar Bluff, assignor to Adding Typewriter Company, St. Louis, Mo. Paper-carriage. No. 973,700; Oct. 25; Sp. p. 4808; Gaz. vol. 159; p. 836.
Rabok Manufacturing Co. (See Flatau, Louis S., assignor.)
Rackstraw, Alfred T., Bay City, Mich. Signal-actuating means. No. 972,245; Oct. 11; Sp. p. 1607; Gaz. vol. 159; p. 283.
Radial Power Hammer Company, The. (See Brown and Sutherland, assignors.)
Radio Telephone Company, The. (See Simon, Emil J., assignor.)
Radke, Theodore J., Oak Park, Ill. Water-heater. No. 972,717; Oct. 11; Sp. p. 2629; Gaz. vol. 159; p. 446.
Rahm, Robert C., assignor to Textile Machine Works, Wyomissing, Pa. Braid. No. 972,718; Oct. 11; Sp. p. 2634; Gaz. vol. 159; p. 447.
Rakowsky, Gustav A., assignor to Automatic Unloading Car Company, Duluth, Minn. Dump-car. No. 973,208; Oct. 18; Sp. p. 3767; Gaz. vol. 159; p. 644.
Rakowsky, Gustav A., assignor to Automatic Unloading Car Company, Duluth, Minn. Dump-car. No. 973,209; Oct. 18; Sp. p. 3771; Gaz. vol. 159; p. 644.
Rakowsky, Gustav A., assignor to Automatic Unloading Car Co., Duluth, Minn. Dump-car. No. 973,210; Oct. 18; Sp. p. 3773; Gaz. vol. 159; p. 645.
Ralph, Stephen J. (See Thwaites and Ralph.)
Ramey, Robert L., Danville, Va. Coffee-pot. No. 972,915; Oct. 18; Sp. p. 3094; Gaz. vol. 159; p. 543.
Ramsden, John T., assignor to The Tabor Manufacturing Company, Philadelphia, Pa. Molder's clamp. No. 971,687; Oct. 4; Sp. p. 368; Gaz. vol. 159; p. 65.
Rand, Howard C. (See Solomon, Isaac B., assignor.)
Randall, William D., Monett, Mo. Device for cleaning boiler crown-sheets. No. 973,069; Oct. 18; Sp. p. 3435; Gaz. vol. 159; p. 595.

Randel, Ivar A., assignor to McCord & Company, Chicago, Ill. Journal-lubricating device. No. 972,719; Oct. 11; Sp. p. 2636; Gaz. vol. 159; p. 447.
Rank, Frederick G., Hershey, Pa. Nut-lock. No. 973,460; Oct. 18; Sp. p. 4283; Gaz. vol. 159; p. 730.
Rankin, Charles C., Louisville, Ky. Nut-lock. No. 971,637; Oct. 4; Sp. p. 269; Gaz. vol. 159; p. 48.
Rankins, Frederic A. D. (See St. John and Rankins.)
Ranney, Ambrose E., assignor to The Scientific Research Co., New York, N. Y. Auxiliary liquid-hydrocarbon tank for internal-combustion engines. No. 973,880; Oct. 25; Sp. p. 5176; Gaz. vol. 159; p. 809.
Rassico, Nelson E., Ransom, Kans. Rail-joint. No. 973,070; Oct. 18; Sp. p. 3437; Gaz. vol. 159; p. 595.
Rauhenstein, Eva M., Buffalo, N. Y. Recording-machine. No. 972,405; Oct. 11; Sp. p. 1924; Gaz. vol. 159; p. 338.
Rawstron, Donald, Chicago, Ill. Tire-ventilating device. No. 972,129; Oct. 4; Sp. p. 1332; Gaz. vol. 159; p. 224.
Ray, Albert D., Cleveland, Ohio. Temporary binder. No. 971,926; Oct. 4; Sp. p. 890; Gaz. vol. 159; p. 154.
Reading Standard Company. (See Schaeffer, William G., assignor.)
Reagan, Edward S., Altoona, assignor of one-half to H. T. Burkett, Blueknob, Pa. Signal-flag holder. No. 971,560; Oct. 4; Sp. p. 109; Gaz. vol. 159; p. 21.
Reckards, Edwin M. (See Dresback and Reckards.)
Redecker, Henrietta L. (See Badgley, Lawrence J., assignor.)
Redington, John, Cobalt, Ontario, Canada. Air or steam rock-drill. No. 971,638; Oct. 4; Sp. p. 270; Gaz. vol. 159; p. 48.
Redmond, Charles A., Los Angeles, Cal. Shock-absorbing attachment for bicycles. No. 973,071; Oct. 18; Sp. p. 3438; Gaz. vol. 159; p. 595.
Redwine, Samuel L., Toledo, Ohio. Drawer-guide. No. 972,246; Oct. 11; Sp. p. 1612; Gaz. vol. 159; p. 283.
Reece Folding Machine Company. (See Reece, George, assignor.)
Reece, George, Wollaston, Mass., assignor to Reece Folding Machine Company, Portland, Me., and Boston, Mass. Collar and cuff folding machine. No. 972,916; Oct. 18; Sp. p. 3096; Gaz. vol. 159; p. 543.
Reed, Conwell P., assignor of one-half to S. J. Culwell, Bridgeport, Tex. Cattle-guard. No. 974,092; Oct. 25; Sp. p. 5606; Gaz. vol. 159; p. 971.
Reed, William A., Hollywood, Cal. Gas-turbine engine. No. 972,642; Oct. 11; Sp. p. 2476; Gaz. vol. 159; p. 421.
Reeps, Charles F., Chicago, Ill. Fall-board for pianos, organs, or other instruments. No. 974,093; Oct. 25; Sp. p. 5608; Gaz. vol. 159; p. 971.
Reese, Fred A., Piasa, Ill. Cultivator attachment. No. 973,461; Oct. 18; Sp. p. 4284; Gaz. vol. 159; p. 730.
Reese, John H., and T. F. Dunlavy, assignors of one-third to G. G. Hunt, Colegrove, Cal. Stuffing-box. No. 972,247; Oct. 11; Sp. p. 1613; Gaz. vol. 159; p. 288.
Reeves & Company. (See Clay, Harry C., assignor.)
Reeves, Robert B., Whitstable, England. Padlock and staple or hasp therefor. No. 972,643; Oct. 11; Sp. p. 2478; Gaz. vol. 159; p. 422.
Regan, Daniel F., Los Angeles, Cal. Hose-holder. No. 973,810; Oct. 25; Sp. p. 5027; Gaz. vol. 159; p. 874.
Regina Company, The. (See Koch, Henry, assignor.)
Regli, Edward C., Duluth, Minn. Tick-tack toy. No. 972,644; Oct. 11; Sp. p. 2479; Gaz. vol. 159; p. 422.
Reilly, Dennis E., Derby, Conn. Level. No. 971,792; Oct. 4; Sp. p. 590; Gaz. vol. 159; p. 103.
Reilly, William W. (See Elliott and Reilly.)
Reily, John P., and J. B. Noyes, St. Louis, Mo. Sectional letter and design. No. 972,406; Oct. 11; Sp. p. 1930; Gaz. vol. 159; p. 339.
Reis, Henry. (See Müller and Reis.)
Reith, George C., and G. F. Slade, Philadelphia, Pa. Coin-selector. No. 973,302; Oct. 18; Sp. p. 3943; Gaz. vol. 159; p. 675.
Reliefograph Company. (See Erdbrügger, Gustav, assignor.)
Remington Typewriter Company. (See Ballou, George F., assignor.)
Remington Typewriter Company. (See Yaw, Clio B., assignor.)
Renear, Charles W., assignor to Renear Company Limited, Honolulu, Hawaii. Grinding-mill. No. 973,811; Oct. 25; Sp. p. 5028; Gaz. vol. 159; p. 874.
Renear Company Limited. (See Renear, Charles W., assignor.)
Renick, Joseph D., Loudonville, and K. C. Krick, Columbus, Ohio. Sheet-metal seal for cocks. No. 971,630; Oct. 4; Sp. p. 273; Gaz. vol. 159; p. 49.
Replogle, Lew W., Chicago, Ill. Toy. No. 973,303; Oct. 18; Sp. p. 3951; Gaz. vol. 159; p. 676.
Resch, Henry, Bayonne, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 973,385; Oct. 18; Sp. p. 4129; Gaz. vol. 159; p. 704.
Rettich, Frank D., Cincinnati, Ohio. Label-attaching means. No. 972,917; Oct. 18; Sp. p. 3106; Gaz. vol. 159; p. 544.
Reuter, Theodor, Winterthur, Switzerland. Internal-combustion engine. No. 971,793; Oct. 4; Sp. p. 501; Gaz. vol. 159; p. 103.
Reynolds, Frank C., Columbus, Ohio. Car-coupling. No. 971,640; Oct. 4; Sp. p. 274; Gaz. vol. 159; p. 49.
Reynolds, George H., Mansfield Depot, Conn., assignor to The Reynolds Ice Machine Company, New York, N. Y. Valve mechanism for air-compressors. No. 973,211; Oct. 18; Sp. p. 3776; Gaz. vol. 159; p. 645.
Reynolds Ice Machine Company, The. (See Reynolds, George H., assignor.)
Rhea, Luther C., Columbus, Ohio. Boiler. No. 971,561; Oct. 4; Sp. p. 110; Gaz. vol. 159; p. 21.
Rhinelander Iron Co. *et al.* (See Dolan, William J., assignor.)
Rhoades, Alonzo E. (See Osgood and Rhoades.)
Rhoades, Alonzo E., Hopedale, Mass., assignor to Draper Company, Portland, Me. Automatic weft-replenishing loom. No. 972,918; Oct. 18; Sp. p. 3108; Gaz. vol. 159; p. 544.
Ribé, José M., Barcelona, Spain. Wafer-machine. No. 973,304; Oct. 18; Sp. p. 3952; Gaz. vol. 159; p. 676.
Rice, Charles B., Washington, D. C. Plane. No. 972,645; Oct. 11; Sp. p. 2481; Gaz. vol. 159; p. 422.
Rice, Clarence L. (See Morgan and Rice.)
Rice, George L., and B. W. Gilchrist, Woodhaven, N. Y.; said Gilchrist assignor to said Rice. Enameling metals. No. 971,641; Oct. 4; Sp. p. 277; Gaz. vol. 159; p. 49.
Richardson, Harvey J., Gilmour, assignor of one-half to P. N. Staff, Terre Haute, Ind. Table implement. No. 972,777; Oct. 11; Sp. p. 2742; Gaz. vol. 159; p. 466.
Richardson, Nancy M., Los Angeles, Cal. Combined dish washer and holder. No. 973,212; Oct. 18; Sp. p. 3777; Gaz. vol. 159; p. 645.
Richey, Oscar T., Tucson, Ariz. Flushing apparatus. No. 973,973; Oct. 25; Sp. p. 5352; Gaz. vol. 159; p. 931.
Richmond, Walter, Memphis, Tenn. Electric heating-receptacle. No. 972,248; Oct. 11; Sp. p. 1614; Gaz. vol. 159; p. 283.
Richolson, Abraham L., New York, N. Y. Guide for sewing-machines. No. 971,562; Oct. 4; Sp. p. 113; Gaz. vol. 159; p. 22.
Richter, Emil, Mehlthener, Germany. Potato-planter. No. 972,919; Oct. 18; Sp. p. 3110; Gaz. vol. 159; p. 544.
Rickards, Joshua B., and W. H. Geiger, Philadelphia, Pa. Gasolene-strainer. No. 973,305; Oct. 18; Sp. p. 3954; Gaz. vol. 159; p. 676.
Ricker, Adolph J., South Milwaukee, Wis., assignor to B. D. Jones, Chicago, Ill. Car-door. No. 973,701; Oct. 25; Sp. p. 4809; Gaz. vol. 159; p. 836.
Rickert, August A., Erie, Pa. Can-sealing device. No. 973,812; Oct. 25; Sp. p. 5031; Gaz. vol. 159; p. 874.
Riday, Robert E., Darby, Pa. Animal-trap. No. 973,213; Oct. 18; Sp. p. 3778; Gaz. vol. 159; p. 646.
Riddiford, Edward J., *et al.* (See Castle, Frank, assignor.)
Riddle, George W., St. Joseph, Mo. Ratchet for grinding-machines and foot-power apparatus. No. 973,974; Oct. 25; Sp. p. 5354; Gaz. vol. 159; p. 932.
Ridge, Patrick J. (See Quinn, Felix, assignor.)
Riebe, Gustav W., Iron River, Wis. Auxiliary seat for chairs. No. 972,472; Oct. 11; Sp. p. 2073; Gaz. vol. 159; p. 361.
Rieck, Herman, Greenwood township, Vernon county, Wis. Woodworking-machine. No. 972,249; Oct. 11; Sp. p. 1616; Gaz. vol. 159; p. 284.
Riehs, William C., San Rafael, Cal. Lathe attachment. No. 972,720; Oct. 11; Sp. p. 2637; Gaz. vol. 159; p. 448.
Riest, Henry G., Schenectady, N. Y., assignor to General Electric Company. Means for ventilating dynamo-electric machines. No. 973,565; Oct. 25; Sp. p. 4513; Gaz. vol. 159; p. 788.
Riggs, George P., St. Marys, W. Va. Automatic writing-machine. No. 972,920; Oct. 18; Sp. p. 3111; Gaz. vol. 159; p. 545.
Riney, John A. (See Riney, Thomas L. and J. A.)
Riney, Thomas L., Center, Mo., and J. A. Riney, Wymore, Nebr. Lamp attachment for vehicles. No. 972,573; Oct. 11; Sp. p. 2323; Gaz. vol. 159; p. 398.
Rioux, David, Springfield, Mass. Spiral tool-driver. No. 973,881; Oct. 25; Sp. p. 5179; Gaz. vol. 159; p. 900.
Risbridger, Milton W. (See Risbridger, William C. and M. W.)
Risbridger, William C. and M. W., assignors of one-third to B. F. Johnson, Cleveland, Ohio. Fillet for patterns. No. 972,473; Oct. 11; Sp. p. 2075; Gaz. vol. 159; p. 361.
Rishel, John A., assignor of one-half to J. R. Oakley, Munhall, Pa. Approach-rail for track-scales. No. 972,250; Oct. 11; Sp. p. 1618; Gaz. vol. 159; p. 284.
Ritchay, Vincent O., and F. W. Besselman, Coraopolis, Pa. Bone-burner. No. 972,023; Oct. 4; Sp. p. 1126; Gaz. vol. 159; p. 189.
Ritter, Gilbert P., Chicago, Ill. Car-truck. No. 972,921; Oct. 18; Sp. p. 3115; Gaz. vol. 159; p. 545.
Ritter, Henry J., Tippecanoe City, Ohio. Type-writer cabinet. No. 972,922; Oct. 18; Sp. p. 3119; Gaz. vol. 159; p. 545.
Ritter, Henry J., Tippecanoe City, Ohio. Type-writer cabinet. No. 972,923; Oct. 18; Sp. p. 3122; Gaz. vol. 159; p. 546.
Robben, Clemens A., Angelus, Kans. Combined hay rake and stacker. No. 973,813; Oct. 25; Sp. p. 5032; Gaz. vol. 159; p. 875.
Roberts, David, and C. James, Grantham, England. Internal-combustion engine. No. 971,024; Oct. 4; Sp. p. 1129; Gaz. vol. 159; p. 190.
Roberts, James W., Pope, Tenn. Soil-pulverizing attachment for plows. No. 972,025; Oct. 4; Sp. p. 1132; Gaz. vol. 159; p. 190.
Roberts, William M., Columbia, Tenn. Harrow. No. 973,975; Oct. 25; Sp. p. 5356; Gaz. vol. 159; p. 932.
Roberts, Zachariah A., and J. D. Hartwick, Carrollton, Ill. Device for hiving bees. No. 973,702; Oct. 25; Sp. p. 4811; Gaz. vol. 159; p. 836.

Robertson, Thomas E., Catford, England, assignor to General Electric Company. Incandescent electric lamp. No. 973,703; Oct. 25; Sp. p. 4813; Gaz. vol. 159; p. 837.
Robinson, Henry O., Brookline, and C. Steadman, Salem, Mass. Kiln, furnace, &c. No. 971,642; Oct. 4; Sp. p. 277; Gaz. vol. 159; p. 49.
Robinson, Joseph E., Wheeling, W. Va. Nut-lock. No. 972,924; Oct. 18; Sp. p. 3123; Gaz. vol. 159; p. 546.
Robinson Manufacturing Company. (See Petrikin and Dimm, assignors.)
Robinson, Roy H., Chicago, Ill. Composite building-frame structure. No. 973,814; Oct. 25; Sp. p. 5034; Gaz. vol. 159; p. 875.
Robinson, Roy H., Chicago, Ill. Composite building-frame structure. No. 973,815; Oct. 25; Sp. p. 5035; Gaz. vol. 159; p. 875.
Rochefort, Octave, assignor to Compagnie Générale Radio-Telegraphique Carpentier, Gaiffe, Rochefort, Paris, France. Wireless telegraphy or wireless telephony. No. 972,721; Oct. 11; Sp. p. 2638; Gaz. vol. 159; p. 448.
Rochester Stamping Company. (See Swan, Alfred H. S., assignor.)
Rockey, Walter S., and H. Eldridge, New York, N. Y. Flux for brass plating. No. 971,563; Oct. 4; Sp. p. 115; Gaz. vol. 159; p. 22.
Rockey, Walter S., and H. Eldridge, New York, N. Y. Flux for protecting a bath of copper or brass. No. 971,564; Oct. 4; Sp. p. 116; Gaz. vol. 159; p. 22.
Rockwell, Byrd C., Malvern, Ark. Collapsible crate. No. 972,925; Oct. 18; Sp. p. 3124; Gaz. vol. 159; p. 546.
Rodda, Horace W., South Kensington, London, England. Machine for washing plates or other tableware. No. 972,251; Oct. 11; Sp. p. 1620; Gaz. vol. 159; p. 284.
Rode, Wilhelm, Steglitz, assignor to Dr. Boes & Co., Gross Lichterfelde, near Berlin, Germany. Kite. No. 972,646; Oct. 11; Sp. p. 2483; Gaz. vol. 159; p. 423.
Roellig, Martin, Wilmersdorf, Berlin, Germany. Marine propulsion by steam-turbines. No. 972,026; Oct. 18; Sp. p. 3127; Gaz. vol. 159; p. 547.
Rogers, Columbus K., Salem, Mass. Safety-grip for elevators. No. 972,252; Oct. 11; Sp. p. 1621; Gaz. vol. 159; p. 285.
Rogers, John R., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Keyboard mechanism for linotype-machines, &c. No. 973,566; Oct. 25; Sp. p. 4516; Gaz. vol. 159; p. 789.
Rogers, William A., assignor to C. A. Hammel, Los Angeles, Cal. Oil-burning steam-boiler. No. 973,138; Oct. 18; Sp. p. 3588; Gaz. vol. 159; p. 619.
Rohr, Richard, assignor of one-half to E. J. Germain, Belleville, Ill. Potato-digger. No. 971,643; Oct. 4; Sp. p. 279; Gaz. vol. 159; p. 50.
Roland, Luther R. (See Brunst and Roland.)
Rollason, Arthur. (See Ely and Rollason.)
Rollins, Jarrot J., Colfax, Cal. Jar-sealing device. No. 973,214; Oct. 18; Sp. p. 3780; Gaz. vol. 159; p. 646.
Rommer, Isaac A., Newark, N. J. Adjustable and quick-acting clamp. No. 972,253; Oct. 11; Sp. p. 1624; Gaz. vol. 159; p. 285.
Rose, Cyrus C., Blair township, Washington county, Nebr. Harness attachment. No. 971,644; Oct. 4; Sp. p. 281; Gaz. vol. 159; p. 50.
Rose, Henry. (See Rose, William and H.)
Rose, Henry, Gainsborough, England. Apparatus for feeding articles to wrapping mechanisms. No. 972,649; Oct. 11; Sp. p. 2486; Gaz. vol. 159; p. 423.
Rose, William and H., Gainsborough, England. Feeding mechanism for label or wrapping machines. No. 972,647; Oct. 11; Sp. p. 2484; Gaz. vol. 159; p. 423.
Rose, William and H., Gainsborough, England. Mechanism for applying labels or wrappers. No. 972,648; Oct. 11; Sp. p. 2485; Gaz. vol. 159; p. 423.
Rosenheim, Ida S. (See Schoenberg, Ralph A., assignor.)
Rotary Engine and Valve Developing Company. (See Capwell, Vernon L., assignor.)
Rotary Meter Company. (See Brown, Ernest C., assignor.)
Roth, Arnold N., McCall, La. Combined match-safe and cigar-cutter. No. 973,306; Oct. 18; Sp. p. 3956; Gaz. vol. 159; p. 677.
Roth, Harry L., assignor to Industrial Equipment Company, Philadelphia, Pa. Tag-machine. No. 971,927; Oct. 4; Sp. p. 892; Gaz. vol. 159; p. 154.
Roth, Harry L., assignor to Industrial Equipment Company, Philadelphia, Pa. Tag-stringer machine. No. 971,928; Oct. 4; Sp. p. 903; Gaz. vol. 159; p. 155.
Rotha, Harry, Waynesville, N. C. Pulley-block. No. 972,254; Oct. 11; Sp. p. 1627; Gaz. vol. 159; p. 286.
Rothbarth, John C., Buffalo, N. Y. Chimney-cap. No. 973,139; Oct. 18; Sp. p. 3589; Gaz. vol. 159; p. 619.
Rothe, William F., assignor to Wm. F. Rothe and Company, East St. Louis, Ill. Carburetor. No. 973,882; Oct. 25; Sp. p. 5181; Gaz. vol. 159; p. 900.
Rouy, Gustave, New York, N. Y. Car-truck. No. 971,920; Oct. 4; Sp. p. 915; Gaz. vol. 159; p. 155.
Row, Daniel, Brockville, Ontario, Canada. Hammock. No. 971,688; Oct. 4; Sp. p. 370; Gaz. vol. 159; p. 63.
Row, George S., Indianapolis, Ind. Lens-fastening for nose-glasses. No. 973,215; Oct. 18; Sp. p. 3782; Gaz. vol. 159; p. 646.
Rowe, George H., Berwyn, assignor to Electro-Magnetic Tool Company, Chicago, Ill. Electromechanical device. No. 973,216; Oct. 18; Sp. p. 3783; Gaz. vol. 159; p. 647.
Rowe, Wallace H. (See Adams, James D., assignor.)
Rowell, Benton C., Chicago, Ill. Apparatus for conveying liquids under pressure. No. 973,816; Oct. 25; Sp. p. 5038; Gaz. vol. 159; p. 876.
Rowland, Herbert K., and L. H. Larsen, Toppenish, Wash. Fruit cleaner and grader. No. 972,020; Oct. 4; Sp. p. 1133; Gaz. vol. 159; p. 190.
Rudder, Frank P., Derby, England. Furnace for refuse-destructors. No. 973,386; Oct. 18; Sp. p. 4133; Gaz. vol. 159; p. 705.
Ruddy, Francis L., Watertown, N. Y. Thermometer-case. No. 973,307; Oct. 18; Sp. p. 3957; Gaz. vol. 159; p. 677.
Ruettgers, Ernst, Brooklyn, N. Y. Manicure instrument. No. 973,308; Oct. 18; Sp. p. 3958; Gaz. vol. 159; p. 677.
Ruff, Frederick A., Newark, N. J. Antiskidding device. No. 973,976; Oct. 25; Sp. p. 5358; Gaz. vol. 159; p. 932.
Ruggles, Horace H., Boston, Mass. Grate. No. 971,565; Oct. 4; Sp. p. 117; Gaz. vol. 159; p. 23.
Rühling, Waldemar, assignor to Hermann Malachowski, Berlin, Germany. Production of incandescent-electric-lamp filaments. No. 973,883; Oct. 25; Sp. p. 5183; Gaz. vol. 159; p. 900.
Runkel, Friedrich, Elberfeld, and M. Herzberg, Opladen, near Elberfeld, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Pigment-color. No. 972,130; Oct. 4; Sp. p. 1333; Gaz. vol. 159; p. 224.
Rupp, Philipp, *et al.* (See Müller, Georg, assignor.)
Ruppert, Austin J., Forreston, Ill. Trough-clamp. No. 973,387; Oct. 18; Sp. p. 4135; Gaz. vol. 159; p. 705.
Russell & Erwin Manufacturing Company. (See Voight, Henry G., assignor.)
Russell, Frank J., New York, N. Y. Sign-receptacle fastening. No. 973,567; Oct. 25; Sp. p. 4518; Gaz. vol. 159; p. 789.
Russell, Frank J., Brooklyn, N. Y. Sign-receptacle fastening-eyelet. No. 973,568; Oct. 25; Sp. p. 4520; Gaz. vol. 159; p. 789.
Russell, Frank J., Brooklyn, N. Y. Sign-receptacle fastening-eyelet. No. 973,817; Oct. 25; Sp. p. 5040; Gaz. vol. 159; p. 876.
Russia Cement Company. (See Phillips, Nathan C., assignor.)
Rutland, William F., Sr., Rion, S. C. Rail-splice. No. 972,927; Oct. 18; Sp. p. 3129; Gaz. vol. 159; p. 547.
Ryan, James R. (See Boulieu, John, assignor.)
Ryder, Hugh T., and J. P. Johnson, Greensboro, N. C. Air-brake mechanism. No. 972,027; Oct. 4; Sp. p. 1137; Gaz. vol. 159; p. 191.
Ryon, Eppa H., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Weft-replenishing loom. No. 972,722; Oct. 11; Sp. p. 2640; Gaz. vol. 159; p. 448.
Sabroe, Axel, Hadersleben, Germany. Milking device. No. 973,704; Oct. 25; Sp. p. 4814; Gaz. vol. 159; p. 837.
Sackett, Charles E., Danbury, Conn. Hat-brim conformator curling-machine. No. 971,566; Oct. 4; Sp. p. 121; Gaz. vol. 159; p. 23.
Safety Car Heating and Lighting Company. (See Creveling, John L., assignor.)
Sager, James H., Rochester, N. Y. Shock-absorber. No. 973,217; Oct. 18; Sp. p. 3786; Gaz. vol. 159; p. 647.
Salch, George J., New York, N. Y. Lamp. No. 973,072; Oct. 18; Sp. p. 3440; Gaz. vol. 159; p. 596.
Salcher, Alois. (See Werlé, Nikolaus, assignor.)
Salinger, Jean S., New Rochelle, N. Y. Bed-strap. No. 973,977; Oct. 25; Sp. p. 5360; Gaz. vol. 159; p. 933.
Samson Iron Works. (See Krover, John M., assignor.)
Samuelson, Frederick, Rugby, England, assignor to General Electric Company. Governing mechanism for mixed-pressure turbines. No. 973,705; Oct. 25; Sp. p. 4815; Gaz. vol. 159; p. 837.
Sand Mixing Machine Company, The. (See Lorimer, George W., assignor.)
Sanford, Frank V., Ellenville, N. Y. Knife construction. No. 973,978; Oct. 25; Sp. p. 5361; Gaz. vol. 159; p. 933.
Sanitary Steel Couch Company. (See Grotenhuis, William J., assignor.)
Sanker, Leonard J., Los Angeles, Cal. Wind-shield. No. 973,706; Oct. 25; Sp. p. 4820; Gaz. vol. 159; p. 838.
Sargent, Frederick G., Westford, assignor to C. G. Sargent's Sons Corporation, Graniteville, Mass. Wool-washer. No. 973,388; Oct. 18; Sp. p. 4137; Gaz. vol. 159; p. 705.
Sarles, Karl J., Kenwood Springs, and T. E. Heeter, St. Louis, Mo. Loose-leaf binder. No. 973,707; Oct. 25; Sp. p. 4821; Gaz. vol. 159; p. 838.
Saunders, Leslie R., Los Angeles, Cal. Circuit-closing device. No. 973,818; Oct. 25; Sp. p. 5042; Gaz. vol. 159; p. 876.
Sauvageon, Marius, Colombes, France. Electric furnace for the continuous manufacture of glass. No. 972,778; Oct. 11; Sp. p. 2743; Gaz. vol. 159; p. 467.
Sauvageon, Marius, Colombes, France. Electric furnace for the continuous manufacture of glass. No. 972,779; Oct. 11; Sp. p. 2744; Gaz. vol. 159; p. 467.
Savino, Rocko T., New York, N. Y. Flying-machine. No. 973,389; Oct. 18; Sp. p. 4138; Gaz. vol. 159; p. 706.
Sax-Nicholls-Cohn Company. (See Nicholls, Moses, assignor.)
Scaife, Jamieson V., McComb, Miss. Gage-cock. No. 973,074; Oct. 18; Sp. p. 3443; Gaz. vol. 159; p. 596.
Scanlan, Edward T., Washington, D. C. Lantern. No. 971,567; Oct. 4; Sp. p. 126; Gaz. vol. 159; p. 24.

Schaaff, John T., Washington, D. C., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 972,255; Oct. 11; Sp. p. 1628; Gaz. vol. 159; p. 286.
Schaal, Ernest A., Ankeny, assignor of one-half to H. W. Miller, Alleman, Iowa. Hinge for gable-doors. No. 973,073; Oct. 18; Sp. p. 3442; Gaz. vol. 159; p. 596.
Schabad, Abraham-C. S., Berlin, Germany. Ready-reckoner. No. 972,650; Oct. 11; Sp. p. 2488; Gaz. vol. 159; p. 424.
Schadegg, Fred G. (See Spalding and Schadegg.)
Schadt, Howard E. B. (See Schadt, Preston B. and H. E. B.)
Schadt, Preston B. and H. E. B., Allentown, Pa. Transmission mechanism. No. 973,979; Oct. 25; Sp. p. 5364; Gaz. vol. 159; p. 933.
Schaeffer, William G., assignor to Reading Standard Company, Reading, Pa. Piston-coupling. No. 972,651; Oct. 11; Sp. p. 2490; Gaz. vol. 159; p. 424.
Schaerer, Otto, Stuttgart, Germany. Carriage-guide for lathes. No. 972,574; Oct. 11; Sp. p. 2325; Gaz. vol. 159; p. 398.
Schanfler, Albert, assignor of one-half to E. H. Mohr, Greensburg, Ind. Clamp for stovepipes. No. 972,652; Oct. 11; Sp. p. 2491; Gaz. vol. 159; p. 424.
Schebler, George M., assignor to Wheeler & Schebler, Indianapolis, Ind. Carbureter. No. 971,689; Oct. 4; Sp. p. 371; Gaz. vol. 159; p. 65.
Schebler, George M., assignor to Wheeler & Schebler, Indianapolis, Ind. Carbureter. No. 971,862; Oct. 4; Sp. p. 751; Gaz. vol. 159; p. 130.
Schechter, Lazar. (See Tichomiroff and Schechter.)
Schenck, Charles, assignor to Transportation Appliance Corporation, Chicago, Ill. Door-check. No. 972,784; Oct. 11; Sp. p. 2750; Gaz. vol. 159; p. 469.
Schenerman, Henry E., Otis, Kans. Pump. No. 972,653; Oct. 11; Sp. p. 2491; Gaz. vol. 159; p. 425.
Schimanski, Frank A., Racine, Wis. Device for removing phonographic disk records. No. 972,028; Oct. 4; Sp. p. 1139; Gaz. vol. 159; p. 191.
Schlafly, Julius H., assignor to The Canton Culvert Company, Canton, Ohio. Culvert. No. 973,708; Oct. 25; Sp. p. 4822; Gaz. vol. 159; p. 830.
Schlarf, Henry, Maple Rapids, Mich. Potato-fork. No. 971,863; Oct. 4; Sp. p. 752; Gaz. vol. 159; p. 130.
Schleicher, William A., Cleveland, Ohio. Drop terret and hook. No. 973,980; Oct. 25; Sp. p. 5367; Gaz. vol. 159; p. 934.
Schlemmer, Henry, Effingham, Ill. Fretting device for stringed instruments. No. 974,094; Oct. 25; Sp. p. 5609; Gaz. vol. 159; p. 972.
Schlemmer, Henry, Effingham, Ill. Tuning device for stringed instruments. No. 974,095; Oct. 25; Sp. p. 5611; Gaz. vol. 159; p. 972.
Schlemmer, Oliver, Cincinnati, Ohio. Valve. No. 973,075; Oct. 18; Sp. p. 3444; Gaz. vol. 159; p. 597.
Schlesinger, Hymen. (See Levi and Schlesinger.)
Schlesinger, Maurice. (See Levi and Schlesinger.)
Schlueter, Henry H., Canastota, S. D. Wrench. No. 973,218; Oct. 18; Sp. p. 3788; Gaz. vol. 159; p. 647.
Schmaal, Gustav, and J. B. Wicks, Paulsboro, N. J. Valve. No. 973,819; Oct. 25; Sp. p. 5044; Gaz. vol. 159; p. 877.
Schmidt, Charles, assignor of one-half to E. Wunderlich, New Orleans, La. Coin-register. No. 973,981; Oct. 25; Sp. p. 5368; Gaz. vol. 159; p. 934.
Schmidt, Ernest H., assignor to The National Malleable Castings Company, Cleveland, Ohio. Radial-draft gear. No. 971,930; Oct. 4; Sp. p. 918; Gaz. vol. 159; p. 156.
Schmidt, Henry W., Detroit, Mich. Spring vehicle-wheel. No. 973,569; Oct. 25; Sp. p. 4522; Gaz. vol. 159; p. 790.
Schmidt, Herman A., Chicago, Ill. Electric-current generator. No. 971,690; Oct. 4; Sp. p. 372; Gaz. vol. 159; p. 66.
Schmidt, John, Dayton, Ohio. Bicycle-fork. No. 973,219; Oct. 18; Sp. p. 3789; Gaz. vol. 159; p. 647.
Schmidtmann, Fritz, Dusseldorf, Germany. Folding table. No. 973,220; Oct. 18; Sp. p. 3790; Gaz. vol. 159; p. 648.
Schnautz, Frederick W., New York, N. Y. Dumping-grate. No. 972,256; Oct. 11; Sp. p. 1631; Gaz. vol. 159; p. 286.
Schneider, Eugene, Le Creuzot, France. Percussion-fuse. No. 971,691; Oct. 4; Sp. p. 374; Gaz. vol. 159; p. 66.
Schneider, Eugène, Le Crenzot, France. Means for improving the efficiency of hot-air or external-combustion motors. No. 973,221; Oct. 18; Sp. p. 3791; Gaz. vol. 159; p. 648.
Schneider, Leopold C., Philadelphia, Pa., assignor to The Philadelphia Pipe Bending Company. Making long pipe-coils. No. 972,928; Oct. 18; Sp. p. 3131; Gaz. vol. 159; p. 547.
Schneider, Nicholas A. (See Likewise, Charles H., assignor.)
Schnelle, Friedrich O., Frankfort-on-the-Main, Germany, assignor to Wetherill Separating Company, New York, N. Y. Magnetic separator. No. 971,692; Oct. 4; Sp. p. 375; Gaz. vol. 159; p. 66.
Schoby, Howard. (See Morgan and Schoby.)
Schoenberg, Ralph A., assignor to I. S. Rosenheim, New York, N. Y. Pull-socket. No. 973,982; Oct. 25; Sp. p. 5377; Gaz. vol. 159; p. 934.
Schoettle, Julius W. (See Mayer and Schoettle.)
Schofield, Charles, Newcastle-upon-Tyne, England. Holder-on. No. 972,257; Oct. 11; Sp. p. 1632; Gaz. vol. 159; p. 287.
Schramm, Adolph W., Riverton, N. J. Chuck-removing device. No. 972,575; Oct. 11; Sp. p. 2326; Gaz. vol. 159; p. 399.
Schroeder, Frederick W., assignor of one-half to A. Cuzner, London, England. Umbrella. No. 973,222; Oct. 18; Sp. p. 3792; Gaz. vol. 159; p. 648.
Schulte-Steinberg, Hugo, Düren, near Stockum, Germany. Molding bricks. No. 971,693; Oct. 4; Sp. p. 378; Gaz. vol. 159; p. 67.
Schultz, Albert P., Kenosha, Wis. Pliers. No. 973,076; Oct. 18; Sp. p. 3446; Gaz. vol. 159; p. 597.
Schulze, Gustav F., Vandalia, Mo. Postman's delivery-wagon. No. 973,390; Oct. 18; Sp. p. 4141; Gaz. vol. 159; p. 706.
Schutte and Koerting Company. (See Fusch, Gustav, assignor.)
Schwannecke, Albert F., New York, N. Y. Ventilator and exhaust. No. 973,309; Oct. 18; Sp. p. 3960; Gaz. vol. 159; p. 677.
Schwartz, Henry H., Boston, Mass. Boot and shoe. No. 973,077; Oct. 18; Sp. p. 3447; Gaz. vol. 159; p. 597.
Schwartz, Mendel, assignor to S. J. Horn, New York, N. Y. Buckle. No. 971,694; Oct. 4; Sp. p. 379; Gaz. vol. 159; p. 67.
Schwartz, York, Hanover, Germany, assignor to Synoloids Limited, London, England. Photographic emulsion. (Reissue.) No. 13,162; Oct. 25; Sp. p. 5637; Gaz. vol. 159; p. 978.
Schwartzman, Harry, Baltimore, Md. Display-cabinet for photographs. No. 973,570; Oct. 25; Sp. p. 4523; Gaz. vol. 159; p. 790.
Schwerin, Botho, Frankfort-on-the-Main, Germany. Method of and apparatus for generating electricity. No. 972,020; Oct. 4; Sp. p. 1140; Gaz. vol. 159; p. 191.
Scientific Research Co., The. (See Ranney, Ambrose E., assignor.)
Scott, Robert F., assignor to Edwin Harrington, Son & Co., Inc., Philadelphia, Pa. Grapple. No. 973,709; Oct. 25; Sp. p. 4824; Gaz. vol. 159; p. 830.
Scott, Samuel J., assignor of one-third to J. O. Sloan and one-third to I. N. Gatrell, Columbus, Ohio. Moving advertising device. No. 972,258; Oct. 11; Sp. p. 1632; Gaz. vol. 159; p. 287.
Scott, Semple S., Chicago, Ill. Cooling attachment for explosive-engines. No. 973,820; Oct. 25; Sp. p. 5045; Gaz. vol. 159; p. 877.
Scott, William, Siegfried, Pa. Bag-cleaner. No. 974,096; Oct. 25; Sp. p. 5612; Gaz. vol. 159; p. 973.
Scott, William B., Los Angeles, Cal. Coupling for pump-rods. No. 971,794; Oct. 4; Sp. p. 593; Gaz. vol. 159; p. 104.
Scott, William T., Parkersburg, Iowa. Loading apparatus. No. 971,568; Oct. 4; Sp. p. 128; Gaz. vol. 159; p. 24.
Scovel, James D., Detroit, Mich. Animal-shears. No. 971,931; Oct. 4; Sp. p. 920; Gaz. vol. 159; p. 156.
Scovill, James P., Wyoming, assignor, by mesne assignments, to The Ceramic Machinery Company, Hamilton, Ohio. Tile-coating machinery. No. 973,710; Oct. 25; Sp. p. 4825; Gaz. vol. 159; p. 839.
Scoville Manufacturing Company. (See Cordley and Long, assignors.)
Scully, John, Minneapolis, Minn. Fire-escape. No. 972,576; Oct. 11; Sp. p. 2329; Gaz. vol. 159; p. 399.
Seaberg, Frederick, assignor, by mesne assignments, to S. Otis, Chicago, Ill. Dump-car. No. 974,007; Oct. 25; Sp. p. 5614; Gaz. vol. 159; p. 973.
Seagrave Company, The. (See Foss, Clarence M., assignor.)
Seaman, Morris B., and G. Cohen, Meridan, Conn. Shoe-cleaning device. No. 972,474; Oct. 11; Sp. p. 2076; Gaz. vol. 159; p. 361.
Search, Charles E., Milwaukee, Wis., assignor to Allis-Chalmers Company. Dynamo-electric machine. No. 972,929; Oct. 18; Sp. p. 3134; Gaz. vol. 159; p. 548.
Searing, Eugene P. (See Porter and Searing.)
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Gapped gear. No. 972,259; Oct. 11; Sp. p. 1634; Gaz. vol. 159; p. 287.
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Gapped gear. No. 972,260; Oct. 11; Sp. p. 1635; Gaz. vol. 159; p. 288.
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Gapped gear. No. 972,261; Oct. 11; Sp. p. 1636; Gaz. vol. 159; p. 288.
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Gapped gear. No. 972,262; Oct. 11; Sp. p. 1637; Gaz. vol. 159; p. 288.
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Gapped gear. No. 972,263; Oct. 11; Sp. p. 1638; Gaz. vol. 159; p. 289.
Seavey, Eugene, New York, N. Y. Drill gage-plate. No. 973,078; Oct. 18; Sp. p. 3448; Gaz. vol. 159; p. 597.
See, William T., Meadville, Pa. Train-order-delivering device. No. 972,654; Oct. 11; Sp. p. 2493; Gaz. vol. 159; p. 425.
Seeberger, Charles D., Yonkers, N. Y. Conveyer. No. 972,475; Oct. 11; Sp. p. 2079; Gaz. vol. 159; p. 362.
Seeberger, Charles D., Yonkers, N. Y. Conveyer. No. 973,079; Oct. 18; Sp. p. 3440; Gaz. vol. 159; p. 596.

Seeberger, Eugen. (See Cahn and Seeberger.)
Seeley, Frank E., assignor to The Bryant Electric Company, Bridgeport, Conn. Electrical fixture. No. 972,577; Oct. 11; Sp. p. 2333; Gaz. vol. 159; p. 399.
Sehr, Franz, Blankenbain, near Weimar, Germany. Manufacture of filters. No. 972,723; Oct. 11; Sp. p. 2644; Gaz. vol. 159; p. 449.
Seib, George A., assignor to Union Typewriter Company, Ilion, N. Y. Type-writing machine. No. 971,932; Oct. 4; Sp. p. 921; Gaz. vol. 159; p. 156.
Seib, George A., Ilion, assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 972,578; Oct. 11; Sp. p. 2335; Gaz. vol. 159; p. 400.
Seipp, Henry C., Cornopolis, Pa. Pavement and other light. No. 972,264; Oct. 11; Sp. p. 1639; Gaz. vol. 159; p. 289.
Seiser, Charles R., assignor to United Railways Company of Saint Louis, St. Louis, Mo. Passenger-car. No. 973,884; Oct. 25; Sp. p. 5184; Gaz. vol. 159; p. 900.
Selfridge, Duncan L., U. S. Navy. Projectile. No. 973,983; Oct. 25; Sp. p. 5384; Gaz. vol. 159; p. 935.
Selig Polyscope Company. (See Hoglund, Gustav E., assignor.)
Selig Polyscope Company, The. (See Keller, Jeremiah, assignor.)
Selig Polyscope Company. (See Selig, William N., assignor.)
Selig Polyscope Company, The. (See Sperberg, Edward H., assignor.)
Selig, William N., assignor to Selig Polyscope Company, Chicago, Ill. Moving-picture projecting-lantern. No. 971,864; Oct. 4; Sp. p. 753; Gaz. vol. 159; p. 131.
Selleck, June M., Chicago, Ill. Vehicle-wheel. No. 972,930; Oct. 18; Sp. p. 3136; Gaz. vol. 159; p. 548.
Sellon, Charles A., Halleck, Cal. Magnetic ore-separator. No. 973,984; Oct. 25; Sp. p. 5385; Gaz. vol. 159; p. 935.
Semet-Solvay Company. (See Hilleke, August F., assignor.)
Senge, Liborius, Crescent Springs, Ky., assignor to The Globe-Wernicke Company, Cincinnati, Ohio. Metal filing-cabinet. No. 972,476; Oct. 11; Sp. p. 2083; Gaz. vol. 159; p. 362.
Sergeant, Charles H., Bridgeport, Conn. Internal-combustion engine. No. 973,140; Oct. 18; Sp. p. 3592; Gaz. vol. 159; p. 620.
Sessions, Frank L., Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company. Brush-holder for electric conductors. No. 972,655; Oct. 11; Sp. p. 2494; Gaz. vol. 159; p. 425.
Sessions, Frank L., Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company. Current-controller. No. 973,885; Oct. 25; Sp. p. 5187; Gaz. vol. 159; p. 901.
Severy, Melvin L., Arlington Heights, Mass. Musical instrument. No. 973,391; Oct. 18; Sp. p. 4144; Gaz. vol. 159; p. 707.
Sevison, Luther J., and E. H. Moak, Port Huron, Mich. Grading-machine. No. 973,711; Oct. 25; Sp. p. 4827; Gaz. vol. 159; p. 840.
Seward, Ernest R. (See Witherell, Seward, and Mason.)
Seward, George O. (See Kügelgen and Seward.)
Sewell, Charles B., Sharon, Tex. Cotton-harvester. No. 973,712; Oct. 25; Sp. p. 4835; Gaz. vol. 159; p. 840.
Shadley, Frank L., Sterling, Nebr. Car-seal. No. 972,477; Oct. 11; Sp. p. 2085; Gaz. vol. 159; p. 362.
Shaffer, Ernest L., Cedar Falls, Iowa. Straw-stacker. No. 972,656; Oct. 11; Sp. p. 2496; Gaz. vol. 159; p. 425.
Shaffer, William C., Milwaukee, Wis. Generator and burner. No. 973,713; Oct. 25; Sp. p. 4837; Gaz. vol. 159; p. 840.
Shafto, Leroy R., Elm Creek, Nebr. Hay stacker and loader. No. 972,478; Oct. 11; Sp. p. 2086; Gaz. vol. 159; p. 363.
Shanahan, Leo M. (See Mason, Francis C., assignor.)
Shapel, Hooker, Iola, Kans. Liquid-fuel burner. No. 972,931; Oct. 18; Sp. p. 3141; Gaz. vol. 159; p. 548.
Sharp, Archibald, Westminster, London, England. Air-spring. No. 973,223; Oct. 18; Sp. p. 3793; Gaz. vol. 159; p. 649.
Sharp, Peter, New York, N. Y., assignor to Automatic Rove-Stop Company. Stop-motion for textile machinery. No. 972,265; Oct. 11; Sp. p. 1641; Gaz. vol. 159; p. 289.
Sharp, Peter, assignor to Automatic Rove Stop Co., New York, N. Y. Automatic rove-stop. No. 972,266; Oct. 11; Sp. p. 1646; Gaz. vol. 159; p. 290.
Sharpe, Joseph K., Jr., assignor to The Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic stacker. No. 971,933; Oct. 4; Sp. p. 923; Gaz. vol. 159; p. 157.
Shattuck, William P., assignor of two-thirds to J. Burmeister, Minneapolis, Minn. Mop-stick. No. 973,392; Oct. 18; Sp. p. 4147; Gaz. vol. 159; p. 707.
Shaughnessy, Micheal L. (See Barry and Shaughnessy.)
Shaver, James W., et al. (See McLaughlin, John, assignor.)
Shaw, William, Lakewood, assignor to National Carbon Company, Cleveland, Ohio. Pigtail-connection for carbon brushes. No. 972,267; Oct. 11; Sp. p. 1652; Gaz. vol. 159; p. 290.
Shawmut Machinery Company. (See Buck, Vertrude P., assignor.)
Sheak, Andrew G., Binghamton, N. Y. Drinking-cup. No. 972,932; Oct. 18; Sp. p. 3142; Gaz. vol. 159; p. 549.
Shearer, Joseph A., Ashland, Ohio. Sash-fastener. No. 971,569; Oct. 4; Sp. p. 130; Gaz. vol. 159; p. 24.
Shears, Cuthbert, Manchester, England, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Magnetic brake. No. 971,795; Oct. 4; Sp. p. 594; Gaz. vol. 159; p. 104.
Shelton, William J., Van Vleck, Tex. Fumigator. No. 971,570; Oct. 4; Sp. p. 131; Gaz. vol. 159; p. 24.
Shepard, Harry. (See Shepard, Harry H. and H.)
Shepard, Harry H. and H., New York, N. Y. Frame-hanger. No. 972,579; Oct. 11; Sp. p. 2340; Gaz. vol. 159; p. 400.
Sherer, Willard A. (See Leon, Bert, assignor.)
Sherman, Albert G., Buffalo, N. Y. Boiler. No. 972,580; Oct. 11; Sp. p. 2342; Gaz. vol. 159; p. 400.
Shipman, William F., Denver, Colo. Wire-stretcher. No. 972,268; Oct. 11; Sp. p. 1653; Gaz. vol. 159; p. 200.
Shirley, William W., Pittsburg, Pa. Pan and plate lifter. No. 972,933; Oct. 18; Sp. p. 3144; Gaz. vol. 159; p. 549.
Shivadecker, George. (See Smith and Shivadecker.)
Shoenberg, Milton H., and G. T. Marsh, San Francisco, Cal., assignors to Appliance and Electric Device Company. Electrical heater. No. 972,131; Oct. 4; Sp. p. 1334; Gaz. vol. 159; p. 224.
Shonnard, Harold W., East Orange, N. J. Self-propelling torpedo. No. 973,141; Oct. 18; Sp. p. 3595; Gaz. vol. 159; p. 620.
Short, Albert, Cedar Vale, Kans. Breeching. No. 971,695; Oct. 4; Sp. p. 380; Gaz. vol. 159; p. 67.
Shuster, Franklin B., New Haven, Conn. Strip-metal straightening and cutting-off machine. No. 973,571; Oct. 25; Sp. p. 4525; Gaz. vol. 159; p. 790.
Sibert, Ernest R., Colorado Springs, Colo. Chuck. No. 973,985; Oct. 25; Sp. p. 5387; Gaz. vol. 159; p. 935.
Sidney Tool Co., The. (See Paddock, Delbert M., assignor.)
Siegrist, Charles F., assignor, by mesne assignments, to The Cleveland Steel Tool Company, Cleveland, Ohio. Valve. No. 971,934; Oct. 4; Sp. p. 924; Gaz. vol. 159; p. 157.
Sies, B. F. (See Sies, Charles H., assignor.)
Sies, Charles H., Cedar Rapids, assignor of one-half to B. F. Sies, Davenport, Iowa. Hay-loader. No. 972,132; Oct. 4; Sp. p. 1335; Gaz. vol. 159; p. 225.
Sigler, George T., et al. (See Brown, Leonard L., assignor.)
Sigler, William T., et al. (See Brown, Leonard L., assignor.)
Silbert, Harry, and S. Wachtel, Boston, Mass. Machine for making hat-frames. No. 972,407; Oct. 11; Sp. p. 1931; Gaz. vol. 159; p. 339.
Simmons, Charles A., Albany, N. Y. Seal-lock. No. 971,571; Oct. 4; Sp. p. 132; Gaz. vol. 159; p. 25.
Simon, Emil J., assignor to The Radio Telephone Company, New York, N. Y. Spark-gap for radiotone wireless-telegraph systems. No. 971,935; Oct. 4; Sp. p. 927; Gaz. vol. 159; p. 157.
Simon, Sylvester. (See Cunningham, Wilton, assignor.)
Simplex Valve and Meter Company. (See Borden, Moro M., assignor.)
Simpson, Charles W., Loudon, Tenn. Check-book. No. 973,310; Oct. 18; Sp. p. 3962; Gaz. vol. 159; p. 678.
Simpson, John A. (See Stone and Simpson.)
Simpson, John E., and W. D. Puckett, assignors to The Portsmouth Machine & Casting Company, Portsmouth, Ohio. Car-truck. No. 972,581; Oct. 11; Sp. p. 2344; Gaz. vol. 159; p. 401.
Simpson, Robert D., Columbus, Ohio. Toy pistol. No. 973,886; Oct. 25; Sp. p. 5194; Gaz. vol. 159; p. 901.
Sims, James L., Ben Wheeler, Tex. Hoisting device. No. 973,572; Oct. 25; Sp. p. 4527; Gaz. vol. 159; p. 791.
Sims, Samuel C., Sterling, Ill. Dental cabinet. No. 973,573; Oct. 25; Sp. p. 4529; Gaz. vol. 159; p. 791.
Singer Manufacturing Company, The. (See De Voe, Albert H., assignor.)
Singer Manufacturing Company, The. (See Miller, William V., assignor.)
Sivertsen, Victor A. E., and J. C. Nielsen, Copenhagen, Denmark, assignors to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 971,696; Oct. 4; Sp. p. 382; Gaz. vol. 159; p. 67.
Skinner, Theodore H., Oneida, N. Y. Constructing dams, docks, and similar water-retaining or water-excluding structures. No. 973,821; Oct. 25; Sp. p. 5047; Gaz. vol. 159; p. 878.
Skitt, James H. (See Drum and Skitt.)
Skoog, Andrew L., Minneapolis, Minn. Key-controlled music-instruction board. No. 972,934; Oct. 18; Sp. p. 3146; Gaz. vol. 159; p. 549.
Slaymaker Lock Manufacturing Corporation, The. (See Miller and Slaymaker, assignors.)
Slaymaker, Samuel R. (See Miller and Slaymaker.)
Sleeth Manufacturing Company. (See Wheelwright, George W., assignor.)
Sleicher, Charles A., assignor to Standard Compound Company, Troy, N. Y. Composition of matter for foundry-cores. No. 973,574; Oct. 25; Sp. p. 4530; Gaz. vol. 159; p. 791.
Slemmer, Frank G., Goldsboro, Md. Telegraph-key. No. 971,572; Oct. 4; Sp. p. 133; Gaz. vol. 159; p. 25.
Slentz, Albertus O., assignor of one-half to Canton Foundry and Machine Company, Canton, Ohio. Turn-table. No. 971,796; Oct. 4; Sp. p. 595; Gaz. vol. 159; p. 104.
Slichter, Walter L., Schenectady, N. Y., assignor to General Electric Company. Motor control. No. 973,575; Oct. 25; Sp. p. 4531; Gaz. vol. 159; p. 791.

Sloan, James O., *et al.* (See Scott, Samuel J., assignor.)
Slough, Max R., Covina, Cal. Detachable sanitary covering for toilet-seats. No. 972,269; Oct. 11; Sp. p. 1654; Gaz. vol. 159; p. 290.
Small, William F. M., Rosewood, Ohio. Wire-fence fastener. No. 973,576; Oct. 25; Sp. p. 4533; Gaz. vol. 159; p. 792.
Small, John W. (See Harter and Small.)
Smith, Arthur K., assignor to R. B. Galt and A. O. Woerner, trustees, St. Louis, Mo. Mail-chute. No. 973,080; Oct. 18; Sp. p. 3455; Gaz. vol. 159; p. 598.
Smith, Arthur K., assignor to R. B. Galt and A. O. Woerner, trustees, St. Louis, Mo. Mail-chute. No. 973,081; Oct. 18; Sp. p. 3456; Gaz. vol. 159; p. 598.
Smith, Blake, and G. Shivadecker, Verona, Ohio. Extension car-step. No. 973,714; Oct. 25; Sp. p. 4840; Gaz. vol. 159; p. 841.
Smith, Charles E., New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 972,935; Oct. 18; Sp. p. 3148; Gaz. vol. 159; p. 550.
Smith, Charles G., Aspinwall, Pa. Grinding-machine. No. 971,997; Oct. 4; Sp. p. 388; Gaz. vol. 159; p. 68.
Smith, Claude A., Detroit, Mich. Universal joint. No 972,279; Oct. 11; Sp. p. 1656; Gaz. vol. 159; p. 291.
Smith, Curtis M., Washington, D. C., assignor to American Securities Company. Refrigerator-wagon body. No. 973,082; Oct. 18; Sp. p. 3458; Gaz. vol. 159; p. 599.
Smith, Daniel, Griffin Corners, N. Y. Swimming appliance. No. 973,224; Oct. 18; Sp. p. 3796; Gaz. vol. 159; p. 649.
Smith, Datus C., Jackson, Mich. Barbed-wire machine. No. 972,657; Oct. 11; Sp. p. 2499; Gaz. vol. 159; p. 426.
Smith, Edward F., Rochester, N. Y. Abrading-surface. No. 973,986; Oct. 25; Sp. p. 5390; Gaz. vol. 159; p. 936.
Smith, Elmer F., Marion, Mass. Controlling device for sliding doors. No. 972,271; Oct. 11; Sp. p. 1657; Gaz. vol. 159; p. 291.
Smith, Ernest L., Bradford, Pa., assignor to The Clark Sales Company, Buffalo, N. Y. Tooth-brush holder. No. 973,311; Oct. 18; Sp. p. 3964; Gaz. vol. 159; p. 678.
Smith, Ezekiel A. (See Mackintosh and Smith.)
Smith, Frank J., Highland, Ind. Door-lock. No. 973,225; Oct. 18; Sp. p. 3798; Gaz. vol. 159; p. 650.
Smith, Franklin P. (See McClure, Edward, assignor.)
Smith, Fredrick H., assignor of one-half to C. R. Widby, Pittsburg, Kans. Cross-head. No. 972,133; Oct. 4; Sp. p. 1337; Gaz. vol. 159; p. 225.
Smith, George C. (See Haudenschild, Harry, assignor.)
Smith, George E., Los Angeles, assignor of one-half to G. Hess, Coalinga, Cal. Pitman. No. 973,715; Oct. 25; Sp. p. 4841; Gaz. vol. 159; p. 841.
Smith, George H., Nutley, assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 973,083; Oct. 18; Sp. p. 3458; Gaz. vol. 159; p. 599.
Smith, George H., Nutley, assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 973,226; Oct. 18; Sp. p. 3799; Gaz. vol. 159; p. 650.
Smith, George W., Cohoes, N. Y., assignor, by mesne assignments, to The Beattie Manufacturing Company of Cohoes. Folding-machine. No. 972,272; Oct. 11; Sp. p. 1658; Gaz. vol. 159; p. 292.
Smith, Giles H. (See Smith, Taylor J., assignor.)
Smith, Harry S., Caledonia, Tobago, British West Indies. Manufacture of india-rubber and apparatus therefor. No. 972,030; Oct. 4; Sp. p. 1143; Gaz. vol. 159; p. 191.
Smith, Henry T., De Leon, Tex. Side harrow for cultivators. No. 974,098; Oct. 25; Sp. p. 5615; Gaz. vol. 159; p. 973.
Smith, James O., Daleville, assignor of one-half to J. L. Harbour, De Kalb, Miss. Running-gear for vehicles. No. 972,658; Oct. 11; Sp. p. 2509; Gaz. vol. 159; p. 426.
Smith, John C., Washington, Mo. Toy. No. 972,724; Oct. 11; Sp. p. 2644; Gaz. vol. 159; p. 449.
Smith, Louis, Harrisburg, Pa. Drill-press table. No. 973,142; Oct. 18; Sp. p. 3600; Gaz. vol. 159; p. 621.
Smith, Luther K., Moberly, Mo. Lubricating device. No. 972,659; Oct. 11; Sp. p. 2510; Gaz. vol. 159; p. 426.
Smith, Oscar A., assignor to The National Acme Manufacturing Company, Cleveland, Ohio. Cross-drilling attachment. No. 973,716; Oct. 25; Sp. p. 4843; Gaz. vol. 159; p. 842.
Smith, Robert P. (See Drum and Skitt, assignors.)
Smith, Sidney R., Gainesville, Tex. Device for teaching penmanship. No. 972,273; Oct. 11; Sp. p. 1662; Gaz. vol. 159; p. 292.
Smith, Taylor J., Birmingham, Ala., assignor of one-half to G. H. Smith, Miami, Mo. Cotton-chopper. No. 971,608; Oct. 4; Sp. p. 389; Gaz. vol. 159; p. 68.
Smith, Theodore H., San Francisco, Cal. Valve mechanism for air-compressors. No. 972,408; Oct. 11; Sp. p. 1934; Gaz. vol. 159; p. 339.
Smith, William, Portland, Oreg. Combination drafting instrument. No. 972,936; Oct. 18; Sp. p. 3153; Gaz. vol. 159; p. 550.
Smith, William D., Denver, Colo. Tool-post. No. 972,582; Oct. 11; Sp. p. 2346; Gaz. vol. 159; p. 401.
Smith, Winfield S., Ossining, N. Y. Emergency-tire. No. 972,274; Oct. 11; Sp. p. 1664; Gaz. vol. 159; p. 293.
Smythe, Jonathan P., Longbench, Cal. Pencil protector and retainer. No. 971,797; Oct. 4; Sp. p. 399; Gaz. vol. 159; p. 105.
Sneddon, James P., Barberton, Ohio, assignor to The Babcock & Wilcox Company, New York, N. Y. Superheater-boiler. No. 973,717; Oct. 25; Sp. p. 4845; Gaz. vol. 159; p. 842.
Snell, George D., Denver, Colo. Game apparatus. No. 973,084; Oct. 18; Sp. p. 3464; Gaz. vol. 159; p. 600.
Snodgrass, Edmun D., Tillamook, Oreg. Attachment for bath-cocks. No. 973,143; Oct. 18; Sp. p. 3601; Gaz. vol. 159; p. 621.
Snyder, Anthony A., *et al.* (See Swegles, John, assignor.)
Snyder, George C., *et al.* (See Jones, Albert M., assignor.)
Snyder, Joseph P., *et al.* (See Swegles, John, assignor.)
Snyder, Otho M., *et al.* (See Jones, Albert M., assignor.)
Societe de la Pompe Vadam. (See Alvergnat, Georges P. O., assignor.)
Solomon, Isaac B., assignor to H. C. Rand, Boston, Mass. Non-refillable bottle. No. 972,780; Oct. 11; Sp. p. 2746; Gaz. vol. 159; p. 467.
Solomon, William, Cheyenne, Wyo. Reaction propelling mechanism. No. 971,699; Oct. 4; Sp. p. 395; Gaz. vol. 159; p. 69.
Somdal, Truls A., Springfield, Ill. Optical instrument. No. 971,798; Oct. 4; Sp. p. 600; Gaz. vol. 159; p. 105.
Sommer, Albert. (See Missall and Sommer.)
Sondergard, Frederik K., Westholme, British Columbia, Canada. Cutter-head. No. 972,479; Oct. 11; Sp. p. 2087; Gaz. vol. 159; p. 363.
Southwark Foundry & Machine Company, The. (See Petsche, Gustav B., assignor.)
Southwick, Edward K., Newark, N. J. Light-holder. No. 972,480; Oct. 11; Sp. p. 2088; Gaz. vol. 159; p. 363.
Spalding, John L., and F. G. Schadegg, Aitkin, Minn. Rake. No. 972,031; Oct. 4; Sp. p. 1145; Gaz. vol. 159; p. 192.
Spangler, George P., Los Angeles, Cal. Clasp or buckle. No. 972,937; Oct. 18; Sp. p. 3155; Gaz. vol. 159; p. 550.
Spangler, William I., assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 973,577; Oct. 25; Sp. p. 4534; Gaz. vol. 159; p. 792.
Sparenburg, John, Chicago, Ill. Shampooing device. No. 973,822; Oct. 25; Sp. p. 5049; Gaz. vol. 159; p. 878.
Sparks, Litch, Blue Ridge, Tex. Chimney-holder. No. 972,275; Oct. 11; Sp. p. 1665; Gaz. vol. 159; p. 293.
Spear, Lawrence Y., Quincy, Mass., assignor to Electric Boat Company, New York, N. Y. Submarine boat equipped with submerging-planes. No. 973,227; Oct. 18; Sp. p. 3804; Gaz. vol. 159; p. 650.
Speer, Edward A., Sturgis, S. D. Envelop-seal. No. 973,987; Oct. 25; Sp. p. 5391; Gaz. vol. 159; p. 936.
Spencer, Henry P., Quinlan, Okla. Stove. No. 972,032; Oct. 4; Sp. p. 1146; Gaz. vol. 159; p. 192.
Sperberg, Edward H., assignor to The Selig Polyscope Company, Chicago, Ill. Moving-picture machine. No. 972,142; Oct. 4; Sp. p. 1358; Gaz. vol. 159; p. 229.
Sperry, John F., Kaw, Okla. Power apparatus. No. 972,276; Oct. 11; Sp. p. 1666; Gaz. vol. 159; p. 293.
Spierer, Charles M., Cairo, Egypt. Tobacco-cleaning machine. No. 973,228; Oct. 18; Sp. p. 3807; Gaz. vol. 159; p. 651.
Spikes, Richard B., assignor of one-half to T. O. Mason, Albuquerque, N. Mex. Billiard-cue rack. No. 972,277; Oct. 11; Sp. p. 1672; Gaz. vol. 159; p. 294.
Spitzfaden, Bernard. (See Marx, Charles O., assignor.)
Sprague, Frank, assignor to The Hillsdale Screen Company, Hillsdale, Mich. Window-screen. No. 972,481; Oct. 11; Sp. p. 2089; Gaz. vol. 159; p. 364.
Spring, Joseph, Chicago, Ill. Gas flash-light. No. 972,278; Oct. 11; Sp. p. 1674; Gaz. vol. 159; p. 294.
Springer, Benjamin F., McLean, Ill. End-gate fastener. No. 973,578; Oct. 25; Sp. p. 4545; Gaz. vol. 159; p. 792.
Sproul, Horace M., North Yakima, Wash. Land-leveler. No. 972,279; Oct. 11; Sp. p. 1676; Gaz. vol. 159; p. 294.
Spyker, Jacobus, Amsterdam, Netherlands. Construction of elastic wheels. No. 972,725; Oct. 11; Sp. p. 2646; Gaz. vol. 159; p. 449.
St. John, Gamaliel C., and F. A. D. Rankins, New York, N. Y. Device for increasing heat. No. 973,581; Oct. 25; Sp. p. 4550; Gaz. vol. 159; p. 793.
Stacey, Frederick H., Montreal, Quebec, Canada. Collar. No. 971,700; Oct. 4; Sp. p. 396; Gaz. vol. 159; p. 60.
Stacey Manufacturing Company, The. (See Stoffels, Henry J., assignor.)
Staff, Peter N. (See Richardson, Harvey J., assignor.)
Stafford, John A., Grady, Okla. Buggy-bow rest. No. 973,718; Oct. 25; Sp. p. 4846; Gaz. vol. 159; p. 843.
Stallings, James, Fairmount, Ill. Spring-wheel. No. 972,280; Oct. 11; Sp. p. 1678; Gaz. vol. 159; p. 295.
Stamets, Zeanith H., Auburn, Ind. Filtering apparatus for purifying gasolene and other liquid fuels. No. 972,281; Oct. 11; Sp. p. 1679; Gaz. vol. 159; p. 295.
Stamets, Zeanith H., Auburn, Ind. Liquid-fuel purifier and gaged governor. No. 972,282; Oct. 11; Sp. p. 1682; Gaz. vol. 159; p. 295.
Stamm, Henry, Rentzschmühle, near Greiz, Germany. Perfecting-machine. No. 973,312; Oct. 18; Sp. p. 3965; Gaz. vol. 159; p. 679.
Stamm, Norman A., Glendora, Cal. Water-motor. No. 973,823; Oct. 25; Sp. p. 5050; Gaz. vol. 159; p. 878.
Standard Compound Company. (See Sleicher, Charles A., assignor.)
Standard Computing Scale Company. (See King, Bert W., assignor.)
Standard Computing Wagon Scales Company. (See Boling, Samuel M., assignor.)
Standard Coupler Company. (See Gallagher, Richard D., Jr., assignor.)
Standard Meter Company, The. (See Viney, Frederick C., assignor.)

Standard Supply and Manufacturing Company, The. (See Dorsey, Parmer, assignor.)
Stansill, Adger C., C. H. Doty, and F. W. Hubbard, assignors to The Kilbourne and Jacobs Manufacturing Company, Columbus, Ohio. Dump-car lock. No. 973,229; Oct. 18; Sp. p. 3809; Gaz. vol. 159; p. 651.
Stanton, John R., F. M. D'Arsi, New York, N. Y., and W. F. Munzer, West Hoboken, N. J. Self-lighting gas-burner. No. 972,938; Oct. 18; Sp. p. 3157; Gaz. vol. 159; p. 551.
Stanwerke, A. G. (See Büchler, Hans, assignor.)
Staples, Joseph W., Dixon, Ill. Joint fastener and tightener. No. 973,144; Oct. 18; Sp. p. 3605; Gaz. vol. 159; p. 621.
Star Brass Manufacturing Company. (See Webster, George A., assignor.)
Stauffer, B. Grant, *et al.* (See Horting, Levi W., assignor.)
Stauffer, Charles F., *et al.* (See Horting, Levi W., assignor.)
Staunton, Gray, Evanston, Ill. Vacuum-pump. No. 972,939; Oct. 18; Sp. p. 3159; Gaz. vol. 159; p. 551.
Sté Seghers et Paradis *et al.* (See Degoumois, Charles, assignor.)
Steadman, Christopher. (See Robinson and Steadman.)
Stearns, Frederick L., New York, N. Y. Incinerating-furnace. No. 973,313; Oct. 18; Sp. p. 3969; Gaz. vol. 159; p. 679.
Stearns, Frederick L., New York, N. Y. Incinerating-furnace. No. 973,314; Oct. 18; Sp. p. 3973; Gaz. vol. 159; p. 679.
Stearns and Foster Company. (See Paddack, Truman G., assignor.)
Steel Cushion Tire Company. (See Ellis, Axel E., assignor.)
Steele, Herbert H., assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 972,940; Oct. 18; Sp. p. 3160; Gaz. vol. 159; p. 551.
Steele, Herbert H., Marcellus, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 973,988; Oct. 25; Sp. p. 5392; Gaz. vol. 159; p. 936.
Steele, William P., Palisade, N. J. Spark-arrester. No. 972,583; Oct. 11; Sp. p. 2348; Gaz. vol. 159; p. 401.
Steers & Co., Walter. (See Steers, Walter, assignor.)
Steers, Walter, assignor to Walter Steers & Co., Brooklyn, N. Y. Engraving-machine. No. 972,033; Oct. 4; Sp. p. 1147; Gaz. vol. 159; p. 192.
Steinmetz, Charles P., Schenectady, N. Y., assignor to General Electric Company. Voltage-regulator. No. 973,579; Oct. 25; Sp. p. 4547; Gaz. vol. 159; p. 793.
Steinmetz, Joseph A., Philadelphia, Pa. Pile-shoe. No. 973,887; Oct. 25; Sp. p. 5195; Gaz. vol. 159; p. 902.
Stephens, John W., Staunton, Va. Scale-preventer for boilers. No. 973,989; Oct. 25; Sp. p. 5400; Gaz. vol. 159; p. 936.
Steppacher, Louis. (See Hayes, Jesse W., assignor.)
Sterling Vehicle Company. (See Boucher, Joseph J., assignor.)
Stevens, Sidney M., assignor of one-half to G. Chase, Prince George, Va. Apparatus for pumping water. No. 973,230; Oct. 18; Sp. p. 3812; Gaz. vol. 159; p. 651.
Stevenson, John W., Goldfield, Nev. Preserving compound. No. 971,799; Oct. 4; Sp. p. 601; Gaz. vol. 159; p. 105.
Stevenson, Sterling S., Saltillo, Mexico. Power rock-drill. No. 972,726; Oct. 11; Sp. p. 2647; Gaz. vol. 159; p. 449.
Stifter, Joseph, Pittsburg, Pa. Dump-wagon. No. 972,941; Oct. 18; Sp. p. 3168; Gaz. vol. 159; p. 552.
Still, Ernest H., London, England. Incandescent gas-lamp. No. 973,580; Oct. 25; Sp. p. 4549; Gaz. vol. 159; p. 793.
Stillman, Howard, Berkeley, Cal. Car-roof. No. 973,888; Oct. 25; Sp. p. 5196; Gaz. vol. 159; p. 902.
Stimpson, Edward S., assignor to Draper Company, Hopedale, Mass. Automatic weft-replenishing loom. No. 972,942; Oct. 18; Sp. p. 3169; Gaz. vol. 159; p. 552.
Stimpson, Edward S., assignor to Draper Company, Hopedale, Mass. Weft-supplying mechanism for looms. No. 972,943; Oct. 18; Sp. p. 3174; Gaz. vol. 159; p. 552.
Stimpson, Milton S., Roodhouse, Ill. Gang-plow attachment. No. 973,145; Oct. 18; Sp. p. 3608; Gaz. vol. 159; p. 621.
Stites, Charles W., New York, N. Y. Saw. No. 973,231; Oct. 18; Sp. p. 3814; Gaz. vol. 159; p. 652.
Stivers, Frederick E. (See Brainard, Julius D., assignor.)
Stockford, Thomas E., Williams, Cal. Bridge-floor. No. 972,482; Oct. 11; Sp. p. 2091; Gaz. vol. 159; p. 364.
Stockimier, Matthias, Cupertino, Cal., assignor of one-sixth to A. P. Lahmer and one-sixth to G. J. Lens, San Jose, Cal. Educational novelty. No. 971,865; Oct. 4; Sp. p. 755; Gaz. vol. 159; p. 131.
Stockmann, Fred B., Cincinnati, Ohio, assignor, by mesne assignments, to M. Frelinger, Newport, Ky. Agitator or stirrer for paint-barrels and the like. No. 972,727; Oct. 11; Sp. p. 2648; Gaz. vol. 159; p. 450.
Stoffels, Henry J., Norwood, assignor to The Stacey Manufacturing Company, Elmwood, Ohio. Guide-frame for gas-holders. No. 972,785; Oct. 11; Sp. p. 2758; Gaz. vol. 159; p. 469.
Stone, Arthur E., and F. L. O'Bryan, Framingham, Mass. Recording fare-register. No. 973,315; Oct. 18; Sp. p. 3975; Gaz. vol. 159; p. 680.
Stone, Axel H., Marshalltown, Iowa. Sliding-door lock. No. 973,990; Oct. 25; Sp. p. 5403; Gaz. vol. 159; p. 937.
Stone, John J., and J. A. Simpson, Beresford, S. D. Resilient wheel. No. 972,283; Oct. 11; Sp. p. 1685; Gaz. vol. 159; p. 296.
Stone, John M., Newberg, Oreg. Screen. No. 971,701; Oct. 4; Sp. p. 397; Gaz. vol. 159; p. 69.
Stone, Melvin L., Lewiston, Me., assignor to Draper Company, Hopedale, Mass. Picker check-strap holder for looms. No. 972,944; Oct. 18; Sp. p. 3177; Gaz. vol. 159; p. 553.
Storelee, Edd O., Enderlin, N. D. Lock. No. 972,728; Oct. 11; Sp. p. 2650; Gaz. vol. 159; p. 450.
Storey, Gilbert. (See Storey, William J. and G.)
Storey, John P., New York, N. Y. Exercising apparatus. No. 972,284; Oct. 11; Sp. p. 1686; Gaz. vol. 159; p. 297.
Storey, William J. and G., Albert Park, near Melbourne, Victoria, Australia. Smoke-preventing and fuel-economizing appliance. No. 973,991; Oct. 25; Sp. p. 5405; Gaz. vol. 159; p. 938.
Stotts Signal Company. (See Streeter, Royal A., assignor.)
Stover, Frank E., Luray, Va. Acetylene-generator. No. 972,285; Oct. 11; Sp. p. 1687; Gaz. vol. 159; p. 297.
Straight Filament Lamp Company. (See O'Brien, Dennis J., assignor.)
Strand, Andrew M. (See Crandall, Arthur F., assignor.)
Strange, Harry B., Dore, assignor to Thomas Firth & Sons, Limited, Sheffield, England. Percussion-fuse for projectiles. No. 972,034; Oct. 4; Sp. p. 1151; Gaz. vol. 159; p. 193.
Strange, William H., assignor of one-half to R. H. Langston and J. P. Sullivan, Chicago, Ill. Electric rotary floor surfacing, scrubbing, and polishing machine. No. 972,729; Oct. 11; Sp. p. 2653; Gaz. vol. 159; p. 451.
Strating, Charles E., Chicago, Ill. Wringing-support for mops. No. 971,702; Oct. 4; Sp. p. 399; Gaz. vol. 159; p. 69.
Stratton, Joseph R., assignor of one-third to R. A. Borden, Moncton, New Brunswick, Canada. Antifriction alloy. No. 972,786; Oct. 11; Sp. p. 2759; Gaz. vol. 159; p. 469.
Straub, Elmer E. (See Beaver, Isaac K., assignor.)
Strause, Edmund A., assignor of one-half to F. D. Ammen, Los Angeles, Cal. Glass-holder. No. 973,085; Oct. 18; Sp. p. 3465; Gaz. vol. 159; p. 600.
Street, George L., Jr., Richmond, Va. Toilet-brush. No. 972,483; Oct. 11; Sp. p. 2092; Gaz. vol. 159; p. 364.
Streeter, Royal A., assignor to Stotts Signal Company, Marion, Iowa. Electrically-operated block-signal mechanism. No. 972,660; Oct. 11; Sp. p. 2512; Gaz. vol. 159; p. 427.
Striehy & Foote Company. (See Whittemore, William H., assignor.)
Strode, Edward P., New York, N. Y. Packing-tool. No. 973,146; Oct. 18; Sp. p. 3607; Gaz. vol. 159; p. 622.
Stromberg-Carlson Telephone Manufacturing Company. (See Dyson, Alfred H., assignor.)
Stronach, Reis H., Roxbury, Mass. Safety device for horses. No. 972,730; Oct. 11; Sp. p. 2654; Gaz. vol. 159; p. 451.
Stryker, Robert D., assignor of forty-nine one-hundredths to N. E. Woessner, Huron, Ohio. Starting device for automobiles and like machines. No. 973,232; Oct. 18; Sp. p. 3815; Gaz. vol. 159; p. 652.
Stuart, Harve R., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electrical-circuit breaker. No. 973,889; Oct. 25; Sp. p. 5196; Gaz. vol. 159; p. 902.
Stuh, Hans, *et al.* (See Hansen, Amund, assignor.)
Stuckel, Martin, Mace, Idaho. Dust-catcher for drills. No. 972,035; Oct. 4; Sp. p. 1154; Gaz. vol. 159; p. 193.
Stuerman, Peter A., Rock Rapids, Iowa. Hinged harrow draw-bar. No. 973,316; Oct. 18; Sp. p. 3979; Gaz. vol. 159; p. 680.
Sullivan, John H., Grand Rapids, Mich. Mold-tie. No. 972,036; Oct. 4; Sp. p. 1156; Gaz. vol. 159; p. 194.
Sullivan, John P., *et al.* (See Strange, William H., assignor.)
Summers, Edgar W., Pittsburg, Pa. Railway car and truck. No. 972,286; Oct. 11; Sp. p. 1690; Gaz. vol. 159; p. 297.
Summers, James G., Charleston, W. Va. Stamp-moistener. No. 972,661; Oct. 11; Sp. p. 2514; Gaz. vol. 159; p. 427.
Sundborg, Andrew M., Dorchester, Mass. Tempering steel. No. 974,099; Oct. 25; Sp. p. 5616; Gaz. vol. 159; p. 973.
Sundh, August. (See Baldwin and Sundh.)
Sunngård, Harald, Christiania, Norway. Automatic fire-arm. No. 972,087; Oct. 4; Sp. p. 1246; Gaz. vol. 159; p. 211.
Superior Motor Specialty Company, The. (See Minogue, Martin T., assignor.)
Surbrug, John W., Montclair, N. J. Mouthpiece for cigarettes and the like. No. 973,890; Oct. 25; Sp. p. 5199; Gaz. vol. 159; p. 902.
Surridge, John H., New York, N. Y. Heat-regulator. No. 973,317; Oct. 18; Sp. p. 3981; Gaz. vol. 159; p. 681.
Sutherland, Daniel M. and D. M., Jr., Dunbury Common, England. Apparatus for the manufacture of sheets of pulp. No. 971,936; Oct. 4; Sp. p. 929; Gaz. vol. 159; p. 168.
Sutherland, Fred E. (See Brown and Sutherland.)
Sutro, Harry H., New York, N. Y. Producing saturated lime-water. No. 973,992; Oct. 25; Sp. p. 5407; Gaz. vol. 159; p. 938.

Sutton, Walter, Sacramento, Cal. Label-pasting device. No. 971,800; Oct. 4; Sp. p. 601; Gaz. vol. 159; p. 105.

Suzuki, Tozaburo, Sunamura, Japan. Vertical boiler. No. 973,720; Oct. 25; Sp. p. 4848; Gaz. vol. 159; p. 843.

Swain, George F., Chicago, Ill. Internal-combustion engine. No. 972,409; Oct. 11; Sp. p. 1937; Gaz. vol. 159; p. 340.

Swan, Alfred H. S., assignor to Rochester Stamping Company, Rochester, N. Y. Burner for alcohol-lamps. No. 972,410; Oct. 11; Sp. p. 1940; Gaz. vol. 159; p. 340.

Swan, Alfred H. S., assignor to Rochester Stamping Company, Rochester, N. Y. Alcohol-vapor-lamp burner. No. 972,945; Oct. 18; Sp. p. 3178; Gaz. vol. 159; p. 553.

Swan, John C., Marietta, Ohio. Under bit and reamer. No. 973,993; Oct. 25; Sp. p. 5403; Gaz. vol. 159; p. 938.

Swan, John C., Marietta, Ohio. Casing-perforator. No. 973,994; Oct. 25; Sp. p. 5416; Gaz. vol. 159; p. 939.

Swanson, George A., Oakland, Cal. Folding bed, table, and seat. No. 972,484; Oct. 11; Sp. p. 2093; Gaz. vol. 159; p. 364.

Swartz, Charles A., and S. Finley, Frederick, Okla. Liquid-fuel burner. No. 973,995; Oct. 25; Sp. p. 5420; Gaz. vol. 159; p. 939.

Sweet, Charles E., Wilkinsburg, Pa., assignor to The Westinghouse Machine Company. Blade-holding means. No. 972,411; Oct. 11; Sp. p. 1942; Gaz. vol. 159; p. 341.

Sweetser, Charles, San Antonio, Tex. Fan. No. 971,703; Oct. 4; Sp. p. 401; Gaz. vol. 159; p. 70.

Swegles, John, assignor of one-third to A. A. Snyder and one-third to J. P. Snyder, Wayne, Mich. Pruning implement. No. 973,582; Oct. 25; Sp. p. 4552; Gaz. vol. 159; p. 794.

Sweinhagen, Herman D., and F. A. Theobald, Napoleon, Ohio. Bed-bottom. No. 973,233; Oct. 18; Sp. p. 3818; Gaz. vol. 159; p. 652.

Swenson, Gustaf, Pittsburg, Pa., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 973,721; Oct. 25; Sp. p. 4849; Gaz. vol. 159; p. 843.

Swerdlove, William M., New York, N. Y. Cloth-piling machine. No. 973,891; Oct. 25; Sp. p. 5200; Gaz. vol. 159; p. 903.

Swett, Levi J., Burlington, Vt. Jointed rule. No. 972,134; Oct. 4; Sp. p. 1339; Gaz. vol. 159; p. 226.

Swift, James F., Muskogee, Okla. Table-leveler. No. 972,287; Oct. 11; Sp. p. 1604; Gaz. vol. 159; p. 298.

Swindler, Edgar L., Beaumont, Tex. Reclining rocking-chair. No. 971,704; Oct. 4; Sp. p. 403; Gaz. vol. 159; p. 70.

Symonds, Ernest F., Salem, and R. J. Goodnow, Boston, Mass. Lemon-server. No. 971,573; Oct. 4; Sp. p. 135; Gaz. vol. 159; p. 25.

Synoloids Limited. (See Schwartz, York, assignor.) (Reissue.)

Szombathy, Josef, St. Louis, Mo. Miner's safety-lamp. No. 973,224; Oct. 18; Sp. p. 3819; Gaz. vol. 159; p. 653.

T. W. and C. B. Sheridan Company. (See Lucke and Blake, assignors.)

Tabor Manufacturing Company, The. (See Ramsden, John T., assignor.)

Taglauer, John J. (See Draper, John F., assignor.)

Takano, Yaichiro, Atlantic City, N. J. Trousers-stretcher. No. 972,662; Oct. 11; Sp. p. 2515; Gaz. vol. 159; p. 428.

Talmage, John G. (See Curtis, Theodore H., assignor.)

Tanner, Julius R., assignor to The Pittsburgh Valve, Foundry and Construction Company, Pittsburg, Pa. Steam-trap. No. 971,801; Oct. 4; Sp. p. 603; Gaz. vol. 159; p. 106.

Tanner, Julius R., assignor to The Pittsburgh Valve, Foundry and Construction Company, Pittsburg, Pa. Non-return valve. No. 971,802; Oct. 4; Sp. p. 605; Gaz. vol. 159; p. 106.

Tardif, Omeril, Plessisville, Quebec, Canada. Potato-digger. No. 972,037; Oct. 4; Sp. p. 1157; Gaz. vol. 159; p. 194.

Tarnawski, Peter F., assignor of one-half to P. W. Nicola, Leavenworth, Kans. Portable sanitary water-closet. No. 971,803; Oct. 4; Sp. p. 606; Gaz. vol. 159; p. 106.

Taurman, Chastian, Cincinnati, Ohio. Electrically-operated agricultural implement. No. 971,574; Oct. 4; Sp. p. 136; Gaz. vol. 159; p. 25.

Taussig, Joseph, Chicago, Ill. Illuminating device and reflector. No. 973,235; Oct. 18; Sp. p. 3820; Gaz. vol. 159; p. 653.

Taussig, Maurice, Chicago, Ill. Disappearing door. No. 972,412; Oct. 11; Sp. p. 1945; Gaz. vol. 159; p. 341.

Tawney, Millard M. (See Dunkle and Tawney.)

Taylor, Clarence L., assignor to The Morgan Engineering Company, Alliance, Ohio. Automatic brake. No. 971,937; Oct. 4; Sp. p. 931; Gaz. vol. 159; p. 158.

Taylor, Daniel, Dunedin, New Zealand. Binding-file. No. 973,722; Oct. 25; Sp. p. 4850; Gaz. vol. 159; p. 844.

Taylor, Edwin, Edwardsville, Kans. Attachment for seed-planters. No. 973,824; Oct. 25; Sp. p. 5054; Gaz. vol. 159; p. 879.

Taylor, Herbert B., assignor of one-half to J. Taylor, Philadelphia, Pa. Automatic rib-knitting machine. No. 973,236; Oct. 18; Sp. p. 3822; Gaz. vol. 159; p. 653.

Taylor, James. (See Taylor, Herbert B., assignor.)

Taylor, James H., assignor to American Spiral Pipe Works, Chicago, Ill. Spiral-pipe-forming machinery. No. 972,731; Oct. 11; Sp. p. 2655; Gaz. vol. 159; p. 451.

Taylor, Sallie M., St. Louis, Mo. Catamenial garment. No. 972,288; Oct. 11; Sp. p. 1606; Gaz. vol. 159; p. 298.

Taylor, Samuel C., League City, Tex. Pruning-shears. No. 973,996; Oct. 25; Sp. p. 5422; Gaz. vol. 159; p. 940.

Taylor, William H. (See Loftin, William H., assignor.)

Tea Tray Company of Newark, N. J., The. (See Marten, Albert S., assignor.)

Teeter, Robert L., Ellis, Minn. Hand-cultivator. No. 972,289; Oct. 11; Sp. p. 1606; Gaz. vol. 159; p. 298.

Teeter, William, Newett, Colo. Mouse and rat trap. No. 973,583; Oct. 25; Sp. p. 4552; Gaz. vol. 159; p. 794.

Teeter, William V., Grinnell, Kans. Straw-elevator. No. 973,892; Oct. 25; Sp. p. 5209; Gaz. vol. 159; p. 903.

Temple, William J., Redlands, Cal. Collapsible berth for infants. No. 972,732; Oct. 11; Sp. p. 2666; Gaz. vol. 159; p. 452.

Textile Machine Works. (See Rahm, Robert C., assignor.)

Thayer, Paul C., Oroville, Cal. Knockdown box. No. 972,038; Oct. 4; Sp. p. 1159; Gaz. vol. 159; p. 195.

Thefeld, William J., Kansas City, Kans. Folding stool. No. 972,290; Oct. 11; Sp. p. 1698; Gaz. vol. 159; p. 298.

Theobald, Frank A. (See Sweinhagen and Theobald.)

Thiel, Frank N., Syracuse, assignor to R. E. Dietz Company, New York, N. Y. Lantern. No. 972,413; Oct. 11; Sp. p. 1947; Gaz. vol. 159; p. 341.

Thieroff, Edwin H. E., Defiance, Ohio. Fence-post. No. 972,733; Oct. 11; Sp. p. 2667; Gaz. vol. 159; p. 452.

Thiesen, Bruno H., and G. S. Keller, Minneapolis, Minn. Presser-foot mechanism for stitching-machines. No. 973,237; Oct. 18; Sp. p. 3824; Gaz. vol. 159; p. 654.

Thom, Peter R., Appleton, assignor of one-half to Kimberly-Clark Company, Neenah, Wis. Paper-machine. No. 971,645; Oct. 4; Sp. p. 282; Gaz. vol. 159; p. 50.

Thomas, Frank W., Williamsport, Pa. Spout-hanger. No. 972,291; Oct. 11; Sp. p. 1698; Gaz. vol. 159; p. 299.

Thomas, George H., assignor to Thomas Resilient Wheel Company, Elmira, N. Y. Vehicle-wheel. No. 972,734; Oct. 11; Sp. p. 2669; Gaz. vol. 159; p. 453.

Thomas, John O., assignor of one-half to S. Thomas, Ogden, Utah. Combination square and bevel. No. 973,584; Oct. 25; Sp. p. 4553; Gaz. vol. 159; p. 794.

Thomas, John W., Allentown, Pa. Hydraulic air-exhaust mechanism. No. 972,039; Oct. 4; Sp. p. 1161; Gaz. vol. 159; p. 195.

Thomas Maddock's Sons Company. (See Lewis, Samuel W., assignor.)

Thomas, Millward T., Warren, Pa. Shaft-coupling. No. 972,292; Oct. 11; Sp. p. 1700; Gaz. vol. 159; p. 299.

Thomas, Percy H., Montclair, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y. Operating vapor electric devices. No. 973,997; Oct. 25; Sp. p. 5423; Gaz. vol. 159; p. 940.

Thomas R. Beggs Faucet and Valve Company, The. (See Beggs, Thomas R., assignor.)

Thomas Resilient Wheel Company. (See Thomas, George H., assignor.)

Thomas, Samuel. (See Thomas, John O., assignor.)

Thomas & Smith. (See Durdin, Augustus C., Jr., assignor.)

Thomas, Walter, Vancouver, British Columbia, Canada. Gas-heating attachment for pipes of heating systems. No. 971,938; Oct. 4; Sp. p. 933; Gaz. vol. 159; p. 158.

Thomas, Walter, Vancouver, British Columbia, Canada. Safe. No. 973,825; Oct. 25; Sp. p. 5056; Gaz. vol. 159; p. 879.

Thomas, William H. (See Kaufmann and Thomas.)

Thomason, Elmer O. (See Kellar and Thomason.)

Thompson, Frank H., assignor to Dennison Manufacturing Co., South Framingham, Mass. Tag. No. 971,804; Oct. 4; Sp. p. 608; Gaz. vol. 159; p. 107.

Thompson, George S., Hockessin, Del., assignor to Flexible Bolt Company. Manufacture of stay-bolts. No. 971,805; Oct. 4; Sp. p. 610; Gaz. vol. 159; p. 107.

Thompson, James E., Elkton, Mich. Storm-shield for vehicles. No. 973,585; Oct. 25; Sp. p. 4555; Gaz. vol. 159; p. 795.

Thompson-Meares, Mary, assignor of one-half to A. D. Connelly, Palo Alto, Cal. Dish-pan. No. 973,684; Oct. 25; Sp. p. 4781; Gaz. vol. 159; p. 830.

Thomson Electric Welding Company. (See Thomson, Elihu, assignor.)

Thomson, Elihu, Swampscott, assignor, by mesne assignments, to Thomson Electric Welding Company, Lynn, Mass. Electrical welding of sheet-metal. No. 973,586; Oct. 25; Sp. p. 4556; Gaz. vol. 159; p. 795.

Thomson, Judson L., New York, N. Y. Filter. No. 973,723; Oct. 25; Sp. p. 4852; Gaz. vol. 159; p. 844.

Thomson, Maitland, New York, N. Y. Sofa-bedstead. No. 972,293; Oct. 11; Sp. p. 1701; Gaz. vol. 159; p. 299.

Thomson, Samuel G. (See Thomson, William P. and S. G.)

Thomson-Thomson Company. (See Thomson, William P. and S. G., assignors.)

Thomson, William P. and S. G., assignors to Thomson-Thomson Company, Philadelphia, Pa. Rail-joint. No. 972,735; Oct. 11; Sp. p. 2670; Gaz. vol. 159; p. 453.

Thorner, Bernard D., assignor to The Hospital Supply Company, New York, N. Y. Operating-table for the use of physicians and surgeons. No. 972,414; Oct. 11; Sp. p. 1948; Gaz. vol. 159; p. 342.

Thorp, George M., *et al.* (See Lindgren, Carl E., assignor.)

Thorsby, Axel, assignor to The Berlin Machine Works, Beloit, Wis. Lathe or turning-machine. No. 973,587; Oct. 25; Sp. p. 4557; Gaz. vol. 159; p. 795.

Thorschmidt, Ernest C., New York, N. Y. Tool. No. 973,724; Oct. 25; Sp. p. 4854; Gaz. vol. 159; p. 844.

Thorschmidt, Ernest C., New York, N. Y. Tool. No. 973,725; Oct. 25; Sp. p. 4855; Gaz. vol. 159; p. 844.

Thorsen, Jens O., Aalborg, Denmark. Potato-harvest machine. No. 973,318; Oct. 18; Sp. p. 3982; Gaz. vol. 159; p. 681.

Thorspeck, Louis K., South Haven, Mich. Wheel. No. 972,485; Oct. 11; Sp. p. 2095; Gaz. vol. 159; p. 365.

Thos. H. Dallett Co. (See Van Sickel, Wilber H., assignor.)

Throop, John H., Evansville, Ind. Sad-iron handle. No. 973,998; Oct. 25; Sp. p. 5426; Gaz. vol. 159; p. 940.

Thunen, Charles G., Oroville, and G. A. Morrill, Oakland, Cal. Lamp-bracket. No. 973,319; Oct. 18; Sp. p. 3984; Gaz. vol. 159; p. 682.

Thurlow, Ira M., Menominee, Mich., assignor of one-half to D. C. Prescott, Chicago, Ill., and one-half to L. L. Prescott, Menominee, Mich. Sawmill setting and receding mechanism. No. 973,588; Oct. 25; Sp. p. 4559; Gaz. vol. 159; p. 795.

Thwaites, John H., and S. J. Ralph, Peterborough, England. Separating metals from wet-process liquors. No. 972,584; Oct. 11; Sp. p. 2349; Gaz. vol. 159; p. 402.

Tichomiroff, Victor, and L. Schechter, Kolomna, Moscow, Russia. Hydraulic coupling. No. 973,893; Oct. 25; Sp. p. 5210; Gaz. vol. 159; p. 904.

Tideman, Henry, Menominee, Mich., assignor of one-half to J. Wolff, Chicago, Ill. Flexible metallic tubing. No. 973,238; Oct. 18; Sp. p. 3826; Gaz. vol. 159; p. 654.

Tidnam, Frederick H., and J. N. Graves, Oklahoma, Okla. Telescoping core for forming plastic poles or posts. No. 973,239; Oct. 18; Sp. p. 3829; Gaz. vol. 159; p. 655.

Timmerman, John A., Creston, Iowa. Mail crane and catcher. No. 972,946; Oct. 18; Sp. p. 3180; Gaz. vol. 159; p. 554.

Tin Products Company. (See Kügelgen and Seward, assignors.)

Tingley, Lloyd M., Pawtucket, assignor of one-third to S. Gee, Providence, and one-third to B. H. Nixon, Summit, R. I. Indicator for vehicles. No. 973,726; Oct. 25; Sp. p. 4856; Gaz. vol. 159; p. 845.

Tippit, William P., Fayette, Mo. Washing-machine. No. 972,736; Oct. 11; Sp. p. 2672; Gaz. vol. 159; p. 453.

Titus, Charles E., Springfield, Mass. Protective tread for pneumatic tires. No. 973,999; Oct. 25; Sp. p. 5427; Gaz. vol. 159; p. 940.

Tobias, George P., Willow Springs, Mo. Tobacco-pipe. No. 972,737; Oct. 11; Sp. p. 2674; Gaz. vol. 159; p. 453.

Todd, Robert T., Lawrence, and R. B. Batty, Methuen, Mass. Cloth-finishing machine. No. 971,575; Oct. 4; Sp. p. 138; Gaz. vol. 159; p. 26.

Toledo Metal Wheel Company, The. (See Weber, John, Jr., assignor.)

Toledo Pipe Threading Machine Company, The. (See Vosper, William W., assignor.)

Tompkins, Caroline B., Jersey City, assignor of one-fourth to L. Myles, Bayonne, N. J. Washboard. No. 973,320; Oct. 18; Sp. p. 3985; Gaz. vol. 159; p. 682.

Tompkins, John D., Valatie, N. Y. Cleaning old paper-stock. No. 972,294; Oct. 11; Sp. p. 1703; Gaz. vol. 159; p. 299.

Toomey, John A., Santa Monica, Cal. Adding-machine. No. 973,727; Oct. 25; Sp. p. 4858; Gaz. vol. 159; p. 845.

Toomey, Michael H., Greenfield, Mass. Dental instrument. No. 973,894; Oct. 25; Sp. p. 5213; Gaz. vol. 159; p. 904.

Torango, Joseph, Portland, Oreg. Box. No. 973,321; Oct. 18; Sp. p. 3987; Gaz. vol. 159; p. 682.

Torchebeuf, Charles, and E. de Lanneau, Paris, France. Carbureting-lamp. No. 973,240; Oct. 18; Sp. p. 3830; Gaz. vol. 159; p. 655.

Torrens, Scott, Gloversville, assignor to A. Travis and M. Oczko, Johnstown, N. Y. Hide-treating machine. No. 972,415; Oct. 11; Sp. p. 1952; Gaz. vol. 159; p. 342.

Torrens, William, New York, N. Y. Life-guard for railway-cars. No. 973,303; Oct. 18; Sp. p. 4149; Gaz. vol. 159; p. 707.

Tóth, Joseph A. Beleznay, and J. Liptak, Pittsburg, Pa. Spring bed-bottom. No. 972,040; Oct. 4; Sp. p. 1162; Gaz. vol. 159; p. 195.

Towne, John M., and P. E. Gibson, Tampa, Fla. Ship-hull cleaner. No. 974,000; Oct. 25; Sp. p. 5429; Gaz. vol. 159; p. 941.

Towns, Ulysses A., Harrison county, Mo. Sanitary dairy-pail. No. 972,295; Oct. 11; Sp. p. 1705; Gaz. vol. 159; p. 300.

Townsell, Patrick J., Parkersburg, W. Va. Casing and tubing hook. No. 972,416; Oct. 11; Sp. p. 1953; Gaz. vol. 159; p. 342.

Townsend, Clinton P., Washington, D. C., assignor to The Development and Funding Company, New York, N. Y. Electrolytic decomposition of solutions. No. 972,047; Oct. 18; Sp. p. 3182; Gaz. vol. 159; p. 554.

Townsend, Jesse E., Richmond, Ind. Stock-waterer. No. 972,738; Oct. 11; Sp. p. 2677; Gaz. vol. 159; p. 454.

Townsend, Samuel P., Orange, N. J. Grease-gun. No. 971,939; Oct. 4; Sp. p. 935; Gaz. vol. 159; p. 159.

Trainer, Ernst, Dresden, assignor to Gewerkschaft Pionier, Walsum-on-the-Rhine, Germany. Manufacture of fuel-blocks. No. 974,001; Oct. 25; Sp. p. 5431; Gaz. vol. 159; p. 941.

Tramhley, Joseph A., Maxbass, N. D. Portable fence. No. 973,589; Oct. 25; Sp. p. 4560; Gaz. vol. 159; p. 796.

Transportation Appliance Corporation. (See Schenck, Charles, assignor.)

Travis, Alburtus, *et al.* (See Torrens, Scott, assignor.)

Trenkamp Stove & Manufacturing Company, The. (See Geurink, Bernard A., assignor.)

Tress, Paul G., Amarillo, Tex. Sand-screen. No. 973,895; Oct. 25; Sp. p. 5215; Gaz. vol. 159; p. 904.

Trippensee, William F., Detroit, Mich. Ticket-vending machine. No. 973,896; Oct. 25; Sp. p. 5216; Gaz. vol. 159; p. 905.

Tritle, John F., Schenectady, N. Y., assignor to General Electric Company. Electric braking. No. 973,590; Oct. 25; Sp. p. 4562; Gaz. vol. 159; p. 796.

Trompeter, George J., Peoria, Ill. Sausage-twisting machine. No. 973,086; Oct. 18; Sp. p. 3466; Gaz. vol. 159; p. 600.

Troy Carriage Sun Shade Company, The. (See Dillingham, Frederick A., assignor.)

Troy Telephone Specialty Company. (See Grauel, Edwin L., assignor.)

Trudell, George S. (See Hawthorne, Thomas, assignor.)

Tucker, Bedford, Bernie, assignor of one-third to J. T. Laster, Dunklin county, and one-third to G. W. Laster, Stoddard county, Mo. Bunk-dog. No. 972,041; Oct. 4; Sp. p. 1163; Gaz. vol. 159; p. 196.

Tucker, Wilson H., and W. F. Waddell, New York, N. Y. Throw-out switch. No. 973,322; Oct. 18; Sp. p. 3988; Gaz. vol. 159; p. 683.

Tuerk, Eugene W., and R. G. Zahalan, New Liskeard, Ontario, Canada. Faucet. No. 971,646; Oct. 4; Sp. p. 284; Gaz. vol. 159; p. 51.

Turek, Ferdinand, Cleveland, Ohio. Equalizing device for beer filtration. No. 973,087; Oct. 18; Sp. p. 3475; Gaz. vol. 159; p. 600.

Turner, George E., Bellefontaine, Ohio. Controlling mechanism. No. 972,296; Oct. 11; Sp. p. 1706; Gaz. vol. 159; p. 300.

Turner, George E., assignor of one-tenth to H. L. Welser, Bellefontaine, Ohio. Sectional dredge. No. 973,591; Oct. 25; Sp. p. 4564; Gaz. vol. 159; p. 796.

Turner, Walter V., Edgewood, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Combined automatic and straight-air brake. No. 971,806; Oct. 4; Sp. p. 613; Gaz. vol. 159; p. 107.

Turner, Walter V., Edgewood, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Combined automatic and straight-air brake. No. 971,807; Oct. 4; Sp. p. 617; Gaz. vol. 159; p. 108.

Turner, Walter V., Edgewood, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Straight-air emergency-brake. No. 971,808; Oct. 4; Sp. p. 620; Gaz. vol. 159; p. 108.

Tuttle, Jonathan B., Claremont, Cal. Fruit and flower clipper. No. 972,417; Oct. 11; Sp. p. 1954; Gaz. vol. 159; p. 343.

Tyberg, Oluf, Point Loma, Cal. Universal lathe. No. 972,297; Oct. 11; Sp. p. 1710; Gaz. vol. 159; p. 300.

Underwood Typewriter Company. (See Coo, Thomas J., assignor.)

Underwood Typewriter Company. (See Kurowski, Alfred G. F., assignor.)

Underwood Typewriter Company. (See McCormack, Harry S., assignor.)

Underwood Typewriter Company. (See Pfunder, Emil L., assignor.)

Underwood Typewriter Company. (See Resch, Henry, assignor.)

Underwood Typewriter Company. (See Swenson, Gustaf, assignor.)

Union Typewriter Company. (See Ingram, Oscar L., assignor.)

Union Typewriter Company. (See Schaaff, John T., assignor.)

Union Typewriter Company. (See Seib, George A., assignor.)

Union Typewriter Company. (See Sivertsen and Nielsen, assignors.)

Union Typewriter Company. (See Smith, Charles E., assignor.)

Union Typewriter Company. (See Smith, George H., assignor.)

Union Typewriter Company. (See Steele, Herbert H., assignor.)

Union Typewriter Company. (See Waldheim, John, assignor.)

Union Typewriter Company. (See Woodward, Oscar, assignor.)

Union Wire Mattress Co. (See Powers, George G., assignor.)

Unit Construction Company. (See Conzelman, John E., assignor.)

United Railways Company of Saint Louis. (See Seiser, Charles R., assignor.)

United Rim Company, The. (See Bryant, Richard S., assignor.)

United Shoe Machinery Company. (See Davey, John F., assignor.)

United Shoe Machinery Company. (See Eppler, Andrew, assignor.)

United Shoe Machinery Company. (See Fowler, Alfred B., assignor.)

United Shoe Machinery Company. (See Hadaway, John B., assignor.)

United Shoe Machinery Company. (See Winter, Henry W., assignor.)

United States Phonograph Company, The. (See McNulty, Harry B., assignor.)
United States Stone Saw Company, The. (See Hanson and Arnold, assignors.)
United Vacuum Appliance Company. (See Clifton and Preston, assignors.)
United Wireless Telegraph Company, The. (See Marriott, Robert H., assignor.)
Universal Wind Shield Company. (See Parizek, Frank, assignor.)
Urban, Joseph P., Detroit, Mich. Garbage-receptacle. No. 972,948; Oct. 18; Sp. p. 3186; Gaz. vol. 159; p. 554.
Van Aller, Tycho, Schenectady, N. Y., assignor to General Electric Company. Soldering-iron. No. 973,592; Oct. 25; Sp. p. 4567; Gaz. vol. 159; p. 797.
Van Aller, Tycho, Schenectady, N. Y., assignor to General Electric Company. Electric flat-iron. No. 973,593; Oct. 25; Sp. p. 4568; Gaz. vol. 159; p. 797.
Van Alstyn, Albert T., Stamford, Conn. Clasp. No. 973,147; Oct. 18; Sp. p. 3610; Gaz. vol. 159; p. 622.
Van Alstyn, Albert T., Stamford, Conn. Clasp. No. 973,148; Oct. 18; Sp. p. 3612; Gaz. vol. 159; p. 623.
Van Duzer, Clarence E., Cleveland, Ohio. Stamp-affixing machine. No. 971,940; Oct. 4; Sp. p. 937; Gaz. vol. 159; p. 159.
Van Keuren, Charles H., Jersey City, N. J. Trap for shellfish. No. 973,594; Oct. 25; Sp. p. 4570; Gaz. vol. 159; p. 797.
Van Sickel, Wilber H., Philadelphia, Pa., assignor to Thos. H. Dallett Co. Stone-dressing machine. No. 971,577; Oct. 4; Sp. p. 142; Gaz. vol. 159; p. 26.
Van Valkenburg, Hermon L., Philadelphia, Pa. Screen. No. 972,209; Oct. 11; Sp. p. 1715; Gaz. vol. 159; p. 301.
Vanderveld, Anthony, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Detachable fastening for garment-support. No. 971,647; Oct. 4; Sp. p. 285; Gaz. vol. 159; p. 51.
Vanderveld, Anthony, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Movable garment-support. No. 972,298; Oct. 11; Sp. p. 1714; Gaz. vol. 159; p. 301.
Vanderveld, Anthony, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Bolt for show-case doors. No. 972,940; Oct. 18; Sp. p. 3188; Gaz. vol. 159; p. 555.
Vautin, Claude, London, England. Utilization of heat contained in slags. No. 972,418; Oct. 11; Sp. p. 1937; Gaz. vol. 159; p. 343.
Vavra, Frank P., Chicago, Ill. Machine for making paper-box blanks. No. 972,300; Oct. 11; Sp. p. 1717; Gaz. vol. 159; p. 301.
Veevers, Edmund. (See Butterworth and Veevers.)
Vesta-Apparate- & Metallwarenfabrik G. m. b. H. (See Kozminski, Samuel, assignor.)
Vestal, Albert, and D. F. Bennett, Redding, Cal. Current-motor. No. 973,241; Oct. 18; Sp. p. 3831; Gaz. vol. 159; p. 655.
Vickers Sons & Maxim. (See Dawson and Buckham, assignors.)
Viney, Frederick C., assignor to The Standard Meter Company, Philadelphia, Pa. Gas-meter. No. 971,705; Oct. 4; Sp. p. 405; Gaz. vol. 159; p. 70.
Vischer, Alfred. (See Daimler and Vischer.)
Vlahoyanes, Nickolas P., Fort Worth, Tex. Mixing-machine. No. 973,394; Oct. 18; Sp. p. 4150; Gaz. vol. 159; p. 707.
Voegtle, Anton, H. C. Lea, and R. H. Voegtle, Sharpsburg, Pa. Coil. No. 972,950; Oct. 18; Sp. p. 3189; Gaz. vol. 159; p. 555.
Voegtle, Richard H. (See Voegtle, Lea, and Voegtle.)
Vogel, Christian, Seward, Nebr. Adjustable pitman. No. 972,585; Oct. 11; Sp. p. 2351; Gaz. vol. 159; p. 402.
Vogel, W. & G. (See Märksch, Paul, assignor.)
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock. No. 973,728; Oct. 25; Sp. p. 4864; Gaz. vol. 159; p. 846.
Volkmann, Paul, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Yellow dye. No. 972,951; Oct. 18; Sp. p. 3190; Gaz. vol. 159; p. 555.
Vose, Ambrose S., assignor to R. L. Vose, Brookline, Mass. Machine for trimming the soles of boots and shoes. No. 971,809; Oct. 4; Sp. p. 622; Gaz. vol. 159; p. 109.
Vose, Ruth L. (See Vose, Ambrose S., assignor.)
Vosper, William W., assignor to The Toledo Pipe Threading Machine Company, Toledo, Ohio. Pipe-threading machine. No. 971,941; Oct. 4; Sp. p. 947; Gaz. vol. 159; p. 160.
Vraalstad, Edward J., assignor of one-half to Buffalo Pitts Company, Buffalo, N. Y. Separator and stacker. (Reissue.) No. 13,156; Oct. 11; Sp. p. 2772; Gaz. vol. 159; p. 472.
Vreeland, Frederick K., Montclair, N. J., assignor to Wireless Telegraph Exploitation Company, New York, N. Y. Electrical oscillator. No. 973,826; Oct. 25; Sp. p. 5058; Gaz. vol. 159; p. 880.
Vreeland, Jacob C., New York, N. Y. Mold for making hollow building-blocks. No. 973,323; Oct. 18; Sp. p. 3990; Gaz. vol. 159; p. 683.
W. C. Heller & Co., The. (See Heller, William C., assignor.)
W. F. & John Barnes Company. (See Barnes, John S., assignor.)
W. K. Kenly Company. (See Latimer and Cloud, assignors.)
Wachenfeld, Georg, Bad Nauheim, Germany. Water-closet. No. 971,706; Oct. 4; Sp. p. 406; Gaz. vol. 159; p. 71.
Wachtel, Sidney. (See Silbert and Wachtel.)
Waddell, William F. (See Tucker and Waddell.)
Waddle, Henry J. (See Macklin and Waddle.)
Wade, Ernest M., Liverpool, England. Reservoir-pen. No. 972,301; Oct. 11; Sp. p. 1719; Gaz. vol. 159; p. 302.
Wahl, Joseph, New York, N. Y. Packing-box. No. 972,586; Oct. 11; Sp. p. 2352; Gaz. vol. 159; p. 402.
Wahlin, Axel W., Chicago, Ill. Spherical dice. No. 973,595; Oct. 25; Sp. p. 4572; Gaz. vol. 159; p. 798.
Wallgum, Mathias, Jr., Holyoke, Mass. Ship construction. No. 972,042; Oct. 4; Sp. p. 1164; Gaz. vol. 159; p. 196.
Wakefield, Frederick W., Vermilion, Ohio. Lighting-fixture. No. 971,942; Oct. 4; Sp. p. 949; Gaz. vol. 159; p. 160.
Wakefield, Frederick W., Vermilion, Ohio. Lighting-fixture. No. 971,943; Oct. 4; Sp. p. 951; Gaz. vol. 159; p. 160.
Waldheim, John, Newark, N. J., assignor to Union Typewriter Company, Ilion, N. Y. Type-writing machine. No. 971,944; Oct. 4; Sp. p. 954; Gaz. vol. 159; p. 161.
Walker, Enos L., Cape Girardeau, Mo. Knockdown box. No. 973,827; Oct. 25; Sp. p. 5002; Gaz. vol. 159; p. 880.
Walker, Henry V., Brooklyn, N. Y., assignor to The Maas & Waldstein Company, Newark, N. J. Chlorhydrins and making same. No. 972,952; Oct. 18; Sp. p. 3190; Gaz. vol. 159; p. 555.
Walker, Henry V., Brooklyn, N. Y., assignor to The Maas & Waldstein Company, Newark, N. J. Solvent for pyroxylin, &c., and making the same. No. 972,953; Oct. 18; Sp. p. 3193; Gaz. vol. 159; p. 555.
Walker, Henry V., Brooklyn, N. Y., assignor to The Maas & Waldstein Company, Newark, N. J. Making hypochlorous acid. No. 972,954; Oct. 18; Sp. p. 3196; Gaz. vol. 159; p. 556.
Walker, Isaac C., Philadelphia, Pa. Hydraulic motor. No. 973,088; Oct. 18; Sp. p. 3476; Gaz. vol. 159; p. 601.
Walker, Rodolphus W., Lawrence, Mass. Support and shifter for driving-belts. No. 972,955; Oct. 18; Sp. p. 3197; Gaz. vol. 159; p. 556.
Walker, William P., Macon, Mo. Rain-water cut-off. No. 971,578; Oct. 4; Sp. p. 144; Gaz. vol. 159; p. 27.
Wall, Robert, St. Louis, Mo. Rotary engine. No. 973,897; Oct. 25; Sp. p. 5220; Gaz. vol. 159; p. 905.
Wallace, Michael W., Moline, Ill. Stalk-cutter and harrow. No. 973,395; Oct. 18; Sp. p. 4153; Gaz. vol. 159; p. 708.
Wallace, William H., assignor to Multi Speed Shutter Company, New York, N. Y. Flash-light attachment for photographic cameras. No. 972,419; Oct. 11; Sp. p. 1959; Gaz. vol. 159; p. 344.
Wallbillich, Anthony F., assignor to The Perkins Electric Switch Mfg. Company, Bridgeport, Conn. Binding-post. No. 973,898; Oct. 25; Sp. p. 5223; Gaz. vol. 159; p. 905.
Waller, Trigg, Highland Park, Ill. System of files. No. 972,302; Oct. 11; Sp. p. 1721; Gaz. vol. 159; p. 302.
Wallin, Boo H., Gottenborg, Sweden. Electrical apparatus for perforating designs. No. 973,899; Oct. 25; Sp. p. 5224; Gaz. vol. 159; p. 906.
Walpole, Franklin D., McKenzie, Tenn. Well-bucket bail. No. 972,663; Oct. 11; Sp. p. 2517; Gaz. vol. 159; p. 428.
Walsh, James F. (See Comeau and Walsh.)
Walter A. Wood Mowing and Reaping Machine Co. (See Beckett and Willis, assignors.)
Walter, Henry C., Wilkinsburg, Pa. Electric heater. No. 973,089; Oct. 18; Sp. p. 3480; Gaz. vol. 159; p. 601.
Walton, Edgar M., Kansas City, Mo. Shingle-mold. No. 974,002; Oct. 25; Sp. p. 5432; Gaz. vol. 159; p. 941.
Wamhoff, George, Jr., assignor, by mesne assignments, to M. S. Wamhoff, Pittsburg, Pa. Lamp-glass. No. 973,729; Oct. 25; Sp. p. 4870; Gaz. vol. 159; p. 846.
Wamhoff, Ma-Belle S. (See Wamhoff, George, Jr., assignor.)
Wandersee, Bernhard A., Montrose, Minn. Harrow. No. 973,730; Oct. 25; Sp. p. 4871; Gaz. vol. 159; p. 846.
Wannenwetsch, Charles H. A., assignor of one-half to A. C. Lembke, Buffalo, N. Y. Rendering apparatus. No. 973,324; Oct. 18; Sp. p. 3993; Gaz. vol. 159; p. 683.
Wanner, Albert Jr., *et al.* (See Wilkinson, John A., assignor.)
Wanner, Edwin P., *et al.* (See Wilkinson, John A., assignor.)
Ward Equipment Company. (See Ward, John E., assignor.)
Ward, John E., assignor to Ward Equipment Company, New York, N. Y. Car. No. 971,579; Oct. 4; Sp. p. 146; Gaz. vol. 159; p. 27.
Ward, John E., assignor to Ward Equipment Company, New York, N. Y. Terminal-plug receptacle. No. 972,956; Oct. 18; Sp. p. 3199; Gaz. vol. 159; p. 556.
Ward, William L., Saguache, Colo. Barrel. No. 972,664; Oct. 11; Sp. p. 2518; Gaz. vol. 159; p. 428.
Wardell, Henry R., New York, N. Y., assignor to H. W. Johns-Manville Company. Machine for making roofing. No. 972,957; Oct. 18; Sp. p. 3200; Gaz. vol. 159; p. 556.
Ware, Richard M. (See May, Robert B., assignor.)
Waring, Frederick E., Worcester, Mass. Desk. No. 973,325; Oct. 18; Sp. p. 3996; Gaz. vol. 159; p. 684.
Warne, Wright & Rowland Limited. (See Malton, Frank, assignor.)
Warner, Lewis E., Kellogg, Idaho. Revolubie sizing-screen. No. 973,149; Oct. 18; Sp. p. 3613; Gaz. vol. 159; p. 623.

Warren, Harry B., *et al.* (See Gant, Kenneth W., assignor.)
Warren Steam Pump Company. (See Gage, Burt O., assignor.)
Warren, William R., New York, N. Y. Apparatus for granulating blast-furnace slag. No. 974,003; Oct. 25; Sp. p. 5433; Gaz. vol. 159; p. 941.
Warrenfeltz, Edward M., Funkstown, Md. Rotary excavator. No. 973,326; Oct. 18; Sp. p. 3998; Gaz. vol. 159; p. 684.
Washburn, John S., Albany, N. Y. Automatic brake-adjuster. No. 974,004; Oct. 25; Sp. p. 5434; Gaz. vol. 159; p. 942.
Washburn, John S., Albany, N. Y. Automatic brake-adjuster. No. 974,005; Oct. 25; Sp. p. 5435; Gaz. vol. 159; p. 942.
Washington, Dixon E., assignor of one-half to J. C. Morgan, Chicago, Ill. Razor-stropping device. No. 972,958; Oct. 18; Sp. p. 3201; Gaz. vol. 159; p. 557.
Waterbury Mfg. Co. (See Perkins, Walter H., assignor.)
Waterhouse, Addison G., New York, N. Y., assignor to T. F. Bourne, trustee, Montclair, N. J. Method of and apparatus for thermal regulation. No. 973,150; Oct. 18; Sp. p. 3616; Gaz. vol. 159; p. 623.
Waters, Beverly L., Aurora, Ill. Shelving. No. 971,707; Oct. 4; Sp. p. 407; Gaz. vol. 159; p. 71.
Watkins, Clemens I., New Martinsville, W. Va. Milk-ticket or advertising and price card holder. No. 973,731; Oct. 25; Sp. p. 4872; Gaz. vol. 159; p. 847.
Watrous, Edward L., Des Moines, Iowa. Sash-lock. No. 972,959; Oct. 18; Sp. p. 3205; Gaz. vol. 159; p. 557.
Watson, Herbert. (See Brazier and Watson.)
Watson, Joseph P., Hazelhurst, Miss. Grate-basket. No. 972,665; Oct. 11; Sp. p. 2519; Gaz. vol. 159; p. 429.
Watson, Simeon P., Brooklyn, N. Y. Electric switch. No. 971,648; Oct. 4; Sp. p. 286; Gaz. vol. 159; p. 51.
Watson, Thomas S., Milwaukee, Wis. Apparatus for elevating, transporting, and discharging material. No. 971,708; Oct. 4; Sp. p. 408; Gaz. vol. 159; p. 71.
Watson, William H., Keene, N. H. Cushion-heel. No. 972,088; Oct. 4; Sp. p. 1247; Gaz. vol. 159; p. 211.
Wayson, James T., Jr., Honolulu, Hawaii. Drive-chain. No. 973,242; Oct. 18; Sp. p. 3831; Gaz. vol. 159; p. 655.
Weaver, Samuel B., Sac City, Iowa. Dress-suit rack. No. 973,090; Oct. 18; Sp. p. 3483; Gaz. vol. 159; p. 601.
Webb City & Carterville Foundry & Machine Works. (See Knowles, Camden E., assignor.)
Weber, A. J. (See Fifield, Warren, assignor.)
Weber, Emil T., St. Louis, Mo. Mop holder and wringer. No. 972,739; Oct. 11; Sp. p. 2678; Gaz. vol. 159; p. 454.
Weber, Harry L., Bucyrus, Ohio. Anchorage for concrete work. No. 973,828; Oct. 25; Sp. p. 5064; Gaz. vol. 159; p. 880.
Weber, John, Jr., assignor to The Toledo Metal Wheel Company, Toledo, Ohio. Collapsible cart. No. 972,740; Oct. 11; Sp. p. 2679; Gaz. vol. 159; p. 454.
Weber, Mathias A. (See Frogue and Weber.)
Webster, Frank S., Lexington, Nebr. Ticket or tag hook. No. 972,043; Oct. 4; Sp. p. 1165; Gaz. vol. 159; p. 196.
Webster, George A., Somerville, assignor to Star Brass Manufacturing Company, Boston, Mass. Reducing-wheel. No. 973,596; Oct. 25; Sp. p. 4573; Gaz. vol. 159; p. 798.
Webster, John E., Pittsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Induction-motor. No. 971,649; Oct. 4; Sp. p. 288; Gaz. vol. 159; p. 52.
Wedell, Otto B., assignor to Elgin Eyeglass Reel Co., Elgin, Ill. Reel-holder. No. 972,741; Oct. 11; Sp. p. 2682; Gaz. vol. 159; p. 455.
Wedge, Utley, Ardmore, Pa. Screening-conveyer. No. 973,597; Oct. 25; Sp. p. 4576; Gaz. vol. 159; p. 798.
Wedgworth, John K., Cuba, Ala. Nut-lock. No. 972,960; Oct. 18; Sp. p. 3206; Gaz. vol. 159; p. 557.
Wedmore, Daniel A., assignor to Philadelphia Steel & Wire Co., Philadelphia, Pa. Metallic reinforce for concrete construction. No. 972,961; Oct. 18; Sp. p. 3208; Gaz. vol. 159; p. 558.
Wehrenberg, Charles E., assignor to Belleville Baler Company, Belleville, Ill. Baling-press. No. 973,151; Oct. 18; Sp. p. 3620; Gaz. vol. 159; p. 624.
Weidemann, Henry J. (See Brennan, James P., assignor.)
Weiler, Henry J., Indianapolis, Ind. Protective strip for piano tuning-pins, strings, &c. No. 972,420; Oct. 11; Sp. p. 1960; Gaz. vol. 159; p. 344.
Weis, John P., Brooklyn, N. Y., assignor, by mesne assignments, to Metropolitan Sewing Machine Company. Looper for sewing-machines. No. 973,900; Oct. 25; Sp. p. 5225; Gaz. vol. 159; p. 906.
Weiser, H. L. (See Turner, George E., assignor.)
Weiss, Alfred H., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill. Four-party-line ringing-key. No. 971,650; Oct. 4; Sp. p. 289; Gaz. vol. 159; p. 52.
Weiss, Alfred H., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill. Service-meter system. No. 972,962; Oct. 18; Sp. p. 3209; Gaz. vol. 159; p. 558.
Welford, George H. (See Welford, Robert and G. H.)
Welford, Robert and G. H., North Hylton, England. Spring-wheel. No. 972,136; Oct. 4; Sp. p. 1342; Gaz. vol. 159; p. 226.
Welin, Peter, Worcester, Mass., assignor, by mesne assignments, to Krell Auto-Grand Piano Co. of America, Connersville, Ind. Metallic take-up spool. No. 971,866; Oct. 4; Sp. p. 760; Gaz. vol. 159; p. 132.
Welles, Richard H., assignor to The Badger Brass Mfg. Co., Kenosha, Wis. Headlight. No. 971,709; Oct. 4; Sp. p. 412; Gaz. vol. 159; p. 72.
Wells, Charles G., Rockyhill, Conn. Tobacco-stringing machine. No. 971,580; Oct. 4; Sp. p. 147; Gaz. vol. 159; p. 27.
Wendt, Reinhard, Muskegon, Mich. Combined shade, curtain, and drapery support for rollers. No. 973,829; Oct. 25; Sp. p. 5066; Gaz. vol. 159; p. 881.
Wentling, Jacob E. (See Mauck and Wentling.)
Weppner, William F., assignor to Fort Pitt Bedding Company, Pittsburg, Pa. Bed-spring-supporting frame. No. 971,867; Oct. 4; Sp. p. 762; Gaz. vol. 159; p. 132.
Werlé, Nikolaus, Stuttgart, Germany, assignor of one-half to A. Salcher, Innsbruck, Austria-Hungary. Controlling apparatus. No. 974,006; Oct. 25; Sp. p. 5437; Gaz. vol. 159; p. 942.
Wertz, Harvey C., assignor of one-half to J. H. Greshner, Ashland, Ohio. Bracket for scaffolds. No. 971,710; Oct. 4; Sp. p. 415; Gaz. vol. 159; p. 72.
Wessels, Heye J., German Valley, Ill. Railway-tie. No. 972,303; Oct. 11; Sp. p. 1725; Gaz. vol. 159; p. 302.
West, Allen, Westminster, London, England. Electrical fuse. No. 972,963; Oct. 18; Sp. p. 3214; Gaz. vol. 159; p. 559.
West Tire Setter Company, The. (See Grenelle, Edward A., assignor.)
West, William L., Franklin, Pa. Manifold-paper. No. 972,742; Oct. 11; Sp. p. 2683; Gaz. vol. 159; p. 455.
Westad, Ivar J., Fleming, Minn. Hay-sling trigger. No. 973,598; Oct. 25; Sp. p. 4577; Gaz. vol. 159; p. 799.
Westburg, Arthur E., Jamestown, N. Y. Gas-regulator. No. 973,396; Oct. 18; Sp. p. 4154; Gaz. vol. 159; p. 708.
Western Electric Company. (See Craft, Edward B., assignor.)
Westinghouse Air Brake Company, The. (See Shears, Cuthbert, assignor.)
Westinghouse Air Brake Company, The. (See Turner, Walter V., assignor.)
Westinghouse Electric & Manufacturing Company. (See Aalborg, Christian, assignor.)
Westinghouse Electric & Manufacturing Company. (See Dow, James C., assignor.)
Westinghouse Electric & Manufacturing Company. (See Harris, Ford W., assignor.)
Westinghouse Electric & Manufacturing Company. (See Stuart, Harve R., assignor.)
Westinghouse Electric & Manufacturing Company. (See Webster, John E., assignor.)
Westinghouse, George, Pittsburg, Pa. Turbine. No. 972,421; Oct. 11; Sp. p. 1962; Gaz. vol. 159; p. 344.
Westinghouse Lamp Company. (See Beadle, George W., assignor.)
Westinghouse Machine Company, The. (See Dugar, Delano H., assignor.)
Westinghouse Machine Company, The. (See Flint, William P., assignor.)
Westinghouse Machine Company, The. (See London, William J. A., assignor.)
Westinghouse Machine Company, The. (See Sweet, Charles E., assignor.)
Weston, John R., Dubuque, Iowa. Drill. No. 972,666; Oct. 11; Sp. p. 2520; Gaz. vol. 159; p. 429.
Wetherill Separating Company. (See Schnelle, Friedrich O., assignor.)
Whatley, Ransom A., Greenville, S. C. Railway-rail plate. No. 972,044; Oct. 4; Sp. p. 1167; Gaz. vol. 159; p. 197.
Wheat, Lyman A., Battle Creek, Mich. Double-line rotary press. No. 973,599; Oct. 25; Sp. p. 4578; Gaz. vol. 159; p. 799.
Wheeler & Schebler. (See Schebler, George M., assignor.)
Wheeler, Seth, Castleton, N. Y. Tubular core. No. 972,667; Oct. 11; Sp. p. 2521; Gaz. vol. 159; p. 429.
Wheeler, Seth, Castleton, N. Y. Oval roll and core therefor. No. 972,668; Oct. 11; Sp. p. 2523; Gaz. vol. 159; p. 430.
Wheelwright, George W., Paterson, assignor of one-half to Sleeth Manufacturing Company, Belleville, N. J. Stop mechanism for power-presses. No. 971,945; Oct. 4; Sp. p. 962; Gaz. vol. 159; p. 161.
Whinery, Samuel, East Orange, N. J. Street-cleaning apparatus. No. 973,091; Oct. 18; Sp. p. 3484; Gaz. vol. 159; p. 602.
Whitaker, Joseph W., Noble, Ill. Safety stovepipe-holder. No. 973,830; Oct. 25; Sp. p. 5067; Gaz. vol. 159; p. 881.
White Company, The. (See White, Rollin H., assignor.)
White, Franklin P., Shallotte, N. C. Combined can and cooker. No. 972,304; Oct. 11; Sp. p. 1726; Gaz. vol. 159; p. 303.
White, Garrett, assignor of one-half to W. B. Neely, Chapel Hill, Tenn. Thermic circuit-closer for electromagnetic apparatus. No. 972,964; Oct. 18; Sp. p. 3215; Gaz. vol. 159; p. 559.
White, Harry L. (See Fisk and White.)
White, Henderson N. (See De Good, Joseph L., assignor.)
White Lily Manufacturing Company. (See Plagman, Adolph, assignor.)
White, Rollin H., assignor, by mesne assignments, to The White Company, Cleveland, Ohio. Steam-automobile. No. 971,810; Oct. 4; Sp. p. 624; Gaz. vol. 159; p. 109.
White, William L., assignor of one-third to G. P. Ferguson, Healdsburg, Cal. Plow draft appliance. No. 971,711; Oct. 4; Sp. p. 416; Gaz. vol. 159; p. 72.
Whiting, Julius, Jr., trustee. (See Maxwell, Bert C., assignor.)

Whitman, Marcellus, Vancouver, British Columbia, Canada. Sheave. No. 973,092; Oct. 18; Sp. p. 3486; Gaz. vol. 159; p. 602.

Whitmore, Edward E., Chicago, Ill., assignor to The Curtain Supply Company, Newark, N. J. Curtain. No. 972,422; Oct. 11; Sp. p. 1963; Gaz. vol. 159; p. 344.

Whitmore, John G., *et al.* (See Wilkins, Thomas M., assignor.)

Whitner, Richard H. (See Herndon, Emmett H., assignor.)

Whittemore, William H., East Orange, N. J., assignor to Strieby & Foote Company. Lineman's tool. No. 972,305; Oct. 11; Sp. p. 1728; Gaz. vol. 159; p. 303.

Wiberg, John, New York, N. Y. Non-refillable bottle. No. 972,423; Oct. 11; Sp. p. 1964; Gaz. vol. 159; p. 345.

Wickersham, Elmer E., Watsonville, Cal. Continuous-make gas apparatus. No. 972,486; Oct. 11; Sp. p. 2097; Gaz. vol. 159; p. 365.

Wickland, Louis P., Fremont, Ohio. Knife and nail-cleaner. No. 973,600; Oct. 25; Sp. p. 4581; Gaz. vol. 159; p. 799.

Wicks, Joseph B. (See Schmaal and Wicks.)

Widby, Clarence R. (See Smith, Fredrick H., assignor.)

Widenmeyer, George, New York, N. Y. Bracelet and the like. No. 973,601; Oct. 25; Sp. p. 4583; Gaz. vol. 159; p. 800.

Wiebking, Hardinge & Co. (See Hardinge, Henry H., assignor.)

Wiedemer, Edward, Atlantic City, N. J. Music-leaf turner. No. 973,831; Oct. 25; Sp. p. 5068; Gaz. vol. 159; p. 881.

Wiens, Arnold, Bitterfeld, assignor to Elektrochemische Werke, G. m. b. H., Berlin-Bitterfeld, Germany. Reduction of ores containing sulfur and iron. No. 973,732; Oct. 25; Sp. p. 4873; Gaz. vol. 159; p. 847.

Wiens, Arnold, assignor to Electrochemische Werke, G. m. b. H., Bitterfeld, Germany. Making oxalates from formates. No. 973,832; Oct. 25; Sp. p. 5070; Gaz. vol. 159; p. 882.

Wiggins, Edward J., assignor, to Knu Light Heat and Power Company, Chicago, Ill. Gas-lamp. No. 971,581; Oct. 4; Sp. p. 151; Gaz. vol. 159; p. 28.

Wigglesworth, Albert W., Chicago, Ill. Driving-gear mechanism. No. 972,587; Oct. 11; Sp. p. 2353; Gaz. vol. 159; p. 402.

Wigglesworth, Albert W., Wilmette, Ill. Work-feeding device for metal-working and other machines. No. 972,588; Oct. 11; Sp. p. 2360; Gaz. vol. 159; p. 403.

Wilber, Herbert I., Dorchester, Mass. Rotary gas-engine. No. 973,833; Oct. 25; Sp. p. 5071; Gaz. vol. 159; p. 882.

Wilcox, Jacob, Washington township, Franklin county, Ohio. Ground-anchor. No. 972,306; Oct. 11; Sp. p. 1731; Gaz. vol. 159; p. 303.

Wilcox, Joseph, Athol, Mass. Apparatus for making toilet articles for personal wear. No. 971,712; Oct. 4; Sp. p. 418; Gaz. vol. 159; p. 73.

Wild, Daniel N., Cedar Falls, Iowa. Spindle step-bearing. No. 972,743; Oct. 11; Sp. p. 2684; Gaz. vol. 159; p. 435.

Wilderspin, Anderson, Grand Saline, assignor of one-half to D. C. Earnest, Dallas, Tex. Grate-bar. No. 972,965; Oct. 18; Sp. p. 3216; Gaz. vol. 159; p. 559.

Wilkins, James S., Preston, Cuba. Transportation system. No. 973,834; Oct. 25; Sp. p. 5077; Gaz. vol. 159; p. 882.

Wilkins, Thomas M., East Randolph, N. Y., assignor of five-sixteenths to W. E. Zierden, Johnsonburg, one-fourth to J. G. Whitmore, Ridgway, and seven-sixteenths to Ziermore Regulator Company, Johnsonburg, Pa. Fluid-pressure-valve regulator. No. 972,744; Oct. 11; Sp. p. 2686; Gaz. vol. 159; p. 456.

Wilkinson, John A., assignor of three-fourths to J. C. Pennie and one-fourth to A., Jr., and E. P. Wanner, New York, N. Y. Chair. No. 972,487; Oct. 11; Sp. p. 2100; Gaz. vol. 159; p. 366.

Wille, Frank X., Spokane, Wash. Wall-tile. No. 973,243; Oct. 18; Sp. p. 3833; Gaz. vol. 159; p. 655.

Willett, Harvey S., Kenny, Cal. Saw-handle. No. 972,307; Oct. 11; Sp. p. 1732; Gaz. vol. 159; p. 304.

Williams, James R., New York, N. Y., and W. C. Briggs, Winston Salem, assignors to The National Vending Machine Company, Wilmington, N. C. Cutting mechanism for envelop-loading machines, &c. No. 971,713; Oct. 4; Sp. p. 421; Gaz. vol. 159; p. 73.

Williams, John, Colt, Ark. Crusher-mill. No. 973,327; Oct. 18; Sp. p. 4003; Gaz. vol. 159; p. 685.

Williams, Joseph G., Buffalo, N. Y. Carbureter. No. 973,602; Oct. 25; Sp. p. 4584; Gaz. vol. 159; p. 800.

Williams, Lacey Y., Toledo, Ohio. Dust-guard. No. 973,462; Oct. 18; Sp. p. 4287; Gaz. vol. 159; p. 730.

Williams, Lacey Y., Toledo, Ohio. Dust-guard. No. 973,463; Oct. 18; Sp. p. 4288; Gaz. vol. 159; p. 730.

Williams, Lynn A., Evanston, Ill. Electrical relay. No. 972,424; Oct. 11; Sp. p. 1966; Gaz. vol. 159; p. 345.

Williams, Mabel E., Fresno, Cal. Supporting-belt. No. 971,946; Oct. 4; Sp. p. 965; Gaz. vol. 159; p. 162.

Williams, Martin L., South Bend, Ind. Internal-combustion engine. No. 972,966; Oct. 18; Sp. p. 3217; Gaz. vol. 159; p. 560.

Williams, Thomas J., Washington, D. C. Metal-molding crimper. No. 973,093; Oct. 18; Sp. p. 3487; Gaz. vol. 159; p. 602.

Williamson, James E., Pittsburg, Pa. Electric heater for oil-wells. No. 972,308; Oct. 11; Sp. p. 1734; Gaz. vol. 159; p. 304.

Williamson, Robert B., Milwaukee, Wis., assignor to Allis-Chalmers Company. Dynamo-electric machine. No. 971,868; Oct. 4; Sp. p. 763; Gaz. vol. 159; p. 132.

Williamson, Robert B., Milwaukee, Wis., assignor to Allis-Chalmers Company. Dynamo-electric machine. No. 971,869; Oct. 4; Sp. p. 765; Gaz. vol. 159; p. 132.

Willis, George W. (See Beckett and Willis.)

Willis, John W., *et al.* (See Paar, Henry, assignor.)

Willmann, Joseph, Derby, Conn. Emulsifier. No. 973,328; Oct. 18; Sp. p. 4004; Gaz. vol. 159; p. 685.

Willmott, Francis J., Evesham, England, assignor to American Optical Company, Southbridge, Mass. Case for spectacles, eyeglasses, and other articles. No. 973,835; Oct. 25; Sp. p. 5079; Gaz. vol. 159; p. 882.

Wilson, Albert E. (See Mayer and Keegan, assignors.)

Wilson, Allen P. (See Wilson, Robert A. and A. P.)

Wilson, Harry, and M. A. Lynch, Washington, D. C., assignors to Bethlehem Steel Company, South Bethlehem, Pa. Fuse for explosive projectiles. No. 972,425; Oct. 11; Sp. p. 1968; Gaz. vol. 159; p. 345.

Wilson, James D., Baltimore, Md. Making channel-ribbon. No. 972,967; Oct. 18; Sp. p. 3222; Gaz. vol. 159; p. 560.

Wilson, Lester G., Larchmont, N. Y., and F. McManus, South Norfolk, Va.; said McManus assignor to said Wilson. Fire-resisting shutter. No. 972,426; Oct. 11; Sp. p. 1971; Gaz. vol. 159; p. 346.

Wilson, Robert A. and A. P., Watertown, Mass. Pencil-pointer. No. 972,488; Oct. 11; Sp. p. 2105; Gaz. vol. 159; p. 366.

Wilson, Robert H., Indianapolis, Ind. Window-guard. No. 973,732; Oct. 25; Sp. p. 4875; Gaz. vol. 159; p. 847.

Wilson, Walter S. (See Brewster, Bertram F., assignor.)

Wilt, Samuel W., Fremont, Ohio. Nut-lock. No. 972,669; Oct. 11; Sp. p. 2525; Gaz. vol. 159; p. 430.

Wilzin, Arthur, Paris, France. Screw-closure for bottles and other receptacles. No. 973,397; Oct. 18; Sp. p. 4156; Gaz. vol. 159; p. 709.

Window Glass Machine Company. (See Frink, Robert L., assignor.)

Wingeier, Samuel T., Zanesville, Ohio. Envelop. No. 972,045; Oct. 4; Sp. p. 1108; Gaz. vol. 159; p. 197.

Winger, William W., Wolcott, Ind. Draft appliance. No. 971,870; Oct. 4; Sp. p. 767; Gaz. vol. 159; p. 133.

Wingo, W. W. (See Powell, Ward B., assignor.)

Winslow, Horace L., Chicago, Ill. Apparatus for recovering blow-off products from boilers and conserving the heat energy therein. No. 973,603; Oct. 25; Sp. p. 4587; Gaz. vol. 159; p. 800.

Winston, Charles S., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system. No. 971,651; Oct. 4; Sp. p. 293; Gaz. vol. 159; p. 53.

Winston, Edgar V., Camden, Ark. Bachelor-button. No. 972,309; Oct. 11; Sp. p. 1736; Gaz. vol. 159; p. 305.

Winter, Henry W., Lawrence, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass. Machine for setting protectors for boots and shoes. No. 973,604; Oct. 25; Sp. p. 4594; Gaz. vol. 159; p. 801.

Winter, Henry W., Lawrence, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass. Machine for setting heel and sole protectors. No. 973,605; Oct. 25; Sp. p. 4602; Gaz. vol. 159; p. 801.

Winter, Louis F. (See Lowry and Winter.)

Wintermute, Peter, Portland, Oreg. Amusement apparatus. No. 972,310; Oct. 11; Sp. p. 1737; Gaz. vol. 159; p. 305.

Winters, George, assignor of one-half to P. M. Haller, Bay City, Mich. Shower-bath apparatus. No. 972,589; Oct. 11; Sp. p. 2366; Gaz. vol. 159; p. 403.

Winton, Alexander, Cleveland, Ohio. Controller for motor-vehicles. No. 972,047; Oct. 4; Sp. p. 1171; Gaz. vol. 159; p. 197.

Winton, Alexander, and H. B. Anderson, assignors to The Winton Motor Carriage Company, Cleveland, Ohio. Detachable and knockdown folding seat for automobile-tonneaus. No. 972,046; Oct. 4; Sp. p. 1170; Gaz. vol. 159; p. 197.

Winton Motor Carriage Company, The. (See Winton and Anderson, assignors.)

Wire Goods Company, The. (See Brewer, Alonzo G., assignor.)

Wireless Telegraph Exploitation Company. (See Vreeland, Frederick K., assignor.)

Wirkus, Julius, Minto, N. D. Freight-car door. No. 973,244; Oct. 18; Sp. p. 3834; Gaz. vol. 159; p. 656.

Wirthlin, Louis A., Madisonville, Ohio. Tongue for laced shoes. No. 972,427; Oct. 11; Sp. p. 1972; Gaz. vol. 159; p. 346.

Wise, George W. and H. A., assignors to The Wise Soda Apparatus Company, Cleveland, Ohio. Cooler and soda-fountain construction. No. 972,137; Oct. 4; Sp. p. 1343; Gaz. vol. 159; p. 227.

Wise, Henry A. (See Wise, George W. and H. A.)

Wise Soda Apparatus Company, The. (See Wise, George W. and H. A., assignors.)

Wismer, Joseph B., Franconia, Pa. Nut-lock. No. 972,968; Oct. 18; Sp. p. 3224; Gaz. vol. 159; p. 561.

Witherell, George E., E. R. Seward, Hartford, and G. L. Mason, Warehouse Point, assignors to The Hartford Machine Screw Company, Hartford, Conn. Variable-speed mechanism. No. 972,138; Oct. 4; Sp. p. 1347; Gaz. vol. 159; p. 227.

Witmer, William H., Philadelphia, Pa. Window-ventilating device. No. 972,311; Oct. 11; Sp. p. 1738; Gaz. vol. 159; p. 305.

Wittich Success Shaft Sinking and Tunnelling Machine Company, The. (See Wittich, William F., assignor.)

Wittich, William F., assignor to The Wittich Success Shaft Sinking and Tunnelling Machine Company, Erie, Pa. Stone-cutting tool. No. 972,969; Oct. 18; Sp. p. 3225; Gaz. vol. 159; p. 561.

Witzenmann, Emil, Pforzheim, Germany. Hose. No. 973,901; Oct. 25; Sp. p. 5227; Gaz. vol. 159; p. 906.

Wm. B. Scaife & Sons Company. (See Greth, John C. W., assignor.)

Wm. F. Rothe and Company. (See Rothe, William F., assignor.)

Woerheide, William H., St. Louis, Mo. Cleat for securing prepared roofing. No. 973,902; Oct. 25; Sp. p. 5228; Gaz. vol. 159; p. 906.

Woerner, Alfred O., *et al.*, trustees. (See Smith, Arthur K., assignor.)

Woessner, N. E. (See Stryker, Robert D., assignor.)

Wohl, Maurice J. (See Hertzberg, Low, and Wohl.)

Wohl, Maurice J., New York, and H. Hertzberg, Brooklyn, assignors to A. A. Low, Horseshoe, N. Y., M. J. Wohl, and H. Hertzberg, trustees Electrical measuring instrument. No. 973,152; Oct. 18; Sp. p. 3624; Gaz. vol. 159; p. 624.

Wohlfeld, Samuel, Philadelphia, Pa. Automobile-tire trunk. No. 973,329; Oct. 18; Sp. p. 4006; Gaz. vol. 159; p. 685.

Wolcott, Guy W., Healdsburg, Cal. Combination level and square. No. 974,007; Oct. 25; Sp. p. 5444; Gaz. vol. 159; p. 943.

Wolcott, Henry, Providence, R. I. Making pins. No. 973,153; Oct. 18; Sp. p. 3627; Gaz. vol. 159; p. 624.

Wolff, Fredrick J., Kansas City, Mo. Flour-handling apparatus. No. 971,811; Oct. 4; Sp. p. 626; Gaz. vol. 159; p. 110.

Wolff, George, West Hoboken, N. J. Cigar-holder. No. 972,970; Oct. 18; Sp. p. 3227; Gaz. vol. 159; p. 561.

Wolff, James. (See Tideman, Henry, assignor.)

Wolff, Raphael H., New York, N. Y. Electrode. No. 974,008; Oct. 25; Sp. p. 5446; Gaz. vol. 159; p. 943.

Wood, Everett S., assignor to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Filling-replenishing hopper. No. 973,094; Oct. 18; Sp. p. 3488; Gaz. vol. 159; p. 603.

Wood, Everett S., and J. Northrop, assignors to W. F. Draper, deceased, Hopedale, Mass.; C. H. Draper and O. H. Lane, executors. Filling-fork protector. No. 973,095; Oct. 18; Sp. p. 3492; Gaz. vol. 159; p. 603.

Wood, Henry A., Port Dickinson, assignor of one-half to I. A. Ilix, Binghamton, N. Y. Mitten. No. 973,330; Oct. 18; Sp. p. 4008; Gaz. vol. 159; p. 686.

Wood, James N., assignor to The Neely Compress and Cotton Co., Inc., Richmond, Va. Baling device. No. 971,947; Oct. 4; Sp. p. 966; Gaz. vol. 159; p. 162.

Wood, James N., assignor to The Neely Compress and Cotton Company, Inc., Richmond, Va. Bale-box. No. 971,948; Oct. 4; Sp. p. 967; Gaz. vol. 159; p. 162.

Wood, James N., assignor to The Neely Compress and Cotton Co., Inc., Richmond, Va. Baling-press. No. 971,949; Oct. 4; Sp. p. 970; Gaz. vol. 159; p. 162.

Wood, James N., assignor to Neely Compress and Cotton Company, Inc., Richmond, Va. Baling-press. No. 971,950; Oct. 4; Sp. p. 973; Gaz. vol. 159; p. 163.

Wood, James N., assignor to Neely Compress and Cotton Company, Inc., Richmond, Va. Baling apparatus. No. 971,951; Oct. 4; Sp. p. 976; Gaz. vol. 159; p. 163.

Wood, James N., Richmond, Va., assignor to The Neely Compress and Cotton Co., Inc. Bale-box. No. 971,952; Oct. 4; Sp. p. 978; Gaz. vol. 159; p. 164.

Wood, Tingley S., Leadville, Colo. Protective seal. No. 972,971; Oct. 18; Sp. p. 3228; Gaz. vol. 159; p. 561.

Woodruff, Charles A., and G. E. McElroy, Newark, N. J. Sign-holder. No. 972,312; Oct. 11; Sp. p. 1739; Gaz. vol. 159; p. 305.

Woodruff, Willard S., Brooklyn, N. Y. Game-board. No. 971,871; Oct. 4; Sp. p. 768; Gaz. vol. 159; p. 133.

Woods, Robert S., Los Angeles, Cal. Signal system. No. 973,154; Oct. 18; Sp. p. 3628; Gaz. vol. 159; p. 624.

Woodward, Oscar, Montclair, N. J., assignor to Union Typewriter Company, Ilion, N. Y. Type-writing machine. No. 971,953; Oct. 4; Sp. p. 980; Gaz. vol. 159; p. 164.

Woollett, George W., Pittsburg, Pa. Folding umbrella. No. 973,155; Oct. 18; Sp. p. 3632; Gaz. vol. 159; p. 625.

Worley, Matt H., Redlands, Cal. Flume-gate. No. 973,606; Oct. 25; Sp. p. 4610; Gaz. vol. 159; p. 802.

Wort, D. (See Minton, John S., assignor.)

Worthen, Burt L., Tucson, Ariz. Automatic dumping-car. No. 974,009; Oct. 25; Sp. p. 5447; Gaz. vol. 159; p. 944.

Worthington, Blaine, Scotland, Pa. Hydraulic jack. No. 971,714; Oct. 4; Sp. p. 423; Gaz. vol. 159; p. 74.

Worthington, George C., Elyria, Ohio. Golf-ball. No. 972,313; Oct. 11; Sp. p. 1740; Gaz. vol. 159; p. 306.

Wray, George W., El Reno, Okla. Window-shade holder. No. 972,972; Oct. 18; Sp. p. 3233; Gaz. vol. 159; p. 562.

Wright, Benjamin N., Seattle, Wash. Pump. No. 971,652; Oct. 4; Sp. p. 298; Gaz. vol. 159; p. 53.

Wright, Charles O., Bluefield, W. Va. Shipping-case. No. 973,607; Oct. 25; Sp. p. 4612; Gaz. vol. 159; p. 802.

Wright, James E., assignor of one-half to J. M. Kelton, Bay City, Mich. Metal hoop. No. 972,973; Oct. 18; Sp. p. 3234; Gaz. vol. 159; p. 562.

Wright, Norman A., assignor to Champion Manufacturing Company, Pontiac, Mich. Automatic cut-out. No. 971,872; Oct. 4; Sp. p. 769; Gaz. vol. 159; p. 133.

Wright Wire Company. (See Barlow, Arthur E., assignor.)

Wunderlich, Edward. (See Schmidt, Charles, assignor.)

Wyatt, Charles G., St. Joseph, Mo. Form for paper-box-covering machines. No. 972,974; Oct. 18; Sp. p. 3236; Gaz. vol. 159; p. 562.

Wygodsky, Leon, New York, N. Y. Liquid-fuel internal-combustion engine. No. 971,954; Oct. 4; Sp. p. 985; Gaz. vol. 159; p. 165.

Wylde, Ellen J. (See Fox, Rosalie A. W., assignor.)

Yates, Thomas J., and P. R. Peterson, Salt Lake City, Utah. Clothes-drier. No. 972,590; Oct. 11; Sp. p. 2367; Gaz. vol. 159; p. 404.

Yaw, Clio B., Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 971,955; Oct. 4; Sp. p. 988; Gaz. vol. 159; p. 165.

Ybarrondo, Vincent C. de, Los Angeles, Cal. Captive airship mechanism. No. 973,398; Oct. 18; Sp. p. 4158; Gaz. vol. 159; p. 709.

Ybarrondo, Vincent C. de, Los Angeles, Cal. Spark-plug. No. 973,464; Oct. 18; Sp. p. 4289; Gaz. vol. 159; p. 731.

Yockey, Walter A. (See Jones and Yockey.)

York, David A., Northgrove, Ind. Resilient tire. No. 973,245; Oct. 18; Sp. p. 3835; Gaz. vol. 159; p. 656.

York, John A., Franklin, Conn. Indicating switch-button. No. 972,048; Oct. 4; Sp. p. 1173; Gaz. vol. 159; p. 198.

York, William E., and G. D. Hayden, assignors to Morse Twist Drill & Machine Company, New Bedford, Mass. Adjustable reamer. No. 972,130; Oct. 4; Sp. p. 1352; Gaz. vol. 159; p. 227.

Young, Adam T., London, England. Player for pianos. No. 971,956; Oct. 4; Sp. p. 995; Gaz. vol. 159; p. 166.

Young, Elmer I., Montclair, N. J., assignor to Young Specialty Company. Safety-razor. No. 973,734; Oct. 25; Sp. p. 4876; Gaz. vol. 159; p. 847.

Young, Ernest J., Fleming, N. Y. Grinder for ensilage-cutter and other knives. No. 971,873; Oct. 4; Sp. p. 771; Gaz. vol. 159; p. 134.

Young, Harry L., St. Joseph, Mo. Automatic safety gas-valve. No. 972,975; Oct. 18; Sp. p. 3238; Gaz. vol. 159; p. 563.

Young, John, Bellefontaine, Ohio. Grave-vault. No. 973,608; Oct. 25; Sp. p. 4613; Gaz. vol. 159; p. 802.

Young, John N., Brockville, Ontario, Canada. Mop-head. No. 972,315; Oct. 11; Sp. p. 1743; Gaz. vol. 159; p. 306.

Young, Lorenzo H., assignor of one-half to V. P. Hill, Hagerstown, Md. Running-gear for dumping-wagons. No. 972,670; Oct. 11; Sp. p. 2526; Gaz. vol. 159; p. 430.

Young Specialty Company. (See Young, Elmer I., assignor.)

Young, William W., Springfield, Mass. Talking-machine diaphragm. No. 973,735; Oct. 25; Sp. p. 4879; Gaz. vol. 159; p. 848.

Younggreen, Grover C., and J. C. Loef, Los Angeles, Cal. Blow-out guard for inner tubes. No. 972,976; Oct. 18; Sp. p. 3240; Gaz. vol. 159; p. 563.

Zabriskie, Henry L., Brooklyn, N. Y., assignor to Diehl Manufacturing Company. Brush for dynamo-electric machines. No. 973,836; Oct. 25; Sp. p. 5080; Gaz. vol. 159; p. 883.

Zackey, Harry P., Martinsville, N. Y. Automatic brake-applying device for railway-trains. No. 972,671; Oct. 11; Sp. p. 2527; Gaz. vol. 159; p. 430.

Zahalan, Richard G. (See Tuerk and Zahalan.)

Zastrow, August F. W., Lyons, Iowa. Guard for wood-working-machines. No. 973,837; Oct. 25; Sp. p. 5084; Gaz. vol. 159; p. 883.

Zebro, Alois. (See Figge and Zebro.)

Zehetner, Josef, Vienna, Austria-Hungary. Preparing a tooth-healing preparation. No. 972,316; Oct. 11; Sp. p. 1744; Gaz. vol. 159; p. 306.

Zepeda, Miguel, Syracuse, N. Y. Type-bar bearing. No. 971,653; Oct. 4; Sp. p. 299; Gaz. vol. 159; p. 53.

Zhaniel, Camilla F., Charlottenburg, Germany. Production of lighting effects on stages by means of high-tension currents of high frequency. No. 973,736; Oct. 25; Sp. p. 4880; Gaz. vol. 159; p. 848.

Zibell, Julius A. (See Cuda, Frank J., assignor.)

Zierden, W. E., *et al.* (See Wilkins, Thomas M., assignor.)

Ziermore Regulator Company *et al.* (See Wilkins, Thomas M., assignor.)

Zill, Jacob, Baltimore, Md. Liquid-vending apparatus. No. 973,903; Oct. 25; Sp. p. 5230; Gaz. vol. 159; p. 907.

Zimmer, Nathan, Hopkinsville, Ky. Cleaning grain. No. 972,977; Oct. 18; Sp. p. 3241; Gaz. vol. 159; p. 563.

Zimmerman, Harry, assignor to The Fremont Mitten and Glove Company, Fremont, Ohio. Material-handling mechanism. No. 973,331; Oct. 18; Sp. p. 4009; Gaz. vol. 159; p. 686.

Zimmermann, William F., assignor to Gould & Eberhardt, Newark, N. J. Gear-cutting machine. No. 973,399; Oct. 18; Sp. p. 4163; Gaz. vol. 159; p. 710.

ALPHABETICAL LIST OF PATENTEES OF DESIGNS.

A. H. Heisey & Co. (See Sanford, Andrew J., assignor.)
Allen, Henry W., and George R. Meeker, Brooklyn, N. Y. Game-board. No. 40,945; Oct. 18; Gaz. vol. 159; p. 734.
Ames, Henry A., assignor to Standard Thermometer Company, Boston, Mass. Thermostat-casing. No. 40,942; Oct. 18; Gaz. vol. 159; p. 733.
Bigelow Carpet Company. (See Elliot, William A., assignor.)
Blesch, Charles, Newport, Ky., assignor to The Crane & Breed Manufacturing Company, Cincinnati, Ohio. Burial-casket handle. No. 40,946; Oct. 18; Gaz. vol. 159; p. 734.
Blough, Wilson R., Harrisburg, Pa. Bonnet. No. 40,957; Oct. 25; Gaz. vol. 159; p. 980.
Bruguier Chemical Co. (See Thayer, Emma R. L., assignor.)
Cestero, Fermin, Habana, Cuba. Sign-board. No. 40,956; Oct. 25; Gaz. vol. 159; p. 979.
Cheney Brothers. (See Dupont, Paul, assignor.)
Cheney Brothers. (See Sins, Emile, assignor.)
Cincinnati Coffin Company, The. (See Zinser, Paul R., assignor.)
Crane & Breed Manufacturing Company, The. (See Blesch, Charles, assignor.)
Dupont, Paul, Paris, France, assignor to Cheney Brothers, South Manchester, Conn. Textile fabric. No. 40,939; Oct. 11; Gaz. vol. 159; p. 474.
Elliot, William A., Yonkers, N. Y., assignor to Bigelow Carpet Company. Carpet. Nos. 40,940–1; Oct. 11; Gaz. vol. 159; p. 475.
Frank Wood Manufacturing Company. (See Wood, Frank, assignor.)
Gair, Robert, New York, N. Y. Doily. No. 40,958; Oct. 25; Gaz. vol. 159; p. 980.
Gothberg, Herman, Roselle Park, N. J. Ceiling-plate. No. 40,936; Oct. 11; Gaz. vol. 159; p. 474.
International Silver Company. (See Lashar, Thomas B., assignor.)
Irons and Russell Company. (See Thatcher, Charles L., assignor.)
Landers, Frary & Clark. (See Smith, Charles F., assignor.)
Larson, Lars A., Elgin, Ill. Ring. No. 40,928; Oct. 4; Gaz. vol. 159; p. 229.
Lashar, Thomas B., assignor to International Silver Company, Bridgeport, Conn. Handle for spoons, forks, or similar articles. No. 40,933; Oct. 11; Gaz. vol. 159; p. 473.
Meeker, George R. (See Allen and Meeker.)
Pemberton, Charles B., Whittier, Cal. Badge. No. 40,951; Oct. 25; Gaz. vol. 159; p. 979.
Purple, Mayo S., East Hampton, Conn. Bell and support therefor. No. 40,954; Oct. 25; Gaz. vol. 159; p. 979.
Sandner, Heinrich, Union Hill, N. J. Musical-instrument pedal. No. 40,935; Oct. 11; Gaz. vol. 159; p. 474.
Sanford, Andrew J., assignor to A. H. Heisey & Co., Inc., Newark, Ohio. Light-shade. Nos. 40,943–4; Oct. 18; Gaz. vol. 159; p. 733.
Searls Manufacturing Company. (See Taylor, Harry B., assignor.)
Sins, Emile, Paris, France, assignor to Cheney Brothers, South Manchester, Conn. Textile fabric. Nos. 40,937–8; Oct. 11; Gaz. vol. 159; p. 474.
Smith, Charles F., assignor to Landers, Frary & Clark, New Britain, Conn. Percolator-cover. No. 40,934; Oct. 11; Gaz. vol. 159; p. 474.
Spalding, Albert G., Point Loma, Cal. Trophy. Nos. 40,929–30; Oct. 4; Gaz. vol. 159; pp. 229–30.
Stafford, Frederick S., Dallas, Tex. Automobile-lamp. No. 40,955; Oct. 25; Gaz. vol. 159; p. 979.
Standard Thermometer Company. (See Ames, Henry A., assignor.)
Taylor, Harry B., East Orange, assignor to Searls Manufacturing Company, Newark, N. J. Holder for tumblers or other articles. No. 40,931; Oct. 4; Gaz. vol. 159; p. 230.
Thatcher, Charles L., assignor to Irons and Russell Company, Providence, R. I. Emblem. No. 40,932; Oct. 11; Gaz. vol. 159; p. 473.
Thayer, Emma R. L., Hastings-upon-Hudson, N. Y., assignor to Bruguier Chemical Co., Newark, N. J. Can. No. 40,952; Oct. 25; Gaz. vol. 159; p. 979.
Thayer, Emma R. L., Hastings-upon-Hudson, N. Y., assignor to Bruguier Chemical Co., Newark, N. J. Jar. No. 40,953; Oct. 25; Gaz. vol. 159; p. 979.
Wood, Frank, Valley Falls, R. I., assignor to Frank Wood Manufacturing Company. Trimming. Nos. 40,948–50; Oct. 18; Gaz. vol. 159; p. 734.
Zinser, Paul R., assignor to The Cincinnati Coffin Company, Cincinnati, Ohio. Lug for caskets or coffins. No. 40,947; Oct. 18; Gaz. vol. 159; p. 734.

ALPHABETICAL LIST OF REGISTRANTS OF TRADE-MARKS.

A. Steinhardt & Bro., New York, N. Y. Hair goods. No. 79,798; Oct. 4; Gaz. vol. 159; p. 239.
A. G. Spalding & Bros., Jersey City, N. J., and New York, N. Y. Golf-balls. No. 79,796; Oct. 4; Gaz. vol. 159; p. 239.
A. G. Spalding & Bros., Jersey City, N. J., and New York, N. Y. Golf-balls. No. 79,938; Oct. 18; Gaz. vol. 159; p. 744.
Aerators Limited, London, England. Metal receptacles for compressed or liquefied gas. No. 79,949; Oct. 25; Gaz. vol. 159; p. 987.
Akerman & Tuffley, North San Diego, Cal. Canned olives. No. 79,713; Oct. 4; Gaz. vol. 159; p. 237.
Alberty, Ada M., Seattle, Wash. Milk-modifier composed chiefly of grain. No. 79,950; Oct. 25; Gaz. vol. 159; p. 987.
Alling, Johan A., Stockholm, Sweden. Pens and nibs. No. 79,883; Oct. 18; Gaz. vol. 159; p. 743.
Alpenburg, Victor von, West Hoboken, N. J. Antiseptic sheets for medicinal and surgical use. No. 79,951; Oct. 25; Gaz. vol. 159; p. 987.
American Butter and Cheese Co., Detroit, Mich. Butter. No. 79,884; Oct. 18; Gaz. vol. 159; p. 743.
American Lava Co., Chattanooga, Tenn. Burners and tips for illuminating-gas. No. 79,885; Oct. 18; Gaz. vol. 159; p. 743.
American Manufacturing Company, The, New York, N. Y. Jute bagging for baling cotton. No. 79,952; Oct. 25; Gaz. vol. 159; p. 987.
American Road Machine Company, Kennett Square, Pa. Distributing-carts and dumping-wagons. No. 79,953; Oct. 25; Gaz. vol. 159; p. 987.
American Thread Company, The, Jersey City, N. J. Spool and sewing cotton, thread, and cotton yarn. Nos. 79,954–5; Oct. 25; Gaz. vol. 159; p. 987.
Antrim & Sons, C. W., Richmond, Va. Coffee. No. 79,806; Oct. 11; Gaz. vol. 159; p. 485.
Aamus Brothers, Detroit, Mich. Tea. No. 79,956; Oct. 25; Gaz. vol. 159; p. 987.
Astoria & Puget Sound Canning Co., Bellingham, Wash. Canned salmon. No. 79,807; Oct. 11; Gaz. vol. 159; p. 485.
Bailey, Aubrey G., Norfolk, Va. Fresh oysters. No. 79,714; Oct. 4; Gaz. vol. 159; p. 237.
Baltimore Bargain House, Baltimore, Md. Watch-movements. No. 79,808; Oct. 11; Gaz. vol. 159; p. 485.
Bamberg & Ilisser, New York, N. Y. Silk netting in the piece. No. 79,886; Oct. 18; Gaz. vol. 159; p. 743.
Barcalo Manufacturing Company, Buffalo, N. Y. Beds, cribs, bed-springs, and mattresses. No. 79,809; Oct. 11; Gaz. vol. 159; p. 485.
Bayley & Co., London, England. Perfumed soaps. No. 79,715; Oct. 4; Gaz. vol. 159; p. 237.
Beekman, John C., Tarpon Springs, Fla. Rust-proofing and lubricating oil. No. 79,810; Oct. 11; Gaz. vol. 159; p. 485.
Bienek, Carl, Oakland, Cal. Stomach-bitters. No. 79,716; Oct. 4; Gaz. vol. 159; p. 237.
Bliss Brothers Company, Attleboro, Mass. Lockets. No. 79,811; Oct. 11; Gaz. vol. 159; p. 485.
Bradbury, Fred. R., East Brownfield, Me. Leather-dressing. No. 79,812; Oct. 11; Gaz. vol. 159; p. 485.
Bragno and Mustari, Chicago, Ill. Olive-oil. No. 79,813; Oct. 11; Gaz. vol. 159; p. 485.
Brookes Limited, Lighcliffe, England. Rough or unmanufactured granite. No. 79,887; Oct. 18; Gaz. vol. 159; p. 743.
Brown Durrell Co., Boston, Mass. Belts and girdles. No. 79,888; Oct. 18; Gaz. vol. 159; p. 743.
Brown Durrell Co., Boston, Mass. Hooks and eyes and snap-fastenings. No. 79,889; Oct. 18; Gaz. vol. 159; p. 743.
Brown, Marie, New Brighton, N. Y. Writing-pens. No. 79,814; Oct. 11; Gaz. vol. 159; p. 485.
Brown Son & Co., Wm. H., New York, N. Y. Cotton goods in the piece. No. 79,890; Oct. 18; Gaz. vol. 159; p. 743.
Bryan, Thomas M., Zanesville, Ohio. Insecticides. No. 79,891; Oct. 18; Gaz. vol. 159; p. 743.
Budde, Charles H., Dayton, Ohio. Corn-salve. No. 79,717; Oct. 4; Gaz. vol. 159; p. 237.
Cabell Company, The, Baltimore, Md. Imitation vanilla flavoring. No. 79,959; Oct. 25; Gaz. vol. 159; p. 987.
Cahn, Alvin S., New York, N. Y. Air cleaning devices. No. 79,815; Oct. 11; Gaz. vol. 159; p. 485.
California Farmers' Union, Inc., Fresno, Cal. Fresh fruit, vegetables, melons, and canned fruits. No. 79,816; Oct. 11; Gaz. vol. 159; p. 485.
California Farmers' Union, Inc., Fresno, Cal. Fresh and dried fruits. No. 79,893; Oct. 18; Gaz. vol. 159; p. 743.
Camors & Co., J. B., New Orleans, La. Wheat-flour. No. 79,960; Oct. 25; Gaz. vol. 159; p. 987.
Canton Cutlery Company, Canton, Ohio. Certain cutlery. No. 79,718; Oct. 4; Gaz. vol. 159; p. 237.
Case & Marshall, Incorporated, Burnside, Conn. Fiber-board. No. 79,817; Oct. 11; Gaz. vol. 159; p. 485.
Central Candy Company, Chicago, Ill. Candies. No. 79,719; Oct. 4; Gaz. vol. 159; p. 237.
Central Knitting Company, St. Louis, Mo. Boys' and girls' stockings. No. 79,961; Oct. 25; Gaz. vol. 159; p. 987.
Central Mfg. Co., Lockland, Ohio. Fertilizers. No. 79,894; Oct. 18; Gaz. vol. 159; p. 743.
Chapin & Company, Incorporated, Buffalo, N. Y. Horse and stock feed. No. 79,818; Oct. 11; Gaz. vol. 159; p. 485.
Charles B. Byron Company, New York, N. Y. Certain precious-metal articles. No. 79,892; Oct. 18; Gaz. vol. 159; p. 743.
Charles Davison and Company Limited, Ewloe, near Chester, England. Tiles. No. 79,899; Oct. 18; Gaz. vol. 159; p. 743.
Charles Hewitt & Sons Company, Des Moines, Iowa. Canned fruits, vegetables, fish, &c. No. 79,758; Oct. 4; Gaz. vol. 159; p. 238.
Chemical Manufacturing Company, New York, N. Y. Remedy for cancer. No. 79,895; Oct. 18; Gaz. vol. 159; p. 743.
Chemische Fabrik Reisholz G. m. b. H., Dusseldorf-Reisholz, Germany. Sugar and sugar-syrup. No. 79,819; Oct. 11; Gaz. vol. 159; p. 485.
Citizens Canning Company, The, Spiceland, Ind. Canned tomatoes. No. 79,896; Oct. 18; Gaz. vol. 159; p. 743.
Clague, Stanley, Chicago, Ill. Certain chemicals. No. 79,962; Oct. 25; Gaz. vol. 159; p. 987.
Clark, Howard J., Orchard Park and Buffalo, N. Y. Hosiery. No. 79,820; Oct. 11; Gaz. vol. 159; p. 485.
Cleveland Macaroni Company, Cleveland, Ohio. Macaronic paste foods. No. 79,821; Oct. 11; Gaz. vol. 159; p. 485.
Coast Manufacturing & Supply Co., Fitchburg, Cal. Blasting-fuses. No. 79,822; Oct. 11; Gaz. vol. 159; p. 485.
Colonial Drug Co., The, Chicago, Ill. Rheumatic remedies. No. 79,823; Oct. 11; Gaz. vol. 159; p. 485.
Compañía General de Tabacos de Filipinas, Barcelona, Spain. Cigars. Nos. 79,720–9; Oct. 4; Gaz. vol. 159; p. 237.
Compañía General de Tabacos de Filipinas, Barcelona, Spain. Cigars. Nos. 79,732–6; Oct. 4; Gaz. vol. 159; p. 237.
Cordley & Hayes, New York, N. Y. Faucets. No. 79,737; Oct. 4; Gaz. vol. 159; p. 237.
Cosson, Sidney E., Morristown, Tenn. Remedy for all laxed conditions of the bowels. No. 79,963; Oct. 25; Gaz. vol. 159; p. 987.
Crocker Grocery Company, Wilkes-Barre, Pa. Certain food. Nos. 79,738–9; Oct. 4; Gaz. vol. 159; p. 237.
Crown Cork & Seal Company, The, Baltimore, Md. Bottling machinery and parts of the same. No. 79,897; Oct. 18; Gaz. vol. 159; p. 743.
D. Anderson & Son, Limited, Belfast, Ireland. Anticorrosive paints. No. 79,805; Oct. 11; Gaz. vol. 159; p. 485.
Dain Manufacturing Company of Iowa, Ottumwa, Iowa. Hay-stackers. No. 79,898; Oct. 18; Gaz. vol. 159; p. 743.
Dean Lumber Company, Elmira, N. Y. Prepared composition roofing. No. 79,740; Oct. 4; Gaz. vol. 159; p. 237.
Dennis Manufacturing Company, Sutter Creek and Berkeley, Cal. Ointment. No. 79,741; Oct. 4; Gaz. vol. 159; p. 237.
Diamond Show Case Company, The, Cleveland, Ohio. Glass show-cases. Nos. 79,900–1; Oct. 18; Gaz. vol. 159; p. 743.
Dickinson & Co., Eureka, Ill. Canned vegetables. Nos. 79,902–3; Oct. 18; Gaz. vol. 159; p. 743.
Dr. Rickmann & Rappe, G. m. b. H., Chemische Fabrik, Kalk, near Cologne, Germany, assignor to The Roessler & Hasslacher Chemical Company, New York, N. Y. Certain chemical substance. No. 79,933; Oct. 18; Gaz. vol. 159; p. 744.
Duff & Sons, P., Pittsburg, Pa. Canned sardines. No. 79,964; Oct. 25; Gaz. vol. 159; p. 987.
E. B. Millar & Co., Chicago, Ill. Coffee. No. 79,996; Oct. 25; Gaz. vol. 159; p. 988.
E. I. du Pont de Nemours Powder Company, Hoboken, N. J., and Wilmington, Del. Smokeless powder. No. 79,965; Oct. 25; Gaz. vol. 159; p. 987.
E. O. Smith Company, Springfield, Mass. Wheat-flour. No. 79,866; Oct. 11; Gaz. vol. 159; p. 486.
East Jersey Match Company, Garfield, N. J. Matches. No. 79,824; Oct. 11; Gaz. vol. 159; p. 485.
Edwards, R. G., London, England. Shampoo-powder. No. 79,966; Oct. 25; Gaz. vol. 159; p. 987.

Edwin C. Burt Company, New York, N. Y. Boots and shoes and slippers. No. 79,958; Oct. 25; Gaz. vol. 159; p. 987.
El Perfecto Veda Rose Co., The, San Francisco, Cal. Toilet rouge. No. 79,825; Oct. 11; Gaz. vol. 159; p. 485.
Elliet-Kendall Shoe Company, Kansas City, Mo. Leather boots, shoes, and leggings. No. 79,905; Oct. 18; Gaz. vol. 159; p. 743.
Enelow, Max, Pittsburg, Pa. Stogies and cigars. No. 79,742; Oct. 4; Gaz. vol. 159; p. 237.
Eppstein, Milton L., Fort Worth, Tex. Tea and spices. No. 79,967; Oct. 25; Gaz. vol. 159; p. 987.
Eugene Dietzgen Company, Chicago, Ill. Drawing instruments. No. 79,904; Oct. 18; Gaz. vol. 159; p. 743.
Examiner Printing Company, San Francisco, Cal. Weekly publication. No. 79,968; Oct. 25; Gaz. vol. 159; p. 987.
F. W. Gesswein Company, New York, N. Y. Files. No. 79,753; Oct. 4; Gaz. vol. 159; p. 238.
Falk Tobacco Co., New York, N. Y., and Richmond, Va. Smoking-tobacco. No. 79,743; Oct. 4; Gaz. vol. 159; p. 237.
Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Remedy for certain diseases. No. 79,969; Oct. 25; Gaz. vol. 159; p. 987.
Faribault Canning Company, Faribault, Minn. Canned vegetables. No. 79,744; Oct. 4; Gaz. vol. 159; p. 237.
Finch, Charles W., Chicago, Ill. Honey and jellies. No. 79,745; Oct. 4; Gaz. vol. 159; p. 237.
Fisher, Hart C., San Francisco, Cal. Blended tea. No. 79,826; Oct. 11; Gaz. vol. 159; p. 485.
Fitch, Cornelia K., Passaic, N. J. Periodical publications. No. 79,746; Oct. 4; Gaz. vol. 159; p. 238.
Fitch, Cornelia K., New York, N. Y. Periodical financial publications. No. 79,970; Oct. 25; Gaz. vol. 159; p. 987.
Flint and Walling Mfg. Co., Kendallville, Ind. Certain machinery and parts thereof. No. 79,827; Oct. 11; Gaz. vol. 159; p. 485.
Floyd-Wells Company, The, Boyersford, Pa. Stoves, ranges, and furnaces. Nos. 79,747–8; Oct. 4; Gaz. vol. 159; p. 238.
Foote & Jenks, Jackson, Mich. Flavoring-syrup for non-alcoholic beverages. No. 79,749; Oct. 4; Gaz. vol. 159; p. 238.
Francis & Co., A., Detroit, Mich. Perfumes, face-powders, and toilet waters. No. 79,750; Oct. 4; Gaz. vol. 159; p. 239.
Francis H. Leggett Co., New York, N. Y. Cotton clothes-lines. No. 79,767; Oct. 4; Gaz. vol. 159; p. 238.
Francis H. Leggett & Co., New York, N. Y. Bird-seed. Nos. 79,768–9; Oct. 4; Gaz. vol. 159; p. 238.
Francis H. Leggett & Co., New York, N. Y. Certain food. No. 79,770; Oct. 4; Gaz. vol. 159; p. 238.
Francis H. Leggett & Co., New York, N. Y. Certain foods. No. 79,988; Oct. 25; Gaz. vol. 159; p. 988.
Francis H. Leggett & Co., New York, N. Y. Strained honey. No. 79,989; Oct. 25; Gaz. vol. 159; p. 988.
Francis H. Leggett & Co., New York, N. Y. Peanut-butter. No. 79,990; Oct. 25; Gaz. vol. 159; p. 988.
Francis H. Leggett & Co., New York, N. Y. Sweet mangoes. No. 79,991; Oct. 25; Gaz. vol. 159; p. 988.
Francis H. Leggett & Co., New York, N. Y. Cranberry sauce. No. 79,992; Oct. 25; Gaz. vol. 159; p. 988.
Francis H. Leggett & Co., New York, N. Y. Vinegar. No. 79,993; Oct. 25; Gaz. vol. 159; p. 988.
Francis, Joseph H., Chicago, Ill. Monthly financial journal. No. 79,751; Oct. 4; Gaz. vol. 159; p. 238.
Frank Holton & Co., Chicago, Ill. Certain musical instruments. No. 79,978; Oct. 25; Gaz. vol. 159; p. 987.
Frank-Kline-Stewart Co., New York, N. Y. Rompers, blouses, pajamas, and night-robes. No. 79,971; Oct. 25; Gaz. vol. 159; p. 987.
Frederick W. Lippa Company of Baltimore City. (See Lane, Charles D., assignor.)
Fullwood, George L., Philadelphia, Pa., assignor, by mesne assignments, to Tobaclets, Inc., Richmond, Va. Chewing-tobacco. No. 79,752; Oct. 4; Gaz. vol. 159; p. 238.
Gans Bros., Baltimore, Md. Umbrellas. No. 79,973; Oct. 25; Gaz. vol. 159; p. 987.
George Frost Company, Boston, Mass. Hose-supporters and garters. No. 79,972; Oct. 25; Gaz. vol. 159; p. 987.
Globe Taunton Nail Company, Taunton, Mass. Wire nails and tacks. No. 79,974; Oct. 25; Gaz. vol. 159; p. 987.
Gohl & King, Williamsport, Pa. Coffee. No. 79,828; Oct. 11; Gaz. vol. 159; p. 485.
Golden Gate Packing Company, San Jose, Cal. Canned fruits. No. 79,754; Oct. 4; Gaz. vol. 159; p. 238.
Gordon Hollow Blast Grate Company, The, Greenville, Mich. Edgers and trimmers. No. 79,975; Oct. 25; Gaz. vol. 159; p. 987.
Grasselli Chemical Company, The, Cleveland, Ohio. Paper-size. No. 79,829; Oct. 11; Gaz. vol. 159; p. 485.
Gudebrod Bros. Co., New York, N. Y. Silk, cotton, mercerized, and machine sewing-threads. Nos. 79,830–1; Oct. 11; Gaz. vol. 159; p. 485.
H. C. White Co., North Bennington, Vt. Projecting apparatus. No. 80,012; Oct. 25; Gaz. vol. 159; p. 988.
H. M. Storms Company, New York, N. Y. Type-writer ribbons and carbon-paper. No. 79,940; Oct. 18; Gaz. vol. 159; p. 744.
Haiku Fruit and Packing Company, Limited, Haiku, Maui, Hawaii. Canned pineapple. No. 79,906; Oct. 18; Gaz. vol. 159; p. 743.
Hammel, Riglander & Co., New York, N. Y. Mainsprings. No. 79,907; Oct. 18; Gaz. vol. 159; p. 743.
Harden Bros. & Lindsay, Ltd., London, England. Tea and cocoa. No. 79,908; Oct. 18; Gaz. vol. 159; p. 743.
Hayward & Thurston Co., New York, N. Y. Cotton piece goods. No. 79,755; Oct. 4; Gaz. vol. 159; p. 238.
Hemlock Manufacturing Co., Chattanooga, Tenn. Hammocks. No. 79,832; Oct. 11; Gaz. vol. 159; p. 485.
Heroux, Joseph E., Woonsocket, R. I. Medicinal wine. No. 79,756; Oct. 4; Gaz. vol. 159; p. 238.
Hertzberg, Harry, New York, N. Y. Gas burners and heaters. No. 79,757; Oct. 4; Gaz. vol. 159; p. 238.
Hills Brothers Company, The, New York, N. Y. Currants No. 79,909; Oct. 18; Gaz. vol. 159; p. 743.
Hoffmann-La Roche Chemical Works, The, New York, N. Y. Bismuth oxyiodo-gallate. No. 79,760; Oct. 4; Gaz. vol. 159; p. 238.
Holloway, Thomas, London, England. Ointment. No. 79,976; Oct. 25; Gaz. vol. 159; p. 987.
Horsewhip Company, The, Westfield, Mass. Horsewhips. No. 79,979; Oct. 25; Gaz. vol. 159; p. 987.
Horton, Fred E., Chittenden, Vt. Liniment. No. 79,910; Oct. 18; Gaz. vol. 159; p. 743.
Houghton, George A., Portland, Me. Lubricating and metal and wood cleaning oil. No. 79,911; Oct. 18; Gaz. vol. 159; p. 744.
Huelsenkamp, Clement J., Habana, Cuba. Pineapple-juice. No. 79,912; Oct. 18; Gaz. vol. 159; p. 744.
Hunt Brothers Company, San Francisco, Cal. Canned fruits and vegetables. No. 79,761; Oct. 4; Gaz. vol. 159; p. 238.
Hunter, Herbert L., Bessemer, Ala. Glue. No. 79,913; Oct. 18; Gaz. vol. 159; p. 744.
Ideal Manufacturing Company, Sanford, Me. Mechanical impact fly-killers. No. 79,980; Oct. 25; Gaz. vol. 159; p. 988.
Independent Match Co., The, Philadelphia, Pa. Matches. Nos. 79,835–6; Oct. 11; Gaz. vol. 159; p. 485.
Independent Whip Co., Westfield, Mass. Whips. No. 79,914; Oct. 18; Gaz. vol. 159; p. 744.
International Acheson Graphite Co., Niagara Falls, N. Y. Lubricants containing graphite. No. 79,915; Oct. 18; Gaz. vol. 159; p. 744.
Iowa Dairy Separator Company, Waterloo, Iowa. Internal-combustion engines. Nos. 79,981–3; Oct. 25; Gaz. vol. 159; p. 988.
J. & A. McKechnie Brewing Co., Canandaigua, N. Y. Porter, ale, and stout. No. 79,995; Oct. 25; Gaz. vol. 159; p. 988.
J. C. Blair Company, Huntingdon, Pa. Envelops, tablets, and blank books. No. 79,957; Oct. 25; Gaz. vol. 159; p. 987.
James McCreery & Company, New York, N. Y. Writing-paper, envelops, and visiting-cards. No. 79,994; Oct. 25; Gaz. vol. 159; p. 988.
John Postance Company, The, Cleveland, Ohio. Face powder and cream. No. 79,857; Oct. 11; Gaz. vol. 159; p. 486.
Johnson & Field Mfg. Co., Racine, Wis. Fanning-mills, land-rollers, seeders, &c. No. 79,837; Oct. 11; Gaz. vol. 159; p. 486.
Johnson, John L., Ridgefield Park, N. J. Toilet preparations for reducing flesh. No. 79,838; Oct. 11; Gaz. vol. 159; p. 486.
Joseph Sankey & Sons, Ltd., Bilston, England. Sheet-metal transformer and dynamo-plates. No. 79,791; Oct. 4; Gaz. vol. 159; p. 239.
"Jupiter" Gesellschaft mit beschränkter Haftung, Hamburg, Germany. Certain explosives, fireworks, and matches. No. 79,916; Oct. 18; Gaz. vol. 159; p. 744.
K. k. landespriv. Milly-Kerzen-, Seifen-und Glycerin-Fabrik von F. A. Sarg's Sohn & Cie., Vienna, Austria-Hungary. Preparations for cleansing and preserving the teeth and mouth. No. 80,000; Oct. 25; Gaz. vol. 159; p. 988.
K. k. landespriv. Milly-Kerzen-, Seifen-und Glycerin-Fabrik von F. A. Sarg's Sohn & Co., Vienna, Austria-Hungary. Tooth paste, cream, powder, &c. No. 80,001; Oct. 25; Gaz. vol. 159; p. 988.
Kane Varnish and Paint Remover Co., New York, N. Y. Liquid varnish and paint remover. No. 79,917; Oct. 18; Gaz. vol. 159; p. 744.
Kantorowicz Actien Gesellschaft, Hartwig. (See Kantorowicz, Hartwig, assignor.)
Kantorowicz, Hartwig, assignor to H. Kantorowicz Actien Gesellschaft, Posen, Germany. Stomach-bitters. No. 79,762; Oct. 4; Gaz. vol. 159; p. 238.
Kelley Island Lime & Transport Company, The, Cleveland, Ohio. Lime and plaster. No. 79,840; Oct. 11; Gaz. vol. 159; p. 486.
Kiggins & Tooker Co., New York, N. Y. Diaries. No. 79,763; Oct. 4; Gaz. vol. 159; p. 238.
Kirchner, Edward, Waukegan, Ill. Remedy for hemorrhoids. No. 79,984; Oct. 25; Gaz. vol. 159; p. 988.
Kőbányai Polgári Serfőző Részvény Társaság, Budapest, Austria-Hungary. Beer. No. 79,841; Oct. 11; Gaz. vol. 159; p. 486.
Krank, Alfred J., St. Paul, Minn. Toilet powder. No. 79,918; Oct. 18; Gaz. vol. 159; p. 744.
Krenger, Fredrik E., London, England. Matches. Nos. 79,764–5; Oct. 4; Gaz. vol. 159; p. 238.
Krenger, Fredrik E., London, England. Matches. Nos. 79,985–6; Oct. 25; Gaz. vol. 159; p. 988.
L. Hess & Co., New York, N. Y. Linen, silk and cotton, and silk dress goods. No. 79,833; Oct. 11; Gaz. vol. 159; p. 485.

Lane, Charles D., Bridgeport, Conn., assignor to Frederick W. Lipps Company of Baltimore City. Candles. No. 79,766; Oct. 4; Gaz. vol. 159; p. 238.
Lattier, George F., Baltimore, Md. Device for transferring an object on a scale. No. 79,842; Oct. 11; Gaz. vol. 159; p. 486.
Le Blanc, Mary M., Oxford, Nebr. Liquid preparations for treating the complexion. No. 79,987; Oct. 25; Gaz. vol. 159; p. 988.
Leisy Brewing Company, The, Peoria, Ill. Malt extract. No. 79,771; Oct. 4; Gaz. vol. 159; p. 238.
Louisville Cotton Oil Co., Louisville, Ky. Cotton-seed oil. No. 79,772; Oct. 4; Gaz. vol. 159; p. 238.
Luneschloss, J. S., New York, N. Y. Wrapping and printing paper. No. 79,919; Oct. 18; Gaz. vol. 159; p. 744.
Lynn, Elijah H., Sr., Brookport, Ill. Salve. No. 79,773; Oct. 4; Gaz. vol. 159; p. 238.
Lynn, Elijah H., Sr., Brookport, Ill. Lotions. No. 79,774; Oct. 4; Gaz. vol. 159; p. 238.
Macgill, Ella V., Philadelphia, Pa. Salves and ointments. No. 79,977; Oct. 25; Gaz. vol. 159; p. 987.
Mahler, Daniel J., East Providence, R. I. Shaving-creams. No. 79,775; Oct. 4; Gaz. vol. 159; p. 238.
Maloney Oil & Manufacturing Company, Scranton, Pa. Petroleum illuminating-oil. No. 79,843; Oct. 11; Gaz. vol. 159; p. 486.
Masland, John W., Philadelphia, Pa. Rugs and carpets. No. 79,920; Oct. 18; Gaz. vol. 159; p. 744.
McKinley, William, Wilmington, Del. Furniture-polishes. No. 79,844; Oct. 11; Gaz. vol. 159; p. 486.
Mendez, Lucy J., Brooklyn, N. Y. Cigars. No. 79,776; Oct. 4; Gaz. vol. 159; p. 238.
Merck & Co., New York, N. Y. Certain chemicals. No. 79,845; Oct. 11; Gaz. vol. 159; p. 486.
Meyers Manufacturing Company, Watertown, N. Y. Suspensories, trusses, and bandages. No. 79,777; Oct. 4; Gaz. vol. 159; p. 238.
Miller, Benjamin, Chicago, Ill. Wood-polish. No. 79,921; Oct. 18; Gaz. vol. 159; p. 744.
Monarch Paste Co., Buffalo, N. Y. Adhesive pastes, mucilage, gums, &c. No. 79,846; Oct. 11; Gaz. vol. 159; p. 486.
Montgomery-Moore Mfg. Co., Nashville, Tenn. Harness, saddles, and horse-collars. No. 79,847; Oct. 11; Gaz. vol. 159; p. 486.
Montpelier Cup & Metal Works, Montpelier, Ind. Flour-milling machinery and parts thereof. No. 79,922; Oct. 18; Gaz. vol. 159; p. 744.
Morton Salt Company, Chicago, Ill. Salt. No. 79,848; Oct. 11; Gaz. vol. 159; p. 486.
Munger Candy Company, The, Corning, N. Y. Chocolate cream drops. No. 79,849; Oct. 11; Gaz. vol. 159; p. 486.
Murawski, Frank X., New York, N. Y. Wood cleaning and polishing material. No. 79,851; Oct. 11; Gaz. vol. 159; p. 486.
Myers, Edwin, York, Pa. Cigars. No. 79,923; Oct. 18; Gaz. vol. 159; p. 744.
N. S. Ackerly & Son Company, Northport, N. Y. Fresh blue-point oysters. No. 79,882; Oct. 18; Gaz. vol. 159; p. 743.
National Candy Company, The, St. Louis, Mo. Candy. No. 79,778; Oct. 4; Gaz. vol. 159; p. 238.
National Fertilizer Co., Nashville, Tenn. Fertilizers No. 79,924; Oct. 18; Gaz. vol. 159; p. 744.
National Invisible Print Co., St. Louis, Mo. Post, picture, &c., cards. No. 79,852; Oct. 11; Gaz. vol. 159; p. 486.
New Era Manufacturing Company, The, St. Louis, Mo. Certain clothing. No. 79,925; Oct. 18; Gaz. vol. 159; p. 744.
New Jersey Foundry & Machine Co., Plainfield, N. J., and New York, N. Y. Weight-carrying trolleys. No. 79,997; Oct. 25; Gaz. vol. 159; p. 988.
New York Mackintosh Company, The, New York, N. Y. Waterproof cloaks, coats, and capes. No. 79,926; Oct. 18; Gaz. vol. 159; p. 744.
Newburger, Eli N., Cleveland, Ohio. Ready-mixed paints. No. 79,853; Oct. 11; Gaz. vol. 159; p. 486.
No Name Hat M'f'g Co., Orange, N. J. Hats. No. 79,927; Oct. 18; Gaz. vol. 159; p. 744.
Norvell-Shapleigh Hardware Company, St. Louis, Mo. Lanterns. No. 79,779; Oct. 4; Gaz. vol. 159; p. 238.
O. K. Broom Works, The, New York, N. Y. Brooms. No. 79,854; Oct. 11; Gaz. vol. 159; p. 486.
Ohio & Western Lime Co., The, Marion, Ohio. Lime. No. 79,928; Oct. 18; Gaz. vol. 159; p. 744.
Oneida Hosiery Company, Philadelphia, Pa. Hosiery. No. 79,780; Oct. 4; Gaz. vol. 159; p. 238.
P. S. Hessler Mercantile Company, The, Denver, Colo. Canned fruit, vegetables, fish, and oysters. No. 79,834; Oct. 11; Gaz. vol. 159; p. 485.
Pabst Brewing Company, Milwaukee, Wis. Preparation containing malt and hops. No. 79,929; Oct. 18; Gaz. vol. 159; p. 744.
Parker Pen Company, The, Janesville, Wis. Fountain-pens. No. 79,781; Oct. 4; Gaz. vol. 159; p. 238.
Parrott & Co., San Francisco, Cal. Canned crab-meat. No. 79,930; Oct. 18; Gaz. vol. 159; p. 744.
Patterson, John C., Pittsburg, Pa. Certain detergents. No. 79,878; Oct. 11; Gaz. vol. 159; p. 487.
Pen-Carbon Manifold Company, New Brunswick, N. J. Carbon-paper. No. 79,855; Oct. 11; Gaz. vol. 159; p. 486.
Penick & Ford Ltd., Shreveport and New Orleans, La. Compound of molasses and corn-syrup. No. 79,782; Oct. 4; Gaz. vol. 159; p. 239.
Peoples Oil & Cotton Co., Wharton, Tex. Stock food. No. 79,783; Oct. 4; Gaz. vol. 159; p. 239.
Peters-Pitkin Company, The, Benton Harbor, Mich. Ready-mixed paints. No. 79,931; Oct. 18; Gaz. vol. 159; p. 744.
Philadelphia Suburban Publishing Co., Philadelphia, Pa. Monthly magazine. No. 79,932; Oct. 18; Gaz. vol. 159; p. 744.
Philo Hay Specialties Co., Newark, N. J. Dressing and invigorant for the hair. No. 79,856; Oct. 11; Gaz. vol. 159; p. 486.
Prairie Medicine Company, Rolling Prairie, Ind. Ointment. No. 79,784; Oct. 4; Gaz. vol. 159; p. 239.
Price & Lucas Cider & Vinegar Co., Louisville, Ky. Compound cider and compound phosphate beverage. No. 79,785; Oct. 4; Gaz. vol. 159; p. 239.
R. Munroe & Sons Mfg. Corporation, Pittsburg, Pa. Covers for manholes and hand-holes. No. 79,850; Oct. 11; Gaz. vol. 159; p. 486.
R. F. Simmons Company, Attleboro, Mass. Jewelry. No. 79,795; Oct. 4; Gaz. vol. 159; p. 239.
Red Wing Milling Company, Red Wing, Minn. Wheat-flour. No. 79,858; Oct. 11; Gaz. vol. 159; p. 486.
Reliable Vending Co., New York, N. Y. Chewing-gum. No. 79,998; Oct. 25; Gaz. vol. 159; p. 988.
Reliance Glove Co., Chicago, Ill. Gloves. No. 79,859; Oct. 11; Gaz. vol. 159; p. 486.
Robert A. Keasbey Company, New York, N. Y. Machinery packing. No. 79,839; Oct. 11; Gaz. vol. 159; p. 486.
Robinson Seed and Plant Company, Dallas, Tex. Farm, garden, and flower seeds. No. 79,860; Oct. 11; Gaz. vol. 159; p. 486.
Roessler & Hasslacher Chemical Company, The. (See Dr. Rickmann & Rappe, G. m. b. H., Chemische Fabrik.)
Rogers & Thompson, West New York, N. J., and New York, N. Y. Silk piece goods. No. 79,786; Oct. 4; Gaz. vol. 159; p. 239.
Ross, William, Troy, N. Y. Pressure-regulating valves. No. 79,861; Oct. 11; Gaz. vol. 159; p. 486.
Rutherford Rubber Company, Rutherford, N. J. Rubber tires and tubing. No. 79,789; Oct. 4; Gaz. vol. 159; p. 239.
Sakabe & Sekine, New York, N. Y. Brushes. No. 79,862; Oct. 11; Gaz. vol. 159; p. 486.
Salomon & Co., A. L., New York, N. Y. Lead-pencils. No. 79,790; Oct. 4; Gaz. vol. 159; p. 239.
Salt's Textile Manufacturing Company, The, Bridgeport, Conn. Velvets and plushes. No. 79,863; Oct. 11; Gaz. vol. 159; p. 486.
Salt's Textile Manufacturing Company, The, Bridgeport, Conn. Coats, cloaks, wraps, capes, and dresses. No. 79,864; Oct. 11; Gaz. vol. 159; p. 486.
Salt's Textile Manufacturing Company, The, Bridgeport, Conn. Certain clothing. No. 79,934; Oct. 18; Gaz. vol. 159; p. 744.
Salt's Textile Manufacturing Company, The, Bridgeport, Conn. Certain piece goods. No. 79,999; Oct. 25; Gaz. vol. 159; p. 988.
Schorn & Brower, New York, N. Y. Tea, blended coffee, cocoa, spices, flavoring extracts. No. 79,792; Oct. 4; Gaz. vol. 159; p. 239.
Schotten, Julius J., St. Louis, Mo. Roasted coffee. No. 80,002; Oct. 25; Gaz. vol. 159; p. 988.
Scott, Arthur H., Philadelphia, Pa. Toilet-paper. No. 79,793; Oct. 4; Gaz. vol. 159; p. 239.
Sears & Nichols Company, The, Chillicothe, Ohio. Canned foods. No. 79,935; Oct. 18; Gaz. vol. 159; p. 744.
Sedlmayr, Brauerei zum Spaten, Gabriel, Munich, Germany. Beer. No. 79,794; Oct. 4; Gaz. vol. 159; p. 239.
Shattuck-George Iron Co., Wichita, Kans. Doubletrees, swingletrees, and wood parts for the same. No. 79,936; Oct. 18; Gaz. vol. 159; p. 744.
Singer Manufacturing Company, The, New York, N. Y., and Elizabeth, N. J. Hand sewing-needles. No. 79,937; Oct. 18; Gaz. vol. 159; p. 744.
Slazenger & Sons, London, England. Certain sporting goods. No. 79,865; Oct. 11; Gaz. vol. 159; p. 486.
Smith, Sidney L., St. Louis, Mo. Double-bottom attachments for washboilers. No. 80,003; Oct. 25; Gaz. vol. 159; p. 988.
Sparks Milling Company, Alton, Ill., and Terre Haute, Ind. Wheat-flour. No. 79,867; Oct. 11; Gaz. vol. 159; p. 486.
Special Glove and Notion Company, Pittsburg, Pa. Gloves and hand-leathers. No. 79,797; Oct. 4; Gaz. vol. 159; p. 239.
Standard Chemical Company, Bayonne, N. J. Electrical insulating compositions and materials. No. 79,868; Oct. 11; Gaz. vol. 159; p. 486.
Standard Oil Company of New York, New York, N. Y. Naphtha and gasolene. No. 79,939; Oct. 18; Gaz. vol. 159; p. 744.
Star Expansion Bolt Company, New York, N. Y. Certain metal articles. No. 80,004; Oct. 25; Gaz. vol. 159; p. 988.
Sterling Borax Company, Los Angeles, Cal., and Chicago, Ill. Borax. No. 80,005; Oct. 25; Gaz. vol. 159; p. 988.
Stott, David, Detroit, Mich. Wheat-flour. No. 79,941; Oct. 18; Gaz. vol. 159; p. 744.
Strauss Bros. & Company, New York, N. Y. Veilings. No. 79,942; Oct. 18; Gaz. vol. 159; p. 744.

Stretton & Sons, S. D., Leicester, England. Knitted goods. No. 79,879; Oct. 11; Gaz. vol. 159; p. 487.
Supplee Hardware Company, Philadelphia, Pa. Shovels, spades, and scoops. No. 79,943; Oct. 18; Gaz. vol. 159; p. 744.
Swetland & Son, Portland, Oreg. Ice-cream, chocolates, and candies. No. 80,006; Oct. 25; Gaz. vol. 159; p. 988.
Taylor Bedding Mfg. Co., Taylor, Tex. Mattresses and pillows. No. 79,880; Oct. 11; Gaz. vol. 159; p. 487.
Taylor, Ronald, New York, N. Y. Artificial stone and a composition for making the same. No. 79,944; Oct. 18; Gaz. vol. 159; p. 744.
Thermo-Chemicals Company, New York, N. Y. Dry poultice. No. 80,007; Oct. 25; Gaz. vol. 159; p. 988.
Tobaclets, Inc. (See Fullwood, George L., assignor.)
Towne, Elizabeth, Holyoke, Mass. Monthly magazines. No. 80,008; Oct. 25; Gaz. vol. 159; p. 988.
Tropon Works, New York, N. Y. Medicinal preparation containing albumen. No. 80,009; Oct. 25; Gaz. vol. 159; p. 988.
Truitt Bros., Binghamton, N. Y. Shoes. No. 79,945; Oct. 18; Gaz. vol. 159; p. 744.
Tyndale, May, Fresno, Cal. Fruit confections. No. 79,709; Oct. 4; Gaz. vol. 159; p. 239.
Union Fibre Company, Winona, Minn. Heat-insulating material. No. 79,869; Oct. 11; Gaz. vol. 159; p. 486.
United Roofing & Manufacturing Company, Philadelphia, Pa. Felt roofing materials. No. 80,010; Oct. 25; Gaz. vol. 159; p. 988.
W. C. Routh & Co., Loganspert, Ind. Hams, bacon, and lard. Nos. 79,787–8; Oct. 4; Gaz. vol. 159; p. 239.
W. E. Wroe & Company, Chicago, Ill. Writing-paper. No. 79,877; Oct. 11; Gaz. vol. 159; p. 487.
Waite, Thresher Company, Providence, R. I. Certain jewelry. No. 80,011; Oct. 25; Gaz. vol. 159; p. 988.
Wardell, Fred, Detroit, Mich. Vacuum-cleaners. No. 79,946; Oct. 18; Gaz. vol. 159; p. 744.
Warner, Charles F., New York, N. Y. Hair-tonic. No. 79,870; Oct. 11; Gaz. vol. 159; p. 486.
Warner-Godfrey Co., New York, N. Y. Cotton satines. No. 79,871; Oct. 11; Gaz. vol. 159; p. 486.
Warner-Godfrey Co., New York, N. Y. Cotton piece goods. No. 79,872; Oct. 11; Gaz. vol. 159; p. 487.
Wassermann & Co., J., New York, N. Y. Evaporated apples. No. 79,800; Oct. 4; Gaz. vol. 159; p. 239.
Weichselbaum, Jacob, Savannah, Ga. Compound alcoholic beverages. No. 79,873; Oct. 11; Gaz. vol. 159; p. 487.
Welch, Marshall M., Atlanta, Ga. Polishing and cleaning preparations. No. 79,881; Oct. 11; Gaz. vol. 159; p. 487.
Western Clock Mfg. Co., Peru, Ill. Clocks and watches. Nos. 79,874–5; Oct. 11; Gaz. vol. 159; p. 487.
White, Otho H., Buffalo, N. Y. Preparation for the removal of freckles. No. 79,801; Oct. 4; Gaz. vol. 159; p. 239.
Widup, Guy L., Oakland, Cal. Antiseptic. No. 79,803; Oct. 4; Gaz. vol. 159; p. 239.
Wiebusch & Hilger, Limited, New York, N. Y. Scissors, razors, and pocket-knives. No. 79,759; Oct. 4; Gaz. vol. 159; p. 238.
Wile Sons & Co., Julius, New York, N. Y. Sherry. No. 79,876; Oct. 11; Gaz. vol. 159; p. 487.
Willamette Valley Condensed Milk Company, Portland, Oreg. Condensed milk. No. 79,804; Oct. 4; Gaz. vol. 159; p. 239.
Williams & Co., R. C., New York, N. Y. Canned vegetables. No. 79,947; Oct. 18; Gaz. vol. 159; p. 745.
Wise, J. D., Jackson, Tenn. Certain preparations for dentists' use. No. 79,802; Oct. 4; Gaz. vol. 159; p. 239.
Zajkowski, Anthony S., Chicago, Ill. Medicines for tuberculosis. No. 79,948; Oct. 18; Gaz. vol. 159; p. 745.
Zanetti, Thomas, New York, N. Y. Hair-tonics. No. 80,013; Oct. 25; Gaz. vol. 159; p. 988.
Zechnowitz, Samuel, New York, N. Y. Blended coffee and cocoa. No. 80,014; Oct. 25; Gaz. vol. 159; p. 988.

ALPHABETICAL LIST OF REGISTRANTS OF LABELS.

Acker, Merrall & Condit Company, New York, N. Y. "Celtic Tea." (For Blended Tea.) No. 15,338; Oct. 4; Gaz. vol. 159; p. 240.
American Dehydrating Company, Waukesha, Wis. "Dehydro." (For Dehydrated Fruits and Vegetables.) No. 15,363; Oct. 18; Gaz. vol. 159; p. 746.
American Lithographic Company, New York, N. Y. "Grandmont." (For Cigars.) No. 15,358; Oct. 18; Gaz. vol. 159; p. 746.
Botanical Manufacturing Co., Philadelphia, Pa. "Rat Corn." (For a Powder for Exterminating Rodents.) No. 15,357; Oct. 11; Gaz. vol. 159; p. 488.
Burns Cigar Company, Brooksville, Fla. "O. U. Auto 5¢ Cigar." (For Cigars.) No. 15,336; Oct. 4; Gaz. vol. 159; p. 240.
Burns Cigar Company, Brooksville, Fla. "Fulton's Steamboat Havana Cigars." (For Cigars.) No. 15,337; Oct. 4; Gaz. vol. 159; p. 240.
C. B. Henschel Mfg. Co., Milwaukee, Wis. "El Como." (For Cigars.) No. 15,346; Oct. 11; Gaz. vol. 159; p. 488.
C. B. Henschel Mfg. Co., Milwaukee, Wis. "La Zar." (For Cigars.) No. 15,347; Oct. 11; Gaz. vol. 159; p. 488.
C. B. Henschel Mfg. Co., Milwaukee, Wis. "Carmena." (For Cigars.) No. 15,348; Oct. 11; Gaz. vol. 159; p. 488.
C. B. Henschel Mfg. Co., Milwaukee, Wis. "Cuban Import." (For Cigars.) No. 15,349; Oct. 11; Gaz. vol. 159; p. 488.
C. B. Henschel Mfg. Co., Milwaukee, Wis. "La Pluma." (For Cigars.) No. 15,371; Oct. 25; Gaz. vol. 159; p. 990.
Hopkins, Frank C., Keene, N. H. "Absorb-O." (For a Remedy for Diseases of Horses.) No. 15,364; Oct. 18; Gaz. vol. 159; p. 746.
Hurwitz, Albert, Pittsburg, Pa. "Hurwitz's Large Havana Stogies." (For Stogies.) No. 15,372; Oct. 25; Gaz. vol. 159; p. 990.
Huyler's, New York, N. Y. "Chantecler Chocolate Candies." (For Chocolate Candies.) No. 15,353; Oct. 11; Gaz. vol. 159; p. 488.
Huyler's, New York, N. Y. "Salted Peanuts Skyscraper Brand." (For Salted Peanuts.) No. 15,374; Oct. 25; Gaz. vol. 159; p. 990.
John H. Rennard Co., Wheeling, W. Va. "West Virginia Apples." (For Apples.) No. 15,362; Oct. 18; Gaz. vol. 159; p. 746.
Kraner, George A., Marion, Ohio. "The Game Of Uncle Sam." (For a Card Game.) No. 15,345; Oct. 4; Gaz. vol. 159; p. 240.
Kunz, Bertha R., Newark, N. J. "B R K Germicide." (For a Germicide.) No. 15,375; Oct. 25; Gaz. vol. 159; p. 990.
Nelson Bros., Chicago, Ill. "Kleenhanz." (For a Compound for Cleaning the Hands.) No. 15,356; Oct. 11; Gaz. vol. 159; p. 488.
Nichols & Co., Austin, New York, N. Y. "Sunbeam Pure Food." (For Raisins.) No. 15,361; Oct. 18; Gaz. vol. 159; p. 746.
Osborn Paper Company, Marion, Ind. "Royal Exercise Book." (For Writing Books or Tablets.) No. 15,339; Oct. 4; Gaz. vol. 159; p. 240.
Osborn Paper Company, Marion, Ind. "Royal Pen & Pencil Tablet." (For Writing Books or Tablets.) No. 15,365; Oct. 18; Gaz. vol. 159; p. 746.
Osborn Paper Company, Marion, Ind. "Royal Theme Tablet." (For Writing Books or Tablets.) No. 15,366; Oct. 18; Gaz. vol. 159; p. 746.
Osborn Paper Company, Marion, Ind. "Royal Writing Book." (For Writing Books or Tablets.) No. 15,367; Oct. 18; Gaz. vol. 159; p. 746.
Osborn Paper Company, Marion, Ind. "Royal Note Books." (For Writing Note-Books.) No. 15,368; Oct. 18; Gaz. vol. 159; p. 746.
Osborn Paper Company, Marion, Ind. "Royal Composition Book." (For Writing Books or Tablets.) No. 15,369; Oct. 18; Gaz. vol. 159; p. 746.
Osborn Paper Company, Marion, Ind. "School Tablet Royal." (For Writing Books or Tablets.) No. 15,370; Oct. 18; Gaz. vol. 159; p. 746.
Paul F. Beich Co., Bloomington, Ill. "Lady Betty." (For Chocolates.) No. 15,354; Oct. 11; Gaz. vol. 159; p. 488.
Portland Rice Milling Co., Portland, Oreg. "Crystal." (For Rice.) No. 15,354; Oct. 11; Gaz. vol. 159; p. 488.
Reed, George L., Denver, Colo. "Boulder Creamery Butter." (For Butter.) No. 15,351; Oct. 11; Gaz. vol. 159; p. 488.
Reusser, Fritz, New York, N. Y. "Sauce Mignonne." (For Sauces for Foods.) No. 15,360; Oct. 18; Gaz. vol. 159; p. 746.
Schmidt & Co., New York, N. Y. "Flor." (For Cigars.) No. 15,359; Oct. 18; Gaz. vol. 159; p. 746.
Scott Paper Company, Philadelphia, Pa. "Scot Tissue." (For Paper Toweling.) No. 15,355; Oct. 11; Gaz. vol. 159; p. 488.
Sears, Roebuck and Co., Chicago, Ill. "Little Cherub." (For Dolls.) No. 15,340; Oct. 4; Gaz. vol. 159; p. 240.
Sears, Roebuck and Co., Chicago, Ill. "Knock Out." (For Dolls.) No. 15,341; Oct. 4; Gaz. vol. 159; p. 240.
Sears, Roebuck and Co., Chicago, Ill. "Dainty Dorothy." (For Dolls.) No. 15,342; Oct. 4; Gaz. vol. 159; p. 240.
Sears, Roebuck and Co., Chicago, Ill. "Wear Well." (For Dolls.) No. 15,343; Oct. 4; Gaz. vol. 159; p. 240.
Sears, Roebuck and Co., Chicago, Ill. "Tiny Toy." (For Dolls.) No. 15,344; Oct. 4; Gaz. vol. 159; p. 240.
Stone Hill Wine Co., St. Louis, Mo. "Ozark Queen." (For Sweet Scuppernong Wine.) No. 15,373; Oct. 25; Gaz. vol. 159; p. 990.
W. E. Jenkins Cigar Co., Kansas City, Mo. "Charles The Fourth." (For Cigars.) No. 15,350; Oct. 11; Gaz. vol. 159; p. 488.

PRINTS.

American Watch Tool Company, Waltham, Mass. "Webster-Whitcomb Screw Tailstock." (For Screw Tail-Stocks.) No. 2,650; Oct. 11; Gaz. vol. 159; p. 488.
Best & Co., New York, N. Y. "'Best' Snow Pants." (For Boys' Knit Pants.) No. 2,646; Oct. 4; Gaz. vol. 159; p. 240.
Chamberlin Metal Weather Strip Co., Detroit, Mich. "Chamberlin Equipment." (For Metal Weather-Strips.) No. 2,651; Oct. 11; Gaz. vol. 159; p. 488.
Cluett, Peabody & Company, Troy, N. Y. "Margate An Arrow Collar." (For Collars.) No. 2,644; Oct. 4; Gaz. vol. 159; p. 240.
Curtis, William M., Boston, Mass. "Baby's Own Soap." (For Soap.) No. 2,649; Oct. 11; Gaz. vol. 159; p. 488.
Hollpeter, Edward E., Detroit, Mich. "Hello Bill!" (For Cigars.) No. 2,643; Oct. 4; Gaz. vol. 159; p. 240.
Interwoven Stocking Company, New Brunswick, N. J. "Interwoven." (For Hosiery.) No. 2,652; Oct. 25; Gaz. vol. 159; p. 990.
Reckitts (U. S. A.) Ltd., New York, N. Y. "Only A Dip." (For Laundry Bluing.) No. 2,645; Oct. 4; Gaz. vol. 159; p. 240.
Seed Filter & Mfg. Company, New York, N. Y. "Gas Heater." (For Gas-Heaters.) No. 2,653; Oct. 25; Gaz. vol. 159; p. 990.
Washburn Crosby Company, Minneapolis, Minn. "Light Housekeepers." (For Flour.) No. 2,647; Oct. 11; Gaz. vol. 159; p. 488.
Washburn Crosby Company, Minneapolis, Minn. "Baking Fit To Write About." (For Flour.) No. 2,648; Oct. 11; Gaz. vol. 159; p. 488.

DISCLAIMERS.

Jenkins, Merrill L., Harvey, Ill.; disclaimer filed by inventor and assignee, Buda Foundry and Manufacturing Company. Railroad track-car. No. 910,201; disclaimer filed Oct. 13, 1910; Gaz. vol. 159; p. 995.
Mathesius, Alexander H., Brooklyn, N. Y.; disclaimer filed by inventor. Guide-wheel. No. 754,473; disclaimer filed Sept. 24, 1910; Gaz. vol. 159; p. 244.

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED DURING THE MONTH OF OCTOBER, 1910.

[Abbreviations: "Sp."=Monthly Volume of Specifications; "Gaz."=Official Gazette.]

Abdominal supporter. M. W. Ferris. No. 974,045; Oct. 25; Sp. p. 5517; Gaz. vol. 159; p. 956.

Abrading-surface. E. F. Smith. No. 973,986; Oct. 25; Sp. p. 5390; Gaz. vol. 159; p. 936.

Account apparatus, Credit-. J. T. Brooke. No. 972,154; Oct. 11; Sp. p. 1405; Gaz. vol. 159; p. 252.

Acetylene-generator. F. E. Stover. No. 972,285; Oct. 11; Sp. p. 1687; Gaz. vol. 159; p. 297.

Acid, Making hypochlorous. H. V. Walker. No. 972,954; Oct. 18; Sp. p. 3196; Gaz. vol. 159; p. 556.

Adding apparatus. J. W. Alexander. No. 973,905; Oct. 25; Sp. p. 5236; Gaz. vol. 159; p. 907.

Adding-machine. J. A. Toomey. No. 973,727; Oct. 25; Sp. p. 4858; Gaz. vol. 159; p. 845.

Adding-machine, &c., Device for paying out paper to and winding up paper from. J. Elliott. No. 973,018; Oct. 18; Sp. p. 3325; Gaz. vol. 159; p. 578.

Adjustable and quick-acting clamp. I. A. Rommer. No. 972,253; Oct. 11; Sp. p. 1624; Gaz. vol. 159; p. 285.

Adjustable chair. A. N. Hornung. No. 972,859; Oct. 18; Sp. p. 2938; Gaz. vol. 159; p. 521.

Advertising and lighting device, Cigar. H. Miller. No. 973,372; Oct. 18; Sp. p. 4106; Gaz. vol. 159; p. 701.

Advertising device. J. P. Coughlin. No. 973,003; Oct. 18; Sp. p. 3296; Gaz. vol. 159; p. 573.

Advertising device, Moving. S. J. Scott. No. 972,258; Oct. 11; Sp. p. 1632; Gaz. vol. 159; p. 287.

Aeroplane. H. Hartmann and W. Kiehe. No. 971,535; Oct. 4; Sp. p. 50; Gaz. vol. 159; p. 11.

Aeroplane. J. M. Davis. No. 973,632; Oct. 25; Sp. p. 4664; Gaz. vol. 159; p. 811.

Aerophone. L. De Forest. No. 973,644; Oct. 25; Sp. p. 4694; Gaz. vol. 159; p. 815.

Agricultural implement, Electrically-operated. C. Taurman. No. 971,574; Oct. 4; Sp. p. 136; Gaz. vol. 159; p. 25.

Air-brake. J. E. Henris. No. 973,194; Oct. 18; Sp. p. 3741; Gaz. vol. 159; p. 639.

Air brake, Combined automatic and straight-. W. V. Turner. No. 971,806; Oct. 4; Sp. p. 613; Gaz. vol. 159; p. 107.

Air brake, Combined automatic and straight-. W. V. Turner. No. 971,807; Oct. 4; Sp. p. 617; Gaz. vol. 159; p. 108.

Air-brake mechanism. H. T. Ryder and J. P. Johnson. No. 972,027; Oct. 4; Sp. p. 1137; Gaz. vol. 159; p. 191.

Air-brake pressure-regulator. D. H. Downey. No. 972,347; Oct. 11; Sp. p. 1801; Gaz. vol. 159; p. 316.

Air-brake system. A. Doan. No. 973,179; Oct. 18; Sp. p. 3697; Gaz. vol. 159; p. 633.

Air-compressor. A. O. Carpenter. No. 972,161; Oct. 11; Sp. p. 1416; Gaz. vol. 159; p. 254.

Air-compressor. W. L. Crane. No. 972,163; Oct. 11; Sp. p. 1420; Gaz. vol. 159; p. 255.

Air-compressor. J. R. Burrows. No. 972,813; Oct. 18; Sp. p. 2824; Gaz. vol. 159; p. 505.

Air-compressor. G. P. O. Alvergnat. No. 973,739; Oct 25; Sp. p. 4885; Gaz. vol. 159; p. 849.

Air emergency-brake. Straight-. W. V. Turner. No. 971,808; Oct. 4; Sp. p. 620; Gaz. vol. 159; p. 108.

Air-exhaust mechanism, Hydraulic. J. W. Thomas. No. 972,039; Oct. 4; Sp. p. 1161; Gaz. vol. 159; p. 195.

Air-filter. C. Guntrum. No. 972,183; Oct. 11; Sp. p. 1467; Gaz. vol. 159; p. 261.

Air-filter. C. Guntrum. No. 972,184; Oct. 11; Sp. p. 1468; Gaz. vol. 159; p. 262.

Air-spring. A. Sharp. No. 973,223; Oct. 18; Sp. p. 3793; Gaz. vol. 159; p. 649.

Airship mechanism, Captive. V. C. de Ybarrondo. No. 973,398; Oct. 18; Sp. p. 4158; Gaz. vol. 159; p. 709.

Alarm: *See* Automatic alarm; Burglar-alarm; Fire-alarm; Vessel-loading alarm.

Alarm system, Electrical. F. Castle. No. 973,627; Oct. 25; Sp. p. 4653; Gaz. vol. 159; p. 809.

Alloy and making same. L. C. Dodd. No. 971,669; Oct. 4; Sp. p. 334; Gaz. vol. 159; p. 59.

Alloy, Antifriction. J. R. Stratton. No. 972,786; Oct. 11; Sp. p. 2759; Gaz. vol. 159; p. 469.

Ammonium salts from gas, Obtaining. K. Burkheiser. No. 973,164; Oct. 18; Sp. p. 3661; Gaz. vol. 159; p. 628.

Amusement apparatus. P. Wintermute. No. 972,310; Oct. 11; Sp. p. 1737; Gaz. vol. 159; p. 305.

Amusement apparatus. G. A. Budge. No. 972,750; Oct. 11; Sp. p. 2694; Gaz. vol. 159; p. 458.

Amusement apparatus. W. P. Chamberlain, Jr. No. 973,105; Oct. 18; Sp. p. 3509; Gaz. vol. 159; p. 606.

Amusement device. A. A. Brengel. No. 973,618; Oct. 25; Sp. p. 4631; Gaz. vol. 159; p. 805.

Anchor, Ground-. J. Wilcox. No. 972,306; Oct. 11; Sp. p. 1731; Gaz. vol. 159; p. 303.

Angle-bracket. L. Lilley. No. 973,674; Oct. 25; Sp. p. 4758; Gaz. vol. 159; p. 827.

Animal-shears. J. D. Scovel. No. 971,931; Oct. 4; Sp. p. 920; Gaz. vol. 159; p. 156.

Animal-trap. J. F. Draper. No. 971,530; Oct. 4; Sp. p. 39; Gaz. vol. 159; p. 9.

Animal-trap. R. E. Riday. No. 973,213; Oct. 18; Sp. p. 3778; Gaz. vol. 159; p. 646.

Animals, Apparatus for applying solutions to. F. B. Dresback and E. M. Reckards. No. 974,042; Oct. 25; Sp. p. 5512; Gaz. vol. 159; p. 955.

Annunciator. A. Lungen. No. 973,676; Oct. 25; Sp. p. 4761; Gaz. vol. 159; p. 827.

Antenna. R. H. Marriott. No. 972,004; Oct. 4; Sp. p. 1090; Gaz. vol. 159; p. 183.

Antiskidding device. F. A. Ruff. No. 973,976; Oct. 25; Sp. p. 5358; Gaz. vol. 159; p. 932.

Antiskidding device for automobiles. A. Hormel. No. 972,766; Oct. 11; Sp. p. 2723; Gaz. vol. 159; p. 463.

Applicator. A. D. Foster. No. 972,686; Oct. 11; Sp. p. 2554; Gaz. vol. 159; p. 435.

Arches, Skewback for hollow-tile. H. L. Hinton. No. 971,749; Oct. 4; Sp. p. 505; Gaz. vol. 159; p. 88.

Asbestos mold. G. H. Brabrook. No. 972,990; Oct. 18; Sp. p. 3270; Gaz. vol. 159; p. 569.

Ash-box. E. F. Jones and C. A. Barnes. No. 971,845; Oct 4; Sp. p. 702; Gaz. vol. 159; p. 123.

Ash can or barrel. M. Froesé. No. 973,029; Oct. 18; Sp. p. 3363; Gaz. vol. 159; p. 582.

Athletic grounds, Cover for. J. L. O'Donnell. No. 974,091; Oct. 25; Sp. p. 5604; Gaz. vol. 159; p. 971.

Auger. J. Frahlich. No. 972,611; Oct. 11; Sp. p. 2403; Gaz. vol. 159; p. 410.

Auger apparatus. M. E. Miller. No. 972,392; Oct. 11; Sp. p. 1899; Gaz. vol. 159; p. 333.

Auger-deflector. G. H. Miller. No. 973,537; Oct. 25; Sp. p. 4460; Gaz. vol. 159; p. 779.

Auger, Post-hole. G. M. Fenn. No. 971,880; Oct. 4; Sp. p. 782; Gaz. vol. 159; p. 136.

Autocar-wheel. R. Kronenberg. No. 974,081; Oct. 25; Sp. p. 5584; Gaz. vol. 159; p. 968.

Automatic alarm. E. G. Halvorsen. No. 973,425; Oct. 18; Sp. p. 4217; Gaz. vol. 159; p. 718.

Automatic brake. C. L. Taylor. No. 971,937; Oct. 4; Sp. p. 931; Gaz. vol. 159; p. 158.

Automobile. J. B. Bartholomew. No. 973,251; Oct. 18; Sp. p. 3845; Gaz. vol. 159; p. 658.

Automobile attachment. S. H. Martin. No. 971,768; Oct. 4; Sp. p. 539; Gaz. vol. 159; p. 94.

Automobile attachment. O. F. Neff. No. 972,020; Oct. 4; Sp. p. 1121; Gaz. vol. 159; p. 188.

Automobile attachment. G. H. Chandlee. No. 973,856; Oct. 25; Sp. p. 5120; Gaz. vol. 159; p. 889.

Automobile dust-pan. W. H. Mullins. No. 971,550; Oct. 4; Sp. p. 85; Gaz. vol. 159; p. 16.

Automobile-horn. A. V. Piskorski. No. 971,635; Oct. 4; Sp. p. 265; Gaz. vol. 159; p. 47.

Automobile, Steam-. R. H. White. No. 971,810; Oct. 4; Sp. p. 624; Gaz. vol. 159; p. 109.

Automobile steering-wheels, Locking device for. D. J. Elliott and W. W. Reilly. No. 972,605; Oct. 11; Sp. p. 2392; Gaz. vol. 159; p. 408.

Automobile-timer. W. S. Jones. No. 974,069; Oct. 25; Sp. p. 5565; Gaz. vol. 159; p. 964.

Automobile-tonneaus, Detachable and knockdown folding seat for. A. Winton and H. B. Anderson. No. 972,046; Oct. 4; Sp. p. 1170; Gaz. vol. 159; p. 197.

Automobile-wheels, Armor for. V. L. Béked. No. 972,322; Oct. 11; Sp. p. 1764; Gaz. vol. 159; p. 308.

Automobiles and like machines, Starting device for. R. D. Stryker. No. 973,232; Oct. 18; Sp. p. 3815; Gaz. vol. 159; p. 652.

Automobiles, Lever-lock for. H. Hood. No. 972,193; Oct. 11; Sp. p. 1487; Gaz. vol. 159; p. 264.
Automobiles, Safety-brake and lock-switch mechanism for electric. O. P. Fritchle. No. 972,845; Oct. 18; Sp. p. 2902; Gaz. vol. 159; p. 516.
Awl, Needle-. C. A. Carlson. No. 971,663; Oct. 4; Sp. p. 317; Gaz. vol. 159; p. 57.
Axle-lubricator. J. L. Masters. No. 972,006; Oct. 4; Sp. p. 1004; Gaz. vol. 159; p. 183.
Badge. H. Hesselbarth. No. 973,041; Oct. 18; Sp. p. 3382; Gaz. vol. 159; p. 586.
Bag: *See* Nose-bag.
Bag-cleaner. W. Scott. No. 974,096; Oct. 25; Sp. p. 5612; Gaz. vol. 159; p. 973.
Bag-fastener. C. Illering and A. Fuller. No. 972,765; Oct. 11; Sp. p. 2721; Gaz. vol. 159; p. 463.
Bag-holder. E. P. Kendall. No. 973,355; Oct. 18; Sp. p. 4057; Gaz. vol. 159; p. 694.
Bag-holder. C. L. Eastham. No. 973,414; Oct. 18; Sp. p. 4197; Gaz. vol. 159; p. 714.
Bail ear, Pail and bucket. T. Jerolaman. No. 971,678; Oct. 4; Sp. p. 354; Gaz. vol. 159; p. 62.
Bail, Well-bucket. F. D. Walpole. No. 972,663; Oct. 11; Sp. p. 2517; Gaz. vol. 159; p. 428.
Bait, Artificial. F. W. Breder and J. H. Loyd. No. 972,748; Oct. 11; Sp. p. 2691; Gaz. vol. 159; p. 457.
Bait, Artificial. G. H. Garrison. No. 974,050; Oct. 25; Sp. p. 5523; Gaz. vol. 159; p. 958.
Bale-box. J. N. Wood. No. 971,948; Oct. 4; Sp. p. 967; Gaz. vol. 159; p. 162.
Bale-box. J. N. Wood. No. 971,952; Oct. 4; Sp. p. 978; Gaz. vol. 159; p. 164.
Baling apparatus. J. N. Wood. No. 971,951; Oct. 4; Sp. p. 976; Gaz. vol. 154; p. 163.
Baling device. J. N. Wood. No. 971,947; Oct. 4; Sp. p. 966; Gaz. vol. 159; p. 162.
Baling-press. H. J. Hanson. No. 971,606; Oct. 4; Sp. p. 214; Gaz. vol. 159; p. 37.
Baling-press. G. E. Jackson. No. 971,616; Oct. 4; Sp. p. 231; Gaz. vol. 159; p. 41.
Baling-press. J. N. Wood. No. 971,949; Oct. 4; Sp. p. 970; Gaz. vol. 159; p. 162.
Baling-press. J. N. Wood. No. 971,950; Oct. 4; Sp. p. 973; Gaz. vol. 159; p. 163.
Baling-press. U. F. Luebben. No. 972,884; Oct. 18; Sp. p. 2999; Gaz. vol. 159; p. 531.
Baling-press. C. E. Wehrenberg. No. 973,151; Oct. 18; Sp. p. 3620; Gaz. vol. 159; p. 624.
Ball: *See* Golf-ball.
Ball-and-socket joint. F. A. Dillingham. No. 973,635; Oct. 25; Sp. p. 4674; Gaz. vol. 159; p. 812.
Ballast-unloader. W. Ferris. No. 972,070; Oct. 4; Sp. p. 1212; Gaz. vol. 159; p. 205.
Bandage, Ear-. K. Berthel. No. 973,158; Oct. 18; Sp. p. 3637; Gaz. vol. 159; p. 626.
Banjo-bridge. E. L. Grima. No. 974,053; Oct. 25; Sp. p. 5527; Gaz. vol. 159; p. 958.
Bar: *See* Chisel-bar; Grate-bar; Harrow draw-bar.
Barge. R. J. Donovan. No. 973,860; Oct. 25; Sp. p. 5129; Gaz. vol. 159; p. 891.
Barium chlorid and strontium chlorid for producing chlorin and hydroxid of the said metals, Treating. A. Clemm. No. 973,171; Oct. 18; Sp. p. 3634; Gaz. vol. 159; p. 631.
Bark-rossing device. C. Friedlund. No. 973,494; Oct. 25; Sp. p. 4372; Gaz. vol. 159; p. 765.
Barrel. W. L. Ward. No. 972,664; Oct. 11; Sp. p. 2518; Gaz. vol. 159; p. 428.
Barrel-sanding apparatus. H. F. Marten and H. Grahn. No. 973,059; Oct. 18; Sp. p. 3419; Gaz. vol. 159; p. 692.
Barrel, Sheet-metal. H. W. Avery and W. S. Judd. No. 972,797; Oct. 18; Sp. p. 2790; Gaz. vol. 159; p. 498.
Bath apparatus, Shower-. G. Winters. No. 972,589; Oct. 11; Sp. p. 2366; Gaz. vol. 159; p. 403.
Batteries, Vent-tube for storage. M. Ekströmer. No. 971,737; Oct. 4; Sp. p. 481; Gaz. vol. 159; p. 83.
Battery: *See* Fuse-battery.
Battery-carrier. V. G. Apple. No. 971,876; Oct. 4; Sp. p. 776; Gaz. vol. 159; p. 135.
Battery circuit controller and tester, Storage-. H. N. Motsinger. No. 972,210; Oct. 11; Sp. p. 1520; Gaz. vol. 159; p. 271.
Battery tank system. F. A. Decker. No. 971,597; Oct. 4; Sp. p. 187; Gaz. vol. 159; p. 34.
Bearing, Antifriction-. E. C. Chatham. No. 973,170; Oct. 18; Sp. p. 3632; Gaz. vol. 159; p. 631.
Bearing, Spindle step-. D. N. Wild. No. 972,743; Oct. 11; Sp. p. 2684; Gaz. vol. 159; p. 455.
Beater, Rotary. J. H. Pearson. No. 973,554; Oct. 25; Sp. p. 4494; Gaz. vol. 159; p. 784.
Bed. A. F. Crandall. No. 972,099; Oct. 4; Sp. p. 1261; Gaz. vol. 159; p. 214.
Bed. L. R. Frye. No. 973,108; Oct. 18; Sp. p. 3518; Gaz. vol. 159; p. 608.
Bed-bottom. H. D. Swelnhagen and F. A. Theobald. No. 973,233; Oct. 18; Sp. p. 3818; Gaz. vol. 159; p. 652.
Bed-bottom, Spring. J. Fath, A. Beleznay, and J. Liptak. No. 972,040; Oct. 4; Sp. p. 1162; Gaz. vol. 159; p. 195.
Bed, Folding. L. B. Jeffcott. No. 972,537; Oct. 11; Sp. p. 2226; Gaz. vol. 159; p. 385.
Bed for invalids. A. F. Crandall. No. 972,100; Oct. 4; Sp. p. 1264; Gaz. vol. 159; p. 214.
Bed-frame construction. F. I. Gould. No. 973,349; Oct. 18; Sp. p. 4048; Gaz. vol. 159; p. 693.
Bed or couch. W. J. Grotenhuis. No. 973,778; Oct. 25; Sp. p. 4963; Gaz. vol. 159; p. 863.
Bed-spring-supporting frame. W. F. Weppner. No. 971,867; Oct. 4; Sp. p. 762; Gaz. vol. 159; p. 132.
Bed-strap. J. S. Sallinger. No. 973,977; Oct. 25; Sp. p. 5360; Gaz. vol. 159; p. 933.
Bed, table, and seat, Folding. G. A. Swanson. No. 972,484; Oct. 11; Sp. p. 2093; Gaz. vol. 159; p. 364.
Bed, Wall-. H. A. Javins. No. 974,065; Oct. 25; Sp. p. 5556; Gaz. vol. 159; p. 963.
Beds, Folding crib attachment for. T. R. Kemper. No. 973,430; Oct. 18; Sp. p. 4242; Gaz. vol. 159; p. 722.
Beds, Leg-mounting for uptilting. N. C. Merrill. No. 972,462; Oct. 11; Sp. p. 2040; Gaz. vol. 159; p. 357.
Bedclothes-holder. J. Campbell. No. 972,159; Oct. 11; Sp. p. 1414; Gaz. vol. 159; p. 254.
Bedstead, Sofa-. M. Thomson. No. 972,293; Oct. 11; Sp. p. 1701; Gaz. vol. 159; p. 299.
Bee-hiving device. Z. A. Roberts and J. D. Hartwick. No. 973,702; Oct. 25; Sp. p. 4811; Gaz. vol. 159; p. 836.
Beer-carbonating device. N. Ludwig. No. 972,883; Oct. 18; Sp. p. 2996; Gaz. vol. 159; p. 530.
Beer filtration, Equalizing device for. F. Turek. No. 973,087; Oct. 18; Sp. p. 3475; Gaz. vol. 159; p. 600.
Beer-reclaimer. J. H. Champ. No. 973,757; Oct. 25; Sp. p. 4916; Gaz. vol. 159; p. 855.
Beet-flume cover. J. R. Lees. No. 973,442; Oct. 18; Sp. p. 4245; Gaz. vol. 159; p. 723.
Belt-stretcher. C. Cyr. No. 973,008; Oct. 18; Sp. p. 3306; Gaz. vol. 159; p. 575.
Belt support and shifter, Driving-. R. W. Walker. No. 972,955; Oct. 18; Sp. p. 3197; Gaz. vol. 159; p. 556.
Belt, Supporting-. M. E. Williams. No. 971,940; Oct. 4; Sp. p. 965; Gaz. vol. 159; p. 162.
Belt, Waist-. D. Marinsky. No. 971,766; Oct. 4; Sp. p. 537; Gaz. vol. 159; p. 94.
Bench: *See* Piano-bench; Plant-bench.
Bench-dog, Adjustable. J. Fletcher. No. 972,610; Oct. 11; Sp. p. 2401; Gaz. vol. 159; p. 410.
Bending-machine. J. H. Kimbell. No. 973,279; Oct. 18; Sp. p. 3899; Gaz. vol. 159; p. 667.
Berry-box. P. Henrich. No. 972,606; Oct. 11; Sp. p. 2575; Gaz. vol. 159; p. 438.
Berth for infants, Collapsible. W. J. Temple. No. 972,732; Oct. 11; Sp. p. 2666; Gaz. vol. 159; p. 452.
Bicycle-fork. J. Schmidt. No. 973,219; Oct. 18; Sp. p. 3789; Gaz. vol. 159; p. 647.
Bicycle-shade. L. and J. Cooper. No. 972,063; Oct. 4; Sp. p. 1203; Gaz. vol. 159; p. 203.
Bicycle shock-absorbing attachment. C. A. Redmond. No. 973,071; Oct. 18; Sp. p. 3438; Gaz. vol. 159; p. 595.
Bicycle steering device. R. P. Noble. No. 973,806; Oct. 25; Sp. p. 5019; Gaz. vol. 159; p. 872.
Bicycles, Pivoted lug for the back forks of. C. M. Cosset. No. 972,510; Oct. 11; Sp. p. 2162; Gaz. vol. 159; p. 375.
Bill-fold. I. Barnett. No. 972,494; Oct. 11; Sp. p. 2119; Gaz. vol. 159; p. 369.
Billet-piercing machine. J. D. Adams. No. 971,512; Oct. 4; Sp. p. 1; Gaz. vol. 159; p. 3.
Billiard-cue rack. R. B. Spikes. No. 972,277; Oct. 11; Sp. p. 1672; Gaz. vol. 159; p. 294.
Bin: *See* Knockdown bin.
Bin. F. J. McMenamin. No. 973,368; Oct. 18; Sp. p. 4093; Gaz. vol. 159; p. 699.
Binder, Loose-leaf. O. R. Mayer and J. W. Schoettle. No. 973,528; Oct. 25; Sp. p. 4441; Gaz. vol. 159; p. 776.
Binder, Loose-leaf. K. J. Sarles and T. E. Heeter. No. 973,707; Oct. 25; Sp. p. 4821; Gaz. vol. 159; p. 838.
Binder, Loose-leaf. H. G. Fornoff and H. C. Klages. No. 973,932; Oct. 25; Sp. p. 5280; Gaz. vol. 159; p. 917.
Binder, Temporary. A. D. Ray. No. 971,926; Oct. 4; Sp. p. 890; Gaz. vol. 159; p. 154.
Binder, Temporary. L. M. Morden and L. R. Hitchcock. No. 973,452; Oct. 18; Sp. p. 4266; Gaz. vol. 159; p. 727.
Binder, Temporary. L. M. Morden and L. R. Hitchcock. No. 973,453; Oct. 18; Sp. p. 4269; Gaz. vol. 159; p. 727.
Binders and the like, Seal-lock for loose-leaf. A. H. Chadwick. No. 972,817; Oct. 18; Sp. p. 2836; Gaz. vol. 159; p. 506.
Binding-post. A. F. Wallbillich. No. 973,898; Oct. 25; Sp. p. 5223; Gaz. vol. 159; p. 905.
Biscuit-cutter. J. Hartmann. No. 973,192; Oct. 18; Sp. p. 3738; Gaz. vol. 159; p. 638.
Biscuits, Manufacture of cup, cornet, and like. T. O. Bates. No. 972,985; Oct. 18; Sp. p. 3258; Gaz. vol. 159; p. 567.
Bit: *See* Bridle-bit; Rock-drilling bit; Under-bit.
Bit-holder. W. C. Fox. No. 972,179; Oct. 11; Sp. p. 1452; Gaz. vol. 159; p. 259.
Blade-holding means. C. E. Sweet. No. 972,411; Oct. 11; Sp. p. 1942; Gaz. vol. 159; p. 341.
Blade-tie. D. H. Dugar. No. 973,639; Oct. 25; Sp. p. 4686; Gaz. vol. 159; p. 814.
Blades with soft centers, Making. O. A. Clark. No. 972,436; Oct. 11; Sp. p. 1988; Gaz. vol. 159; p. 349.
Blind-fastener. E. L. Pratt. No. 971,789; Oct. 4; Sp. p. 584; Gaz. vol. 159; p. 102.
Block: *See* Building-block; Engraver's block; Pulley-block.
Block-signal mechanism, Electrically-operated. R. A. Streeter. No. 972,660; Oct. 11; Sp. p. 2512; Gaz. vol. 159; p. 427.
Blower and exhauster, Rotary. T. W. Green. No. 973,100; Oct. 18; Sp. p. 3733; Gaz. vol. 159; p. 638.

Blower, Rotary pressure-. P. D. Brewster. No. 971,660; Oct. 4; Sp. p. 311; Gaz. vol. 159; p. 56.
Blowpipe. J. H. Flower. No. 972,759; Oct. 11; Sp. p. 2710; Gaz. vol. 159; p. 461.
Board: *See* Game-board; Ironing-board; Music-instruction board.
Boat apparatus, Life-. A. Brun. No. 972,809; Oct. 18; Sp. p. 2812; Gaz. vol. 159; p. 503.
Boat-balancing device. F. Nielson. No. 972,398; Oct. 11; Sp. p. 1912; Gaz. vol. 159; p. 336.
Boat-canopy. R. L. Kenyon. No. 974,072; Oct. 25; Sp. p. 5560; Gaz. vol. 159; p. 965.
Boat equipped with submerging-planes, Submarine. L. Y. Spear. No. 973,227; Oct. 18; Sp. p. 3804; Gaz. vol. 159; p. 650.
Boiler: *See* Evaporation-boiler; Steam-boiler; Superheater-boiler; Vertical boiler; Washboiler; Water-tube boiler.
Boiler. L. C. Rhea. No. 971,561; Oct. 4; Sp. p. 111; Gaz. vol. 159; p. 21.
Boiler. A. G. Sherman. No. 972,580; Oct. 11; Sp. p. 2342; Gaz. vol. 159; p. 400.
Boiler-crown-sheet-cleaning device. W. D. Randall. No. 973,069; Oct. 18; Sp. p. 3435; Gaz. vol. 159; p. 595.
Boiler-flue cleaner. R. O. Hodge. No. 972,374; Oct. 11; Sp. p. 1857; Gaz. vol. 159; p. 326.
Boiler-flue, Detachable. J. M. Crozier. No. 972,164; Oct. 11; Sp. p. 1421; Gaz. vol. 159; p. 255.
Boiler-flue, Detachable. O. C. Borgen. No. 973,471; Oct. 25; Sp. p. 4316; Gaz. vol. 159; p. 757.
Boiler-furnace Steam-. A. H. Hausler. No. 971,996; Oct. 4; Sp. p. 1077; Gaz. vol. 159; p. 180.
Boiler-scale preventer. J. W. Stephens. No. 973,989; Oct. 25; Sp. p. 5400; Gaz. vol. 159; p. 936.
Boiler-sediment remover, Steam-. M. Huffman. No. 974,064; Oct. 25; Sp. p. 5555; Gaz. vol. 159; p. 962.
Boiler water-glass. L. J. Bordo. No. 973,337; Oct. 18; Sp. p. 4024; Gaz. vol. 159; p. 688.
Boilers and conserving the heat energy therein, Apparatus for recovering blow-off products from. H. L. Winslow. No. 973,603; Oct. 25; Sp. p. 4587; Gaz. vol. 159; p. 800.
Boilers and the like, Rack for. W. C. Leonard. No. 972,879; Oct. 18; Sp. p. 2983; Gaz. vol. 159; p. 528.
Boilers, Automatic water-controller for. C. E. Lindgren. No. 974,085; Oct. 25; Sp. p. 5590; Gaz. vol. 159; p. 969.
Bolling-cap. W. E. Lummus. No. 973,795; Oct. 25; Sp. p. 4996; Gaz. vol. 159; p. 869.
Bolster. H. T. Krakau. No. 972,768; Oct. 11; Sp. p. 2726; Gaz. vol. 159; p. 464.
Bolt: *See* Door-bolt; Expansion-bolt; Locking-bolt; Railway-track bolt.
Bolts, nuts, &c., Means for protecting. A. Adam. No. 972,140; Oct. 4; Sp. p. 1354; Gaz. vol. 159; p. 228.
Bone-burner. V. O. Ritchay and F. W. Resselman. No. 972,023; Oct. 4; Sp. p. 1126; Gaz. vol. 159; p. 189.
Book and newspaper holder. M. J. Johnson. No. 974,067; Oct. 25; Sp. p. 5561; Gaz. vol. 159; p. 963.
Book, Check-. C. W. Simpson. No. 973,810; Oct. 18; Sp. p. 3962; Gaz. vol. 159; p. 678.
Book, Manifolding record-. E. Z. Lewis. No. 972,550; Oct. 11; Sp. p. 2255; Gaz. vol. 159; p. 389.
Book, Manifolding sales-. E. K. Bottle. No. 973,746; Oct. 25; Sp. p. 4803; Gaz. vol. 159; p. 851.
Book or pad, Manifolding. B. C. Maxwell. No. 973,527; Oct. 25; Sp. p. 4439; Gaz. vol. 159; p. 775.
Book or pad, Manifolding. B. C. Maxwell. No. 974,102; Oct. 25; Sp. p. 5622; Gaz. vol. 159; p. 975.
Bookbinder's gining-press. J. Giesecke, B. F. Nebergall, and G. F. Oheim. No. 972,617; Oct. 11; Sp. p. 2422; Gaz. vol. 159; p. 413.
Bookkeeper's loose-sheet holder. A. O. Krieger. No. 971,542; Oct. 4; Sp. p. 69; Gaz. vol. 159; p. 14.
Boot and shoe. H. H. Schwartz. No. 973,077; Oct. 18; Sp. p. 3447; Gaz. vol. 159; p. 597.
Boot and shoe protector setting machine. H. W. Winter. No. 973,604; Oct. 25; Sp. p. 4598; Gaz. vol. 159; p. 801.
Boots by means of spring-buttons, System for closing. L. J. M. Delaveau. No. 973,012; Oct. 18; Sp. p. 3314; Gaz. vol. 159; p. 576.
Boring-machine. J. W. Ogle. No. 973,136; Oct. 18; Sp. p. 3583; Gaz. vol. 159; p. 618.
Bottle and lamp-chimney cleaner. P. Buck. No. 973,911; Oct. 25; Sp. p. 5245; Gaz. vol. 159; p. 909.
Bottle-brushing machine. J. W. Dawson. No. 973,178; Oct. 18; Sp. p. 3695; Gaz. vol. 159; p. 633.
Bottle-filling machine. C. L. Bastian. No. 971,962; Oct. 4; Sp. p. 1014; Gaz. vol. 159; p. 168.
Bottle for adhesive liquids. N. C. Phillips. No. 973,066; Oct. 18; Sp. p. 3433; Gaz. vol. 159; p. 594.
Bottle, Non-refillable. J. Missall and A. Sommer. No. 971,916; Oct. 4; Sp. p. 872; Gaz. vol. 159; p. 150.
Bottle, Non-refillable. J. T. Bluff. No. 972,004; Oct. 4; Sp. p. 1254; Gaz. vol. 159; p. 213.
Bottle, Non-refillable. J. Wiberg. No. 972,423; Oct. 11; Sp. p. 1964; Gaz. vol. 159; p. 345.
Bottle, Non-refillable. I. B. Solomon. No. 972,780; Oct. 11; Sp. p. 2746; Gaz. vol. 159; p. 467.
Bottle, Non-refillable. E. B. Barner. No. 973,099; Oct. 18; Sp. p. 3501; Gaz. vol. 159; p. 604.
Bottle, Non-refillable. W. B. Powell. No. 973,070; Oct. 25; Sp. p. 5347; Gaz. vol. 159; p. 930.
Bottle-stopper. A. C. Appleton. No. 972,492; Oct. 11; Sp. p. 2112; Gaz. vol. 159; p. 368.
Bottle-stopper. A. C. Appleton. No. 972,493; Oct. 11; Sp. p. 2115; Gaz. vol. 159; p. 368.
Bottle-stopper. E. S. Church. No. 972,508; Oct. 11; Sp. p. 2153; Gaz. vol. 159; p. 373.
Bottle-stopper. E. L. Beck. No. 973,616; Oct. 25; Sp. p. 4628; Gaz. vol. 159; p. 805.
Bottles, &c., Screw-closure for. A. Wilzin. No. 973,897; Oct. 18; Sp. p. 4156; Gaz. vol. 159; p. 709.
Bouquet-holder. C. Muir. No. 971,774; Oct. 4; Sp. p. 552; Gaz. vol. 159; p. 96.
Bowling-alley, Portable. J. E. Noonan. No. 972,568; Oct. 11; Sp. p. 2311; Gaz. vol. 159; p. 396.
Box: *See* Ash-box; Bale-box; Berry-box; Folding box; Ice-box; Knockdown box; Match-box; Packing-box; Shuttle-box; Stuffing-box; Valve-core box.
Box. W. C. Heller. No. 972,449; Oct. 11; Sp. p. 2015; Gaz. vol. 159; p. 353.
Box. J. Torango. No. 973,321; Oct. 18; Sp. p. 3987; Gaz. vol. 159; p. 682.
Box. C. F. A. Eddy. No. 973,927; Oct. 25; Sp. p. 5271; Gaz. vol. 159; p. 914.
Box-fastener. F. R. Prescott. No. 971,790; Oct. 4; Sp. p. 586; Gaz. vol. 159; p. 102.
Brace-waist, Combination. E. M. Clewell. No. 971,524; Oct. 4; Sp. p. 28; Gaz. vol. 159; p. 7.
Bracelet and the like. G. Widenmeyer. No. 973,601; Oct. 25; Sp. p. 4583; Gaz. vol. 159; p. 800.
Bracket: *See* Angle-bracket; Ironing-board bracket; Ladder-bracket; Lamp-bracket; Scaffold-bracket; Shade-bracket; Wagon-bracket.
Braid. R. C. Rahm. No. 972,718; Oct. 11; Sp. p. 2634; Gaz. vol. 159; p. 447.
Braiding-machine. G. Donat. No. 973,637; Oct. 25; Sp. p. 4678; Gaz. vol. 159; p. 813.
Brake: *See* Air-brake; Air emergency-brake; Automatic brake; Car-brake; Clutch-brake; Electric brake; Magnetic brake; Wagon-brake.
Brake-adjuster, Automatic. J. S. Washburn. No. 974,004; Oct. 25; Sp. p. 5434; Gaz. vol. 159; p. 942.
Brake-adjuster, Automatic. J. S. Washburn. No. 974,005; Oct. 25; Sp. p. 5435; Gaz. vol. 159; p. 942.
Brake-block holder, Adjustable vehicle-. L. J. Badgley. No. 974,012; Oct. 25; Sp. p. 5454; Gaz. vol. 159; p. 945.
Brake mechanism, Hand-. C. H. Anderson. No. 973,097; Oct. 18; Sp. p. 3499; Gaz. vol. 159; p. 604.
Brake pipes, Crossover connection for fluid-pressure-. J. A. Hicks. No. 973,043; Oct. 18; Sp. p. 3385; Gaz. vol. 159; p. 586.
Brake-shoe. C. A. Malcolm. No. 972,202; Oct. 11; Sp. p. 1507; Gaz. vol. 159; p. 288.
Brake-shoe machine. F. K. Caswell. No. 973,169; Oct. 18; Sp. p. 3676; Gaz. vol. 159; p. 630.
Brake-shoe machine, Automatic. F. K. Caswell. No. 973,167; Oct. 18; Sp. p. 3667; Gaz. vol. 159; p. 629.
Brake-shoes, Making. F. K. Caswell. No. 973,168; Oct. 18; Sp. p. 3673; Gaz. vol. 159; p. 630.
Brake systems, Crossover connection for fluid-pressure-. J. A. Hicks. No. 973,042; Oct. 18; Sp. p. 3383; Gaz. vol. 159; p. 586.
Breeching, A. Short. No. 971,695; Oct. 4; Sp. p. 380; Gaz. vol. 159; p. 67.
Brick-kiln. R. C. Penfield and F. S. Naugle. No. 972,570; Oct. 11; Sp. p. 2315; Gaz. vol. 159; p. 397.
Brick-kiln and process of burning bricks. W. H. Francis. No. 972,524; Oct. 11; Sp. p. 2201; Gaz. vol. 159; p. 380.
Brick-press off-bearing attachment. W. R. Cunningham. No. 973,411; Oct. 18; Sp. p. 4186; Gaz. vol. 159; p. 713.
Brick, tile, and building-blocks, Press for making. G. Hoffman. No. 972,375; Oct. 11; Sp. p. 1861; Gaz. vol. 159; p. 326.
Bricks, Molding. H. Schulte-Steinberg. No. 971,693; Oct. 4; Sp. p. 378; Gaz. vol. 159; p. 67.
Bridge-floor. T. E. Stockford. No. 972,482; Oct. 11; Sp. p. 2091; Gaz. vol. 159; p. 364.
Bridle-bit. L. Y. Janes. No. 973,276; Oct. 18; Sp. p. 3895; Gaz. vol. 159; p. 667.
Brooder. J. A. Connolly. No. 973,174; Oct. 18; Sp. p. 3689; Gaz. vol. 159; p. 632.
Brooder. N. D. Ford. No. 973,420; Oct. 18; Sp. p. 4207; Gaz. vol. 159; p. 716.
Broom-corn knife. G. W. Hanson. No. 972,187; Oct. 11; Sp. p. 1477; Gaz. vol. 159; p. 263.
Brush. C. Z. McKinney. No. 972,011; Oct. 4; Sp. p. 1103; Gaz. vol. 159; p. 185.
Brush. R. J. Montgomery. No. 972,898; Oct. 18; Sp. p. 3049; Gaz. vol. 159; p. 537.
Brush. J. L. Hitz. No. 973,865; Oct. 25; Sp. p. 5140; Gaz. vol. 159; p. 893.
Brush-cleaner for sleeves and bolters. W. D. and J. G. Anderson. No. 971,715; Oct. 4; Sp. p. 425; Gaz. vol. 159; p. 74.
Brush holder, Tooth-. E. L. Smith. No. 973,311; Oct. 18; Sp. p. 3964; Gaz. vol. 159; p. 678.
Brush, Toilet-. G. L. Street, Jr. No. 972,483; Oct. 11; Sp. p. 2092; Gaz. vol. 159; p. 364.
Buckle. M. Schwartz. No. 971,604; Oct. 4; Sp. p. 379; Gaz. vol. 159; p. 67.
Buckle, Cross-line. F. Knobel. No. 971,759; Oct. 4; Sp. p. 525; Gaz. vol. 159; p. 91.
Buckle-fastening. E. M. Chapman. No. 973,918; Oct. 25; Sp. p. 5257; Gaz. vol. 159; p. 912.
Buckle for bale-ties. D. E. Eddleman and J. E. Armstrong. No. 972,834; Oct. 18; Sp. p. 2877; Gaz. vol. 159; p. 512.
Buffer. J. W. Campbell. No. 971,970; Oct. 4; Sp. p. 1027; Gaz. vol. 159; p. 171.
Buffing and polishing machine. A. B. Nutting. No. 973,135; Oct. 18; Sp. p. 3580; Gaz. vol. 159; p. 618.

Buffing-machine. A. B. Fowler. No. 972,843; Oct. 18; Sp. p. 2897; Gaz. vol. 159; p. 515.
Bug-destroying device. A. Lima. No. 973,359; Oct. 18; Sp. p. 4064; Gaz. vol. 159; p. 696.
Buggy-bow rest. J. A. Stafford. No. 973,718; Oct. 25; Sp. p. 4846; Gaz. vol. 159; p. 843.
Building-block. H. Hradilek. No. 973,785; Oct. 25; Sp. p. 4976; Gaz. vol. 159; p. 865.
Building-block mold, Hollow-. J. C. Vreeland. No. 973,323; Oct. 18; Sp. p. 3990; Gaz. vol. 159; p. 683.
Building-frame structure, Composite. R. H. Robinson. No. 973,814; Oct. 25; Sp. p. 5034; Gaz. vol. 159; p. 875.
Building-frame structure, Composite. R. H. Robinson. No. 973,815; Oct. 25; Sp. p. 5035; Gaz. vol. 159; p. 875.
Building material. W. E. Brock. No. 971,967; Oct. 4; Sp. p. 1023; Gaz. vol. 159; p. 170.
Bundling-machine. R. C. Lowry and L. F. Winter. No. 972,389; Oct. 11; Sp. p. 1891; Gaz. vol. 159; p. 322.
Bunk-dog. B. Tucker. No. 972,041; Oct. 4; Sp. p. 1163; Gaz. vol. 159; p. 196.
Burglar-alarm. G. H. Chappell. No. 971,729; Oct. 4; Sp. p. 465; Gaz. vol. 159; p. 80.
Burglar-alarm. L. Myers. No. 971,776; Oct. 4; Sp. p. 554; Gaz. vol. 159; p. 97.
Burglar-alarm, Repeating. E. Allen. No. 971,813; Oct. 4; Sp. p. 630; Gaz. vol. 159; p. 110.
Burner: *See* Bone-burner; Gas-burner; Hydrocarbon-burner; Lamp-burner; Liquid-fuel burner; Oil-burner.
Burnishing-machine. W. G. Dalton. No. 974,032; Oct. 25; Sp. p. 5492; Gaz. vol. 159; p. 952.
Button, Bachelor-. E. V. Winston. No. 972,309; Oct. 11; Sp. p. 1736; Gaz. vol. 159; p. 305.
Button, Cuff-. J. L. Hersog. No. 973,864; Oct. 25; Sp. p. 5139; Gaz. vol. 159; p. 893.
Cabinet, Commodity-. J. H. Boye. No. 972,499; Oct. 11; Sp. p. 2127; Gaz. vol. 159; p. 370.
Cabinet, Label and ticket. C. W. De Laney. No. 972,683; Oct. 11; Sp. p. 2548; Gaz. vol. 159; p. 434.
Cable-traction system for shiftable endless tracks. A. Anrep. No. 971,654; Oct. 4; Sp. p. 301; Gaz. vol. 159; p. 54.
Cables, Automatic clutch and releasing mechanism for. A. J. Dunton. No. 972,685; Oct. 11; Sp. p. 2551; Gaz. vol. 159; p. 435.
Calcium-cyanamid powder, Granulating commercial. A. D'Ercole. No. 973,019; Oct. 18; Sp. p. 3327; Gaz. vol. 159; p. 578.
Calculating-machine. L. T. Fite. No. 972,072; Oct. 4; Sp. p. 1218; Gaz. vol. 159; p. 206.
Calculating-machine. J. Graber. No. 972,360; Oct. 11; Sp. p. 1833; Gaz. vol. 159; p. 322.
Camera, Photographic. R. Goldstein. No. 973,272; Oct. 18; Sp. p. 3888; Gaz. vol. 159; p. 665.
Cameras, Flash-light attachment for photographic. W. H. Wallace. No. 972,410; Oct. 11; Sp. p. 1950; Gaz. vol. 159; p. 344.
Can: *See* Ash-can; Oil-can.
Can and cooker, Combined. F. P. White. No. 972,304; Oct. 11; Sp. p. 1726; Gaz. vol. 159; p. 303.
Can-cover-locking device, Milk-. M. B. Burley. No. 973,624; Oct. 25; Sp. p. 4644; Gaz. vol. 159; p. 808.
Can lock, Milk-. L. Hofer. No. 972,000; Oct. 4; Sp. p. 1083; Gaz. vol. 159; p. 182.
Can lock, Milk-. H. H. Hambry and G. McCans. No. 972,853; Oct. 18; Sp. p. 2921; Gaz. vol. 159; p. 519.
Can lock, Milk-. F. Fülöp and S. Nagy. No. 973,271; Oct. 18; Sp. p. 3886; Gaz. vol. 159; p. 665.
Can receptacle, Sanitary garbage-. R. S. Darling. No. 971,731; Oct. 4; Sp. p. 474; Gaz. vol. 159; p. 82.
Can-shearing machine. C. Cosby. No. 972,828; Oct. 18; Sp. p. 2858; Gaz. vol. 159; p. 510.
Canning device. N. Barrett. No. 972,800; Oct. 18; Sp. p. 2797; Gaz. vol. 159; p. 500.
Candy-making apparatus. R. W. H. Crabb. No. 972,511; Oct. 11; Sp. p. 2163; Gaz. vol. 159; p. 375.
Cane loader, Sugar-. T. J. Howard. No. 973,433; Oct. 18; Sp. p. 4231; Gaz. vol. 159; p. 720.
Canopy, Ventilating-. J. N. Moody. No. 972,207; Oct. 11; Sp. p. 1516; Gaz. vol. 159; p. 270.
Car. J. E. Ward. No. 971,579; Oct. 4; Sp. p. 146; Gaz. vol. 159; p. 27.
Car. F. S. Ingoldsby. No. 973,788; Oct. 25; Sp. p. 4980; Gaz. vol. 159; p. 866.
Car and truck, Railway. E. W. Summers. No. 972,280; Oct. 11; Sp. p. 1690; Gaz. vol. 159; p. 297.
Car automatic danger-signal and intermittently illuminating-advertiser, Electric-. A. May. No. 972,007; Oct. 4; Sp. p. 1095; Gaz. vol. 159; p. 184.
Car, Automatic dumping-. B. L. Worthen. No. 974,009; Oct. 25; Sp. p. 5447; Gaz. vol. 159; p. 944.
Car-body construction. W. R. McKeen, Jr. No. 973,366; Oct. 18; Sp. p. 4085; Gaz. vol. 159; p. 698.
Car-brake. I. D. Morrison and L. J. Andrews. No. 972,899; Oct. 18; Sp. p. 3051; Gaz. vol. 159; p. 537.
Car-brake. R. M. Fox. No. 973,933; Oct. 25; Sp. p. 5284; Gaz. vol. 159; p. 917.
Car bumper mechanism, Railway-. R. D. Gallagher, Jr. No. 971,985; Oct. 4; Sp. p. 1058; Gaz. vol. 159; p. 177.
Car closure, Dump-. J. W. Moore. No. 972,013; Oct. 4; Sp. p. 1116; Gaz. vol. 159; p. 187.
Car-coupling. F. C. Reynolds. No. 971,640; Oct. 4; Sp. p. 274; Gaz. vol. 159; p. 49.
Car coupling, Railway-. R. D. Gallagher, Jr. No. 971,882; Oct. 4; Sp. p. 785; Gaz. vol. 159; p. 137.
Car-door. A. J. Ricker. No. 973,701; Oct. 25; Sp. p. 4809; Gaz. vol. 159; p. 836.
Car-door fastener. J. J. Acker. No. 972,978; Oct. 18; Sp. p. 3243; Gaz. vol. 159; p. 564.
Car door, Freight-. J. Wirkus. No. 973,244; Oct. 18; Sp. p. 3834; Gaz. vol. 159; p. 656.
Car, Dump-. G. A. Razowsky. No. 973,208; Oct. 18; Sp. p. 3767; Gaz. vol. 159; p. 644.
Car, Dump-. G. A. Rakowsky. No. 973,209; Oct. 18; Sp. p. 3771; Gaz. vol. 159; p. 644.
Car, Dump-. G. A. Rakowsky. No. 973,208; Oct. 18; Sp. p. 3773; Gaz. vol. 159; p. 645.
Car, Dump-. A. Campbell. No. 973,753; Oct. 25; Sp. p. 4904; Gaz. vol. 159; p. 853.
Car, Dump-. F. Seaberg. No. 974,097; Oct. 25; Sp. p. 5614; Gaz. vol. 159; p. 973.
Car, Dumping-. J. M. Goodwin. No. 971,603; Oct. 4; Sp. p. 203; Gaz. vol. 159; p. 36.
Car-frame. W. R. McKeen, Jr. No. 972,467; Oct. 11; Sp. p. 2047; Gaz. vol. 159; p. 359.
Car grain-door. E. E. A. Martin. No. 973,660; Oct. 18; Sp. p. 3421; Gaz. vol. 159; p. 592.
Car grain-door, Freight-. W. K. Lavis. No. 971,621; Oct. 4; Sp. p. 242; Gaz. vol. 159; p. 43.
Car grain-door, Freight-. H. W. Drew. No. 973,486; Oct. 25; Sp. p. 4353; Gaz. vol. 159; p. 761.
Car-haul. P. W. Holstein and G. C. Horst. No. 971,614; Oct. 4; Sp. p. 228; Gaz. vol. 159; p. 40.
Car-indicator. W. D. Baldwin and A. Sundh. No. 973,334; Oct. 18; Sp. p. 4016; Gaz. vol. 159; p. 687.
Car life-guard, Railway-. W. Torrens. No. 973,393; Oct. 18; Sp. p. 4149; Gaz. vol. 159; p. 707.
Car lock, Dump-. A. C. Stansill, C. H. Doty, and F. W. Hubbard. No. 973,229; Oct. 18; Sp. p. 3809; Gaz. vol. 159; p. 651.
Car, Passenger-. C. R. Seiser. No. 973,884; Oct. 25; Sp. p. 5184; Gaz. vol. 159; p. 900.
Car, Railway track-. M. L. Jenkins. No. 973,664; Oct. 25; Sp. p. 4741; Gaz. vol. 159; p. 823.
Car roller side bearing, Railway-. J. F. O'Connor. No. 972,902; Oct. 18; Sp. p. 3056; Gaz. vol. 159; p. 538.
Car-roof. H. Stillman. No. 973,888; Oct. 25; Sp. p. 5196; Gaz. vol. 159; p. 902.
Car safety-guard, Railway-. J. and J. B. Nelson and G. C. Hanks. No. 972,632; Oct. 11; Sp. p. 2460; Gaz. vol. 159; p. 418.
Car-seat. F. M. Billhime. No. 971,822; Oct. 4; Sp. p. 648; Gaz. vol. 159; p. 114.
Car-seat. C. W. H. Frederick. No. 971,983; Oct. 4; Sp. p. 1050; Gaz. vol. 159; p. 176.
Car-step, Extension. B. Smith and G. Shivadecker. No. 973,714; Oct. 25; Sp. p. 4840; Gaz. vol. 159; p. 841.
Car-steps, Means for operating. S. M. Curwen. No. 973,261; Oct. 18; Sp. p. 3865; Gaz. vol. 159; p. 661.
Car, Stock-. J. C. Jones. No. 974,068; Oct. 25; Sp. p. 5563; Gaz. vol. 159; p. 964.
Car structure. W. R. McKeen, Jr. No. 972,708; Oct. 11; Sp. p. 2601; Gaz. vol. 159; p. 443.
Car-unloader. T. Lightbody. No. 972,700; Oct. 11; Sp. p. 2580; Gaz. vol. 159; p. 440.
Car-ventilating device, Sleeping-. E. Davis. No. 973,413; Oct. 18; Sp. p. 4195; Gaz. vol. 159; p. 714.
Car-ventilator. A. A. Kempski. No. 973,518; Oct. 25; Sp. p. 4412; Gaz. vol. 159; p. 771.
Car-wheel-casting mold. J. K. Grimth. No. 971,604; Oct. 4; Sp. p. 210; Gaz. vol. 159; p. 37.
Car-wheel-casting mold. J. K. Grimth. No. 971,605; Oct. 4; Sp. p. 211; Gaz. vol. 159; p. 37.
Car-wheel lathe. C. G. Draeseke. No. 972,348; Oct. 11; Sp. p. 1804; Gaz. vol. 159; p. 317.
Car-window. E. H. Harriman and W. R. McKeen, Jr. No. 973,502; Oct. 25; Sp. p. 4388; Gaz. vol. 159; p. 767.
Cars and electric-railway carriages, Device for braking tram-. C. Degoumois. No. 972,514; Oct. 11; Sp. p. 2182; Gaz. vol. 159; p. 377.
Cars and the like, Spare wheel for motor-. G. Huysmans. No. 972,080; Oct. 4; Sp. p. 1232; Gaz. vol. 159; p. 200.
Cars, Compressed-air system for railway-. O. Johnson. No. 971,896; Oct. 4; Sp. p. 832; Gaz. vol. 159; p. 143.
Cars, Device to fasten grain-doors in freight-. C. R. Frye. No. 972,688; Oct. 11; Sp. p. 2562; Gaz. vol. 159; p. 436.
Carbon brushes, Pigtail connection for. W. Shaw. No. 972,267; Oct. 11; Sp. p. 1652; Gaz. vol. 159; p. 290.
Carbonized fabric. F. L. Horton. No. 972,110; Oct. 4; Sp. p. 1288; Gaz. vol. 159; p. 217.
Carburetor. G. M. Schebler. No. 971,680; Oct. 4; Sp. p. 371; Gaz. vol. 159; p. 65.
Carburetor. G. M. Schebler. No. 971,862; Oct. 4; Sp. p. 751; Gaz. vol. 159; p. 130.
Carburetor. P. Daniel. No. 973,262; Oct. 18; Sp. p. 3867; Gaz. vol. 159; p. 661.
Carburetor. J. G. Williams. No. 973,602; Oct. 25; Sp. p. 4584; Gaz. vol. 159; p. 800.
Carburetor. W. C. Carter. No. 973,755; Oct. 25; Sp. p. 4933; Gaz. vol. 159; p. 854.
Carburetor. P. C. Cannou. No. 973,855; Oct. 25; Sp. p. 5118; Gaz. vol. 159; p. 889.
Carburetor. B. N. Pierce. No. 973,877; Oct. 25; Sp. p. 5170; Gaz. vol. 159; p. 898.
Carburetor. W. F. Rothe. No. 973,882; Oct. 25; Sp. p. 5181; Gaz. vol. 159; p. 900.
Carburetor. W. E. Haines. No. 973,937; Oct. 25; Sp. p. 5288; Gaz. vol. 159; p. 918.

Carbureter. P. Daniel. No. 974,033; Oct. 25; Sp. p. 5494; Gaz. vol. 159; p. 953.
Carbureter. F. L. Kingston. No. 974,076; Oct. 25; Sp. p. 5573; Gaz. vol. 159; p. 966.
Cards, Playing-. W. A. Hammett. No. 972,371; Oct. 11; Sp. p. 1852; Gaz. vol. 159; p. 325.
Carousel. C. Figge and A. Zebro. No. 973,184; Oct. 18; Sp. p. 3723; Gaz. vol. 159; p. 636.
Carpet-beater. A. E. Bennett and J. H. Hunter. No. 973,847; Oct. 25; Sp. p. 5106; Gaz. vol. 159; p. 887.
Carpet lining and pad, Stair-. J. H. Beale. No. 971,819; Oct. 4; Sp. p. 640; Gaz. vol. 159; p. 113.
Carriage, Cableway-. S. A. Cooney. No. 972,825; Oct. 18; Sp. p. 2851; Gaz. vol. 159; p. 509.
Carrier: *See* Battery-carrier; Elevated carrier; Hay-carrier.
Carriers, Automatic dumping device for elevated. J. D. Austin. No. 973,247; Oct. 18; Sp. p. 3838; Gaz. vol. 159; p. 656.
Carrying-register. S. C. Lauber. No. 972,546; Oct. 11; Sp. p. 2247; Gaz. vol. 159; p. 388.
Cart, Collapsible. J. Weber, Jr. No. 972,740; Oct. 11; Sp. p. 2679; Gaz. vol. 159; p. 454.
Cartridge-shell-feeding machine. H. D. Hodge. No. 971,999; Oct. 4; Sp. p. 1081; Gaz. vol. 159; p. 181.
Case: *See* Display-case; Fruit-case; Nail or screw case; Pocket-case; Shipping-case; Thermometer-case; Violin-case.
Casing and tubing hook. P. J. Townsell. No. 972,416; Oct. 11; Sp. p. 1953; Gaz. vol. 159; p. 342.
Casing-perforator. J. C. Swan. No. 973,994; Oct. 25; Sp. p. 5416; Gaz. vol. 159; p. 939.
Cash-register. W. L. Spangler. No. 973,577; Oct. 25; Sp. p. 4534; Gaz. vol. 159; p. 792.
Cash-register. T. Carroll. No. 973,754; Oct. 25; Sp. p. 4907; Gaz. vol. 159; p. 854.
Caster, Furniture-. B. P. Kenyon. No. 972,871; Oct. 18; Sp. p. 2906; Gaz. vol. 159; p. 525.
Caster-socket. B. P. Kenyon. No. 973,514; Oct. 25; Sp. p. 4413; Gaz. vol. 159; p. 771.
Caster tubular axle. B. P. Kenyon. No. 973,515; Oct. 25; Sp. p. 4414; Gaz. vol. 159; p. 771.
Casting apparatus, Pipe-. F. Herbert. No. 972,107; Oct. 4; Sp. p. 1276; Gaz. vol. 159; p. 216.
Casting fluid metal, Art of and apparatus for. H. H. Doehler. No. 973,483; Oct. 25; Sp. p. 4339; Gaz. vol. 159; p. 760.
Casting ingots. W. H. Connell. No. 971,832; Oct. 4; Sp. p. 670; Gaz. vol. 159; p. 118.
Casting-machine, Centrifugal. J. M. Allen. No. 971,957; Oct. 4; Sp. p. 998; Gaz. vol. 159; p. 166.
Castings, Manufacturing hollow. W. Kurze. No. 972,875; Oct. 18; Sp. p. 2977; Gaz. vol. 159; p. 527.
Catamenial garment. S. M. Taylor. No. 972,288; Oct. 11; Sp. p. 1696; Gaz. vol. 159; p. 298.
Cattle-guard. C. P. Reed. No. 974,092; Oct. 25; Sp. p. 5606; Gaz. vol. 159; p. 971.
Cellulose ester and treating same. H. S. Mork. No. 972,464; Oct. 11; Sp. p. 2043; Gaz. vol. 159; p. 358.
Cement-mold, Adjustable. W. H. Miller. No. 972,015; Oct. 4; Sp. p. 1111; Gaz. vol. 159; p. 186.
Cement roofing-tile. W. E. Lindau. No. 973,946; Oct. 25; Sp. p. 5305; Gaz. vol. 159; p. 921.
Centrifugal machine. G. ter Meer. No. 973,121; Oct. 18; Sp. p. 3538; Gaz. vol. 159; p. 612.
Centrifugal separator. F. J. Babcock. No. 973,248; Oct. 18; Sp. p. 3830; Gaz. vol. 159; p. 657.
Chain, Drive-. J. T. Wayson, Jr. No. 973,242; Oct. 18; Sp. p. 3831; Gaz. vol. 159; p. 655.
Chain-link. J. M. Dodge. No. 973,922; Oct. 25; Sp. p. 5263; Gaz. vol. 159; p. 913.
Chair: *See* Adjustable chair; Folding chair; Lineman's chair; Reclining-chair; Rocking-chair.
Chair. J. A. Wilkinson. No. 972,487; Oct. 11; Sp. p. 2100; Gaz. vol. 159; p. 366.
Chair auxiliary seat. G. W. Riebe. No. 972,472; Oct. 11; Sp. p. 2073; Gaz. vol. 159; p. 361.
Chair fan attachment. D. J. Ely. No. 973,267; Oct. 18; Sp. p. 3878; Gaz. vol. 159; p. 663.
Chalk-holder. H. C. Brunst and L. R. Roland. No. 972,187; Oct. 11; Sp. p. 1410; Gaz. vol. 159; p. 253.
Chandelier, Extensible electric-light. C. C. Kennedy. No. 971,899; Oct. 4; Sp. p. 839; Gaz. vol. 159; p. 144.
Channel ribbon, Making. J. D. Wilson. No. 972,067; Oct 18; Sp. p. 3222; Gaz. vol. 159; p. 560.
Char-revivifying kiln. R. S. Kent. No. 972,002; Oct. 4; Sp. p. 1086; Gaz. vol. 159; p. 182.
Check, Manifolding salesman's. E. Z. Lewis. No. 972,551; Oct. 11; Sp. p. 2257; Gaz. vol. 159; p. 389.
Check-protector, Pocket. F. S. George. No. 971,601; Oct. 4; Sp. p. 201; Gaz. vol. 159; p. 36.
Check, Sales-. E. Z. Lewis. No. 972,549; Oct. 11; Sp. p. 2253; Gaz. vol. 159; p. 389.
Cheese-cutter. H. Bick. No. 973,849; Oct. 25; Sp. p. 5108; Gaz. vol. 159; p. 887.
Chill. J. B. Baird. No. 972,429; Oct. 11; Sp. p. 1975; Gaz. vol. 159; p. 346.
Chimney-cap. J. C. Rothbarth. No. 973,139; Oct. 18; Sp. p. 3589; Gaz. vol. 159; p. 619.
Chimney-holder. L. Sparks. No. 972,275; Oct. 11; Sp. p. 1665; Gaz. vol. 159; p. 293.
Chimney, Non-breakable reticulated. W. P. Pinel. No. 972,640; Oct. 11; Sp. p. 2474; Gaz. vol. 159; p. 421.
Chimneys and for obtaining draft with bad chimneys, Device for increasing the draft of. G. Geesseke. No. 972,847; Oct. 18; Sp. p. 2905; Gaz. vol. 159; p. 517.
Chimneys, Construction of. A. W. Fletcher. No. 973,023; Oct. 18; Sp. p. 3349; Gaz. vol. 159; p. 580.
Chisel-bar. R. P. Penrod. No. 971,924; Oct. 4; Sp. p. 888; Gaz. vol. 159; p. 158.
Chlorhydrins and making same. H. V. Walker. No. 972,952; Oct. 18; Sp. p. 3190; Gaz. vol. 159; p. 555.
Chopper: *See* Cotton-chopper; Stalk-chopper.
Chuck. E. R. Sibert. No. 973,985; Oct. 25; Sp. p. 5387; Gaz. vol. 159; p. 935.
Chuck, Drill-. A. Knapp. No. 971,901; Oct. 4; Sp. p. 841; Gaz. vol. 159; p. 144.
Chuck, Drill-. J. A. Dalton. No. 973,345; Oct. 18; Sp. p. 4040; Gaz. vol. 159; p. 691.
Chuck for machine-work. H. O. Evans. No. 971,979; Oct. 4; Sp. p. 1043; Gaz. vol. 159; p. 174.
Chuck-removing device. A. W. Schramm. No. 972,575; Oct. 11; Sp. p. 2326; Gaz. vol. 159; p. 399.
Churn. L. E. and L. E. Marsh. No. 972,556; Oct. 11; Sp. p. 2265; Gaz. vol. 159; p. 391.
Churn-dasher. O. M. Cornwell. No. 972,827; Oct. 18; Sp. p. 2856; Gaz. vol. 159; p. 510.
Chute, Feed-. J. J. W. Kenan. No. 972,454; Oct. 11; Sp. p. 2026; Gaz. vol. 159; p. 355.
Cigar. F. J. Cuda. No. 972,601; Oct. 11; Sp. p. 2387; Gaz. vol. 159; p. 407.
Cigar. S. Gessler. No. 973,497; Oct. 25; Sp. p. 4377; Gaz. vol. 159; p. 766.
Cigar-banding machine. O. Hammerstein. No. 972,185; Oct. 11; Sp. p. 1469; Gaz. vol. 159; p. 262.
Cigar-holder. G. Wolff. No. 972,970; Oct. 18; Sp. p. 3227; Gaz. vol. 159; p. 561.
Cigar-lighter. J. W. Burnett. No. 972,811; Oct. 18; Sp. p. 2818; Gaz. vol. 159; p. 504.
Cigar screen and absorber. F. Acker. No. 972,428; Oct. 11; Sp. p. 1974; Gaz. vol. 159; p. 346.
Cigarette machinery. E. Fugibet. No. 973,698; Oct. 25; Sp. p. 4806; Gaz. vol. 159; p. 835.
Cigarettes and the like, Mouthpiece for. J. W. Surbrug. No. 973,890; Oct. 25; Sp. p. 5190; Gaz. vol. 159; p. 902.
Circuit-breaker. J. C. Dow. No. 973,924; Oct. 25; Sp. p. 5266; Gaz. vol. 159; p. 913.
Circuit-closer for electromagnetic apparatus, Thermic. G. White. No. 972,964; Oct. 18; Sp. p. 3215; Gaz. vol. 159; p. 559.
Circuit-closing device. L. R. Saunders. No. 973,818; Oct. 25; Sp. p. 5042; Gaz. vol. 159; p. 876.
Circuit-controller. W. A. Atwood. No. 973,613; Oct. 25; Sp. p. 4622; Gaz. vol. 159; p. 804.
Circuit-interrupter. F. W. Harris. No. 973,938; Oct. 25; Sp. p. 5292; Gaz. vol. 159; p. 918.
Clamp: *See* Adjustable and quick-acting clamp; Ground-clamp; Hose-clamp; Molder's clamp; Saw-clamp; Stove-pipe-clamp; Table-clamp; Trough-clamp.
Clamping device. A. Hansen. No. 976,654; Oct. 25; Sp. p. 4715; Gaz. vol. 159; p. 820.
Clamping mechanism. J. C. Meloon. No. 971,771; Oct. 4; Sp. p. 545; Gaz. vol. 159; p. 96.
Clasp. A. T. Van Alstyn. No. 973,147; Oct. 18; Sp. p. 3610; Gaz. vol. 159; p. 622.
Clasp. A. T. Van Alstyn. No. 973,148; Oct. 18; Sp. p. 3612; Gaz. vol. 159; p. 623.
Clasp or buckle. G. P. Spangler. No. 972,937; Oct. 18; Sp. p. 3155; Gaz. vol. 159; p. 550.
Clay-screen. J. A. Lawlor. No. 973,441; Oct. 18; Sp. p. 4244; Gaz. vol. 159; p. 723.
Cleaner: *See* Bag-cleaner; Boiler-flue cleaner; Bottle and lamp-chimney cleaner; Brush-cleaner; Dish-cleaner; Fruit-cleaner; Rail-cleaner; Ship-hull cleaner; Tube-cleaner; Vacuum-cleaner.
Cleaning and separating machine. A. T. Hedfeldt. No. 971,608; Oct. 4; Sp. p. 217; Gaz. vol. 159; p. 38.
Cleaning device. W. J. Bergens. No. 971,518; Oct. 4; Sp. p. 16; Gaz. vol. 159; p. 5.
Clevis. M. Cassidy. No. 972,998; Oct. 18; Sp. p. 3283; Gaz. vol. 159; p. 571.
Clipper, Fruit and flower. J. B. Tuttle. No. 972,417; Oct. 11; Sp. p. 1954; Gaz. vol. 159; p. 343.
Clipper, Motor-driven hair-. E. F. Ponath. No. 973,696; Oct. 25; Sp. p. 4800; Gaz. vol. 159; p. 834.
Clock. J. J. Busenbenz. No. 973,854; Oct. 25; Sp. p. 5116; Gaz. vol. 159; p. 888.
Closet: *See* Water-closet.
Closet-seat buffer attachment. J. C. Cleis. No. 972,820; Oct. 18; Sp. p. 2844; Gaz. vol. 159; p. 507.
Cloth-finishing machine. R. T. Todd and R. B. Batty. No. 971,575; Oct. 4; Sp. p. 138; Gaz. vol. 159; p. 26.
Cloth-pilling machine. W. M. Swerdlove. No. 973,891; Oct. 25; Sp. p. 5200; Gaz. vol. 159; p. 903.
Clothes-drier. T. J. Yates and P. R. Peterson. No. 972,590; Oct. 11; Sp. p. 2367; Gaz. vol. 159; p. 404.
Clothes-drying frame. E. R. Greiner. No. 974,052; Oct. 25; Sp. p. 5526; Gaz. vol. 159; p. 958.
Clothes-line prop. C. L. Jones. No. 973,666; Oct. 25; Sp. p. 4746; Gaz. vol. 159; p. 824.
Clothes-line reel. J. C. Poorman. No. 972,238; Oct. 11; Sp. p. 1594; Gaz. vol. 159; p. 280.
Clothes-line reel. F. Eiche. No. 973,266; Oct. 18; Sp. p. 3877; Gaz. vol. 159; p. 663.
Cluster-socket. D. Holden. No. 973,199; Oct. 18; Sp. p. 3751; Gaz. vol. 159; p. 640.

Clutch. P. English. No. 973,767; Oct. 25; Sp. p. 4939; Gaz. vol. 159; p. 859.
Clutch. H. W. Lloyd. No. 974,086; Oct. 25; Sp. p. 5392; Gaz. vol. 159; p. 969.
Clutch-brake. C. M. Foss. No. 973,187; Oct. 18; Sp. p. 3730; Gaz. vol. 159; p. 637.
Clutch for hoists, Back-motion. H. W. Israel. No. 972,451; Oct. 11; Sp. p. 2019; Gaz. vol. 159; p. 354.
Clutch, Friction driving-. A. R. Le Moon. (Reissue.) No. 12,161; Oct. 25; Sp. p. 5634; Gaz. vol. 159; p. 977.
Clutch mechanism. J. Harding, Jr. No. 972,693; Oct. 11; Sp. p. 2571; Gaz. vol. 159; p. 437.
Clutch, Multiple-disk friction-. J. A. McGee. No. 974,101; Oct. 25; Sp. p. 5621; Gaz. vol. 159; p. 974.
Coat and hat hook, Wire. A. G. Brewer. No. 972,501; Oct. 11; Sp. p. 2133; Gaz. vol. 159; p. 371.
Coating apparatus. H. J. Potter. No. 972,239; Oct. 11; Sp. p. 1596; Gaz. vol. 159; p. 281.
Coating apparatus. F. E. Goldsmith. No. 973,649; Oct. 25; Sp. p. 4702; Gaz. vol. 159; p. 817.
Coating or facing molds. G. H. Brabrook. No. 972,325; Oct. 11; Sp. p. 1758; Gaz. vol. 159; p. 309.
Cock. D. Craig. No. 974,027; Oct. 25; Sp. p. 5432; Gaz. vol. 159; p. 950.
Cock attachment, Bath-. E. D. Snodgrass. No. 973,143; Oct. 18; Sp. p. 3301; Gaz. vol. 159; p. 621.
Cock, Ball-. A. A. Carson. No. 972,331; Oct. 11; Sp. p. 1769; Gaz. vol. 159; p. 311.
Cock, Gage-. J. V. Scaife. No. 973,074; Oct. 18; Sp. p. 3443; Gaz. vol. 159; p. 590.
Coffee-pot. C. Pearce. No. 971,781; Oct. 4; Sp. p. 567; Gaz. vol. 159; p. 99.
Coffee-pot. R. L. Ramey. No. 972,915; Oct. 18; Sp. p. 3094; Gaz. vol. 159; p. 543.
Coffin-mold. W. H. Biswell. No. 973,910; Oct. 25; Sp. p. 5243; Gaz. vol. 159; p. 909.
Coil. A. Voegtle, H. C. Lea, and R. H. Voegtle. No. 972,950; Oct. 18; Sp. p. 3189; Gaz. vol. 159; p. 555.
Coin-controlled apparatus. J. H. McBride. No. 973,364; Oct. 18; Sp. p. 4074; Gaz. vol. 159; p. 697.
Coin-controlled mechanism. R. B. Craig and A. Coffman. No. 973,763; Oct. 25; Sp. p. 4931; Gaz. vol. 159; p. 858.
Coin-controlled mechanism. G. H. Davis. No. 974,035; Oct. 25; Sp. p. 5498; Gaz. vol. 159; p. 953.
Coin counting and wrapping mechanism. P. Hochgürtel. No. 973,658; Oct. 25; Sp. p. 4727; Gaz. vol. 159; p. 821.
Coin-register. C. Schmidt. No. 973,981; Oct. 25; Sp. p. 5368; Gaz. vol. 159; p. 934.
Coin-selector. G. C. Reith and G. F. Flade. No. 973,302; Oct. 18; Sp. p. 3943; Gaz. vol. 159; p. 675.
Coke-ovens, Operating retort. A. F. Hilleke. No. 973,044; Oct. 18; Sp. p. 3387; Gaz. vol. 159; p. 586.
Coke, Treatment of. B. Ely and A. Roilason. No. 972,352; Oct. 11; Sp. p. 1818; Gaz. vol. 159; p. 319.
Collar. F. H. Stacey. No. 971,700; Oct. 4; Sp. p. 396; Gaz. vol. 159; p. 69.
Collar and cuff folding machine. G. Reece. No. 972,916; Oct. 18; Sp. p. 3096; Gaz. vol. 159; p. 543.
Collar attachment for harness. N. A. Nissen. No. 973,293; Oct. 18; Sp. p. 3930; Gaz. vol. 159; p. 673.
Collar, Automatic spring take-up. C. H. McLaughlin. No. 972,216; Oct. 11; Sp. p. 1559; Gaz. vol. 159; p. 273.
Column. C. C. Barrick. No. 973,615; Oct. 25; Sp. p. 4626; Gaz. vol. 159; p. 804.
Comb: *See* Self-cleaning comb.
Comb. J. F. Lynch. No. 973,361; Oct. 18; Sp. p. 4066; Gaz. vol. 159; p. 606.
Commutator-truing machine. O. E. Hunt. No. 971,753; Oct. 4; Sp. p. 513; Gaz. vol. 159; p. 89.
Compass, Beam-. T. F. Hannan. No. 972,106; Oct. 4; Sp. p. 1275; Gaz. vol. 159; p. 216.
Composing-machines, Apparatus for effecting separation of matrices and space-bars in typographical. C. Mnehleisen. No. 973,454; Oct. 18; Sp. p. 4272; Gaz. vol. 159; p. 728.
Composition of matter. E. E. Blackman. No. 972,801; Oct. 18; Sp. p. 2799; Gaz. vol. 159; p. 500.
Compound. W. L. O'Bryant. No. 973,549; Oct. 25; Sp. p. 4479; Gaz. vol. 159; p. 783.
Compressible tube. T. C. Booth. No. 972,095; Oct. 4; Sp. p. 1255; Gaz. vol. 159; p. 213.
Computing and recording machine. W. H. McFarland. No. 973,883; Oct. 25; Sp. p. 4773; Gaz. vol. 159; p. 830.
Computing device. S. M. Boling. No. 973,403; Oct. 18; Sp. p. 4174; Gaz. vol. 159; p. 711.
Concrete-block machine. J. S. Minton. No. 973,288; Oct. 18; Sp. p. 3916; Gaz. vol. 159; p. 670.
Concrete construction. J. E. Conzelman. No. 971,665; Oct. 4; Sp. p. 319; Gaz. vol. 159; p. 57.
Concrete construction. R. C. Hansell. No. 973,501; Oct. 25; Sp. p. 4386; Gaz. vol. 159; p. 767.
Concrete construction, Metallic reinforce for. D. A. Wedmore. No. 972,961; Oct. 18; Sp. p. 3208; Gaz. vol. 159; p. 558.
Concrete-mixing machine. J. Miller. No. 973,549; Oct. 25; Sp. p. 4471; Gaz. vol. 159; p. 781.
Concrete pit for wagon-scales, Reinforced-. G. Jones. No. 971,758; Oct. 4; Sp. p. 523; Gaz. vol. 159; p. 91.
Concrete post for clothes-lines. T. H. Laurent. No. 971,904; Oct. 4; Sp. p. 844; Gaz. vol. 159; p. 145.
Concrete, Removable supporting-form for. J. B. Blaw. No. 972,802; Oct. 18; Sp. p. 2800; Gaz. vol. 159; p. 500.
Concrete-retaining wall. J. B. Blaw. No. 972,803; Oct. 18; Sp. p. 2802; Gaz. vol. 159; p. 501.
Concrete-slab construction. J. R. Cahill. No. 973,165; Oct. 18; Sp. p. 3664; Gaz. vol. 159; p. 629.
Concrete work, Anchorage for. H. L. Weber. No. 973,828; Oct. 25; Sp. p. 5064; Gaz. vol. 159; p. 880.
Condenser, Electrical. W. W. Dean. No. 971,667; Oct. 4; Sp. p. 330; Gaz. vol. 159; p. 58.
Condenser, Electrolytic. E. E. F. Creighton. No. 974,029; Oct. 25; Sp. p. 5487; Gaz. vol. 159; p. 951.
Conduits, Laying. C. Cahn and E. Seeberger. No. 973,752; Oct. 25; Sp. p. 4903; Gaz. vol. 159; p. 853.
Controlling apparatus. N. Werle. No. 974,006; Oct. 25; Sp. p. 5437; Gaz. vol. 159; p. 942.
Controlling mechanism. G. E. Turner. No. 972,296; Oct. 11; Sp. p. 1706; Gaz. vol. 159; p. 300.
Converter. W. J. Murphy and A. E. Culley. No. 972,564; Oct. 11; Sp. p. 2290; Gaz. vol. 159; p. 395.
Conveyer. C. D. Seeberger. No. 972,475; Oct. 11; Sp. p. 2079; Gaz. vol. 159; p. 362.
Conveyer. C. D. Seeberger. No. 973,079; Oct. 18; Sp. p. 3449; Gaz. vol. 159; p. 598.
Conveyer. J. M. Dodge. No. 973,921; Oct. 25; Sp. p. 5262; Gaz. vol. 159; p. 912.
Conveyer-chain cleat attachment. C. W. Morgan and C. L. Rice. No. 973,686; Oct. 25; Sp. p. 4785; Gaz. vol. 159; p. 831.
Conveyer-cleat. W. Jones. No. 972,608; Oct. 11; Sp. p. 2578; Gaz. vol. 159; p. 439.
Conveyer, Screening-. U. Wedge. No. 973,597; Oct. 25; Sp. p. 4576; Gaz. vol. 159; p. 798.
Conveyers, Bucket attachment for. F. B. Ball. No. 972,317; Oct. 11; Sp. p. 1745; Gaz. vol. 159; p. 306.
Conveying system. W. R. Cunningham. No. 973,007; Oct. 18; Sp. p. 3303; Gaz. vol. 159; p. 574.
Cooking apparatus. L. R. Davis. No. 972,603; Oct. 11; Sp. p. 2389; Gaz. vol. 159; p. 408.
Cooking utensil. J. Bryers. No. 971,727; Oct. 4; Sp. p. 463; Gaz. vol. 159; p. 79.
Cooler and soda-fountain construction. G. W. and H. A. Wise. No. 972,137; Oct. 4; Sp. p. 1343; Gaz. vol. 159; p. 227.
Cooling-tower. E. Burhorn. No. 973,163; Oct. 18; Sp. p. 3660; Gaz. vol. 159; p. 628.
Core, Tubular. S. Wheeler. No. 972,667; Oct. 11; Sp. p. 2521; Gaz. vol. 159; p. 429.
Coring machine, Fruit-. A. J. Burns. No. 972,812; Oct. 18; Sp. p. 2821; Gaz. vol. 159; p. 504.
Corking-machine. J. K. Lannmark. No. 973,522; Oct. 25; Sp. p. 4428; Gaz. vol. 159; p. 774.
Corn-popper. F. H. Hamrick. No. 972,854; Oct. 18; Sp. p. 2923; Gaz. vol. 159; p. 520.
Corn-popper. C. Gabel. No. 974,048; Oct. 25; Sp. p. 5521; Gaz. vol. 159; p. 957.
Corset steels and bones, Shield for. G. L. Bard. No. 972,984; Oct. 18; Sp. p. 3257; Gaz. vol. 159; p. 567.
Cotton-chopper. T. J. Smith. No. 971,698; Oct. 4; Sp. p. 389; Gaz. vol. 159; p. 68.
Cotton-chopper. T. W. Felton. No. 972,836; Oct. 18; Sp. p. 2879; Gaz. vol. 159; p. 513.
Cotton-chopper. H. M. Paris. No. 973,379; Oct. 18; Sp. p. 4121; Gaz. vol. 159; p. 703.
Cotton chopper and cultivator. W. Bauman. No. 974,015; Oct. 25; Sp. p. 5460; Gaz. vol. 159; p. 946.
Cotton chopper and cultivator, Combined. C. C. Carter. No. 972,832; Oct. 11; Sp. p. 1771; Gaz. vol. 159; p. 311.
Cotton-gatherer. R. M. Ayers. No. 971,513; Oct. 4; Sp. p. 3; Gaz. vol. 159; p. 3.
Cotton-gin. J. Brandon. No. 971,720; Oct. 4; Sp. p. 437; Gaz. vol. 159; p. 76.
Cotton-picker, Manually-operated. N. Bowditch. No. 972,324; Oct. 11; Sp. p. 1756; Gaz. vol. 159; p. 309.
Cotton-picking machine. J. F. Appleby. No. 972,795; Oct. 18; Sp. p. 2788; Gaz. vol. 159; p. 498.
Couch, Folding. G. G. Powers. No. 973,561; Oct. 25; Sp. p. 4506; Gaz. vol. 159; p. 787.
Couch, Folding. G. G. Powers. No. 973,562; Oct. 25; Sp. p. 4509; Gaz. vol. 159; p. 787.
Couch, Suspension-. J. B. Patterson. No. 973,382; Oct. 18; Sp. p. 4125; Gaz. vol. 159; p. 704.
Counterbalancing device. O. S. Beyer. No. 971,585; Oct. 4; Sp. p. 159; Gaz. vol. 159; p. 29.
Coupling: *See* Car-coupling; Hydraulic coupling; Piston-coupling; Pump-rod coupling; Shaft-coupling; Thill-coupling.
Cow-tail holder. C. H. Perkett. No. 972,021; Oct. 4; Sp. p. 1122; Gaz. vol. 159; p. 188.
Crab-boat. M. A. Evans. No. 972,175; Oct. 11; Sp. p. 1444; Gaz. vol. 159; p. 258.
Crane, Horn-. A. S. Marten. No. 972,886; Oct. 18; Sp. p. 3018; Gaz. vol. 159; p. 532.
Crank attachment, Adjustable. T. E. Lutz. No. 971,764; Oct. 4; Sp. p. 533; Gaz. vol. 159; p. 93.
Cranking device. R. H. Clifton. No. 972,097; Oct. 4; Sp. p. 1258; Gaz. vol. 159; p. 213.
Crate, Collapsible. B. C. Rockwell. No. 972,925; Oct. 18; Sp. p. 3124; Gaz. vol. 159; p. 546.
Crimping-machine. J. A. Cocker. No. 973,477; Oct. 25; Sp. p. 4328; Gaz. vol. 159; p. 759.
Cross-head. F. H. Smith. No. 972,183; Oct. 4; Sp. p. 1337; Gaz. vol. 159; p. 125.
Crucible-furnace. W. Miller. No. 972,703; Oct. 11; Sp. p. 2586; Gaz. vol. 159; p. 441.
Crusher-mill. J. Williams. No. 973,327; Oct. 18; Sp. p. 4003; Gaz. vol. 159; p. 685.
Crutch, Adjustable. W. H. Loftin. No. 973,283; Oct. 18; Sp. p. 3909; Gaz. vol. 159; p. 669.

Cue-chalker. A. L. Jay. No. 974,066; Oct. 25; Sp. p. 5558; Gaz. vol. 159; p. 963.
Culinary article. S. B. Harrison. No. 972,078; Oct. 4; Sp. p. 1229; Gaz. vol. 159; p. 208.
Cultivator. J. C. Maxwell. No. 972,204; Oct. 11; Sp. p. 1512; Gaz. vol. 159; p. 269.
Cultivator. F. Avery. No. 973,614; Oct. 25; Sp. p. 4625; Gaz. vol. 159; p. 804.
Cultivator attachment. W. J. Luttrell. No. 973,284; Oct. 18; Sp. p. 3910; Gaz. vol. 159; p. 669.
Cultivator attachment. F. A. Reese. No. 973,461; Oct. 18; Sp. p. 4284; Gaz. vol. 159; p. 730.
Cultivator attachment. E. W. Cornell. No. 973,480; Oct. 25; Sp. p. 4333; Gaz. vol. 159; p. 760.
Cultivator, Automobile. A. R. Lynch. No. 973,677; Oct. 25; Sp. p. 4762; Gaz. vol. 159; p. 828.
Cultivator-fender. G. M. Foster. No. 972,842; Oct. 18; Sp. p. 2896; Gaz. vol. 159; p. 515.
Cultivator, Hand-. R. I. Teeter. No. 972,289; Oct. 11; Sp. p. 1696; Gaz. vol. 159; p. 298.
Cultivator, Rotary. U. S. Brown. No. 972,503; Oct. 11; Sp. p. 2136; Gaz. vol. 159; p. 371.
Cultivators, Side harrow for. H. T. Smith. No. 974,098; Oct. 25; Sp. p. 5615; Gaz. vol. 159; p. 973.
Culvert. J. H. Schlafly. No. 973,708; Oct. 25; Sp. p. 4822; Gaz. vol. 159; p. 839.
Culvert, Metal. C. M. Porter. No. 971,558; Oct. 4; Sp. p. 106; Gaz. vol. 159; p. 20.
Culvert, Metallic. O. K. Harry. No. 973,503; Oct. 25; Sp. p. 4391; Gaz. vol. 159; p. 767.
Cup: *See* Drinking-cup; Egg-cup; Shaving-cup; Teat-cup.
Currency, Form for paper. H. Brower. No. 973,619; Oct. 25; Sp. p. 4634; Gaz. vol. 159; p. 806.
Current-controller. F. L. Sessions. No. 973,885; Oct. 25; Sp. p. 5187; Gaz. vol. 159; p. 901.
Current machines, Rotor for high-frequency alternating-. A. E. Guy. No. 973,037; Oct. 18; Sp. p. 3376; Gaz. vol. 159; p. 584.
Current-motor. F. H. Crago. No. 973,004; Oct. 18; Sp. p. 3298; Gaz. vol. 159; p. 573.
Current-motor. A. Vestal and D. F. Bennett. No. 973,241; Oct. 18; Sp. p. 3831; Gaz. vol. 159; p. 655.
Currycomb. F. Goble. No. 972,690; Oct. 11; Sp. p. 2564; Gaz. vol. 159; p. 436.
Curtain. E. E. Whitmore. No. 972,422; Oct. 11; Sp. p. 1963; Gaz. vol. 159; p. 344.
Curtain, Berth-. G. T. Crandell. No. 973,006; Oct. 18; Sp. p. 3301; Gaz. vol. 159; p. 574.
Curtain-fastener and the like. H. B. Pitner. No. 973,809; Oct. 25; Sp. p. 5026; Gaz. vol. 159; p. 873.
Curtain-holding device. C. L. Hopkins. No. 972,450; Oct. 11; Sp. p. 2016; Gaz. vol. 159; p. 354.
Curtain-rods, &c., Connection for. F. L. Lathrop. No. 972,544; Oct. 11; Sp. p. 2241; Gaz. vol. 159; p. 387.
Curtain-stretcher. C. K. Hicks. No. 973,196; Oct. 18; Sp. p. 3747; Gaz. vol. 159; p. 640.
Cuspidor. L. Jakab. No. 972,081; Oct. 4; Sp. p. 1233; Gaz. vol. 159; p. 209.
Cuspidor. C. Gerencier. No. 973,189; Oct. 18; Sp. p. 3732; Gaz. vol. 159; p. 637.
Cut-out, Automatic. N. A. Wright. No. 971,872; Oct. 4; Sp. p. 769; Gaz. vol. 159; p. 133.
Cutter: *See* Biscuit-cutter; Cheese-cutter; Ice-cream cutter; Pencil-sharpener cutter; Potato-cutter; Stalk-cutter; Vegetable-cutter.
Cutter-head. F. K. Sondergard. No. 972,479; Oct. 11; Sp. p. 2087; Gaz. vol. 159; p. 363.
Cutter-head, Rotary. J. J. W. Alexander. No. 971,812; Oct. 4; Sp. p. 628; Gaz. vol. 159; p. 110.
Cutting apparatus. J. Guzowski. No. 972,852; Oct. 18; Sp. p. 2919; Gaz. vol. 159; p. 519.
Cutting-tool and gage, Combined. J. S. Duffy. No. 972,757; Oct. 11; Sp. p. 2707; Gaz. vol. 159; p. 460.
Cycle gearing, Motor-. F. S. Jones. No. 971,756; Oct. 4; Sp. p. 519; Gaz. vol. 159; p. 90.
Cycles and other self-propelled vehicles, Seat for motor-. C. R. Kittle. No. 971,848; Oct. 4; Sp. p. 713; Gaz. vol. 159; p. 124.
Cycles, Belt-tightener for motor-. W. S. Harley. No. 973,426; Oct. 18; Sp. p. 4218; Gaz. vol. 159; p. 718.
Dampening-machine. H. C. Miller. No. 972,125; Oct. 4; Sp. p. 1318; Gaz. vol. 159; p. 223.
Dampening machine, Collar-. H. C. Miller. No. 972,124; Oct. 4; Sp. p. 1313; Gaz. vol. 159; p. 222.
Dampening the extra-thick end seams of collars, Machine for. H. C. Miller. No. 972,084; Oct. 4; Sp. p. 1237; Gaz. vol. 159; p. 210.
Dams, docks, and similar water-retaining or water-excluding structures, Constructing. T. H. Skinner. No. 973,821; Oct. 25; Sp. p. 5047; Gaz. vol. 159; p. 878.
Dandy-roll. J. J. Plank. No. 971,787; Oct. 4; Sp. p. 579; Gaz. vol. 159; p. 101.
Decorative structure. W. Cunningham. No. 972,754; Oct. 11; Sp. p. 2701; Gaz. vol. 159; p. 459.
Dental air-pump. E. Messmer. No. 971,913; Oct. 4; Sp. p. 866; Gaz. vol. 159; p. 149.
Dental apparatus. J. C. Corcoran. No. 973,408; Oct. 18; Sp. p. 4182; Gaz. vol. 159; p. 712.
Dental cabinet. S. C. Sime. No. 973,573; Oct. 25; Sp. p. 4529; Gaz. vol. 159; p. 791.
Dental casting-machine. W. F. Lawrenz. No. 971,855; Oct. 4; Sp. p. 729; Gaz. vol. 159; p. 127.
Dental instrument. M. H. Toomey. No. 973,894; Oct. 25; Sp. p. 5213; Gaz. vol. 159; p. 904.
Denture. J. C. Corcoran. No. 973,343; Oct. 18; Sp. p. 4037; Gaz. vol. 159; p. 691.
Derrick. V. J. Hill. No. 973,115; Oct. 18; Sp. p. 3529; Gaz. vol. 159; p. 610.
Desk. F. E. Waring. No. 973,825; Oct. 18; Sp. p. 3996; Gaz. vol. 159; p. 684.
Despatch system, Vacuo. E. Flint. No. 973,931; Oct. 25; Sp. p. 5278; Gaz. vol. 159; p. 916.
Detinning. F. von Kügelgen and G. O. Seward. No. 972,135; Oct. 4; Sp. p. 1340; Gaz. vol. 159; p. 226.
Dice, Spherical. A. W. Wahlin. No. 973,595; Oct. 25; Sp. p. 4572; Gaz. vol. 159; p. 798.
Die: *See* Thread-cutting die.
Digger: *See* Potato-digger.
Dilator. R. S. Arthur. No. 972,983; Oct. 18; Sp. p. 3255; Gaz. vol. 159; p. 566.
Dish-cleaner. A. H. Partridge. No. 972,400; Oct. 11; Sp. p. 1917; Gaz. vol. 159; p. 337.
Dish-pan. M. Thompson-Meares. No. 973,684; Oct. 25; Sp. p. 4781; Gaz. vol. 159; p. 830.
Dish-washer. C. J. O. Bergström. No. 971,658; Oct. 4; Sp. p. 308; Gaz. vol. 159; p. 55.
Dish washer and holder, Combined. N. M. Richardson. No. 973,212; Oct. 18; Sp. p. 3777; Gaz. vol. 159; p. 645.
Dish-washing machine. A. R. Beal and A. Hettel. No. 972,747; Oct. 11; Sp. p. 2690; Gaz. vol. 159; p. 457.
Display-cabinet for photographs. H. Schwartzman. No. 973,570; Oct. 25; Sp. p. 4523; Gaz. vol. 159; p. 790.
Display-case. H. C. Borman. No. 971,719; Oct. 4; Sp. p. 435; Gaz. vol. 159; p. 76.
Display device. C. C. Hoyt. No. 971,751; Oct. 4; Sp. p. 508; Gaz. vol. 159; p. 88.
Display device, Postal-card-. W. J. Cooper. No. 971,596; Oct. 4; Sp. p. 185; Gaz. vol. 159; p. 34.
Display mechanism. E. D. Meyer. No. 972,123; Oct. 4; Sp. p. 1311; Gaz. vol. 159; p. 222.
Display-rack. J. McLaughlin. No. 971,912; Oct. 4; Sp. p. 864; Gaz. vol. 159; p. 148.
Display rack, Chair-. R. E. Harper. No. 972,447; Oct. 11; Sp. p. 2010; Gaz. vol. 159; p. 353.
Distilling system. E. H. De Lany. No. 971,668; Oct. 4; Sp. p. 332; Gaz. vol. 159; p. 59.
Ditch-gate. A. J. Collar. No. 973,172; Oct. 18; Sp. p. 3685; Gaz. vol. 159; p. 631.
Docks, Building. T. N. Berge. No. 971,964; Oct. 4; Sp. p. 1019; Gaz. vol. 159; p. 169.
Door and means for operating the same. J. E. Ogden. No. 973,691; Oct. 25; Sp. p. 4791; Gaz. vol. 159; p. 832.
Door, Automatic. P. S. Plans. No. 972,639; Oct. 11; Sp. p. 2472; Gaz. vol. 159; p. 420.
Door bolt, Show-case-. A. Vanderveld. No. 972,949; Oct. 18; Sp. p. 3188; Gaz. vol. 159; p. 555.
Door-catch. W. D. Ferris. No. 972,177; Oct. 11; Sp. p. 1447; Gaz. vol. 159; p. 259.
Door-check. J. F. Naugle. No. 972,019; Oct. 4; Sp. p. 1119; Gaz. vol. 159; p. 187.
Door-check. C. Schenck. No. 972,784; Oct. 11; Sp. p. 2756; Gaz. vol. 159; p. 469.
Door-closing device, Automatic. E. McClure. No. 972,681; Oct. 11; Sp. p. 2458; Gaz. vol. 159; p. 418.
Door-controlling device, Sliding-. E. F. Smith. No. 972,271; Oct. 11; Sp. p. 1657; Gaz. vol. 159; p. 291.
Door, Disappearing. M. Taussig. No. 972,412; Oct. 11; Sp. p. 1945; Gaz. vol. 159; p. 341.
Door, Disappearing. H. W. McAfee. No. 972,466; Oct. 11; Sp. p. 2046; Gaz. vol. 159; p. 369.
Door, Grain-. W. H. Jump. No. 971,617; Oct. 4; Sp. p. 235; Gaz. vol. 159; p. 41.
Door, Grain-. R. B. and I. C. Catton. No. 972,505; Oct. 11; Sp. p. 2148; Gaz. vol. 159; p. 373.
Door handle, Sliding-. D. W. Millsaps. No. 972,773; Oct. 11; Sp. p. 2736; Gaz. vol. 159; p. 465.
Door-hanger. H. L. Biddle. No. 971,586; Oct. 4; Sp. p. 161; Gaz. vol. 159; p. 30.
Door-hanger. M. Lima. No. 971,906; Oct. 4; Sp. p. 855; Gaz. vol. 159; p. 146.
Door-hanger. C. O. Marx. No. 974,089; Oct. 25; Sp. p. 5599; Gaz. vol. 159; p. 970.
Door hanger and track, Combined. S. J. Cleveland. No. 972,679; Oct. 11; Sp. p. 2541; Gaz. vol. 159; p. 433.
Door hanger, Swinging-. P. M. Hotchkin and A. J. Morgan. No. 972,377; Oct. 11; Sp. p. 1868; Gaz. vol. 159; p. 327.
Door-hanger track and support. R. A. Nourse. No. 971,620; Oct. 4; Sp. p. 254; Gaz. vol. 159; p. 45.
Door-lock. F. J. Smith. No. 973,225; Oct. 18; Sp. p. 3798; Gaz. vol. 159; p. 650.
Door lock, Locker-. D. Churchill. No. 973,001; Oct. 18; Sp. p. 3288; Gaz. vol. 159; p. 572.
Door lock, Sliding-. A. H. Stone. No. 973,990; Oct. 25; Sp. p. 5403; Gaz. vol. 159; p. 937.
Door, Metallic. E. G. Budd. No. 973,751; Oct. 25; Sp. p. 4901; Gaz. vol. 159; p. 852.
Door-operating mechanism, Dumping-. J. O. Nelkirk. No. 793,874: Oct. 25; Sp. p. 5165; Gaz. vol. 159; p. 897.
Double rake. R. N. Kenney. No. 972,539; Oct. 11; Sp. p. 2234; Gaz. vol. 159; p. 386.
Douche apparatus, Breast-. A. Manteiet, Fils. No. 973,445; Oct. 18; Sp. p. 4251; Gaz. vol. 159; p. 724.
Draft appliance. W. W. Winger. No. 971,870; Oct. 4; Sp. p. 767; Gaz. vol. 159; p. 133.
Draft-equalizer. D. W. McNatt. No. 972,012; Oct. 4; Sp. p. 1105; Gaz. vol. 159; p. 185.
Draft gear, Radial-. E. H. Schmidt. No. 971,930; Oct. 4; Sp. p. 918; Gaz. vol. 159; p. 156.

Draft-gearing. H. L. Miller. No. 973,451; Oct. 18; Sp. p. 4265; Gaz. vol. 159; p. 727.
Drafting and engraving machine. H. S. Nunnamaker. No. 972,569; Oct. 11; Sp. p. 2318; Gaz. vol. 159; p. 396.
Drafting appliance. F. M. Prints and A. Frost. No. 972,242; Oct. 11; Sp. p. 1602; Gaz. vol. 159; p. 282.
Drafting instrument, Combination. W. Smith. No. 972,936; Oct. 18; Sp. p. 3153; Gaz. vol. 159; p. 550.
Drain-pipe inlet. W. Hoteling. No. 972,860; Oct. 18; Sp. p. 2941; Gaz. vol. 159; p. 522.
Drain-tile outlet. J. Fitzpatrick. No. 973,022; Oct. 18; Sp. p. 3348; Gaz. vol 159; p. 580.
Drainer for cellars, &c., Automatic. G. Hoffman. No. 973,351; Oct. 18; Sp. p. 4050; Gaz. vol. 159; p. 693.
Drawer-guide. S. L. Redwine. No. 972,246; Oct. 11; Sp. p. 1612; Gaz. vol. 159; p. 283.
Dredge. W. F. Howe. No. 973,866; Oct. 25; Sp. p. 5142; Gaz. vol. 159; p. 894.
Dredge, Sectional. G. E. Turner. No. 973,591; Oct. 25; Sp. p. 4564; Gaz. vol. 159; p. 796.
Dress-suit rack. S. B. Weaver. No. 973,090; Oct. 18; Sp. p. 3483; Gaz. vol. 159; p. 601.
Drier: *See* Clothes-drier.
Drill: *See* Power-operated drill; Rock-drill.
Drill. J. R. Weston. No. 972,666; Oct. 11; Sp. p. 2520; Gaz. vol. 159; p. 429.
Drill. F. E. Farley. No. 973,489; Oct. 25; Sp. p. 4362; Gaz. vol. 159; p. 763.
Drill dust-catcher. M. Stuckel. No. 972,035; Oct. 4; Sp. p. 1154; Gaz. vol. 159; p. 193.
Drill gage-plate. E. Seavey. No. 973,078; Oct. 18; Sp. p. 3448; Gaz. vol. 159; p. 597.
Drill handle, Pneumatic-. A. Levedahl. No. 972,548; Oct. 11; Sp. p. 2252; Gaz. vol. 159; p. 389.
Drill-press table. L. Smith. No. 973,142; Oct. 18; Sp. p. 3600; Gaz. vol. 159; p. 621.
Drill socket, Twist-. C. G. Brown. No. 972,155; Oct. 11; Sp. p. 1406; Gaz. vol. 159; p. 252.
Drilling attachment, Cross-. O. A. Smith. No. 973,716; Oct. 25; Sp. p. 4843; Gaz. vol. 159; p. 841.
Drilling, boring, and similar machines, Attachment for. F. A. Kirby. No. 971,879; Oct. 4; Sp. p. 356; Gaz. vol. 159; p. 62.
Drilling device, Ratchet. A. P. Johnsen. No. 971,755; Oct. 4; Sp. p. 517; Gaz. vol. 159; p. 90.
Drilling-machine. J. S. Barnes. No. 973,843; Oct. 25; Sp. p. 5097; Gaz. vol. 159; p. 885.
Drinking-cup. A. G. Sheak. No. 972,982; Oct. 18; Sp. p. 3142; Gaz. vol. 159; p. 549.
Drinking-fountain, Bubbling-. S. C. Keith, Jr. No. 973,700; Oct. 25; Sp. p. 4984; Gaz. vol. 159; p. 866.
Drip-pan. F. J. Cameron. No. 973,474; Oct. 25; Sp. p. 4321; Gaz. vol. 159; p. 758.
Driving-gear mechanism. A. W. Wigglesworth. No. 972,587; Oct. 11; Sp. p. 2353; Gaz. vol. 159; p. 402.
Driving mechanism, Separable locking-rack for. B. F. Brewster. No. 974,022; Oct. 25; Sp. p. 5471; Gaz. vol. 159; p. 948.
Drumhead-tightener. F. Holton. No. 973,661; Oct. 25; Sp. p. 4735; Gaz. vol. 159; p. 822.
Dust and wind guard. W. J. Anson. No. 973,840; Oct. 25; Sp. p. 5090; Gaz. vol. 159; p. 884.
Dust-arrester. J. Hickey. No. 972,534; Oct. 11; Sp. p. 2215; Gaz. vol. 159; p. 384.
Dust-collector. U. Joedicke. No. 971,805; Oct. 4; Sp. p. 830; Gaz. vol. 159; p. 142.
Dust-guard. L. Y. Williams. No. 973,462; Oct. 18; Sp. p. 4287; Gaz. vol. 159; p. 730.
Dust-guard. L. Y. Williams. No. 973,463; Oct. 18; Sp. p. 4288; Gaz. vol. 159; p. 730.
Dye, Yellow. P. Volkmann. No. 972,951; Oct. 18; Sp. p. 3190; Gaz. vol. 159; p. 555.
Dyeing and product thereof. J. Deinet. No. 972,065; Oct. 4; Sp. p. 1206; Gaz. vol. 159; p. 204.
Dyeing and product thereof. J. Deinet. No. 972,066; Oct. 4; Sp. p. 1207; Gaz. vol. 159; p. 204.
Dyeing-machine. R. H. Comey. No. 972,822; Oct. 18; Sp. p. 2846; Gaz. vol. 159; p. 508.
Dyeing-machine. G. E. Drum and J. H. Skitt. No. 973,487; Oct. 25; Sp. p. 4355; Gaz. vol. 159; p. 762.
Dyestuff for wool, Yellow disazo. A. L. Laska. No. 971,761; Oct. 4; Sp. p. 529; Gaz. vol. 159; p. 92.
Dyestuff for wool, Yellow disazo. A. L. Laska. No 971,762; Oct. 4; Sp. p. 531; Gaz. vol. 159; p. 93.
Earth-hole-forming machine for weed-exterminating purposes. J. Prisk. No. 971,791; Oct. 4; Sp. p. 588; Gaz. vol. 159; p. 103.
Eaves-trough hangers, Machine for forming. H. A. Gibbs. No. 973,648; Oct. 25; Sp. p. 4701; Gaz. vol. 159; p. 817.
Economizer. A. A. Low. No. 971,682; Oct. 4; Sp. p 360; Gaz. vol. 159; p. 63.
Educational and amusement device. C. E. Fisher. No. 973,186; Oct. 18; Sp. p. 3727; Gaz. vol. 159; p. 636.
Educational novelty. M. Stocklmier. No. 971,865; Oct. 4; Sp. p. 755; Gaz. vol. 159; p. 131.
Egg-cup. E. E. A. MacNaughton. No. 971,910; Oct. 4; Sp. p. 860; Gaz. vol. 159; p. 147.
Egg-tester. M. Andrews. No. 972,592; Oct. 11; Sp. p. 2371; Gaz. vol. 159; p. 404.
Electric brake. R. R. Dunlop. No. 973,926; Oct. 25; Sp. p. 5269; Gaz. vol. 159; p. 914.
Electric braking. J. F. Tritle. No. 973,590; Oct. 25; Sp. p. 4562; Gaz. vol. 159; p. 796.
Electric-cable retriever. H. R. and E. B. Graves. No. 972,077; Oct. 4; Sp. p. 1226; Gaz. vol. 159; p. 208.
Electric-conductor brush-holder. F. L. Sessions. No. 972,655; Oct. 11; Sp. p. 2494; Gaz. vol. 159; p. 425.
Electric-current generator. H. A. Schmidt. No. 971,690; Oct. 4; Sp. p. 372; Gaz. vol. 159; p. 66.
Electric devices, Operating vapor. P. H. Thomas. No. 973,997; Oct. 25; Sp. p. 5423; Gaz. vol. 159; p. 940.
Electric heater. H. C. Walter. No. 973,089; Oct. 18; Sp. p. 3480; Gaz. vol. 159; p. 601.
Electric ignition appliance. A. M. Low. No. 971,908; Oct. 4; Sp. p. 858; Gaz. vol. 159; p. 147.
Electric-light cords, Automatic rewinding device for. G. J. Peacock. No. 973,553; Oct. 25; Sp. p. 4493; Gaz. vol. 159; p. 784.
Electric-light fixtures, Adjustable joint for. E. F. Pierce. No. 973,558; Oct. 25; Sp. p. 4501; Gaz. vol. 159; p. 786.
Electric-machine brush, Dynamo-. H. L. Zabriskie. No. 973,836; Oct. 25; Sp. p. 5080; Gaz. vol. 159; p. 883.
Electric-machine brush-holder, Dynamo-. H. A. Balcome. No. 972,799; Oct. 18; Sp. p. 2795; Gaz. vol. 159; p. 499.
Electric machine, Dynamo-. R. B. Williamson. No. 971,868; Oct. 4; Sp. p. 763; Gaz. vol. 159; p. 132.
Electric machine, Dynamo-. R. B. Williamson. No. 971,869; Oct. 4; Sp. p. 765; Gaz. vol. 159; p. 132.
Electric machine, Dynamo-. C. E. Search. No. 972,929; Oct. 18; Sp. p. 3134; Gaz. vol. 159; p. 548.
Electric machines, Coil-support for dynamo-. B. A. Behrend. No. 971,820; Oct. 4; Sp. p. 643; Gaz. vol. 159; p. 113.
Electric machines, Means for ventilating dynamo-. H. G. Reist. No. 973,565; Oct. 25; Sp. p. 4513; Gaz. vol. 159; p. 788.
Electric machines, Rotary field member of dynamo-. A. M. Gray. No. 972,850; Oct. 18; Sp. p. 2914; Gaz. vol. 159; p. 518.
Electric motor. E. S. Pillsbury. No. 973,878; Oct. 25; Sp. p. 5172; Gaz. vol. 159; p. 898.
Electric switch. W. S. Mayer. No. 971,623; Oct. 4; Sp. p. 245; Gaz. vol. 159; p. 43.
Electric switch. S. P. Watson. No. 971,648; Oct. 4; Sp. p. 286; Gaz. vol. 159; p. 51.
Electric switch. L. W. Horting. No. 971,843; Oct. 4; Sp. p. 697; Gaz. vol. 159; p. 123.
Electric switch. M. Goett. No. 972,365; Oct. 11; Sp. p. 1844; Gaz. vol. 159; p. 323.
Electric switch. E. K. Mackintosh and E. A. Smith. No. 973,362; Oct. 18; Sp. p. 4067; Gaz. vol. 159; p. 696.
Electrical apparatus, Cable-controller for. R. J. F. S. Baron. No. 972,319; Oct. 11; Sp. p. 1747; Gaz. vol. 159; p. 307.
Electrical apparatus, Swiveling attachment device for. J. H. Morley. No. 972,209; Oct. 11; Sp. p. 1518; Gaz. vol. 159; p. 270.
Electrical-apparatus terminal. W. R. Potter. No. 973,560; Oct. 25; Sp. p. 4505; Gaz. vol. 159; p. 786.
Electrical-circuit breaker. H. R. Stuart. No. 973,889; Oct. 25; Sp. p. 5196; Gaz. vol. 159; p. 902.
Electrical-distribution system. A. S. Hubbard. No. 972,536; Oct. 11; Sp. p. 2222; Gaz. vol. 159; p. 384.
Electrical-distribution system. J. B. Entz. No. 972,782; Oct. 11; Sp. p. 2749; Gaz. vol. 159; p. 468.
Electrical-distribution system. A. S. Hubbard. No. 974,063; Oct. 25; Sp. p. 5551; Gaz. vol. 159; p. 962.
Electrical-distribution system, Closed. R. M. Palmer. No. 972,468; Oct. 11; Sp. p. 2068; Gaz. vol. 159; p. 359.
Electrical fixture. F. E. Seeley. No. 972,577; Oct. 11; Sp. p. 2333; Gaz. vol. 159; p. 399.
Electrical heater. M. H. Shoenberg and G. T. Marsh. No. 972,181; Oct. 4; Sp. p. 1334; Gaz. vol. 159; p. 224.
Electrical indicator. E. E. Craig. No. 972,632; Oct. 11; Sp. p. 2546; Gaz. vol. 159; p. 434.
Electrical switch. A. F. Furbush. No. 974,106; Oct. 25; Sp. p. 5629; Gaz. vol. 159; p. 976.
Electricity, Method of and apparatus for generating. B. Schwerin. No. 972,020; Oct. 4; Sp. p. 1140; Gaz. vol. 159; p. 191.
Electrode. R. H. Wolff. No. 974,008; Oct. 25; Sp. p. 5446; Gaz. vol. 159; p. 943.
Electrode for galvanic elements, Hollow carbon. S. Benkö. No. 974,016; Oct. 25; Sp. p. 5461; Gaz. vol. 159; p. 946.
Electrolytic decomposition of solutions. C. P. Townsend. No. 972,947; Oct. 18; Sp. p. 3182; Gaz. vol. 159; p. 554.
Electromagnet-coil. C. Aalborg. No. 973,838; Oct. 25; Sp. p. 5086; Gaz. vol. 159; p. 883.
Electromagnets, Device for controlling the consecutive operation of. F. G. Agrell. No. 973,737; Oct. 25; Sp. p. 4881; Gaz. vol. 159; p. 848.
Electromechanical device. G. H. Rowe. No. 973,216; Oct. 18; Sp. p. 3783; Gaz. vol. 159; p. 647.
Electroplating. F. J. McElhone. No. 973,951; Oct. 25; Sp. p. 5316; Gaz. vol. 159; p. 923.
Elevated carrier. L. A. Martin. No. 972,557; Oct. 11; Sp. p. 2267; Gaz. vol. 159; p. 391.
Elevating, transporting, and discharging material, Apparatus for. T. S. Watson. No. 971,708; Oct. 4; Sp. p. 408; Gaz. vol. 159; p. 71.
Elevator: *See* Portable elevator; Straw-elevator.
Elevator-door lock. A. W. Hubers. No. 973,275; Oct. 18; Sp. p. 3804; Gaz. vol. 159; p. 666.
Elevator door, Sidewalk-. C. G. Janson. No. 971,754; Oct. 4; Sp. p. 516; Gaz. vol. 159; p. 89.
Elevator safety device. J. Kulp. No. 973,518; Oct. 25; Sp. p. 4417; Gaz. vol. 159; p. 772.
Elevator safety-grip. C. K. Rogers. No. 972,252; Oct. 11; Sp. p. 1621; Gaz. vol. 159; p. 285.

Ellipsograph. T. Jeter. No. 973,047; Oct. 18; Sp. p. 3392; Gaz. vol. 159; p. 587.
Embalmer's injecting and aspirating apparatus. B. Leon. No. 972,878; Oct. 18; Sp. p. 2982; Gaz. vol. 159; p. 528.
Embalming-couch, Extension. C. Nugent. No. 971,921; Oct. 4; Sp. p. 881; Gaz. vol. 159; p. 152.
Emblem-fastener. D. S. Haynes. No. 974,050; Oct. 25; Sp. p. 5539; Gaz. vol. 159; p. 960.
Embroidery-hoop. H. C. Ferguson. No. 973,642; Oct. 25; Sp. p. 4690; Gaz. vol. 159; p. 814.
Emulsifier. J. Willmann. No. 973,328; Oct. 18; Sp. p. 4004; Gaz. vol. 159; p. 685.
End-gate fastener. B. F. Springer. No. 973,578; Oct. 25; Sp. p. 4545; Gaz. vol. 159; p. 792.
Engine: *See* Explosion-engine; Explosive-engine; Gas-engine; Heat-engine; Hoisting-engine; Internal-combustion engine; Pumping-engine; Rotary engine; Rotary gas-engine.
Engine. C. J. Lake. No. 971,760; Oct. 4; Sp. p. 526; Gaz. vol. 159; p. 92.
Engine controlling device, Pressure-fluid-. A. E. Norris. No. 972,218; Oct. 11; Sp. p. 1563; Gaz. vol. 159; p. 274.
Engine cooling attachment, Explosive-. S. S. Scott. No. 973,820; Oct. 25; Sp. p. 5045; Gaz. vol. 159; p. 877.
Engine-exhaust-valve water connection, Gas-. W. P. Flint. No. 971,881; Oct. 4; Sp. p. 784; Gaz. vol. 159; p. 136.
Engine ignition system, Hydrocarbon-. R. Huff. No. 973,507; Oct. 25; Sp. p. 4396; Gaz. vol. 159; p. 769.
Engine ignition-timer, Internal-combustion-. F. C. Mason. No. 971,545; Oct. 4; Sp. p. 77; Gaz. vol. 159; p. 15.
Engine reversing mechanism, Steam-. G. B. Petsche. No. 972,402; Oct. 11; Sp. p. 1919; Gaz. vol. 159; p. 337.
Engine-starter. E. C. Allison. No. 973,738; Oct. 25; Sp. p. 4883; Gaz. vol. 159; p. 848.
Engines and turbines, Charge-forming arrangement for use in internal-combustion. A. M. Low. No. 974,087; Oct. 25; Sp. p. 5593; Gaz. vol. 159; p. 969.
Engines, Auxiliary liquid-hydrocarbon tank for internal-combustion. A. E. Ranney. No. 973,880; Oct. 25; Sp. p. 5176; Gaz. vol. 159; p. 899.
Engines, Charge-forming device for internal-combustion. H. Cassedy, Sr., and H. S. Purser. No. 971,971; Oct. 4; Sp. p. 1029; Gaz. vol. 159; p. 171.
Engines, Device for tool-holders in cutting-. A. Philibert. No. 973,695; Oct. 25; Sp. p. 4800; Gaz. vol. 159; p. 834.
Engines, Magneto-machine for use in connection with the ignition systems of internal-combustion. R. F. Hall. No. 972,692; Oct. 11; Sp. p. 2566; Gaz. vol. 159; p. 437.
Engines, Spark-plug for explosive-. M. T. Minogue. No. 973,873; Oct. 25; Sp. p. 5163; Gaz. vol. 159; p. 897.
Engines, Spraying device for internal-combustion. H. W. Pogue. No. 972,571; Oct. 11; Sp. p. 2319; Gaz. vol. 159; p. 397.
Engraver's block. J. A. Bowers. No. 973,617; Oct. 25; Sp. p. 4629; Gaz. vol. 159; p. 805.
Engraving-machine. W. Steers. No. 972,033; Oct. 4; Sp. p. 1147; Gaz. vol. 159; p. 192.
Envelop. S. T. Wingeier. No. 972,045; Oct. 4; Sp. p. 1168; Gaz. vol. 159; p. 197.
Envelop-loading machines, &c., Cutting mechanism for. J. R. Williams and W. C. Briggs. No. 971,713; Oct. 4; Sp. p. 421; Gaz. vol. 159; p. 73.
Envelop-making machine. P. H. Farrell. No. 972,176; Oct. 11; Sp. p. 1445; Gaz. vol. 159; p. 259.
Envelop-opener. H. J. Evon. No. 973,347; Oct. 18; Sp. p. 4042; Gaz. vol. 159; p. 692.
Eugenol and albumin, Preparation of H. Belart. No. 973,908; Oct. 25; Sp. p. 5240; Gaz. vol. 159; p. 908.
Evaporating apparatus. S. M. Lillie. No. 972,880; Oct. 18; Sp. p. 2985; Gaz. vol. 159; p. 529.
Evaporation-boiler with inclined tubes. C. Prache. No. 972,572; Oct. 11; Sp. p. 2320; Gaz. vol. 159; p. 397.
Excavating and loading machine. L. Kercher. No. 971,540; Oct. 4; Sp. p. 59; Gaz. vol. 159; p. 13.
Excavator, Rotary. E. M. Warrenfeltz. No. 973,826; Oct. 18; Sp. p. 3998; Gaz. vol. 159; p. 684.
Excavator, Side-delivery. G. W. Barnett. No. 973,402; Oct. 18; Sp. p. 4173; Gaz. vol. 159; p. 711.
Exercising apparatus. J. P. Storey. No. 972,284; Oct. 11; Sp. p. 1686; Gaz. vol. 159; p. 297.
Exhausting-machine. W. R. Burrows. No. 973,625; Oct. 25; Sp. p. 4646; Gaz. vol. 159; p. 808.
Expansion-bolt. H. W. Pleister. No. 973,559; Oct. 25; Sp. p. 4503; Gaz. vol. 159; p. 786.
Explosion-engine. C. F. Jenkins. No. 972,380; Oct. 11; Sp. p. 1873; Gaz. vol. 159; p. 328.
Explosion-engine. W. A. Jones. No. 972,869; Oct. 18; Sp. p. 2963; Gaz. vol. 159; p. 525.
Explosion-motor. C. F. Jenkins. No. 972,379; Oct. 11; Sp. p. 1871; Gaz. vol. 159; p. 328.
Explosive-engine. J. H. Fitch. No. 972,071; Oct. 4; Sp. p. 1217; Gaz. vol. 159; p. 205.
Explosive liquids, Storage-tank for. L. Kessler. No. 973,440; Oct. 18; Sp. p. 4243; Gaz. vol. 159; p. 722.
Extractor: *See* Nail-extractor; Pen-extractor.
Eyeglass connection. W. W. Hoffman. No. 973,660; Oct. 25; Sp. p. 4734; Gaz. vol. 159; p. 822.
Eyeglass-mounting. L. F. Adt. No. 972,980; Oct. 18; Sp. p. 3247; Gaz. vol. 159; p. 565.
Eyeglasses and spectacles, Rimless. R. E. Boyd. No. 972,053; Oct. 4; Sp. p. 1183; Gaz. vol. 159; p. 199.
Fabric: *See* Pile fabric; Rubber fabric.
Face-plate-holding means. B. M. W. Hanson. No. 974,057; Oct. 25; Sp. p. 5536; Gaz. vol. 159; p. 960.
Fan. C. Sweetser. No. 971,703; Oct. 4; Sp. p. 401; Gaz. vol. 159; p. 70.
Fare-register-operating device, Car-. E. S. Bucknam. No. 971,968; Oct. 4; Sp. p. 1024; Gaz. vol. 159; p. 170.
Fare-register-operating mechanism. J. F. Ohmer. No. 971,630; Oct. 4; Sp. p. 256; Gaz. vol. 159; p. 46.
Fare-register, Recording. A. E. Stone and F. L. O'Bryan. No. 973,315; Oct. 18; Sp. p. 3975; Gaz. vol. 159; p. 680.
Fastener, Separable. L. K. Hirshberg. No. 973,430; Oct. 18; Sp. p. 4227; Gaz. vol. 159; p. 720.
Fastening for garment-supports, Detachable. A. Vanderveld. No. 971,647; Oct. 4; Sp. p. 285; Gaz. vol. 159; p. 51.
Fat and other substances, Machine for cutting. E. E. Motter. No. 971,624; Oct. 4; Sp. p. 247; Gaz. vol. 159; p. 44.
Fat-like substance from the bodies of bacteria, Preparation of a. G. Deycke. No. 972,345; Oct. 11; Sp. p. 1797; Gaz. vol. 159; p. 316.
Faucet. E. W. Tuerk and E. G. Zahalan. No. 971,646; Oct. 4; Sp. p. 284; Gaz. vol. 159; p. 51.
Faucet. H. G. Cordley and G. R. Long. No. 972,525; Oct. 18; Sp. p. 2854; Gaz. vol. 159; p. 509.
Faucet. F. Parker. No. 973,294; Oct. 18; Sp. p. 3932; Gaz. vol. 159; p. 673.
Faucet. R. L. Caffery. No. 973,914; Oct. 25; Sp. p. 5250; Gaz. vol. 159; p. 910.
Faucet. D. Craig. No. 974,028; Oct. 25; Sp. p. 5485; Gaz. vol. 159; p. 951.
Faucet attachment. S. E. Gladding. No. 971,602; Oct. 4; Sp. p. 202; Gaz. vol. 159; p. 36.
Faucet, Self-closing. J. P. Farley. No. 971,739; Oct. 4; Sp. p. 483; Gaz. vol. 159; p. 84.
Feed apparatus, Measured. W. B. Bolles. No. 972,804; Oct. 18; Sp. p. 2803; Gaz. vol. 159; p. 501.
Feed-cutters, Self-feeder for. H. J. Mueller. No. 972,465; Oct. 11; Sp. p. 2044; Gaz. vol. 159; p. 358.
Feed-water heater. W. S. Ferguson. No. 971,599; Oct. 4; Sp. p. 195; Gaz. vol. 159; p. 35.
Feed-water heater and purifier. T. J. Cookson. No. 972,824; Oct. 18; Sp. p. 2849; Gaz. vol. 159; p. 509.
Feed-water heater and smoke-consumer. G. C. Miller. No. 972,772; Oct. 11; Sp. p. 2735; Gaz. vol. 159; p. 465.
Feeding device. F. G. Gauntt. No. 972,761; Oct. 11; Sp. p. 2714; Gaz. vol. 159; p. 461.
Fence fastener, Wire-. W. F. M. Small. No. 973,576; Oct. 25; Sp. p. 4533; Gaz. vol. 159; p. 792.
Fence, Portable. J. A. Trambley. No. 973,589; Oct. 25; Sp. p. 4560; Gaz. vol. 159; p. 796.
Fence-post. E. H. E. Thieron. No. 972,733; Oct. 11; Sp. p. 2667; Gaz. vol. 159; p. 452.
Fence-post. G. L. Prescott, F. R. Ellis, and C. Jensen. No. 972,912; Oct. 18; Sp. p. 3086; Gaz. vol. 159; p. 542.
Fence-post. W. Parker. No. 973,295; Oct. 18; Sp. p. 3933; Gaz. vol. 159; p. 673.
Fence-post mold. J. Lane. No. 972,699; Oct. 11; Sp. p. 2579; Gaz. vol. 159; p. 439.
Fence stretcher, Wire-. C. L. Graham. No. 973,034; Oct. 18; Sp. p. 3372; Gaz. vol. 159; p. 584.
Fence, Wire. D. A. Clawson. No. 971,972; Oct. 4; Sp. p. 1031; Gaz. vol. 159; p. 172.
Fender: *See* Cultivator-fender.
Ferrule-making tool. R. A. Merrill. No. 972,122; Oct. 4; Sp. p. 1309; Gaz. vol. 159; p. 222.
Ferrules, Making plumbers'. R. A. Merrill. No. 973,802; Oct. 25; Sp. p. 5010; Gaz. vol. 159; p. 871.
Fertilizer and making the same. S. B. Newberry. No. 972,567; Oct. 11; Sp. p. 2310; Gaz. vol. 159; p. 396.
Fertilizer-distributers, Conveyer-apron for. E. Buswell and T. Cascaden, Jr. No. 971,662; Oct. 4; Sp. p. 315; Gaz. vol. 159; p. 57.
Fertilizer, Manufacture of. L. R. Coates. No. 971,830; Oct. 4; Sp. p. 665; Gaz. vol. 159; p. 117.
Fibrous materials, Apparatus for felting. E. M. Knight. No. 973,280; Oct. 18; Sp. p. 3901; Gaz. vol. 159; p. 668.
Filament and manufacturing the same. G. Michaud and E. Delasson. No. 973,535; Oct. 25; Sp. p. 4457; Gaz. vol. 159; p. 778.
Filaments for illuminating and heating purposes, Manufacture of. G. Michaud and E. Delasson. No. 972,893; Oct. 18; Sp. p. 3030; Gaz. vol. 159; p. 535.
Filaments, Production of incandescent-electric-lamp. W. Rübling. No. 973,883; Oct. 25; Sp. p. 5183; Gaz. vol. 159; p. 900.
File, Binding-. D. Taylor. No. 973,722; Oct. 25; Sp. p. 4850; Gaz. vol. 159; p. 844.
Files, System of. T. Waller. No. 972,302; Oct. 11; Sp. p. 1721; Gaz. vol. 159; p. 302.
Filling appliance. H. J. Hick. No. 973,195; Oct. 18; Sp. p. 3744; Gaz. vol. 159; p. 639.
Filing-cabinet, Metal. L. Senge. No. 972,476; Oct. 11; Sp. p. 2083; Gaz. vol. 159; p. 362.
Filing device for index-papers. F. Pachinger. No. 973,964; Oct. 25; Sp. p. 5338; Gaz. vol. 159; p. 928.
Filling-fork protector. E. S. Wood and J. Northrop. No. 973,095; Oct. 18; Sp. p. 3492; Gaz. vol. 159; p. 603.
Filling-machine. L. Jaeger. No. 971,894; Oct. 4; Sp. p. 824; Gaz. vol. 159; p. 142.
Filling-replenishing mechanism. J. Northrop. No. 973,133; Oct. 18; Sp. p. 3573; Gaz. vol. 159; p. 617.

Filter. J. L. Thomson. No. 973,723; Oct. 25; Sp. p. 4852; Gaz. vol. 159; p. 844.
Filter. G. M. Kneuper. No. 973,868; Oct. 25; Sp. p. 5148; Gaz. vol. 159; p. 894.
Filter. L. R. Clark and D. G. Kreul. No. 974,025; Oct. 25; Sp. p. 5479; Gaz. vol. 159; p. 949.
Filter, Rotary. G. L. Kennedy. No. 973,791; Oct. 25; Sp. p. 4986; Gaz. vol. 159; p. 867.
Filters, Manufacture of. F. Sehr. No. 972,723; Oct. 11; Sp. p. 2644; Gaz. vol. 159; p. 449.
Filtering apparatus for purifying gasolene and other liquid fuels. Z. H. Stamets. No. 972,281; Oct. 11; Sp. p. 1679; Gaz. vol. 159; p. 295.
Finishing-tool. J. F. Nicholas. No. 973,688; Oct. 25; Sp. p. 4787; Gaz. vol. 159; p. 831.
Fire-alarm. W. C. Matthias. No. 971,684; Oct. 4; Sp. p. 363; Gaz. vol. 159; p. 64.
Fire-alarm. J. E. W. Fogal, A. M. Crichton, and A. C. Mowry. No. 972,840; Oct. 18; Sp. p. 2889; Gaz. vol. 159; p. 514.
Fire-alarm switch. P. W. Eskridge. No. 972,353; Oct. 11; Sp. p. 1819; Gaz. vol. 159; p. 319.
Fire-door opener. E. C. King. No. 973,051; Oct. 18; Sp. p. 3402; Gaz. vol. 159; p. 589.
Fire-escape. J. Scully. No. 972,576; Oct. 11; Sp. p. 2329; Gaz. vol. 159; p. 399.
Fire-extinguisher, Automatic. M. Andrews. No. 971,814; Oct. 4; Sp. p. 631; Gaz. vol. 159; p. 111.
Fire-extinguisher, Automatic. N. Finical. No. 973,185; Oct. 18; Sp. p. 3725; Gaz. vol. 159; p. 636.
Fire-extinguisher, Chemical. F. L. Cooke. No. 973,857; Oct. 25; Sp. p. 5123; Gaz. vol. 159; p. 890.
Fire-extinguisher nozzle. A. C. Asman. No. 973,333; Oct. 18; Sp. p. 4015; Gaz. vol. 159; p. 687.
Fire-resisting shutter. L. G. Wilson and F. McManus. No. 972,426; Oct. 11; Sp. p. 1971; Gaz. vol. 159; p. 346.
Fire-screen. J. B. Pafford. No. 972,636; Oct. 11; Sp. p. 2468; Gaz. vol. 159; p. 420.
Firearm. C. G. O. Grevitillius. No. 972,364; Oct. 11; Sp. p. 1843; Gaz. vol. 159; p. 323.
Firearm, Automatic. H. Sunngard. No. 972,087; Oct. 4; Sp. p. 1246; Gaz. vol. 159; p. 211.
Firearm breech mechanism. J. P. Hayes. No. 973,655; Oct. 25; Sp. p. 4716; Gaz. vol. 159; p. 820.
Firearms, Action for. T. B. Goyette. No. 972,076; Oct. 4; Sp. p. 1224; Gaz. vol. 159; p. 207.
Fireproof building construction. H. L. Hinton. No. 971,750; Oct. 4; Sp. p. 506; Gaz. vol. 159; p. 88.
Fireproof door, Hollow. H. P. A. A. Eichmann. No. 972,102; Oct. 4; Sp. p. 1270; Gaz. vol. 159; p. 215.
Firing indicator and recorder. A. W. K. Billings. No. 974,017; Oct. 25; Sp. p. 5462; Gaz. vol. 159; p. 947.
Fish-hook. A. Aagaard. No. 973,246; Oct. 18; Sp. p. 3837; Gaz. vol. 159; p. 656.
Fish-hook. C. F. Cooper. No. 973,479; Oct. 25; Sp. p. 4332; Gaz. vol. 159; p. 759.
Fish-hook, Automatic. J. J. Lisch. No. 973,119; Oct. 18; Sp. p. 3534; Gaz. vol. 159; p. 611.
Fish-trap. C. F. Pike. No. 972,232; Oct. 11; Sp. p. 1885; Gaz. vol. 159; p. 278.
Fish trap, Shell-. C. H. Van Keuren. No. 973,594; Oct. 25; Sp. p. 4570; Gaz. vol. 159; p. 797.
Fishing-net. C. H. Kahrs. No. 972,383; Oct. 11; Sp. p. 1878; Gaz. vol. 159; p. 329.
Flanging-press. H. W. Jacobs. No. 972,195; Oct. 11; Sp. p. 1489; Gaz. vol. 159; p. 265.
Flask: *See* Molding-flask.
Flat-iron. F. Johnson. No. 972,452; Oct. 11; Sp. p. 2020; Gaz. vol. 159; p. 354.
Flat-iron, Electric. T. Van Aller. No. 973,593; Oct. 25; Sp. p. 4568; Gaz. vol. 159; p. 797.
Flattening-oven. R. L. Frink and W. R. Campbell. No. 972,612; Oct. 11; Sp. p. 2404; Gaz. vol. 159; p. 411.
Fleshing, unhairing, working-out, and setting machine. H. Alefs. No. 972,792; Oct. 18; Sp. p. 2779; Gaz. vol. 159; p. 497.
Flood and feed gate. A. J. Collar. No. 973,106; Oct. 18; Sp. p. 3513; Gaz. vol. 159; p. 607.
Floor-dressing machine. G. F. Hall. No. 972,446; Oct. 11; Sp. p. 2003; Gaz. vol. 159; p. 352.
Floor-dressing machine. H. T. Heusermann. No. 972,533; Oct. 11; Sp. p. 2217; Gaz. vol. 159; p. 383.
Floor surfacing, scrubbing, and polishing machine, Electric rotary. W. H. Strange. No. 972,729; Oct. 11; Sp. p. 2653; Gaz. vol. 159; p. 451.
Flooring, Wood. J. J. C. Hasbrouck. No. 972,529; Oct. 11; Sp. p. 2212; Gaz. vol. 159; p. 382.
Flour-handling apparatus. F. J. Wolff. No. 971,811; Oct. 4; Sp. p. 626; Gaz. vol. 159; p. 110.
Flower-holder and insect-trap. T. L. Berlinger. No. 972,092; Oct. 4; Sp. p. 1253; Gaz. vol. 159; p. 212.
Flue-base. J. Grissom. No. 973,777; Oct. 25; Sp. p. 4963; Gaz. vol. 159; p. 863.
Flues, Means for cleaning gas-. W. B. Chapman. No. 973,759; Oct. 25; Sp. p. 4921; Gaz. vol. 159; p. 856.
Fluid-circulating apparatus. G. W. Nistle and R. L. Gifford. No. 971,920; Oct. 4; Sp. p. 878; Gaz. vol. 159; p. 157.
Fluid-motor. C. F. Benitez. No. 971,517; Oct. 4; Sp. p. 13; Gaz. vol. 159; p. 4.
Fluid-pressure governor. G. C. Hicks, Jr., and R. C. Enyart. No. 973,197; Oct. 18; Sp. p. 3748; Gaz. vol. 159; p. 640.
Flume-gate. N. H. Worley. No. 973,606; Oct. 25; Sp. p. 4610; Gaz. vol. 159; p. 802.
Flume, Metallic. G. L. Hess. No. 973,656; Oct. 25; Sp. p. 4718; Gaz. vol. 159; p. 820.
Flushing apparatus. O. T. Richey. No. 973,978; Oct. 25; Sp. p. 5352; Gaz. vol. 159; p. 931.
Flux for brass plating. W. S. Rockey and H. Eldridge. No. 971,563; Oct. 4; Sp. p. 115; Gaz. vol. 159; p. 22.
Flux for protecting a bath of copper or brass. W. S. Rockey and H. Eldridge. No. 971,564; Oct. 4; Sp. p. 116; Gaz. vol. 159; p. 22.
Fly-trap sash attachment. H. C. Kossow. No. 972,873; Oct. 18; Sp. p. 2971; Gaz. vol. 159; p. 526.
Flying-machine. J. E. Harriman, Jr. No. 972,448; Oct. 11; Sp. p. 2011; Gaz. vol. 159; p. 353.
Flying-machine. R. T. Savino. No. 973,389; Oct. 18; Sp. p. 4138; Gaz. vol. 159; p. 706.
Flying-machines, Automatic balancing mechanism in. S. S. Morrison. No. 972,395; Oct. 11; Sp. p. 1904; Gaz. vol. 159; p. 334.
Folding box. J. W. Putnam. No. 973,068; Oct. 18; Sp. p. 3435; Gaz. vol. 159; p. 595.
Folding box and crate. E. Lacey. No. 971,903; Oct. 4; Sp. p. 843; Gaz. vol. 159; p. 145.
Folding chair. A. E. Engström. No. 971,738; Oct. 4; Sp. p. 482; Gaz. vol. 159; p. 84.
Folding-machine. G. W. Smith. No. 972,272; Oct. 11; Sp. p. 1638; Gaz. vol. 159; p. 292.
Folding-machine. W. J. Beattie. No. 972,320; Oct. 11; Sp. p. 1748; Gaz. vol. 159; p. 307.
Folding-machine. W. J. Beattie. No. 972,495; Oct. 11; Sp. p. 2119; Gaz. vol. 159; p. 369.
Folding table. F. Schmidtmann. No. 973,220; Oct. 18; Sp. p. 3790; Gaz. vol. 159; p. 648.
Foot-rest. J. Flindall. No. 972,073; Oct. 4; Sp. p. 1220; Gaz. vol. 159; p. 206.
Foot-rest. B. T. Neubecker. No. 972,217; Oct. 11; Sp. p. 1561; Gaz. vol. 159; p. 273.
Foot-support. H. Cohen. No. 971,978; Oct. 4; Sp. p. 1032; Gaz. vol. 159; p. 172.
Fork: *See* Bicycle-fork; Potato-fork.
Form, Dress-. C. L. Horton. No. 972,376; Oct. 11; Sp. p. 1866; Gaz. vol. 159; p. 327.
Foundry-cores, Composition of matter for. C. A. Sleicher. No. 973,574; Oct. 25; Sp. p. 4530; Gaz. vol. 159; p. 791.
Foundry plant, Pipe-. F. Herbert. No. 972,108; Oct. 4; Sp. p. 1280; Gaz. vol. 159; p. 217.
Fountain: *See* Drinking-fountain.
Frame: *See* Clothes-drying frame; Heddle-frame; Photographer's printing-frame; Photographic-printing frame; Photoprinting-frame; Vehicle-frame.
Frame-hanger. H. H. and H. Shepard. No. 972,570; Oct. 11; Sp. p. 2340; Gaz. vol. 159; p. 400.
Fruit-case. J. A. Hilliker. No. 973,420; Oct. 18; Sp. p. 4225; Gaz. vol. 159; p. 720.
Fruit cleaner and grader. H. K. Rowland and L. H. Larsen. No. 972,026; Oct. 4; Sp. p. 1133; Gaz. vol. 159; p. 190.
Fruit-picker. S. J. Mays. No. 971,547; Oct. 4; Sp. p. 81; Gaz. vol. 159; p. 16.
Fruit-picker. A. J. Petertyl. No. 971,925; Oct. 4; Sp. p. 889; Gaz. vol. 159; p. 153.
Fruit-picker. H. L. Mosier. No. 972,900; Oct. 18; Sp. p. 3052; Gaz. vol. 159; p. 537.
Fruit-stand. C. Müller and H. Reis. No. 973,125; Oct. 18; Sp. p. 3546; Gaz. vol. 159; p. 614.
Fuel-blocks, Manufacture of. K. Trainer. No. 974,001; Oct. 25; Sp. p. 5431; Gaz. vol. 159; p. 941.
Fume-arrester and smoke-purifier. W. F. Parsons. No. 972,637; Oct. 11; Sp. p. 2469; Gaz. vol. 159; p. 420.
Fumigating apparatus. C. De Free, A. Leenhouts, and J. J. Mersen. No. 973,634; Oct. 25; Sp. p. 4669; Gaz. vol. 159; p. 812.
Fumigator. W. J. Shelton. No. 971,570; Oct. 4; Sp. p. 131; Gaz. vol. 159; p. 24.
Furnace: *See* Boiler-furnace; Crucible-furnace; Gas-furnace; Glass-furnace; Horizontal furnace; Incinerating-furnace; Locomotive-furnace; Oil-burning furnace; Twyer-furnace.
Furnace. W. H. McGuire. No. 971,548; Oct. 4; Sp. p. 82; Gaz. vol. 159; p. 16.
Furnace. E. Katzinger. No. 972,112; Oct. 4; Sp. p. 1292; Gaz. vol. 159; p. 218.
Furnace. H. Haas. No. 973,278; Oct. 18; Sp. p. 3891; Gaz. vol. 159; p. 666.
Furnace. G. R. Haigh and J. R. Fortune. No. 973,652; Oct. 25; Sp. p. 4711; Gaz. vol. 159; p. 819.
Furnace. J. Promenshenkel and E. Freeman. No. 973,879; Oct. 25; Sp. p. 5174; Gaz. vol. 159; p. 899.
Furnace. L. L. Knox. No. 973,948; Oct. 25; Sp. p. 5300; Gaz. vol. 159; p. 920.
Furnace for refuse-destructors. F. P. Rudder. No. 973,386; Oct. 18; Sp. p. 4133; Gaz. vol. 159; p. 705.
Furnace-grate. J. F. Curneen. No. 973,481; Oct. 25; Sp. p. 4334; Gaz. vol. 159; p. 760.
Furnace-grate, Rocking-bar. E. T. McHugh. No. 972,707; Oct. 11; Sp. p. 2599; Gaz. vol. 159; p. 443.
Furnaces, Charging electric-resistance. A. Petersson. No. 971,782; Oct. 4; Sp. p. 509; Gaz. vol. 159; p. 99.
Furnaces, Gas and air valve for open-hearth. J. L. Butler. No. 972,435; Oct. 11; Sp. p. 1986; Gaz. vol. 159; p. 348.
Furs or skins, Device for stretching. R. H. Bullis. No. 971,969; Oct. 4; Sp. p. 1026; Gaz. vol. 159; p. 171.
Fuse-battery. A. E. Porter and E. P. Searing. No. 972,141; Oct. 4; Sp. p. 1356; Gaz. vol. 159; p. 228.

Fuse, Electric. I. E. Barricklow. No. 973,250; Oct. 18; Sp. p. 3843; Gaz. vol. 159; p. 657.
Fuse, Electrical. A. West. No. 972,963; Oct. 18; Sp. p. 3214; Gaz. vol. 159; p. 559.
Fuse for explosive projectiles. H. Wilson and M. A. Lynch. No. 972,425; Oct. 11; Sp. p. 1968; Gaz. vol. 159; p. 345.
Fuse for projectiles, Percussion-. H. B. Strange. No. 972,034; Oct. 4; Sp. p. 1151; Gaz. vol. 159; p. 193.
Fuse, Percussion-. E. Schneider. No. 971,691; Oct. 4; Sp. p. 374; Gaz. vol. 159; p. 66.
Fuse-supporting connection. E. L. Grauel. No. 972,362; Oct. 11; Sp. p. 1839; Gaz. vol. 159; p. 322.
Gage: *See* Liquid-gage; Mortising-bit gage; Skirt-gage.
Gage-table. R. C. Dayton. No. 972,101; Oct. 4; Sp. p. 1266; Gaz. vol. 159; p. 215.
Game. H. W. Fachmann. No. 971,532; Oct. 4; Sp. p. 46; Gaz. vol. 159; p. 10.
Game apparatus. G. Johnson-Jervis. No. 972,382; Oct. 11; Sp. p. 1876; Gaz. vol. 159; p. 320.
Game apparatus. G. N. Byl. No. 972,597; Oct. 11; Sp. p. 2377; Gaz. vol. 159; p. 406.
Game apparatus. G. D. Snell. No. 973,084; Oct. 18; Sp. p. 3464; Gaz. vol. 159; p. 600.
Game apparatus. C. J. Dorsey. No. 973,484; Oct. 25; Sp. p. 4360; Gaz. vol. 159; p. 761.
Game, Ball. A. C. Nelson. No. 971,626; Oct. 4; Sp. p. 251; Gaz. vol. 159; p. 44.
Game-board. W. S. Woodruff. No. 971,871; Oct. 4; Sp. p. 768; Gaz. vol. 159; p. 133.
Game device. P. J. McKinley. No. 973,709; Oct. 25; Sp. p. 5004; Gaz. vol. 159; p. 870.
Game device, Bat-and-ball. L. L. George. No. 973,935; Oct. 25; Sp. p. 5286; Gaz. vol. 159; p. 917.
Game device, Educational. M. E. Church. No. 972,335; Oct. 11; Sp. p. 1777; Gaz. vol. 159; p. 312.
Game, Shooting. J. W. Eaves. No. 973,488; Oct. 25; Sp. p. 4360; Gaz. vol. 159; p. 762.
Game-table. F. J. Bryant. No. 971,726; Oct. 4; Sp. p. 459; Gaz. vol. 159; p. 79.
Garbage-receptacle. J. P. Urban. No. 972,948; Oct. 18; Sp. p. 3186; Gaz. vol. 159; p. 554.
Garment. J. Cohen. No. 971,664; Oct. 4; Sp. p. 317; Gaz. vol. 159; p. 57.
Garment. H. G. Johnson. No. 973,200; Oct. 18; Sp. p. 3753; Gaz. vol. 159; p. 641.
Garment. C. S. Horwood. No. 973,432; Oct. 18; Sp. p. 4230; Gaz. vol. 159; p. 720.
Garment. E. J. Quigley. No. 973,699; Oct. 25; Sp. p. 4807; Gaz. vol. 159; p. 836.
Garment, Combination-. O. M. Potterf. No. 973,299; Oct. 18; Sp. p. 3938; Gaz. vol. 159; p. 674.
Garment-hanger. W. F. Cutler. No. 972,439; Oct. 11; Sp. p. 1992; Gaz. vol. 159; p. 350.
Garment-support. R. H. Buckingham. No. 973,750; Oct. 25; Sp. p. 4900; Gaz. vol. 159; p. 852.
Garment-support, Movable. A. Vanderveld. No. 972,298; Oct. 11; Sp. p. 1714; Gaz. vol. 159; p. 301.
Garment-supporter. P. J. Eklund. No. 973,017; Oct. 18; Sp. p. 3324; Gaz. vol. 159; p. 578.
Gas apparatus, Continuous-make. E. B. Wickersham. No. 972,486; Oct. 11; Sp. p. 2097; Gaz. vol. 159; p. 365.
Gas-burner. C. Hoff. No. 972,697; Oct. 11; Sp. p. 2577; Gaz. vol. 159; p. 439.
Gas-burner. R. C. Hawk. No. 973,040; Oct. 18; Sp. p. 3380; Gaz. vol. 159; p. 585.
Gas-burner. B. A. Geurink. No. 973,498; Oct. 25; Sp. p. 4377; Gaz. vol. 159; p. 766.
Gas-burner. W. Donley and C. Paul. No. 974,040; Oct. 25; Sp. p. 5500; Gaz. vol. 159; p. 955.
Gas burner and grate. W. C. McGeorge. No. 972,775; Oct. 11; Sp. p. 2738; Gaz. vol. 159; p. 466.
Gas burner, Natural-. C. E. Bunner. No. 972,056; Oct. 4; Sp. p. 1188; Gaz. vol. 159; p. 200.
Gas-burner, Self-lighting. J. R. Stanton, F. M. D'Arst, and W. F. Munzer. No. 972,938; Oct. 18; Sp. p. 3157; Gaz. vol. 159; p. 551.
Gas-engine. G. R. Morris. No. 971,919; Oct. 4; Sp. p. 877; Gaz. vol. 159; p. 151.
Gas-engine. G. P. Law. No. 972,547; Oct. 11; Sp. p. 2251; Gaz. vol. 159; p. 388.
Gas-engine. J. M. Kroyer. No. 973,118; Oct. 18; Sp. p. 3533; Gaz. vol. 159; p. 611.
Gas-engine. C. M. Leech. No. 973,702; Oct. 25; Sp. p. 4988; Gaz. vol. 159; p. 867.
Gas flash-light. J. Spring. No. 972,278; Oct. 11; Sp. p. 1674; Gaz. vol. 159; p. 294.
Gas-furnace. W. A. Lynch. No. 971,859; Oct. 4; Sp. p. 739; Gaz. vol. 159; p. 129.
Gas-generating apparatus, Acetylene-. S. F. Hodges and W. H. Lee. No. 972,858; Oct. 18; Sp. p. 2937; Gaz. vol. 159; p. 521.
Gas-generator. A. Harris. No. 972,188; Oct. 11; Sp. p. 1478; Gaz. vol. 159; p. 263.
Gas generator, Acetylene-. M. S. Mishler. No. 972,016; Oct. 4; Sp. p. 1112; Gaz. vol. 159; p. 186.
Gas generator, Acetylene-. W. W. Harris. No. 972,855; Oct. 18; Sp. p. 2925; Gaz. vol. 159; p. 520.
Gas-holder guide-frame. H. J. Stoffels. No. 972,785; Oct. 11; Sp. p. 2758; Gaz. vol. 159; p. 469.
Gas-igniter and safety device, Automatic. E. E. Gerald. No. 973,030; Oct. 18; Sp. p. 3364; Gaz. vol. 159; p. 582.
Gas-lighting appliance. M. Primeau and G. McCullagh. No. 973,071; Oct. 25; Sp. p. 5348; Gaz. vol. 159; p. 930.
Gas-manufacturing apparatus. B. Loomis. No. 971,858; Oct. 4; Sp. p. 736; Gaz. vol. 159; p. 128.
Gas-meter. F. C. Viney. No. 971,705; Oct. 4; Sp. p. 405; Gaz. vol. 159; p. 70.
Gas-meter, Drum. S. Kozminski. No. 974,079; Oct. 25; Sp. p. 5578; Gaz. vol. 159; p. 967.
Gas-producer feeding mechanism. V. E. Edwards and J. R. George. No. 972,172; Oct. 11; Sp. p. 1441; Gaz. vol. 159; p. 258.
Gas, Producing. E. G. Jewett. No. 972,864; Oct. 18; Sp. p. 2949; Gaz. vol. 159; p. 523.
Gas-regulator. A. E. Westburg. No. 973,396; Oct. 18; Sp. p. 4154; Gaz. vol. 159; p. 708.
Gas-retorts or coke-ovens, Machine for discharging and charging. A. M. Duckham. No. 974,043; Oct. 25; Sp. p. 5514; Gaz. vol. 159; p. 956.
Gas-scrubber. E. F. Lloyd. No. 973,120; Oct. 18; Sp. p. 3535; Gaz. vol. 159; p. 612.
Gas-washing machine. W. H. Carrier. No. 973,626; Oct. 25; Sp. p. 4649; Gaz. vol. 159; p. 808.
Gasket-tool. E. Gibson and J. Burns. No. 971,672; Oct. 4; Sp. p. 342; Gaz. vol. 159; p. 60.
Gasolene-strainer. J. B. Rickards and W. H. Geiger. No. 973,305; Oct. 18; Sp. p. 3954; Gaz. vol. 159; p. 676.
Gate: *See* Ditch-gate; Flood and feed gate; Flume-gate.
Gear, Change-speed. P. L. M. Godeau. No. 971,744; Oct. 4; Sp. p. 494; Gaz. vol. 159; p. 86.
Gear-cutting machine. W. F. Zimmermann. No. 973,399; Oct. 18; Sp. p. 4163; Gaz. vol. 159; p. 710.
Gear, Gapped. W. T. Sears. No. 972,259; Oct. 11; Sp. p. 1634; Gaz. vol. 159; p. 287.
Gear, Gapped. W. T. Sears. No. 972,260; Oct. 11; Sp. p. 1635; Gaz. vol. 159; p. 288.
Gear, Gapped. W. T. Sears. No. 972,261; Oct. 11; Sp. p. 1636; Gaz. vol. 159; p. 288.
Gear, Gapped. W. T. Sears. No. 972,262; Oct. 11; Sp. p. 1637; Gaz. vol. 159; p. 288.
Gear, Gapped. W. T. Sears. No. 972,263; Oct. 11; Sp. p. 1638; Gaz. vol. 159; p. 289.
Gear, Transmission-. F. B. Allen. No. 972,143; Oct. 11; Sp. p. 1361; Gaz. vol. 159; p. 249.
Gear, Transmission-. F. B. Allen. No. 972,144; Oct. 11; Sp. p. 1364; Gaz. vol. 159; p. 249.
Gear, Transmission-. C. M. Leech. No. 973,703; Oct. 25; Sp. p. 4992; Gaz. vol. 159; p. 868.
Gear-wheel, Double helical. T. Fawcus. No. 971,980; Oct. 4; Sp. p. 1045; Gaz. vol. 159; p. 174.
Gearing, R. W. Padden. No. 971,633; Oct. 4; Sp. p. 261; Gaz. vol. 159; p. 47.
Gearing, Belt-. C. Meier and G. Langen. No. 973,801; Oct. 25; Sp. p. 5009; Gaz. vol. 159; p. 871.
Gearing, Change-speed and reversing. J. D. Abbott. No. 972,672; Oct. 11; Sp. p. 2529; Gaz. vol. 159; p. 431.
Gearing, Changeable-speed. W. L. Miller. No. 973,287; Oct. 18; Sp. p. 3914; Gaz. vol. 159; p. 670.
Gearing, Driving-. R. H. Gilbert. No. 973,031; Oct. 18; Sp. p. 3365; Gaz. vol. 159; p. 582.
Gearing, Reversing-. L. Canfield. No. 973,015; Oct. 25; Sp. p. 5252; Gaz. vol. 159; p. 910.
Gem-setting. J. S. Brant. No. 972,807; Oct. 18; Sp. p. 2807; Gaz. vol. 159; p. 502.
Generator: *See* Acetylene-generator; Electric-current generator; Gas-generator; Steam-generator.
Generator and burner. W. C. Shaffer. No. 973,713; Oct. 25; Sp. p. 4837; Gaz. vol. 159; p. 840.
Glass: *See* Boiler water-glass.
Glass-annealing leer. G. C. De Bay. No. 972,167; Oct. 11; Sp. p. 1429; Gaz. vol. 159; p. 250.
Glass-blowing apparatus burner. P. Bornkessel. No. 972,153; Oct. 11; Sp. p. 1404; Gaz. vol. 159; p. 252.
Glass cylinders, Regulation of air-supply in drawing. R. L. Frink. No. 972,614; Oct. 11; Sp. p. 2410; Gaz. vol. 159; p. 412.
Glass, Drawing. R. L. and F. J. Frink. No. 972,616; Oct. 11; Sp. p. 2417; Gaz. vol. 159; p. 412.
Glass-drawing bait. R. L. Frink. No. 972,615; Oct. 11; Sp. p. 2413; Gaz. vol. 159; p. 412.
Glass-drawing bait. R. L. and F. J. Frink. No. 972,687; Oct. 11; Sp. p. 2555; Gaz. vol. 159; p. 435.
Glass-drawing bait. R. L. Frink. No. 973,034; Oct. 25; Sp. p. 5285; Gaz. vol. 159; p. 917.
Glass-drawing machine, Sheet-. I. W. Colburn. No. 973,002; Oct. 18; Sp. p. 3291; Gaz. vol. 159; p. 572.
Glass-furnace, Electric. M. Sauvageon. No. 972,778; Oct. 11; Sp. p. 2743; Gaz. vol. 159; p. 467.
Glass-furnace, Electric. M. Sauvageon. No. 972,779; Oct. 11; Sp. p. 2744; Gaz. vol. 159; p. 467.
Glass-holder. E. A. Strause. No. 973,085; Oct. 18; Sp. p. 3465; Gaz. vol. 159; p. 600.
Glass-making apparatus, Polished-. G. C. De Bay. No. 972,166; Oct. 11; Sp. p. 1425; Gaz. vol. 159; p. 255.
Glass, Making polished. G. C. De Bay. No. 972,165; Oct. 11; Sp. p. 1422; Gaz. vol. 159; p. 255.
Glass, Making polished. G. C. De Bay. No. 972,168; Oct. 11; Sp. p. 1431; Gaz. vol. 159; p. 256.
Glass, Method of and apparatus for drawing. R. L. Frink. No. 972,613; Oct. 11; Sp. p. 2406; Gaz. vol. 159; p. 411.
Glass tile. W. F. Meeker. No. 972,461; Oct. 11; Sp. p. 2040; Gaz. vol. 159; p. 357.
Glass tiling, Apparatus for making. L. R. Blackmore. No. 972,433; Oct. 11; Sp. p. 1982; Gaz. vol. 159; p. 348.
Glass-working machine. A. L. Bingham. No. 971,587; Oct. 4; Sp. p. 163; Gaz. vol. 159; p. 30.

Globe, shade, and chimney holder. W. W. Abbott. No. 972,089; Oct. 4; Sp. p. 1249; Gaz. vol. 159; p. 212.
Glove, Slapping-. H. H. Pease. No. 972,224; Oct. 11; Sp. p. 1572; Gaz. vol. 159; p. 276.
Golf-ball. G. C. Worthington. No. 972,313; Oct. 11; Sp. p. 1740; Gaz. vol. 159; p. 306.
Governor. P. J. Holm. No. 973,505; Oct. 25; Sp. p. 4393; Gaz. vol. 159; p. 768.
Grading-machine. S. C. Hanna. No. 972,763; Oct. 11; Sp. p. 2717; Gaz. vol. 159; p. 462.
Grading-machine. L. J. Bevison and E. H. Moak. No. 973,711; Oct. 25; Sp. p. 4827; Gaz. vol. 159; p. 840.
Grafting. R. C. Huey. No. 971,536; Oct. 4; Sp. p. 52; Gaz. vol. 159; p. 12.
Grain, Cleaning. N. Zimmer. No. 972,977; Oct. 18; Sp. p. 3241; Gaz. vol. 159; p. 563.
Grain drying and steaming apparatus. P. Provost. No. 971,559; Oct. 4; Sp. p. 108; Gaz. vol. 159; p. 21.
Grains, Cleaning and separating. A. T. Hedfeldt. No. 971,609; Oct. 4; Sp. p. 219; Gaz. vol. 159; p. 39.
Grapple. E. D. Coogan. No. 972,340; Oct. 11; Sp. p. 1780; Gaz. vol. 159; p. 314.
Grapple. R. F. Scott. No. 973,709; Oct. 25; Sp. p. 4824; Gaz. vol. 159; p. 839.
Grappling-hook. F. M. Bell. No. 973,252; Oct. 18; Sp. p. 3849; Gaz. vol. 159; p. 658.
Grate. H. H. Ruggles. No. 971,565; Oct. 4; Sp. p. 117; Gaz. vol. 159; p. 23.
Grate-bar. A. Wilderspin. No. 972,965; Oct. 18; Sp. p. 3216; Gaz. vol. 159; p. 559.
Grate-basket. J. P. Watson. No. 972,665; Oct. 11; Sp. p. 2519; Gaz. vol. 159; p. 429.
Grate, Chain. E. C. Clark. No. 972,751; Oct. 11; Sp. p. 2695; Gaz. vol. 159; p. 458.
Grate, Dumping-. F. W. Schnautz. No. 972,256; Oct. 11; Sp. p. 1631; Gaz. vol. 159; p. 286.
Grater. M. L. Opie. No. 973,693; Oct. 25; Sp. p. 4795; Gaz. vol. 159; p. 833.
Grease-gun. S. P. Townsend. No. 971,939; Oct. 4; Sp. p. 935; Gaz. vol. 159; p. 150.
Grille, Window-. R. A. W. Fox. No. 973,027; Oct. 18; Sp. p. 3361; Gaz. vol. 159; p. 581.
Grinder and buffer. Knife. N. Petersen. No. 973,457; Oct. 18; Sp. p. 4279; Gaz. vol. 159; p. 729.
Grinder for ensilage-cutter and other knives. E. J. Young. No. 971,873; Oct. 4; Sp. p. 771; Gaz. vol. 159; p. 134.
Grinding bran. D. Finkler. No. 972,103; Oct. 4; Sp. p. 1272; Gaz. vol. 159; p. 216.
Grinding-machine. C. G. Smith. No. 971,697; Oct. 4; Sp. p. 388; Gaz. vol. 159; p. 68.
Grinding-machine. W. E. Nickerson. No. 971,860; Oct. 4; Sp. p. 740; Gaz. vol. 159; p. 129.
Grinding-machine. W. E. Nickerson. No. 971,861; Oct. 4; Sp. p. 746; Gaz. vol. 159; p. 130.
Grinding-machines and foot-power apparatus, Ratchet for. G. W. Riddle. No. 973,974; Oct. 25; Sp. p. 5354; Gaz. vol. 159; p. 932.
Grinding-mill. C. W. Renear. No. 973,811; Oct. 25; Sp. p. 5028; Gaz. vol. 159; p. 874.
Grinding-mills, Sealing-ring for. C. L. Petrikin and C. R. Dimm. No. 972,470; Oct. 11; Sp. p. 2069; Gaz. vol. 159; p. 360.
Ground-clamp. H. E. Adams. No. 972,489; Oct. 11; Sp. p. 2107; Gaz. vol. 159; p. 367.
Gun firing mechanism, Breech-loading-. A. T. Dawson and G. T. Buckham. No. 973,482; Oct. 25; Sp. p. 4337; Gaz. vol. 159; p. 760.
Gunboat and torpedo-boat, Semisubmerged submarine. H. Hertzberg, A. A. Low, and M. J. Wohl. No. 971,676; Oct. 4; Sp. p. 350; Gaz. vol. 159; p. 61.
Gyroscope. H. Anschütz-Kaempfe. No. 973,611; Oct. 25; Sp. p. 4617; Gaz. vol. 159; p. 803.
Hacksaw. J. T. Nacey. No. 972,085; Oct. 4; Sp. p. 1243; Gaz. vol. 159; p. 210.
Hacksaw. A. H. Hoffmann. No. 973,431; Oct. 18; Sp. p. 4228; Gaz. vol. 159; p. 720.
Hair-holder. C. A. Brannen. No. 971,519; Oct. 4; Sp. p. 17; Gaz. vol. 159; p. 5.
Hair-pin. L. T. Harkness. No. 971,994; Oct. 4; Sp. p. 1074; Gaz. vol. 159; p. 180.
Hair-pin. C. C. Clark. No. 973,404; Oct. 18; Sp. p. 4177; Gaz. vol. 159; p. 711.
Hame draft-link. J. D. Brainard. No. 973,338; Oct. 18; Sp. p. 4026; Gaz. vol. 159; p. 689.
Hammer. W. L. Blake. No. 974,021; Oct. 25; Sp. p. 5471; Gaz. vol. 159; p. 948.
Hammer, Pneumatic. F. A. Otto. No. 973,378; Oct. 18; Sp. p. 4120; Gaz. vol. 159; p. 702.
Hammer, Power-. J. A. Brown and F. E. Sutherland. No. 973,620; Oct. 25; Sp. p. 4636; Gaz. vol. 159; p. 806.
Hammer, Steam-. W. J. Hagman. No. 972,368; Oct. 11; Sp. p. 1848; Gaz. vol. 159; p. 324.
Hammock. D. Row. No. 971,688; Oct. 4; Sp. p. 370; Gaz. vol. 159; p. 65.
Hammock, Adjustable couch-. I. J. Palmer. No. 972,711; Oct. 11; Sp. p. 2609; Gaz. vol. 159; p. 444.
Hammocks, Head and shoulder rest or support for couch and other. I. E. Palmer. No. 972,712; Oct. 11; Sp. p. 2614; Gaz. vol. 159; p. 444.
Hammocks, &c., Head and shoulder support for couch-. I. E. Palmer. No. 972,713; Oct. 11; Sp. p. 2619; Gaz. vol. 159; p. 445.
Handle: *See* Door-handle; Drill-handle; Sad-iron handle; Saw-handle; Telephone-receiver handle.
Handling mechanism, Material-. H. Zimmerman. No. 973,331; Oct. 18; Sp. p. 4009; Gaz. vol. 159; p. 685.
Hanger: *See* Door-hanger; Frame-hanger; Garment-hanger; Insulated hanger; Spout-hanger; Trousers-hanger.
Hanger. F. L. R. Francisco. No. 972,525; Oct. 11; Sp. p. 2205; Gaz. vol. 159; p. 380.
Harness. T. S. Moffett. No. 972,897; Oct. 18; Sp. p. 3048; Gaz. vol. 159; p. 536.
Harness attachment. C. C. Rose. No. 971,644; Oct. 4; Sp. p. 281; Gaz. vol. 159; p. 50.
Harrow. J. E. Booth. No. 971,591; Oct. 4; Sp. p. 175; Gaz. vol. 159; p. 32.
Harrow. H. A. Campbell. No. 972,037; Oct. 4; Sp. p. 1190; Gaz. vol. 159; p. 201.
Harrow. B. A. Wandersee. No. 973,730; Oct. 25; Sp. p. 4871; Gaz. vol. 159; p. 846.
Harrow. M. P. Neff. No. 973,805; Oct. 25; Sp. p. 5016; Gaz. vol. 159; p. 872.
Harrow. W. M. Roberts. No. 973,975; Oct. 25; Sp. p. 5356; Gaz. vol. 159; p. 932.
Harrow draw-bar, Hinged. P. A. Stuerman. No. 973,316; Oct. 18; Sp. p. 3979; Gaz. vol. 159; p. 680.
Harrow guard, Disk-. G. R. Allison. No. 971,874; Oct. 4; Sp. p. 774; Gaz. vol. 159; p. 134.
Harvest machine, Potato-. J. O. Thorsen. No. 973,318; Oct. 18; Sp. p. 3982; Gaz. vol. 159; p. 681.
Harvester, Cotton-. C. B. Sewell. No. 973,712; Oct. 25; Sp. p. 4835; Gaz. vol. 159; p. 840.
Harvester, Potato-. J. P. Brennan. No. 973,852; Oct. 25; Sp. p. 5114; Gaz. vol. 159; p. 888.
Hat and hair fastener, Lady's. J. Leithem. No. 974,082; Oct. 25; Sp. p. 5585; Gaz. vol. 159; p. 968.
Hat-brim conformator curling-machine. C. E. Sackett. No. 971,566; Oct. 4; Sp. p. 121; Gaz. vol. 159; p. 23.
Hat-fastener. C. A. and R. Conroe. No. 972,438; Oct. 11; Sp. p. 1991; Gaz. vol. 159; p. 349.
Hat-fastener. W. S. Lewis. No. 972,552; Oct. 11; Sp. p. 2259; Gaz. vol. 159; p. 390.
Hat-frame-making machine. H. Silbert and S. Wachtel. No. 972,407; Oct. 11; Sp. p. 1931; Gaz. vol. 159; p. 339.
Hat-holder. M. P. Comeau and J. F. Walsh. No. 973,173; Oct. 18; Sp. p. 3688; Gaz. vol. 159; p. 632.
Hat-pin. G. W. Moore and J. K. Hutchison. No. 972,208; Oct. 11; Sp. p. 1517; Gaz. vol. 159; p. 270.
Hat-pin holder. E. A. Kochersperger. No. 972,199; Oct. 11; Sp. p. 1501; Gaz. vol. 159; p. 266.
Hay-carrier. H. L. and H. J. Ferris. No. 971,741; Oct. 4; Sp. p. 489; Gaz. vol. 159; p. 85.
Hay-loader. C. H. Sies. No. 972,132; Oct. 4; Sp. p. 1335; Gaz. vol. 159; p. 225.
Hay rake and loader coupling. W. R. Everitt. No. 973,417; Oct. 18; Sp. p. 4202; Gaz. vol. 159; p. 715.
Hay rake and stacker, Combined. C. A. Robben. No. 973,818; Oct. 25; Sp. p. 5032; Gaz. vol. 159; p. 875.
Hay rakes and loaders, Conveyer device for. W. R. Everitt. No. 973,418; Oct. 18; Sp. p. 4203; Gaz. vol. 159; p. 716.
Hay-sling trigger. I. J. Westad. No. 973,598; Oct. 25; Sp. p. 4577; Gaz. vol. 159; p. 799.
Head and back rest, Adjustable. A. C. Miley. No. 973,371; Oct. 18; Sp. p. 4105; Gaz. vol. 159; p. 700.
Head-rest. O. F. Neff. No. 973,957; Oct. 25; Sp. p. 5324; Gaz. vol. 159; p. 925.
Headlight. R. H. Welles. No. 971,709; Oct. 4; Sp. p. 412; Gaz. vol. 159; p. 72.
Heat contained in slags, Utilization of. C. Vautin. No. 972,418; Oct. 11; Sp. p. 1957; Gaz. vol. 159; p. 343.
Heat-engine, Continuous-combustion. W. F. Brown. No. 972,504; Oct. 11; Sp. p. 2138; Gaz. vol. 159; p. 372.
Heat-engine, Fluid-pressure. J. Molas. No. 973,289; Oct. 18; Sp. p. 3918; Gaz. vol. 159; p. 671.
Heat-exchanging device. M. Krupovess. No. 972,626; Oct. 11; Sp. p. 2442; Gaz. vol. 159; p. 416.
Heat-increasing device. G. C. St. John and F. A. D. Ranking. No. 973,581; Oct. 25; Sp. p. 4550; Gaz. vol. 159; p. 793.
Heat-regulator. J. H. Surridge. No. 973,317; Oct. 18; Sp. p. 3981; Gaz. vol. 159; p. 681.
Heater: *See* Electric heater; Electrical heater; Feed-water heater; Tank-heater; Water-heater.
Heater. K. Ortt. No. 972,314; Oct. 11; Sp. p. 1742; Gaz. vol. 159; p. 306.
Heater. T. G. Palmer. No. 972,905; Oct. 18; Sp. p. 3062; Gaz. vol. 159; p. 539.
Heating apparatus, Hot-water. H. A. Bolze. No. 971,966; Oct. 4; Sp. p. 1022; Gaz. vol. 159; p. 170.
Heating receptacle, Electric. W. Richmond. No. 972,248; Oct. 11; Sp. p. 1514; Gaz. vol. 159; p. 283.
Heating systems, Gas-heating attachment for pipes of. W. Thomas. No. 971,938; Oct. 4; Sp. p. 933; Gaz. vol. 159; p. 158.
Heating water, milk, &c., for sterilizing or other purposes, Apparatus for. J. S. Forbes. No. 973,270; Oct. 18; Sp. p. 3883; Gaz. vol. 159; p. 664.
Heddle-frame. G. Nuttall. No. 971,581; Oct. 4; Sp. p. 87; Gaz. vol. 159; p. 17.
Heddle-frame. G. Nuttall. No. 972,901; Oct. 18; Sp. p. 3053; Gaz. vol. 159; p. 538.
Heel-and-sole-protector-setting machine. H. W. Winter. No. 973,605; Oct. 25; Sp. p. 4602; Gaz. vol. 159; p. 801.
Heel, Cushion-. W. H. Watson. No. 972,088; Oct. 4; Sp. p. 1247; Gaz. vol. 159; p. 211.

Heel, Elastic. R. E. Foster and P. W. Pratt. No. 973,026; Oct. 18; Sp. p. 3360; Gaz. vol. 159; p. 581.
Heel-trimming machines, Counter-guard for. F. E. Blair. No. 972,151; Oct. 11; Sp. p. 1398; Gaz. vol. 159; p. 251.
Hemmer-guide. V. H. Canham. No. 972,995; Oct. 18; Sp. p. 3277; Gaz. vol. 159; p. 570.
Hide-treating machine. S. Torrens. No. 972,415; Oct. 11; Sp. p. 1952; Gaz. vol. 159; p. 342.
High-potential switch. E. M. Hewlett and T. E. Button. No. 973,657; Oct. 25; Sp. p. 4720; Gaz. vol. 159; p. 820.
Hinge. R. R. Brown. No. 971,723; Oct. 4; Sp. p. 449; Gaz. vol. 159; p. 78.
Hinge. W. S. Ault. No. 972,090; Oct. 4; Sp. p. 1250; Gaz. vol. 159; p. 212.
Hinge and door-check, Combined. P. Märksch. No. 973,680; Oct. 25; Sp. p. 4768; Gaz. vol. 159; p. 829.
Hinge for display-boxes. J. F. Brent. No. 972,326; Oct. 11; Sp. p. 1760; Gaz. vol. 159; p. 309.
Hinge, Gable-door. E. A. Schaal. No. 973,073; Oct. 18; Sp. p. 3442; Gaz. vol. 159; p. 596.
Hog-hoisting machine. A. Hannaford. No. 972,186; Oct. 11; Sp. p. 1474; Gaz. vol. 159; p. 262.
Hoisting apparatus. C. C. Michael and G. E. Cockings. No. 971,686; Oct. 4; Sp. p. 367; Gaz. vol. 159; p. 64.
Hoisting device. J. L. Sims. No. 973,572; Oct. 25; Sp. p. 4527; Gaz. vol. 159; p. 791.
Hoisting-engine. J. W. Freeman. No. 373,028; Oct. 18; Sp. p. 3362; Gaz. vol. 159; p. 581.
Holder-on. C. Schofield. No. 972,257; Oct. 11; Sp. p. 1632; Gaz. vol. 159; p. 287.
Holdfast device. O. Fonner. No. 973,269; Oct. 18; Sp. p. 3881; Gaz. vol. 159; p. 664.
Hoof-parer. E. R. Langford. No. 973,053; Oct. 18; Sp. p. 3405; Gaz. vol. 159; p. 590.
Hoof-plane. M. W. Harvey. No. 973,780; Oct. 25; Sp. p. 4967; Gaz. vol. 159; p. 863.
Hoof-trimmer. N. R. Polk. No. 973,298; Oct. 18; Sp. p. 3936; Gaz. vol. 159; p. 674.
Hook: *See* Casing and tubing hook; Coat and hat hook; Fish-hook; Grappling-hook; Ticket or tag hook.
Hoop: *See* Embroidery-hoop; Metal hoop.
Hoop. F. Knolle. No. 973,671; Oct. 25; Sp. p. 4754; Gaz. vol. 159; p. 826.
Hopper. T. Carroll. No. 972,678; Oct. 11; Sp. p. 2538; Gaz. vol. 159; p. 432.
Hopper, Filling-replenishing. E. S. Wood. No. 973,094; Oct. 18; Sp. p. 3488; Gaz. vol. 159; p. 603.
Horizontal furnace for heating steel or iron plates, angle-irons, and the like, Combined. E. Curran. No. 974,031; Oct. 25; Sp. p. 5490; Gaz. vol. 159; p. 952.
Horn. E. A. Leet. No. 972,003; Oct. 4; Sp. p. 1089; Gaz. vol. 159; p. 183.
Horns, Device for sounding motor-car. H. Beaucourt. No. 973,845; Oct. 25; Sp. p. 5104; Gaz vol. 159; p. 886.
Horse-detacher. J. W. Coursey. No. 971,974; Oct. 4; Sp. p. 1034; Gaz. vol. 159; p. 172.
Horse-releaser. A. F. Odlen and C. Dayfield. No. 972,635; Oct. 11; Sp. p. 2467; Gaz. vol. 159; p. 419.
Horses, Safety device for. R. H. Stronach. No. 972,730; Oct. 11; Sp. p. 2654; Gaz. vol. 159; p. 451.
Horseshoe. H. Paar. No. 973,552; Oct. 25; Sp. p. 4492; Gaz. vol. 159; p. 784.
Hose. E. Witzenmann. No. 973,901; Oct. 25; Sp. p. 5227; Gaz. vol. 159; p. 906.
Hose-clamp. T. Harding. No. 972,372; Oct. 11; Sp. p. 1855; Gaz. vol. 159; p. 326.
Hose-clamp. M. P. McLaughlin. No. 973,532; Oct. 25; Sp. p. 4452; Gaz. vol. 159; p. 777.
Hose-coupling. J. L. Creveling. No. 972,829; Oct. 18; Sp. p. 2861; Gaz. vol. 159; p. 510.
Hose-holder. D. F. Regan. No. 973,810; Oct. 25; Sp. p. 5027; Gaz. vol. 159; p. 874.
Hose-reel. W. L. Paul. No. 972,222; Oct. 11; Sp. p. 1569; Gaz. vol. 159; p. 275.
Hose reel and spray, Water-. W. H. Merithew. No. 973,286; Oct. 18; Sp. p. 3912; Gaz. vol. 159; p. 669.
Hose-supporter. C. Kaufmann and W. H. Thomas. No. 974,071; Oct. 25; Sp. p. 5568; Gaz. vol. 159; p. 965.
Hosiery form and holder. J. Huebsch. No. 971,844; Oct. 4; Sp. p. 700; Gaz. vol. 159; p. 123.
House: *See* Smoke-house; Toy house.
Hydrant. G. E. Kellar and E. O. Thomason. No. 972,384; Oct. 11; Sp. p. 1879; Gaz. vol. 159; p. 330.
Hydraulic coupling. V. Tichomiroff and L. Schechter. No. 973,893; Oct. 25; Sp. p. 5210; Gaz. vol. 159; p. 904.
Hydraulic jack. B. Worthington. No. 971,714; Oct. 4; Sp. p. 423; Gaz. vol. 159; p. 74.
Hydraulic motor. P. Andersen. No. 972,081; Oct. 18; Sp. p. 3250; Gaz. vol. 159; p. 565.
Hydraulic motor. I. C. Walker. No. 973,088; Oct. 18; Sp. p. 3470; Gaz. vol. 159; p. 601.
Hydrocarbon-burner. G. J. McPherson. No. 972,014; Oct. 4; Sp. p. 1109; Gaz. vol. 159; p. 186.
Ice-box. T. J. Elder. No. 973,416; Oct. 18; Sp. p. 4200; Gaz. vol. 159; p. 715.
Ice-cream cutter. W. A. Hutchison. No. 972,621; Oct. 11; Sp. p. 2432; Gaz. vol. 159; p. 415.
Ice-cream freezer. T. J. Harton. No. 971,888; Oct. 4; Sp. p. 811; Gaz. vol. 159; p. 140.
Ice-harvester. T. and W. P. Diamond. No. 972,517; Oct. 11; Sp. p. 2180; Gaz. vol. 159; p. 378.
Ice-making apparatus. J. B. Howe. No. 973,434; Oct. 18; Sp. p. 4235; Gaz. vol. 159; p. 721.
Igniter. E. F. Koehler. No. 972,386; Oct. 11; Sp. p. 1884; Gaz. vol. 159; p. 331.
Illuminating device and reflector. J. Taussig. No. 973,235; Oct. 18; Sp. p. 3820; Gaz. vol. 159; p. 653.
Illusion apparatus. C. E. A. Merrow. No. 973,449; Oct. 18; Sp. p. 4262; Gaz. vol. 159; p. 726.
Incandescent mantles, Producing. C. R. Böhm. No. 973,253; Oct. 18; Sp. p. 3850; Gaz. vol. 159; p. 658.
Incinerating-furnace. F. L. Stearns. No. 973,313; Oct. 18; Sp. p. 3969; Gaz. vol. 159; p. 679.
Incinerating-furnace. F. L. Stearns. No. 973,314; Oct. 18; Sp. p. 3973; Gaz. vol. 159; p. 679.
Incubator heating-tank. P. J. McCabe. No. 973,681; Oct. 25; Sp. p. 4769; Gaz. vol. 159; p. 829.
Incubators, Egg-turning tray for. G. F. Boyer. No. 973,104; Oct. 18; Sp. p. 3508; Gaz. vol. 159; p. 606.
Indicating and recording device. F. A. Morgan. (Reissue.) No. 13,159; Oct. 18; Sp. p. 4292; Gaz. vol. 159; p. 731.
Indicating-switch. R. C. Browne. No. 973,257; Oct. 18; Sp. p. 3858; Gaz. vol. 159; p. 660.
Indicator: *See* Car-indicator; Electrical indicator; Firing-indicator; Speed-indicator; Station-indicator; Vehicle-indicator.
Induction-motor. J. E. Webster. No. 971,649; Oct. 4; Sp. p. 288; Gaz. vol. 159; p. 52.
Inhaler. E. S. Balthrop. No. 972,318; Oct. 11; Sp. p. 1746; Gaz. vol. 159; p. 307.
Injector. G. Fusch. No. 972,846; Oct. 18; Sp. p. 2903; Gaz. vol. 159; p. 516.
Ink-distributer. A. E. Berreyesa. No. 971,821; Oct. 4; Sp. p. 645; Gaz. vol. 159; p. 113.
Inking-roller-cooling apparatus. E. R. Melton. No. 973,122; Oct. 18; Sp. p. 3539; Gaz. vol. 159; p. 612.
Insulated hanger. E. Crabbe. No. 973,409; Oct. 18; Sp. p. 4185; Gaz. vol. 159; p. 713.
Insulating material. C. F. Peterson. No. 973,557; Oct. 25; Sp. p. 4500; Gaz. vol. 159; p. 785.
Insulating system for high-potential electric conductors. F. M. Locke. No. 973,204; Oct. 18; Sp. p. 3761; Gaz. vol. 159; p. 642.
Insulator. J. T. Klugh. No. 971,619; Oct. 4; Sp. p. 239; Gaz. vol. 159; p. 42.
Insulator. H. R. Markel. No. 971,683; Oct. 4; Sp. p. 362; Gaz. vol. 159; p. 63.
Insulator. J. H. Campbell. No. 972,994; Oct. 18; Sp. p. 3276; Gaz. vol. 159; p. 570.
Insulator, Tree-. A. L. Pierce. No. 971,785; Oct. 4; Sp. p. 575; Gaz. vol. 159; p. 100.
Internal-combustion engine. T. Renter. No. 971,793; Oct. 4; Sp. p. 591; Gaz. vol. 159; p. 103.
Internal-combustion engine. D. Roberts and C. James. No. 972,024; Oct. 4; Sp. p. 1129; Gaz. vol. 159; p. 190.
Internal-combustion engine. G. F. Swan. No. 972,409; Oct. 11; Sp. p. 1937; Gaz. vol. 159; p. 340.
Internal-combustion engine. C. W. Foster. No. 972,841; Oct. 18; Sp. p. 2894; Gaz. vol. 159; p. 514.
Internal-combustion engine. M. L. Williams. No. 972,966; Oct. 18; Sp. p. 3217; Gaz. vol. 159; p. 560.
Internal-combustion engine. W. J. O. Johnson. No. 973,048; Oct. 18; Sp. p. 3395; Gaz. vol. 159; p. 588.
Internal-combustion engine. C. H. Sergeant. No. 973,140; Oct. 18; Sp. p. 3592; Gaz. vol. 159; p. 620.
Internal-combustion engine. C. E. Fogg. No. 973,268; Oct. 18; Sp. p. 3880; Gaz. vol. 159; p. 663.
Internal-combustion engine. T. H. Haberkorn. No. 973,651; Oct. 25; Sp. p. 4707; Gaz. vol. 159; p. 818.
Internal-combustion engine, Liquid-fuel. L. Wygodsky. No. 971,954; Oct. 4; Sp. p. 985; Gaz. vol. 159; p. 165.
Internal-combustion motor. D. J. McKinnon. No. 973,800; Oct. 25; Sp. p. 5006; Gaz. vol. 159; p. 870.
Intestine-cleaning machine. E. O. Freund. No. 973,348; Oct. 18; Sp. p. 4044; Gaz. vol. 159; p. 692.
Iron: *See* Flat-iron; Sad-iron; Soldering-iron.
Iron-albumin-glycerophosphate and making same. E. Fischer. No. 972,523; Oct. 11; Sp. p. 2200; Gaz. vol. 159; p. 380.
Ironing and pressing machine. P. Jonesku. No. 973,789; Oct. 25; Sp. p. 4982; Gaz. vol. 159; p. 866.
Ironing-board. G. E. Lilly and G. H. Hartmann. No. 971,857; Oct. 4; Sp. p. 734; Gaz. vol. 159; p. 128.
Ironing-board. H. W. Funk. No. 972,356; Oct. 11; Sp. p. 1823; Gaz. vol. 159; p. 320.
Ironing-board. A. T. Lutz. No. 973,949; Oct. 25; Sp. p. 5311; Gaz. vol. 159; p. 922.
Ironing-board bracket. J. H. Frederick. No. 972,355; Oct. 11; Sp. p. 1822; Gaz. vol. 159; p. 320.
Ironing-machine. T. A. Elphick. No. 972,521; Oct. 11; Sp. p. 2197; Gaz. vol. 159; p. 379.
Irrigating apparatus. H. M. Cheek. No. 971,879; Oct. 4; Sp. p. 781; Gaz. vol. 159; p. 136.
Jack: *See* Hydraulic jack; Lifting-jack; Wagon-jack.
Jail-bar. W. F. Klett. No. 971,900; Oct. 4; Sp. p. 840; Gaz. vol. 159; p. 144.
Jar cover, Fruit-. T. Maynard and D. E. Lain. No. 972,206; Oct. 11; Sp. p. 1515; Gaz. vol. 159; p. 269.
Jar-cover-removing device. W. Murray. No. 972,774; Oct. 11; Sp. p. 2738; Gaz. vol. 159; p. 466.
Jar holder, Fruit-. G. T. Baguley. No. 972,091; Oct. 4; Sp. p. 1252; Gaz. vol. 159; p. 212.
Joint: *See* Ball-and-socket joint; Pipe-joint; Rail-joint; Railway-joint; Track-joint; Universal joint.
Joint fastener and tightener. J. W. Staples. No. 973,144; Oct. 18; Sp. p. 3605; Gaz. vol. 159; p. 621.
Jointers, Safety-guard for. A. J. Hartwick. No. 971,607; Oct. 4; Sp. p. 215; Gaz. vol. 159; p. 38.

Journal-box-lid lock. L. L. Brown. No. 972,749; Oct. 11; Sp. p. 2693; Gaz. vol. 159; p. 457.
Journal-lubricating device. I. A. Randel. No. 972,719; Oct. 11; Sp. p. 2636; Gaz. vol. 159; p. 447.
Key: *See* Party-line ringing-key; Telegraph-key.
Key lock, Interchangeable-. E. J. Prindle. No. 972,241; Oct. 11; Sp. p. 1600; Gaz. vol. 159; p. 281.
Kiln: *See* Brick-kiln; Char-revivifying kiln; Lumber-kiln.
Kiln, furnace, &c. H. O. Robinson and C. Steadman. No. 971,642; Oct. 4; Sp. p. 277; Gaz. vol. 159; p. 49.
Kite. W. Rode. No. 972,646; Oct. 11; Sp. p. 2483; Gaz. vol. 159; p. 423.
Knife: *See* Broom-corn knife.
Knife and nail-cleaner. L. P. Wickland. No. 973,600; Oct. 25; Sp. p. 4581; Gaz. vol. 159; p. 799.
Knife construction. F. V. Sandford. No. 973,978; Oct. 25; Sp. p. 5361; Gaz. vol. 159; p. 933.
Knitting machine, Automatic rib-. H. B. Taylor. No. 973,236; Oct. 18; Sp. p. 3822; Gaz. vol. 159; p. 653.
Knitting-machine yarn-changing mechanism, Automatic. A. Gee. No. 971,986; Oct. 4; Sp. p. 1061; Gaz. vol. 159; p. 177.
Knitting-machines, &c., Stop device for. E. Paquette and C. F. Deeg. No. 971,923; Oct. 4; Sp. p. 885; Gaz. vol. 159; p. 153.
Knob and spindle connection. W. Curlett. No. 973,412; Oct. 18; Sp. p. 4193; Gaz. vol. 159; p. 714.
Knockdown bin. W. R. Maeder. No. 973,796; Oct. 25; Sp. p. 4998; Gaz. vol. 159; p. 869.
Knockdown box. P. C. Thayer. No. 972,038; Oct. 4; Sp. p. 1159; Gaz. vol. 159; p. 195.
Knockdown box. E. L. Walker. No. 973,827; Oct. 25; Sp. p. 5062; Gaz. vol. 159; p. 880.
Label-attaching means. F. D. Rettich. No. 972,917; Oct. 18; Sp. p. 3106; Gaz. vol. 159; p. 544.
Label or wrapping machines, Feeding mechanism for. W. and H. Rose. No. 972,647; Oct. 11; Sp. p. 2484; Gaz. vol. 159; p. 423.
Label-pasting device. W. Sutton. No. 971,800; Oct. 4; Sp. p. 601; Gaz. vol. 159; p. 105.
Labels or wrappers, Mechanism for applying. W. and H. Rose. No. 972,648; Oct. 11; Sp. p. 2485; Gaz. vol. 159; p. 423.
Lace-fastening means. J. Hennessey. No. 972,620; Oct. 11; Sp. p. 2431; Gaz. vol. 159; p. 414.
Lace-reel. J. Barry and M. L. Shaughnessy. No. 972,745; Oct. 11; Sp. p. 2687; Gaz. vol. 159; p. 456.
Ladder. F. S. Plaisted. No. 971,786; Oct. 4; Sp. p. 577; Gaz. vol. 159; p. 101.
Ladder. N. W. Henning. No. 971,997; Oct. 4; Sp. p. 1079; Gaz. vol. 159; p. 181.
Ladder. A. Devan. No. 972,684; Oct. 11; Sp. p. 2550; Gaz. vol. 159; p. 435.
Ladder. E. L. Boyd. No. 973,103; Oct. 18; Sp. p. 3507; Gaz. vol. 159; p. 606.
Ladder attachment. R. and W. Holdorf. No. 972,001; Oct. 4; Sp. p. 1084; Gaz. vol. 159; p. 182.
Ladder-base, Adjustable. E. Ison. No. 973,509; Oct. 25; Sp. p. 4402; Gaz. vol. 159; p. 760.
Ladder-bracket. R. A. Holdridge. No. 971,677; Oct. 4; Sp. p. 353; Gaz. vol. 159; p. 62.
Lamp. C. Orgaard. No. 971,631; Oct. 4; Sp. p. 258; Gaz. vol. 159; p. 46.
Lamp. G. Keller. No. 973,050; Oct. 18; Sp. p. 3401; Gaz. vol. 159; p. 580.
Lamp. G. J. Salch. No. 973,072; Oct. 18; Sp. p. 3440; Gaz. vol. 159; p. 596.
Lamp, Acetylene-. F. Guy. No. 974,054; Oct. 25; Sp. p. 5528; Gaz. vol. 159; p. 959.
Lamp adjustable support, Hanging-. H. E. Drew and W. P. Carroll. No. 972,170; Oct. 11; Sp. p. 1436; Gaz. vol. 159; p. 257.
Lamp and reflector therefor. D. J. O'Brien. No. 974,090; Oct. 25; Sp. p. 5600; Gaz. vol. 159; p. 971.
Lamp, Arc-. C. A. B. Halvorson, Jr. No. 973,653; Oct. 25; Sp. p. 4712; Gaz. vol. 159; p. 819.
Lamp-bracket. C. G. Thunen and G. A. Morrill. No. 973,319; Oct. 18; Sp. p. 3984; Gaz. vol. 159; p. 682.
Lamp burner, Alcohol-. A. H. S. Swan. No. 972,410; Oct. 11; Sp. p. 1940; Gaz. vol. 159; p. 340.
Lamp burner, Alcohol-vapor-. A. H. S. Swan. No. 972,945; Oct. 18; Sp. p. 3178; Gaz. vol. 159; p. 553.
Lamp, Carbureting-. C. Torchebeuf and E. de Lanneau. No. 973,240; Oct. 18; Sp. p. 3830; Gaz. vol. 159; p. 655.
Lamp, Electric. D. D. Lockwood. (Reissue.) No. 13,158; Oct. 18; Sp. p. 4290; Gaz. vol. 159; p. 731.
Lamp fixture, Electric-. P. E. Doolittle. No. 973,014; Oct. 18; Sp. p. 3316; Gaz. vol. 159; p. 576.
Lamp, Gas-. E. J. Wiggins. No. 971,581; Oct. 4; Sp. p. 151; Gaz. vol. 159; p. 28.
Lamp-glass. G. Wamhoff, Jr. No. 973,729; Oct. 25; Sp. p. 4870; Gaz. vol. 159; p. 846.
Lamp, Incandescent. D. H. Bering. No. 973,157; Oct. 18; Sp. p. 3635; Gaz. vol. 159; p. 626.
Lamp, Incandescent electric. T. E. Robertson. No. 973,703; Oct. 25; Sp. p. 4813; Gaz. vol. 159; p. 837.
Lamp, Incandescent gas-. E. H. Still. No. 973,580; Oct. 25; Sp. p. 4540; Gaz. vol. 159; p. 793.
Lamp, Incandescent gas-. J. Maas. No. 973,950; Oct 25; Sp. p. 5313; Gaz. vol. 159; p. 923.
Lamp, Mercury-vapor. L. E. Dempster. No. 974,037; Oct. 25; Sp. p. 5504; Gaz. vol. 159; p. 954.
Lamp, Miner's safety-. J. Szombathy. No. 973,234; Oct. 18; Sp. p. 3819; Gaz. vol. 159; p. 653.
Lamp-receptacle. H. W. Lawrence. (Reissue.) No. 13,157; Oct. 11; Sp. p. 2775; Gaz. vol. 159; p. 473.
Lamp-socket. J. Darby. No. 972,343; Oct. 11; Sp. p. 1793; Gaz. vol. 159; p. 315.
Lamp-socket adjustable casing. E. H. Freeman. No. 972,526; Oct. 11; Sp. p. 2206; Gaz. vol. 159; p. 381.
Lamp-socket, Plural. R. B. Benjamin. No. 972,986; Oct. 18; Sp. p. 3261; Gaz. vol. 159; p. 567.
Lamp-socket, Plural. R. B. Benjamin. No. 972,987; Oct. 18; Sp. p. 3204; Gaz. vol. 159; p. 568.
Lamp sockets and the like, Securing means for electric-. J. S. Crossley. No. 971,976; Oct. 4; Sp. p. 1038; Gaz. vol. 159; p. 173.
Lamps, Apparatus for lighting miners' safety-. J. C. Bowie and J. H. Phelps. No. 972,675; Oct. 11; Sp. p. 2533; Gaz. vol. 159; p. 431.
Lamps at prearranged times from a given station, Means for lighting and extinguishing a system of gas-. J. Brazier and H. Watson. No. 972,500; Oct. 11; Sp. p. 2130; Gaz. vol. 159; p. 370.
Lamps, Machine for manufacturing incandescent. G. W. Beadle. No. 971,515; Oct. 4; Sp. p. 9; Gaz. vol. 159; p. 4.
Land-leveler. H. M. Sproul. No. 972,279; Oct. 11; Sp. p. 1676; Gaz. vol. 159; p. 294.
Lantern. E. T. Scanlan. No. 971,567; Oct. 4; Sp. p. 126; Gaz. vol. 159; p. 24.
Lantern. F. N. Thiel. No. 972,413; Oct. 11; Sp. p. 1947; Gaz. vol. 159; p. 341.
Lantern. H. F. Maynes. No. 973,529; Oct. 25; Sp. p. 4442; Gaz. vol. 159; p. 776.
Lantern, Moving-picture projecting-. W. N. Selig. No. 971,864; Oct. 4; Sp. p. 753; Gaz. vol. 159; p. 131.
Lantern, Vehicle-. F. E. Davis. No. 974,034; Oct. 25; Sp. p. 5497; Gaz. vol. 159; p. 953.
Lasting apparatus, Boot and shoe. E. Langenohl. No. 973,521; Oct. 25; Sp. p. 4426; Gaz. vol. 159; p. 773.
Latch. A. Cline. No. 973,819; Oct. 25; Sp. p. 5238; Gaz. vol. 159; p. 912.
Latch for doors, &c., Self-tightening twin. R. E. Jones. No. 973,049; Oct. 18; Sp. p. 3399; Gaz. vol. 159; p. 588.
Lathe attachment. W. C. Riehs. No. 972,720; Oct. 11; Sp. p. 2637; Gaz. vol. 159; p. 448.
Lathe or turning-machine. A. Thorsby. No. 973,587; Oct. 25; Sp. p. 4557; Gaz. vol. 159; p. 795.
Lathe, Turret-. B. M. W. Hanson. No. 971,886; Oct. 4; Sp. p. 796; Gaz. vol. 159; p. 130.
Lathe, Universal. O. Tyberg. No. 972,297; Oct. 11; Sp. p. 1710; Gaz. vol. 159; p. 300.
Lathes, Carriage-guide for. O. Schaerer. No. 972,574; Oct. 11; Sp. p. 2325; Gaz. vol. 159; p. 398.
Lathes, milling-machines, and the like, Boring-head for. A. Muehlmatt. No. 973,542; Oct. 25; Sp. p. 4468; Gaz. vol. 159; p. 780.
Lay-motion. O. Ellhauer. No. 972,835; Oct. 18; Sp. p. 2878; Gaz. vol. 159; p. 512.
Leaf-support. T. Hauser. No. 971,747; Oct. 4; Sp. p. 500; Gaz. vol. 159; p. 87.
Leaf-support. T. Hauser. No. 971,840; Oct. 4; Sp. p. 690; Gaz. vol. 159; p. 121.
Leather-dressing-machine roll. W. F. Lucke and J. E. Blake. No. 973,675; Oct. 25; Sp. p. 4759; Gaz. vol. 159; p. 827.
Leather, Polishing-machine for use in repairing cracks in patent-. V. P. Buck. No. 973,912; Oct. 25; Sp. p. 5247; Gaz. vol. 159; p. 909.
Leather-strip-cutting machine. P. Medved. No. 973,448; Oct. 18; Sp. p. 4200; Gaz. vol. 159; p. 726.
Lemon-server. E. F. Symonds and R. J. Goodnow. No. 971,573; Oct. 4; Sp. p. 135; Gaz. vol. 159; p. 25.
Lens-fastening for nose-glasses. U. S. Row. No. 973,215; Oct. 18; Sp. p. 3782; Gaz. vol. 159; p. 646.
Letter and design, Sectional. J. P. Reilly and J. B. Noyes. No. 972,406; Oct. 11; Sp. p. 1930; Gaz. vol. 159; p. 339.
Letter, Electric-sign. F. H. Lansdell. No. 972,877; Oct. 18; Sp. p. 2980; Gaz. vol. 159; p. 528.
Level. D. E. Reilly. No. 971,702; Oct. 4; Sp. p. 590; Gaz. vol. 159; p. 103.
Level. A. D. Hunsicker and W. A. Denton. No. 973,437; Oct. 18; Sp. p. 4239; Gaz. vol. 159; p. 722.
Level and folding rule, Combination spirit-. R. G. Pike. No. 973,458; Oct. 18; Sp. p. 4281; Gaz. vol. 159; p. 729.
Level and square, Combination. G. W. Wolcott. No. 974,007; Oct. 25; Sp. p. 5444; Gaz. vol. 159; p. 943.
Leveling and grading instrument. L. T. Hull. No. 971,752; Oct. 4; Sp. p. 510; Gaz. vol. 159; p. 88.
Lifter: *See* Pan and plate lifter; Plate-lifter.
Lifting barrels, boxes, and the like, Collapsible stand for. J. B. James. No. 972,863; Oct. 18; Sp. p. 2948; Gaz. vol. 159; p. 523.
Lifting-jack. J. W. Gaddis. No. 974,040; Oct. 25; Sp. p. 5522; Gaz. vol. 159; p. 958.
Light: *See* Gas flash-light; Headlight; Pavement and other light.
Light-holder. E. K. Southwick. No. 972,480; Oct. 11; Sp. p. 2088; Gaz. vol. 159; p. 363.
Lighting apparatus. W. H. Browne. No. 972,328; Oct. 11; Sp. p. 1764; Gaz. vol. 159; p. 310.
Lighting effects on stages by means of high-tension currents of high frequency, Production of. C. F. Zhaniel. No. 973,736; Oct. 25; Sp. p. 4880; Gaz. vol. 159; p. 848.
Lighting-fixture. F. W. Wakefield. No. 971,942; Oct. 4; Sp. p. 949; Gaz. vol. 159; p. 160.

Lighting-fixture. F. W. Wakefield. No. 971,943; Oct. 4; Sp. p. 951; Gaz. vol. 159; p. 160.
Lighting systems, Automatic controlling apparatus for. M. G. Cowper-Smith. No. 972,752; Oct. 11; Sp. p. 2697; Gaz. vol. 159; p. 459.
Lightning-arrester. F. W. Peak, Jr. No. 973,555; Oct. 25; Sp. p. 4496; Gaz. vol. 159; p. 785.
Lightning-arrester. F. T. Forster. No. 973,645; Oct. 25; Sp. p. 4695; Gaz. vol. 159; p. 816.
Lime-water, Producing saturated. H. H. Sutro. No. 973,902; Oct. 25; Sp. p. 5407; Gaz. vol. 159; p. 938.
Line-casting machine. F. C. Lucke d'Aix. No. 972,591; Oct. 11; Sp. p. 2368; Gaz. vol. 159; p. 404.
Lineman's chair. J. W. Davis. No. 973,633; Oct. 25; Sp. p. 4666; Gaz. vol. 159; p. 812.
Lineman's tool. W. H. Whittemore. No. 972,305; Oct. 11; Sp. p. 1728; Gaz. vol. 159; p. 303.
Linotype-machine. W. E. Elliott. No. 973,181; Oct. 18; Sp. p. 3701; Gaz. vol. 159; p. 635.
Linotype-machines, &c., Keyboard mechanism for. J. R. Rogers. No. 973,566; Oct. 25; Sp. p. 4516; Gaz. vol. 159; p. 789.
Liquid-discharging device. E. Pagett. No. 974,105; Oct. 25; Sp. p. 5629; Gaz. vol. 159; p. 976.
Liquid-fuel burner. H. Shapel. No. 972,981; Oct. 18; Sp. p. 3141; Gaz. vol. 159; p. 548.
Liquid-fuel burner. C. A. Swarts and S. Finley. No. 973,995; Oct. 25; Sp. p. 5420; Gaz. vol. 159; p. 939.
Liquid-fuel purifier and gaged governor. Z. H. Stamets. No. 972,282; Oct. 11; Sp. p. 1682; Gaz. vol. 159; p. 295.
Liquid-fuel strainer. W. C. Carter. No. 973,756; Oct. 25; Sp. p. 4915; Gaz. vol. 159; p. 855.
Liquid-gage. M. M. Borden. No. 973,101; Oct. 18; Sp. p. 3503; Gaz. vol. 159; p. 605.
Liquid mixing and containing apparatus. F. Purdy. No. 972,243; Oct. 11; Sp. p. 1603; Gaz. vol. 159; p. 282.
Liquids under pressure, Apparatus for conveying. B. C. Rowell. No. 973,819; Oct. 25; Sp. p. 5238; Gaz. vol. 159; p. 876.
Loading apparatus. W. T. Scott. No. 971,568; Oct. 4; Sp. p. 128; Gaz. vol. 159; p. 24.
Lock: *See* Can-lock; Car-lock; Door-lock; Elevator-door lock; Key-lock; Nut-lock; Padlock; Portable lock; Safety-lock; Sash-lock; Seal-lock.
Lock. F. Liers. No. 971,763; Oct. 4; Sp. p. 532; Gaz. vol. 159; p. 93.
Lock. J. B. Hoover. No. 972,535; Oct. 11; Sp. p. 2220; Gaz. vol. 159; p. 384.
Lock. T. M. Kwasnieski. No. 972,543; Oct. 11; Sp. p. 2239; Gaz. vol. 159; p. 387.
Lock. E. O. Storelee. No. 972,728; Oct. 11; Sp. p. 2650; Gaz. vol. 159; p. 450.
Lock. C. E. Johnson. No. 972,865; Oct. 18; Sp. p. 2951; Gaz. vol. 159; p. 523.
Lock. F. T. Purdham. No. 973,301; Oct. 18; Sp. p. 3941; Gaz. vol. 159; p. 675.
Lock. H. G. Voight. No. 973,728; Oct. 25; Sp. p. 4864; Gaz. vol. 159; p. 846.
Lock. F. G. Diehl. No. 973,920; Oct. 25; Sp. p. 5259; Gaz. vol. 159; p. 912.
Lock. C. E. C. Edey. No. 973,928; Oct. 25; Sp. p. 5273; Gaz. vol. 159; p. 915.
Lock-strike. F. Liers. No. 973,358; Oct. 18; Sp. p. 4063; Gaz. vol. 159; p. 696.
Locking-bolt. W. T. S. Dickey. No. 972,067; Oct. 4; Sp. p. 1208; Gaz. vol. 159; p. 204.
Locomotive ash-pan. T. H. Curtis. No. 973,765; Oct. 25; Sp. p. 4934; Gaz. vol. 159; p. 858.
Locomotive-furnace, Oil-burning. C. A. Hammel. No. 973,112; Oct. 18; Sp. p. 3525; Gaz. vol. 159; p. 609.
Locomotive smoke-conveyer. A. L. Bridgham. No. 973,256; Oct. 18; Sp. p. 3855; Gaz. vol. 159; p. 659.
Locomotive, Steam-. S. A. Barrickman. No. 972,790; Oct. 11; Sp. p. 2768; Gaz. vol. 159; p. 471.
Log-scale, tree-calipers, and staff, Combined. C. A. Divine. No. 973,636; Oct. 25; Sp. p. 4676; Gaz. vol. 159; p. 813.
Log-turning device. V. T. Grabs. No. 973,423; Oct. 18; Sp. p. 4214; Gaz. vol. 159; p. 717.
Logging system. J. H. Dickinson and W. A. Gilchrist. No. 972,831; Oct. 19; Sp. p. 2865; Gaz. vol. 159; p. 511.
Loom. F. Ott. No. 971,632; Oct. 4; Sp. p. 259; Gaz. vol. 159; p. 46.
Loom, Automatic weft-replenishing. A. E. Rhoades. No. 972,918; Oct. 18; Sp. p. 3108; Gaz. vol. 159; p. 544.
Loom, Automatic weft-replenishing. E. S. Stimpson. No. 972,942; Oct. 18; Sp. p. 3169; Gaz. vol. 159; p. 552.
Loom-dobby. W. Kabre. No. 971,846; Oct. 4; Sp. p. 703; Gaz. vol. 159; p. 124.
Loom, Filling-replenishing. J. Northrop. No. 973,131; Oct. 18; Sp. p. 3560; Gaz. vol. 159; p. 616.
Loom, Filling-replenishing. W. F. Draper. No. 973,205; Oct. 18; Sp. p. 3873; Gaz. vol. 159; p. 663.
Loom filling-replenishing mechanism. J. Northrop. No. 973,127; Oct. 18; Sp. p. 3551; Gaz. vol. 159; p. 615.
Loom fork-grid cleaner. M. J. Armstead. No. 973,741; Oct. 25; Sp. p. 4887; Gaz. vol. 159; p. 849.
Loom harness mechanism. L. S. Burbank. No. 972,810; Oct. 18; Sp. p. 2816; Gaz. vol. 159; p. 503.
Loom let-off mechanism. J. V. Cunniff. No. 973,344; Oct. 18; Sp. p. 4038; Gaz. vol. 159; p. 691.
Loom picker-check-strap holder. M. L. Stone. No. 972,944; Oct. 18; Sp. p. 3177; Gaz. vol. 159; p. 553.
Loom-strap. E. Poole. No. 972,641; Oct. 11; Sp. p. 2475; Gaz. vol. 159; p. 421.
Loom thin-place preventer. J. Northrop. No. 973,129; Oct. 18; Sp. p. 3502; Gaz. vol. 159; p. 615.
Loom, Weft-replenishing. E. H. Ryon. No. 972,722; Oct. 11; Sp. p. 2640; Gaz. vol. 159; p. 448.
Loom, Weft-replenishing. J. G. King. No. 972,872; Oct. 18; Sp. p. 2967; Gaz. vol. 159; p. 525.
Loom, Weft-replenishing. E. D. Osgood and A. E. Rhoades. No. 972,904; Oct. 18; Sp. p. 3060; Gaz. vol. 159; p. 539.
Loom weft-supplying mechanism. E. S. Stimpson. No. 972,943; Oct. 18; Sp. p. 3174; Gaz. vol. 159; p. 552.
Looms, Cloth-beam for. J. Northrop. No. 973,134; Oct. 18; Sp. p. 3576; Gaz. vol. 159; p. 617.
Looms, Filling-supplying mechanism for automatic filling-replenishing. C. A. Littlefield. No. 972,881; Oct. 18; Sp. p. 2988; Gaz. vol. 159; p. 529.
Looms, Spool-changing apparatus for. A. G. Koechlin. No. 971,541; Oct. 4; Sp. p. 67; Gaz. vol. 159; p. 13.
Looms, Thin-place detector for filling-replenishing. L. Dunaway. No. 972,833; Oct. 18; Sp. p. 2873; Gaz. vol. 159; p. 512.
Looms, Thread-cutting device for automatic weft-replenishing. J. Martinek. No. 972,118; Oct. 4; Sp. p. 1301; Gaz. vol. 159; p. 220.
Lubricating device. L. K. Smith. No. 972,659; Oct. 11; Sp. p. 2510; Gaz. vol. 159; p. 426.
Lubricator: *See* Axle-lubricator.
Lubricator. L. J. Maloy. No. 972,701; Oct. 11; Sp. p. 2581; Gaz. vol. 159; p. 440.
Lumber-kiln. J. McLaughlin. No. 973,872; Oct. 25; Sp. p. 5161; Gaz. vol. 159; p. 896.
Magazine-holder. R. F. Haynes. No. 972,531; Oct. 11; Sp. p. 2215; Gaz. vol. 159; p. 383.
Magnet, Lifting-. C. E. Frederickson. No. 974,047; Oct. 25; Sp. p. 5520; Gaz. vol. 159; p. 957.
Magnetic brake. C. Shears. No. 971,795; Oct. 4; Sp. p. 594; Gaz. vol. 159; p. 104.
Magnetic separator. F. O. Schnelle. No. 971,692; Oct. 4; Sp. p. 375; Gaz. vol. 159; p. 66.
Mail-bag delivery and catching apparatus. W. S. James. No. 973,510; Oct. 25; Sp. p. 4403; Gaz. vol. 159; p. 770.
Mail-box register. J. Baumgartner. No. 973,156; Oct. 18; Sp. p. 3633; Gaz. vol. 159; p. 625.
Mail-chute. A. K. Smith. No. 973,080; Oct. 18; Sp. p. 3455; Gaz. vol. 159; p. 598.
Mail-chute. A. K. Smith. No. 973,081; Oct. 18; Sp. p. 3456; Gaz. vol. 159; p. 598.
Mail crane and catcher. J. A. Timmerman. No. 972,946; Oct. 18; Sp. p. 3180; Gaz. vol. 159; p. 554.
Mail delivering and collecting apparatus. T. Middlebrook. No. 971,914; Oct. 4; Sp. p. 867; Gaz. vol. 159; p. 149.
Mail delivering and receiving apparatus, Railway. L. K. Hassell and C. Hanson. No. 972,530; Oct. 11; Sp. p. 2213; Gaz. vol. 159; p. 382.
Mail-receiving device. M. A. Candle. No. 973,166; Oct. 18; Sp. p. 3665; Gaz. vol. 159; p. 629.
Mainspring-winder. T. W. Hobb and W. A. Gwinn. No. 973,045; Oct. 18; Sp. p. 3388; Gaz. vol. 159; p. 587.
Manicure instrument. E. Ruettgers. No. 973,308; Oct. 18; Sp. p. 3958; Gaz. vol. 159; p. 677.
Manifolding device. E. E. Brunson. No. 971,725; Oct. 4; Sp. p. 453; Gaz. vol. 159; p. 78.
Manifolding-pad. E. K. Bottle. No. 972,805; Oct. 18; Sp. p. 2804; Gaz. vol. 159; p. 501.
Manifolding-pad, R. Clark. No. 972,819; Oct. 18; Sp. p. 2842; Gaz. vol. 159; p. 507.
Mantles, Machine for calcining. J. Bonnet and J. L. Muller. No. 973,161; Oct. 18; Sp. p. 3645; Gaz. vol. 159; p. 627.
Manure-scraper. L. C. Peterson. No. 973,967; Oct. 25; Sp. p. 5342; Gaz. vol. 159; p. 929.
Manure-spreader. H. A. Arnold. No. 973,742; Oct. 25; Sp. p. 4889; Gaz. vol. 159; p. 850.
Manure-spreader for wagons. P. L. Fortin. No. 971,836; Oct. 4; Sp. p. 676; Gaz. vol. 159; p. 119.
Manure-spreader for wagons. P. L. Fortin. No. 971,837; Oct. 4; Sp. p. 681; Gaz. vol. 159; p. 120.
Massage apparatus. B. L. Gates. No. 973,770; Oct. 25; Sp. p. 4945; Gaz. vol. 159; p. 860.
Match-box. E. Poeppel. No. 973,297; Oct. 18; Sp. p. 3935; Gaz. vol. 159; p. 674.
Match-box. J. W. Fink. No. 973,930; Oct. 25; Sp. p. 5277; Gaz. vol. 159; p. 916.
Match-safe and cigar-cutter, Combined. A. N. Roth. No. 973,306; Oct. 18; Sp. p. 3956; Gaz. vol. 159; p. 677.
Matte, Handling. W. D. Kilbourn. No. 974,074; Oct. 25; Sp. p. 5570; Gaz. vol. 159; p. 965.
Maximum-demand meter. V. Karapetoff. No. 972,538; Oct. 11; Sp. p. 2228; Gaz. vol. 159; p. 385.
Measuring apparatus. Tallor's. S. S. Moritz. No. 972,705; Oct 11; Sp. p. 2589; Gaz. vol. 159; p. 442.
Measuring feet, lasts, and the like, Device for. W. Church. No. 973,475; Oct. 25; Sp. p. 4322; Gaz. vol. 159; p. 758.
Measuring instrument, Compound. M. Clarke. No. 973,117; Oct. 18; Sp. p. 3531; Gaz. vol. 159; p. 611.
Measuring instrument, Electrical. M. J. Wohl and H. Hertzberg. No. 973,152; Oct. 18; Sp. p. 3624; Gaz. vol. 159; p. 624.
Mechanical movement. H. C. Clay. No. 972,162; Oct. 11; Sp. p. 1419; Gaz. vol. 159; p. 254.
Mechanical movement. A. Plagman. No. 972,236; Oct. 11; Sp. p. 1590; Gaz. vol. 159; p. 280.
Mercury-switch. H. Koch. No. 972,542; Oct. 11; Sp. p. 2239; Gaz. vol. 159; p. 386.

Metal articles, Process of and apparatus for cutting compound. J. F. Monnot. No. 973,376; Oct. 18; Sp. p. 4113; Gaz. vol. 159; p. 702.
Metal bodies, Making compound. J. F. Monnot. No. 972,630; Oct. 11; Sp. p. 2454; Gaz. vol. 159; p. 417.
Metal-founding. C. B. Carter. No. 974,024; Oct. 25; Sp. p. 5476; Gaz. vol. 159; p. 949.
Metal hoop. J. E. Wright. No. 972,973; Oct. 18; Sp. p. 3234; Gaz. vol. 159; p. 562.
Metal-molding crimper. T. J. Williams. No. 973,093; Oct. 18; Sp. p. 3487; Gaz. vol. 159; p. 602.
Metal objects, Method of and apparatus for producing coated. J. F. Monnot. No. 972,561; Oct. 11; Sp. p. 2279; Gaz. vol. 159; p. 393.
Metal objects, Method of and apparatus for producing coated. J. F. Monnot. No. 972,629; Oct. 11; Sp. p. 2449; Gaz. vol. 159; p. 417.
Metal-planer. G. E. Greenleaf. No. 972,363; Oct. 11; Sp. p. 1841; Gaz. vol. 159; p. 322.
Metal-polish. F. N. Pease and M. E. McDonnell. No. 972,638; Oct. 11; Sp. p. 2471; Gaz. vol. 159; p. 420.
Metal salts and metals, Producing. J. W. Beckman. No. 973,336; Oct. 18; Sp. p. 4023; Gaz. vol. 159; p. 688.
Metal-shaping apparatus. W. T. McCreavy. No. 973,682; Oct. 25; Sp. p. 4771; Gaz. vol. 159; p. 829.
Metal-shearing machine. C. C. Goble. No. 973,032; Oct. 18; Sp. p. 3368; Gaz. vol. 159; p. 583.
Metal sheets or bars, Machine for cutting out articles from. F. Malton. No. 972,203; Oct. 11; Sp. p. 1309; Gaz. vol. 159; p. 268.
Metal straightening and cutting-off machine, Strip-. F. B. Shuster. No. 973,571; Oct. 25; Sp. p. 4525; Gaz. vol. 159; p. 790.
Metal wheel. A. O. Kummero. No. 971,620; Oct. 4; Sp. p. 241; Gaz. vol. 159; p. 43.
Metal-working and other machines, Work-feeding device for. A. W. Wigglesworth. No. 972,588; Oct. 11; Sp. p. 2360; Gaz. vol. 159; p. 403.
Metal-working machine. B. M. W. Hanson. No. 971,887; Oct. 4; Sp. p. 807; Gaz. vol. 159; p. 139.
Metal-working machine. B. M. W. Hanson. No. 974,056; Oct. 25; Sp. p. 5532; Gaz. vol. 159; p. 959.
Metals, Enameling. G. L. Rice and B. W. Gilchrist. No. 971,641; Oct. 4; Sp. p. 277; Gaz. vol. 159; p. 49.
Metals from their ores, Extracting. W. E. Greenawalt. No. 973,776; Oct. 25; Sp. p. 4955; Gaz. vol. 159; p. 862.
Metals from wet-process liquors, Separating. J. H. Thwaites and S. J. Ralph. No. 972,584; Oct. 11; Sp. p. 2349; Gaz. vol. 159; p. 402.
Metals, Hot-working. J. F. Monnot. No. 972,559; Oct. 11; Sp. p. 2272; Gaz. vol. 159; p. 393.
Metallic sheathing. E. G. Budd. No. 973,622; Oct. 25; Sp. p. 4640; Gaz. vol. 159; p. 807.
Metallic tie and rail-fastener. D. B. Postlethwait. No. 973,459; Oct. 18; Sp. p. 4282; Gaz. vol. 159; p. 729.
Meter: See Gas-meter; Maximum-demand meter; Water-meter.
Meters, Port-plate for rotary. E. C. Brown. No. 972,156; Oct. 11; Sp. p. 1408; Gaz. vol. 159; p. 253.
Micrometer. C. E. Johnson. No. 972,196; Oct. 11; Sp. p. 1495; Gaz. vol. 159; p. 265.
Milk outlet in centrifugal separators, Blue-. A. L. Christenson. No. 971,593; Oct. 4; Sp. p. 180; Gaz. vol. 159; p. 33.
Milk-pasteurizing apparatus. H. Feldmeier. No. 972,608; Oct. 11; Sp. p. 2398; Gaz. vol. 159; p. 409.
Milking appliance. A. Bruce. No. 972,596; Oct. 11; Sp. p. 2375; Gaz. vol. 159; p. 405.
Milking device. A. Sabroe. No. 973,704; Oct. 25; Sp. p. 4814; Gaz. vol. 159; p. 837.
Milking-machine. J. L. Hulbert. No. 971,537; Oct. 4; Sp. p. 53; Gaz. vol. 159; p. 12.
Milling-machine. C. L. Grohmann. No. 971,885; Oct. 4; Sp. p. 793; Gaz. vol. 159; p. 138.
Milking-machine. G. E. Anderson. No. 974,011; Oct. 25; Sp. p. 5451; Gaz. vol. 159; p. 944.
Mill: See Crusher-mill; Grinding-mill; Spice-mill.
Milling-machine. A. L. De Leeuw. No. 973,766; Oct. 25; Sp. p. 4937; Gaz. vol. 159; p. 859.
Milling-machine. A. L. De Leeuw. No. 974,036; Oct. 25; Sp. p. 5502; Gaz. vol. 159; p. 954.
Mine-timbering machine. J. C. Pardue. No. 971,779; Oct. 4; Sp. p. 563; Gaz. vol. 159; p. 98.
Minerals from their ores, Apparatus for separating. S. K. Behrend. No. 973,467; Oct. 25; Sp. p. 4305; Gaz. vol. 159; p. 755.
Mitten. H. A. Wood. No. 973,330; Oct. 18; Sp. p. 4008; Gaz. vol. 159; p. 685.
Mixer. N. P. Mader. No. 973,057; Oct. 18; Sp. p. 3413; Gaz. vol. 159; p. 591.
Mixing-machine. N. P. Vlahoyanes. No. 973,394; Oct. 18; Sp. p. 4150; Gaz. vol. 159; p. 707.
Moccasin. D. Hoyt and L. A. Burke. No. 972,194; Oct. 11; Sp. p. 1488; Gaz. vol. 159; p. 265.
Moistener. J. M. Molloy. No. 973,375; Oct. 18; Sp. p. 4112; Gaz. vol. 159; p. 701.
Moistener. J. S. Cushman. No. 973,631; Oct. 25; Sp. p. 4063; Gaz. vol. 159; p. 811.
Moistener, Stamp-. J. G. Summers. No. 972,661; Oct. 11; Sp. p. 2514; Gaz. vol. 159; p. 427.
Moistening-roll. A. Fachs. No. 972,607; Oct. 11; Sp. p. 2396; Gaz. vol. 159; p. 409.
Mold: See Asbestos mold; Building-block mold; Cement-mold; Coffin-mold; Fence-post mold; Shingle-mold.
Mold. L. F. Parsons. No. 971,554; Oct. 4; Sp. p. 95; Gaz. vol. 159; p. 18.
Mold-tie. J. H. Sullivan. No. 972,036; Oct. 4; Sp. p. 1156; Gaz. vol. 159; p. 194.
Molder's clamp. J. T. Ramsden. No. 971,687; Oct. 4; Sp. p. 368; Gaz. vol. 159; p. 65.
Molding apparatus. W. H. Lose. No. 971,907; Oct. 4; Sp. p. 856; Gaz. vol. 159; p. 146.
Molding-flask. J. Barker. No. 973,907; Oct. 25; Sp. p. 5288; Gaz. vol. 159; p. 908.
Molding-machine. V. Mauck and J. E. Wentling. No. 972,771; Oct. 11; Sp. p. 2732; Gaz. vol. 159; p. 465.
Molding-machine. C. P. Bohland and J. J. Connelly. No. 972,781; Oct. 11; Sp. p. 2747; Gaz. vol. 159; p. 468.
Molding-machine. G. L. Grimes. No. 972,851; Oct. 18; Sp. p. 2916; Gaz. vol. 159; p. 518.
Monkey-wrench. F. B. Cutler. No. 972,842; Oct. 11; Sp. p. 1792; Gaz. vol. 159; p. 314.
Mop and brush holder, Combined. E. O. Loeber. No. 972,458; Oct. 11; Sp. p. 2033; Gaz. vol. 159; p. 356.
Mop attachment. W. E. Arrant. No. 973,612; Oct. 25; Sp. p. 4621; Gaz. vol. 159; p. 803.
Mop-head. J. N. Young. No. 972,315; Oct. 11; Sp. p. 1743; Gaz. vol. 159; p. 306.
Mop head and wringer, Combined. A. Fischer, Jr. No. 973,491; Oct. 25; Sp. p. 4366; Gaz. vol. 159; p. 764.
Mop-holder and wringer. E. T. Weber. No. 972,739; Oct. 11; Sp. p. 2678; Gaz. vol. 159; p. 454.
Mop-stick. W. P. Shattuck. No. 973,392; Oct. 18; Sp. p. 4147; Gaz. vol. 159; p. 707.
Mop-wringing support. C. E. Strating. No. 971,702; Oct. 4; Sp. p. 390; Gaz. vol. 159; p. 69.
Mortar-feeding device. C. E. Allred. No. 972,793; Oct. 18; Sp. p. 2784; Gaz. vol. 159; p. 497.
Mortising-bit gage, Lock-. M. Nicholls. No. 971,627; Oct 4; Sp. p. 252; Gaz. vol. 159; p. 45.
Motor: See Current-motor; Electric motor; Explosion-motor; Fluid-motor; Hydraulic motor; Induction-motor; Internal-combustion motor; Oscillating motor; Tide-water motor; Water-motor.
Motor. D. F. Lawrence. No. 971,854; Oct. 4; Sp. p. 727; Gaz. vol. 159; p. 127.
Motor control. W. I. Slichter. No. 973,575; Oct. 25; Sp. p. 4531; Gaz. vol. 159; p. 791.
Motor-controller. W. B. Lucas. No. 973,525; Oct. 25; Sp. p. 4436; Gaz. vol. 159; p. 775.
Motor-controlling apparatus. S. H. Keefer. No. 972,625; Oct. 11; Sp. p. 2438; Gaz. vol. 159; p. 416.
Motor starting-gear, Internal-combustion-. P. Daimler and A. Vischer. No. 972,512; Oct. 11; Sp. p. 2166; Gaz. vol. 159; p. 376.
Motor-wheel. J. N. and J. H. Johnson. No. 972,453; Oct. 11; Sp. p. 2022; Gaz. vol. 159; p. 355.
Motors, Means for improving the efficiency of hot-air or external-combustion. E. Schneider. No. 973,221; Oct. 18; Sp. p. 3791; Gaz. vol. 159; p. 648.
Mouse and rat trap. W. Teeter. No. 973,583; Oct. 25; Sp. p. 4552; Gaz. vol. 159; p. 794.
Moving material, Apparatus for. C. W. Hill. No. 973,784; Oct. 25; Sp. p. 4974; Gaz. vol. 159; p. 865.
Mower attachment. L. Franzmeier. No. 973,421; Oct. 18; Sp. p. 4209; Gaz. vol. 159; p. 717.
Mower attachment, Lawn-. J. Kelling. No. 973,667; Oct. 25; Sp. p. 4747; Gaz. vol. 159; p. 824.
Mowing-machines, Reel-adjusting mechanism for. J. A. Beckett and G. W. Willis. No. 972,321; Oct. 11; Sp. p. 1752; Gaz. vol. 159; p. 308.
Muffler. C. G. Hawley and E. K. Baker. No. 972,190; Oct. 11; Sp. p. 1481; Gaz. vol. 159; p. 264.
Music-instruction board, Key-controlled. A. L. Skoog. No. 972,934; Oct. 18; Sp. p. 3146; Gaz. vol. 159; p. 549.
Music-leaf turner. A. Hoyer. No. 972,861; Oct. 18; Sp. p. 2943; Gaz. vol. 159; p. 522.
Music-leaf turner. E. Wiedemer. No. 973,831; Oct. 25; Sp. p. 5068; Gaz. vol. 159; p. 881.
Music rack, Automatic sheet-. A. C. Morand. No. 973,803; Oct. 25; Sp. p. 5011; Gaz. vol. 159; p. 871.
Musical instrument. M. L. Severy. No. 973,391; Oct. 18; Sp. p. 4144; Gaz. vol. 159; p. 707.
Musical-instrument mouthpiece. H. E. Cook and E. P. Bullock. No. 972,823; Oct. 18; Sp. p. 2848; Gaz. vol. 159; p. 508.
Musical instruments, Finger-board for. F. Consoli. No. 973,719; Oct. 25; Sp. p. 4847; Gaz. vol. 159; p. 843.
Nail-extractor. A. Dettmann. No. 971,835; Oct. 4; Sp. p. 675; Gaz. vol. 159; p. 119.
Nail or screw case. F. A. Billstone. No. 971,965; Oct. 4; Sp. p. 1020; Gaz. vol. 159; p. 170.
Nautical instrument. C. A. McCallister. No. 972,889; Oct. 18; Sp. p. 3022; Gaz. vol. 159; p. 533.
Necktie-holder. G. Demandre. No. 972,440; Oct. 11; Sp. p. 1994; Gaz. vol. 159; p. 350.
Necktie-holder. E. T. Craige. No. 973,005; Oct. 18; Sp. p. 3300; Gaz. vol. 159; p. 573.
Necktie-supporter. J. B. Mayo. No. 973,871; Oct. 25; Sp. p. 5159; Gaz. vol. 159; p. 896.
Nose-bag. H. W. Curry. No. 973,175; Oct. 18; Sp. p. 3601; Gaz. vol. 159; p. 632.
Nozzle. I. K. Beaver. No. 971,516; Oct. 4; Sp. p. 11; Gaz. vol. 159; p. 4.
Nozzle. C. S. Jones. No. 973,940; Oct. 25; Sp. p. 5296; Gaz. vol. 159; p. 919.
Nozzle-stopper for bottles, &c. T. W. Evans. No. 972,522; Oct. 11; Sp. p. 2198; Gaz. vol. 159; p. 380.

Nut-lock. J. Mills. No. 971,549; Oct. 4; Sp. p. 84; Gaz. vol. 159; p. 16.
Nut-lock. C. C. Rankin. No. 971,637; Oct. 4; Sp. p. 269; Gaz. vol. 159; p. 48.
Nut-lock. J. H. Harvey. No. 971,675; Oct. 4; Sp. p. 348; Gaz. vol. 159; p. 61.
Nut-lock. W. J. Murphy. No. 971,775; Oct. 4; Sp. p. 554; Gaz. vol. 159; p. 97.
Nut-lock. C. Pfister. No. 971,784; Oct. 4; Sp. p. 574; Gaz. vol. 159; p. 100.
Nut-lock. D. S. Paterson. No. 972,086; Oct. 4; Sp. p. 1245; Gaz. vol. 159; p. 211.
Nut-lock. A. B. Macklin and H. J. Waddle. No. 972,460; Oct. 11; Sp. p. 2038; Gaz. vol. 159; p. 357.
Nut-lock. S. W. Wilt. No. 972,660; Oct. 11; Sp. p. 2525; Gaz. vol. 159; p. 430.
Nut-lock. L. J. Maloy. No. 972,702; Oct. 11; Sp. p. 2585; Gaz. vol. 159; p. 441.
Nut-lock. W. Fifield. No. 972,758; Oct. 11; Sp. p. 2709; Gaz. vol. 159; p. 461.
Nut-lock. J. Arrenbrecht. No. 972,796; Oct. 18; Sp. p. 2780; Gaz. vol. 159; p. 498.
Nut-lock. J. E. Robinson. No. 972,924; Oct. 18; Sp. p. 3123; Gaz. vol. 159; p. 546.
Nut-lock. J. K. Wedgworth. No. 972,960; Oct. 18; Sp. p. 3206; Gaz. vol. 159; p. 557.
Nut-lock. J. B. Wismer. No. 972,968; Oct. 18; Sp. p. 3224; Gaz. vol. 159; p. 561.
Nut-lock. F. G. Rank. No. 973,460; Oct. 18; Sp. p. 4283; Gaz. vol. 159; p. 730.
Nut-lock. N. D. Munn. No. 973,544; Oct. 25; Sp. p. 4473; Gaz. vol. 159; p. 781.
Nut-lock. C. H. Johnson. No. 973,665; Oct. 25; Sp. p. 4743; Gaz. vol. 159; p. 824.
Nut-lock. R. W. Bridgman. No. 973,853; Oct. 25; Sp. p. 5115; Gaz. vol. 159; p. 888.
Nut-lock. A. Kesberger. No. 974,073; Oct. 25; Sp. p. 5570; Gaz. vol. 159; p. 965.
Nut, Lock. G. S. Dunkle and M. M. Tawney. No. 973,640; Oct. 25; Sp. p. 4687; Gaz. vol. 159; p. 814.
Nut, Lock. C. A. Kuntzsch. No. 973,673; Oct. 25; Sp. p. 4756; Gaz. vol. 159; p. 826.
Oar. J. Pleritz. No. 973,067; Oct. 18; Sp. p. 3434; Gaz. vol. 159; p. 595.
Oil burner, Crude-. W. D. Patton. No. 972,401; Oct. 11; Sp. p. 1918; Gaz. vol. 159; p. 337.
Oil-burner, Gas-generating. T. Muehleisen. No. 973,804; Oct. 25; Sp. p. 5014; Gaz. vol. 159; p. 872.
Oil-burning furnace. L. Koczwara. No. 971,902; Oct. 4; Sp. p. 842; Gaz. vol. 159; p. 145.
Oil-can. A. R. Pritchard. No. 973,564; Oct. 25; Sp. p. 4512; Gaz. vol. 159; p. 788.
Oil-shield. H. Haudenschild. No. 973,114; Oct. 18; Sp. p. 3528; Gaz. vol. 159; p. 610.
Ointment-bases. Making artificial. S. Knopf. No. 971,681; Oct. 4; Sp. p. 359; Gaz. vol. 159; p. 63.
Operating-table, Physician's and surgeon's. B. D. Thorner. No. 972,414; Oct. 11; Sp. p. 1948; Gaz. vol. 159; p. 342.
Optical instrument. T. A. Somdal. No. 971,798; Oct. 4; Sp. p. 600; Gaz. vol. 159; p. 105.
Optical instrument. B. F. Mayo. No. 973,062; Oct. 18; Sp. p. 3423; Gaz. vol. 159; p. 593.
Optical-instrument attachment. T. J. Janda. No. 973,438; Oct. 18; Sp. p. 4240; Gaz. vol. 159; p. 722.
Ore-concentrating jig. M. Doubledee. No. 973,180; Oct. 18; Sp. p. 3699; Gaz. vol. 159; p. 634.
Ore-concentrator. I. F. Monell. No. 972,017; Oct. 4; Sp. p. 1115; Gaz. vol. 159; p. 187.
Ore-concentrator. E. H. Moe. No. 972,463; Oct. 11; Sp. p. 2041; Gaz. vol. 159; p. 358.
Ore-concentrator. W. O. King. No. 974,075; Oct. 25; Sp. p. 5572; Gaz. vol. 159; p. 966.
Ore-jigger. C. E. Knowles. No. 973,281; Oct. 18; Sp. p. 3905; Gaz. vol. 159; p. 668.
Ore-separator, Magnetic. A. G. Holmberg. No. 972,109; Oct. 4; Sp. p. 1287; Gaz. vol. 159; p. 217.
Ore-separator, Magnetic. C. A. Sellon. No. 973,984; Oct. 25; Sp. p. 5385; Gaz. vol. 159; p. 935.
Ores, Reduction of sulfur and iron. A. Wiens. No. 973,732; Oct. 25; Sp. p. 4873; Gaz. vol. 159; p. 847.
Ores, Treating. C. E. Baker. No. 972,149; Oct. 11; Sp. p. 1372; Gaz. vol. 159; p. 251.
Oscillating motor. H. A. Adams. No. 973,400; Oct. 18; Sp. p. 4167; Gaz. vol. 159; p. 710.
Oscillator, Electrical. F. K. Vreeland. No. 973,826; Oct. 25; Sp. p. 5058; Gaz. vol. 159; p. 880.
Oxalates from formates, Making. A. Wiens. No. 973,832; Oct. 25; Sp. p. 5070; Gaz. vol. 159; p. 882.
Packing. A. L. Cole. No. 972,680; Oct. 11; Sp. p. 2543; Gaz. vol. 159; p. 433.
Packing-box. J. Wahl. No. 972,586; Oct. 11; Sp. p. 2352; Gaz. vol. 159; p. 402.
Packing for fluid-engines. W. F. Purcell. No. 973,972; Oct. 25; Sp. p. 5350; Gaz. vol. 159; p. 931.
Packing, Piston-. J. Dittrich. No. 971,978; Oct. 4; Sp. p. 1041; Gaz. vol. 159; p. 174.
Packing, Shaft-. J. J. Boucher. No. 973,850; Oct. 25; Sp. p. 5109; Gaz. vol. 159; p. 887.
Packing-tool. E. P. Strode. No. 973,146; Oct. 18; Sp. p. 3607; Gaz. vol. 159; p. 622.
Pad: See Manifolding-pad.
Pad-holder. E. H. Nelson. No. 972,709; Oct. 11; Sp. p. 2607; Gaz. vol. 159; p. 443.
Padlock. G. M. Miller and S. R. Slaymaker. No. 973,538; Oct. 25; Sp. p. 4461; Gaz. vol. 159; p. 779.
Padlock and staple or hasp therefor. R. B. Reeves. No. 972,643; Oct. 11; Sp. p. 2478; Gaz. vol. 159; p. 422.
Padlock, Combination-. L. H. Dupont. No. 972,171; Oct. 11; Sp. p. 1437; Gaz. vol. 159; p. 257.
Pail, Lunch-. S. Edwards. No. 971,735; Oct. 4; Sp. p. 479; Gaz. vol. 159; p. 83.
Pail, Oyster-. W. Heyser. No. 971,998; Oct. 4; Sp. p. 1080; Gaz. vol. 159; p. 181.
Pail, Sanitary dairy-. U. A. Towns. No. 972,295; Oct. 11; Sp. p. 1705; Gaz. vol. 159; p. 300.
Paint-barrels and the like, Agitator or stirrer for. F. B. Stockmann. No. 972,727; Oct. 11; Sp. p. 2648; Gaz. vol. 159; p. 450.
Painting appliance. R. D. Kinyon. No. 973,356; Oct. 18; Sp. p. 4059; Gaz. vol. 159; p. 695.
Pan: See Dish-pan; Drip-pan; Locomotive ash-pan.
Pan and plate lifter. W. W. Shirley. No. 972,933; Oct. 18; Sp. p. 3144; Gaz. vol. 159; p. 549.
Pans, Dies for making. E. Katzinger. No. 972,113; Oct. 4; Sp. p. 1295; Gaz. vol. 159; p. 219.
Paper and pulp machine, Multiple-color. H. Parker. No. 973,965; Oct. 25; Sp. p. 5339; Gaz. vol. 159; p. 928.
Paper bags, Making. A. L. Parrish. No. 971,780; Oct. 4; Sp. p. 566; Gaz. vol. 159; p. 99.
Paper-board machine, Corrugated-. J. H. McPike. No. 972,120; Oct. 4; Sp. p. 1304; Gaz. vol. 159; p. 221.
Paper-board machine, Corrugated-. J. H. and H. G. McPike, Jr., and H. B. Harlow. No. 972,121; Oct. 4; Sp. p. 1306; Gaz. vol. 159; p. 221.
Paper-box-blank-making machine. F. P. Vavra. No. 972,300; Oct. 11; Sp. p. 1717; Gaz. vol. 159; p. 301.
Paper-box-covering machines, Form for. C. G. Wyatt. No. 972,974; Oct. 18; Sp. p. 3236; Gaz. vol. 159; p. 562.
Paper-box machinery. C. F. Jenkins. No. 972,767; Oct. 11; Sp. p. 2724; Gaz. vol. 159; p. 463.
Paper-carriage. J. Raber. No. 973,700; Oct. 25; Sp. p. 4808; Gaz. vol. 159; p. 836.
Paper-feeding machine. F. L. Cross. No. 971,975; Oct. 4; Sp. p. 1036; Gaz. vol. 159; p. 173.
Paper-folding machine. A. D. Pejaud. No. 972,409; Oct. 11; Sp. p. 2062; Gaz. vol. 159; p. 360.
Paper-machine. P. R. Thom. No. 971,645; Oct. 4; Sp. p. 282; Gaz. vol. 159; p. 50.
Paper-machine slitting attachment. W. J. Dolan. No. 974,039; Oct. 25; Sp. p. 5507; Gaz. vol. 159; p. 954.
Paper, Manifold-. W. L. West. No. 972,742; Oct. 11; Sp. p. 2683; Gaz. vol. 159; p. 455.
Paper-rolls, Core for. D. B. Donnelly. No. 973,923; Oct. 25; Sp. p. 5265; Gaz. vol. 159; p. 913.
Paper-stock screen. F. D. Fowler. No. 973,493; Oct. 25; Sp. p. 4371; Gaz. vol. 159; p. 764.
Paper-stock, Cleaning old. J. D. Tompkins. No. 972,294; Oct. 11; Sp. p. 1703; Gaz. vol. 159; p. 299.
Paper wrappers, Machine for making. F. Kaufman. No. 973,202; Oct. 18; Sp. p. 3755; Gaz. vol. 159; p. 641.
Party-line ringing-key, Four-. A. H. Weiss. No. 971,650; Oct. 4; Sp. p. 289; Gaz. vol. 159; p. 52.
Pattern or mold forming machine. F. Quinn. No. 972,914; Oct. 18; Sp. p. 3089; Gaz. vol. 159; p. 542.
Patterns, Fillet for. W. C. and M. W. Risbridger. No. 972,473; Oct. 11; Sp. p. 2075; Gaz. vol. 159; p. 361.
Pavement and other light. H. C. Selpp. No. 972,264; Oct. 11; Sp. p. 1639; Gaz. vol. 159; p. 289.
Peanut-gleaner. H. L. Pippen. No. 972,910; Oct. 18; Sp. p. 3081; Gaz. vol. 159; p. 541.
Pedal grip attachment. E. F. and H. Pawsat. No. 973,065; Oct. 18; Sp. p. 3432; Gaz. vol. 159; p. 594.
Pegging-machine. J. F. Davey. No. 973,009; Oct. 18; Sp. p. 3307; Gaz. vol. 159; p. 575.
Pen-extractor. F. R. Bailey. No. 972,146; Oct. 11; Sp. p. 1368; Gaz. vol. 159; p. 250.
Pen, Fountain-. D. Gallagher. No. 971,742; Oct. 4; Sp. p. 491; Gaz. vol. 159; p. 85.
Pen, Reservoir-. E. M. Wade. No. 972,301; Oct. 11; Sp. p. 1719; Gaz. vol. 159; p. 302.
Penstock. C. H. Laing. No. 972,876; Oct. 18; Sp. p. 2978; Gaz. vol. 159; p. 527.
Pencil-holder and inhaler, Combined. J. W. Hayes. No. 973,427; Oct. 18; Sp. p. 4221; Gaz. vol. 159; p. 719.
Pencil, Lead-. C. Kaiser. No. 972,624; Oct. 11; Sp. p. 2437; Gaz. vol. 159; p. 415.
Pencil-pointer. R. A. and A. P. Wilson. No. 972,488; Oct. 11; Sp. p. 2105; Gaz. vol. 159; p. 366.
Pencil protector and retainer. J. P. Smythe. No. 971,797; Oct. 4; Sp. p. 599; Gaz. vol. 159; p. 105.
Pencil-sharpener cutter. J. P. Casey. No. 971,728; Oct. 4; Sp. p. 464; Gaz. vol. 159; p. 80.
Perfecting-machine. H. Stamm. No. 973,312; Oct. 18; Sp. p. 3965; Gaz. vol. 159; p. 679.
Perforating designs, Electrical apparatus for. B. H. Wallin. No. 973,890; Oct. 25; Sp. p. 5224; Gaz. vol. 159; p. 906.
Phonograph-mandrel. H. N. Kistner. No. 973,203; Oct. 18; Sp. p. 3758; Gaz. vol. 159; p. 642.
Phonograph-reproducer. H. B. McNulty. No. 972,013; Oct. 4; Sp. p. 1106; Gaz. vol. 159; p. 185.
Phonographs, Automatic check for. J. J. Morrissey. No. 973,205; Oct. 18; Sp. p. 3762; Gaz. vol. 159; p. 643.
Photographer's printing-frame. G. L. Coursen. No. 973,629; Oct. 25; Sp. p. 4656; Gaz. vol. 159; p. 810.
Photographic apparatus. H. C. Hebig. No. 972,373; Oct. 11; Sp. p. 1856; Gaz. vol. 159; p. 326.
Phonographic disk records, Device for removing. F. A. Schimanski. No. 972,028; Oct. 4; Sp. p. 1130; Gaz. vol. 159; p. 191.

Photographic emulsion. X. Schwartz. (Reissue.) No. 13,162; Oct. 25; Sp. p. 5637; Gaz. vol. 159; p. 978.
Photographic films, Apparatus for handling. F. G. Kugler. No. 971,543; Oct. 4; Sp. p. 73; Gaz. vol. 159; p. 14.
Photographic images in natural colors, Projecting. W. E. Oliver. No. 973,062; Oct. 25; Sp. p. 5332; Gaz. vol. 159; p. 927.
Photographic-printing frame. J. H. Ileuser. No. 973,783; Oct. 25; Sp. p. 4972; Gaz. vol. 159; p. 864.
Photographic shutter. J. T. Fisk. No. 973,020; Oct. 18; Sp. p. 3328; Gaz. vol. 159; p. 579.
Photographic shutter. J. T. Fisk. No. 973,021; Oct. 18; Sp. p. 3338; Gaz. vol. 159; p. 579.
Photoprinting-frame. J. F. Curtis. No. 973,764; Oct. 25; Sp. p. 4932; Gaz. vol. 159; p. 858.
Piano-action. L. Avisus. No. 973,841; Oct. 25; Sp. p. 5002; Gaz. vol. 159; p. 884.
Piano-bench, Adjustable. W. C. Binckley. No. 974,018; Oct. 25; Sp. p. 5467; Gaz. vol. 159; p. 947.
Piano, Player-. S. L. Dickinson. No. 972,346; Oct. 11; Sp. p. 1798; Gaz. vol. 159; p. 316.
Piano-player, Automatic. A. A. Aarons. No. 973,839; Oct. 25; Sp. p. 5087; Gaz. vol. 159; p. 884.
Piano tuning-pins, strings, &c., Protective strip for. H. J. Weller. No. 972,420; Oct. 11; Sp. p. 1960; Gaz. vol. 159; p. 344.
Pianos, Key-lock for auto-. W. F. Bayer. No. 971,057; Oct. 4; Sp. p. 306; Gaz. vol. 159; p. 55.
Pianos, organs, or other instruments, Fall-board for. C. F. Reeps. No. 974,093; Oct. 25; Sp. p. 5608; Gaz. vol. 159; p. 971.
Pianos, Pedal mechanism for pneumatically-operated. A. G. Gulbransen. No. 972,182; Oct. 11; Sp. p. 1463; Gaz. vol. 159; p. 261.
Pianos, Player for. A. T. Young. No. 971,956; Oct. 4; Sp. p. 995; Gaz. vol. 159; p. 166.
Pianos, &c., Rewinding and speed-regulating mechanism for pneumatic actions for. O. Nelson. No. 972,633; Oct. 11; Sp. p. 2461; Gaz. vol. 159; p. 419.
Picker: *See* Cotton-picker; Fruit-picker.
Picker-stick. E. H. Nabhan. No. 971,625; Oct. 4; Sp. p. 249; Gaz. vol. 159; p. 44.
Picker-sticks, Cushioning-stop for. J. Northrop. No. 973,132; Oct. 18; Sp. p. 3572; Gaz. vol. 159; p. 617.
Picture exhibitors, Motor attachment for motion-. J. Chambless. No. 973,917; Oct. 25; Sp. p. 5255; Gaz. vol. 159; p. 911.
Picture films, Apparatus for preparing moving-. G. E. Hoglund. No. 971,889; Oct. 4; Sp. p. 812; Gaz. vol. 159; p. 140.
Picture machine, Moving-. G. W. Bingham. No. 971,588; Oct. 4; Sp. p. 167; Gaz. vol. 159; p. 31.
Picture machine, Moving-. G. W. Bingham. No. 971,589; Oct. 4; Sp. p. 171; Gaz. vol. 159; p. 31.
Picture machine, Moving-. G. E. Hoglund. No. 971,891; Oct. 4; Sp. p. 815; Gaz. vol. 159; p. 141.
Picture machine, Moving-. J. Keller. No. 971,898; Oct. 4; Sp. p. 837; Gaz. vol. 159; p. 143.
Picture machine, Moving-. E. H. Sperberg. No. 972,142; Oct. 4; Sp. p. 1358; Gaz. vol. 159; p. 229.
Pictures in natural colors, Exhibiting motion-. W. E. Oliver. No. 973,961; Oct. 25; Sp. p. 5330; Gaz. vol. 159; p. 926.
Pictures, Producing colored films for animated. G. E. Hoglund. No. 971,890; Oct. 4; Sp. p. 814; Gaz. vol. 159; p. 140.
Pigment. A. Moffatt. No. 973,373; Oct. 18; Sp. p. 4108; Gaz. vol. 159; p. 701.
Pigment-color. F. Runkel and M. Herzberg. No. 972,130; Oct. 4; Sp. p. 1333; Gaz. vol. 159; p. 224.
Pigments, Making. A. Moffatt. No. 973,374; Oct. 18; Sp. p. 4110; Gaz. vol. 159; p. 701.
Pile-driving. Apparatus for subaqueous. O. Hoff. No. 972,192; Oct. 11; Sp. p. 1485; Gaz. vol. 159; p. 264.
Pile fabric. G. Crossland. No. 971,527; Oct. 4; Sp. p. 34; Gaz. vol. 159; p. 8.
Pile-shoe. J. A. Steinmetz. No. 973,887; Oct. 25; Sp. p. 5195; Gaz. vol. 159; p. 902.
Pin: *See* Hair-pin; Hat-pin.
Pins, Making. H. Wolcott. No. 973,153; Oct. 18; Sp. p. 3627; Gaz. vol. 159; p. 624.
Pipe: *See* Smoking-pipe; Tobacco-pipe.
Pipe-coils, Making long. L. C. Schneider. No. 972,928; Oct. 18; Sp. p. 3131; Gaz. vol. 159; p. 547.
Pipe coupling, Train-. J. E. Marble. No. 974,088; Oct. 25; Sp. p. 5596; Gaz. vol. 159; p. 970.
Pipe-forming machinery, Spiral-. J. H. Taylor. No. 972,731; Oct. 11; Sp. p. 2655; Gaz. vol. 159; p. 451.
Pipe-joint. C. R. McKibben. No. 972,119; Oct. 4; Sp. p. 1303; Gaz. vol. 159; p. 221.
Pipe-line system. I. Lightcap. No. 973,794; Oct. 25; Sp. p. 4995; Gaz. vol. 159; p. 868.
Pipe-threading machine. W. W. Vosper. No. 971,941; Oct. 4; Sp. p. 947; Gaz. vol. 159; p. 160.
Pipe-wrench. A. A. O'Donnell. No. 972,903; Oct. 18; Sp. p. 3058; Gaz. vol. 159; p. 539.
Pipe-wrench. L. R. Blackmore. No. 974,019; Oct. 25; Sp. p. 5468; Gaz. vol. 159; p. 948.
Pipe-wrench. L. R. Blackmore. No. 974,020; Oct. 25; Sp. p. 5469; Gaz. vol. 159; p. 948.
Piston-coupling. W. G. Schaeffer. No. 972,651; Oct. 11; Sp. p. 2490; Gaz. vol. 159; p. 424.
Pitman. G. E. Smith. No. 973,715; Oct. 25; Sp. p. 4841; Gaz. vol. 159; p. 841.
Pitman, Adjustable. C. Vogel. No. 972,585; Oct. 11; Sp. p. 2351; Gaz. vol. 159; p. 402.
Plane. C. B. Rice. No. 972,645; Oct. 11; Sp. p. 2481; Gaz. vol. 159; p. 422.
Planer attachment for jointers. D. M. Paddock. No. 971,553; Oct. 4; Sp. p. 91; Gaz. vol. 159; p. 18.
Plant-bench for hothouses. J. O'Donoghue. No. 972,220; Oct. 11; Sp. p. 1567; Gaz. vol. 159; p. 275.
Plant-setter. J. J. Kleeberger. No. 974,077; Oct. 25; Sp. p. 5576; Gaz. vol. 159; p. 966.
Planter and fertilizer-distributer, Combined seed-. W. D. Lemons. No. 971,856; Oct. 4; Sp. p. 731; Gaz. vol. 159; p. 128.
Planter attachment, Seed-. E. Taylor. No. 973,824; Oct. 25; Sp. p. 5054; Gaz. vol. 159; p. 879.
Planter check-rower, Corn-. F. J. and M. A. Krivachek. No. 974,080; Oct. 25; Sp. p. 5581; Gaz. vol. 159; p. 967.
Planter, Corn-. J. Gross. No. 973,499; Oct. 25; Sp. p. 4379; Gaz. vol. 159; p. 766.
Planter, Pindal or peanut. R. B. May. No. 972,205; Oct. 11; Sp. p. 1513; Gaz. vol. 159; p. 269.
Planter, Potato-. E. Richter. No. 972,919; Oct. 18; Sp. p. 3110; Gaz. vol. 159; p. 544.
Plastic material, Machine for forming. G. E. Gowdy. No. 971,884; Oct. 4; Sp. p. 790; Gaz. vol. 159; p. 138.
Plate-lifter. W. F. Brown. No. 972,055; Oct. 4; Sp. p. 1187; Gaz. vol. 159; p. 200.
Plates or other tableware, Machine for washing. H. W. Rodda. No. 972,251; Oct. 11; Sp. p. 1620; Gaz. vol. 159; p. 284.
Pliers, A. P. Schultz. No. 973,076; Oct. 18; Sp. p. 3446; Gaz. vol. 159; p. 597.
Pliers. H. R. Cirves. No. 973,760; Oct. 25; Sp. p. 4923; Gaz. vol. 159; p. 856.
Plow, W. A. Blizzard. No. 973,745; Oct. 25; Sp. p. 4892; Gaz. vol. 159; p. 851.
Plow and harrow, Combination. J. T. Boyd. No. 971,592; Oct. 4; Sp. p. 177; Gaz. vol. 159; p. 32.
Plow attachment. E. M. Dowdy. No. 972,169; Oct. 11; Sp. p. 1434; Gaz. vol. 159; p. 256.
Plow attachment, Gang-. M. S. Stimpson. No. 973,145; Oct. 18; Sp. p. 3606; Gaz. vol. 159; p. 621.
Plow, Automobile. A. R. Lynch. No. 973,678; Oct. 25; Sp. p. 4763; Gaz. vol. 159; p. 828.
Plow, Ditching-. K. P. Nickell. No. 973,689; Oct. 25; Sp. p. 4788; Gaz. vol. 159; p. 831.
Plow draft appliance. W. L. White. No. 971,711; Oct. 4; Sp. p. 416; Gaz. vol. 159; p. 72.
Plow soil-pulverizing attachment. J. W. Roberts. No. 972,025; Oct. 4; Sp. p. 1132; Gaz. vol. 159; p. 190.
Plug receptacle, Terminal-. J. E. Ward. No. 972,056; Oct. 18; Sp. p. 3199; Gaz. vol. 159; p. 556.
Plug-switch. F. B. Adam. No. 973,096; Oct. 18; Sp. p. 3496; Gaz. vol. 159; p. 603.
Plumber's pot. C. A. Johnson, Jr. No. 973,867; Oct. 25; Sp. p. 5146; Gaz. vol. 159; p. 894.
Plumbing apparatus for concrete-wall molds. A. Haag. No. 972,618; Oct. 11; Sp. p. 2426; Gaz. vol. 159; p. 413.
Pneumatic cleaning apparatus. F. J. Matchette, C. Gordon, and C. Moukos. No. 973,446; Oct. 18; Sp. p. 4253; Gaz. vol. 159; p. 725.
Pneumatic cleansing apparatus. A. E. Moorhead. (Reissue.) No. 13,155; Oct. 11; Sp. p. 2770; Gaz. vol. 159; p. 471.
Pneumatic-despatch-tube apparatus. C. S. Jennings. No. 972,381; Oct. 11; Sp. p. 1874; Gaz. vol. 159; p. 329.
Pneumatic spring. B. Bell. No. 971,583; Oct. 4; Sp. p. 155; Gaz. vol. 159; p. 29.
Pocket-case, Combination. Z. Hudson. No. 971,892; Oct. 4; Sp. p. 818; Gaz. vol. 159; p. 141.
Poke, Animal-. O. O. Clark. No. 971,594; Oct. 4; Sp. p. 181; Gaz. vol. 159; p. 33.
Poke, Animal-. H. T. Kelley, G. N. Matthews, and G. F. Davis. No. 971,618; Oct. 4; Sp. p. 238; Gaz. vol. 159; p. 42.
Pole, Metallic. W. R. Kinnear. No. 973,670; Oct. 25; Sp. p. 4751; Gaz. vol. 159; p. 825.
Poles or posts, Telescoping core for forming plastic. F. H. Tidnam and J. N. Graves. No. 973,230; Oct. 18; Sp. p. 3829; Gaz. vol. 159; p. 655.
Polishing-machine. H. D. Hodge. No. 973,350; Oct. 18; Sp. p. 4048; Gaz. vol. 159; p. 693.
Porpoise-catching trap. C. F. Pike. No. 972,227; Oct. 11; Sp. p. 1577; Gaz. vol. 159; p. 277.
Porpoise-catching trap. C. F. Pike. No. 972,228; Oct. 11; Sp. p. 1579; Gaz. vol. 159; p. 277.
Porpoise-catching trap. C. F. Pike. No. 972,229; Oct. 11; Sp. p. 1581; Gaz. vol. 159; p. 277.
Porpoise-catching trap. C. F. Pike. No. 972,230; Oct. 11; Sp. p. 1582; Gaz. vol. 159; p. 278.
Porpoise-catching trap. C. F. Pike. No. 972,231; Oct. 11; Sp. p. 1584; Gaz. vol. 159; p. 278.
Porpoise-catching trap. C. F. Pike. No. 972,233; Oct. 11; Sp. p. 1586; Gaz. vol. 159; p. 279.
Porpoise-catching trap. C. F. Pike. No. 972,234; Oct. 11; Sp. p. 1588; Gaz. vol. 159; p. 279.
Porpoise-catching trap. C. F. Pike. No. 972,235; Oct. 11; Sp. p. 1589; Gaz. vol. 159; p. 279.
Portable elevator. E. A. Fritz and H. J. Carson. No. 973,495; Oct. 25; Sp. p. 4373; Gaz. vol. 159; p. 765.
Portable lock for doors and windows. A. C. Bates. No. 971,717; Oct. 4; Sp. p. 430; Gaz. vol. 159; p. 75.
Post: *See* Binding-post; Concrete post; Fence-post; Tool-post.

Post-card. T. Graham. No. 972,361; Oct. 11; Sp. p. 1838; Gaz. vol. 159; p. 322.
Post-support, Adjustable. J. E. Bond. No. 972,989; Oct. 18; Sp. p. 3268; Gaz. vol. 159; p. 569.
Pot: *See* Coffee-pot; Plumber's pot; Tea or coffee pot; Transplanting-pot.
Potato cutter, Seed-. B. Porter. No. 972,911; Oct. 18; Sp. p. 3083; Gaz. vol. 159; p. 541.
Potato-digger. R. Robr. No. 971,643; Oct. 4; Sp. p. 279; Gaz. vol. 159; p. 50.
Potato-digger. O. Tardif. No. 972,037; Oct. 4; Sp. p. 1157; Gaz. vol. 159; p. 194.
Potato-fork. H. Schlarf. No. 971,863; Oct. 4; Sp. p. 752; Gaz. vol. 159; p. 130.
Potato pick-up. E. E. Millikan. No. 973,539; Oct. 25; Sp. p. 4463; Gaz. vol. 159; p. 780.
Potato pick-up. E. E. Millikan. No. 973,540; Oct. 25; Sp. p. 4464; Gaz. vol. 159; p. 780.
Potential switch. J. D. Ihlder. No. 973,508; Oct. 25; Sp. p. 4397; Gaz. vol. 159; p. 769.
Power apparatus. J. F. Sperry. No. 972,276; Oct. 11; Sp. p. 1666; Gaz. vol. 159; p. 293.
Power-operated drill, Portable. A. S. Edler. No. 972,351; Oct. 11; Sp. p. 1815; Gaz. vol. 159; p. 319.
Power-press. P. R. Habnemann. No. 972,309; Oct. 11; Sp. p. 1850; Gaz. vol. 159; p. 325.
Power-press stop mechanism. G. W. Wheelwright. No. 971,945; Oct. 4; Sp. p. 962; Gaz. vol. 159; p. 161.
Power transmission and controlling apparatus, Fluid. W. E. Pearson. No. 972,223; Oct. 11; Sp. p. 1570; Gaz. vol. 159; p. 275.
Power-transmission mechanism. K. A. Kendrick. No. 972,385; Oct. 11; Sp. p. 1882; Gaz. vol. 159; p. 330.
Power-transmitting apparatus. W. R. McKeen, Jr. No. 973,365; Oct. 18; Sp. p. 4076; Gaz. vol. 159; p. 698.
Preserving compound. J. W. Stevenson. No. 971,799; Oct. 4; Sp. p. 601; Gaz. vol. 159; p. 105.
Preserve-tin-closing device. A. Johansen. No. 973,354; Oct. 18; Sp. p. 4056; Gaz. vol. 159; p. 694.
Press: *See* Baling-press; Bookbinder's gluing-press; Flanging-press; Power-press; Rotary press.
Press-rolls, Making. H. Parker. No. 973,380; Oct. 18; Sp. p. 4122; Gaz. vol. 159; p. 703.
Price and commodity exhibitor, Changeable. E. F. Dorsey. No. 973,638; Oct. 25; Sp. p. 4684; Gaz. vol. 159; p. 814.
Printing-machine. J. L. Firm. No. 971,533; Oct. 4; Sp. p. 47; Gaz. vol. 159; p. 11.
Printing-machine. J. L. Firm. No. 971,534; Oct. 4; Sp. p. 48; Gaz. vol. 159; p. 11.
Priuting machine, Blue-. C. F. Pease. No. 972,909; Oct. 18; Sp. p. 3080; Gaz. vol. 159; p. 541.
Printing machine, Card-. M. H. Mann. No. 972,554; Oct. 11; Sp. p. 2261; Gaz. vol. 159; p. 390.
Printing-press form-support. G. E. Pancoast. No. 972,906; Oct. 18; Sp. p. 3064; Gaz. vol. 159; p. 540.
Printing-machine guide. M. H. Mann. No. 972,555; Oct. 11; Sp. p. 2263; Gaz. vol. 159; p. 391.
Printing-machine inking and inking-off mechanism, Rotary-. P. O. Lafitte. No. 973,520; Oct. 25; Sp. p. 4423; Gaz. vol. 159; p. 773.
Printing-machine inking device. W. J. Main. No. 971,765; Oct. 4; Sp. p. 535; Gaz. vol. 159; p. 94.
Printing-press roller-bearing. H. O. Atwood. No. 973,098; Oct. 18; Sp. p. 3500; Gaz. vol. 159; p. 604.
Printing-press sheet-delivery mechanism. C. Henderson. No. 974,062; Oct. 25; Sp. p. 5544; Gaz. vol. 159; p. 961.
Projectile. D. I. Selfridge. No. 973,983; Oct. 25; Sp. p. 5384; Gaz. vol. 159; p. 935.
Propeller, Vibrating. B. H. Coffey. No. 972,837; Oct. 11; Sp. p. 1782; Gaz. vol. 159; p. 318.
Propelling mechanism, Reaction. W. Solomon. No. 971,690; Oct. 4; Sp. p. 395; Gaz. vol. 159; p. 69.
Propulsion by steam-turbines, Marine. M. Roellig. No. 972,926; Oct. 18; Sp. p. 3127; Gaz. vol. 159; p. 547.
Pruning implement. J. Swegles. No. 973,582; Oct. 25; Sp. p. 4552; Gaz. vol. 159; p. 794.
Pruning-shears. S. C. Taylor. No. 973,996; Oct. 25; Sp. p. 5422; Gaz. vol. 159; p. 940.
Pull-socket. T. H. Brady. No. 973,747; Oct. 25; Sp. p. 4895; Gaz. vol. 159; p. 851.
Pull-socket. R. A. Schoenberg. No. 973,982; Oct. 25; Sp. p. 5377; Gaz. vol. 159; p. 934.
Puller: *See* Spike-puller; Stalk-puller.
Pulley-block. H. Rotha. No. 972,254; Oct. 11; Sp. p. 1627; Gaz. vol. 159; p. 286.
Pulley-block. S. J. and P. W. Davis and C. McCready. No. 973,177; Oct. 18; Sp. p. 3693; Gaz. vol. 159; p. 635.
Pulp, Apparatus for the manufacture of sheets of. D. M. and D. M. Sutherland, Jr. No. 971,936; Oct. 4; Sp. p. 929; Gaz. vol. 159; p. 158.
Pump. B. N. Wright. No. 971,652; Oct. 4; Sp. p. 298; Gaz. vol. 159; p. 53.
Pump. H. E. Scheuerman. No. 972,653; Oct. 11; Sp. p. 2491; Gaz. vol. 159; p. 425.
Pump. C. L. Heisler. No. 974,061; Oct. 25; Sp. p. 5542. Gaz. vol. 159; p. 961.
Pump, &c. F. W. Machlet. No. 973,679; Oct. 25; Sp. p. 4764; Gaz. vol. 159; p. 828.
Pump apparatus, Cam-driven multiple-cylinder. G. W Kellogg. No. 973,668; Oct. 25; Sp. p. 4748; Gaz. vol. 159; p. 825.
Pump, Centrifugal. F. W. and C. A. Krogh. No. 971,849; Oct. 4; Sp. p. 714; Gaz. vol. 159; p. 125.
Pump, Centrifugal. F. W. and C. A. Krogh. No. 971,850; Oct. 4; Sp. p. 719; Gaz. vol. 159; p. 125.
Pump, Centrifugal. F. W. Krogh. No. 971,851; Oct. 4; Sp. p. 724; Gaz. vol. 159; p. 126.
Pump, Centrifugal. F. W. Krogh. No. 971,852; Oct. 4; Sp. p. 725; Gaz. vol. 159; p. 126.
Pump, Centrifugal. A. E. Guy. No. 972,366; Oct. 11; Sp. p. 1845; Gaz. vol. 159; p. 324.
Pump, Centrifugal force-. T. R. Hayton. No. 973,782; Oct. 25; Sp. p. 4970; Gaz. vol. 159; p. 864.
Pump, Cream-collecting. G. M. Freeman. No. 972,075; Oct. 4; Sp. p. 1222; Gaz. vol. 159; p. 207.
Pump for comparatively incompressible liquids. H. Milner. No. 972,558; Oct. 11; Sp. p. 2269; Gaz. vol. 159; p. 392.
Pump, Hydraulic. R. Cairns. No. 973,473; Oct. 25; Sp. p. 4318; Gaz. vol. 159; p. 757.
Pump-rod coupling. W. B. Scott. No. 971,794; Oct. 4; Sp. p. 593; Gaz. vol. 159; p. 104.
Pump, Vacuum-. G. Staunton. No. 972,939; Oct. 18; Sp. p. 3159; Gaz. vol. 159; p. 551.
Pump, Valveless. A. Inokuty. No. 973,353; Oct. 18; Sp. p. 4054; Gaz. vol. 159; p. 694.
Pumps, Air-pumping attachment for water-. C. H. Merrill. No. 972,390; Oct. 11; Sp. p. 1895; Gaz. vol. 159; p. 332.
Pumping apparatus, Water-. S. M. Stevens. No. 973,230; Oct. 18; Sp. p. 3812; Gaz. vol. 159; p. 651.
Pumping-engine. B. O. Gage. No. 972,357; Oct. 11; Sp. p. 1824; Gaz. vol. 159; p. 320.
Punch and shear, Combined. J. Monsos. No. 973,124; Oct. 18; Sp. p. 3545; Gaz. vol. 159; p. 613.
Punch, Registering-. H. E. Husted. No. 971,538; Oct. 4; Sp. p. 57; Gaz. vol. 159; p. 12.
Punching-machine. E. Bambauer. No. 971,514; Oct. 4; Sp. p. 4; Gaz. vol. 159; p. 3.
Pyroxylin, &c., and making the same, Solvent for. H. V. Walker. No. 972,953; Oct. 18; Sp. p. 3193; Gaz. vol. 159; p. 555.
Quad, Cored. J. R. Blumenberg. No. 973,469; Oct. 25; Sp. p. 4314; Gaz. vol. 159; p. 756.
Rack: *See* Billiard-cue rack; Display-rack; Dress-suit rack; Music-rack.
Radiator-fitting. T. G. Mouat. No. 973,063; Oct. 18; Sp. p. 3427; Gaz. vol. 159; p. 593.
Raft appliance. M. F Brown. No. 972,054; Oct. 4; Sp. p. 1185; Gaz. vol. 159; p. 199.
Rail-anchor. C. F. Clawson. No. 972,061; Oct. 4; Sp. p. 1200; Gaz. vol. 159; p. 203.
Rail-anchor. J. A. Bodkin. No. 973,160; Oct. 18; Sp. p. 3642; Gaz. vol. 159; p. 627.
Rail cleaner, Third-. A. J. Cockerell. No. 972,600; Oct. 11; Sp. p. 2385; Gaz. vol. 159; p. 407.
Rail-holding device. J. B. Latimer and A. D. Cloud. No. 972,545; Oct. 11; Sp. p. 2243; Gaz. vol. 159; p. 387.
Rail-joint. G. and M. L. Bacon. No. 972,148; Oct. 11; Sp. p. 1370; Gaz. vol. 159; p. 250.
Rail-joint. W. P. and S. G. Thomson. No. 972,735; Oct. 11; Sp. p. 2670; Gaz. vol. 159; p. 453.
Rail-joint. W. L. Buckland. No. 972,993; Oct. 18; Sp. p. 3275; Gaz. vol. 159; p. 570.
Rail-joint. N. E. Rassico. No. 973,070; Oct. 18; Sp. p. 3437; Gaz. vol. 159; p. 595.
Rail-joint. O. Helsing. No. 973,193; Oct. 18; Sp. p. 3739; Gaz. vol. 159; p. 639.
Rail-joint. S. E. Nelson. No. 973,291; Oct. 18; Sp. p. 3926; Gaz. vol. 159; p. 672.
Rail-joint. F. H. Lookabaugh. No. 973,948; Oct. 25; Sp. p. 5310; Gaz. vol. 159; p. 922.
Rail-joint. J. G. McMichael. No. 973,952; Oct. 25; Sp. p. 5317; Gaz. vol. 159; p. 923.
Rail-joint. L. and G. Dixon. No. 974,038; Oct. 25; Sp. p. 5506; Gaz. vol. 159; p. 954.
Rail-joint, Insulated. C. F. Quincy. No. 972,471; Oct. 11; Sp. p. 2072; Gaz. vol. 159; p. 361.
Rail-splice. W. F. Rutland, Sr. No. 972,927; Oct. 18; Sp. p. 3129; Gaz. vol. 159; p. 547.
Railway-ballast, Tamping-bar for tamping. G. H. Prentice. No. 973,563; Oct. 25; Sp. p. 4511; Gaz. vol. 159; p. 787.
Railway-crossing. W. L. Affelder. No. 973,904; Oct. 25; Sp. p. 5233; Gaz. vol. 159; p. 907.
Railway-joint. L. A. Brown. No. 973,621; Oct. 25; Sp. p. 4639; Gaz. vol. 159; p. 806.
Railway-rail plate. R. A. Whatley. No. 972,044; Oct. 4; Sp. p. 1167; Gaz. vol. 159; p. 197.
Railway-switch. C. C. Johnson. No. 972,866; Oct. 18; Sp. p. 2953; Gaz. vol. 159; p. 523.
Railway-tie. H. J. Wessels. No. 972,303; Oct. 11; Sp. p. 1725; Gaz. vol. 159; p. 302.
Railway-tie. W. W. Green. No. 972,444; Oct. 11; Sp. p. 2001; Gaz. vol. 159; p. 352.
Railway-tie. L. S. Flatau. No. 972,609; Oct. 11; Sp. p. 2400; Gaz. vol. 159; p. 410.
Railway-tie. A. Hawley. No. 972,694; Oct. 11; Sp. p. 2573; Gaz. vol. 159; p. 438.
Railway-tie. A. Clark. No. 972,818; Oct. 18; Sp. p. 2841; Gaz. vol. 159; p. 506.
Railway-tie. J. Helnonen. No. 972,857; Oct. 18; Sp. p. 2935; Gaz. vol. 159; p. 521.
Railway-tie. T. F. McCormick. No. 972,890; Oct. 18; Sp. p. 3024; Gaz. vol. 159; p. 534.
Railway-track bolt. W. L. Bogle. No. 973,470; Oct. 25; Sp. p. 4315; Gaz. vol. 159; p. 757.
Railway-track construction. J. W. Blower. No. 971,590; Oct. 4; Sp. p. 174; Gaz. vol. 159; p. 32.

Railway-trains, Automatic brake-applying device for. H. P. Zackey. No. 972,671; Oct. 11; Sp. p. 2527; Gaz. vol. 159; p. 430.
Railway trip device. A. M. Jones. No. 972,111; Oct. 4; Sp. p. 1200; Gaz. vol. 159; p. 218.
Rain-water cut-off. W. P. Walker. No. 971,578; Oct. 4; Sp. p. 144; Gaz. vol. 159; p. 27.
Rake: *See* Double rake; Hay-rake.
Rake. J. L. Spalding and F. G. Schadegg. No. 972,031; Oct. 4; Sp. p. 1145; Gaz. vol. 159; p. 192.
Range. J. D. Briggs. No. 971,520; Oct. 4; Sp. p. 18; Gaz. vol. 159; p. 5.
Ratchet-wrench. H. C. Lawson. No. 972,627; Oct. 11; Sp. p. 2445; Gaz. vol. 159; p. 416.
Ratchet-wrench. J. P. Hansen. No. 973,779; Oct. 25; Sp. p. 4966; Gaz. vol. 159; p. 863.
Razor, Safety-. J. D. Millar. No. 971,772; Oct. 4; Sp. p. 547; Gaz. vol. 159; p. 96.
Razor, Safety-. E. A. Christoph. No. 971,827; Oct. 4; Sp. p. 655; Gaz. vol. 159; p. 115.
Razor, Safety-. E. G. Mergenthaler. No. 973,533; Oct. 25; Sp. p. 4454; Gaz. vol. 159; p. 778.
Razor, Safety-. E. I. Young. No. 973,734; Oct. 25; Sp. p. 4876; Gaz. vol. 159; p. 847.
Razor, Safety-. C. H. Likewise. No. 974,083; Oct. 25; Sp. p. 5587; Gaz. vol. 159; p. 968.
Razor-stropping device. D. E. Washington. No. 972,058; Oct. 18; Sp. p. 3201; Gaz. vol. 159; p. 557.
Reading-stand. A. A. Pilsbry. No. 971,634; Oct. 4; Sp. p. 263; Gaz. vol. 159; p. 47.
Ready-reckoner. A. C. S. Schabad. No. 972,650; Oct. 11; Sp. p. 2488; Gaz. vol. 159; p. 424.
Reamer, Adjustable. C. H. Malmedie. No. 972,115; Oct. 4; Sp. p. 1298; Gaz. vol. 159; p. 219.
Reamer, Adjustable. C. H. Malmedie. No. 972,116; Oct. 4; Sp. p. 1299; Gaz. vol. 159; p. 220.
Reamer, Adjustable. C. H. Malmedie. No. 972,117; Oct. 4; Sp. p. 1300; Gaz. vol. 159; p. 220.
Reamer, Adjustable. W. E. York and G. D. Hayden. No. 972,139; Oct. 4; Sp. p. 1352; Gaz. vol. 159; p. 227.
Receptacle. M. Kerwick. No. 972,456; Oct. 11; Sp. p. 2030; Gaz. vol. 159; p. 356.
Receptacle, Tubular. W. W. Bagley. No. 971,958; Oct. 4; Sp. p. 1000; Gaz. vol. 159; p. 167.
Reclining-chair. J. Casassa. No. 972,334; Oct. 11; Sp. p. 1776; Gaz. vol. 159; p. 312.
Recording-machine. E. M. Rauhenstein. No. 972,405; Oct. 11; Sp. p. 1924; Gaz. vol. 159; p. 338.
Rectifier. W. Meyer. No. 972,892; Oct. 18; Sp. p. 3028; Gaz. vol. 159; p. 534.
Reducing-wheel. G. A. Webster. No. 973,596; Oct. 25; Sp. p. 4573; Gaz. vol. 159; p. 798.
Reel: *See* Clothes-line reel; Hose-reel; Lace-reel; Wire-reel.
Reel-holder. O. B. Wedell. No. 972,741; Oct. 11; Sp. p. 2682; Gaz. vol. 159; p. 455.
Refrigerating apparatus. B. J. Noyes. No. 973,548; Oct. 25; Sp. p. 4478; Gaz. vol. 159; p. 783.
Refrigerating apparatus, Safety system for. A. Galde. No. 971,984; Oct. 4; Sp. p. 1053; Gaz. vol. 159; p. 176.
Refrigerating-machines, Apparatus for the automatic regulation of. F. A. Pollard. No. 971,788; Oct. 4; Sp. p. 580; Gaz. vol. 159; p. 101.
Refrigerator. E. A. and C. P. Cornillie. No. 971,526; Oct. 4; Sp. p. 32; Gaz. vol. 159; p. 8.
Refrigerator. V. L. Formentos. No. 972,074; Oct. 4; Sp. p. 1221; Gaz. vol. 159; p. 206.
Refrigerator, Mortuary. V. A. De Canto. No. 972,755; Oct. 11; Sp. p. 2703; Gaz. vol. 159; p. 460.
Refrigerator-wagon body. C. M. Smith. No. 973,082; Oct. 18; Sp. p. 3458; Gaz. vol. 159; p. 599.
Register: *See* Brake-register; Carrying-register; Cash-register; Coin-register; Fare-register; Mail-box register.
Registering device. B. Gustafson. No. 971,991; Oct. 4; Sp. p. 1068; Gaz. vol. 159; p. 179.
Registering mechanism. S. C. Kinsey. No. 972,198; Oct. 11; Sp. p. 1498; Gaz. vol. 159; p. 266.
Regulator: *See* Gas-regulator; Heat-regulator; Tension-regulator; Valve-regulator; Voltage-regulator.
Regulator. A. B. Benjamin. No. 972,496; Oct. 11; Sp. p. 2122; Gaz. vol. 159; p. 360.
Relay, Electrical. L. A. Williams. No. 972,424; Oct. 11; Sp. p. 1966; Gaz. vol. 159; p. 345.
Relay, Electrical. C. H. North. No. 972,634; Oct. 11; Sp. p. 2463; Gaz. vol. 159; p. 419.
Relay, Electrical. J. F. Cadell. No. 972,814; Oct. 18; Sp. p. 2830; Gaz. vol. 159; p. 505.
Rendering apparatus. C. H. A. Wannenwetsch. No. 973,324; Oct. 18; Sp. p. 3993; Gaz. vol. 159; p. 683.
Resilient wheel. M. B. Pierson. No. 971,557; Oct. 4; Sp. p. 104; Gaz. vol. 159; p. 20.
Resilient wheel. J. J. Stone and J. A. Simpson. No. 972,283; Oct. 11; Sp. p. 1685; Gaz. vol. 159; p. 296.
Resistance-coil. I. E. Coffey. No. 971,525; Oct. 4; Sp. p. 29; Gaz. vol. 159; p. 7.
Resistance-grid. H. W. Cheney. No. 973,000; Oct. 18; Sp. p. 3287; Gaz. vol. 159; p. 572.
Retorts, Apparatus for opening or closing the discharge-openings of vertical. C. Bolz. No. 972,674; Oct. 11; Sp. p. 2531; Gaz. vol. 159; p. 431.
Reversing-switch, Electric. J. F. Cavanagh. No. 972,999; Oct. 18; Sp. p. 3284; Gaz. vol. 159; p. 571.
Revoluble sizing-screen. L. E. Warner. No. 973,149; Oct. 18; Sp. p. 3613; Gaz. vol. 159; p. 623.
Revolving screen for washing, &c. L. Perret. No. 972,128; Oct. 4; Sp. p. 1329; Gaz. vol. 159; p. 224.
Ringing-machine. J. Burge. No. 973,340; Oct. 18; Sp. p. 4031; Gaz. vol. 159; p. 690.
Rinser and sterilizer, Combined. B. W. Beach. No. 972,746; Oct. 11; Sp. p. 2688; Gaz. vol. 159; p. 456.
Riveting-machine. J. Gillespie. No. 972,689; Oct. 11; Sp. p. 2562; Gaz. vol. 159; p. 436.
Robe, Bed-. E. C. Hampton. No. 971,992; Oct. 4; Sp. p. 1071; Gaz. vol. 159; p. 179.
Rock-drill, Air or steam. J. Redington. No. 971,638; Oct. 4; Sp. p. 270; Gaz. vol. 159; p. 48.
Rock-drill, Power. S. S. Stevenson. No. 972,726; Oct. 11; Sp. p. 2647; Gaz. vol. 159; p. 449.
Rock-drilling bit. T. Connell. No. 973,407; Oct. 18; Sp. p. 4181; Gaz. vol. 159; p. 712.
Rock-extractor for drill-holes. C. Desmarais. No. 973,013; Oct. 18; Sp. p. 3315; Gaz. vol. 159; p. 576.
Rocking-chair, Reclining. E. L. Swindler. No. 971,704; Oct. 4; Sp. p. 403; Gaz. vol. 159; p. 70.
Roll and core therefor, Oval. S. Wheeler. No. 972,668; Oct. 11; Sp. p. 2523; Gaz. vol. 159; p. 430.
Rolling-mill guide. T. H. Nye. No. 972,219; Oct. 11; Sp. p. 1566; Gaz. vol. 159; p. 274.
Rolling-mill manipulator. J. Fawell. No. 971,740; Oct. 4; Sp. p. 487; Gaz. vol. 159; p. 84.
Roofing, Machine for making. H. R. Wardell. No. 972,957; Oct. 18; Sp. p. 3200; Gaz. vol. 159; p. 556.
Roofing, Cleat for securing prepared. W. H. Woerheide. No. 973,902; Oct. 25; Sp. p. 5228; Gaz. vol. 159; p. 906.
Rotary engine. G. T. Geer. No. 971,671; Oct. 4; Sp. p. 339; Gaz. vol. 159; p. 59.
Rotary engine. V. L. Capwell. No. 972,598; Oct. 11; Sp. p. 2378; Gaz. vol. 159; p. 406.
Rotary engine. C. F. Paul, Jr. No. 973,064; Oct. 18; Sp. p. 3429; Gaz. vol. 159; p. 594.
Rotary engine. R. Wall. No. 973,897; Oct. 25; Sp. p. 5220; Gaz. vol. 159; p. 905.
Rotary gas-engine. H. I. Wilber. No. 973,833; Oct. 25; Sp. p. 5071; Gaz. vol. 159; p. 882.
Rotary press, Double-line. L. A. Wheat. No. 973,599; Oct. 25; Sp. p. 4578; Gaz. vol. 159; p. 799.
Roving and similar frames, Device for preventing singles in. T. Bentley. No. 971,963; Oct. 4; Sp. p. 1015; Gaz. vol. 159; p. 168.
Roving and similar frames, Device for preventing singles in. V. R. Paige. No. 973,694; Oct. 25; Sp. p. 4797; Gaz. vol. 159; p. 834.
Rubber and apparatus therefor, Manufacture of india-. H. S. Smith. No. 972,030; Oct. 4; Sp. p. 1143; Gaz. vol. 159; p. 191.
Rubber cloth and making same, Enameled. F. R. Maddock. No. 972,553; Oct. 11; Sp. p. 2260; Gaz. vol. 159; p. 390.
Rubber shoe. J. S. Capen. No. 972,906; Oct. 18; Sp. p. 3278; Gaz. vol. 159; p. 571.
Rubber stamp. C. C. Gibson. No. 972,359; Oct. 11; Sp. p. 1831; Gaz. vol. 159; p. 321.
Rule, Jointed. L. J. Swett. No. 972,134; Oct. 4; Sp. p. 1339; Gaz. vol. 159; p. 226.
Ruling device. M. Meyerheim. No. 973,534; Oct. 25; Sp. p. 4456; Gaz. vol. 159; p. 778.
Sack-holder. E. F. Kandlbinder. No. 972,870; Oct. 18; Sp. p. 2965; Gaz. vol. 159; p. 525.
Sad-iron, Gas-heated. A. H. Davies. No. 973,011; Oct. 18; Sp. p. 3312; Gaz. vol. 159; p. 575.
Sad-iron handle. J. H. Throop. No. 973,098; Oct. 25; Sp. p. 5426; Gaz. vol. 159; p. 940.
Safe. W. Thomas. No. 973,825; Oct. 25; Sp. p. 5056; Gaz. vol. 159; p. 879.
Safety-lock. C. A. Müller. No. 973,455; Oct. 18; Sp. p. 4276; Gaz. vol. 159; p. 728.
Salt and pepper holder. H. W. Comstock. No. 972,339; Oct. 11; Sp. p. 1788; Gaz. vol. 159; p. 314.
Sand-cutting machine. G. W. Lorimer. No. 973,523; Oct. 25; Sp. p. 4430; Gaz. vol. 159; p. 774.
Sand-screen. F. G. Tress. No. 973,895; Oct. 25; Sp. p. 5215; Gaz. vol. 159; p. 904.
Sand-washer. C. A. Dahlstrom. No. 971,528; Oct. 4; Sp. p. 35; Gaz. vol. 159; p. 8.
Sash-fastener. J. A. Shearer. No. 971,569; Oct. 4; Sp. p. 130; Gaz. vol. 159; p. 24.
Sash-fastener. J. H. Marsh. No. 973,285; Oct. 18; Sp. p. 3911; Gaz. vol. 159; p. 669.
Sash-lock. G. Lark. No. 972,769; Oct. 11; Sp. p. 2728; Gaz. vol. 159; p. 464.
Sash-lock. E. L. Watrous. No. 972,959; Oct. 18; Sp. p. 3205; Gaz. vol. 159; p. 557.
Sash, Metallic window-. E. R. Probert. No. 973,384; Oct. 18; Sp. p. 4128; Gaz. vol. 159; p. 704.
Sash, Window-. A. H. Newpher. No. 973,546; Oct. 25; Sp. p. 4475; Gaz. vol. 159; p. 782.
Sash, Window-. A. H. Newpher. No. 973,547; Oct. 25; Sp. p. 4476; Gaz. vol. 159; p. 782.
Sausage-linking machine. H. C. Gobring. No. 972,181; Oct. 11; Sp. p. 1461; Gaz. vol. 159; p. 260.
Sausage-twisting machine. G. J. Trompeter. No. 973,086; Oct. 18; Sp. p. 3466; Gaz. vol. 159; p. 600.
Saw. C. W. Stites. No. 973,231; Oct. 18; Sp. p. 3814; Gaz. vol. 159; p. 652.
Saw-clamp. J. Auer. No. 971,815; Oct. 4; Sp. p. 633; Gaz. vol. 159; p. 111.
Saw filing and setting machine. S. D. Benoliel. No. 971,718; Oct. 4; Sp. p. 432; Gaz. vol. 159; p. 75.

Saw-fitting device. C. R. Pierce. No. 972,789; Oct. 11; Sp. p. 2764; Gaz. vol. 159; p. 470.
Saw-guide. J. R. Berry. No. 973,848; Oct. 25; Sp. p. 5107; Gaz. vol. 159; p. 887.
Saw-guide. C. Miller. No. 973,953; Oct. 25; Sp. p. 5318; Gaz. vol. 159; p. 924.
Saw-handle. H. S. Willett. No. 972,307; Oct. 11; Sp. p. 1732; Gaz. vol. 159; p. 304.
Saw-handle. O. Ohlson. No. 972,710; Oct. 11; Sp. p. 2608; Gaz. vol. 159; p. 444.
Saw-set. R. D. Benjamin. No. 972,497; Oct. 11; Sp. p. 2123; Gaz. vol. 159; p. 370.
Saw-set. A. Link. No. 973,282; Oct. 18; Sp. p. 3907; Gaz. vol. 159; p. 668.
Saw set and jointer. J. W. Forrest. No. 972,354; Oct. 11; Sp. p. 1820; Gaz. vol. 159; p. 319.
Saw tensioning and moving machine, Band-. J. E. and I. H. Hibbert. No. 971,841; Oct. 4; Sp. p. 693; Gaz. vol. 159; p. 122.
Saw-tooth fastening. S. F. Davis. No. 971,732; Oct. 4; Sp. p. 475; Gaz. vol. 159; p. 82.
Saw, Tree-felling. E. F. Cannon. No. 973,258; Oct. 18; Sp. p. 3859; Gaz. vol. 159; p. 660.
Saws, Stock-guide for band-. E. C. Mershon. No. 971,685; Oct. 4; Sp. p. 365; Gaz. vol. 159; p. 64.
Sawmill setting and receding mechanism. I. M. Thurlow. No. 973,588; Oct. 25; Sp. p. 4559; Gaz. vol. 159; p. 795.
Scaffold-bracket. H. C. Wertz. No. 971,710; Oct. 4; Sp. p. 415; Gaz. vol. 159; p. 72.
Scale. R. H. Forschner. No. 972,443; Oct. 11; Sp. p. 1998; Gaz. vol. 159; p. 351.
Scale. B. W. King. No. 973,060; Oct. 25; Sp. p. 4749; Gaz. vol. 159; p. 825.
Scale-beam, Net-weight. F. M. Clausen. No. 971,829; Oct. 4; Sp. p. 664; Gaz. vol. 159; p. 116.
Scale, Total-adding weighing-. W. B. Moon. No. 972,394; Oct. 11; Sp. p. 1902; Gaz. vol. 159; p. 334.
Scales, Approach-rail for track-. J. A. Rishel. No. 972,250; Oct. 11; Sp. p. 1618; Gaz. vol. 159; p. 284.
Scales, Corner-bracket for pitless wagon-. G. Jones. No. 971,757; Oct. 4; Sp. p. 521; Gaz. vol. 159; p. 91.
Scales, Portable support for weighing-. W. H. Geary. No. 973,771; Oct. 25; Sp. p. 4946; Gaz. vol. 159; p. 860.
Scow, Automatically-operating dumping-. G. V. Mitchell. No. 972,896; Oct. 18; Sp. p. 3043; Gaz. vol. 159; p. 536.
Scows, Hawser-securing device for. G. V. Mitchell. No. 972,895; Oct. 18; Sp. p. 3042; Gaz. vol. 159; p. 536.
Scraping-tool. W. Pennell. No. 972,225; Oct. 11; Sp. p. 1573; Gaz. vol. 159; p. 276.
Screen: *See* Clay-screen; Fire-screen; Paper-stock screen; Revoluble sizing-screen; Revolving screen; Sand-screen; Window-screen.
Screen. J. M. Stone. No. 971,701; Oct. 4; Sp. p. 397; Gaz. vol. 159; p. 69.
Screen. H. L. Van Valkenburg. No. 972,290; Oct. 11; Sp. p. 1715; Gaz. vol. 159; p. 301.
Screen-frames, Corner-piece for. G. E. Ferry. No. 973,643; Oct. 25; Sp. p. 4692; Gaz. vol. 159; p. 815.
Screening apparatus. E. Inglis. No. 973,787; Oct. 25; Sp. p. 4919; Gaz. vol. 159; p. 866.
Screwed connection. G. Müller. No. 972,211; Oct. 11; Sp. p. 1521; Gaz. vol. 159; p. 271.
Sculptures, Apparatus for producing. G. Erdbrügger. No. 972,173; Oct. 11; Sp. p. 1443; Gaz. vol. 159; p. 258.
Sculptures, Producing. G. Erdbruegger. No. 972,174; Oct. 11; Sp. p. 1443; Gaz. vol. 159; p. 258.
Seal, Car-. F. L. Shadley. No. 972,477; Oct. 11; Sp. p. 2085; Gaz. vol. 159; p. 362.
Seal, Envelop-. E. A. Speer. No. 973,987; Oct. 25; Sp. p. 5391; Gaz. vol. 159; p. 936.
Seal for cocks, Sheet-metal. J. D. Renick and K. C. Krick. No. 971,639; Oct. 4; Sp. p. 273; Gaz. vol. 159; p. 49.
Seal, Jar vacuum-. C. R. Keeran. No. 973,512; Oct. 25; Sp. p. 4410; Gaz. vol. 159; p. 770.
Seal-lock. C. A. Simmons. No. 971,571; Oct. 4; Sp. p. 132; Gaz. vol. 159; p. 25.
Seal, Protective. T. S. Wood. No. 972,971; Oct. 18; Sp. p. 3228; Gaz. vol. 159; p. 561.
Sealing device, Can-. A. A. Rickert. No. 973,812; Oct. 25; Sp. p. 5031; Gaz. vol. 159; p. 874.
Sealing device, Car-. E. L. Pitts. No. 972,716; Oct. 11; Sp. p. 2626; Gaz. vol. 159; p. 446.
Sealing device, Jar-. J. L. Rollins. No. 973,214; Oct. 18; Sp. p. 3780; Gaz. vol. 159; p. 646.
Sealing-strap, Shipping-package. R. C. Batchelor. No. 972,594; Oct. 11; Sp. p. 2373; Gaz. vol. 159; p. 405.
Seat: *See* Car-seat; Chair auxiliary seat; Vehicle-seat.
Seats, Detachable sanitary covering for toilet-. M. R. Slough. No. 972,269; Oct. 11; Sp. p. 1654; Gaz. vol. 159; p. 290.
Seed, Apparatus for removing fiber from cotton-. G. L. Blanchard. No. 973,159; Oct. 18; Sp. p. 3638; Gaz. vol. 159; p. 626.
Seed-hopper. P. C. Mitchell. No. 971,917; Oct. 4; Sp. p. 873; Gaz. vol. 159; p. 150.
Seed separator and cleaner, Pneumatic cotton-. T. McDonald. No. 972,212; Oct. 11; Sp. p. 1523; Gaz. vol. 159; p. 271.
Seeder. J. M. Grantham. No. 971,990; Oct. 4; Sp. p. 1065; Gaz. vol. 159; p. 178.
Seeder. E. B. Fitzgerald. No. 972,178; Oct. 11; Sp. p. 1451; Gaz. vol. 159; p. 259.
Selector-switch. E. B. Craft. No. 973,762; Oct. 25; Sp. p. 4927; Gaz. vol. 159; p. 857.
Self-cleaning comb. J. Haelebjian. No. 973,039; Oct. 18; Sp. p. 3380; Gaz. vol. 159; p. 585.
Separation of ingredients of mixed solid materials. F. S. MacGregor. No. 972,459; Oct. 11; Sp. p. 2035; Gaz. vol. 159; p. 357.
Separator: *See* Centrifugal separator; Magnetic separator; Ore-separator; Seed-separator.
Separator and classifier. E. Major. No. 973,363; Oct. 18; Sp. p. 4070; Gaz. vol. 159; p. 697.
Separator and stacker. E. J. Vraalstad. (Reissue.) No. 13,156; Oct. 11; Sp. p. 2772; Gaz. vol. 159; p. 472.
Service-meter system. A. H. Weiss. No. 972,962; Oct. 18; Sp. p. 3209; Gaz. vol. 159; p. 558.
Settling-tank. R. S. Lewis and J. H. Moore. No. 973,357; Oct. 18; Sp. p. 4061; Gaz. vol. 159; p. 695.
Sewage, &c., Apparatus for screening. C. Potts. No. 973,697; Oct. 25; Sp. p. 4802; Gaz. vol. 159; p. 835.
Sewing-machine. W. V. Miller. No. 972,894; Oct. 18; Sp. p. 3031; Gaz. vol. 159; p. 535.
Sewing-machine. J. E. Miller. No. 973,123; Oct. 18; Sp. p. 3541; Gaz. vol. 159; p. 613.
Sewing-machine folding and guiding attachment. C. T. McKane. No. 973,530; Oct. 25; Sp. p. 4444; Gaz. vol. 159; p. 776.
Sewing-machine guide. A. L. Richolson. No. 971,562; Oct. 4; Sp. p. 113; Gaz. vol. 159; p. 22.
Sewing-machine looper. J. P. Weis. No. 973,900; Oct. 25; Sp. p. 5225; Gaz. vol. 159; p. 906.
Sewing-machine tension-indicator. F. H. Hoenk. No. 971,842; Oct. 4; Sp. p. 696; Gaz. vol. 159; p. 122.
Shade-bracket, Adjustable. J. M. Mays. No. 972,888; Oct. 18; Sp. p. 3020; Gaz. vol. 159; p. 533.
Shade bracket, Window-. F. A. Goppelt, Jr. No. 971,988; Oct. 4; Sp. p. 1063; Gaz. vol. 159; p. 178.
Shade, curtain, and drapery support for rollers, Combined. R. Wendt. No. 973,829; Oct. 25; Sp. p. 5066; Gaz. vol. 159; p. 881.
Shade-holder. W. H. Perkins. No. 973,876; Oct. 25; Sp. p. 5169; Gaz. vol. 159; p. 898.
Shade holder, Window-. G. W. Wray. No. 972,972; Oct. 18; Sp. p. 3233; Gaz. vol. 159; p. 562.
Shaft-coupling. M. T. Thomas. No. 972,292; Oct. 11; Sp. p. 1700; Gaz. vol. 159; p. 299.
Shaft-engaging means, Adjustable. F. P. Huyck. No. 972,787; Oct. 11; Sp. p. 2760; Gaz. vol. 159; p. 469.
Shaft-lining. R. M. Dravo and F. Donaldson. No. 971,733; Oct. 4; Sp. p. 477; Gaz. vol. 159; p. 82.
Shaft-lining. R. M. Dravo and F. Donaldson. No. 971,734; Oct. 4; Sp. p. 478; Gaz. vol. 159; p. 82.
Shampooing device. J. Sparenburg. No. 973,822; Oct. 25; Sp. p. 5049; Gaz. vol. 159; p. 878.
Shaper. J. F. Pribnow. No. 972,913; Oct. 18; Sp. p. 3087; Gaz. vol. 159; p. 542.
Shaping-machine. F. L. Eberhardt. No. 973,415; Oct. 18; Sp. p. 4198; Gaz. vol. 159; p. 715.
Sharpener for mowing-machines, Knife-. J. Knecht. No. 974,078; Oct. 25; Sp. p. 5577; Gaz. vol. 159; p. 967.
Sharpening and honing machine, Razor. G. D. Adamson. No. 972,079; Oct. 18; Sp. p. 3246; Gaz. vol. 159; p. 565.
Sharpening-stones, Box for. E. B. Pike. No. 973,968; Oct. 25; Sp. p. 5343; Gaz. vol. 159; p. 929.
Shaving-cup, Sanitary. W. H. J. Downey. No. 973,925; Oct. 25; Sp. p. 5268; Gaz. vol. 159; p. 914.
Shears: *See* Animal-shears; Pruning-shears.
Shearing device. S. L. Harwood. No. 972,189; Oct. 11; Sp. p. 1479; Gaz. vol. 159; p. 263.
Sheave. M. Whitman. No. 973,092; Oct. 18; Sp. p. 3486; Gaz. vol. 159; p. 602.
Sheet-delivering apparatus. A. Collis. No. 973,259; Oct. 18; Sp. p. 3861; Gaz. vol. 159; p. 660.
Sheet-delivery apparatus. C. Henderson. No. 973,428; Oct. 18; Sp. p. 4222; Gaz. vol. 159; p. 719.
Sheet-trimming and edge-folding machine. H. L. Leilich and J. P. Burger. No. 971,905; Oct. 4; Sp. p. 845; Gaz. vol. 159; p. 145.
Shelving. B. L. Waters. No. 971,707; Oct. 4; Sp. p. 407; Gaz. vol. 159; p. 71.
Shield. W. Graves. No. 973,936; Oct. 25; Sp. p. 5287; Gaz. vol. 159; p. 918.
Shingle-machine, Upright band-saw. W. Moore. No. 972,562; Oct. 11; Sp. p. 2282; Gaz. vol. 159; p. 394.
Shingle-mold. E. M. Walton. No. 974,002; Oct. 25; Sp. p. 5432; Gaz. vol. 159; p. 941.
Ship construction. M. Wailgum, Jr. No. 972,042; Oct. 4; Sp. p. 1164; Gaz. vol. 159; p. 196.
Ship-hull cleaner. J. M. Towne and P. E. Gibson. No. 974,000; Oct. 25; Sp. p. 5429; Gaz. vol. 159; p. 941.
Ship, Method of and means for removing ashes on board. E. Brouquière. No. 972,991; Oct. 18; Sp. p. 3271; Gaz. vol. 159; p. 560.
Ships at sea, Apparatus for loading. C. M. Askegren. No. 973,006; Oct. 25; Sp. p. 5237; Gaz. vol. 159; p. 908.
Ships, Safety appliance for. C. Fugazzi. No. 972,180; Oct. 11; Sp. p. 1454; Gaz. vol. 159; p. 260.
Shipping-case. C. O. Wright. No. 973,607; Oct. 25; Sp. p. 4612; Gaz. vol. 159; p. 802.
Shock-absorber. E. Prouty. No. 971,636; Oct. 4; Sp. p. 267; Gaz. vol. 159; p. 48.
Shock-absorber. J. H. Sager. No. 973,217; Oct. 18; Sp. p. 3786; Gaz. vol. 159; p. 647.
Shock-loader. F. Balch. No. 974,014; Oct. 25; Sp. p. 5457; Gaz. vol. 159; p. 946.
Shoe. E. Anderson. No. 974,010; Oct. 25; Sp. p. 5451; Gaz. vol. 159; p. 944.

Shoe-cleaning device. M. B. Seaman and G. Cohen. No. 972,474; Oct. 11; Sp. p. 2076; Gaz. vol. 159; p. 361.
Shoe-plate, Safety base-ball. E. Kinzel. No. 972,540; Oct. 11; Sp. p. 2236; Gaz. vol. 159; p. 386.
Shoe-tie. D. W. Conard. No. 972,062; Oct. 4; Sp. p. 1202; Gaz. vol. 159; p. 203.
Shoe tongue, Laced-. L. A. Wirthlin. No. 972,427; Oct. 11; Sp. p. 1972; Gaz. vol. 159; p. 346.
Shoe-tree. D. J. Markey. No. 971,622; Oct. 4; Sp. p. 244; Gaz. vol. 159; p. 43.
Shoe-turning machines. Form for. A. Eppler. No. 973,182; Oct. 18; Sp. p. 3720; Gaz. vol. 159; p. 635.
Shuttle-box. J. Northrop. No. 973,130; Oct. 18; Sp. p. 3565; Gaz. vol. 159; p. 616.
Shuttle-positioner. J. Northrop. No. 973,128; Oct. 18; Sp. p. 3558; Gaz. vol. 159; p. 615.
Sickle. A. J. Coover. No. 972,098; Oct. 4; Sp. p. 1260; Gaz. vol. 159; p. 214.
Siere. J. McDaniel. No. 971,770; Oct. 4; Sp. p. 542; Gaz. vol. 159; p. 95.
Sifter, Ash-. R. H. Burke. No. 971,825; Oct. 4; Sp. p. 652; Gaz. vol. 159; p. 114.
Sifter-container. H. W. Jones. No. 973,116; Oct. 18; Sp. p. 3530; Gaz. vol. 159; p. 610.
Sifter, Flour-. C. Andrews, Jr. No. 971,875; Oct. 4; Sp. p. 775; Gaz. vol. 159; p. 135.
Sifter, strainer, and masher. T. F. Devlin. No. 972,515; Oct. 11; Sp. p. 2185; Gaz. vol. 159; p. 377.
Sign, Advertising-. W. M. Bullock. No. 973,623; Oct. 25; Sp. p. 4643; Gaz. vol. 159; p. 807.
Sign-flasher, Electric. R. D. De Wolf. No. 972,516; Oct. 11; Sp. p. 2186; Gaz. vol. 159; p. 377.
Sign-holder. C. A. Woodruff and G. E. McElroy. No. 972,312; Oct. 11; Sp. p. 1739; Gaz. vol. 159; p. 305.
Sign-receptacle fastening. F. J. Russell. No. 973,567; Oct. 25; Sp. p. 4518; Gaz. vol. 159; p. 789.
Sign-receptacle fastening-eyelet. F. J. Russell. No. 973,568; Oct. 25; Sp. p. 4520; Gaz. vol. 159; p. 789.
Sign-receptacle fastening-eyelet. F. J. Russell. No. 973,817; Oct. 25; Sp. p. 5040; Gaz. vol. 159; p. 876.
Signal: *See* Car danger-signal.
Signal-actuating means. A. T. Rackstraw. No. 972,245; Oct. 11; Sp. p. 1607; Gaz. vol. 159; p. 283.
Signal-flag holder. E. S. Reagan. No. 971,560; Oct. 4; Sp. p. 109; Gaz. vol. 159; p. 21.
Signal system. R. S. Woods. No. 973,154; Oct. 18; Sp. p. 3628; Gaz. vol. 159; p. 624.
Signaling apparatus, Flash-light. G. H. Butterworth and E. Veevers. No. 973,913; Oct. 25; Sp. p. 5249; Gaz. vol. 159; p. 900.
Signaling apparatus for airships and the like. P. Lentz. No. 974,103; Oct. 25; Sp. p. 5625; Gaz. vol. 159; p. 975.
Signaling system. E. Parsons. No. 973,808; Oct. 25; Sp. p. 5022; Gaz. vol. 159; p. 873.
Silo. P. H. Naylor. No. 973,687; Oct. 25; Sp. p. 4786; Gaz. vol. 159; p. 831.
Singeing textile fabrics, Device for. G. Gin. (Reissue.) No. 12,154; Oct. 4; Sp. p. 1359; Gaz. vol. 159; p. 229.
Siphon-filler. G. A. Dixon. No. 973,264; Oct. 18; Sp. p. 3871; Gaz. vol. 159; p. 662.
Sizing or finishing mediums, Manufacture of. G. Donauer. No. 972,008; Oct. 4; Sp. p. 1209; Gaz. vol. 159; p. 205.
Skate. A. Huberth. No. 973,786; Oct. 25; Sp. p. 4978; Gaz. vol. 159; p. 865.
Skirt-evener. M. E. Archer-Burton. No. 972,593; Oct. 11; Sp. p. 2372; Gaz. vol. 159; p. 405.
Skirt-gage. M. Mohlsick. No. 973,955; Oct. 25; Sp. p. 5321; Gaz. vol. 159; p. 924.
Skirt-protector, Catamenial. M. M. Kline. No. 971,680; Oct. 4; Sp. p. 358; Gaz. vol. 159; p. 63.
Skylight, Artificial. D. M. Moore. No. 973,685; Oct. 25; Sp. p. 4782; Gaz. vol. 159; p. 830.
Slag. Apparatus for granulating blast-furnace. W. R. Warren. No. 974,003; Oct. 25; Sp. p. 5433; Gaz. vol. 159; p. 941.
Slag-disintegrator. E. Lamb. No. 971,853; Oct. 4; Sp. p. 726; Gaz. vol. 159; p. 127.
Sleeve, Garment-. S. Karp. No. 971,539; Oct. 4; Sp. p. 58; Gaz. vol. 159; p. 13.
Slitting and rewinding machine. F. Meisel. No. 972,891; Oct. 18; Sp. p. 3025; Gaz. vol. 159; p. 534.
Slotting-machine. W. J. Hagman. No. 972,367; Oct. 11; Sp. p. 1848; Gaz. vol. 159; p. 324.
Smoke-consuming apparatus for locomotives. J. Loftus. No. 973,947; Oct. 25; Sp. p. 5306; Gaz. vol. 159; p. 922.
Smoke-house. N. O. Davidson. No. 973,010; Oct. 18; Sp. p. 3311; Gaz. vol. 159; p. 575.
Smoke-preventing and fuel-economizing appliance. W. J. and G. Storey. No. 973,991; Oct. 25; Sp. p. 5405; Gaz. vol. 159; p. 938.
Smoke-recording apparatus. R. L. Eddy. No. 971,670; Oct. 4; Sp. p. 335; Gaz. vol. 159; p. 59.
Smoke-retarding device. E. Kruse. No. 973,044; Oct. 25; Sp. p. 5302; Gaz. vol. 159; p. 921.
Smokeless briquet and making the same. R. A. Carter, Jr. No. 972,333; Oct. 11; Sp. p. 1773; Gaz. vol. 159; p. 312.
Smokers' articles, Mouthpiece or stem for. M. Feder. No. 973,490; Oct. 25; Sp. p. 4364; Gaz. vol. 159; p. 763.
Smoking-pipe. B. T. Genthner. No. 974,051; Oct. 25; Sp. p. 5525; Gaz. vol. 159; p. 958.
Snap-switch. S. A. Koltonski. No. 972,387; Oct. 11; Sp. p. 1886; Gaz. vol. 159; p. 331.
Sock. J. R. Hayden. No. 974,068; Oct. 25; Sp. p. 5538; Gaz. vol. 159; p. 960.
Soldering-iron. T. Van Aller. No. 973,592; Oct. 25; Sp. p. 4567; Gaz. vol. 159; p. 797.
Sole-drying machine, Shoe-. J. H. Gifford. No. 973,422; Oct. 18; Sp. p. 4211; Gaz. vol. 159; p. 717.
Soles of boots and shoes, Machine for trimming the. A. S. Vose. No. 971,809; Oct. 4; Sp. p. 622; Gaz. vol. 159; p. 109.
Solutions in general, Apparatus for concentrating. E. Montl. No. 973,290; Oct. 18; Sp. p. 3921; Gaz. vol. 159; p. 671.
Sound-producing device. J. P. Northey. No. 973,960; Oct. 25; Sp. p. 5329; Gaz. vol. 159; p. 926.
Sound-reproducing machines, Automatic cut-off and stop for. W. G. Altenburgh. No. 972,794; Oct. 18; Sp. p. 2786; Gaz. vol. 159; p. 498.
Spark-arrester. E. A. Bishop. No. 971,823; Oct. 4; Sp. p. 649; Gaz. vol. 159; p. 114.
Spark-arrester. W. P. Steele. No. 972,583; Oct. 11; Sp. p. 2348; Gaz. vol. 159; p. 401.
Spark-arrester. L. L. Goodrich, Jr. No. 973,775; Oct. 25; Sp. p. 4953; Gaz. vol. 159; p. 862.
Spark-plug. G. Baehr. No. 972,798; Oct. 18; Sp. p. 2793; Gaz. vol. 159; p. 499.
Spark-plug. V. C. de Ybarrondo. No. 973,464; Oct. 18; Sp. p. 4289; Gaz. vol. 159; p. 731.
Sparking plug. G. Honold. No. 972,560; Oct. 11; Sp. p. 2277; Gaz. vol. 159; p. 393.
Sparking plug, Electromagnetic. E. Kuhn. No. 971,544; Oct. 4; Sp. p. 76; Gaz. vol. 159; p. 15.
Spectacles, eyeglasses, and other articles, Case for. F. J. Willmott. No. 973,835; Oct. 25; Sp. p. 5079; Gaz. vol. 159; p. 882.
Speed-indicator. G. C. Buquo. No. 972,158; Oct. 11; Sp. p. 1411; Gaz. vol. 159; p. 253.
Speed mechanism, Change-. K. W. Gant. No. 971,883; Oct. 4; Sp. p. 787; Gaz. vol. 159; p. 137.
Speed mechanism, Variable-. G. E. Witherell, E. R. Seward, and G. L. Mason. No. 972,138; Oct. 4; Sp. p. 1347; Gaz. vol. 159; p. 227.
Speed-regulating mechanism. J. C. Carpenter. No. 972,815; Oct. 18; Sp. p. 2832; Gaz. vol. 159; p. 506.
Speed varying and reversing mechanism. F. Mesinger. No. 972,391; Oct. 11; Sp. p. 1898; Gaz. vol. 159; p. 333.
Spice-mill. R. F. Cline. No. 973,761; Oct. 25; Sp. p. 4924; Gaz. vol. 159; p. 857.
Spike-puller. J. B. Miller. No. 971,915; Oct. 4; Sp. p. 869; Gaz. vol. 159; p. 149.
Spinning-machine. F. S. Culver and L. J. Morin. No. 974,030; Oct. 25; Sp. p. 5488; Gaz. vol. 159; p. 951.
Sponging apparatus for tailors. B. Paskowitz. No. 973,875; Oct. 25; Sp. p. 5107; Gaz. vol. 159; p. 897.
Spool-holder. V. H. Canham. No. 972,160; Oct. 11; Sp. p. 1415; Gaz. vol. 159; p. 254.
Spool-holder. M. J. Eidam. No. 973,861; Oct. 25; Sp. p. 5130; Gaz. vol. 159; p. 891.
Spool, Metallic take-up. P. Wellh. No. 971,866; Oct. 4; Sp. p. 760; Gaz. vol. 159; p. 132.
Spoon. M. V. Putnam. No. 972,244; Oct. 11; Sp. p. 1606; Gaz. vol. 159; p. 282.
Spout-hanger. F. W. Thomas. No. 972,291; Oct. 11; Sp. p. 1698; Gaz. vol. 159; p. 299.
Spout, Multiple tapping-. W. MacGregor. No. 972,885; Oct. 18; Sp. p. 3016; Gaz. vol. 159; p. 531.
Spring: *See* Air-spring; Pneumatic spring.
Spring attachment. W. Bramham. No. 972,806; Oct. 18; Sp. p. 2806; Gaz. vol. 159; p. 502.
Spring-wheel. R. and G. H. Welford. No. 972,136; Oct. 4; Sp. p. 1342; Gaz. vol. 159; p. 226.
Spring-wheel. J. Stallings. No. 972,280; Oct. 11; Sp. p. 1678; Gaz. vol. 159; p. 295.
Spring-wheel. A. J. Frogue and M. A. Weber. No. 973,769; Oct. 25; Sp. p. 4943; Gaz. vol. 159; p. 860.
Sprinkling apparatus. G. W. McCoole. No. 972,396; Oct. 11; Sp. p. 1907; Gaz. vol. 159; p. 335.
Spur. W. M. McKinney. No. 973,367; Oct. 18; Sp. p. 4092; Gaz. vol. 159; p. 699.
Square. C. H. Caldwell. No. 972,330; Oct. 11; Sp. p. 1768; Gaz. vol. 159; p. 311.
Square and bevel, Combination. J. O. Thomas. No. 973,584; Oct. 25; Sp. p. 4553; Gaz. vol. 159; p. 794.
Square, Separable. S. C. Humphries. No. 971,615; Oct. 4; Sp. p. 230; Gaz. vol. 159; p. 41.
Square, Try-. M. Dickson. No. 971,529; Oct. 4; Sp. p. 37; Gaz. vol. 159; p. 9.
Stack-pipe protector. T. E. Huffman and I. E. Hammett. No. 972,378; Oct. 11; Sp. p. 1870; Gaz. vol. 159; p. 328.
Stacker and loader, Hay. L. R. Shafto. No. 972,478; Oct. 11; Sp. p. 2086; Gaz. vol. 159; p. 363.
Stacker, Grain-. A. Hasper. No. 971,995; Oct. 4; Sp. p. 1075; Gaz. vol. 159; p. 180.
Stacker, Hay-. W. H. Heninger. No. 971,611; Oct. 4; Sp. p. 222; Gaz. vol. 159; p. 39.
Stacker, Pneumatic. J. K. Sharpe, Jr. No. 971,933; Oct. 4; Sp. p. 923; Gaz. vol. 159; p. 157.
Stacker, Pneumatic. G. F. Conner. No. 972,437; Oct. 11; Sp. p. 1989; Gaz. vol. 159; p. 349.
Stacker, Pneumatic. A. M. Harris. No. 973,113; Oct. 18; Sp. p. 3527; Gaz. vol. 159; p. 609.
Stacker, Pneumatic. W. W. Brower. No. 973,748; Oct. 25; Sp. p. 4897; Gaz. vol. 159; p. 852.
Stacker, Portable rotatable hay-. G. Heedwell and W. F. McNew. No. 972,695; Oct. 11; Sp. p. 2574; Gaz. vol. 159; p. 438.

Stacker, Straw-. E. L. Shaffer. No. 972,656; Oct. 11; Sp. p. 2496; Gaz. vol. 159; p. 425.
Stair structure. A. A. Griner. No. 973,109; Oct. 18; Sp. p. 3520; Gaz. vol. 159; p. 608.
Stairs and steps, Safety-tread for. A. I. Davis. No. 973,346; Oct. 18; Sp. p. 4041; Gaz. vol. 159; p. 692.
Stairway or ladder, Counterbalanced. R. O. Belles. No. 972,595; Oct. 11; Sp. p. 2374; Gaz. vol. 159; p. 405.
Stalk-chopper. J. King. No. 972,197; Oct. 11; Sp. p. 1497; Gaz. vol. 159; p. 266.
Stalk-cutter and harrow. M. W. Wallace. No. 973,395; Oct. 18; Sp. p. 4153; Gaz. vol. 159; p. 708.
Stalk-puller. D. M. Francisco. No. 973,188; Oct. 18; Sp. p. 3731; Gaz. vol. 159; p. 637.
Stamp-affixing machine. C. E. Van Duzer. No. 971,940; Oct. 4; Sp. p. 937; Gaz. vol. 159; p. 159.
Stamp-affixing mechanism. E. J. Abbott. No. 973,465; Oct. 25; Sp. p. 4301; Gaz. vol. 159; p. 755.
Stamp, Self-inking hand-. A. J. Peterson. No. 973,556; Oct. 25; Sp. p. 4498; Gaz. vol. 159; p. 785.
Stanchion. R. M. Glor. No. 972,849; Oct. 18; Sp. p. 2913; Gaz. vol. 159; p. 518.
Stanchion, Cattle-. W. H. Flewell. No. 971,981; Oct. 4; Sp. p. 1046; Gaz. vol. 159; p. 175.
Stanchion, Cattle-. M. H. Dooley. No. 972,069; Oct. 4; Sp. p. 1211; Gaz. vol. 159; p. 205.
Stand: *See* Fruit-stand; Reading-stand; Umbrella-stand.
Stand for hammocks, couches, &c. W. J. McBride. No. 972,783; Oct. 11; Sp. p. 2755; Gaz. vol. 159; p. 468.
Stapling-machine. E. H. Michener. No. 973,370; Oct. 18; Sp. p. 4100; Gaz. vol. 159; p. 700.
Station-indicator. W. A. Bryant. No. 973,749; Oct. 25; Sp. p. 4898; Gaz. vol. 159; p. 852.
Stay-bolt breaker. C. Harter and J. W. Small. No. 972,856; Oct. 18; Sp. p. 2930; Gaz. vol. 159; p. 520.
Stay-bolts, Manufacture of. G. S. Thompson. No. 971,805; Oct. 4; Sp. p. 610; Gaz. vol. 159; p. 107.
Steam-boiler. C. A. Hammel. No. 973,111; Oct. 18; Sp. p. 3523; Gaz. vol. 159; p. 609.
Steam-boiler. C. A. Bettington. No. 973,468; Oct. 25; Sp. p. 4307; Gaz. vol. 159; p. 756.
Steam-boiler. C. M. Olsen. No. 973,692; Oct. 25; Sp. p. 4794; Gaz. vol. 159; p. 833.
Steam-boiler, Oil-burning. C. A. Hammel. No. 973,110; Oct. 18; Sp. p. 3521; Gaz. vol. 159; p. 608.
Steam-boiler, Oil-burning. W. A. Rogers. No. 973,138; Oct. 18; Sp. p. 3588; Gaz. vol. 159; p. 619.
Steam-generator with water-immersed flame. O. H. U. Brünler. No. 971,724; Oct. 4; Sp. p. 452; Gaz. vol. 159; p. 78.
Steam-superheater. H. W. Jacobs. No. 973,662; Oct. 25; Sp. p. 4736; Gaz. vol. 159; p. 822.
Steam-superheating apparatus. E. F. Osborne. No. 971,777; Oct. 4; Sp. p. 556; Gaz. vol. 159; p. 97.
Steam-trap. J. R. Tanner. No. 971,801; Oct. 4; Sp. p. 603; Gaz. vol. 159; p. 106.
Steam-trap, boiler-feed, and water-meter. G. W. Cole. No. 971,831; Oct. 4; Sp. p. 667; Gaz. vol. 159; p. 117.
Steamer. J. G. Moritz. No. 973,956; Oct. 25; Sp. p. 5323; Gaz. vol. 159; p. 925.
Steel, Tempering. A. M. Sundborg. No. 974,099; Oct. 25; Sp. p. 5616; Gaz. vol. 159; p. 973.
Stereotelescope. H. Jacob. No. 972,622; Oct. 11; Sp. p. 2432; Gaz. vol. 159; p. 415.
Stereotype-plates, Machine for rectifying. P. Orsoni. No. 973,807; Oct. 25; Sp. p. 5020; Gaz. vol. 159; p. 873.
Stirrup, Safety-. N. Crouse. No. 973,410; Oct. 18; Sp. p. 4185; Gaz. vol. 159; p. 713.
Stitch machine, Impression or imitation. J. B. Hadaway. No. 973,038; Oct. 18; Sp. p. 3378; Gaz. vol. 159; p. 586.
Stitching-machines, Presser-foot mechanism for. B. H. Thelsen and G. S. Keller. No. 973,237; Oct. 18; Sp. p. 3824; Gaz. vol. 159; p. 654.
Stocking-blank. W. H. Ermentrout and S. S. Miller. No. 972,442; Oct. 11; Sp. p. 1997; Gaz. vol. 159; p. 351.
Stone-cutting tool. W. F. Wittich. No. 972,969; Oct. 18; Sp. p. 3225; Gaz. vol. 159; p. 561.
Stone-dressing machine. W. H. Van Sickel. No. 971,577; Oct. 4; Sp. p. 142; Gaz. vol. 159; p. 26.
Stone-saw. F. P. Hanson and H. W. Arnold. No. 971,746; Oct. 4; Sp. p. 409; Gaz. vol. 159; p. 87.
Stool, Folding. W. J. Thefeld. No. 972,290; Oct. 11; Sp. p. 1698; Gaz. vol. 159; p. 298.
Stop, Automatic rove-. P. Sharp. No. 972,266; Oct. 11; Sp. p. 1646; Gaz. vol. 159; p. 290.
Stop mechanism, Automatic. C. S. Batdorf. No. 973,335; Oct. 18; Sp. p. 4020; Gaz. vol. 159; p. 688.
Stop-motion. J. McGinnis. No. 971,911; Oct. 4; Sp. p. 862; Gaz. vol. 159; p. 148.
Stop-motion for textile machinery. P. Sharp. No. 972,265; Oct. 11; Sp. p. 1641; Gaz. vol. 159; p. 289.
Stopper: *See* Bottle-stopper; Nozzle-stopper.
Storage-receptacle. R. J. Gibbon. No. 971,987; Oct. 4; Sp. p. 1062; Gaz. vol. 159; p. 178.
Store-service apparatus. L. B. Bethards. No. 972,432; Oct. 11; Sp. p. 1980; Gaz. vol. 159; p. 348.
Stove. H. P. Spencer. No. 972,032; Oct. 4; Sp. p. 1146; Gaz. vol. 159; p. 192.
Stove. E. E. Anderson. No. 972,490; Oct. 11; Sp. p. 2109; Gaz. vol. 159; p. 367.
Stove. J. Gruber. No. 973,650; Oct. 25; Sp. p. 4705; Gaz. vol. 159; p. 818.
Stove, Gasolene-. A. J. Blackford. No. 972,051; Oct. 4; Sp. p. 1180; Gaz. vol. 159; p. 199.
Stove, Heating-. G. H. Jordan. No. 973,201; Oct. 18; Sp. p. 3754; Gaz. vol. 159; p. 641.
Stove oven-burners, Lighter for gas-. J. G. Harvey. No. 972,619; Oct. 11; Sp. p. 2429; Gaz. vol. 159; p. 414.
Stoves, Burner for gas-. R. M. Lovell. No. 972,882; Oct. 18; Sp. p. 2995; Gaz. vol. 159; p. 530.
Stoves, Pilot-light for gas-. E. R. Mayer and J. G. Keegan. No. 971,769; Oct. 4; Sp. p. 540; Gaz. vol. 159; p. 95.
Stovepipe-clamp. A. Schandler. No. 972,652; Oct. 11; Sp. p. 2491; Gaz. vol. 159; p. 424.
Stovepipe-clamp. G. R. Beegen. No. 973,466; Oct. 25; Sp. p. 4304; Gaz. vol. 159; p. 755.
Stovepipe-holder, Safety. J. W. Whitaker. No. 973,830; Oct. 25; Sp. p. 5067; Gaz. vol. 159; p. 881.
Strainer. W. S. Elliott. No. 974,044; Oct. 25; Sp. p. 5516; Gaz. vol. 159; p. 956.
Strainer, Sink-. J. Bropson. No. 972,676; Oct. 11; Sp. p. 2535; Gaz. vol. 159; p. 432.
Strap: *See* Bed-strap; Loom-strap; Sealing-strap.
Straw-elevator. W. V. Teeter. No. 973,892; Oct. 25; Sp. p. 5209; Gaz. vol. 159; p. 903.
Street-calling device, Automatic. R. M. McGee. No. 972,397; Oct. 11; Sp. p. 1908; Gaz. vol. 159; p. 335.
Street-cleaning apparatus. S. Whinery. No. 973,091; Oct. 18; Sp. p. 3484; Gaz. vol. 159; p. 602.
Street-sweeper. H. H. Brooks. No. 971,661; Oct. 4; Sp. p. 314; Gaz. vol. 159; p. 56.
Stringed-instrument-fretting device. H. Schlemmer. No. 974,094; Oct. 25; Sp. p. 5609; Gaz. vol. 159; p. 972.
Stringed-instrument-tuning device. H. Schlemmer. No. 974,095; Oct. 25; Sp. p. 5611; Gaz. vol. 159; p. 972.
Strip-severing machine. T. G. Paddack. No. 972,221; Oct. 11; Sp. p. 1568; Gaz. vol. 159; p. 275.
Stud, Collar-. L. J. F. Hubert. No. 973,506; Oct. 25; Sp. p. 4395; Gaz. vol. 159; p. 768.
Stuffing-box. J. H. Reese and T. F. Dunlavy. No. 972,247; Oct. 11; Sp. p. 1603; Gaz. vol. 159; p. 283.
Suit, Union. S. L. Heacock. No. 973,274; Oct. 18; Sp. p. 3893; Gaz. vol. 159; p. 666.
Superheater. W. F. Buck and H. W. Jacobs. No. 971,522; Oct. 4; Sp. p. 22; Gaz. vol. 159; p. 6.
Superheater-boiler. J. P. Sneddon. No. 973,717; Oct. 25; Sp. p. 4845; Gaz. vol. 159; p. 841.
Superheater. Independently-fired. J. E. Bell. No. 973,743; Oct. 25; Sp. p. 4890; Gaz. vol. 159; p. 850.
Supporting device, Adjustable. A. V. Brown. No. 971,878; Oct. 4; Sp. p. 779; Gaz. vol. 159; p. 136.
Surge-tank, Pressure-regulating. J. T. Fanning. No. 973,183; Oct. 18; Sp. p. 3721; Gaz. vol. 159; p. 635.
Surgeon's scissors. G. H. Peddle. No. 973,296; Oct. 18; Sp. p. 3934; Gaz. vol. 159; p. 673.
Surgical appliance. A. J. Petter. No. 971,783; Oct. 4; Sp. p. 571; Gaz. vol. 159; p. 100.
Swaging and sizing machine, Automatic. A. D. Caverno. No. 972,599; Oct. 11; Sp. p. 2381; Gaz. vol. 159; p. 406.
Swaging-machine. S. Z. de Ferranti. No. 972,837; Oct. 18; Sp. p. 2880; Gaz. vol. 159; p. 513.
Swimming appliance. D. Smith. No. 973,224; Oct. 18; Sp. p. 3796; Gaz. vol. 159; p. 649.
Switch: *See* Electric switch; Fire alarm switch; High-potential switch; Indicating-switch; Plug-switch; Potential switch; Railway-switch; Reversing-switch; Selector-switch; Snap-switch; Throw-out switch.
Switch. H. C. Barcus. No. 971,817; Oct. 4; Sp. p. 636; Gaz. vol. 159; p. 112.
Switch. C. C. Johnson. No. 972,868; Oct. 18; Sp. p. 2959; Gaz. vol. 159; p. 524.
Switch and circuit-breaker for high-potential circuits. J. N. Kelman. No. 971,847; Oct. 4; Sp. p. 706; Gaz. vol. 159; p. 124.
Switch-button, Indicating. J. A. York. No. 972,048; Oct. 4; Sp. p. 1173; Gaz. vol. 159; p. 198.
Switch-operating mechanisms, Lock for. C. C. Johnson. No. 972,867; Oct. 18; Sp. p. 2957; Gaz. vol. 159; p. 524.
Switch structure. C. N. Glynn. No. 972,104; Oct. 4; Sp. p. 1273; Gaz. vol. 159; p. 216.
Syringe. J. Kussart. No. 972,201; Oct. 11; Sp. p. 1504; Gaz. vol. 159; p. 267.
Syringe, Vaginal. F. A. Neveu. No. 973,456; Oct. 18; Sp. p. 4277; Gaz. vol. 159; p. 728.
Table: *See* Drill-press table; Folding table; Gage-table; Game-table; Operating-table; Turn-table.
Table-clamp. W. E. Clark. No. 974,026; Oct. 25; Sp. p. 5481; Gaz. vol. 159; p. 950.
Table implement. H. J. Richardson. No. 972,777; Oct. 11; Sp. p. 2742; Gaz. vol. 159; p. 466.
Table-leveler. J. F. Swift. No. 972,287; Oct. 11; Sp. p. 1694; Gaz. vol. 159; p. 298.
Tablets, Matrices and blanks for making. L. Bowman. No. 973,851; Oct. 25; Sp. p. 5112; Gaz. vol. 159; p. 888.
Tag. F. H. Thompson. No. 971,834; Oct. 4; Sp. p. 605; Gaz. vol. 159; p. 107.
Tag. J. Praetz. No. 973,300; Oct. 18; Sp. p. 3939; Gaz. vol. 159; p. 674.
Tag forming and affixing machine. D. P. Moore. No. 973,377; Oct. 18; Sp. p. 4116; Gaz. vol. 159; p. 702.
Tag forming and attaching machine. E. H. Michener. No. 973,369; Oct. 18; Sp. p. 4095; Gaz. vol. 159; p. 699.
Tag-machine. H. L. Roth. No. 971,927; Oct. 4; Sp. p. 892; Gaz. vol. 159; p. 154.
Tag-stringer machine. H. L. Roth. No. 971,928; Oct. 4; Sp. p. 903; Gaz. vol. 159; p. 155.

Talking-machine diaphragm. W. W. Young. No. 973,735; Oct. 25; Sp. p. 4879; Gaz. vol. 159; p. 848.
Tamping-machine. H. D. Morgan and H. Schoby. No. 972,563; Oct. 11; Sp. p. 2287; Gaz. vol. 159; p. 394.
Tang. W. Cronk. No. 972,753; Oct. 11; Sp. p. 2700; Gaz. vol. 159; p. 459.
Tank: *See* Incubator heating-tank; Surge-tank.
Tank heater, Stock-watering-. O. Hebert. No. 974,060; Oct. 25; Sp. p. 5540; Gaz. vol. 159; p. 961.
Tanks, Non-freezing connection for. C. H. Miller and W. A. Bunnell. No. 973,450; Oct. 18; Sp. p. 4263; Gaz. vol. 159; p. 726.
Tanning compound. J. M. Dill. No. 972,518; Oct. 11; Sp. p. 2192; Gaz. vol. 159; p. 378.
Target-practice apparatus. J. M. Clark, 3rd. No. 971,828; Oct. 4; Sp. p. 657; Gaz. vol. 159; p. 116.
Tea or coffee pot. J. W. Chapman. No. 973,758; Oct. 25; Sp. p. 4919; Gaz. vol. 159; p. 855.
Teaching penmanship, Device for. S. R. Smith. No. 972,273; Oct. 11; Sp. p. 1662; Gaz. vol. 159; p. 292.
Teat-cup. F. B. Groff. No. 973,036; Oct. 18; Sp. p. 3375; Gaz. vol. 159; p. 584.
Telegraph-key. F. G. Slemmer. No. 971,572; Oct. 4; Sp. p. 133; Gaz. vol. 159; p. 25.
Telegraph systems, Spark-gap for radiotone wireless-. E. J. Simon. No. 971,935; Oct. 4; Sp. p. 927; Gaz. vol. 159; p. 157.
Telegraphy or wireless telephony, Wireless. O. Rochefort. No. 972,721; Oct. 11; Sp. p. 2638; Gaz. vol. 159; p. 448.
Telephone attachment. J. W. Nilsson. No. 972,399; Oct. 11; Sp. p. 1913; Gaz. vol. 159; p. 336.
Telephone attachment. W. C. Fisk and H. L. White. No. 972,839; Oct. 18; Sp. p. 2886; Gaz. vol. 159; p. 514.
Telephone-mouthpiece attachment. A. P. Levi, H. and M. Schlesinger. No. 972,114; Oct. 4; Sp. p. 1297; Gaz. vol. 159; p. 219.
Telephone-receiver handle. C. A. Barnes, Sr. No. 971,961; Oct. 4; Sp. p. 1013; Gaz. vol. 159; p. 168.
Telephone-receiver holder. J. F. Hines. No. 973,198; Oct. 18; Sp. p. 3750; Gaz. vol. 159; p. 640.
Telephone receiving apparatus. G. W. Pickard. No. 972,715; Oct. 11; Sp. p. 2624; Gaz. vol. 159; p. 446.
Telephone system. A. H. Dyson. No. 971,598; Oct. 4; Sp. p. 188; Gaz. vol. 159; p. 34.
Telephone system, Central. A. D. T. Libby. No. 972,628; Oct. 11; Sp. p. 2446; Gaz. vol. 159; p. 416.
Telephone trunking system. C. S. Winston. No. 971,651; Oct. 4; Sp. p. 293; Gaz. vol. 159; p. 53.
Telephones, Indicating means for party-line. J. H. Blythe. No. 972,988; Oct. 18; Sp. p. 3266; Gaz. vol. 159; p. 568.
Telephones, Lock-out device for party-line. W. M. Bruce, Jr. No. 972,329; Oct. 11; Sp. p. 1766; Gaz. vol. 159; p. 310.
Telephonic line-connecting system, Self-acting. B. Kugelmann. No. 972,874; Oct. 18; Sp. p. 2972; Gaz. vol. 159; p. 527.
Temperature-indicating instrument. A. N. Ozias. No. 973,963; Oct. 25; Sp. p. 5335; Gaz. vol. 159; p. 927.
Tempering. W. E. Nickerson. No. 971,628; Oct. 4; Sp. p. 253; Gaz. vol. 159; p. 45.
Tennis-racket. C. B. Mueller. No. 971,773; Oct. 4; Sp. p. 549; Gaz. vol. 159; p. 96.
Tension regulator, Spring-. B. Dysart. No. 973,641; Oct. 25; Sp. p. 4688; Gaz. vol. 159; p. 814.
Tent. O. E. Hollister. No. 971,613; Oct. 4; Sp. p. 226; Gaz. vol. 159; p. 40.
Terret and hook, Drop. W. A. Schleicher. No. 973,980; Oct. 25; Sp. p. 5367; Gaz. vol. 159; p. 934.
Testing-machine. P. A. Cuenot. No. 973,858; Oct. 25; Sp. p. 5126; Gaz. vol. 159; p. 890.
Textile fibers, Obtaining. J. E. Ptiel. No. 972,403; Oct. 11; Sp. p. 1921; Gaz. vol. 159; p. 338.
Textile material in lengths, Apparatus for treating. I. E. Palmer. No. 971,778; Oct. 4; Sp. p. 559; Gaz. vol. 159; p. 98.
Textile materials, Apparatus for smoothing hanks of. A. Clavel. No. 972,060; Oct. 4; Sp. p. 1198; Gaz. vol. 159; p. 202.
Theatrical appliance. R. J. Denny. No. 971,834; Oct. 4; Sp. p. 673; Gaz. vol. 159; p. 118.
Thermal regulation, Method of and apparatus for. A. G. Waterhouse. No. 973,150; Oct. 18; Sp. p. 3616; Gaz. vol. 159; p. 623.
Thermo-electric couple. A. L. Marsh. No. 971,767; Oct. 4; Sp. p. 538; Gaz. vol. 159; p. 94.
Thermometer-case. F. L. Ruddy. No. 973,307; Oct. 18; Sp. p. 3957; Gaz. vol. 159; p. 677.
Thill-coupling. W. A. Buchanan. No. 972,096; Oct. 4; Sp. p. 1257; Gaz. vol. 159; p. 213.
Thread-cutting die. G. E. Hill. No. 971,748; Oct. 4; Sp. p. 504; Gaz. vol. 159; p. 87.
Threads or yarns from warp-beams, Finishing. G. A. Fredenburgh. No. 972,760; Oct. 11; Sp. p. 2712; Gaz. vol. 159; p. 461.
Threshing-machine feeder. J. Gayraud. No. 973,496; Oct. 25; Sp. p. 4374; Gaz. vol. 159; p. 765.
Throw-out switch. W. H. Tucker and W. F. Waddell. No. 973,322; Oct. 18; Sp. p. 3988; Gaz. vol. 159; p. 683.
Ticket or advertising and price card holder, Milk-. C. I. Watkins. No. 973,731; Oct. 25; Sp. p. 4872; Gaz. vol. 159; p. 847.
Ticket or tag hook. F. S. Webster. No. 972,043; Oct. 4; Sp. p. 1165; Gaz. vol. 159; p. 196.
Ticket, Pin-. L. Baum. No. 972,791; Oct. 11; Sp. p. 2769; Gaz. vol. 159; p. 471.
Tide-water motor. M. Logan. No. 973,869; Oct. 25; Sp. p. 5150; Gaz. vol. 159; p. 895.
Tie: *See* Blade-tie; Metallic tie; Mold-tie; Railway-tie; Shoe-tie.
Tile. J. B. Dunn. No. 972,519; Oct. 11; Sp. p. 2194; Gaz. vol. 159; p. 379.
Tile-coating machinery. J. P. Scovill. No. 973,710; Oct. 25; Sp. p. 4825; Gaz. vol. 159; p. 839.
Tile-molding apparatus. W. L. Mooney. No. 972,704; Oct. 11; Sp. p. 2587; Gaz. vol. 159; p. 441.
Tile, Wall-. F. X. Wilie. No. 973,243; Oct. 18; Sp. p. 3833; Gaz. vol. 159; p. 655.
Time-detector, Watchman's. H. S. Prentiss. No. 973,383; Oct. 18; Sp. p. 4126; Gaz. vol. 159; p. 704.
Timer and distributer. T. H. McQuown. No. 973,447; Oct. 18; Sp. p. 4257; Gaz. vol. 159; p. 725.
Tire. E. H. Herndon. No. 972,764; Oct. 11; Sp. p. 2720 Gaz. vol. 159; p. 463.
Tire. I. B. Kempshall. No. 973,278; Oct. 18; Sp. p. 3897; Gaz. vol. 159; p. 667.
Tire, Emergency-. W. S. Smith. No. 972,274; Oct. 11; Sp. p. 1664; Gaz. vol 159; p. 293.
Tire-inflating device. R. Barnfather. No. 972,050; Oct. 4; Sp. p. 1178; Gaz. vol. 159; p. 198.
Tire, Metallic. A. J. Fortescue. No. 974,046; Oct. 25; Sp. p. 5519; Gaz. vol. 159; p. 957.
Tire-protector. O. Neukirch. No. 973,545; Oct. 25; Sp. p. 4474; Gaz. vol. 159; p. 782.
Tire, Resilient. M. G. C. Dodwell. No. 972,756; Oct. 11; Sp. p. 2706; Gaz. vol. 159; p. 460.
Tire, Resilient. D. A. York. No. 973,245; Oct. 18; Sp. p. 3835; Gaz. vol. 159; p. 656.
Tire, Resilient. N. H. Hassel. No. 973,781; Oct. 25; Sp. p. 4969; Gaz. vol. 159; p. 864.
Tire-retaining flange for wheel-rims. R. S. Bryant. No. 973,162; Oct. 18; Sp. p. 3657; Gaz. vol. 159; p. 628.
Tire-setter. E. A. Grenelle. No. 973,035; Oct. 18; Sp. p. 3374; Gaz. vol. 159; p. 584.
Tire-smoothing apparatus, Pneumatic-. A. Mathern. No. 973,061; Oct. 18; Sp. p. 3422; Gaz. vol. 159; p. 593.
Tire-ventilating device. D. Rawstron. No. 972,129; Oct. 4; Sp. p. 1332; Gaz. vol. 159; p. 224.
Tires, Protective tread for pneumatic. C. E. Titus. No. 973,999; Oct. 25; Sp. p. 5427; Gaz. vol. 159; p. 940.
Tobacco-cleaning machine. C. M. Spierer. No. 973,228; Oct. 18; Sp. p. 3807; Gaz. vol. 159; p. 651.
Tobacco-pipe. G. P. Tobias. No. 972,737; Oct. 11; Sp. p. 2674; Gaz. vol. 159; p. 453.
Tobacco-pipe. A. E. Matson. No. 973,870; Oct. 25; Sp. p. 5153; Gaz. vol. 159; p. 895.
Tobacco-stringing machine. C. G. Wells. No. 971,580; Oct. 4; Sp. p. 147; Gaz. vol. 159; p. 27.
Tobacco supple, Making. F. Evers. No. 973,768; Oct. 25; Sp. p. 4942; Gaz. vol. 159; p. 860.
Toilet. G. J. Burkhardt. No. 971,826; Oct. 4; Sp. p. 654; Gaz. vol. 159; p. 115.
Toilet articles for personal wear, Apparatus for making. J. Wilcox. No. 971,712; Oct. 4; Sp. p. 418; Gaz. vol. 159; p. 73.
Tongs. L. E. Funk. No. 973,862; Oct. 25; Sp. p. 5131; Gaz. vol. 159; p. 891.
Tongue support, Wagon-. R. G. Lucas. No. 973,524; Oct. 25; Sp. p. 4435; Gaz. vol. 159; p. 775.
Tool. E. C. Thorschmidt. No. 973,724; Oct. 25; Sp. p. 4854; Gaz. vol. 159; p. 844.
Tool. E. C. Thorschmidt. No. 973,725; Oct. 25; Sp. p. 4855; Gaz. vol. 159; p. 844.
Tool-carrier, Motor-driven. A. Brien. No. 972,327; Oct. 11; Sp. p. 1762; Gaz. vol. 159; p. 310.
Tool-driver, Spiral. D. Rioux. No. 973,881; Oct. 25; Sp. p. 5179; Gaz. vol. 159; p. 900.
Tool-holder. W. A. Petersen. No. 971,556; Oct. 4; Sp. p. 101; Gaz. vol. 159; p. 19.
Tool-holder. G. R. Lang. No. 973,052; Oct. 18; Sp. p. 3404; Gaz. vol. 159; p. 589.
Tool-holder. C. S. Bonney. No. 973,254; Oct. 18; Sp. p. 3852; Gaz. vol. 159; p. 658.
Tool-kit. A. H. De Voe. No. 972,830; Oct. 18; Sp. p. 2862; Gaz. vol. 159; p. 511.
Tool of the pliers type. W. R. Ball. No. 971,582; Oct. 4; Sp. p. 154; Gaz. vol. 159; p. 28.
Tool-post. W. D. Smith. No. 972,582; Oct. 11; Sp. p. 2346; Gaz. vol. 159; p. 401.
Tool-socket. L. Gregson. No. 972,105; Oct. 4; Sp. p. 1274; Gaz. vol. 159; p. 216.
Tooth-healing preparation, Preparing a. J. Zehetner. No. 972,316; Oct. 11; Sp. p. 1744; Gaz. vol. 159; p. 306.
Toothpick, Composition. A. H. Baird. No. 973,842; Oct. 25; Sp. p. 5006; Gaz. vol. 159; p. 885.
Torpedo-firing apparatus, Gyroscopically-controlled. C. Davis. No. 972,064; Oct. 4; Sp. p. 1204; Gaz. vol. 159; p. 204.
Torpedo, Self-propelling. H. W. Shonnard. No. 973,141; Oct. 18; Sp. p. 3595; Gaz. vol. 159; p. 620.
Torpedoes, Means for increasing tension of gaseous propellants for. M. Glass. No. 973,774; Oct. 25; Sp. p. 4952; Gaz. vol. 159; p. 861.
Toy. A. T. Goldfield. No. 972,691; Oct. 11; Sp. p. 2566; Gaz. vol. 159; p. 437.
Toy. J. C. Smith. No. 972,724; Oct. 11; Sp. p. 2644; Gaz. vol. 159; p. 449.
Toy L. W. Replogle. No. 973,303; Oct. 18; Sp. p. 3951; Gaz. vol. 159; p. 676.

Toy beehive. M. Averill. No. 972,147; Oct. 11; Sp. p. 1360; Gaz. vol. 159; p. 250.
Toy figure. C. J. Dorsey. No. 973,485; Oct. 25; Sp. p. 4352; Gaz. vol. 159; p. 761.
Toy house. L. V. Boyd and F. W. Kramer. No. 972,498; Oct. 11; Sp. p. 2125; Gaz. vol. 159; p. 370.
Toy, Moving-picture. E. W. Davis. No. 972,344; Oct. 11; Sp. p. 1796; Gaz. vol. 159; p. 315.
Toy pistol. R. D. Simpson. No. 973,886; Oct. 25; Sp. p. 5194; Gaz. vol. 159; p. 901.
Toy, Tick-tack. E. C. Regli. No. 972,644; Oct. 11; Sp. p. 2479; Gaz. vol. 159; p. 422.
Trace and backer loop. A. D. Baird. No. 971,655; Oct. 4; Sp. p. 304; Gaz. vol. 159; p. 54.
Trace-fastener. J. C. Crutchfield. No. 973,630; Oct. 25; Sp. p. 4660; Gaz. vol. 159; p. 810.
Trace-support and pad-loop, Adjustable. R. W. Brooks. No. 971,521; Oct. 4; Sp. p. 20; Gaz. vol. 159; p. 6.
Track instrument. C. A. Coolidge. No. 973,478; Oct. 25; Sp. p. 4331; Gaz. vol. 159; p. 759.
Track-joint. H. R. Anderson. No. 972,673; Oct. 11; Sp. p. 2530; Gaz. vol. 159; p. 431.
Train-order-delivering device. W. T. See. No. 972,654; Oct. 11; Sp. p. 2493; Gaz. vol. 159; p. 425.
Train-stopping mechanism, Automatic. W. Mingo, Jr. No. 973,954; Oct. 25; Sp. p. 5320; Gaz. vol. 159; p. 924.
Tramways, Curve for double-rope. S. A. Cooney. No. 972,509; Oct. 11; Sp. p. 2155; Gaz. vol. 159; p. 374.
Transit. A. N. Buckner. No. 971,523; Oct. 4; Sp. p. 25; Gaz. vol. 159; p. 7.
Transmission mechanism. J. W. Breyfogle. No. 973,339; Oct. 18; Sp. p. 4028; Gaz. vol. 159; p. 689.
Transmission mechanism. P. B. and H. E. B. Schadt. No. 973,979; Oct. 25; Sp. p. 5364; Gaz. vol. 159; p. 933.
Transplanting-pot. L. S. Lundy. No. 971,909; Oct. 4; Sp. p. 859; Gaz. vol. 159; p. 147.
Transportation system. W. C. Carr. No. 972,997; Oct. 18; Sp. p. 3280; Gaz. vol. 159; p. 571.
Transportation system. J. S. Wilkins. No. 973,834; Oct. 25; Sp. p. 5077; Gaz. vol. 159; p. 882.
Trap: *See* Animal-trap; Fish-trap; Mouse and rat trap; Porpoise-catching trap; Steam-trap.
Trap. A. L. Newell. No. 972,127; Oct. 4; Sp. p. 1328; Gaz. vol. 159; p. 223.
Traveling-cases, Follower for. A. N. Bogen. No. 972,323; Oct. 11; Sp. p. 1755; Gaz. vol. 159; p. 309.
Tree: *See* Shoe-tree.
Tree-felling apparatus. E. L. Freese. No. 971,600; Oct. 4; Sp. p. 197; Gaz. vol. 159; p. 35.
Trimmer: *See* Hoof-trimmer.
Trolley. H. B. Potts. No. 972,240; Oct. 11; Sp. p. 1598; Gaz. vol. 159; p. 281.
Trombone. J. L. De Good. No. 971,833; Oct. 4; Sp. p. 672; Gaz. vol. 159; p. 118.
Trough-clamp. A. J. Ruppert. No. 973,387; Oct. 18; Sp. p. 4135; Gaz. vol. 159; p. 705.
Trousers hanger and stretcher. R. Davies. No. 972,602; Oct. 11; Sp. p. 2387; Gaz. vol. 159; p. 407.
Trousers-stretcher. Y. Takano. No. 972,662; Oct. 11; Sp. p. 2515; Gaz. vol. 159; p. 428.
Trousers-stretcher. I. B. Macomber. No. 973,443; Oct. 18; Sp. p. 4247; Gaz. vol. 159; p. 724.
Trousers-stretcher. I. B. Macomber. No. 973,444; Oct. 18; Sp. p. 4249; Gaz. vol. 159; p. 724.
Truck. A. Marvin. No. 973,797; Oct. 25; Sp. p. 5000; Gaz. vol. 159; p. 869.
Truck, Car-. G. Rouy. No. 971,929; Oct. 4; Sp. p. 915; Gaz. vol. 159; p. 155.
Truck, Car-. J. E. Simpson and W. D. Puckett. No. 972,581; Oct. 11; Sp. p. 2344; Gaz. vol. 159; p. 401.
Truck, Car-. G. P. Ritter. No. 972,921; Oct. 18; Sp. p. 3115; Gaz. vol. 159; p. 545.
Truck, Car-. G. G. Floyd. No. 973,024; Oct. 18; Sp. p. 3351; Gaz. vol. 159; p. 580.
Truck construction. W. R. McKeen, Jr. No. 973,531; Oct. 25; Sp. p. 4446; Gaz. vol. 159; p. 777.
Truck side frame, Car-. W. D. Lowry. No. 972,770; Oct. 11; Sp. p. 2730; Gaz. vol. 159; p. 464.
Trunk, Automobile-tire. S. Wohlfeld. No. 973,329; Oct. 18; Sp. p. 4006; Gaz. vol. 159; p. 685.
Tube: *See* Compressible tube.
Tube and header connection. J. C. Alexander. No. 973,610; Oct. 25; Sp. p. 4616; Gaz. vol. 159; p. 803.
Tube-cleaner. T. Andrews. No. 973,740; Oct. 25; Sp. p. 4886; Gaz. vol. 159; p. 849.
Tube-cleaner. P. Dorsey. No. 974,041; Oct. 25; Sp. p. 5511; Gaz. vol. 159; p. 955.
Tube-cleaner, Rotary. R. G. Jamison. No. 973,046; Oct. 18; Sp. p. 3391; Gaz. vol. 159; p. 587.
Tubes, Apparatus for holding and discharging collapsible. J. T. Barker. No. 971,813; Oct. 4; Sp. p. 638; Gaz. vol. 159; p. 112.
Tubes, Blow-out guard for inner. G. C. Younggreen and J. C. Loef. No. 972,976; Oct. 18; Sp. p. 3240; Gaz. vol. 159; p. 563.
Tubing, Flexible metallic-. H. Tideman. No. 973,238; Oct. 18; Sp. p. 3826; Gaz. vol. 159; p. 654.
Tug, Trace-. T. M. Brady. No. 973,255; Oct. 18; Sp. p. 3854; Gaz. vol. 159; p. 659.
Tunneling-machine. W. R. Collins. No. 973,107; Oct. 18; Sp. p. 3515; Gaz. vol. 159; p. 607.
Turbine. G. Westinghouse. No. 972,421; Oct. 11; Sp. p. 1962; Gaz. vol. 159; p. 344.
Turbine. M. Glass. No. 972,762; Oct. 11; Sp. p. 2715; Gaz. vol. 159; p. 462.
Turbine. C. A. Parsons. No. 972,907; Oct. 18; Sp. p. 3068; Gaz. vol. 159; p. 540.
Turbine. G. Engisch. No. 973,929; Oct. 25; Sp. p. 5275; Gaz. vol. 159; p. 915.
Turbine buckets or vanes, Machine for cutting. S. T. Fonda. No. 973,025; Oct. 18; Sp. p. 3352; Gaz. vol. 159; p. 580.
Turbine, Elastic-fluid. W. J. A. London. No. 972,788; Oct. 11; Sp. p. 2763; Gaz. vol. 159; p. 470.
Turbine engine, Gas-. W. A. Reed. No. 972,642; Oct. 11; Sp. p. 2476; Gaz. vol. 159; p. 421.
Turbine, Fluid-pressure. C. A. Parsons. No. 972,908; Oct. 18; Sp. p. 3077; Gaz. vol. 159; p. 540.
Turbine-nozzle. T. Broadbent. No. 973,472; Oct. 25; Sp. p. 4317; Gaz. vol. 159; p. 757.
Turbine, Reversible. R. Cramp. No. 971,730; Oct. 4; Sp. p. 467; Gaz. vol. 159; p. 80.
Turbine, Steam-. J. F. M. Patitz. No. 971,555; Oct. 4; Sp. p. 97; Gaz. vol. 159; p. 19.
Turbine, Steam-. T. R. Morgan, A. L. Atwater, B. A. Crowther, and W. M. Ash. No. 971,918; Oct. 4; Sp. p. 875; Gaz. vol. 159; p. 150.
Turbine vanes or buckets, Machine for cutting. H. Geisenhöner. No. 972,848; Oct. 18; Sp. p. 2907; Gaz. vol. 159; p. 517.
Turbines, Governing mechanism for mixed-pressure. F. Samuelson. No. 973,705; Oct. 25; Sp. p. 4815; Gaz. vol. 159; p. 837.
Turn-table. A. O. Slentz. No. 971,796; Oct. 4; Sp. p. 595; Gaz. vol. 159; p. 104.
Twyer furnace, Continuous-. C. W. Munson. No. 972,120; Oct. 4; Sp. p. 1326; Gaz. vol. 159; p. 223.
Type-bar bearing. M. Zepeda. No. 971,653; Oct. 4; Sp. p. 290; Gaz. vol. 159; p. 53.
Type-measuring device. A. H. Halloran. No. 972,528; Oct. 11; Sp. p. 2210; Gaz. vol. 159; p. 381.
Type-mold body-blocks, Providing nick projections on. H. H. Hardinge. No. 973,191; Oct. 18; Sp. p. 3736; Gaz. vol. 159; p. 638.
Type-writer. C. S. Du Belle. No. 972,832; Oct. 18; Sp. p. 2870; Gaz. vol. 159; p. 511.
Type-writer attachment. M. Einstein. No. 971,730; Oct. 4; Sp. p. 481; Gaz. vol. 159; p. 83.
Type-writer attachment. B. P. Gibbs. No. 972,358; Oct. 11; Sp. p. 1830; Gaz. vol. 159; p. 321.
Type-writer attachment. E. B. McGilvary. No. 972,776; Oct. 11; Sp. p. 2739; Gaz. vol. 159; p. 466.
Type-writer attachment. F. Manning. No. 973,058; Oct. 18; Sp. p. 3415; Gaz. vol. 159; p. 592.
Type-writer cabinet. H. J. Ritter. No. 972,922; Oct. 18; Sp. p. 3119; Gaz. vol. 159; p. 545.
Type-writer cabinet. H. J. Ritter. No. 972,923; Oct. 18; Sp. p. 3122; Gaz. vol. 159; p. 546.
Type-writers and similar machines, Word-counter for. R. M. Pettey. No. 972,226; Oct. 11; Sp. p. 1575; Gaz. vol. 159; p. 276.
Type-writing and amount-listing machine, Combined. G. J. Barrett. No. 972,150; Oct. 11; Sp. p. 1373; Gaz. vol. 159; p. 251.
Type-writing machine. V. A. E. Sivertsen and J. C. Nielsen. No. 971,696; Oct. 4; Sp. p. 382; Gaz. vol. 159; p. 67.
Type-writing machine. A. T. Brown. No. 971,721; Oct. 4; Sp. p. 440; Gaz. vol. 159; p. 77.
Type-writing machine. G. A. Selb. No. 971,932; Oct. 4; Sp. p. 921; Gaz. vol. 159; p. 156.
Type-writing machine. J. Waldheim. No. 971,944; Oct. 4; Sp. p. 954; Gaz. vol. 159; p. 161.
Type-writing machine. O. Woodward. No. 971,953; Oct. 4; Sp. p. 980; Gaz. vol. 159; p. 164.
Type-writing machine. C. B. Yaw. No. 971,955; Oct. 4; Sp. p. 988; Gaz. vol. 159; p. 165.
Type-writing machine. G. F. Ballou. No. 971,959; Oct. 4; Sp. p. 1001; Gaz. vol. 159; p. 167.
Type-writing machine. G. F. Ballou. No. 971,960; Oct. 4; Sp. p. 1007; Gaz. vol. 159; p. 167.
Type-writing machine. H. S. McCormack. No. 972,009; Oct. 4; Sp. p. 1098; Gaz. vol. 159; p. 184.
Type-writing machine. E. L. Pfunder. No. 972,022; Oct. 4; Sp. p. 1124; Gaz. vol. 159; p. 188.
Type-writing machine. G. C. Blickensderfer. No. 972,152; Oct. 11; Sp. p. 1400; Gaz. vol. 159; p. 251.
Type-writing machine. J. T. Schaaff. No. 972,255; Oct. 11; Sp. p. 1628; Gaz. vol. 159; p. 286.
Type-writing machine. H. S. McCormack. No. 972,566; Oct. 11; Sp. p. 2306; Gaz. vol. 159; p. 396.
Type-writing machine. G. A. Selb. No. 972,578; Oct. 11; Sp. p. 2335; Gaz. vol. 159; p. 400.
Type-writing machine. H. S. McCormack. No. 972,706; Oct. 11; Sp. p. 2591; Gaz. vol. 159; p. 442.
Type-writing machine. O. L. Ingram. No. 972,862; Oct. 18; Sp. p. 2946; Gaz. vol. 159; p. 522.
Type-writing machine. C. E. Smith. No. 972,935; Oct. 18; Sp. p. 3148; Gaz. vol. 159; p. 550.
Type-writing machine. H. H. Steele. No. 972,940; Oct. 18; Sp. p. 3160; Gaz. vol. 159; p. 551.
Type-writing machine. F. J. Dyett. No. 973,015; Oct. 18; Sp. p. 3318; Gaz. vol. 159; p. 577.
Type-writing machine. G. H. Smith. No. 973,083; Oct. 18; Sp. p. 3458; Gaz. vol. 159; p. 599.
Type-writing machine. G. H. Smith. No. 973,226; Oct. 18; Sp. p. 3799; Gaz. vol. 159; p. 650.
Type-writing machine. L. S. Burridge. No. 973,341; Oct. 18; Sp. p. 4032; Gaz. vol. 159; p. 690.

Type-writing machine. T. J. Coo. No. 973,342; Oct. 18; Sp. p. 4034; Gaz. vol. 159; p. 690.
Type-writing machine. C. W. Howell. No. 973,352; Oct. 18; Sp. p. 4052; Gaz. vol. 159; p. 693.
Type-writing machine. H. Resch. No. 973,385; Oct. 18; Sp. p. 4129; Gas. vol. 159; p. 704.
Type-writing machine. A. G. F. Kurowski. No. 973,519; Oct. 25; Sp. p. 4421; Gaz. vol. 159; p. 773.
Type-writing machine. T. J. Coo. No. 973,628; Oct. 25; Sp. p. 4654; Gaz. vol. 159; p. 809.
Type-writing machine. G. Swenson. No. 973,721; Oct. 25; Sp. p. 4849; Gaz. vol. 159; p. 843.
Type-writing machine. E. E. Barney. No. 973,844; Oct. 25; Sp. p. 5100; Gaz. vol. 159; p. 886.
Type-writing machine. H. H. Steele. No. 973,988; Oct. 25; Sp. p. 5392; Gaz. vol. 159; p. 936.
Type-writing machines, Autographic-register stand for. E. J. Barker. No. 971,877; Oct. 4; Sp. p. 777; Gaz. vol. 159; p. 135.
Umbrella. F. W. Schroeder. No. 973,222; Oct. 18; Sp. p. 3792; Gaz. vol. 159; p. 648.
Umbrella-cover, Removable. L. O. Barr. No. 973,100; Oct. 18; Sp. p. 3502; Gaz. vol. 159; p. 605.
Umbrella, Folding. G. W. Woollett. No. 973,155; Oct. 18; Sp. p. 3632; Gaz. vol. 159; p. 625.
Umbrella, Folding. F. Pokorny. No. 973,207; Oct. 18; Sp. p. 3765; Gaz. vol. 159; p. 643.
Umbrella, Folding. S. J. Clark. No. 973,406; Oct. 18; Sp. p. 4179; Gaz. vol. 159; p. 712.
Umbrella or parasol, Folding. J. J. Daniels. No. 973,859; Oct. 25; Sp. p. 5129; Gaz. vol. 159; p. 891.
Umbrella-stand. K. Detzner. No. 971,977; Oct. 4; Sp. p. 1040; Gaz. vol. 159; p. 173.
Under bit and reamer. J. C. Swan. No. 973,903; Oct. 25; Sp. p. 5409; Gaz. vol. 159; p. 938.
Undergarment. W. W. Bewsic. No. 971,659; Oct. 4; Sp. p. 310; Gaz. vol. 159; p. 56.
Universal joint. C. A. Smith. No. 972,270; Oct. 11; Sp. p. 1656; Gaz. vol. 159; p. 291.
Vacuum-cleaner. A. E. Clifton and W. W. Preston. No. 971,595; Oct. 4; Sp. p. 183; Gaz. vol. 159; p. 33.
Vacuum-cleaner. I. Nielsen. No. 973,202; Oct. 18; Sp. p. 3929; Gaz. vol. 159; p. 672.
Vacuum-producing device. S. D. Clark and C. F. Bartell. No. 973,405; Oct. 18; Sp. p. 4178; Gaz. vol. 159; p. 712.
Vacuum-sweeper. R. Gober. No. 971,743; Oct. 4; Sp. p. 493; Gaz. vol. 159; p. 85.
Valve. C. F. Siegrist. No. 971,934; Oct. 4; Sp. p. 924; Gaz. vol. 159; p. 157.
Valve. C. A. Claflin. No. 972,336; Oct. 11; Sp. p. 1779; Gaz. vol. 159; p. 313.
Valve. T. R. Beggs. No. 972,430; Oct. 11; Sp. p. 1976; Gaz. vol. 159; p. 347.
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Valve. W. L. Osborne. No. 973,551; Oct. 25; Sp. p. 4490; Gaz. vol. 159; p. 783.
Valve. G. Schmaal and J. B. Wicks. No. 973,819; Oct. 25; Sp. p. 5044; Gaz. vol. 159; p. 877.
Valve, Automatic safety gas-. H. L. Young. No. 972,975; Oct. 18; Sp. p. 3238; Gaz. vol. 159; p. 563.
Valve, Automatic steam-cut-off. G. W. Collin. No. 972,338; Oct. 11; Sp. p. 1785; Gaz. vol. 159; p. 313.
Valve, Blast-furnace Chimney-. A. G. McKee. No. 973,798; Oct. 25; Sp. p. 5002; Gaz. vol. 159; p. 870.
Valve, Blow-off. F. P. Hamilton. No. 972,370; Oct. 11; Sp. p. 1851; Gaz. vol. 159; p. 325.
Valve, Blow-off. H. W. Jacobs. No. 973,603; Oct. 25; Sp. p. 4739; Gaz. vol. 159; p. 823.
Valve, Carbureter-. N. P. Mader. No. 973,056; Oct. 18; Sp. p. 3410; Gaz. vol. 159; p. 591.
Valve, Cellar-drainer. A. C. Durdin, Jr. No. 972,441; Oct. 11; Sp. p. 1995; Gaz. vol. 159; p. 350.
Valve core-box, Globe-. T. Hawthorne. No. 973,504; Oct. 25; Sp. p. 4393; Gaz. vol. 159; p. 768.
Valve, Electrically-operated. P. A. Brown. No. 971,722; Oct. 4; Sp. p. 445; Gaz. vol. 159; p. 77.
Valve for gas-burners, Pressure-regulating. J. A. Abrams. No. 973,609; Oct. 25; Sp. p. 4614; Gaz. vol. 159; p. 803.
Valve, Fuse-. N. B. Creighton. No. 973,260; Oct. 18; Sp. p. 3864; Gaz. vol. 159; p. 661.
Valve, Gate-. J. N. Gilbert. No. 971,673; Oct. 4; Sp. p 343; Gaz. vol. 159; p. 60.
Valve-gear for engines. C. F. Prescott. No. 973,137; Oct. 18; Sp. p. 3584; Gaz. vol. 159; p. 619.
Valve mechanism for air-compressors. T. H. Smith. No. 972,408; Oct. 11; Sp. p. 1934; Gaz. vol. 159; p. 339.
Valve mechanism for air-compressors. G. H. Reynolds. No. 973,211; Oct. 18; Sp. p. 3776; Gaz. vol. 159; p. 645.
Valve, Non-return. J. R. Tanner. No. 971,802; Oct. 4; Sp. p. 605; Gaz. vol. 159; p. 106.
Valve or faucet. T. R. Beggs. No. 972,431; Oct. 11; Sp. p. 1978; Gaz. vol. 159; p. 347.
Valve, Pressure-reducing. T. P. Ford. No. 971,982; Oct. 4; Sp. p. 1047; Gaz. vol. 159; p. 175.
Valve, Pressure-regulated. A. T. Edmonson. No. 973,016; Oct. 18; Sp. p. 3321; Gaz. vol. 159; p. 577.
Valve, Quick-opening. W. L. Osborne. No. 971,552; Oct. 4; Sp. p. 88; Gaz. vol. 159; p. 17.
Valve regulator, Fluid-pressure-. T. M. Wilkins. No. 972,744; Oct. 11; Sp. p. 2686; Gaz. vol. 159; p. 456.
Valve, Sliding gate-. E. W. Hoyt. No. 973,435; Oct. 18; Sp. p. 4237; Gaz. vol. 159; p. 721.
Valve-spring retainer. O. Blomberg. No. 972,434; Oct. 11; Sp. p. 1985; Gaz. vol. 159; p. 348.
Valve, Steam, air, and water trap. J. E. Boegen. No. 974,100; Oct. 25; Sp. p. 5617; Gaz. vol. 159; p. 974.
Valve, Straightway. J. L. Halyburton. No. 974,055; Oct. 25; Sp. p. 5529; Gaz. vol. 159; p. 959.
Valve, Supply-. N. B. Johnson. No. 973,511; Oct. 25; Sp. p. 4406; Gaz. vol. 159; p. 770.
Vaporizer and burner, Oil. O. A. Makinson. No. 973,526; Oct. 25; Sp. p. 4438; Gaz. vol. 159; p. 775.
Vault, Grave-. J. Young. No. 973,608; Oct. 25; Sp. p. 4613; Gaz. vol. 159; p. 802.
Vaults, safes, &c., Protective system and apparatus for safeguarding. J. C. Gough. No. 973,033; Oct. 18; Sp. p. 3369; Gaz. vol. 159; p. 583.
Vegetable-cutter. F. L. Mayer. No. 971,546; Oct. 4; Sp. p. 79; Gaz. vol. 159; p. 15.
Vehicle attachment. W. H. Long. No. 973,300; Oct. 18; Sp. p. 4005; Gaz. vol. 159; p. 698.
Vehicle attachment, Motor-. C. A. Cline, Jr. No. 972,821; Oct. 18; Sp. p. 2845; Gaz. vol. 159; p. 507.
Vehicle-caster. J. E. Norwood. No. 973,690; Oct. 25; Sp. p. 4789; Gaz. vol. 159; p. 832.
Vehicle controller, Motor-. A. Winton. No. 972,047; Oct. 4; Sp. p. 1171; Gaz. vol. 159; p. 197.
Vehicle driving mechanism, Motor-. K. A. Kendrick. No. 972,455; Oct. 11; Sp. p. 2028; Gaz. vol. 159; p. 355.
Vehicle, Electrically-propelled. W. Köhler. No. 972,457; Oct. 11; Sp. p. 2031; Gaz. vol. 159; p. 356.
Vehicle-frame. W. Kootz. No. 973,517; Oct. 25; Sp. p. 4416; Gaz. vol. 159; p. 772.
Vehicle-indicator. L. M. Tingley. No. 973,726; Oct. 25; Sp. p. 4856; Gaz. vol. 159; p. 845.
Vehicle-reach. H. Higgin. No. 972,191; Oct. 11; Sp. p. 1484; Gaz. vol. 159; p. 264.
Vehicle running-gear. J. O. Smith. No. 972,658; Oct. 11; Sp. p. 2509; Gaz. vol. 159; p. 426.
Vehicle-seat. C. B. Moore. No. 972,393; Oct. 11; Sp. p. 1900; Gaz. vol. 159; p. 333.
Vehicle shock-absorber. W. Kootz. No. 973,516; Oct. 25; Sp. p. 4415; Gaz. vol. 159; p. 772.
Vehicle spring-gear. N. J. Anderson. No. 972,145; Oct. 11; Sp. p. 1867; Gaz. vol. 159; p. 250.
Vehicle storm-shield. J. E. Thompson. No. 973,585; Oct. 25; Sp. p. 4555; Gaz. vol. 159; p. 795.
Vehicle-wheel. A. E. Ellis. No. 972,606; Oct. 11; Sp. p. 2393; Gaz. vol. 159; p. 409.
Vehicle-wheel. G. H. Thomas. No. 972,734; Oct. 11; Sp. p. 2669; Gaz. vol. 159; p. 453.
Vehicle-wheel. J. M. Selleck. No. 972,930; Oct. 18; Sp. p. 3136; Gaz. vol. 159; p. 548.
Vehicle-wheel. C. H. Bailey. No. 973,249; Oct. 18; Sp. p. 3842; Gaz. vol. 159; p. 657.
Vehicle-wheel. C. Humbert and J. C. Bengnot. No. 973,436; Oct. 18; Sp. p. 4238; Gaz. vol. 159; p. 722.
Vehicle-wheel, Spring. H. W. Schmidt. No. 973,569; Oct. 25; Sp. p. 4522; Gaz. vol. 159; p. 790.
Vehicles, Apparatus for automatically raising. F. Briault. No. 972,502; Oct. 11; Sp. p. 2134; Gaz. vol. 159; p. 371.
Vehicles, Current-collector for electrically-propelled. W. Köhler. No. 973,672; Oct. 25; Sp. p. 4755; Gaz. vol. 159; p. 826.
Vehicles, Lamp attachment for. T. L. and J. A. Riney. No. 972,573; Oct. 11; Sp. p. 2323; Gaz. vol. 159; p. 398.
Vending apparatus. A. Heaton. No. 972,532; Oct. 11; Sp. p. 2216; Gaz. vol. 159; p. 383.
Vending apparatus, Liquid-. J. Zill. No. 973,903; Oct. 25; Sp. p. 5230; Gaz. vol. 159; p. 907.
Vending-machine. L. H. Dupont. No. 972,350; Oct. 11; Sp. p. 1812; Gaz. vol. 159; p. 318.
Vending-machine. W. F. Ablett. No. 973,332; Oct. 18; Sp. p. 4012; Gaz. vol. 159; p. 685.
Vending-machine. I. F. Harris. No. 973,930; Oct. 25; Sp. p. 5293; Gaz. vol. 159; p. 919.
Vending-machine coin-controlled mechanism, Automatic-. H. C. Fleming. No. 973,492; Oct. 25; Sp. p. 4367; Gaz. vol. 159; p. 764.
Vending machine, Stamp or ticket. H. D. Ebert. No. 971,531; Oct. 4; Sp. p. 41; Gaz. vol. 159; p. 10.
Vending machine, Ticket-. W. F. Trippensee. No. 973,896; Oct. 25; Sp. p. 5216; Gaz. vol. 159; p. 905.
Ventilator: *See* Car-ventilator; Window-ventilator.
Ventilator. R. W. Martin. No. 972,005; Oct. 4; Sp. p. 1092; Gaz. vol. 159; p. 183.
Ventilator and deflector, Combined. T. T. Peddy. No. 973,966; Oct. 25; Sp. p. 5341; Gaz. vol. 159; p. 929.
Ventilator and exhaust. A. F. Schwannecke. No. 973,309; Oct. 18; Sp. p. 3960; Gaz. vol. 159; p. 677.
Vertical boiler. T. Suzuki. No. 973,720; Oct. 25; Sp. p. 4848; Gaz. vol. 159; p. 843.
Vessel-loading alarm. J. Gedeon. No. 973,772; Oct. 25; Sp. p. 4947; Gaz. vol. 159; p. 861.
Vessels, Discharging apparatus for navigable. C. D. Doxford. No. 974,104; Oct. 25; Sp. p. 5626; Gaz. vol. 159; p. 975.
Vessels, Self-closing joint for. L. Granges. No. 971,989; Oct. 4; Sp. p. 1064; Gaz. vol. 159; p. 178.
Violin-case. J. Günther. No. 973,500; Oct. 25; Sp. p. 4386; Gaz. vol. 159; p. 767.
Violins, violas, and the like, Tailpiece for. J. Bendel. No. 973,846; Oct. 25; Sp. p. 5105; Gaz. vol. 159; p. 886.
Vise. D. Parks. No. 973,381; Oct. 18; Sp. p. 4124; Gaz. vol. 159; p. 703.

Vise, Adjustable door-. W. T. Kennedy and G. C. Pettit. No. 973,942; Oct. 25; Sp. p. 5299; Gaz. vol. 159; p. 920.
Voltage-regulator. C. P. Steinmetz. No. 973,579; Oct. 25; Sp. p. 4547; Gaz. vol. 159; p. 793.
Voting-machine. J. H. Dean. No. 971,666; Oct. 4; Sp. p. 320; Gaz. vol. 159; p. 58.
Voting-machine. J. H. McElroy. No. 972,213; Oct. 11; Sp. p. 1524; Gaz. vol. 159; p. 271.
Voting-machine. J. H. McElroy. No. 972,214; Oct. 11; Sp. p. 1537; Gaz. vol. 159; p. 272.
Voting-machine. J. H. McElroy. No. 972,215; Oct. 11; Sp. p. 1547; Gaz. vol. 159; p. 273.
Voting-machine. J. H. Dean. No. 972,513; Oct. 11; Sp. p. 2169; Gaz. vol. 159; p. 376.
Voting-machine. J. H. Myers. No. 972,565; Oct. 11; Sp. p. 2292; Gaz. vol. 159; p. 395.
Voting-machine. C. H. Ocumpaugh. No. 973,550; Oct. 25; Sp. p. 4480; Gaz. vol. 159; p. 783.
Voting-machine controlling mechanism. A. J. Gillespie and W. J. Lausterer. No. 972,527; Oct. 11; Sp. p. 2208; Gaz. vol. 159; p. 381.
Voting-machine counter-support. C. Christensen. No. 972,506; Oct. 11; Sp. p. 2149; Gaz. vol. 159; p. 373.
Voting-machines, Actuator cut-off for. C. Christensen. No. 972,507; Oct. 11; Sp. p. 2152; Gaz. vol. 159; p. 373.
Vulcanizer, Portable. G. W. Clough. No. 973,476; Oct. 25; Sp. p. 4327; Gaz. vol. 159; p. 758.
Wafer-machine. J. M. Ribé. No. 973,304; Oct. 18; Sp. p. 3952; Gaz. vol. 159; p. 676.
Wagon-body-dumping mechanism. E. P. Le Gore. No. 973,055; Oct. 18; Sp. p. 3409; Gaz. vol. 159; p. 590.
Wagon bracket, Farm-. J. Kaminski. No. 972,082; Oct. 4; Sp. p. 1234; Gaz. vol. 159; p. 209.
Wagon-brake, Automatic. G. W. Brewer. No. 972,808; Oct. 18; Sp. p. 2809; Gaz. vol. 159; p. 502.
Wagon, Dump-. J. Stifter. No. 972,941; Oct. 18; Sp. p. 3168; Gaz. vol. 159; p. 552.
Wagon, Dumping-. E. R. Jones and W. A. Yockey. No. 973,277; Oct. 18; Sp. p. 3896; Gaz. vol. 159; p. 667.
Wagon-jack. C. J. Lind. No. 974,084; Oct. 25; Sp. p. 5589; Gaz. vol. 159; p. 968.
Wagon, Postman's delivery-. G. F. Schulze. No. 973,390; Oct. 18; Sp. p. 4141; Gaz. vol. 159; p. 706.
Wagon running-gear, Dumping-. L. H. Young. No. 972,670; Oct. 11; Sp. p. 2526; Gaz. vol. 159; p. 430.
Wall construction. J. K. Hoffman. No. 973,659; Oct. 25; Sp. p. 4731; Gaz. vol. 159; p. 821.
Wall, Temporary. T. C. Clarke. No. 972,059; Oct. 4; Sp. p. 1196; Gaz. vol. 159; p. 202.
Walls in shifting soils, Method of and apparatus for building masonry. J. B. Campbell. No. 974,023; Oct. 25; Sp. p. 5473; Gaz. vol. 159; p. 948.
Walls, Making tubular metal. W. M. Fulton. No. 971,838; Oct. 4; Sp. p. 684; Gaz. vol. 159; p. 120.
Warp stop mechanism. J. W. Bounds and J. C. Ellenburg. No. 973,102; Oct. 18; Sp. p. 3505; Gaz. vol. 159; p. 605.
Washbasin. J. Hartness. No. 971,839; Oct. 4; Sp. p. 688; Gaz. vol. 159; p. 121.
Washboard. C. B. Tompkins. No. 973,320; Oct. 18; Sp. p. 3985; Gaz. vol. 159; p. 682.
Washboiler. J. O. Cooper. No. 972,341; Oct. 11; Sp. p. 1790; Gaz. vol. 159; p. 314.
Washer: *See* Dish-washer; Sand-washer; Wool-washer.
Washing and cleaning machine for textile fabrics and the like. P. Güngerich. No. 971,745; Oct. 4; Sp. p. 497; Gaz. vol. 159; p. 86.
Washing-machine. S. J. Harding. No. 971,093; Oct. 4; Sp. p. 1071; Gaz. vol. 159; p. 179.
Washing-machine. F. Paul, Jr. No. 972,714; Oct. 11; Sp. p. 2623; Gaz. vol. 159; p. 445.
Washing-machine. W. P. Tippit. No. 972,736; Oct. 11; Sp. p. 2672; Gaz. vol. 159; p. 453.
Watch, Stop-. E. A. Dupuis. No. 972,520; Oct. 11; Sp. p. 2194; Gaz. vol. 159; p. 379.
Water-closet. G. Wachenfeld. No. 971,706; Oct. 4; Sp. p. 406; Gaz. vol. 159; p. 71.
Water-closet. S. W. Lewis. No. 972,388; Oct. 11; Sp. p. 1890; Gaz. vol. 159; p. 332.
Water-closet, Portable sanitary. P. F. Tarnawski. No. 971,803; Oct. 4; Sp. p. 606; Gaz. vol. 159; p. 106.
Water from its contained iron in a continuous circuit, Apparatus for freeing. L. H. Darapsky. No. 973,263; Oct. 18; Sp. p. 3870; Gaz. vol. 159; p. 662.
Water-heater. T. J. Radke. No. 972,717; Oct. 11; Sp. p. 2629; Gaz. vol. 159; p. 446.
Water-heater. J. N. Middendorf. No. 973,536; Oct. 25; Sp. p. 4459; Gaz. vol. 159; p. 778.
Water heater and purifier. W. A. Gibson. No. 973,773; Oct. 25; Sp. p. 4948; Gaz. vol. 159; p. 861.
Water-heater-controlling apparatus. R. C. Frampton. No. 973,647; Oct. 25; Sp. p. 4698; Gaz. vol. 159; p. 816.
Water-heater, Instantaneous. R. C. Frampton. No. 973,646; Oct. 25; Sp. p. 4697; Gaz. vol. 159; p. 816.
Water-meter. J. B. Koehlen. No. 972,200; Oct. 11; Sp. p. 1502; Gaz. vol. 159; p. 266.
Water-motor. E. R. McCreary. No. 972,010; Oct. 4; Sp. p. 1102; Gaz. vol. 159; p. 184.
Water-motor. N. A. Stamm. No. 973,823; Oct. 25; Sp. p. 5050; Gaz. vol. 159; p. 878.
Water-purifying apparatus. J. C. W. Greth. No. 973,424; Oct. 18; Sp. p. 4216; Gaz. vol. 159; p. 718.
Water-tube boiler. J. Miyabara. No. 973,541; Oct. 25; Sp. p. 4466; Gaz. vol. 159; p. 780.
Water-wheel. Z. C. Ferris. No. 973,419; Oct. 18; Sp. p. 4206; Gaz. vol. 159; p. 716.
Waterer, Stock-. J. E. Townsend. No. 972,738; Oct. 11; Sp. p. 2677; Gaz. vol. 159; p. 454.
Weaner, Calf or colt. J. Pivny. No. 973,969; Oct. 25; Sp. p. 5345; Gaz. vol. 159; p. 930.
Weaving mechanism. W. H. Drury. No. 972,349; Oct. 11; Sp. p. 1806; Gaz. vol. 159; p. 318.
Web-guiding device, Automatic. W. I. Lewis. No. 973,945; Oct. 25; Sp. p. 5303; Gaz. vol. 159; p. 921.
Weeder. L. C. Pond. No. 972,404; Oct. 11; Sp. p. 1922; Gaz. vol. 159; p. 338.
Weeder, Track-. D. A. Chisholm. No. 972,058; Oct. 4; Sp. p. 1192; Gaz. vol. 159; p. 201.
Weft-fork mechanism. J. Northrop. No. 973,126; Oct. 18; Sp. p. 3548; Gaz. vol. 159; p. 614.
Weighing-machine. H. A. Benson. No. 973,009; Oct. 25; Sp. p. 5240; Gaz. vol. 159; p. 908.
Weight, Sash-. E. A. Custer. No. 973,176; Oct. 18; Sp. p. 3692; Gaz. vol. 159; p. 632.
Weight, Window-. F. L. Maupin. No. 972,887; Oct. 18; Sp. p. 3020; Gaz. vol. 159; p. 532.
Weirs, &c., Automatic valve or gate for. H. Büchler. No. 972,992; Oct. 18; Sp. p. 3273; Gaz. vol. 159; p. 570.
Welding, cutting, or soldering metals, Autogenous. H. Hoffmann. No. 972,079; Oct. 4; Sp. p. 1231; Gaz. vol. 159; p. 209.
Welding-machine, Electric. S. Z. de Ferranti. No. 972,838; Oct. 18; Sp. p. 2882; Gaz. vol. 159; p. 513.
Welding of sheet metal, Electrical. E. Thomson. No. 973,586; Oct. 25; Sp. p. 4556; Gaz. vol. 159; p. 795.
Well-drilling machinery, Crank-pin connection for. J. F. Keith. No. 971,897; Oct. 4; Sp. p. 836; Gaz. vol. 159; p. 143.
Wells, Apparatus for forcing fluids from. W. C. Holliday. No. 971,612; Oct. 4; Sp. p. 224; Gaz. vol. 159; p. 40.
Wells, Electric heater for oil-. J. E. Williamson. No. 972,308; Oct. 11; Sp. p. 1734; Gaz. vol. 159; p. 304.
Welt-reinforcing machine. J. B. Hadaway. No. 971,674; Oct. 4; Sp. p. 344; Gaz. vol. 159; p. 60.
Wheel: *See* Autocar-wheel; Gear-wheel; Metal wheel; Motor-wheel; Reducing-wheel; Resilient wheel; Spring-wheel; Vehicle-wheel; Water-wheel.
Wheel. L. K. Thorspeck. No. 972,485; Oct. 11; Sp. p. 2095; Gaz. vol. 159; p. 365.
Wheel. G. H. Langton. No. 973,054; Oct. 18; Sp. p. 3407; Gaz. vol. 159; p. 590.
Wheel. C. Carpenter. No. 973,916; Oct. 25; Sp. p. 5253; Gaz. vol. 159; p. 911.
Wheel-rim, Detachable. G. E. Kipp. No. 972,541; Oct. 11; Sp. p. 2237; Gaz. vol. 159; p. 386.
Wheels, Construction of elastic. J. Spyker. No. 972,725; Oct. 11; Sp. p. 2640; Gaz. vol. 159; p. 449.
Whip-socket. M. Jones, Jr. No. 973,041; Oct. 25; Sp. p. 5297; Gaz. vol. 159; p. 920.
Wind-shield. F. Parizek. No. 973,206; Oct. 18; Sp. p. 3764; Gaz. vol. 159; p. 643.
Wind-shield. L. J. Sanker. No. 973,706; Oct. 25; Sp. p. 4820; Gaz. vol. 159; p. 838.
Windlass. C. Andrade, Jr. No. 971,716; Oct. 4; Sp. p. 426; Gaz. vol. 159; p. 74.
Windlass. C. Andrade, Jr. No. 972,982; Oct. 18; Sp. p. 3251; Gaz. vol. 159; p. 566.
Window. C. Hedwig. No. 971,610; Oct. 4; Sp. p. 221; Gaz. vol. 159; p. 39.
Window. P. D. Corrigan. No. 972,681; Oct. 11; Sp. p. 2544; Gaz. vol. 159; p. 433.
Window. H. J. Davison. (Reissue.) No. 13,160; Oct. 25; Sp. p. 5631; Gaz. vol. 159; p. 977.
Window-glass holder. E. M. Best. No. 973,744; Oct. 25; Sp. p. 4892; Gaz. vol. 159; p. 850.
Window-glass-securing strip. A. R. Bair. No. 974,013; Oct. 25; Sp. p. 5456; Gaz. vol. 159; p. 945.
Window-guard. R. H. Wilson. No. 973,733; Oct. 25; Sp. p. 4875; Gaz. vol. 159; p. 847.
Window-pane fastener. W. N. Baker. No. 971,816; Oct. 4; Sp. p. 635; Gaz. vol. 159; p. 112.
Window-screen. J. B. Ogborn. No. 971,922; Oct. 4; Sp. p. 884; Gaz. vol. 159; p. 152.
Window-screen. F. Sprague. No. 972,481; Oct. 11; Sp. p. 2089; Gaz. vol. 159; p. 364.
Window-ventilating device. W. H. Witmer. No. 972,311; Oct. 11; Sp. p. 1738; Gaz. vol. 159; p. 305.
Window-ventilator and curtain-guard. P. H. Neffen and J. F. Giffen. No. 973,958; Oct. 25; Sp. p. 5325; Gaz. vol. 159; p. 925.
Window-ventilator and shade-guard. P. H. Neffen. No. 973,959; Oct. 25; Sp. p. 5327; Gaz. vol. 159; p. 926.
Wire machine, Barbed-. D. C. Smith. No. 972,657; Oct. 11; Sp. p. 2499; Gaz. vol. 159; p. 426.
Wire-netting. A. E. Barlow. No. 971,656; Oct. 4; Sp. p. 305; Gaz. vol. 159; p. 54.
Wire reel, Barb-. W. P. Kassulker. No. 974,070; Oct. 25; Sp. p. 5566; Gaz. vol. 159; p. 964.
Wire-splicer. M. Friday. No. 972,844; Oct. 18; Sp. p. 2900; Gaz. vol. 159; p. 516.
Wire-stretcher. C. W. Babb. No. 972,049; Oct. 4; Sp. p. 1177; Gaz. vol. 159; p. 198.
Wire-stretcher. W. F. Shipman. No. 972,268; Oct. 11; Sp. p. 1653; Gaz. vol. 159; p. 290.
Wire-winding machine. J. N. Johnson. No. 972,623; Oct. 11; Sp. p. 2434; Gaz. vol. 159; p. 415.
Wood-bending machine. S. R. Bailey. No. 973,401; Oct. 18; Sp. p. 4169; Gaz. vol. 159; p. 711.

Woodworking-machine. H. Rieck. No. 972,249; Oct. 11; Sp. p. 1616; Gaz. vol. 159; p. 284.
Woodworking-machine guard. A. F. W. Zastrow. No. 973,837; Oct. 25; Sp. p. 5084; Gaz. vol. 159; p. 883.
Wool-washer. F. G. Sargent. No. 973,388; Oct. 18; Sp. p. 4137; Gaz. vol. 159; p. 705.
Work-bench drawer and portable tool-chest, Combined. E. E. Berthold and H. Horstmann. No. 971,584; Oct. 4; Sp. p. 158; Gaz. vol. 159; p. 20.
Worming-tool. A. W. Poole. No. 972,237; Oct. 11; Sp. p. 1593; Gaz. vol. 159; p. 280.
Wrapping-machine. F. Grover. No. 973,863; Oct. 25; Sp. p. 5133; Gaz. vol. 159; p. 892.
Wrapping machine, Newspaper-. I. R. Hutchinson. No. 971,893; Oct. 4; Sp. p. 818; Gaz. vol. 159; p. 141.
Wrapping mechanisms, Apparatus for feeding articles to. H. Rose. No. 972,649; Oct. 11; Sp. p. 2480; Gaz. vol. 159; p. 423.
Wrench: *See* Monkey-wrench; Pipe-wrench; Ratchet-wrench.
Wrench. J. Boulieu. No. 972,052; Oct. 4; Sp. p. 1182; Gaz. vol. 159; p. 199.
Wrench. C. A. De Vaul. No. 972,604; Oct. 11; Sp. p. 2391; Gaz. vol. 159; p. 408.
Wrench. H. H. Schlueter. No. 973,218; Oct. 18; Sp. p. 3788; Gaz. vol. 159; p. 647.
Writing-machine, Automatic. G. P. Riggs. No. 972,920; Oct. 18; Sp. p. 3111; Gaz. vol. 159; p. 545.
Writing-machine paper-adjusting device. A. Halász. No. 972,445; Oct. 11; Sp. p. 2002; Gaz. vol. 159; p. 352.

ALPHABETICAL LIST OF DESIGNS.

Badge. C. B. Pemberton. No. 40,951; Oct. 25; Gaz. vol. 159; p. 979.
Bell and support therefor. M. S. Purple. No. 40,954; Oct. 25; Gaz. vol. 159; p. 979.
Bonnet. W. R. Blough. No. 40,957; Oct. 25; Gaz. vol. 159; p. 980.
Can. E. R. L. Thayer. No. 40,952; Oct. 25; Gaz. vol. 159; p. 979.
Carpet. W. A. Elliot. Nos. 40,940–1; Oct. 11; Gaz. vol. 159; p. 475.
Casket handle, Burial-. C. Blesch. No. 40,946; Oct. 18; Gaz. vol. 159; p. 734.
Caskets or coffins, Lug for. P. R. Zinser. No. 40,947; Oct. 18; Gaz. vol. 159; p. 734.
Ceiling-plate. H. Gothberg. No. 40,936; Oct. 11; Gaz. vol. 159; p. 474.
Doily. R. Gair. No. 40,958; Oct. 25; Gaz. vol. 159; p. 980.
Emblem. C. L. Thatcher. No. 40,932; Oct. 11; Gaz. vol. 159; p. 473.
Fabric, Textile. E. Sins. Nos. 40,937–8; Oct. 11; Gaz. vol. 159; p. 474.
Fabric, Textile. P. Dupont. No. 40,939; Oct. 11; Gaz. vol. 159; p. 474.
Game-board. H. W. Allen and G. R. Meeker. No. 40,945; Oct. 18; Gaz. vol. 159; p. 734.
Jar. E. R. L. Thayer. No. 40,953; Oct. 25; Gaz. vol. 159; p. 979.
Lamp, Automobile-. F. S. Stafford. No. 40,955; Oct. 25; Gaz. vol. 159; p. 979.
Light-shade. A. J. Sanford. Nos. 40,943–4; Oct. 18; Gaz. vol. 159; p. 733.
Musical-instrument pedal. H. Sandner. No. 40,935; Oct. 11; Gaz. vol. 159; p. 474.
Percolator-cover. C. F. Smith. No. 40,934; Oct. 11; Gaz. vol. 159; p. 474.
Ring. L. A. Larson. No. 40,928; Oct. 4; Gaz. vol. 159; p. 229.
Sign-board. F. Cestero. No. 40,956; Oct. 25; Gaz. vol. 159; p. 979.
Spoons, forks, or similar articles, Handle for. T. B. Lasher. No. 40,933; Oct. 11; Gaz. vol. 159; p. 473.
Thermostat-casing. H. A. Ames. No. 40,942; Oct. 18; Gaz. vol. 159; p. 733.
Trimming. F. Wood. Nos. 40,948–50; Oct. 18; Gaz. vol. 159; p. 734.
Trophy. A. G. Spalding. Nos. 40,929–30; Oct. 4; Gaz. vol. 159; pp. 229–30.
Tumblers or other articles, Holder for. H. B. Taylor. No. 40,931; Oct. 4; Gaz. vol. 159; p. 230.

ALPHABETICAL LIST OF TRADE-MARKS.

Adhesive pastes, mucilage, gums, and glues. Monarch Paste Co. No. 79,846; Oct. 11; Gaz. vol. 159; p. 486.
Antiseptic. G. L. Widup. No. 79,803; Oct. 4; Gaz. vol. 159; p. 239.
Antiseptic sheets for medicinal and surgical use. V. von Alpenburg. No. 79,951; Oct. 25; Gaz. vol. 159; p. 987.
Apples, Evaporated. J. Wassermann & Co. No. 79,800; Oct. 4; Gaz. vol. 159; p. 239.
Beds, cribs, bed-springs, and mattresses. Barcalo Manufacturing Company. No. 79,809; Oct. 11; Gaz. vol. 159; p. 485.
Beer. G. Sedlmayr, Brauerei zum Spaten. No. 79,794; Oct. 4; Gaz. vol. 159; p. 239.
Beer. Köbányai Polgári Serfőző Részvény Társaság. No. 79,841; Oct. 11; Gaz. vol. 159; p. 486.
Belts and girdles. Brown Durrell Co. No. 79,888; Oct. 18; Gaz. vol. 159; p. 743.
Beverages, Compound alcoholic. J. Weichselbaum. No. 79,873; Oct. 11; Gaz. vol. 159; p. 487.
Bird-seed. Francis H. Leggett & Co. Nos. 79,768–9; Oct. 4; Gaz. vol. 159; p. 238.
Bismuth oxyiodo-gallate. The Hoffmann-La Roche Chemical Works. No. 79,760; Oct. 4; Gaz. vol. 159; p. 238.
Bitters, Stomach-. C. Bienek. No. 79,716; Oct. 4; Gaz. vol. 159; p. 237.
Bitters, Stomach-. H. Kantorowicz. No. 79,762; Oct. 4; Gaz. vol. 159; p. 238.
Boots and shoes and slippers. Edwin C. Burt Company. No. 79,958; Oct. 25; Gaz. vol. 159; p. 987.
Boots, shoes, and leggings, Leather. Eliet-Kendall Shoe Company. No. 79,905; Oct. 18; Gaz. vol. 159; p. 743.
Borax. Sterling Borax Company. No. 80,005; Oct. 25; Gaz. vol. 159; p. 988.
Bottling machinery and parts of the same. The Crown Cork & Seal Company. No. 79,897; Oct. 18; Gaz. vol. 159; p. 743.
Brooms. The O. K. Broom Works. No. 79,854; Oct. 11; Gaz. vol. 159; p. 486.
Brushes. Sakabe & Sekine. No. 79,862; Oct. 11; Gaz. vol. 159; p. 486.
Butter. American Butter and Cheese Co. No. 79,884; Oct. 18; Gaz. vol. 159; p. 743.
Candies. Central Candy Company. No. 79,719; Oct. 4; Gaz. vol. 159; p. 237.
Candies. C. D. Lane. No. 79,766; Oct. 4; Gaz. vol. 159; p. 238.
Candy. The National Candy Company. No. 79,778; Oct. 4; Gaz. vol. 159; p. 238.
Canned crab-meat. Parrott & Co. No. 79,930; Oct. 18; Gaz. vol. 159; p. 744.
Canned foods. The Sears & Nichols Company. No. 79,935; Oct. 18; Gaz. vol. 159; p. 744.
Canned fruit, vegetables, fish, and oysters. The P. S. Hessler Mercantile Company. No. 79,834; Oct. 11; Gaz. vol. 159; p. 485.
Canned fruits. Golden Gate Packing Company. No. 79,754; Oct. 4; Gaz. vol. 159; p. 238.
Canned fruits and vegetables. Hunt Brothers Company. No. 79,761; Oct. 4; Gaz. vol. 159; p. 238.
Canned fruits, vegetables, fish, &c. Charles Hewitt & Sons Company. No. 79,758; Oct. 4; Gaz. vol. 159; p. 238.
Canned olives. Akerman & Tuffley. No. 79,713; Oct. 4; Gaz. vol. 159; p. 237.
Canned pineapple. Haiku Fruit and Packing Company. No. 79,906; Oct. 18; Gaz. vol. 159; p. 743.
Canned salmon. Astoria & Puget Sound Canning Co. No. 79,807; Oct. 11; Gaz. vol. 159; p. 485.
Canned sardines. P. Duff & Sons. No. 79,964; Oct. 25; Gaz. vol. 159; p. 987.
Canned tomatoes. The Citizens Canning Company. No. 79,896; Oct. 18; Gaz. vol. 159; p. 743.
Canned vegetables. Faribault Canning Company. No. 79,744; Oct. 4; Gaz. vol. 159; p. 237.
Canned vegetables. Dickinson & Co. Nos. 79,902–3; Oct. 18; Gaz. vol. 159; p. 743.
Canned vegetables. R. C. Williams & Co. No. 79,947; Oct. 18; Gaz. vol. 159; p. 745.
Carts and dumping-wagons, Distributing-. American Road Machine Company. No. 79,953; Oct. 25; Gaz. vol. 159; p. 987.
Chemical substance, Certain. Dr. Rickmann & Rappe, G. m. b. H., Chemische Fabrik. No. 79,933; Oct. 18; Gaz. vol. 159; p. 744.
Chemicals, Certain. Merck & Co. No. 79,845; Oct. 11; Gaz. vol. 159; p. 486.
Chemicals, Certain. S. Clague. No. 79,962; Oct. 25; Gaz. vol. 159; p. 987.
Chocolate cream drops. The Munger Candy Company. No. 79,849; Oct. 11; Gaz. vol. 159; p. 486.
Cider and compound phosphate beverage, Compound. Price & Lucas Cider & Vinegar Co. No. 79,785; Oct. 4; Gaz. vol. 159; p. 239.
Cigars. Compañía General de Tabacos de Filipinas. Nos. 79,720–9; Oct. 4; Gaz. vol. 159; p. 237.
Cigars. Compañía General de Tabacos de Filipinas. Nos. 79,732–6; Oct. 4; Gaz. vol. 159; p. 237.
Cigars. L. J. Mendez. No. 79,776; Oct. 4; Gaz. vol. 159; p. 238.
Cigars. E. Myers. No. 79,923; Oct. 18; Gaz. vol. 159; p. 744.
Cleaners, Vacuum-. F. Wardell. No. 79,946; Oct. 18; Gaz. vol. 159; p. 744.
Cleaning and polishing material, Wood. F. X. Murawski. No. 79,851; Oct. 11; Gaz. vol. 159; p. 486.
Cleaning devices and parts thereof, Air. A. S. Cahn. No. 79,815; Oct. 11; Gaz. vol. 159; p. 485.
Cloaks, coats, and capes, Waterproof. The New York Mackintosh Company. No. 79,926; Oct. 18; Gaz. vol. 159; p. 744.
Clocks and watches. The Western Clock Mfg. Co. Nos. 79,874–5; Oct. 11; Gaz. vol. 159; p. 487.
Clothes-lines, Cotton. Francis H. Leggett & Co. No. 79,767; Oct. 4; Gaz. vol. 159; p. 238.
Clothing, Certain. The New Era Manufacturing Company. No. 79,925; Oct. 18; Gaz. vol. 159; p. 744.
Clothing, Certain. Salt's Textile Manufacturing Company. No. 79,934; Oct. 18; Gaz. vol. 159; p. 744.
Coats, cloaks, wraps, capes, and dresses. The Salt's Textile Manufacturing Company. No. 79,864; Oct. 11; Gaz. vol. 159; p. 486.
Coffee. C. W. Antrim & Sons. No. 79,806; Oct. 11; Gaz. vol. 159; p. 485.
Coffee. Gohl & King. No. 79,828; Oct. 11; Gaz. vol. 159; p. 485.
Coffee. E. B. Millar & Co. No. 79,996; Oct. 25; Gaz. vol. 159; p. 988.
Coffee and cocoa, Blended. S. Zechnowitz. No. 80,014; Oct. 25; Gaz. vol. 159; p. 988.
Coffee, Roasted. J. J. Schotten. No. 80,002; Oct. 25; Gaz. vol. 159; p. 988.
Confections, Fruit. M. Tyndale. No. 79,799; Oct. 4; Gaz. vol. 159; p. 239.
Cotton piece goods. Hayward & Thurston Co. No. 79,755; Oct. 4; Gaz. vol. 159; p. 238.
Cotton piece goods. Warner-Godfrey Co. No. 79,872; Oct. 11; Gaz. vol. 159; p. 487.
Cotton piece goods. W. H. Brown Son & Co. No. 79,890; Oct. 18; Gaz. vol. 159; p. 743.
Cotton satines. Warner-Godfrey Co. No. 79,871; Oct. 11; Gaz. vol. 159; p. 486.
Cotton, sewing-cotton, thread, and cotton yarn, Spool-. The American Thread Company. Nos. 79,954–5; Oct. 25; Gaz. vol. 159; p. 987.
Cranberry sauce. Francis H. Leggett & Co. No. 79,992; Oct. 25; Gaz. vol. 159; p. 988.
Creams, Shaving-. D. J. Mahler. No. 79,775; Oct. 4; Gaz. vol. 159; p. 238.
Currants. The Hills Brothers Company. No. 79,909; Oct. 18; Gaz. vol. 159; p. 743.
Cutlery, Certain. Canton Cutlery Company. No. 79,718; Oct. 4; Gaz. vol. 159; p. 237.
Dental preparations. J. D. Wise. No. 79,802; Oct. 4; Gaz. vol. 159; p. 239.
Detergents, Certain. J. C. Patterson. No. 79,878; Oct. 11; Gaz. vol. 159; p. 487.
Diaries. Kiggins & Tooker Co. No. 79,763; Oct. 4; Gaz. vol. 159; p. 238.
Doubletrees, swingletrees, and wood parts for the same. Shattuck-George Iron Co. No. 79,936; Oct. 18; Gaz. vol. 159; p. 744.
Drawing instruments. Eugene Dietzgen Company. No. 79,904; Oct. 18; Gaz. vol. 159; p. 743.
Edgers and trimmers. The Gordon Hollow Blast Grate Company. No. 79,975; Oct. 25; Gaz. vol. 159; p. 987.
Engines, Internal-combustion. Iowa Dairy Separator Company. Nos. 79,981–3; Oct. 25; Gaz. vol. 159; p. 988.
Envelops, tablets, and blank books. J. C. Blair Company. No. 79,957; Oct. 25; Gaz. vol. 159; p. 987.
Explosives, fireworks, and matches, Certain. "Jupiter" Gesellschaft mit beschränkter Haftung. No. 79,916; Oct. 18; Gaz. vol. 159; p. 744.
Fanning-mills, land-rollers, seeders, &c. Johnson & Field Mfg. Co. No. 79,837; Oct. 11; Gaz. vol. 159; p. 486.
Faucets. Cordley & Hayes. No. 79,737; Oct. 4; Gaz. vol. 159; p. 237.
Feed, Horse and stock. Chapin & Company. No. 79,818; Oct. 11; Gaz. vol. 159; p. 485.
Fertilizers. Central Manufacturing Company. No. 79,894; Oct. 18; Gaz. vol. 159; p. 743.
Fertilizers. National Fertilizer Co. No. 79,924; Oct. 18; Gaz. vol. 159; p. 744.
Fiber-board. Case & Marshall. No. 79,817; Oct. 11; Gaz. vol. 159; p. 485.

Files. F. W. Gesswein Company. No. 79,753; Oct. 4; Gaz. vol. 159; p. 238.
Flavoring, Imitation vanilla. The Cabell Company. No. 79,959; Oct. 25; Gaz. vol. 159; p. 987.
Flour, Wheat-. Red Wing Milling Company. No. 79,858; Oct. 11; Gaz. vol. 159; p. 486.
Flour, Wheat-. E. O. Smith Company. No. 79,866; Oct. 11; Gaz. vol. 159; p. 486.
Flour, Wheat-. Sparks Milling Company. No. 79,867; Oct. 11; Gaz. vol. 159; p. 486.
Flour, Wheat-. D. Stott. No. 79,941; Oct. 18; Gaz. vol. 159; p. 744.
Flour, Wheat-. J. B. Camors & Co. No. 79,960; Oct. 25; Gaz. vol. 159; p. 987.
Fly-killers, Mechanical impact. Ideal Manufacturing Company. No. 79,980; Oct. 25; Gaz. vol. 159; p. 988.
Food, Stock. Peoples Oil & Cotton Co. No. 79,783; Oct. 4; Gaz. vol. 159; p. 239.
Foods, Certain. Crocker Grocery Company. Nos. 79,738–9; Oct. 4; Gaz. vol. 159; p. 237.
Foods, Certain. Francis H. Leggett & Co. No. 79,770; Oct. 4; Gaz. vol. 159; p. 238.
Foods, Certain. Francis H. Leggett & Co. No. 79,988; Oct. 25; Gaz. vol. 159; p. 988.
Fruit, vegetables, melons, and canned fruits, Fresh. California Farmers' Union. No. 79,816; Oct. 11; Gaz. vol. 159; p. 485.
Fruits, Fresh and dried. California Farmers' Union. No. 79,893; Oct. 18; Gaz. vol. 159; p. 743.
Furniture-polishes. W. McKinley. No. 79,844; Oct. 11; Gaz. vol. 159; p. 486.
Fuses, Blasting-. Coast Mannfacuring & Supply Co. No. 79,822; Oct. 11; Gaz. vol. 159; p. 485.
Gas burners and heaters. H. Hertzberg. No. 79,757; Oct. 4; Gaz. vol. 159; p. 238.
Gas burners and tips. American Lava Co. No. 79,885; Oct. 18; Gaz. vol. 159; p. 743.
Gas, Metal receptacles to contain. Aerators Limited. No. 79,949; Oct. 25; Gaz. vol. 159; p. 987.
Gloves. Reliance Glove Co. No. 79,850; Oct. 11; Gaz. vol. 159; p. 486.
Gloves and hand-leathers. Special Glove and Notion Company. No. 79,797; Oct. 4; Gaz. vol. 159; p. 239.
Glue. H. L. Hunter. No. 79,913; Oct. 18; Gaz. vol. 159; p. 744.
Golf-balls. A. G. Spalding & Bros. No. 79,796; Oct. 4; Gaz. vol. 159; p. 239.
Golf-balls. A. G. Spalding & Bros. No. 79,938; Oct. 18; Gaz. vol. 159; p. 744.
Granite, Rough or unmanufactured. Brookes Limited. No. 79,887; Oct. 18; Gaz. vol. 159; p. 743.
Gum, Chewing-. Reliable Vending Co. No. 79,998; Oct. 25; Gaz. vol. 159; p. 988.
Hair dressing and invigorant. Philo Hay Specialties Co. No. 79,856; Oct. 11; Gaz. vol. 159; p. 486.
Hair goods. A. Steinhardt & Bro. No. 79,798; Oct. 4; Gaz. vol. 159; p. 239.
Hair-tonic. C. F. Wagner. No. 79,870; Oct. 11; Gaz. vol. 159; p. 486.
Hair-tonics. T. Zanetti. No. 80,013; Oct. 25; Gaz. vol. 159; p. 988.
Hammocks. Hemlock Manufacturing Co. No. 79,832; Oct. 11; Gaz. vol. 159; p. 485.
Hams, bacon, and lard. W. C. Routh & Co. Nos. 79,787–8; Oct. 4; Gaz. vol. 159; p. 239.
Harness, saddles, and horse-collars. Montgomery-Moore Mfg. Co. No. 79,847; Oct. 11; Gaz. vol. 159; p. 486.
Hats, No Name Hat M'f'g Co. No. 79,927; Oct. 18; Gaz. vol. 159; p. 744.
Honey and jellies. C. W. Finch. No. 79,745; Oct. 4; Gaz. vol. 159; p. 237.
Honey, Strained. Francis H. Leggett & Co. No. 79,989; Oct. 25; Gaz. vol. 159; p. 988.
Hooks and eyes and snap-fastenings. Brown Durrell Co. No. 79,889; Oct. 18; Gaz. vol. 159; p. 743.
Horsewhips. The Horsewhip Company. No. 79,979; Oct. 25; Gaz. vol. 159; p. 987.
Hose-supporters and garters. George Frost Company. No. 79,972; Oct. 25; Gaz. vol. 159; p. 987.
Hosiery. Oneida Hosiery Company. No. 79,780; Oct. 4; Gaz. vol. 159; p. 238.
Hosiery. H. J. Clark. No. 79,820; Oct. 11; Gaz. vol. 159; p. 485.
Ice-cream, chocolates, and candies. Swetland & Son. No. 80,006; Oct. 25; Gaz. vol. 159; p. 988.
Insecticides. T. M. Bryan. No. 79,801; Oct. 18; Gaz. vol. 159; p. 743.
Insulating compositions and materials, Electrical. Standard Chemical Company. No. 79,868; Oct. 11; Gaz. vol. 159; p. 486.
Insulating material, Heat-. Union Fibre Company. No. 79,860; Oct. 11; Gaz. vol. 159; p. 486.
Jewelry. R. F. Simmons Company. No. 79,795; Oct. 4; Gaz. vol. 159; p. 239.
Jewelry, Certain. Waite, Thresher Company. No. 80,011; Oct. 25; Gaz. vol. 159; p. 988.
Journal, Monthly. J. H. Francis. No. 79,751; Oct. 4; Gaz. vol. 159; p. 238.
Jute bagging for baling cotton. The American Manufacturing Company. No. 79,952; Oct. 25; Gaz. vol. 159; p. 987.
Knitted goods. S. D. Stretton & Sons. No. 79,879; Oct. 11; Gaz. vol. 159; p. 487.
Lanterns. Norvell-Shapleigh Hardware Company. No. 79,779; Oct. 4; Gaz. vol. 159; p. 238.
Leather-dressing. F. R. Bradbury. No. 79,812; Oct. 11; Gaz. vol. 159; p. 485.
Lime. The Ohio & Western Lime Co. No. 79,928; Oct. 18; Gaz. vol. 159; p. 744.
Lime and plaster. The Kelley Island Lime & Transport Company. No. 79,840; Oct. 11; Gaz. vol. 159; p. 486.
Linen, silk and cotton, and silk dress goods. L. Hess & Co. No. 79,833; Oct. 11; Gaz. vol. 159; p. 485.
Liniment. F. E. Horton. No. 79,910; Oct. 18; Gaz. vol. 159; p. 743.
Lockets. Bliss Brothers Company. No. 79,811; Oct. 11; Gaz. vol. 159; p. 485.
Lotions. E. H. Lynn, Sr. No. 79,774; Oct. 4; Gaz. vol. 159; p. 238.
Lubricants. International Acheson Graphite Co. No. 79,915; Oct. 18; Gaz. vol. 159; p. 744.
Macaronic paste foods. The Cleveland Macaroni Company. No. 79,821; Oct. 11; Gaz. vol. 159; p. 485.
Machinery and parts thereof, Certain. Flint and Walling Mfg. Co. No. 79,827; Oct. 11; Gaz. vol. 159; p. 485.
Magazine, Monthly. Philadelphia Suburban Publishing Co. No. 79,932; Oct. 18; Gaz. vol. 159; p. 744.
Magazines, Monthly. E. Towne. No. 80,008; Oct. 25; Gaz. vol. 159; p. 988.
Mainsprings. Hammel, Riglander & Co. No. 79,907; Oct. 18; Gaz. vol. 159; p. 743.
Malt and hops, Preparation containing. Pabst Brewing Company. No. 79,929; Oct. 18; Gaz. vol. 159; p. 744.
Malt extract. Leisy Brewing Company. No. 79,771; Oct. 4; Gaz. vol. 159; p. 238.
Mangoes, Sweet. Francis H. Leggett & Co. No. 79,991; Oct. 25; Gaz. vol. 159; p. 988.
Manholes and hand-holes, Covers for. R. Munroe & Sons Mfg. Corporation. No. 79,850; Oct. 11; Gaz. vol. 159; p. 486.
Matches. F. E. Kreuger. Nos. 79,764–5; Oct. 4; Gaz. vol. 159; p. 238.
Matches. East Jersey Match Company. No. 79,824; Oct. 11; Gaz. vol. 159; p. 485.
Matches. The Independent Match Co. Nos. 79,835–6; Oct. 11; Gaz. vol. 159; pp. 485–6.
Matches. F. E. Kreuger. Nos. 79,985–6; Oct. 25; Gaz. vol. 159; p. 988.
Mattresses and pillows. Taylor Bedding Mfg. Co. No. 79,880; Oct. 11; Gaz. vol. 159; p. 487.
Medicinal preparation containing albumen. Tropon Works. No. 80,009; Oct. 25; Gaz. vol. 159; p. 988.
Medicinal wine. J. E. Heroux. No. 79,756; Oct. 4; Gaz. vol. 159; p. 238.
Medicines for tuberculosis. A. S. Zajkowski. No. 79,948; Oct. 18; Gaz. vol. 159; p. 745.
Metal articles, Certain. Star Expansion Bolt Company. No. 80,004; Oct. 25; Gaz. vol. 159; p. 988.
Milk, Condensed. Willamette Valley Condensed Milk Company. No. 79,804; Oct. 4; Gaz. vol. 159; p. 239.
Milk-modifier. A. M. Alberty. No. 79,950; Oct. 25; Gaz. vol. 159; p. 987.
Milling machinery and parts thereof, Flour-. Montpelier Cup & Metal Works. No. 79,922; Oct. 18; Gaz. vol. 159; p. 744.
Molasses and corn-syrup, Compound of. Penick & Ford. No. 79,782; Oct. 4; Gaz. vol. 159; p. 239.
Musical instruments, Certain. F. Holton & Co. No. 79,978; Oct. 25; Gaz. vol. 159; p. 987.
Nails and tacks, Wire. Globe Taunton Nail Company. No. 79,974; Oct. 25; Gaz. vol. 159; p. 987.
Naphtha and gasolene. Standard Oil Company of New York. No. 79,939; Oct. 18; Gaz. vol. 159; p. 744.
Needles, Hand sewing-. The Singer Manufacturing Company. No. 79,937; Oct. 18; Gaz. vol. 159; p. 744.
Oil, Cotton-seed. Louisville Cotton Oil Co. No. 79,772; Oct. 4; Gaz. vol. 159; p. 238.
Oil, Lubricating and cleaning. G. A. Houghton. No. 79,911; Oct. 18; Gaz. vol. 159; p. 744.
Oil, Olive-. Bragno and Mustari. No. 79,813; Oct. 11; Gaz. vol. 159; p. 485.
Oil, Petroleum illuminating-. Maloney Oil & Manufacturing Company. No. 79,843; Oct. 11; Gaz. vol. 159; p. 486.
Oil, Rust-proofing and lubricating. J. C. Beekman. No. 79,810; Oct. 11; Gaz. vol. 159; p. 485.
Ointment. Dennis Manufacturing Company. No. 79,741; Oct. 4; Gaz. vol. 159; p. 237.
Ointment. Prairie Medicine Company. No. 79,784; Oct. 4; Gaz. vol. 159; p. 239.
Ointment. T. Holloway. No. 79,976; Oct. 25; Gaz. vol. 159; p. 987.
Oysters, Fresh. A. G. Bailey. No. 79,714; Oct. 4; Gaz. vol. 159; p. 237.
Oysters, Fresh blue-point. N. S. Ackerly & Son Company. No. 79,882; Oct. 18; Gaz. vol. 159; p. 743.
Packing, Machinery. Robert A. Keasbey Company. No. 79,830; Oct. 11; Gaz. vol. 159; p. 486.
Paints, Anticorrosive. D. Anderson & Son. No. 79,805; Oct. 11; Gaz. vol. 159; p. 485.
Paints, Ready-mixed. E. N. Newburger. No. 79,853; Oct. 11; Gaz. vol. 159; p. 486.
Paints, Ready-mixed. The Peters-Pitkin Company. No. 79,931; Oct. 18; Gaz. vol. 159; p. 744.
Paper, Carbon-. Pen-Carbon Manifold Company. No. 79,855; Oct. 11; Gaz. vol. 159; p. 486.
Paper, envelops, and visiting-cards, Writing-. James McCreery & Company. No. 79,994; Oct. 25; Gaz. vol. 159; p. 988.

Paper-size. The Grasselli Chemical Company. No. 79,829; Oct. 11; Gaz. vol. 159; p. 485.
Paper, Toilet-. A. H. Scott. No. 79,793; Oct. 4; Gaz. vol. 159; p. 239.
Paper, Wrapping and printing. J. S. Luneschloss. No. 79,919; Oct. 18; Gaz. vol. 159; p. 744.
Paper, Writing-. W. E. Wroe & Company. No. 79,877; Oct. 11; Gaz. vol. 159; p. 487.
Peanut-butter. Francis H. Leggett & Co. No. 79,990; Oct. 25; Gaz. vol. 159; p. 988.
Pencils, Lead-. A. L. Salomon & Co. No. 79,780; Oct. 4; Gaz. vol. 159; p. 239.
Pens and nibs. J. A. Ailing. No. 79,883; Oct. 18; Gaz. vol. 159; p. 743.
Pens, Fountain-. The Parker Pen Company. No. 79,781; Oct. 4; Gaz. vol 159; p. 238.
Pens, Writing-. M. Brown. No. 79,814; Oct. 11; Gaz. vol. 159; p. 485.
Perfumes, face-powders, and toilet waters. A. Francis & Co. No. 79,750; Oct. 4; Gaz. vol. 159; p. 238.
Piece goods, Certain. The Salt's Textile Manufacturing Company. No. 79,999; Oct. 25; Gaz. vol. 159; p. 988.
Pineapple-juice. C. J. Huelsenkamp. No. 79,912; Oct. 18; Gaz. vol. 159; p. 744.
Polishing and cleaning preparations. M. M. Welch. No. 79,881; Oct. 11; Gaz. vol. 159; p. 487.
Porter, ale, and stout. J. & A. McKechnie Brewing Co. No. 79,995; Oct. 25; Gaz. vol. 159; p. 988.
Post, picture, &c., cards. National Invisible Print Co. No. 79,852; Oct. 11; Gaz. vol. 159; p. 486.
Poultice, Dry. Thermo-Chemicals Company. No. 80,007; Oct. 25; Gaz. vol. 159; p. 988.
Powder and cream, Face. The John Postance Company. No. 79,857; Oct. 11; Gaz. vol. 159; p. 486.
Powder, Shampoo-. R. G. Edwards. No. 79,966; Oct. 25; Gaz. vol. 159; p. 987.
Powder, Smokeless. E. I. du Pont de Nemours Powder Company. No. 79,965; Oct. 25; Gaz. vol. 159; p. 987.
Powder, Toilet. A. J. Krank. No. 79,918; Oct. 18; Gaz. vol. 159; p. 744.
Precious-metal articles, Certain. Charles B. Byron Company. No. 79,892; Oct. 18; Gaz. vol. 159; p. 743.
Preparations for the removal of freckles. O. H. White. No. 79,801; Oct. 4; Gaz. vol. 159; p. 239.
Preparations for treating the complexion, Liquid. M. M. Le Blanc. No. 79,987; Oct. 25; Gaz. vol. 159; p. 988.
Projecting apparatus. H. C. White Co. No. 80,012; Oct. 25; Gaz. vol. 159; p. 988.
Publication, Weekly. Examiner Printing Company. No. 79,968; Oct. 25; Gaz. vol. 159; p. 987.
Publications, Periodical. C. K. Fitch. No. 79,746; Oct. 4; Gaz. vol. 159; p. 238.
Publications, Periodical financial. C. K. Fitch. No. 79,970; Oct. 25; Gaz. vol. 159; p. 987.
Remedies, Rheumatic. The Colonial Drug Co. No. 79,823; Oct. 11; Gaz. vol. 159; p. 485.
Remedy for all laxed conditions of the bowels. S. E. Cosson. No. 79,963; Oct. 25; Gaz. vol. 159; p. 987.
Remedy for cancer. Chemical Manufacturing Company. No. 79,895; Oct. 18; Gaz. vol. 159; p. 743.
Remedy for certain diseases. Farbwerke vorm. Meister Lucius & Brüning. No. 79,969; Oct. 25; Gaz. vol. 159; p. 987.
Remedy for hemorrhoids. E. Kirchner. No. 79,984; Oct. 25; Gaz. vol. 159; p. 988.
Rompers, blouses, pajamas, and night-robes. Frank-Kline-Stewart Co. No. 79,971; Oct. 25; Gaz. vol. 159; p. 987.
Roofing, Composition. Dean Lumber Company. No. 79,740; Oct. 4; Gaz. vol. 159; p. 237.
Roofing materials, Felt. United Roofing & Manufacturing Company. No. 80,010; Oct. 25; Gaz. vol. 159; p. 988.
Rouge, Toilet. The El Perfecto Veda Rose Co. No. 79,825; Oct. 11; Gaz. vol. 159; p. 485.
Rugs and carpets. J. W. Masland. No. 79,920; Oct. 18; Gaz. vol. 159; p. 744.
Salt. Morton Salt Company. No. 79,848; Oct. 11; Gaz. vol. 159; p. 486.
Salve. E. H. Lynn, Sr. No. 79,773; Oct. 4; Gaz. vol. 159; p. 238.
Salve, Corn-. C. H. Budde. No. 79,717; Oct. 4; Gaz. vol. 159; p. 237.
Salves and ointments. E. V. Macgill. No. 79,977; Oct. 25; Gaz. vol. 159; p. 987.
Scale, Device for transferring an object on a. G. L. Lattier. No. 79,842; Oct. 11; Gaz. vol. 159; p. 486.
Scissors, razors, and pocket-knives. Wiebusch & Hilger. No. 79,759; Oct. 4; Gaz. vol. 159; p. 238.
Seeds, Farm, garden, and flower. Robinson Seed and Plant Company. No. 79,860; Oct. 11; Gaz. vol. 159; p. 486.
Sherry. J. Wile Sons & Co. No. 79,876; Oct. 11; Gaz. vol. 159; p. 487.
Shoes. Truitt Bros. No. 79,945; Oct. 18; Gaz. vol. 159; p. 744.
Shovels, spades, and scoops. Supplee Hardware Company. No. 79,943; Oct. 18; Gaz. vol. 159; p. 744.
Show-cases, Glass. The Diamond Show Case Company. Nos. 79,900–1; Oct. 18; Gaz. vol. 159; p. 743.
Silk netting in the piece. Bamberg & Risser. No. 79,886; Oct. 18; Gaz. vol. 159; p. 743.
Silk piece goods. Rogers & Thompson. No. 79,786; Oct. 4; Gaz. vol. 159; p. 239.
Soaps, Perfumed. Bayley & Co. No. 79,715; Oct. 4; Gaz. vol. 159; p. 237.
Sporting goods, Certain. Slazenger & Sons. No. 79,865; Oct. 11; Gaz. vol. 159; p. 486.
Stackers, Hay-. Dain Manufacturing Company of Iowa. No. 79,898; Oct. 18; Gaz. vol. 159; p. 743.
Stockings, Boys' and girls'. Central Knitting Company. No. 79,961; Oct. 25; Gaz. vol. 159; p. 987.
Stogies and cigars. M. Enelow. No. 79,742; Oct. 4; Gaz. vol. 159; p. 237.
Stone and composition for making the same, Artificial. R. Taylor. No. 79,944; Oct. 18; Gaz. vol. 159; p. 744.
Stoves, ranges, and furnaces. Floyd-Wells Company. Nos. 79,747–8; Oct. 4; Gaz. vol. 159; p. 238.
Sugar and sugar-syrup. Chemische Fabrik Reisholz G. m. b. H. No. 79,819; Oct. 11; Gaz. vol. 159; p. 485.
Suspensories, trusses, and bandages. Meyers Manufacturing Company. No. 79,777; Oct. 4; Gaz. vol. 159; p. 238.
Syrup for non-alcoholic beverages. Foote & Jenks. No. 79,749; Oct. 4; Gaz. vol. 159; p. 238.
Tea. Asmus Brothers. No. 79,956; Oct. 25; Gaz. vol. 159; p. 987.
Tea and cocoa. Harden Bros. & Lindsay. No. 79,908; Oct. 18; Gaz. vol. 159; p. 743.
Tea and spices. M. L. Eppstein. No. 79,967; Oct. 25; Gaz. vol. 159; p. 987.
Tea, Blended. H. C. Fisher. No. 79,826; Oct. 11; Gaz. vol. 159; p. 485.
Tea, blended coffee, spices, &c. Schorn & Brower. No. 79,792; Oct. 4; Gaz. vol. 159; p. 239.
Teeth and mouth, Preparations for cleansing and preserving. K. k. landespriv. Milly-Kerzen-, Seifen-und Glycerin-Fabrik von F. A. Sarg's Sohn & Cie. No. 80,000; Oct. 25; Gaz. vol. 159; p. 988.
Threads, Silk, cotton, mercerized, and machine sewing-. Gudebrod Bros. Co. Nos. 79,830–1; Oct. 11; Gaz. vol. 159; p. 485.
Tiles, Earthenware and porcelain. Charles Davison and Company. No. 79,899; Oct. 18; Gaz. vol. 159; p. 743.
Tires and tubing, Rubber. Rutherford Rubber Company. No. 79,789; Oct. 4; Gaz. vol. 159; p. 239.
Tobacco, Chewing-. G. L. Fullwood. No. 79,752; Oct. 4; Gaz. vol. 159; p. 238.
Tobacco, Smoking-. Falk Tobacco Co. No. 79,743; Oct. 4; Gaz. vol. 159; p. 237.
Toilet preparations for reducing flesh. J. L. Johnson. No. 79,838; Oct. 11; Gaz. vol. 159; p. 486.
Tooth paste, cream, and powder, and lotion. K. k. landespriv. Milly-Kerzen-, Seifen-und Glycerin-Fabrik von F. A. Sarg's Sohn & Co. No. 80,001; Oct. 25; Gaz. vol. 159; p. 988.
Transformer and dynamo plates. Joseph Sankey & Sons. No. 79,791; Oct. 4; Gaz. vol. 159; p. 239.
Trolleys, Both plain and geared weight-carrying. New Jersey Foundry & Machine Co. No. 79,997; Oct. 25; Gaz. vol. 159; p. 988.
Type-writer ribbons and carbon-paper. H. M. Storms Company. No. 79,940; Oct. 18; Gaz. vol. 159; p. 744.
Umbrellas. Gans Bros. No. 79,973; Oct. 25; Gaz. vol. 159; p. 987.
Valves, Pressure-regulating. W. Ross. No. 79,861; Oct. 11; Gaz. vol. 159; p. 486.
Varnish and paint remover, Liquid. Kane Varnish and Paint Remover Co. No. 79,917; Oct. 18; Gaz. vol. 159; p. 744.
Vellings. Strauss Bros. & Company. No. 79,942; Oct. 18; Gaz. vol. 159; p. 744.
Velvets and plushes. The Salt's Textile Manufacturing Company. No. 79,863; Oct. 11; Gaz. vol. 159; p. 486.
Vinegar. Francis H. Leggett & Co. No. 79,993; Oct. 25; Gaz. vol. 159; p. 988.
Washboilers, Double-bottom attachment for. S. L. Smith. No. 80,003; Oct. 25; Gaz. vol. 159; p. 988.
Watch-movements. Baltimore Bargain House. No. 79,808; Oct. 11; Gaz. vol. 159; p. 485.
Whips. Independent Whip Co. No. 79,914; Oct. 18; Gaz. vol. 159; p. 744.
Wood-polish. B. Miller. No. 79,921; Oct. 18; Gaz. vol. 159; p. 744.

ALPHABETICAL LIST OF LABELS.

"Absorb-O." (For a Remedy for Diseases of Horses.) F. C. Hopkins. No. 15,364; Oct. 18; Gaz. vol. 159; p. 746.
"B R K Germicide." (For a Germicide.) B. R. Kunz. No. 15,375; Oct. 25; Gaz. vol. 159; p. 990.
"Boulder Creamery Butter." (For Butter.) G. L. Reed. No. 15,351; Oct. 11; Gaz. vol. 159; p. 488.
"Carmena." (For Cigars.) C. B. Henschel Mfg. Co. No. 15,348; Oct. 11; Gaz. vol. 159; p. 488.
"Celtic Tea." (For Blended Tea.) Acker, Merrall & Condit Company. No. 15,338; Oct. 4; Gaz. vol. 159; p. 240.
"Chantecler Chocolate Candies." (For Chocolate Candies.) Huyler's. No. 15,353; Oct. 11; Gaz. vol. 159; p. 488.
"Charles The Fourth." (For Cigars.) W. E. Jenkins Cigar Co. No. 15,350; Oct. 11; Gaz. vol. 159; p. 488.
"Crystal." (For Rice.) Portland Rice Milling Co. No. 15,352; Oct. 11; Gaz. vol. 159; p. 488.
"Cuban Import." (For Cigars.) C. B. Henschel Mfg. Co. No. 15,349; Oct. 11; Gaz. vol. 159; p. 488.
"Dainty Dorothy." (For Dolls.) Sears, Roebuck and Co. No. 15,342; Oct. 4; Gaz. vol. 159; p. 240.
"Dehydro." (For Dehydrated Fruits and Vegetables.) American Dehydrated Company. No. 15,363; Oct. 18; Gaz. vol. 159; p. 746.
"El Como." (For Cigars.) C. B. Henschel Mfg. Co. No. 15,346; Oct. 11; Gaz. vol. 159; p. 488.
"Flor." (For Cigars.) Schmidt & Co. No. 15,359; Oct. 18; Gaz. vol. 159; p. 746.
"Fulton's Steamboat Havana Cigars." (For Cigars.) Burns Cigar Company. No. 15,337; Oct. 4; Gaz. vol. 159; p. 240.
"Grandmont." (For Cigars.) American Lithographic Company. No. 15,358; Oct. 18; Gaz. vol. 159; p. 746.
"Hurwitz's Large Havana Stogies." (For Stogies.) A. Hurwitz. No. 15,372; Oct. 25; Gaz. vol. 159; p. 990.
"Kleenhanz." (For a Compound for Cleaning the Hands.) Nelson Bros. No. 15,356; Oct. 11; Gaz. vol. 159; p. 488.
"Knock Out." (For Dolls.) Sears, Roebuck and Co. No. 15,341; Oct. 4; Gaz. vol. 159; p. 240.
"La Pluma." (For Cigars.) C. B. Henschel Mfg. Co. No. 15,371; Oct. 25; Gaz. vol. 159; p. 990.
"La Zar." (For Cigars.) C. B. Henschel Mfg. Co. No. 15,347; Oct. 11; Gaz. vol. 159; p. 488.
"Lady Betty." (For Chocolates.) P. F. Beich Co. No. 15,354; Oct. 11; Gaz. vol. 159; p. 488.
"Little Cherub." (For Dolls.) Sears, Roebuck and Co. No. 15,340; Oct. 4; Gaz. vol. 159; p. 240.
"O. U. Auto 5¢ Cigar." (For Cigars.) Burns Cigar Company. No. 15,336; Oct. 4; Gaz. vol. 159; p. 240.
"Ozark Queen." (For Sweet Scuppernong Wine.) Stone Hill Wine Co. No. 15,373; Oct. 25; Gaz. vol. 159; p. 990.
"Rat Corn." (For a Powder for Exterminating Rodents.) Botanical Manufacturing Co. No. 15,357; Oct. 11; Gaz. vol. 159; p. 488.
"Royal Composition Book." (For Writing Books or Tablets.) Osborn Paper Company. No. 15,369; Oct. 18; Gaz. vol. 159; p. 746.
"Royal Exercise Book." (For Writing Books or Tablets.) Osborn Paper Company. No. 15,339; Oct. 4; Gaz. vol. 159; p. 240.
"Royal Note Book." (For Writing Note-Books.) Osborn Paper Company. No. 15,368; Oct. 18; Gaz. vol. 159; p. 746.
"Royal Pen & Pencil Tablet." (For Writing Books or Tablets.) Osborn Paper Company. No. 15,365; Oct. 18; Gaz. vol. 159; p. 746.
"Royal Theme Tablet." (For Writing Books or Tablets.) Osborn Paper Company. No. 15,366; Oct. 18; Gaz. vol. 159; p. 746.
"Royal Writing Book." (For Writing Books or Tablets.) Osborn Paper Company. No. 15,367; Oct. 18; Gaz. vol. 159; p. 746.
"Salted Peanuts Skyscraper Brand." (For Salted Peanuts.) Huyler's. No. 15,374; Oct. 25; Gaz. vol. 159; p. 990.
"Sauce Mignonne." (For Sauces for Foods.) F. Reusser. No. 15,360; Oct. 18; Gaz. vol. 159; p. 746.
"School Tablet Royal." (For Writing Books or Tablets.) Osborn Paper Company. No. 15,370; Oct. 18; Gaz. vol. 159; p. 746.
"Scot Tissue." (For Paper Toweling.) Scott Paper Company. No. 15,355; Oct. 11; Gaz. vol. 159; p. 488.
"Sunbeam Pure Food." (For Raisins.) A. Nichols & Co. No. 15,361; Oct. 18; Gaz. vol. 159; p. 746.
"The Game Of Uncle Sam." (For a Card Game.) G. A. Kraner. No. 15,345; Oct. 4; Gaz. vol. 159; p. 240.
"Tiny Tot." (For Dolls.) Sears, Roebuck and Co. No. 15,344; Oct. 4; Gaz. vol. 159; p. 240.
"Wear Well." (For Dolls.) Sears, Roebuck and Co. No. 15,343; Oct. 4; Gaz. vol. 159; p. 240.
"West Virginia Apples." (For Apples.) J. H. Rennard Co. No. 15,362; Oct. 18; Gaz. vol. 159; p. 746.

PRINTS.

"Baby's Own Soap." (For Soap.) W. M. Curtis. No. 2,649; Oct. 11; Gaz. vol. 159; p. 488.
"Baking Fit To Write About." (For Flour.) Washburn Crosby Company. No. 2,648; Oct. 11; Gaz. vol. 159; p. 488.
"'Best' Snow Pants." (For Boys' Knit Pants.) Best & Co. No. 2,646; Oct. 4; Gaz. vol. 159; p. 240.
"Chamberlin Equipment." (For Metal Weather-Strips.) Chamberlin Metal Weather Strip Co. No. 2,651; Oct. 11; Gaz. vol. 159; p. 488.
"Gas Heater." (For Gas-Heaters.) Seed Filter & Mfg. Company. No. 2,653; Oct. 25; Gaz. vol. 159; p. 990.
"Hello Bill!" (For Cigars.) E. E. Holipeter. No. 2,643; Oct. 4; Gaz. vol. 159; p. 240.
"Interwoven." (For Hosiery.) Interwoven Stocking Company. No. 2,652; Oct. 25; Gaz. vol. 159; p. 990.
"Light Housekeepers." (For Flour.) Washburn Crosby Company. No. 2,647; Oct. 11; Gaz. vol. 159; p. 488.
"Margate An Arrow Collar." (For Collars.) Cluett, Peabody & Company. No. 2,644; Oct. 4; Gaz. vol. 159; p. 240.
"Only A Dip." (For Laundry Bluing.) Reckitts (U. S. A.) No. 2,645; Oct. 4; Gaz. vol. 159; p. 240.
"Webster-Whitcomb Screw Tailstock." (For Screw Tailstocks.) American Watch Tool Company. No. 2,650; Oct. 11; Gaz. vol. 159; p. 488.

DISCLAIMERS.

Guide-wheel. A. H. Mathesius. No. 754,473; date of patent Mar. 15, 1904; disclaimer filed Sept. 24, 1910; Gaz. vol. 159; p. 244.

Railway track-car. M. L. Jenkins. No. 920,201; date of patent Jan. 19, 1909; disclaimer filed Oct. 13, 1910; Gaz. vol. 159; p. 995.